SIEMENS

SIRIUS

Industrial Controls

Catalog IC 10

Edition 2019

siemens.com/sirius

Related catalogs

Industrial Communication

SIMATIC NET

IK PI

ST 70



E86060-K6710-A101-B8-7600

SIMATIC

Products for **Totally Integrated Automation**

E86060-K4670-A101-B6-7600



Low-Voltage Power Distribution and LV 10 **Electrical Installation Technology**

SENTRON • SIVACON • ALPHA

Protection, Switching, Measuring and Monitoring Devices, Switchboards and Distribution Systems

PDF (E86060-K8280-A101-A8-7600) Print (E86060-K8280-A101-A6-7600)



SIMOTICS GP, SD, XP, DP **Low-Voltage Motors**

E86060-K5581-A111-B2-7600

Type series 1FP1, 1LE1, 1LE5, 1MB1 and 1PC1 Frame sizes 63 to 355 Power range 0.09 to 500 kW



SITOP

SITOP Power supply KT 10.1

D 81.1

E86060-K2410-A101-B3-7600



www.siemens.com/sitrain



Miscellaneous

Products for Automation and Drives CA 01

Interactive Catalog

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www.siemens.com/industrymall

Siemens TIA Selection Tool

for the selection, configuration and ordering of TIA products and devices



www.siemens.com/tst

Information and Download Center

Digital versions of the catalogs are available on the Internet



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Further information about industrial controls:

www.siemens.com/sirius

Technical Support

Expert technical support for Industrial controls:

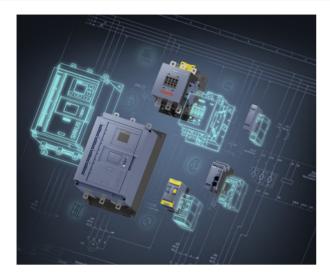


Support Request:

https://support.industry.siemens.com/ My/ww/en/requests

Industrial Controls

SIRIUS



Catalog IC 10 · 2019

Invalid:

Catalog IC 10 · 2018

Catalog Abridged IC 10 A \cdot 03/2017 3SU1 Pushbuttons and Indicator Lights

Catalog Abridged IC 10 A · 04/2018 SIRIUS 3RW Soft Starters

Refer to the Industry Mall for regular updates of this catalog:

www.siemens.com/industrymall

The products contained in this catalog can also be found in the Interactive Catalog CA 01. $\label{eq:catalog}$

Please check the instructions for the CA 01 Online Installer on www.siemens.com/automation/ca01 or contact your local Siemens branch.

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2 Industrial Communication



Switching Devices –
 Contactors and Contactor Assemblies –
 for Switching Motors



4 Switching Devices – Contactors and Contactor Assemblies – Special Applications



Switching Devices –
 Contactors and Contactor Assemblies –
 Contactor Relays and Relays



6 Switching Devices –
Soft Starters and Solid-State Switching
Devices



7 Protection Equipment



8 Load Feeders and Motor Starters for Use in the Control Cabinet



9 Motor Starters for Use in the Field, High Degree of Protection



10 Monitoring and Control Devices



11 Safety Technology



12 Position and Safety Switches



13 Commanding and Signaling Devices



14 Parameterization, Configuration and Visualization with SIRIUS



15 Power Supply



16 Appendix



The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with EN ISO 9001 (for the Certified Registration Nos., see www.siemens.com/system-certificates/cp). The certificate is recognized by all IQNet countries.

Industrial Controls

Ordering notes

Things you should know about Catalog IC 10

Catalog IC 10 contains all selection and order-relevant data.

Ordering notes

Ordering special versions

For ordering products that differ from the versions listed in the catalog, the article number specified in the catalog must be supplemented with "-Z"; the required features must be specified by means of the alphanumeric order codes or in plain text.

Small orders

SD

d 2

5

Article No.

3RV1901-0H

3RA2110-0FA15-1AP0

3SU1900-0AB71-0AB0

When small orders are placed, the costs associated with order processing are greater than the order value. We recommend therefore that you combine several small orders. Where this is not possible, we unfortunately have to charge a processing supplement of € 20.00 to cover our costs for order processing and invoicing for all orders with a net goods value of less than € 250.00.

The delivery times apply up to the ramp at Siemens AG (products ready

for dispatch). The transport times depend on the destination and type of

The delivery times specified here represent the situation in October 2017.

They are continuously optimized. For more up-to-the-minute information,

PS* PG

1 unit 41D

100 10 units 41J

10 units 41E

(UNIT,

SÈT, M)

per PU

shipping. The standard transport time for Germany is one day.

Standard delivery time (SD)

SD in days (d) Preferred type Preferred types are available immediately from stock, i.e. are dispatched within 24 hours

On request

Normal quantities of the products are usually delivered within the specified time following receipt of your order at our branch.

In exceptional cases, the actual delivery time may differ from that specified.

please visit www.siemens.com/sirius/mall.

Price units (PU)

The price unit defines the number of units, sets or meters to which the specified price applies

Packaging sizes (PS)

The packaging size defines the number, e.g. of units, sets or meters, contained in an outer packaging.

Only the quantity defined by the packaging size or a multiple thereof can be ordered.

For multi-unit and reusable packaging, see page 16/4.

Price groups (PG)

Each product is assigned to a price group.

Example

3RA2110-0FA15-1AP0

Order quantity 1 unit or a multiple thereof

3RV1901-0H

SD: Preferred type

Order quantity 10 units or a multiple thereof

2 working days SD:

41D

3SU1900-0AB71-0AB0

SD: 5 working days

Order quantity 10 units or a multiple thereof

Dimensions

All dimensions in mm

SIRIUS in the World Wide Web

The most important online services at a glance.





Industrial controls
Homepage
www.siemens.com/sirius



Information material available for downloading

Information and Download Center www.siemens.com/sirius/catalogs



Industry Mall

Catalog and Ordering System www.siemens.com/industrymall



Interactive Catalog on DVD

Product Catalog CA 01 www.siemens.com/automation/ca01



Configuring products and systems

Configurators

www.siemens.com/sirius/configurators



Mobile Media

Various apps available from Google Play or in the App Store

www.siemens.com/socialmedia



Siemens Industry Online Support - SIOS

Product Support

www.siemens.com/sirius/support



Siemens Industry Online Support App

More information on the Online Support App www.siemens.com/support-app



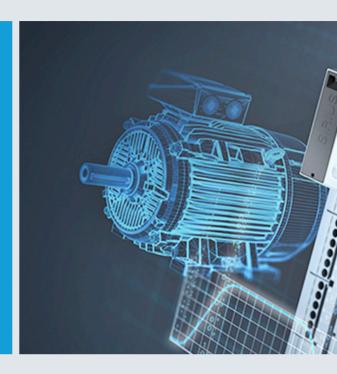


SIRIUS 3RW soft starters

As diverse as your tasks

The strong, harmonized portfolio of soft starters is suited to a wide range of applications thanks to comprehensive and specific functions.

Benefit from intelligent functions such as condition monitoring, automatic parameterization, pump cleaning and integrated braking functions, regardless of the industry you are in.



Strong portfolio

Comprehensive, coordinated soft starter portfolio for simple to demanding starting: Basic, General, High Performance

Efficient switching

Energy-efficient switching and mechanical protection of the drive train thanks to soft starter with hybrid switching technology

Intelligent use

Concentrated, application-specific functionality thanks to intelligent features such as automatic parameterization, pump cleaning and condition monitoring

Ready for the digital future

Support for digital engineering processes with tools and data. Data provision for local visualization or cloud-based analysis





SIRIUS 3RW

Strong, comprehensive portfolio with a wide range of possibilities thanks to a flexible design.

More information, see: siemens.com/softstarters

Digitalization

The 3RW soft starters help you to realize the full potential of digitalization. This is particularly beneficial when it comes to economic efficiency.

Your application in focus



Pump cleaning and pump stopping mode

The pump cleaning function prevents pumps from blocking, therefore, increasing your productivity and system availability. The pump stopping mode avoids mechanical loading in the piping system and extends the service life of the equipment.



Electrical ruggedness

Due to the wide control voltage range from 110 to 250 V AC, soft starters have a high degree of electrical ruggedness. This guarantees reliable operation even in the event of falling voltages.



Condition monitoring

The condition monitoring function supports optimal planning of maintenance work on bearings or seals, thereby maximizing availability.



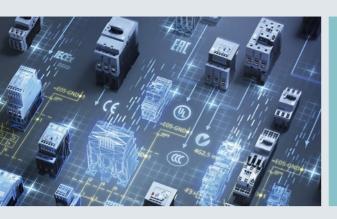
Automatic parameterization

Automatic parameterization simplifies the commissioning and operation of critical applications considerably, even in the case of highly dynamic load characteristics



Integrated braking functions

Intelligent functions such as soft starter braking ensure a fast and reliable stop without engineering and configuration work.



SIRIUS modular system Efficiently combined.



More information, see: www.siemens.com/ sirius-modular-system

Modular design

Optimally matched and dimensioned products expandable with uniform accessories

Save space

Highest performance on the market based on installation size

Order preassembled

Ready-made and tested combinations with short-circuit strength up to 150 kA/400 V

Quick wiring

Comprehensive portfolio for spring-type terminals, function blocks for contactor assemblies for reversing and stardelta (wye-delta) starting as well as connectors

Efficient configuration

Configuration data and macros for integration into your CAE systems

Worldwide use

Fulfills all relevant standards and approvals worldwide, also for extreme conditions (e.g. safety, rail and shipping) and is IE3/IE4 ready

TIA Selection Tool

The right product in just a few clicks.



Prime reasons for the TIA Selection Tool



Quick, easy and secure

Components can be selected, configured and ordered quickly, easily and securely from the Siemens automation portfolio



Intelligent

Intelligent selection wizards check the compatibility of the configured components and enable error-free ordering



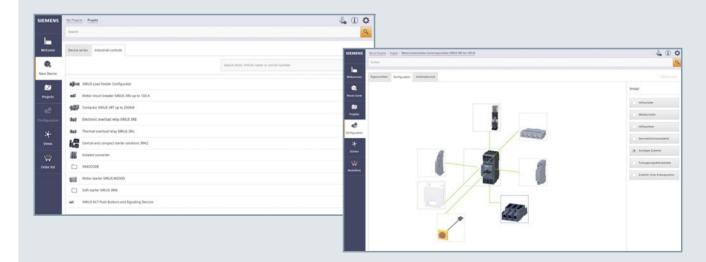
Clear

Required modules, devices and networks are automatically generated and clearly compared to one another



Time-saving

Time savings of 80% in design thanks to ease of use and intelligent support



The TIA Selection Tool is a completely paperless solution. Download it now:

www.siemens.com/tst

For more information, scan the OR code



Integrated Control Panels

The easy way to build the optimum control panel.

We offer practical support in mastering the typical challenges of control panel engineering through a harmonized product portfolio, tools and data for digitalization in engineering, and expert know-how.





Working together for simple and stress-free control panel design

Comprehensive support for all control panel applications

Want to save time and costs? With Integrated Control Panels, it's easy to optimize all aspects of control panel building for your industrial machines and plants. From preparation and dimensioning, design and construction, through to service and support – for greater competitiveness and long-term success.



Expert know-how The faster route to the ideal co

The faster route to the ideal control panel with practice-oriented expertise

We support you with exactly the right know-how to give you a competitive edge – both now and in the future. This includes applying standards and guidelines in day-to-day operations (e.g. UL 508A, IEC 60204-1) as well as efficient engineering and configuration.

- Workshops, web-based training courses and individual consulting on product and application topics
- Literature with practical tips and tricks, including: guidelines, product manuals, white papers



More information, see www.siemens.com/panelbuilding



Tools & data for digitalization in engineering

Maximum efficiency for control panel design

With a range of tools and data-based services, we support you with the digitalization of your business and enable the leverage of all the advantages this offers for control panel design: greater efficiency, flexibility and quality – in every process phase!

- Intelligent selection, dimensioning and design www.siemens.com/simaris www.siemens.com/tst
- Integrate data efficiently www.siemens.com/cax



Harmonized product and system portfolio
Effective savings in control cabinet design

Harmonized product and system portfolio saves construction time. With our coordinated, integrated portfolio of products that includes automation technology, drive train components, industrial controls and matching control panel enclosures, we can reduce your engineering overhead and ensure the harmonious interaction of all devices. These are extensively tested, and are all certified and available for use worldwide – enabling you to remain flexible within the global business environment.

Digital Enterprise

The building blocks that ensure everything works together perfectly in the digital enterprise

Digitalization is already changing all areas of life and existing business models. It is placing greater pressure on industry while at the same time creating new business opportunities. Today, thanks to scalable solutions from Siemens, companies can already become a digital enterprise and ensure their competitiveness.



Industry faces tremendous challenges



Reduce time-to-market

Today manufacturers have to bring products to market at an ever-increasing pace despite the growing complexity of these products. In the past, a major manufacturer would push aside a small one, but now it is a fast manufacturer that overtakes a slow one.



Boost flexibility

Consumers want customized products, but at a price they would pay for a mass-produced item. That only works if production is more flexible than ever before.



Improve quality

To ensure a high level of quality while meeting legal requirements, companies have to establish closed quality loops and enable the traceability of products.



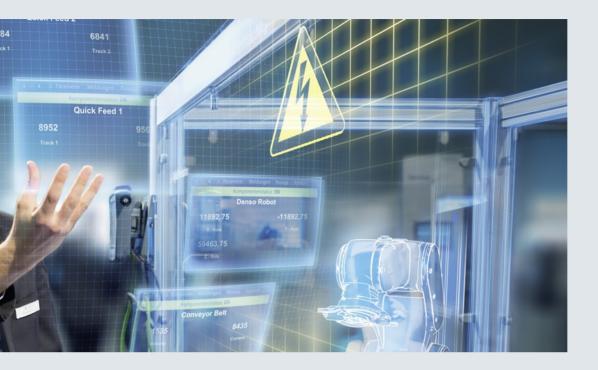
Boost efficiency

Today the product itself needs to be sustainable and environmentally friendly, while energy efficiency in production has become a competitive advantage.



Increase security

Increasing networking escalates the threat to production facilities of cyberattacks. Today more than ever, companies need suitable security measures.



The digital enterprise has already become a reality

To fully benefit from all the advantages of digitalization, companies first have to achieve complete consistency of their data. Fully digitally integrated business processes, including those of suppliers, can help to create a digital representation of the entire value chain. This requires

- the integration of industrial software and automation,
- expansion of the communication networks,
- · security in automation,
- and the use of business-specific industrial services.

MindSphere The cloud-based open IoT operating system from Siemens

With MindSphere, Siemens offers a costeffective and scalable cloud platform as a service (PaaS) for the development of applications. The platform, designed as an open operating system for the Internet of Things, makes it possible to improve the efficiency of plants by collecting and analyzing large volumes of production data.

Totally Integrated Automation (TIA) Where digitalization becomes reality

Totally Integrated Automation (TIA) ensures the seamless transition from the virtual to the real world. It already encompasses all the necessary conditions for transforming the benefits of digitalization into true added value. The data that will form the digital twin for actual production is generated from a common base.

Digital Plant
Learn more about the
digital enterprise for the
process industry
www.siemens.com/
digitalplant

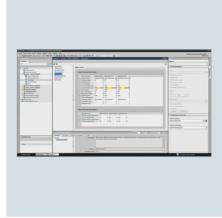
Digital Enterprise Suite Learn more about the digital enterprise for the discrete industry www.siemens.com/ digital-enterprise-suite

Product highlights





- SIRIUS 3RW5 soft starters
 Can be flexibly deployed in many applications
- Article No.: 3RW55 and 3RW52
- From page 6/12 and from page 6/42



- SIRIUS Soft Starter ES (TIA Portal), Version V15
- Article No.: 3ZS1320-.C...-0Y.5
- From page 14/5



- 3RT201 contactors, 3-pole, with integrated varistor, 3 to 7.5 kW, size S00
- Article No.: 3RT201.-.UB4.
- Page 3/60



- 3RT202 contactors, 3-pole, with varistor plugged into the front, 4 to 18.5 kW, size S0
- Article No.: 3RT202.-.DB40
- Page 3/64



- 3RV2 motor starter protectors/circuit breakers for motor and transformer protection, size S0
- Article No.: 3RV2021-0.A10, 3RV2421-..A10
- Pages 7/29, 7/39



- 3RT10 and 3RT14 fail-safe contactors, 3-pole, for safety-oriented applications up to SIL CL 3, sizes S6 to S12
- Article No.: 3RT10..-.S..., 3RT14..-.S...
- Pages 3/72 and 4/15



- 3RT1467 contactors for resistive loads (AC-1), 3-pole, 500 A, size S10
- Article No.: 3RT1467-6..3.
- Pages 4/15, 4/16



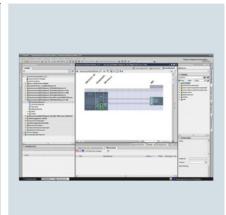
- 3RT14 railway contactors with extended operating range, 3-pole, sizes S6 to S12
- Article No.: 3RT14..-2X.46-0LA2
- Page 4/58



- SIMOCODE pro 3UF7 control devices SIMOCODE pro V PROFINET GP basic units
- Article No.: 3UF7011-1A.00-.
- Page 10/16



- SIMOCODE pro 3UF7 control devices Current/voltage measuring modules for dry-running protection in hazardous areas
- Article No.: 3UF712.-1.A01-0
- Page 10/17



- SIMOCODE ES (TIA Portal), Version V15
- Article No.: 3ZS1322-.C...-0Y...
- From page 14/12



- 3SE5 positioning and safety switches with M12 connector for connecting to SIMATIC ET 200eco
- Article No.: 3SE5234-.....-1AE2, 3SE5114-.....-1AE3
- From page 12/13



- SIRIUS ACT pushbuttons and indicator lights
 Modular system of commanding and signaling devices
- Article No.: 3SU1
- From page 13/5



- AS-Interface compact distributors, AS-Interface M12 feeders
- Article No.: 3RK1901-2NN10, 3RK1901-2NR..
- Pages 2/64, 2/89



- ■3RQ2 coupling relays in industrial enclosure, 22.5 mm
- Article No.: 3RQ2000-..W0.
- From page 5/40



- ■SITOP PSU8200 power supplies, SITOP PSU8600 power supply system with UPS8600
- Article No.: 6EP3, 6EP4
- Pages 15/8 ... 15/10



Technical Support

One click – and you have all the information you need.



Industry Online Support – get fast and up-to-date information online

https://support.industry.siemens.com

In Industry Online Support you will find FAQs, manuals, certificates, applications & tools, and much more



Support Request – the fast track to the experts

https://support.industry.siemens.com/My/ww/en/requests

Using the Support Request form in Online Support you can send your query directly to Technical Support.



Conversion tool – the easy and efficient way to find successor products

www.siemens.com/sirius/conversion-tool

Any more questions?

Our experts are there to help you by telephone or e-mail with competent technical advice



Competent and fast technical advice regarding:

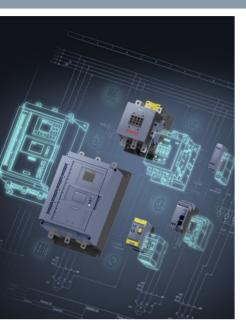
- Product selection
- Conversion from old to new
- Competitor conversion
- Special versions
- Particular requirements
- Commissioning
- Operation

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Introduction



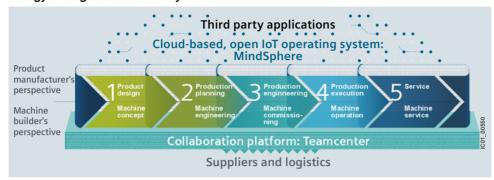
1/2	Energy-efficient controls SIRIUS brings down energy costs
1/3	Energy management with SIMATIC Energy Suite Integrated energy management
1/4	Systematic industrial safety technology SIRIUS Safety Integrated
1/7	IE3/IE4 ready SIRIUS controls for reliable switching and protection of IE3/IE4 motors
1/8	Innovative technology for saving energy Electronic starting with hybrid switching technology

Energy-Efficient Controls

SIRIUS brings down energy costs

Overview

Energy management in industry



Whether you are a plant operator, planner or machine manufacturer: Energy-efficient production is a challenge and an opportunity in equal measure.

Overview of the energy management process

Energy-efficient production as a success factor

In order to harness energy potential, with our vast portfolio, we always maintain a clear view of the overall product development and production process. Because maximum energy efficiency in production can only be achieved through perfect interaction of all components.

That is why it is important to first create an awareness for existing energy-saving potential, recognize and assess opportunities for optimization through precise analysis. Finally, appropriate measures must be implemented.

With our full-range portfolio of energy-efficient drive solutions, automation and services, you too will reach maximum energy efficiency, higher productivity and lasting competitiveness in your company.

SIRIUS innovations **Energy-efficient** Energy-optimized **Energy-measuring** products products drive solutions Increasingly Biggest lever for The important with Siemens energy savings regard to energy standard management acc. to ISO 50001 IC01_00245

Three columns of energy efficiency with products from the SIRIUS modular system

Energy-efficient products – SIRIUS reduces power loss

SIRIUS controls (3RM motor starter, 3RR2 monitoring relay, 3RB3 overload relay, 3RT2 contactor, 3RW soft starter, 3RV2 motor starter protector/circuit breaker and 3RA6 compact starter) as well as the ET 200SP motor starters are characterized by extremely low intrinsic power loss. This not only lowers energy costs, but also reduces the amount of waste heat in the control cabinet. This then translates to a higher packing density and a reduction in the required cooling performance.

Energy-measuring products

Energy management can be instrumental in increasing plant productivity to bring about a significant improvement to the competitive ability of a company – in all industries.

Energy data acquisition represents an important component

of the overall energy data management process here. Through transparency right down to the loads, it is possible to identify and utilize potential energy savings.

With communication-capable SIRIUS switching devices you can acquire energy data from the drive train without any additional effort.

SIRIUS controls help you make energy flows visible.

Best drive solutions in terms of energy

In order to design processes for optimal energy efficiency, it is not enough to simply measure the energy flow and deploy energy-efficient products. The greatest lever for saving energy can be derived from closely examining the application.

For sample applications on the Internet, see www.siemens.com/sirius/energysaving.

SinaSave energy efficiency tool



Amortization calculator for energy-efficient drive systems

The SinaSave energy efficiency tool determines energy saving potential and amortization times based on your individual conditions of use and therefore offers practical assistance in making decisions about investments in energy-efficient technologies.

From SinaSave version 6.0 and higher, the drive systems to be compared and the relevant drive component parameters are displayed graphically. An additional expansion are the numerous comparison possibilities for different control types and comprehensive product combinations for drive solutions for pump and fan applications.

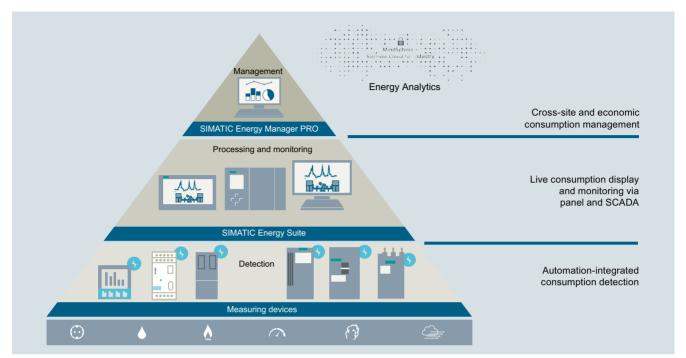
The product portfolio comprises not just SIRIUS controls, but also SIMOTICS motors and SINAMICS inverters and converters, thus offering a comprehensive range of comparison possibilities – according to your individual requirements.

For more information on the amortization calculator for energy-efficient drives, see www.siemens.com/sinasave.

Introduction Energy Management with SIMATIC Energy Suite

Integrated energy management

Overview



SIMATIC Energy Suite

High energy consumption as well as automated production processes are typical for many industries.

If you want to keep control of your energy costs and already have an eye on the digital world of tomorrow, it's a good idea to equip your plant with integrated energy measuring technology, anchoring energy management into the production automation processes where the vast majority of energy is used. SIMATIC Energy Suite as an integrated option for the TIA Portal efficiently links energy management with automation, thus creating energy transparency in the production system. Considerably simplified configuration of energy-measuring components from the SIMATIC, SENTRON, SINAMICS, SIRIUS and SIMOCODE product families ²⁾ significantly reduces the configuration workload. Thanks to the integrated interface to the SIMATIC Energy Manager PRO ¹⁾ or cloud-based Service Energy Analytics, you can seamlessly expand the recorded energy data to a cross-site energy management system.

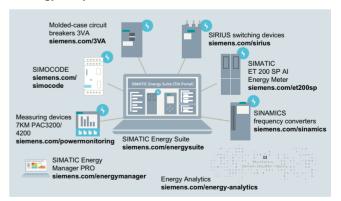
This also enables companies to fulfill all economic and energy management requirements – from purchasing of energy through planning to energy management.

The advantages at a glance:

- Automatic generation of energy management data
- Integration into the TIA Portal and the automation process
- · Easy configuration
- SIMATIC Energy Manager PRO is the fully updated successor to SIMATIC B.Data
- Products from the SIMATIC, SENTRON, SINAMICS, SIRIUS and SIMOCODE product families. For details on the currently supported devices, see www.siemens.com/energysuite-hardware

Highlights

- Simple and intuitive configuration instead of programming
- · Automatic generation of the PLC energy program
- Easy integration of measuring components from the Siemens portfolio and other manufacturers
- Integrated into the TIA Portal and the automation process
- Archiving on WinCC Professional or PLC
- Seamless connection to Energy Manager PRO and Energy Analytics



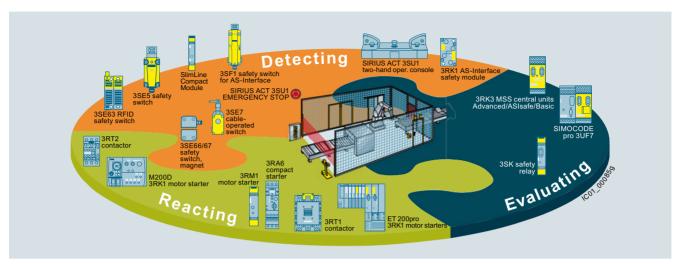


For more information on SIMATIC Energy Suite, see www.siemens.com/energysuite

Systematic Industrial Safety Technology

SIRIUS Safety Integrated

Overview



Manufacturers and operators of machines must fulfill numerous requirements: reducing costs, improving productivity, and ensuring the safety of machines. The industrial safety technology from Siemens offers innovative, economical solutions for the functional safety of machinery.

Machine safety - compliance with directives

Before any machines or plants can be supplied or operated, they must meet the fundamental safety requirements of the EU Directives.

In order to ensure compliance with the European Machinery Directive, it is recommended that the suitably harmonized European standards EN 62061 or EN ISO 13849-1 should be applied. This gives manufacturers and operators legal certainty regarding compliance with both national regulations and the EC Directive and this is confirmed by the manufacturer of a machine with the CE marking.

The aim of safety technology is therefore to allow people, machines and the environment to be protected and statutory safety requirements to be satisfied.

The quick and easy way to safe machinery

In addition to the statutory regulations governing the protection of people there are also economic reasons for avoiding personal injury and the resulting down times, and for protecting both machinery and equipment from damage.

Safety Integrated benefits machine manufacturers and plant operators in many ways:

- Lower costs for hardware, assembly and engineering
- Higher availability thanks to faster diagnostics and fewer down times

At the same time, using modular safety concepts allows them to modernize their plants more easily and at lower cost.

Smart controls ensure the functional safety of machinery

Our SIRIUS Safety Integrated ¹⁾ controls are a central element of the Siemens Safety Integrated concept, based on Totally Integrated Automation. Whether for reliable detecting, evaluating and reacting, our SIRIUS Safety Integrated controls (from page 1/5 onwards) provide cost-effective solutions for the safety of your machine or plant. Take the SIRIUS 3SK safety relays for example: They are modularly expandable, and can integrate compact motor starters such as the fail-safe SIRIUS 3RM1 very simply via the device connector (parameterization is performed easily with a screwdriver on the DIP switches or by drag and drop in the engineering software). Or the SIRIUS 3RK3 Modular Safety System: this provides a high degree of functionality as an autonomous safety control

downstream of a standard control, and makes smart safety solutions possible via AS-Interface.

The SIMOCODE pro modular motor management system combines all required protection, monitoring, safety and control functions for motor feeders. It can be connected to fail-safe controllers via PROFIBUS or PROFINET and shut down motors in emergency situations.

SIRIUS Safety Integrated uses fail-safe communication via standard fieldbus systems, such as ASIsafe via AS-Interface and PROFIsafe via PROFIBUS and PROFINET, to solve even networked safety tasks of greater complexity. This opens the door to flexible safety solutions for compact machines or large-scale plants – naturally compliant with current standards up to SIL 3/PL e.

The first integrated ASIsafe connection to the distributed I/O system ensures even more consistency. With the SIMATIC AS-i F-Links, AS-i networks can be connected quite simply to safety controls via PROFIsafe via the SIMATIC ET 200SP. Particular highlights are the new contactors of sizes S6 to S12 with fail-safe control input, the SIRIUS ACT 3SU1 EMERGENCY STOP with PROFINET or PROFIsafe interface, and the fail-safe motor starters for the ET 200SP. With these products, seamless integration into fail-safe control systems is possible.

Your partner for machine and plant safety

With Safety Integrated, Siemens has provided the smart answer to constantly increasing requirements for the functional safety of a machine and for its cost-effectiveness and flexibility. Our comprehensive portfolio of safe controls, control technology and drive technology provides scalable solutions for precisely tailored safety concepts for protecting people, machines and the environment. Our products meet the current safety standards in the industry, including IEC, ISO, NFPA and UL.

As a partner for machine and plant safety, Siemens also supports users with examples of functions and up-to-date know-how concerning international standards and directives. In addition to the free TÜV-approved Safety Evaluation Tool for evaluating safety functions in accordance with EN 62061 and EN ISO 13849-1, requirements-based training is available on CE marking, functional safety and risk assessment, and on our Safety Integrated Products.

 For more information, see www.siemens.com/safety-integrated. Application Manual "SIRIUS Safety Integrated", see https://support.industry.siemens.com/cs/ww/en/view/81366718.

Systematic Industrial Safety Technology

SIRIUS Safety Integrated

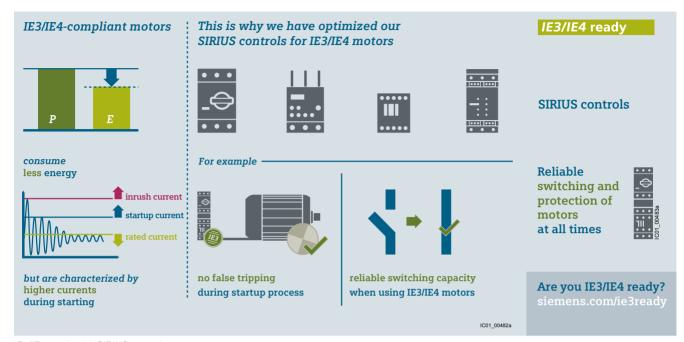
Devices with safety functions					
Detecting		Evaluating		Reacting	
Product 3SE position and safety switches	Page	Product SIMOCODE pro 3UF7	Page 10/5	Product SIRIUS 3RM1 motor starters	Page 8/85
Flexible thanks to modular design, suitable for offshore applications		Fail-safe expansion modules DM-F Local and DM-F PROFIsafe, safe shutdown of motors up to SIL 3/PL e		Compact, narrow and fail-safe hybrid motor starters in IP20 Easy configuration and low outlay for storage thanks to wide-setting range of the overload release	
3SE6 non-contact safety switches	12/4, 12/100	3SK safety relays	11/12	ET 200SP fail-safe motor starters	8/95
RFID switches and magnetically-operated switches, non-contact, vibration-resistant, wear-free, IP69 (K)/IP67		Key modules of a consistent and cost-effective safety chain. Flexible thanks to input and output expansion units		Compact, fail-safe hybrid motor starters for the ET 200SP system	
3SU11 EMERGENCY STOP mushroom pushbuttons, 3SU18 two-hand operation console		3TK2810 safety relays		ET 200pro Safety motor starters Solution PROFIsafe	
		000000 000000 000000 000000 000000			
SIRIUS ACT two-hand operation console with user-friendly capacitive sensor keys High level of flexibility due to direct integration of the SIRIUS ACT EMERGENCY STOP via standardized, fail-safe communication protocols (PROFIsafe, ASIsafe)		Further modules of a consistent and cost-effective safety chain for fail-safe detection of standstill or speed		Communication-capable motor starters in high degree of protection IP65 Special safety modules enable the highest safety levels.	
3SE7 cable-operated switches, 3SE29, 3SE39 foot switches	13/161, 13/165	3RK3 Modular Safety System (MSS)	11/30	3RT2 contactors (PLC/F-PLC output) 3RT1 contactors from 55 kW (F-PLC input)	3/62, 3/72, 4/15
• Foot switches with metal or plastic		Freely parameterizable safety relay,		Optimum connection to the fail-safe	
Cable-operated switches with latching and positive-opening NC contacts, in degree of protection IP65		high flexibility with up to nine additional expansion modules and fail-safe connection to AS-Interface		controller as actuator in the safety chain Considerable simplification of the application in large power ranges thanks to F-PLC input on the 3RT1 contactors	

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Devices with safety functions for AS-Interface					
Detecting		Evaluating		Reacting	
Product	Page	Product	Page	Product	Page
Safety modules/EMERGENCY STOP mushroom pushbuttons		CM AS-i Master ST, F-CM AS-i Safety ST for SIMATIC ET 200SP	2/36, 2/40	S45F SlimLine safety modules with safety outputs for the safe distributed disconnection of actuators	2/30
 K40F and K20F compact safety modules for use in the field 					
				\$50000 \$60000 \$60000	
SC17.5F SlimLine Compact safety modules for use in the control cabinet		Evaluation and processing of signals via a fail-safe SIMATIC or SINUMERIK control Simple combination of the CM AS-i master ST and F-CM AS-i Safety ST modules in one ET 200SP station results in a powerful, safety-related router between PROFINET (or PROFIBUS) and AS-Interface.		Reaction by safe output modules on the AS-Interface bus or other SIMATIC F-DQ modules	
3SU1 EMERGENCY STOP mushroom pushbuttons in the enclosure for AS-Interface					
Detection of safety-related signals via safe input slaves on the AS-Interface bus (field modules in IP67, control cabinet modules in IP20, EMERGENCY STOP mushroom pushbuttons in the enclosure with integrated ASIsafe slave in IP69)					
3SF1 mechanical safety switches	12/83				
Flexible thanks to modular design, degree of protection up to IP69K, suitable for offshore applications					

Overview



IE3/IE4 ready with SIRIUS controls

We are IE3/IE4 ready

IE3/IE4 motors have been mandatory for the power range from 0.75 to 375 kW for line operation in Europe since January 1, 2015

From an electrical viewpoint, IE3/IE4 motors behave differently than less energy-efficient models – they are characterized by higher startup currents and modified dynamic behavior. This entails certain challenges for our controls.

The latest generation of SIRIUS controls has been fully optimized for IE3/IE4.

They avoid false tripping due to higher inrush currents of IE3/IE4 motors, offer optimized setting ranges for rated currents, and ensure reliable switching and protection in any situation – the best requirements for use of modern IE3/IE4 motors.

Highlights

- Comprehensive range of IE3/IE4 motors for every application
- Siemens offers expertise through extensive analysis of IE3/IE4 motors

SIRIUS controls for reliable switching and protection of IE3/IE4 motors

• Optimized SIRIUS controls for use with IE3/IE4 motors

More information

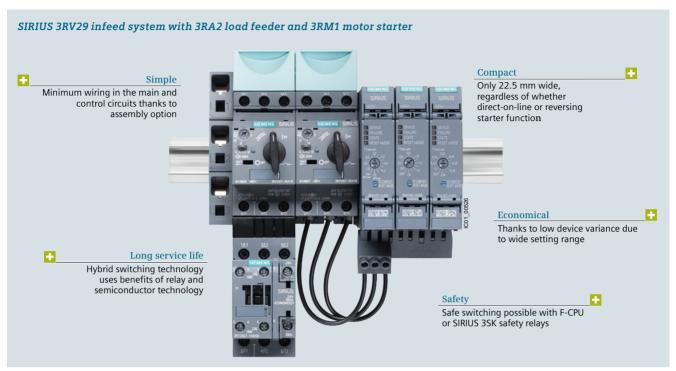
- IE3/IE4 ready portal, see www.siemens.com/IE3ready
- Application Manual for controls with IE3/IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

All IE3/IE4 ready products are marked in the catalog with the symbol IE3/IE4 ready.

Innovative Technology for Saving Energy

Electronic starting with hybrid switching technology

Overview



The hybrid switching technology uses low-wear semiconductor technology for switching the motor on and off, and in the operating phase it relies on energy-saving relay technology.

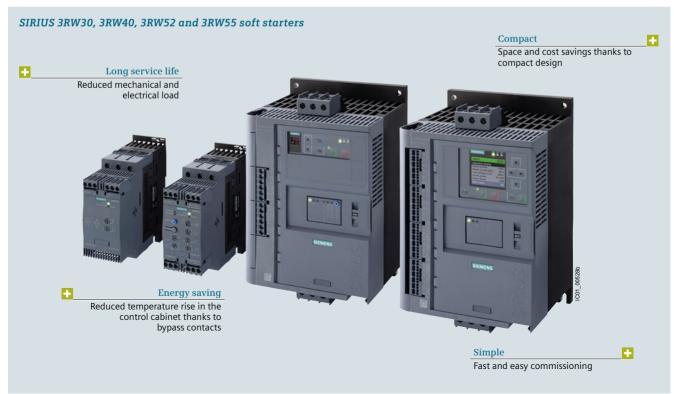
This ensures durability, especially with high frequency of operation, and thus significantly reduces maintenance costs and extends the life of the motor starters.

In addition, due to the hybrid switching technology, motor starters have lower electromagnetic interference emissions, enabling you to increase your plant availability.

Further energy savings are provided by the integrated electronic overload protection.

This causes a lower intrinsic power loss than comparable motor feeders with thermal overload protection.

In this way, you benefit from reduced heat generation and therefore lower cooling power. And that saves energy.



Introduction Innovative Technology for Saving Energy

Electronic starting with hybrid switching technology



■ Reduced space requirements

50% slimmer than other distributed I/O systems

Hybrid switching technology

Durable and energy saving, since relay contacts are not subject to loading when switched

Power bus

Supply with power only once, then automatic setup with side-by-side mounting of multiple modules

Quick stop and end position disconnection

Load switch off even at high speed – independent of central controller

Quick installation

Hook in, slide into place and engage

Once it is installed and wired, you simply connect the ET 200SP motor starter to the controller in the TIA Portal ready for parameterization.

Highlights

Use of hybrid switching technology for:

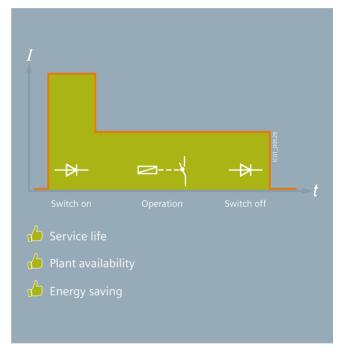
- SIRIUS 3RM1 motor starters
- ET 200SP motor starters
- SIRIUS soft starters

Fail-safe functionality for SIRIUS 3RM1 motor starters and ET 200SP:

 Maximum safety: Safety function up to SIL 3/PL e cat. 4

Additional benefits for SIRIUS 3RM1 motor starters:

- Using device connectors safety-related group shutdown with reduced wiring is possible
- Direct connection to the 3SK safety relay, without additional wiring



Notes

Industrial Communication



Price groups

PG 212, 230, 250, 254, 255, 256, 41B, 41H, 41L, 42B, 42C, 42D, 42J, 5K1, 5K2. 5N3. 5W3

Introduction

AS-Interface IO-Link

AS-Interface

Introduction

Communication overview

System components

AS-Interface specification

- Specification V3.0

- AS-i Power24V

ASIsafe

Introduction

F-CM AS-i Safety ST for

SIMATIC ET 200SP

SIRIUS 3RK3 Modular Safety System **NEW**

AS-Interface safety monitors

AS-Interface safety modules **NEW**

SIRIUS 3SF1 mechanical safety

switches for AS-Interface

SIRIUS ACT pushbuttons and indicator lights

- Modules for actuators and indicators: AS-Interface modules

13/109 - Pushbuttons and indicator lights in

an enclosure for AS-Interface

- Modules for enclosures: AS-Interface modules

Masters

Masters for SIMATIC S7

- CM 1243-2

- CP 343-2P/CP 343-2

Masters for SIMATIC ET 200

- CM AS-i Master ST for

SIMATIC ET 200SP NEW

- F-CM AS-i Safety ST for SIMATIC ET 200SP

Routers

DP/AS-i Link Advanced

DP/AS-Interface Link 20E

IE/AS-i Link PN IO

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.

Article No.	
3RA1943-2C 3RA1943-2B 3RA1953-2B 3RA1953-2N	IC01_00413

Or directly on the Internet, e.g. www.siemens.com/ product?3RA1943-2C

Slaves

I/O modules for use in the field. high degree of protection

- Digital I/O modules, IP67 - Introduction

- Digital I/O modules. IP67 - K60

- Digital I/O modules, IP68/IP69K -K60R NEW

- Digital I/O modules, IP67 - K45

- Digital I/O modules, IP67 - K20 NEW

- Analog I/O modules, IP67 - K60

I/O modules for use in the control cabinet

- Introduction

- SlimLine Compact NEW

- F90 module

- Flat module

Modules with special functions

- Counter modules

- Ground-fault detection modules

- Overvoltage protection modules

Contactors and contactor assemblies

- SIRIUS 3RT contactors, 3-pole up to 250 kW

- SIRIUS 3RA23 reversing contactor

assemblies, up to 55 kW

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting,

up to 90 kW

- SIRIUS 3RA27 function modules

Motor starters for use in the control cabinet

- SIRIUS 3RA6 compact starters: 3RA61 direct-on-line starters,

3RA62 reversing starters

Motor starters for use in the field, high degree of protection

- SIRIUS M200D motor starters for AS-Interface

SINAMICS G110M, SINAMICS G110D Distributed Inverters

> SIRIUS ACT pushbuttons and indicator lights

- Modules for actuators and indicators: AS-Interface modules

13/107 - Pushbuttons and indicator lights in an

enclosure for AS-Interface - Modules for enclosures:

AS-Interface modules

SIRIUS 8WD4 signaling columns

See Catalog D 31.2.

2

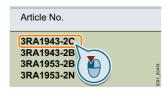
Industrial Communication

	Power supply units and data		Input modules
	decoupling modules	2/114	General data
2/78	AS-Interface power supply units	2/115	K20 IO-Link modules
2/79	30 V power supply units		Contactors and contactor assemblies
15/1	24 V power supply units	3/17	- SIRIUS 3RT contactors, 3-pole
2/81	S22.5 data decoupling modules		up to 250 kW
	Data decoupling modules	3/156	- SIRIUS 3RA23 reversing contactor
	for S7-1200	3/171	assemblies, up to 55 kW - SIRIUS 3RA24 contactor assemblies
2/83	- DCM 1271 data decoupling module	3/1/1	for star-delta (wye-delta) starting,
	Transmission media		up to 90 kW
2/85	AS-Interface shaped cable	3/107	- SIRIUS 3RA27 function modules
	System components and accessories		Overload relays
2/86	Repeaters	7/130	SIRIUS 3RB24 electronic overload
2/87	Extension plugs		relays for IO-Link for high-feature
2/88	Addressing units NEW		applications
2/90	Analyzer NEW		Motor starters for use in the control
2/94	Miscellaneous accessories NEW		cabinet
2/12	Diagnostics		3RA64, 3RA65 compact starters for IO-Link
	Software	8/68	- 3RA64 direct-on-line starters
14/19	AS-Interface block library for	8/69	- 3RA65 reversing starters
	SIMATIC PCS 7	0,00	Monitoring relays
	IO-Link	10/70	SIRIUS 3RR24 monitoring relays for
	Introduction		mounting onto 3RT2 contactors for
2/97	Communication overview		IO-Link
2/98	System components	10/109	
2/103	IO-Link specification		for stand-alone installation for IO-Link
2,100	Masters	10/143	
	IO-Link master module for S7-1200		monitoring relays for IO-Link
2/104	- SM 1278 4xIO-Link master		SIRIUS ACT pushbuttons and indicator lights
2,101	IO-Link master module for ET 200SP	10/10	
2/105	- CM 4xIO-Link	13/10	3SU1 ID key-operated switches 3SU1 electronic modules for IO-Link
2/103		10/00	
2/108	IO-Link master module for ET 200pro - IO-Link master module	13/98 13/113	For front plate mountingFor base mounting
	IO-Link master module for	ID 10 ¹⁾	<u> </u>
	ET 200eco PN	2/102	IO-Link Device Description (IODD)
2/109	- ET 200eco PN IO-Link master	2/102	Software
	IO-Link master module for ET 200AL		<u>Software</u>
- 4		1)	See Catalog ID 10

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.

- CM IO-Link



Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

See Catalog ID 10.

AS-Interface

Overview

More information

Homepage, see www.siemens.com/as-interface



AS-Interface

AS-Interface – the smart communication standard for universal connection of the field level to the control system

The AS-Interface (AS-i) – the Actuator-Sensor-Interface, to be more precise – is a smart bus system for the field level that connects all the sensors and actuators in the field to the higher-level control system more simply, flexibly and efficiently than any other

The structure of a complex automation system is not always clear at first glance. The field level in particular, with its large numbers of devices with real-time requirements, needs a clear structure.

That is exactly what the AS-i fieldbus delivers: Via a simple two-wire cable – the yellow AS-i cable – in an AS-i network up to 62 bus nodes can be connected to the AS-i master and simultaneously supplied with power. The standard here is robust data transmission in a rugged environment with a high degree of protection for the AS-Interface.

Industry Mall, see www.siemens.com/product?as-interface

AS-i = simple!	AS-i = flexible!	AS-i = efficient!
Only one cable for data and energy Time-saving assembly/installation Engineering in the TIA Portal User-friendly maintenance	Flexible topologiesOpen standardExpandabilitySafety engineering	User-friendly addressing Fast device replacement Ruggedness and stability Device and network diagnostics ICO1_00210

AS-i from Siemens has everything in its favor

- Complete AS-i product range for bus-based standard and safety technology from a single source
- System-wide integration of the AS-i devices into SIMATIC, SINUMERIK and the TIA Portal engineering framework
- Integration of ASIsafe applications into SIMATIC F controller safety programming
- Central configuration of standard and safety technology in the TIA Portal and in STEP7 Classic – just one engineering framework for controller, AS-i Master and safety
- Quick diagnostics of master and slave components via web browser, HMI or TIA Portal
- Planning, calculation and verification of the whole safety chain based on AS-i Safety in the Safety Evaluation Tool (TÜV-approved)
- Integration of lower-level AS-i networks into the PCS 7 process control system
- Global spare parts logistics, consulting and service

		Article No.	Page
ASIsafe			
	ASIsafe enables integration of safety-related components in an AS-Interface network, for example:		
	EMERGENCY STOP pushbuttons		
	Protective door switches		
	Cable-operated switches		
	Other AS-i safety sensors		
	Your advantage: The simple wiring of AS-Interface is maintained.		
the state of the s	AS-i Master and AS-i Safety module for ET 200SP	6ES7	From 2/36
STATE OF THE PARTY	The CM AS-i Master ST and F-CM AS-i Safety ST modules are plugged into an ET 200SP configuration and connect an AS-i network, including safety-related inputs and outputs, with the controller.		
R: * AMAGE SET TO THE SET OF THE	 Single, double and multiple masters possible 		
1	 Per CM AS-i Master ST module up to 496 DI / 496 DQ / 124 AI / 124 AQ possible 		
	 Per F-CM AS-i Safety ST module up to 31 safe input signals (two-channel) / 16 safe output channels possible 		
18.8	 Configuring with TIA Portal or STEP 7 Classic 		
AS-i Master and AS-i Safety module	 Plant-wide safety programming of the F-CPU via SIMATIC Distributed Safety/ Safety Advanced / F systems 		
	Integrated diagnostics		
	 No other programming tools required 		
	Your advantage: Modular connection of fail-safe AS-i networks with system-wide programming in SIMATIC and SINUMERIK controllers.		

Industrial Communication

Introduction

AS-Interface			
		Article No.	Page
ASIsafe (continued)			. 3
	Modular Safety System (MSS)	3RK3	From 2/24,
000000	Supplementing the service-proven concept of safety monitors, the 3RK3 Modular Safety System offers, for example, the following functions for ASIsafe:		from 11/30
Table 100 Lab	Up to 50 enabling circuits including muting function		
	Expandable fail-safe and non-fail-safe inputs/outputs		
	Control of up to 12 ASIsafe outputs or 12 fail-safe independent switch-off groups		
	 Memory module for parameters, e.g. for device replacement 		
00000	Optional PROFIBUS interface for diagnostics and parameterization		
3RK3	SIRIUS Safety ES, the intuitive graphic parameterization and diagnostics software		
Modular Safety System	AS-i Power24V capability		
	Your advantage: Easy to configure safety functions up to Category 4, PL e, SIL 3.		
	AS-Interface safety monitors	3RK1	2/28
ALLE STATE OF THE	 For monitoring safe stations and for linking AS-Interface inputs and outputs 		
Dilling.	Ensures safe disconnection		
500000	Available with one or two release circuits with two-channel configuration		
	All versions with removable screw terminals or spring-type terminals		
	All safety monitors in revised Version 3 with additional options		
000000	 Filtering out of brief single-channel interruptions in the sensor circuit with the expanded safety monitor Version 3 		
Safety monitor	 Expanded safety monitor with integrated safe slave for controlling a distributed safe AS-i output or for safe coupling a safe signal from one AS-i network to another AS-i network 		
	ASIMON V3 Configuration software with graphic function diagram presentation		
	Your advantage: Easy to configure safety functions up to Category 4, PL e, SIL 3.		
	AS-Interface safety modules	3RK1	From 2/29
0	Complete portfolio of ASIsafe modules	OTHER!	1101112,20
0:	For connection of safety switches with contacts (e.g. position switches)		
(a)	Degree of protection IP65/IP67 or IP20		
	• Especially compact dimensions, with widths from 17.5 mm		
K45F	Up to four safe inputs per module		
77	Up to one safe output per module		
	Standard outputs are available on the module in addition		
	• Up to Category 4, PL e, SIL 3		
	Your advantage: Easy integration of safe signals both in the switching cabinet and in the field.		
SC17.5F			
00000			
000000			
00000			
S45F SlimLine module,			
safe AS-i output			
ales.	SIRIUS 3SF1 mechanical safety switches for AS-Interface	3SF1	From 12/83
0 0	• Plastic with degree of protection IP65 and metal with degree of protection IP66/IP67		
Conne	ASIsafe electronics integrated into the enclosure		
120	 Available with separate actuator, with or without tumbler 		
	Your advantage: Conventional wiring of safety functions no longer required.		
Safety switch			
<u> </u>	SIRIUS ACT EMERGENCY STOP mushroom pushbuttons for AS-Interface	3SU14 modules	13/97, 13/113
	Degree of protection IP66/IP67/IP69K	3SU18 enclosure	
•	Metal or plastic version		
	Connection of an EMERGENCY STOP device according to EN ISO 13850 to AS-Interface		
0	Safety-related AS-Interface module is snapped onto the commanding device from behind		
EMERGENCY STOP	• Can be used up to PL e, SIL 3		
mushroom pushbutton	Your advantage: Easy direct connection of control elements to ASIsafe.		
in enclosure			

		Article No.	Page
Masters			
	The AS-Interface master connects SIMATIC control systems to AS-Interface. It automatically organizes the data traffic on the AS-Interface cable and handles not only signal processing, but also parameter setting, monitoring and diagnostics functions.		
	Masters for SIMATIC S7		
	AS-Interface master connections:		
	• CM 1243-2 for SIMATIC S7-1200	3RK7	From 2/32
	 CP 343-2P, CP 343-2 for SIMATIC S7-300 and ET 200M 	6GK7	From 2/34
27 (202	Features:		
	Connection of up to 62 AS-Interface slaves		
	 Connection of up to 496 inputs and 496 outputs per master or AS-Interface network 		
	Integrated analog value transmission		
CM 1243-2 for SIMATIC S7-1200	Simple configuration by adopting the actual configuration on the AS-Interface network		
OIIVIATIO 07-1200	 Easy operation in the input/output address area of the SIMATIC S7 comparable to standard I/O modules 		
	Monitoring of the control supply voltage on the AS-Interface shaped cable		
	Your advantage: Easy connection to SIMATIC controllers.		
	Tour advantage. Lasy connection to SilviAnd Controllers.		
CP 343-2, CP 343-2P for			
SIMATIC S7-300			
	Masters for SIMATIC ET 200		
15-76	CM AS-i Master ST for SIMATIC ET 200SP	3RK7	From 2/36
22 ST 10 10 10	Connection of up to 62 AS-Interface slaves per master		
Resp.	Connection of up to 496 inputs and 496 outputs per AS-Interface network		
	Integrated analog value transmission		
	Simple configuration by adopting the ACTUAL configuration on the AS-Interface network (i) ONATIO (
	 Easy operation in the input/output address range of the SIMATIC (or other controller) comparable to standard I/O modules 		
10 mm	Monitoring of the control supply voltage on the AS-Interface shaped cable		
CM AS-i Master ST for	Integrated ground-fault monitoring		
SIMATIC ET 200SP	Your advantage: Easy connection of AS-i networks to distributed I/Os.		
	· · · · · · · · · · · · · · · · · · ·		
12-75	F-CM AS-i Safety ST for SIMATIC ET 200SP	3RK7	From 2/40
	 Monitoring of up to 31 fail-safe AS-i input slaves per F-CM 		
DAS PROPING	- 31 fail-safe AS-1 input slaves per F-CM - 16 fail-safe AS-i outputs per F-CM		
	Transmission via PROFIsafe into the F-CPU for safety-related applications up to SIL 3 (IEC 61508/EN 62061)/PL e (EN ISO 13849-1)		
E 3 1	As a result, these sensors become part of the "unlimited programming and data archiving"		
dien in the state of the state	options of SIMATIC and of Safety Integrated.		
Pour Service State Cont	Your advantage: Easy connection of fail-safe AS-i networks to the distributed I/Os.		
F-CM AS-i Safety ST for			
SIMATIC ET 200SP			

Industrial Communication

Introduction

		Article No.	Page
DP/AS-i Link Advanced DP/AS-i Link PN IO	 Degree of protection IP20 PROFIBUS slave or PROFINET IO device and AS-Interface master (single or double master in case of DP/AS-i Link Advanced and IE/AS-i Link PN IO) Connection of up to 62 AS-Interface slaves per AS-Interface network Connection of up to 496 digital inputs and 496 outputs per AS-i network, with doubling of the project data volume for double master versions Integrated ground-fault monitoring (in case of DP/AS-i Link Advanced and IE/AS-i Link PN IO) User-friendly local diagnostics and local startup by means of a full graphic display and control keys or through a web interface with a standard browser (in case of DP/AS-i Link Advanced and IE/AS-i Link PN IO) Integrated analog value transmission Configuring and uploading of AS-Interface configuration in STEP 7 possible User-friendly selection of AS-Interface slaves Your advantage: Compact transition to PROFIBUS or PROFINET. As an alternative to the IE/AS-i Link PN IO, a high-performance router can be set up between PROFINET and AS-Interface by combining the CM AS-i Master ST and F-CM AS-i Safety ST modules in an ET 200SP station (for safety-related applications), see pages 2/36 and 2/40. 	Article No. 3RK3, 6GK1	Page From 2/44
IE/AS-i Link PN IO			
Ciarco	Slaves contain the AS-Interface electronics and connection options for sensors and actuators in the field and in the control cabinet. A total of up to 62 slaves can be connected to one bus. The slaves then exchange their data in cyclic mode with a control module (master).		
K20 digital module K45 digital module	VO modules for use in the field, high degree of protection Digital I/O modules, IP67 – K60, K60R, K45 and K20 • Degree of protection IP65/IP67 or IP68/IP69K • Modules available with up to degree of protection IP68/IP69K • Connection sockets in M8/M12 • Up to eight inputs and four outputs • A/B technology available • Contacting protected against polarity reversal • Standard rail mounting and wall mounting possible • Mounting of the module on the base plate using just one screw • Diagnostics LEDs Your advantage: Reduction of mounting and startup times by up to 40%.	3RK1, 3RK2	From 2/55
K60 digital module K60 analog module	Analog I/O modules, IP67 – K60 • Degree of protection IP65/IP67 • Detects or transmits analog signals locally • two-/four-channel • Input modules for up to four sensors with current signal, with voltage signal or with thermal resistor • Output modules for current or voltage • Fast analog modules available for higher access speeds Your advantage: Easy integration of analog values.	3RK1	From 2/65

		Article No.	Page
SlimLine Compact Compact SC17.5 SC22.5 F90 module	## WO modules for use in the control cabinet Degree of protection IP20 No M12 plugs required for connection Especially narrow design for SlimLine Compact modules with widths of 17.5 mm and 22.5 mm Analog modules are also available Removable, finger-safe terminal blocks that cannot be inadvertently interchanged with the SlimLine Compact Modules Flat design of the flat modules for small control cabinets and confined conditions Connection with screw terminals or spring-type terminals Standard rail mounting and wall mounting possible Diagnostics LEDs Your advantage: Modules enable space-saving use in control cabinets and small local control boxes.	3RG9, 3RK1, 3RK2	From 2/68
SIGNAS 1	Modules with special functions Counter modules Degree of protection IP20 For evaluation of pulses Connection with screw terminals or spring-type terminals Your advantage: Evaluation of pulses which exceed even the clock frequency of AS-Interface.	3RK1	2/75
Counter module	Ground-fault detection modules • Degree of protection IP20 • Display using LEDs • Two signaling outputs Your advantage: Automatic diagnostics of ground faults on AS-Interface	3RK1	2/76
Ground-fault detection module Overvoltage protection module	Overvoltage protection modules • Degree of protection IP67 • Discharge through ground cable with oil-proof outer sheath • Protection at transition of lightning protection zones Your advantage: The AS-Interface overvoltage protection module protects downstream AS-Interface devices or individual sections in AS-Interface networks from conducted overvoltages.	3RK1	2 77

AS-Interface

		Article No.	Page
Slaves (continued)			·
	Contactors and contactor assemblies		
	SIRIUS 3RT contactors, 3-pole up to 250 kW SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW Notable reduction of wiring in the control circuit Integrated mechanical interlocking Prevention of wiring errors in the main circuit	3RT20 3RA23 3RA24	From 3/17 From 3/156 From 3/171
SIRIUS contactor			
SIRIUS 3RA2712 function module for AS-Interface	SIRIUS 3RA27 function modules for AS-Interface Connection of 3RT20 power contactors with communication capability, 3RA23 reversing contactor assemblies, and 3RA24 contactor assemblies for star-delta (wye-delta) starting to AS-Interface Reduction of control current wiring through plug-in design and integrated monitoring of circuit breaker/motor starter protector and contactor Reduced space requirement in the control cabinet through fewer digital inputs and outputs in the control system Easy configuration through operation of feeders instead of individual contactors Enhanced operational reliability and quick wiring thanks to spring-type connections Small number of variants through use of identical modules for size S00 to S3 contactors Your advantage: Shortening of mounting and startup times.	3RA2712	From 3/107
3RA61 compact starter	Motor starters for use in the control cabinet SIRIUS 3RA6 compact starters 3RA61 direct-on-line starters, 3RA62 reversing starters • Degree of protection IP20 • Very compact load feeders with the integrated functionality of an electronic overload relay • As direct-on line or reversing starters for motors up to 15 kW/400 V • Easy expansion into a communication-capable load feeder using AS-i add-on modules • On-site safe disconnection also possible using AS-i add-on modules • Standardized integration of the loads in higher-level control systems using AS-i Your advantage: Compact solution with minimum wiring outlay for actuating direct-on-line and reversing starters in the control cabinet.	3RA6 3RA61 3RA62	From 8/56 8/66 8/67
	Motor starters for use in the field, high degree of protection SIRIUS M200D motor starters for AS-Interface • High degree of protection IP65 for cabinet-free design • As direct-on-line or reversing starters for motors up to 5.5 kW/400 V • Mechanical or electronic switching for high switching frequencies • Optional with manual operation and brake control	3RK1	From 9/43

• Expanded diagnostics and parameterization possible through AS-Interface

Your advantage: The correct solution for all simple applications in conveyor systems with spatially distributed drives.

• Easy and consistent integration in STEP 7 through AS-Interface



		Article No.	Page
Slaves (continued)			
(3)	SINAMICS G110M distributed inverters Wide power range from 0.37 to 4 kW	6SL3517 power modules, 6SL3544 control units	Catalog D 31.
	Preconfigured with SIMOGEAR		
	 Rugged, with IP65/IP66 degree of protection, up to 55 °C ambient temperature 		
	 Local commissioning via DIP switch, standard USB interface and potentiometer or Intelligent Operator Panel (IOP) 		
SINAMICS G110M requency inverter	 Integrated safety functions (STO locally via F-DI or via PROFIsafe) 		
	 Integrated, specific software functionality for conveyor systems Quick stop function for fast reaction times to sensors Limit switch functionality, e.g. for rotary table, corner transfer unit 		
	Your advantage: The simple solution for compact drives with safety requirements in conveyor technology		
	SINAMICS G110D distributed inverters	6SL3511	Catalog D 31.
	High degree of protection IP65 for cabinet-free installation		
	 Wide power range from 0.75 to 7.5 kW 		
NAMICO CITOR	 Easy commissioning and maintenance thanks to standardized plug-in connections for bus, energy and I/Os 		
SINAMICS G110D requency inverter	 Expanded diagnostics and parameterization through AS-Interface 		
	Optional maintenance switch		
	Optional manual local operation		
	Same plugs used as for the M200D motor starter		
	Your advantage: Easy, consistent implementation of distributed system concepts thanks to scaling of SINAMICS G110D, SINAMICS G120D and SIRIUS M200D products.		
	Commanding and signaling devices	3SU14 modules 3SU18 enclosure	
	SIRIUS ACT pushbuttons and indicator lights for AS-Interface		
	 Modular configuration based on individual specifications, or as enclosure with standard components 		
	 AS-Interface modules for base mounting or mounting in enclosure 		
	 Up to six command points for standard signals or EMERGENCY STOP 		
	Degree of protection IP66/IP67/IP69K		
	Metal or plastic version		
AS-Interface module	Indicator lights with integrated LED		
	 Any change of equipment possible even after installation 		
	Your advantage: Complete operating system with simple AS-Interface connection for your plant.		
	SIRIUS 8WD4 signaling columns	8WD4	From 13/167
	Many optical and acoustic elements can be combined		
	Up to three signaling elements can be connected using an adapter element		
	With LEDs or incandescent lamps		
	Your advantage: Signaling columns for monitoring production sequences and for visual or acoustic warnings in emergency situations, with easy AS-Interface connection.		



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AS-Interface			
		Article No.	Page
Power supply units a	nd data decoupling modules		
	AS-Interface power supply units generate a controlled direct voltage of 30 V DC with high stability and low residual ripple in conjunction with data decoupling. They are an integral component of the AS-Interface network and enable the simultaneous transmission of data and energy on one cable. In conjunction with data decoupling modules, AS-Interface can also be operated with standard power supply units.		
	AS-Interface power supply units	3RX9	2/78
	With wide performance spectrum from 2.6 to 8 A	OTIAS	2,10
MEMERS.	Degree of protection IP20		
ASI POWER	Separation of data and energy by means of the integrated data decoupling UL/CSA approval means the power supplies can be used worldwide, 2.6 A version with output power restricted to max. 100 W (for Class 2 circuits in accordance with NEC)		
IP20, 3 A	Certified for global use		
ESO O A	 Integrated ground-fault and overload detection save the need for additional components and make applications reliable 		
	Diagnostics memory, remote signaling and remote RESET allow fast detection of faults in the system		
	Ultra-wide input range enables single- and two-phase applications (8 A version) Your advantage: Optimum performance for each application.		
IP20, 8 A	20 V naviar availe visite		
	30 V power supply units Standard 20 V power supply units without data decoupling	3RX9	From 2/79
CO 2	Standard 30 V power supply units without data decoupling • Power spectrum 3 A, 4 A and 8 A	SUVA	FIOIII 2/19
8	Overload and short-circuit proof in every performance class		
	Diagnostics: With output voltage > 26.5 V DC		
	LED and signaling contact for output voltage 30 V O.K.		
- 000	Primary-side connection to 120/230 V AC (single-phase) with automatic range selection		
PSN130S 30 V DC, 8 A	Your advantage: Economical alternatives in conjunction with data decoupling modules while making full use of the maximum AS-Interface cable length.		
	24 V power supply units		
002800	Standard 24 V power supply units (SITOP), without data decoupling • Power spectrum 2.5 to 40 A	6EP	From 15/1
S d	 Overload and short-circuit proof in every performance class 		
SITO	 Add-on modules for signaling, redundancy, buffering and UPS 		
and I	 Single-phase, two-phase and three-phase versions 		
SITOP PSU100M, 24 V DC, 20 A	Your advantage: Economical alternatives in conjunction with data decoupling modules.		
Han	S22.5 data decoupling modules	3RK1	From 2/81
000	Degree of protection IP20, narrow design 22.5 mm		
000	 Supply of several AS-i networks with a single power supply unit 		
The second second	Single and double data decoupling		
	Operation with 24 V DC or 30 V DC		
	Your advantage: Cost-effective installation of AS-i networks in conjunction with standard power supply units.		
S22.5 data decoupling module			
- The Galle	DCM 1271 data decoupling modules for SIMATIC S7-1200	3RK7	From 2/83
	Simple data decoupling in IP20 design		
	Supply of several AS-i networks with a single power supply unit		
B married William	Operation with 24 V DC or 30 V DC		
	Your advantage: Cost-effective installation of AS-i networks in conjunction with standard power supply units in the design of a SIMATIC S7-1200 module.		
DCM 1271 data decoupling module			
Transmission media			
	AS-Interface shaped cables for connection of network stations		
4	AS-Interface shaped cables	3RX9	2/85
	No polarity reversal thanks to trapezoidal shape		
	Cables made of optimized material for different operating conditions		
	Special version according to UL CLASS 2 available		
	Your advantage: Fast replacement and connection to AS-Interface by piercing method.		
Shaped cable			

Shaped cable

Industrial Communication Introduction

AS-Interface

		Article No.	Page
System components	and accessories		
	Accessories comprise tools for mounting, installation and operating as well as individual components.		
-de-	Repeaters and extension plugs	6GK1 repeater	2/86
	• Repeaters for extending the AS-Interface cable by 100 m per repeater	3RK1 extension	0.107
):	• Extension plug for extending the AS-Interface segment to max. 200 m	plug	2/87
1.0	 Parallel switching of several repeaters possible (star configuration option) 		
	 Maximum size increases (when combined) to more than 600 m 		
epeater	Easy mounting		
spealer	IP67 module enclosure		
	Your advantage: Lower infrastructure costs, more possibilities of use and greater freedom for plant planning.		
ompact extension plug	Addressing units	3RK1	From 2/88
SEE 31.	Reading out and adjusting the slave address 0 to 31 or 1A to 31A, 1B to 31B, with automatic addressing aid and prevention of double addresses	JIMI	110111 2/00
Telele	Reading out the slave profile (IO, ID, ID2) and reading out and setting the ID1 code		
	Input/output test when commissioning the slaves, on all digital and analog slaves according to AS-Interface specification V3.0, including safe input slaves and complex CTT2 slaves		
Q	Display of the operational current in case of direct connection of an AS-i slave (measuring range from 0 to 150 mA)		
ddressing unit or AS-Interface V 3.0	Storage of complete network configurations (profiles of all slaves) to simplify the addressing		
	Your advantage: Easiest way to address and test the slaves.		
	AS-Interface analyzer	3RK1	From 2/90
SIEMENS A5-Interface Analyser	 Diagnostics units for completely checking the quality and function of an AS-Interface installation 		
CC SECTION SARCE TOTAL T	• Transmission of collected data through an RS 232 interface to a PC, evaluation by software	9	
Total School Street	Easy and user-friendly operation		
nalyzer	Automatically generated test logs		
	Advanced trigger functions enable exact analysis		
	Process data can be monitored online		
	 In addition to digital I/O data it is possible to view analog values and safety slaves in data mode. 		
	Your advantage: Preventative testing of an AS-Interface network is possible, recorded logs facilitate remote diagnostics.		
	Miscellaneous accessories	3RK1, 3RT1,	From 2/94
	Individual components such as sealing caps, cable adapters, distributors, M12 plugs and cables, AS-Interface System Manual, etc.	3RX9, 6ES7	
112 sealing cap			
INS PRESENT CARD			
able terminating piece			

Industrial Communication

Introduction

AS-Interface

		Article No.	Page
Diagnostics			
Companies from Companies from the Companies fro	The following diagnostics block with visualization via HMI or web browser for AS-Interface can be downloaded free of charge in the Industry Online Support Portal:		
1 2 3 4 5 4 7 1 1 21 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Diagnostics blocks		
17	For CM AS-i Master ST and F-CM AS-i Safety ST in ET 200SP, see https://support.industry.siemens.com/cs/ww/en/view/109479103		
1	For other Siemens AS-i master and links, see https://support.industry.siemens.com/cs/ww/en/view/50897766		
Diagnostics for AS-Interface via HMI panel	Your advantage: Detailed diagnostic display for fast fault analysis and short downtimes – for easy integration into STEP 7 projects.		
Software			
AS-Interface block library for PCS 7	AS-Interface block library for SIMATIC PCS 7 • Engineering and runtime software • Easy connection of AS-Interface to PCS 7 • Engineering work reduced to positioning and connecting the blocks in the CFC • No additional configuring steps required for connection to the PCS 7 Maintenance Station, diagnostics for the AS-i system optimally guaranteed Your advantage: Easy connection of AS-Interface to PCS 7, little engineering and configuration.	3ZS1635	From 14/19

Connection methods

	Screw terminals
<u>~</u>	Spring-type terminals, spring-type terminals (push-in)
	COMBICON connectors (plug-in screw terminals)
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Industrial Communication Introduction

IO-Link

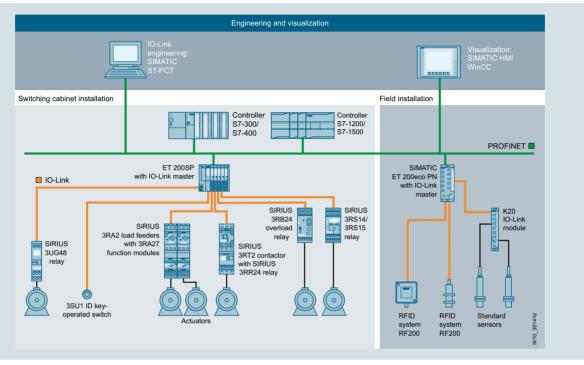
Overview

More information

Homepage, see www.siemens.com/io-link

For important topics at a glance, see

tps://support.industry.siemens.com/cs/ww/en/view/109737170



Engineering and visualization

IO-Link - more than just another interface

IO-Link is an open communication standard for sensors and actuators – defined by the IO-Link Consortium.

IO-Link is a smart concept for the uniform connection of actuators and sensors to the control level by means of a low-cost point-to-point connection.

As an open interface, IO-Link can be integrated into all standard fieldbus and automation systems.

The IO-Link communication standard below fieldbus level enables central error diagnostics and localization down to actuator/sensor level, and facilitates both start up and maintenance by allowing parameter data to be dynamically changed directly from the application.

The increasing intelligence of field devices and their integration into automation as a whole now allows data to be accessed right down to the lowest field level. The result: greater plant availability and less engineering work.

Transparency in the process through IO-Link

High system availability and data transparency are market requirements that must also be met by the connecting of innovative control technology to a control system. A systematic diagnostics concept and efficient handling of parameter data are required for this purpose in automation.

With the aid of the IO-Link communication standard, a communication link is established between switchgear and controller, and this allows data to be exchanged efficiently. Based on a standard cable, it is therefore possible to integrate parameter, process and diagnostic data and measured values into the plant automation with ease. For example, the available diagnostic data allow potential errors to be detected quickly, thus avoiding lengthy plant down times.

As a consequence of their basic function, such as overload protection (SIRIUS 3RB24 electronic overload relays for IO-Link), many controls have measured values. The availability of these via IO-Link now allows conclusions to be drawn at an early stage concerning wear and tear in the application.

At the same time the option of parameterizing via IO-Link supports the device not just when parameters concerning operating time are changed, but also when the device is replaced. In the case of a spare part, for example, the parameters can be quickly transmitted to a new device via the communication system.

Industrial Communication

Introduction

		Article No.	Page
Masters			. 3
	The IO-Link master modules form the heart of the IO-Link system.		
	IO-Link master module for SIMATIC S7-1200		
Succes	SM 1278 4xIO-Link master	6ES7	2/104
	IO-Link master as serial communication module with four ports (channels) according to IO-Link specification V1.1		
1 11 22 /	• Easy device exchange with automatic data recovery without engineering for IO-Link device		
O WEE	• Up to four IO-Link devices (3-wire connections) can be connected to each IO-Link master module		
	 Data transmission rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transmission rate supported by the device 		
SM 1278 4xIO-Link for SIMATIC S7-1200	Your advantage: Easy connection of IO-Link connections to the SIMATIC S7-1200.		
	IO-Link master modules for ET 200SP		
Total Control of the	CM 4xIO-Link communication module	6ES7	From 2/105
	 IO-Link master as serial communication module with four ports (channels) according to IO-Link specification V1.1 		
	 Module replacement with automatic data recovery without engineering for IO-Link master and device 		
	• Up to four IO-Link devices (3-wire connections) can be connected to each IO-Link master module.		
CM 4xIO-Link	 Data transmission rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transmission rate supported by the device 		
for ET 200SP	Your advantage: Easy connection of IO-Link connections to distributed I/Os.		
- Maria	IO-Link master module for ET 200pro	6ES7	2/108
	4 IO-Link HF electronic module		
•	 IO-Link master as serial communication module with four ports (channels) according to IO-Link specification V1.1 		
William Will	• Easy device exchange with automatic data recovery without engineering for IO-Link device		
•	• Up to four IO-Link devices can be connected to each IO-Link master module		
•••••••••••••••••••••••••••••••••••••	Support of IO-Link Port Class B		
IO-Link master module	 Data transmission rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transmission rate supported by the device 		
for ET 200pro	Your advantage: Easy connection of sensors and actuators to the I/Os directly in the machine's field area.		
0 E	IO-Link master module for ET 200eco PN		
	ET 200eco PN IO-Link master	6ES7	From 2/109
	• 4 IO-L + 8 DI + 4 DQ 24 V DC/1.3 A		
0 0	- Up to four IO-Link devices (IO-Link Port Class A) can be connected		
	 Up to eight standard sensors (8 DI) and up to four standard actuators (4 DQ) can be additionally connected 		
9	- Enclosure width 60 mm		
	• 4 IO-L		
6ES7148- 6ES7148-	- Up to four IO-Link devices (IO-Link Port Class B) can be connected		
6JA00-0AB0 6JD00-0AB0	- Enclosure width 30 mm		
	Your advantage: Easy connection of sensors and actuators to the I/Os directly in the machine's field area.		
IN CO.	IO-Link master module for ET 200AL	6ES7	From 2/111
	CM IO-Link communication module		
-@ 	 IO-Link master as serial communication module with four ports (channels) according to IO-Link specification V1.1 		
-0	Easy device exchange with automatic data recovery without engineering for IO-Link device		
50	Up to four IO-Link devices can be connected to each IO-Link master module		
	Support of IO-Link Port Class B		
CM IO-Link	 Data transmission rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transmission rate supported by the device 		
for ET 200AL	Your advantage: Easy connection of sensors and actuators to the I/Os directly in the machine's field area.		

Industrial Communication Introduction

		Article No.	Page
Input modules			. ugo
	IO-Link input modules make full use of the potential of IO-Link and are a more attractive		
	solution economically than a direct sensor connection.	ODI/F	F 0/11 4
	K20 IO-Link modules • Four or eight digital inputs	3RK5	From 2/114
•	Degree of protection IP65/IP67		
	Connection sockets in M8/M12		
•	Contacting protected against polarity reversal		
	Your advantage: Reduction of mounting and startup times by up to 40%.		
•			
IO-Link module K20 with eight digital inputs			
Industrial controls			
	Starters and contactor assemblies for direct-on-line, reversing and star-delta (wye-delta)		
	starting can be connected to IO-Link through function modules without any additional, complicated wiring.		
	Contactors and contactor assemblies		
	SIRIUS 3RT contactors, 3-pole up to 250 kW	3RT20	From 3/17
	SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW	3RA23	From 3/156
G G G	SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW Notable reduction of wiring in the control circuit	3RA24	From 3/171
	Integrated mechanical interlocking		
	Prevention of wiring errors in the main circuit		
9 6 6			
SIRIUS contactor			
3RT2011B0CC0			
7	SIRIUS 3RA27 function modules	3RA2711	From 3/107
27	Connection of 3RT20 power contactors with communication capability, 3RA23 reversing contactor examples and 3RA34 contactor examples for star dalta (up a dalta) starting.		
N ROOM TO SERVICE STATE OF THE PARTY OF THE	contactor assemblies, and 3RA24 contactor assemblies for star-delta (wye-delta) starting to IO-Link		
9 0 0 0 0 0	Reduction of control current wiring through plug-in technology, feeder groups and		
SIRIUS 3RA2711 function	integrated monitoring of circuit breaker/motor starter protector and contactor		
module for IO-Link	 Reduced space requirement in the control cabinet through fewer digital inputs and outputs in the control system 		
	• Simple user program through operation of feeders instead of individual contactors		
	• Enhanced operational reliability and quick wiring thanks to spring-type connections		
	Can be flexibly combined with many automation solutions using the open, standardized LO Link wiring a votem.		
	IO-Link wiring system • Small number of variants through use of identical modules for size S00 to S3 contactors		
	Your advantage: Shortening of mounting and startup times		
	Overload relays		
222222	SIRIUS 3RB24 electronic overload relays for IO-Link for high-feature applications	3RB24	From 7/130
	Diagnostics and current value transmission via IO-Link		
Series	Current measuring modules (3RB29) for current values from 0.3 630 A		
	 Controlling direct-on-line, reversing and wye-delta starters via IO-Link in conjunction with contactors 		
	Full motor protection through PTC connection		
2	Your advantage: Communication-capable overload relay enables remote diagnostics and		
SIRIUS 3RB24 overload	preventative maintenance.		
relay			
	Motor starters for use in the control cabinet	3RA6	From 8/56
A	3RA64, 3RA65 compact starters for IO-Link • Integrated functionality of a circuit breaker, contactor and electronic everload relay and	3RA64 3RA65	8/68 8/69
	 Integrated functionality of a circuit breaker, contactor and electronic overload relay and various functions of optional mountable accessories 		
2 - 6	Can be used for direct starting of standard induction motors up to 32 A (approx.)		
	15 kW/400 V)		
	Compact design offers enormous savings in space and wiring in the control cabinet Low variance of devices thanks to wide setting ranges for the rated current and wide		
coce	 Low variance of devices thanks to wide setting ranges for the rated current and wide voltage ranges 		
SIRIUS 3RA64 compact	Your advantage: The diagnostics data of the process collected by the 3RA6 compact		
starter	starter, e.g. short circuit, end of service life, limit position, etc., are not only indicated on the compact starter itself but also transmitted to the higher-level control system through IO-Link.		
	23		

Industrial Communication

Introduction

		Article No.	Page
Industrial controls (co	ntinued)		
	Monitoring relays		
dan .	SIRIUS 3RR24 monitoring relays for mounting onto 3RT2 contactors for IO-Link	3RR24	From 10/70
	Monitoring relays for mounting onto 3RT2 contactors		
BILLIAN SPILE	• Parameterization and diagnostics via the display on the device or via IO-Link		
	Adjustable warning and switch-off limit values and on/tripping delay times		
	All current measured values available in the control system		
-	Your advantage: Communication-capable monitoring relay enables remote diagnostics and		
CIDILIC 2DD24 manitaring	preventative maintenance.		
SIRIUS 3RR24 monitoring relay			
,	SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link	3UG48	From 10/109
000	Monitoring of		
SIEMENS	- Network (3UG481)		
238	- Voltage (3UG483) - Current (3UG4822)		
	- Power factor and active current (3UG484)		
	- Fault current (3UG4825)		
606	- Speed (3UG485)		
SIRIUS 3UG48 monitoring	Parameterization and diagnostics via the display on the device or via IO-Link Adjustable warries and puttable ff limit along and a fitting in a delay time.		
relay	Adjustable warning and switch-off limit values and on/tripping delay times All suggests as a suggest of the largest state as a state of the suggest states.		
	All current measured values available in the control system		
	Your advantage: Communication-capable monitoring relay enables remote diagnostics and preventative maintenance.		
	SIRIUS 3RS14, 3RS15 temperature monitoring relays for IO-Link	3RS14, 3RS15	From 10/143
00 00 00 00 00 00	Measuring the temperature of solids, liquids and gases	011014, 011010	110111 10/140
M M M M M M M	Use of resistance sensors (3RS14) or thermocouples (3RS15)		
1899	Parameterization and diagnostics via the display on the device or via IO-Link		
	Adjustable warning and switch-off limit values and on/tripping delay times		
	All current measured values available in the control system		
	Your advantage: Independent monitoring easily linked to the control system.		
SIRIUS 3RS14, 3RS15	Tour devantage. Independent monitoring easily linked to the control system.		
temperature monitoring			
relay	OIDHIO ACT analythmas and indicates limbs		
	SIRIUS ACT pushbuttons and indicator lights	20114	10/10
	SIRIUS ACT 3SU1 ID key-operated switches for IO-Link	3SU1	13/10
	Access system and selection system for four authorization levels Authorization of groups and paragraph		
	Authentication of groups and persons Five ID leave with different pading.		
OIDU IO AOT	Five ID keys with different coding Option for individual coding via IO Link		
SIRIUS ACT 3SU1 ID key-operated	Option for individual coding via IO-Link For installation in angles uses or fastening on front plate.		
switch	For installation in enclosures or fastening on front plate Flectronic module for ID key-operated switches must be ordered separately.		
	Electronic module for ID key-operated switches must be ordered separately. Your advantage: Only authorized personnel can work on plants and machines.		
	Your advantage: Only authorized personnel can work on plants and machines. SIRIUS ACT 3SU1 electronic modules for IO-Link	3SU1400	13/08 13/113
COM DEST		330 1400	13/98, 13/113
SOME	 Eight digital inputs and outputs possible DI and DQ freely selectable (programmable) 		
min.	Input and output functions parameterizable		
Andreas L	Connection system (push-in)		
	For installation in enclosures or fastening on front plate		
SIRIUS ACT	Your advantage: No wiring required if ordered in a 3SU1 enclosure via configurator.		
3SU1 electronic module RFID system	Total advantage. Two witning required it ordered it a 500 f effollostic via confligurator.		
HI ID Systelli	SIMATIC RE200 REID system in the HE range	6GT2	Catalog ID 10
	SIMATIC RF200 RFID system in the HF range Products SIMATIC RF210R, SIMATIC RF220R, SIMATIC RF240R, SIMATIC RF250R,	0312	Catalog ID 10
SIEMENS	SIMATIC RF210R, SIMATIC RF220R, SIMATIC RF240R, SIMATIC RF250R,		
RF2609	• Simple identification tasks such as reading an ID number (UID)		
	Reading of user data		
	Writing of user data		
30	No RFID-specific programming, ideal for those new to RFID		
RFID system for IO-Link	• Simple connection via master modules for IO-Link, such as SIMATIC S7-1200, ET 200SP,		
•	ET 200pro, ET 200eco PN and ET 200AL		
	 Use with the tried and tested ISO 15693 transponders (MDS Dxxx) 		

Industrial Communication Introduction

		Article No.	Page
Device Description (IO	(DD)		
1000	IODD files		2/102
'zp	These files provide the device description for IO-Link devices.		
Manufacture Cericiname-Cate- 10001 1 xell	Comprehensive IODD catalog of SIEMENS IO-Link devices		
Manufacture Branch Manufacture Branch Manufacture Branch MANUFACTURE MANUFACTUR	Freely available for download from Industry Online Support, see https://support.industry.siemens.com/cs/ww/en/ps/15851		
IODD IIIes IOI IO-LIIIK	IODDfinder		2/102
A more from from from from from from	The entire world of IO-Link under one roof		2/102
IODDfinder for IO-Link	The IODDfinder is a service provided by the IO-Link community. It is a central cross-vendor database for descriptive files (IODDs). In addition, the platform provides an overview of the available IO-Link devices.		
	For more information, see https://ioddfinder.io-link.com/#/.		
Software			
CATALOGUERAN DE COMPANION DE CO	STEP 7 PCT (Port Configuration Tool)		2/102
	Engineering software for configuring the IO-Link master modules for SIMATIC S7-1200, ET 200SP, ET 200pro, ET 200eco PN and ET 200AL		
- Marie	 Available as a stand-alone version or integrated into STEP 7 (V5.5 SP1 or later) and TIA (V12 or later) 		
STEP 7 PCT	• Engineering of the IO-Link devices connected to the master		
SIEF / FOI	 Monitoring of the process image of the IO-Link devices 		
	Open interface for importing further IODDs		
	 Freely available for download from Industry Online Support, see https://support.industry.siemens.com/cs/ww/en/view/32469496 		
WFB50001 "IO_LINK_DEVICE"	IO-Link function blocks (IO-Link master and IO-Link device)		2/102
EN END —	STEP 7 function block for easy acyclical data exchange in the user program		
- ID BUSY - CAP ERROR - STATUS - PORT IOL, STATUS - IOL, NDEX - IOL, NDEX - IOL, NDEX - IOL, STATUS - IOL, SMOREX - LEN RECORD, IOL - LOATA IO LOATA IO LOATA IO LOATA IO IOL CAP IO IO	Freely available for download from Industry Online Support, see https://support.industry.siemens.com/cs/ww/en/view/82981502		
TIA Portal			
*** Street Oct Option Library, 36,1713 *** Street Oct Option Library, 36,1713 *** Street Oct Oct Option Oct	"Siemens IO-Link Devices" block library This library provides function blocks and user-defined data types (UDTs) for all IO-Link devices from the Siemens portfolio. These blocks and UDTs standardize and simplify communication with IO-Link devices.	-	2/102
	Freely available for download from Industry Online Support, see https://support.industry.siemens.com/cs/ww/en/view/90529409		

AS-Interface Introduction

Communication overview

Overview

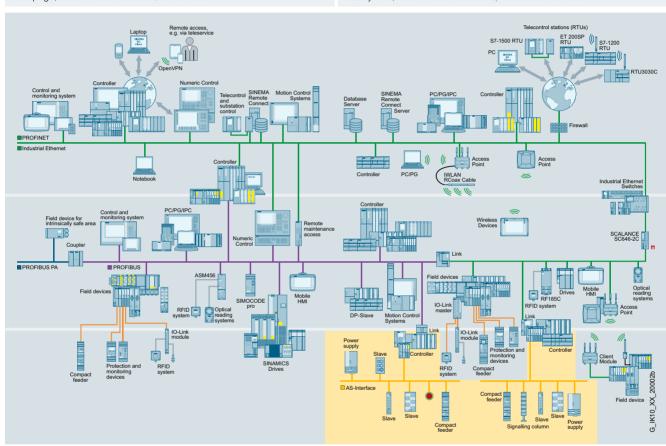
AS-Interface is an open, international standard according to EN 50295 and IEC 62026-2 for process and field communication. Leading manufacturers of actuators and sensors all over the world support the AS-Interface. Interested companies are provided with the electrical and mechanical specifications by the AS-Interface Association.

AS-Interface is a single master system. For automation systems from Siemens, there are communications processors (CPs), communications modules (CMs) and routers (links) that control the process or field communication as masters, and actuators and sensors that are activated as AS-Interface slaves.

More information

Homepage, see www.siemens.com/as-interface

Industry Mall, see www.siemens.com/product?as-interface



AS-Interface in the SIMATIC NET communications landscape

Benefits

An important characteristic of the AS-Interface technology is the use of a shared two-wire cable for data transmission and distribution of auxiliary power to the sensors and actuators. An AS-i power supply unit or alternatively a standard power supply unit that meets the requirements of the AS-Interface transmission method and has an external AS-i data decoupling module is used for the distribution of auxiliary power. The AS-Interface cable used for the wiring is mechanically coded and hence protected against polarity reversal and can be easily contacted by the insulation piercing method.

Elaborately wired control cables in the control cabinet and marshaling racks can be replaced by AS-Interface.

The AS-Interface cable can be connected to any points thanks to a specially developed cable and connection by the insulation piercing method.

With this concept you become extremely flexible and achieve high savings.

Application

I/O data exchange

The AS-i master automatically transfers the inputs and outputs between the controller and the digital and analog AS-Interface slaves. Slave diagnostics information is forwarded to the control system when required.

The latest AS-Interface masters according to the AS-Interface specification V3.0 support integrated analog value processing. This means that data exchange with analog AS-Interface slaves is just as easy as with digital slaves.

Command interface

In addition to I/O data exchange with binary and analog AS-Interface slaves, the AS-Interface masters can provide a number of other functions through the command interface.

Hence it is possible, for example, for slave addresses to be issued, parameter values transferred or configuration information read out from user programs.

For more information, see

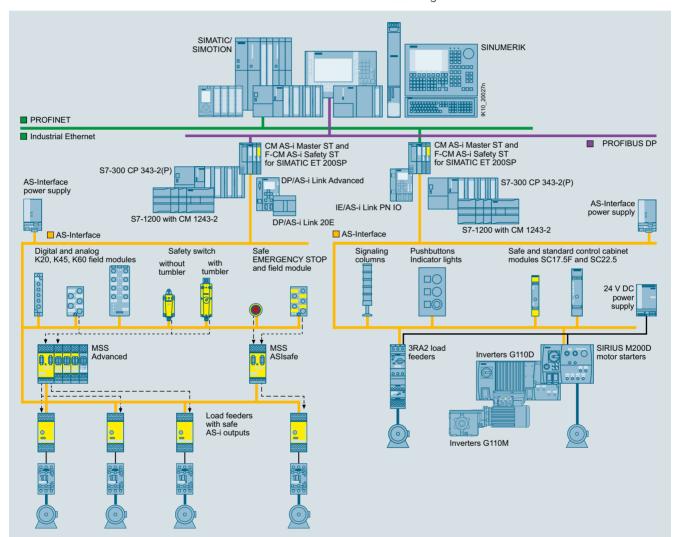
https://support.industry.siemens.com/cs/ww/en/view/51678777.

Overview

To implement communication, the following components of a system installation are available:

- AS-i modules for central control units such as SIMATIC S7. ET 200M/ET 200SP distributed I/Os, or network transitions from PROFIBUS or PROFINET to AS-Interface
- AS-i power supply unit or alternatively a standard power supply unit in combination with an AS-i data decoupling module for the power supply to the slaves and sensors
- AS-Interface shaped cables

- Network components such as repeaters and extension plugs (cannot be used for AS-i Power24V)
- I/O modules (AS-i slaves) for connection of standard sensors/actuators
- Actuators and sensors with integrated AS-i slave
- Safe I/O modules (ASIsafe slaves) for transmitting safety-related data through AS-Interface
- Addressing device for setting slave addresses during commissioning



Example of a configuration with the system components

Features

Standard EN 50295/IEC 62026-2 Topology Line, star or tree structure (same as electrical wiring) Transmission medium Unshielded twisted pair (2 x 1.5 mm²) for data and auxiliary power Connection methods Contacting of the AS-Interface cable by insulation piercing method • 100 m without repeater Maximum cable length

200 m with extension plug300 m with two repeaters in series connection • 600 m with extension plugs and two repeaters parallel switched

Longer cable lengths also possible through parallel switching of more repeaters

Maximum cycle time

Number of stations

Number of binary

per AS-Interface line

sensors and actuators

- 5 ms in maximum configuration with 31 standard addresses
- 10 ms in maximum configuration with 62 A/B addresses
- Profile-specific for slaves with extended data, e.g. analog slaves
- Up to 62 slaves (A/B addressing)
- Integrated analog value transmission max. 496 DI / 496 DQ
- Cyclic polling master/slave procedure
 Cyclic data acceptance from host (PLC, PC)

Access control Error safeguard

Identification and repetition of faulty message frames

AS-Interface Introduction AS-Interface specification

Specification V3.0

Overview

Scope of AS-Interface specification V3.0

Maximum number of slaves		Number of digital inputs	Number of digital outputs	
Digital	Analog	ASIsafe	DI	DQ
62	62	31	$62 \times 8 = 496$	$62 \times 8 = 496$

Basic data

- AS-Interface specification 3.0 describes a fieldbus system with an AS-i master and up to 62 AS-i slaves.
- Every AS-i slave with standard addressing occupies one AS-i address (1...31).
- Slaves with extended addressing divide an AS-i address into an A address (1A...31A) and a B address (1B...31B). Up to 62 A/B slaves can be connected accordingly to one AS-Interface network.
- · Mixed operation of slaves with standard addressing and extended addressing (A/B slaves) is possible without difficulty. The AS-i master identifies automatically which type of slave is connected, so no special adjustments are required of the user
- One digital AS-i slave typically has up to four digital inputs and four digital outputs.
- Transmission of the digital input/output data requires max. 5 ms cycle time for 31 slaves; for further values, see "Communication cycle"
- Integrated analog value transmission permits access to both analog values and digital values without the need for any special function blocks.

Communication cycle

Maximum cycle time (digital signals)

- 5 ms with 31 slaves10 ms with 62 slaves
- Up to 20 ms for slaves with A/B address 4 DI / 4 DQ
- Up to 40 ms for slaves with A/B address 8 DI / 8 DQ

Each address is gueried in max. 5 ms cycle time. If two A/B slaves are operated on one basic address (e.g. 12A and 12B), a maximum of 10 ms will be required to update the data of both slaves.

Slaves with A/B addressing transmit max. 4 DI / 3 DQ in one cycle.

Slaves with A/B addressing and 4 DI / 4 DQ transmit the output data in two consecutive cycles. The double transmission time of these outputs has no effect in typical applications. The transmission procedure is performed automatically by the AS-i master in accordance with AS-i specification V3.0. These slaves are identified in the selection data with addressing type A/B (spec. V3.0).

Slaves with a single A/B address and 8 DI / 8 DQ transmit the input and output data in four consecutive cycles. The transmission time of the inputs/outputs of these slaves increases accordingly. The transmission procedure is performed automatically by the AS-i master in accordance with AS-i specification V3.0.

The slaves offered by Siemens with 8 DI or 8 DI / 2 DQ use two AS-i addresses so that the time-consuming procedure is not needed and a fast data update is ensured.

All slave types can be mixed and used on a single AS-Interface network.

For more information, such as the addressing type used by the AS-Interface slave (standard or A/B address), see the "Selection and ordering data" for the relevant slave.

Available masters with the latest AS-Interface specification V3.0

- CM AS-i Master ST, F-CM AS-i Safety ST (ET 200SP)
- CM 1243-2 (S7-1200)
- CP 343-2P / CP 343-2 (S7-300 / ET 200M)
- DP/AS-i Link Advanced, DP/AS-Interface Link 20E
- IE/AS-i Link PN IO

More information

More information

System Manual "AS-Interface", see

https://support.industry.siemens.com/cs/ww/en/view/26250840

Overview



AS-Interface data decoupling modules for AS-i Power24V Left: S22.5 data decoupling module, Right: DCM 1271 data decoupling module for SIMATIC S7-1200

Parallel wiring frequently dominates, above all, in applications with very few I/Os. AS-Interface can, however, also replace extensive parallel wiring in small applications at a favorable price.

AS-i Power24V enables an already existing standard 24 V DC power supply unit to be used for the AS-i network.

Data and power in the standard AS-Interface network

One of the great advantages of AS-Interface is the ability to convey not only data, but also the power needed for the connected slaves and sensors over the same unshielded two-conductor cable. This is owed to the service-proven AS-Interface power supply units which provide integrated data decoupling as well as overload and short-circuit protection and integrated ground-fault monitoring.

AS-i Power24V

Instead of the AS-Interface power supply unit (with 30 V output voltage and integrated data decoupling) the AS-i cable is supplied via a data decoupling module from a 24 V standard power supply unit. The communication technology of AS-Interface works at the same high level of quality with an operating voltage of both 30 V DC and 24 V DC.

operating voltage of both 50 v Bo and 24 v Bo.						
	Key data of AS-i Power24V					
Number of slaves	Up to 62 slaves and up to 31 safe slaves					
Topology	Any					
Range	Up to 50 m					
Components	 24 V power supply unit with low residual ripple and limitation to max. 40 V 					
	AS-i Power24V-capable data decoupling with integrated ground-fault detection					
	AS-i Power24V-capable masters, slaves and					

components

Requirements for operation of an AS-i Power24V network

- When 24 V power supply units are used, the maximum network range of 50 m must be observed to reach slaves and sensors with a sufficient level of voltage (at least 18 V).
- The power supply units must comply with the PELV (Protective Extra Low Voltage) or SELV (Safety Extra Low Voltage) standard, have a residual ripple of < 250 mV_{pp}, and must limit the output voltage to a maximum of 40 V in the event of a fault. We recommend SITOP power supplies, see page 15/1 onwards.
- When used in conjunction with standard 24 V power supply units, each AS-Interface network requires AS-i Power24Vcapable data decoupling, see from page 2/81 onwards.
- For reliable operation of an AS-i network with 24 V voltage, it is important that the masters, slaves and other components are approved for AS-i Power24V. AS-i Power24V-capable AS-i components can also be used without restriction in standard 30 V AS-i networks.
- Use of repeaters or extension plugs in AS-i Power24V networks is not permitted.

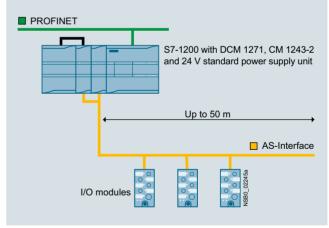
Benefits

In small control cabinets the AS-i power supply unit can be replaced by an AS-i data decoupling module that is connected to an existing 24 V power supply unit.

- The advantages of the AS-i communication system in terms of commissioning, maintenance and diagnostics can be fully exploited
- If a double data decoupling module is used, two AS-i networks can be supplied.

Application

Configuration of an AS-i Power24V network



Configuration of an AS-i Power24V network with an AS-Interface DCM 1271 data decoupling module and S7-1200 (simple network)

More information

More information

For a complete overview of AS-i Power24V-capable devices currently available from Siemens, see

https://support.industry.siemens.com/cs/ww/en/view/42806066

For details of AS-i Power24V, see "AS-Interface" System Manual, https://support.industry.siemens.com/cs/ww/en/view/26250840

Introduction

Overview

ASIsafe - Safety is included

ASIsafe enables the integration of safety-related components such as EMERGENCY STOP pushbuttons, protective door switches, cable-operated switches or other AS-i safety sensors in an AS-Interface network. These are fully compatible with the familiar AS-Interface components (masters, slaves, power supplies, repeaters, etc.) in accordance with IEC 62026-2 and are operated in conjunction with them on the yellow AS-Interface cable.

Tested safety

- Protective door switches
- Cable-operated switches
- · Other AS-i safety sensors

The transmission method for safety-related signals is released for applications up to PL e according to EN ISO 13849-1 and up to SIL 3 (IEC 61508/EN 62061).

Higher-level control

As usual, nodes on the AS-Interface bus are controlled in operation by the standard program of the higher-level SIMATIC (F) CPU or by a SINUMERIK control.

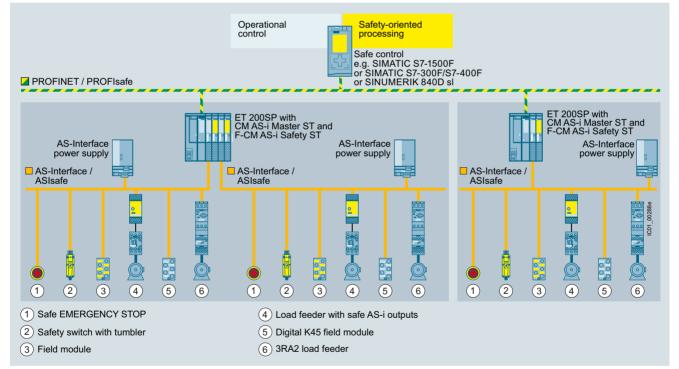
AS-i safety solution with F-CPU

Configuring safety functions

In order to implement safe functions, the information from the safe and standard nodes must be combined logically and further parameters set. The configuration of the safety functions depends on which safety solution is being used:

- AS-i safety solution with F-CPU:
 In conjunction with the modular safety AS-i master, which is formed by combining the CM AS-i Master ST and F-CM AS-i Safety ST modules in an ET 200SP station, all safety functions and combinations are configured via STEP 7 and processed in the controller (F-CPU) by the fail-safe program.
- In the case of the AS-i safety solution with local evaluation by MSS:

In conjunction with the Modular Safety System all safety functions and combinations are configured using the SIRIUS Safety ES software and processed in the MSS central unit.



AS-Interface configuration with AS-i Master modules in the ET 200SP

The AS-i communication modules in the ET 200SP facilitate the use of AS-Interface under fail-safe SIMATIC or SINUMERIK controllers.

The allocation of tasks is as follows:

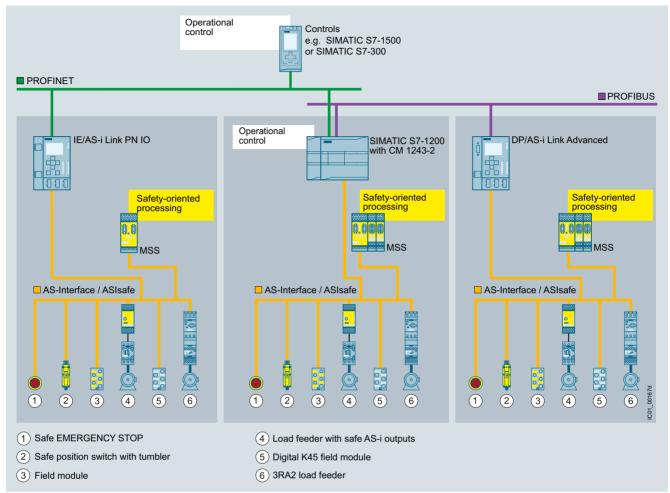
- Acquisition of safety-related signals via safe input slaves on the AS-Interface bus.
 Further signals can be detected through other F-DI modules of the SIMATIC.
- Evaluation and processing of signals via the fail-safe SIMATIC or SINUMERIK control
- Reacting by means of safety output modules on the AS-Interface bus or other SIMATIC F-DQ modules

Simple combination of the CM AS-i Master ST and F-CM AS-i Safety ST modules in one ET 200SP station results in a powerful, safety-oriented network transition between PROFINET (or PROFIBUS) and AS-Interface, which can be expanded further in a modular fashion with further I/O modules of the ET 200SP.

Using these design methods, it is possible to create configurations for virtually any application. Besides the single AS-i master, double, triple or generally multiple masters can be realized with or without fail-safe functionality.

Introduction

AS-i safety solution with local evaluation by MSS



AS-Interface design with 3RK3 Modular Safety System (MSS)

The local AS-i safety solution uses the 3RK3 Modular Safety System (MSS) for safety-related processing. In this case, one standard controller (i.e. no F-CPU) and one standard AS-i master are sufficient.

The allocation of tasks is as follows:

- Acquisition of safety-related signals via safe input slaves on the AS-Interface bus.
 - Further signals can be acquired via F-DI inputs of the central unit or the expansion modules of the MSS.
- Evaluation and processing of signals via the central unit of the MSS
- Reaction via safe output modules on the AS-Interface bus or via F-DQ outputs of the central unit or expansion modules of the MSS

Benefits

- Simple system structure thanks to standardized AS-Interface technique
- Safety-related and standard data on the same bus
- Existing systems can be expanded quickly and easily
- Optimum integration in TIA (Safety Diagnostics) and Safety Integrated
- Inclusion of the safety signals in the plant diagnostics, also on existing HMI panels
- Approved to PL e according to EN ISO 13849-1 or SIL 3 according to IEC 61508
- ASIsafe is certified by TÜV (Germany), NRTL (USA) and INRS (France)

Application

Integrated safety technology in the AS-Interface system can be used wherever EMERGENCY STOP buttons, safety gate interlocks, safety switches, light grids and two-hand operation are installed.

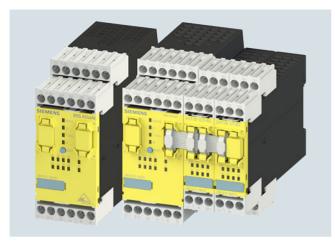
More information

More information

For further information and typical circuit diagrams on safety engineering, see https://support.industry.siemens.com/cs/ww/en/view/83150405

SIRIUS 3RK3 Modular Safety System

Overview



MSS ASIsafe basic (left) and MSS ASIsafe extended with two expansion modules (right)

The Modular Safety System (MSS) is the centerpiece of ASIsafe Solution local. It allows a safety-related response to signals from the ASIsafe nodes connected in the AS-i network, such as safety input modules, EMERGENCY STOP pushbuttons or safety switches.

The MSS thus supports safety-related applications up to Category 4 according to EN ISO 13849-1 or SIL 3 according to EN 62061.

Safe disconnection takes place via the local safety outputs of the MSS or via the distributed safe AS-Interface outputs in the AS-Interface network.

The safety functions are configured within the MSS using the SIRIUS Safety ES software. The configuration can be transmitted directly in the MSS via the system interface with the aid of a PC cable or memory module. If the DP interface module is used, transmission via PROFIBUS DP is also possible.

The MSS supports a large number of different safety functions. These can be tailored to individual needs in the form of readymade function blocks.

The safety functions supported include the following:

- EMERGENCY STOP
- · Safety shutdown mat
- · Protective door monitoring
- Protective door tumbler mechanism
- Approval switches
- Two-hand operator controls
- ESPE monitoring
- Muting
- · Mode selector switches

Application

All the MSS that can be used for the AS-Interface bus support the same safety functions. Differences exist in the number of inputs/outputs and expansion modules that can be connected, and hence in the number of independent enabling circuits.

Several MSS can be used on the same AS-Interface bus.

AS-Interface is available in the following versions:

MSS ASIsafe basic

- A total of up to ten independent (two-channel) enabling circuits
 - Two of these enabling circuits via safety outputs integrated into the central unit
 - And another eight enabling circuits via ASIsafe, e.g. with distributed AS-i safety outputs

MSS ASIsafe extended

- A total of up to 20 independent (two-channel) enabling circuits
 - Two of these enabling circuits via safety outputs integrated into the central unit
 - In addition, up to eight enabling circuits via a maximum of two expansion modules
 - And another ten enabling circuits via ASIsafe, e.g. with distributed AS-i safety outputs

MSS Advanced

- A total of up to 50 independent (two-channel) enabling circuits
 - Two of these enabling circuits via safety outputs integrated into the central unit
 - In addition, up to 36 enabling circuits via a maximum of nine expansion modules
 - and another 12 enabling circuits via ASIsafe, e.g. with distributed AS-i safety outputs

Expandability

All versions above can be expanded by adding a DP interface module and a diagnostics module. In addition, various safety and non-safety expansion modules can be selected for the MSS, and these can be used in any combination.

For more information, see from page 11/30 onwards.

Comparison of the three MSS versions

MSS 3RK3	ASIsafe basic	ASIsafe extended	Advanced
Number of independent (two-channel) enabling circuits	2 10	2 20	2 50
Inputs	2 F-DI and 6 DI	4 F-DI and 4 DI (expandable)	8 F-DI (expandable)
Outputs	1 F-DO and 1 F-RO	1 F-DO and 1 F-RO (expandable)	
Number of expansion modules		Up to 2 Up to 9	
Connection to AS	Isafe		
Number of safe AS-i outputs	Up to 8	Up to 10	Up to 12
Number of safe AS-i inputs		Up to 31	

-- Not available

SIRIUS 3RK3 Modular Safety System

3RK3121-2AC00

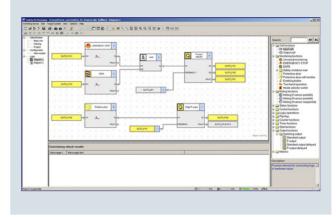
3RK3122-2AC00

Software for startup, testing and diagnostics: SIRIUS Safety ES

SIRIUS Safety ES is the engineering software for configuration, startup and diagnostics of the 3RK3 Modular Safety System and the 3SK2 safety relays.

All function elements can be positioned using drag & drop. All functions – whether safety or logic functions – are available as blocks and can also be easily combined with one another.

SIRIUS Safety ES makes it possible to test the safety application by forcing. Outputs can be individually set in order to test in advance the reaction of the downstream safety function. In addition, the parameterization can be downloaded to the MSS via PROFIBUS. The integrated macro function allows you to compile a library of your own function elements for reuse in other projects. In addition, the parameterization software is suitable for use as a reliable diagnostics tool: the status of each element as well as the configuration as a whole can be viewed online.



SIRIUS Safety ES user interface showing the ISO diagram display

Selection and ordering data

PU (UNIT, SET, M) PS* PG = 1 unit = 42B

Version	SD	Screw terminals		SD	Spring-type terminals	$\stackrel{\circ}{\square}$
	d	Article No.	Price per PU	d	Article No.	Price per PU

3RK3121-1AC00

3RK3122-1AC00

999999 999999 99999

3RK3121-1AC00

Central units



3RK3121-2AC00

3RK3 ASIsafe basic

Central units for connecting to AS-Interface with safety-related inputs and outputs

- 2 safe inputs
- 6 standard inputs
- 1 two-channel relay output
- 1 two-channel electronic output
- Memory module 3RK3931-0AA00 is included in the scope of supply
- No expansion modules can be connected





3RK3122-1AC00

3RK3122-2AC00

3RK3 ASIsafe extended

Central units for connecting to AS-Interface with safety-related inputs and outputs

- 4 safe inputs
- 4 standard inputs
- 1 two-channel relay output
- 1 two-channel electronic output
- Memory module 3RK3931-0AA00 is included in the scope of supply
- Max. 2 expansion modules can be connected



3RK3131-1AC10



3RK3131-2AC10

3RK3 Advanced

Central units for connecting to AS-Interface with safety-related inputs and outputs

- 8 safe inputs
- 1 two-channel relay output
- 1 two-channel electronic output
- Memory module 3RK3931-0AA00 is included in the scope of supply
- Max. 9 expansion modules can be connected

3RK3131-1AC10 3RK3131-2AC10

SIRIUS 3RK3 Modular Safety System

PU (UNIT, SET, M) = 1 PS* = 1 unit	Version	SD	Screw terminals	SD	Spring-type terminals
PG = 42B		d	Article No. Price per PU	d	Article No. Price per PU
Expansion modules	4/8 F-DI Safety-related input modules • 8 inputs	2	3RK3211-1AA10	2	3RK3211-2AA10
3RK3211-1AA10 3RK3211-2AA10 3RK3221-1AA10 3RK3221-2AA10	 2/4 F-DI 1/2 F-RO Safety-related input/output modules 4 inputs 2 single-channel relay outputs 	2	3RK3221-1AA10	2	3RK3221-2AA10
3RK3231-1AA10 3RK3231-2AA10	2/4 F-DI 2 F-DO Safety-related input/output modules • 4 inputs • 2 two-channel electronic outputs	2	3RK3231-1AA10	2	3RK3231-2AA10
3RK3251-1AA10 3RK3251-2AA10	4/8 F-ROSafety-related output modules8 single-channel relay outputs	2	3RK3251-1AA10	2	3RK3251-2AA10
3RK3242-1AA10 3RK3242-2AA10	4 F-DOSafety-related output modules4 two-channel electronic outputs	2	3RK3242-1AA10	2	3RK3242-2AA10
3RK3321-1AA10 3RK3321-2AA10	8 DI Standard input module • 8 inputs	2	3RK3321-1AA10	2	3RK3321-2AA10
3RK3311-1AA10 3RK3311-2AA10	8 DQ Standard output module 8 electronic outputs	2	3RK3311-1AA10	2	3RK3311-2AA10
Interface modules 3RK3511-1BA10 3RK3511-2BA10	DP interface PROFIBUS DP interface, 12 Mbps, RS 485, cyclic and acyclic data exchange	2	3RK3511-1BA10	2	3RK3511-2BA10

SIRIUS 3RK3 Modular Safety System

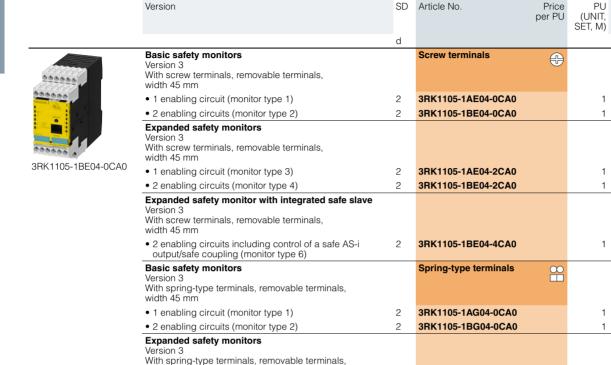
Accessories									
	Version			SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Connection cable	es (essential a	ccessory)							
	For connection	of							
	Central units with expansion modules or interface module	Diagnostics modules with central unit or interface module							
3UF7932-0AA00-0	✓	✓	 Length 0.025 m (flat) 	>	3UF7930-0AA00-0		1	1 unit	42J
		✓	 Length 0.1 m (flat) 	•	3UF7931-0AA00-0		1	1 unit	42J
		✓	 Length 0.15 m (flat) 	<u>NEW</u> ►	3UF7934-0AA00-0		1	1 unit	42J
		✓	 Length 0.3 m (flat) 	•	3UF7935-0AA00-0		1	1 unit	42J
		✓	 Length 0.5 m (flat) 	▶	3UF7932-0AA00-0		1	1 unit	42J
		✓	• Length 0.5 m (round)	▶	3UF7932-0BA00-0		1	1 unit	42J
		✓	• Length 1.0 m (round)	•	3UF7937-0BA00-0		1	1 unit	42J
		✓	• Length 2.5 m (round)	>	3UF7933-0BA00-0		1	1 unit	42J
Operating and me									
	Diagnostics m	odule		2	3SK2611-3AA00		1	1 unit	41L
	For direct displa	ay of errors, e.g.	of cross-circuits						
3SK2611-3AA00									
✓ Available Not available				Addition	al accessories for MS	SS, see pa	age 11/40		

More information

More information	
Modular safety system (MSS), see from page 11/30 onwards	Manuals for the Modular Safety System (MSS), see
SIRIUS Safety ES software, see from page 14/22 onwards	https://support.industry.siemens.com/cs/ww/en/view/26493228

AS-Interface safety monitors

Selection and ordering data



Accessories

width 45 mm

Version 3

width 45 mm

• 1 enabling circuit (monitor type 3)

• 2 enabling circuits (monitor type 4)

output/safe coupling (monitor type 6)

Expanded safety monitor with integrated safe slave

With spring-type terminals, removable terminals,

• 2 enabling circuits including control of a safe AS-i

Version SD Article No. Price PS* PG per PU (UNIT SÈT, M) d 3RK1802-2FB06-0GA1 ASIsafe CD 2 42C 1 1 unit Included in the scope of supply: · ASIMON V3 configuration software on CD ROM, for PC with Windows operating system Cable sets 3RK1901-5AA00 1 unit 42C Included in the scope of supply: • PC configuration cable for communication between PC (serial interface) and safety monitor, length approx. 1.50 m Transfer cable between two safety monitors, length approx. 0.25 m 3RP1902 Sealable covers 5 5 units 41H For securing against unauthorized configuration of the safety monitor Push-in lugs 5 3RP1903 10 units 41H For screw fixing

2

2

3RK1105-1AG04-2CA0

3RK1105-1BG04-2CA0

3RK1105-1BG04-4CA0



PS*

1 unit

PG

42C

AS-Interface safety modules

Overview



AS-Interface safety modules: K45F (left), K20F (center) and SC17.5F (right)



S45F SlimLine module, safe AS-i output

Safety modules for AS-Interface (ASIsafe modules) are available for field use in degree of protection IP67 (K20F and K45F compact modules) and for the control cabinet (SC17.5F SlimLine Compact modules) in degree of protection IP20.

A very compact module with an optimum price/performance ratio is thus available for every application.

All modules for the connection of (mechanical) switches and safety sensors with contacts feature crossover monitoring of the connected sensor line.

AS-Interface safety modules

The following modules are available for selection:

K20F compact safety modules for operation in the field

Being only 20 mm wide, the K20F module is particularly well suited for applications where modules need to be arranged in the most confined of spaces. The K20F modules are connected to the AS-Interface with a round cable with M12 cable box instead of with the AS-Interface flat cable. This enables extremely compact installation. The flexibility of the round cable means that it can also be used on moving machine parts without any problems. The K20 modules are also ideal for such applications as their non-encapsulated design makes them particularly light in weight.

K45F compact safety modules for use in the field

The platform of the K45F modules covers the connection of ("mechanical") switches/safety sensors with contacts:

- K45F 2 F-DI: Two safety-related inputs in operation up to Category 2 according to EN ISO 13849-1. If Category 4 is required, a two-channel input is available on the module.
- K45F 2 F-DI / 2 DQ: There are also two standard outputs in addition to the safe inputs. Supplied from the yellow AS-i cable
- K45F 2 F-DI / 2 DQ U_{aux}: same as K45F 2 F-DI/2 DQ, but supplied from the black 24 V DC cable
- K45F 4 F-DI: Four safety-related inputs in operation up to Category 2, two for Category 4. Extremely compact double slave (uses two standard AS-i addresses)

SC17.5F SlimLine Compact safety modules with a width of just 17.5 mm for use in control cabinets and local control boxes

With a width of only 17.5 mm, the safe SlimLine Compact modules SC17.5F are ideal for space-saving use in a control cabinet. The modules have more than two safety inputs for connecting signals to ASIsafe networks in the control cabinet. For operation up to Category 2, both inputs can be separately assigned; if Category 4 is required, a two-channel input is available on the module.

There are also two module variants which have two standard outputs in addition to the two safety inputs. The outputs are supplied either from the yellow AS-Interface cable alone, or via auxiliary voltage from the black 24 V DC cable. The supply voltage is set via a slide switch on the rear of the device.

When using several modules, they can be connected simply via the optional device connector. This simplifies the wiring. The yellow AS-i bus cable and the 24 V DC auxiliary voltage $U_{\rm aux}$ then only need to be connected to one module.

AS-Interface safety modules

S45F SlimLine safety modules with safety outputs for the safe distributed disconnection of actuators

With the S45F SlimLine safety module, a safe output signal of the ET 200SP module F-CM AS-i Safety ST can be used for distributed safety-related disconnection via ASIsafe.

To this end, the S45F module has a safety-related two-channel relay output. As an additional possibility the module offers normal switching of the output using an AS-i standard output bit.

The module has three digital inputs and two digital outputs for the additional connection of sensors and actuators. These can be used, among other things, for the required monitoring of downstream contactors of the feedback circuit.

The S45F module can also be controlled in a safety-related manner, for example by the modular 3RK3 ASIsafe/Advanced safety system. The module contains an AS-i slave for the non-safety-related inputs/outputs.

Selection and ordering data

	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d			, ,		
	K20F compact safety Slave addressing type	y modules e: Standard address						
	I/O type	U _{aux} 24 V						
3RK1205-0BQ30-	2 F-DI		2	3RK1205-0BQ30-0AA3		1	1 unit	42C
0AA3	K45F compact safet							
	Slave addressing type (modules supplied wi	e: Standard address						
1	I/O type	U _{aux} 24 V						
	2 F-DI		>	3RK1205-0BQ00-0AA3		1	1 unit	42C
	4 F-DI ¹⁾		2	3RK1205-0CQ00-0AA3		1	1 unit	42C
3RK1205-0BQ00-	2 F-DI / 2 DQ		5	3RK1405-0BQ20-0AA3		1	1 unit	42C
OAA3	2 F-DI / 2 DQ		5	3RK1405-1BQ20-0AA3		1	1 unit	42C
17	SC17.5F SlimLine Co	ompact safety modules e: Standard address						
	I/O type	Outputs						
				Screw terminals	+			
	2 F-DI		2	3RK1205-0BE00-2AA2		1	1 unit	42C
3RK1405-2BE00-				Spring-type terminals (push-in)	8			
2AA2	2 F-DI		2	3RK1205-0BG00-2AA2		1	1 unit	42C
				Screw terminals	+			
	2 F-DI / 2 DQ	$U_{\rm ASI}/U_{\rm aux}$ supply selectable	2	3RK1405-2BE00-2AA2		1	1 unit	42C
				Spring-type terminals (push-in)				
	2 F-DI / 2 DQ	U _{ASI} /U _{aux} supply selectable	2	3RK1405-2BG00-2AA2		1	1 unit	42C
000000	S45F SlimLine safet (with safe AS-i output							
000000	I/O type	U _{aux} 24 V						
				Screw terminals	+			
	1 F-RQ / 3 DI / 2 DQ	✓	2	3RK1405-1SE15-0AA2		1	1 unit	42C
3RK1405-1SE15-				Spring-type terminals (push-in)	<u></u>			
0AA2	1 F-RQ / 3 DI / 2 DQ	✓	2	3RK1405-1SG15-0AA2		1	1 unit	42C

- ✓ Available or possible
- -- Not available or not possible
- 1) Module occupies two AS-Interface addresses

The existing SlimLine series of I/O modules for use in the control cabinet and local control boxes is being replaced by the new SlimLine Compact series. We recommend that these new devices are used in future.

For the conversion table, see page 2/72.

Note:

The previous SlimLine devices are still available for use as replacements in existing systems. As a result of the innovation, the new SlimLine Compact devices are not fully compatible in terms of either mechanical dimensions or electrical properties.

AS-Interface safety modules

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Accessories for co	mpact safety modules						
	K45 mounting plates For mounting K45F						
3RK1901-2EA00	For wall mounting For standard rail mounting	>	3RK1901-2EA00 3RK1901-2DA00		1 1	1 unit 1 unit	42C 42C
IIII III	Input bridges for K45F						
3RK1901-1AA00	Black version Red version	2 30	3RK1901-1AA00 3RK1901-1AA01		1 1	1 unit 1 unit	42C 42C
	AS-Interface sealing caps M12 For free M12 sockets	>	3RK1901-1KA00		100	10 units	42C
3RK1901-1KA00	AS-Interface M12 sealing caps.	2	3RK1901-1KA01		100	10 units	42C
	tamper-proof For free M12 sockets	2	Shk 1901-1KA01		100	10 units	420
3RK1901-1KA01							
Accessories for Sli	mLine Compact safety modules						
	Device connectors For the electrical connection of SlimLine Compact modules (connects AS-i bus cable and 24 V DC auxiliary power supply U_{AUX} when using several SlimLine Compact modules)						
	• Width 17.5 mm	2	3RK1901-1YA00		1	1 unit	42C
	Width 22.5 mm Device termination connectors	2	3RK1901-1YA10		1	1 unit	42C
3RK1901- 3RK1901-	Required for the last module in the network						
1YA00 1YA01	• Width 17.5 mm • Width 22.5 mm	2 2	3RK1901-1YA01 3RK1901-1YA11		1	1 unit 1 unit	42C 42C
	Removable terminals		Screw terminals	+			
	• Screw terminals up to 2 x 1.5 mm ² or 1 x 2.5 mm ²			•			
	Screw terminals up to 2 x 1.5 mm ⁻ or 1 x 2.5 mm ⁻ 2-pole 4-pole	2 2	3ZY1121-1BA00 3ZY1141-1BA00		1 1	6 units 6 units	41L 41L
3ZY1121-2BA00			Spring-type terminals (push-in)	* 8			
	 Push-In terminals up to 2 x 1.5 mm² 2-pole 4-pole 	2	3ZY1121-2BA00 3ZY1141-2BA00		1 1	6 units 6 units	41L 41L
SIEMENS	Hinged cover NEW	2	3ZY1450-1BA00		1	1 unit	41H
SIRIUS	Replacement for SlimLine Compact module, without terminal labeling, width 17.5 mm, yellow						
• •	Push-in lugs for wall mounting Two lugs are required per device	2	3ZY1311-0AA00		1	10 units	41L
	Coding pins for removable terminals	2	3ZY1440-1AA00		1	12 units	41L
3ZY1450-1BA00	For mechanical coding of the terminals						
	Blank labels Unit labeling plates ¹⁾						
19100,100	10 mm x 7 mm, titanium gray20 mm x 7 mm, titanium gray	20 20	3RT2900-1SB10 3RT2900-1SB20			816 units 340 units	41B 41B
3RT2900-1SB20	Tools for opening spring-type terminals		Spring-type terminals				
		-	(push-in)	* #			
	Screwdriver for SIRIUS devices with spring-type terminals 3.0 mm x 0.5 mm, length approx. 200 mm,	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A	titanium gray/black, partially insulated						

More information

More information

For the "SlimLine Compact Modules" Manual, see https://support.industry.siemens.com/cs/ww/en/view/109481489

AS-Interface Masters Masters for SIMATIC S7

CM 1243-2

Overview



CM 1243-2 communication module for S7-1200

The CM 1243-2 communication module is the AS-Interface master for the SIMATIC S7-1200 and has the following features:

- Connection of up to 62 AS-Interface slaves
- Integrated analog value transmission
- Supports all AS-Interface master functions in accordance with the AS-Interface specification V3.0
- Indication of the operating state on the front of the device displayed via LED
- Display of operating mode, AS-Interface voltage faults, configuration faults and peripheral faults via LED behind the front panel
- Compact enclosure in the design of the SIMATIC S7-1200
- Suitable for AS-i Power24V and for AS-Interface with 30 V voltage: A standard 24 V power supply unit can be used in combination with the optional DCM 1271 data decoupling module.
- Configuration and diagnostics via the TIA portal

Design

The CM 1243-2 communication module is positioned to the left of the S7-1200 CPU and linked to the S7-1200 via lateral contacts.

It has

- Terminals for two AS-i cables (internally jumpered) via two screw terminals each respectively
- One terminal for connection to the functional ground
- LEDs for indication of the operating state and fault statuses of the connected slaves

The screw terminals (included in scope of supply) can be removed to facilitate installation.

Function

The CM 1243-2 supports all specified functions of the AS-Interface specification V3.0.

The values of the digital AS-i slaves can be activated via the process image of the S7-1200. During configuration of the slaves in the TIA Portal, the values of the analog AS-i slaves can also be accessed directly in the process image.

It is also possible to exchange all data of the AS-i master and the connected AS-i slaves with the S7-1200 via the data record interface

Changeover of the operating mode, automatic application of the slave configuration and the re-addressing of a connected AS-i slave can be implemented via the control panel of the CM 1243-2 in the TIA Portal.

The optional DCM 1271 data decoupling module (see page 2/33) has an integrated detection unit for detecting ground faults on the AS-Interface cable. The integrated overload protection also disconnects the AS-Interface cable if the drive current required exceeds 4 A. For more information on DCM 1271, see page 2/83.

Note on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

To configure CM 1243-2, you require STEP 7 V11 + SP2 or higher.

For STEP 7 V11 + SP2 or higher, the additional Hardware Support Package for CM 1243-2 is required. This is available via the Industry Online Support Portal, see https://support.industry.siemens.com/cs/ww/en/view/72341852.

The software enables user-friendly configuration and diagnostics of the AS-Interface master and any connected slaves

Alternatively, you can also apply the AS-Interface ACTUAL configuration at the "touch of a button" via the control panel integrated in the TIA Portal/STEP 7.

When operated on an S7-1200 CPU with firmware version V4.0 or higher, the firmware version V1.1 (or higher) is required for the CM 1243-2.

Benefits

- More flexibility and versatility in the use of SIMATIC S7-1200 as the result of a significant increase in the number of digital and analog inputs/outputs available
- Very easy configuration and diagnostics of the AS-Interface via the TIA Portal (STEP 7 V11+SP2 or higher)
- Simple operation with AS-Interface power supply (see page 2/78) possible without restrictions.
- Alternatively: No need for the AS-i power supply unit with AS-i Power24V. The AS-Interface cable is supplied through an existing 24 V DC PELV power supply unit. For decoupling, the AS-i DCM 1271 data decoupling module is required, see "Accessories" and page 2/83.
- LEDs for indication of fault statuses for fast diagnostics
- Monitoring of AS-Interface voltage facilitates diagnostics

Application

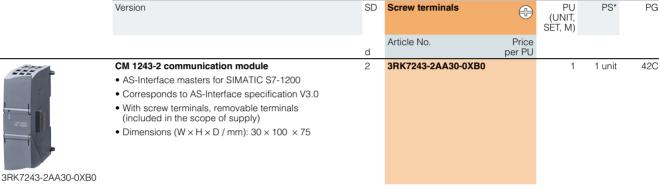
The CM 1243-2 is the AS-Interface master connection for the 12xx CPUs of the SIMATIC S7-1200. Through connection to AS-Interface, the number of digital inputs and outputs available for the S7-1200 is greatly increased (max. 496 DI/496 DQ on the AS-Interface per CM).

The integrated analog value processing also makes the analog values available at the AS-Interface for the S7-1200. Up to 31 analog slaves with a standard address (each with up to four channels) or up to 62 analog slaves with an A/B address (each with up to two channels) are possible per CM.

Operating conditions

- The CM 1243-2 communication module exchanges data with the S7-1200 CPU with a cycle time of 10 ms.
- The AS-i cycle time depends on the AS-i bus capacity and is up to 5 ms in the case of 31 slaves addresses; for more information, see Manual "AS-i Master CM 1243-2 and AS-i DCM 1271 data decoupling module", https://support.industry.siemens.com/cs/ww/en/view/57358958.
- For calculation of the maximum switching frequency at inputs/outputs of AS-i slaves, these cycle times and the runtime of the user program must be added up.

Selection and ordering data



Note:

The CM 1243-2 communication module is available as a SIPLUS version under Article No. 6AG1243-2AA30-7XB0 in the extended temperature range (from -25 to 70 °C) and for use in harsh environmental conditions (coated according to environment standard IEC 60721).

For more information, see www.siemens.com/siplus-extreme.

Accessories

	Version	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
		d	Article No.	Price per PU			
	DCM 1271 data decoupling module	2	3RK7271-1AA30-0AA0		1	1 unit	42C
	 With screw terminals, removable terminals (included in the scope of supply) 						
	 Dimensions (W × H × D / mm): 30 × 100 × 75 						
I town	Screw terminals (replacement)						
	5-pole For AS-i master CM 1243-2 and AS-i DCM 1271 data decoupling module	5	3RK1901-3MA00		1	1 unit	42C
3RK7271-1AA30-0AA0	 3-pole For AS-i DCM 1271 data decoupling module for connecting the power supply unit 	5	3RK1901-3MB00		1	1 unit	42C

More information

More information

Manuals, see

https://support.industry.siemens.com/cs/ww/en/ps/15750/man

For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser; see https://support.industry.siemens.com/cs/ww/en/view/61892138

AS-Interface Masters

Masters for SIMATIC S7

CP 343-2P/CP 343-2

Overview



CP 343-2P/CP 343-2

The CP 343-2P communications processor is the AS-Interface master for the SIMATIC S7-300 and the ET 200M distributed I/O station, with user-friendly parameterizing options.

The CP 343-2 is the basic version of the module.

The CP 343-2P/CP 343-2 has the following characteristics:

- Connection of up to 62 AS-Interface slaves
- · Integrated analog value transmission
- Support of all AS-Interface master functions in accordance with the AS-Interface specification V3.0
- Status displays of operating states and indication of the readiness for operation of connected slaves by means of LEDs in the front panel
- Fault indications (including AS-Interface voltage errors, configuration errors) by means of LEDs on the front plate.
- Compact enclosure in the design of the SIMATIC S7-300
- Suitable for AS-i Power24V (from product version 2 / firmware version 3.1) and for AS-Interface with 30 V voltage
- Additionally for CP 343-2P: Supports the configuration of the AS-Interface network with STEP 7 V5.2 and higher

Design

The CP 343-2P/CP 343-2 is connected like an I/O module to the S7-300. It has:

- Two terminal connections for connecting the AS-Interface cable directly.
- LEDs in the front panel for indicating the operating state and the readiness for operation of all connected and activated slaves
- Pushbuttons for switching over the master operating state and for adopting the existing ACTUAL configuration of the AS-i slave as the TARGET configuration

Function

The CP 343-2P/CP 343-2 supports all specified functions of the AS-Interface specification V3.0.

The CP 343-2P / CP 343-2 each occupy 16 bytes in the I/O address area of the SIMATIC S7-300. The digital I/O data of the standard slaves and A slaves is saved in this area. The digital I/O data of the B slaves and the analog I/O data can be accessed with the S7 system functions for read/write data records.

If required, master calls can be performed with the command interface, e.g. read/write parameters, read/write configuration.

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/51678777.

Note on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

All connected AS-Interface slaves are configured at the press of a button. No further configuration of the CP is required.

Additionally for CP 343-2P

The CP 343-2P also supports configuring of the AS-Interface network with STEP 7 V5.2 and higher. Specifying the AS-i configuration in HW-Config facilitates the setting of slave parameters and documentation of the plant. Uploading the ACTUAL configuration of an already configured AS-Interface network is also supported. The saved configuration cannot be overwritten at the press of a button and is therefore tamper-proof.

Benefits

- Shorter startup times through simple configuration at the press of a button
- Design of flexible machine-related structures using the ET 200M distributed I/O system
- Provides diagnostics of the AS-Interface network
- Well suited also for complex applications thanks to connection options for 62 slaves and integral analog value processing
- Reduction of standstill and servicing times in the event of a fault thanks to the LED indicators:
 - Status of the AS-Interface network
 - Slaves connected and their readiness for operation
 - Monitoring of the AS-Interface voltage

- Lower costs for stock keeping and spare parts inventory because the CP can be used for the SIMATIC S7-300 and also for the ET 200M
- Additionally for CP 343-2P: Improved plant documentation and support for service assignments thanks to a description of the AS-Interface configuration in the STEP 7 project
- Simple operation with AS-Interface power supply (see page 2/78) possible without restrictions.
- Alternatively: No need for the AS-i power supply unit with AS-i Power24V. The AS-Interface cable is supplied through an existing 24 V DC PELV power supply unit. An S22.5 AS-i data decoupling module (e.g. 3RK1901-1DE12-1AA0) is required for the decoupling, see page 2/81.

CP 343-2P/CP 343-2

Application

The CP 343-2P/CP 343-2 is the AS-Interface master connection for the SIMATIC S7-300 and the ET 200M.

Through connection to AS-Interface it is possible to access max. 248 DI/248 DQ per CP, using 62 A/B slaves with 4 DI/4 DQ each.

With the integrated analog value processing, it is easy to transmit analog signals. Up to 62 analog slaves with an A/B address (each with up to two channels) or up to 31 analog slaves with a standard address (each with up to four channels) are possible per CP.

The CP 343-2P is the further development of the CP 343-2 and contains its entire functionality. An existing STEP 7 user program for a CP 343-2 can thus be used without restrictions with a CP 343-2P. It is only in STEP 7 HW-Config that the two modules are configured differently, with the CP 343-2P offering additional options. This is why the CP 343-2P is recommended.

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
	CP 343-2P communications processors	>	6GK7343-2AH11-0XA0		1	1 unit	42C
	Device version with expanded configuration options for connection of SIMATIC S7-300 and ET 200M to AS-Interface						
•	 Configuration of the AS-i network using the SET key or STEP 7 (V5.2 and higher) 						
	Without front plug						
	 Corresponds to AS-Interface specification V3.0 						
6GK7343-2AH11-0XA0	 Dimensions (W x H x D/mm): 40 x 125 x 120 						
	CP 343-2 communications processors		6GK7343-2AH01-0XA0		1	1 unit	42C
	Basic version for connection of SIMATIC S7-300 and ET 200M to AS-Interface						
	 Configuration of the AS-i network using the SET key 						
•	Without front plug						
	 Corresponds to AS-Interface specification V3.0 						
	• Dimensions (W x H x D/mm): 40 x 125 x 120						
6GK7343-2AH01-0XA0							

Accessories

Version	SD	Article No.	Price er PU	PU (UNIT, SET, M)	PS*	PG
	d					
Front plug, 20-pole						
With screw terminals	1	6ES7392-1AJ00-0AA0		1	1 unit	230
With spring-type terminals	1	6ES7392-1BJ00-0AA0		1	1 unit	230

More information

More	infor	mati	on

Manuals, see

https://support.industry.siemens.com/cs/ww/en/ps/15754/man

For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see

https://support.industry.siemens.com/cs/ww/en/view/61892138

AS-i block library for SIMATIC PCS 7 for easy connection of AS-Interface to PCS 7, see from page 14/19 onwards

AS-InterfaceMasters

Masters for SIMATIC ET 200

CM AS-i Master ST for SIMATIC ET 200SP

Overview



CM AS-i Master ST for SIMATIC ET 200SP

The CM AS-i Master ST communication module is designed for use in the SIMATIC ET 200SP distributed I/O system and has the following features:

- · Connection of up to 62 AS-Interface slaves
- Supports all AS-Interface master functions according to the AS-Interface specification V3.0
- User-friendly configuration with graphic display of the AS-i line in TIA Portal V12 or higher, or via GSD in other systems
- Supply via AS-Interface cable
- Suitable for AS-i Power24V and for AS-Interface with 30 V voltage
- Integrated ground-fault monitoring for the AS-Interface cable
- Through connection to AS-Interface, the number of digital inputs and outputs available for the control system is greatly increased (max. 496 DI/496 DQ on the AS-Interface per CM AS-i Master ST).
- Integrated analog value processing

ET 200SP distributed I/O system

The SIMATIC ET 200SP is a scalable and highly flexible distributed I/O system for connecting the process signals to a central control system via PROFIBUS or PROFINET.

Up to eight CM AS-i Master STs can be plugged into a SIMATIC ET 200SP with the IM 155-6 PN standard interface module.

More information, see the SIMATIC ET 200SP Manual Collection.

Design

The CM AS-i Master ST module has an ET 200SP module enclosure with a width of 20 mm. A C0 type BaseUnit (BU) is required for use in the ET 200SP.

The communication module has LED indicators for diagnostics, operation, AS-i voltage and AS-i slave status and offers informative front-side module inscription for

- Plain-text marking of the module type and function class
- 2D matrix code (Article No. and serial number)
- · Circuit diagram
- · Color coding of the CM module type: Light gray
- · Hardware and firmware version
- · Complete article number

Function

The CM AS-i Master ST communication module supports all specified functions of the AS-Interface specification V3.0.

The input/output values of the digital AS-i slaves can be activated via the cyclic process image. The values of the analog AS-i slaves are accessible via the cyclic process image (firmware V1.1 or higher) or via data record transfer.

If required, master calls can be performed with the command interface, e.g. read/write parameters, read/write configuration.

Changeover of the operating mode, automatic application of the slave configuration and the re-addressing of a connected AS-i slave can be implemented via the control panel of the CM AS-i Master ST in STEP 7.

Expansions as from firmware version V1.1

For the implementation of modular machine concepts, the AS-i Slaves can be activated or deactivated via the PLC program (option handling). The configuration of AS-i slaves can be modified while being executed, thus enabling variable machine setups and tool changing with integrated input/output modules during ongoing operation. AS-i input/output modules can be added to the system without deactivating the controller.

An existing AS-i installation can be read into the STEP 7 hardware configuration and adapted and documented in the project. Analog values are transmitted via the cyclic process image, the length of which is adjustable and extendable up to 288 bytes (depending on the interface module (IM) used).

Diagnostic information is accessed via automatic alarm indications, via the process image or data record reading in the user program or in the STEP 7 engineering system in a graphical overview matrix. The transmission quality of the AS-i network can also be read out. To avoid configuration errors, duplicate addresses can be detected on the AS-i network.

The new functions are available with TIA Portal STEP 7 V13 SP1 or with STEP 7 V5.5 with HSP 2092 V3.0¹⁾. Configuration is possible with SIMATIC CPUs S7-300 up to S7-1500 and with a SINUMERIK 840D sl or other controller.

In the network view, the AS-i slaves' online diagnostics status can be displayed directly on the slaves (for S7-1500 CPUs with firmware version V2.0 or higher, with TIA Portal STEP 7 V14 or higher).

Note on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

¹⁾ For HSP 2092, see https://support.industry.siemens.com/cs/ww/en/view/23183356.

CM AS-i Master ST for SIMATIC ET 200SP

Configuration

The following software is required for configuration of the CM AS-i Master ST module:

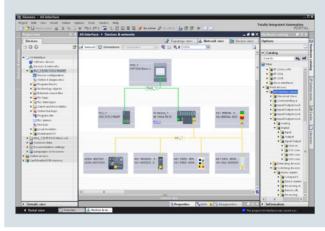
- STEP 7 (TIA Portal) V12 or higher or V13 SP1 or higher (for firmware V1.1) or
- STEP 7 (classic) V5.5 SP3 HF4 or higher with HSP 2092 or HSP 2092 V3.0 (for firmware V1.1) or
- the GSD file of the ET 200SP with STEP 7 or another engineering tool

STEP 7 enables user-friendly configuration and diagnostics of the AS-i master and any connected slaves.

Alternatively, you can also apply the AS-Interface ACTUAL configuration as the DESIRED configuration at the "touch of a button" via the control panel integrated in the TIA Portal or an optional expansion button. Configuration with the GSD file is possible only with the button.

The CM AS-i Master ST module occupies up to 288 input bytes and up to 288 output bytes in the I/O data of the ET 200SP station. The I/O assignment depends on the configuration in STEP 7.

Together with an ET 200SP CPU 1510SP/1512SP (firmware V1.8 or higher) or 1515SP PC, preprocessing of safe AS-i signals directly in the ET 200SP station and setting up of an independent AS-i Safety station without a higher-level CPU are possible (TIA Portal V13 SP1 Update 4 and higher).



Configuration of an AS-Interface network with CM AS-i Master ST via the TIA Portal

Benefits

The CM AS-i Master ST for ET 200SP communication module enables modular, simple and high-performance expansion of AS-interface networks via engineering in the TIA Portal.

Up to eight CM AS-i Master ST units can be plugged into one ET 200SP station with IM 155-6 PN Standard. The maximum configuration depends on the interface module used.

Multiple masters as well as single masters can thus be implemented in the ET 200SP depending on the number of modules.

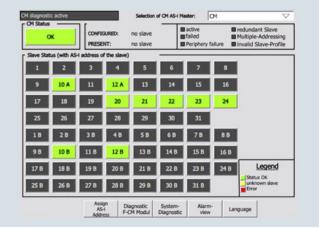
Together with the interface module, a scalable PROFINET/AS-i Link or PROFIBUS/AS-i Link can be assembled.

Using STEP 7, the AS-i network is consistently configured and programmed with only one configuration tool.

The PRONETA PC program (for ET 200SP with PROFINET interface module) is available for convenient input/output testing during the commissioning of an AS-i network without a CPU; see www.siemens.com/proneta.

For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see

https://support.industry.siemens.com/cs/ww/en/view/109479103.



CM AS-i Master ST diagnostics block

AS-Interface

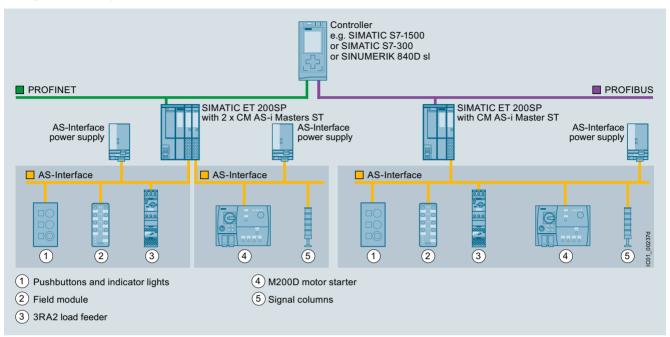
Masters

Masters for SIMATIC ET 200

CM AS-i Master ST for SIMATIC ET 200SP

Application

Configuration examples of AS-Interface networks with CM AS-i Master ST for SIMATIC ET 200SP



Configuration of AS-Interface networks under a SIMATIC ET 200SP

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
No. of the	CM AS-i Master ST communication module	2	3RK7137-6SA00-0BC1		1	1 unit	42C
3RK7137-6SA00-0BC1	 AS-Interface master for SIMATIC ET 200SP, can be plugged onto BaseUnit type C0 Corresponds to AS-Interface specification V3.0 Dimensions (W x H x D / mm): 20 x 73 x 58 						

CM AS-i Master ST for SIMATIC ET 200SP

Accessories

Accessories							
	Version	SD	Spring-type terminals	<u> </u>	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price			
	D II. II DUO DO AO AD	d	0E07400 0BB00 0B00	per PU		4 0	
	BaseUnit BU20-P6+A2+4D	Χ	6ES7193-6BP20-0DC0		1	1 unit	255
	 BaseUnit (light), BU type C0 Suitable for the CM AS-i Master ST module 						
	For connection of the AS-Interface cable to the CM AS-i Master ST						
	Start of an AS-i network, isolation of the AS-i voltage from the left-hand module						
6ES7193-6BP20-0DC0							
	Version	SD	Article No.	Price	PU	PS*	PG
				per PU	(UNIT, SET, M)		
		d			- , ,		
	PROFINET interface module IM 155-6 PN Basic						
	Max. 12 I/O modules, max. 32 bytes of I/O data per station						
	 Including server module and 2 x RJ45 ports (supplied without RJ45 plug) 	15	6ES7155-6AR00-0AN0		1	1 unit	255
	PROFINET interface modules IM 155-6 PN Standard Max. 32 I/O modules, may 356 bytes I/O date per station						
	max. 256 bytes I/O data per station • Including server module and bus adapter 2 x RJ45	15	6ES7155-6AA01-0BN0		1	1 unit	255
6ES7155- 6ES7155- 6AR00-0AN0 6AA01-0BN0	(supplied without RJ45 plug) • Including server module	15	6ES7155-6AU01-0BN0		1	1 unit	255
	(Bus adapter must be ordered separately, see below						
9	PROFINET interface module IM 155-6 PN High Feature Max. 64 I/O modules, max. 1 440 bytes I/O data per station	•					
	• IM 155-6 PN/2 High Feature	15	6ES7155-6AU01-0CN0		1	1 unit	255
SALLS CLOSED	IM with a bus adapter slot including server module and optional strain relief (bus adapter must be ordered separately, see below						
1	• IM 155-6 PN/3 High Feature NEW	, 15	6ES7155-6AU30-0CN0		1	1 unit	255
6ES7155-6AU01-0CN0	3-port IM with two bus adapter slots including server module and optional strain relief (bus adapter must be ordered separately, see below		3207 100 0A000 00110		·	T GITTE	200
	PROFINET interface module IM 155-6 PN High Speed						
	Max. 30 I/O modules, max. 1 440 bytes I/O data per station						
Dr. S. Manne	Including server module (BusAdapter must be ordered separately, see below)	15)	6ES7155-6AU00-0DN0		1	1 unit	255
and the second s	PROFIBUS interface module IM 155-6 DP High Feature Max. 32 I/O modules, max. 244 bytes I/O data per station)					
	Including server module and PROFIBUS plug	15	6ES7155-6BA00-0CN0		1	1 unit	255
6ES7155-6AU00-0DN0	Including server module and rinor ibos plug	13	0E37 133-0BA00-0CN0		'	1 unit	200
	Bus adapters for PROFINET For connection of the Ethernet cable to the PROFINET IM 155-6 PN interface module						
	Connection 2 x RJ45	20	6ES7193-6AR00-0AA0		1	1 unit	255
	(supplied without RJ45 plug) • Connection 2 x FC (FastConnect)	1	6ES7193-6AF00-0AA0		1	1 unit	255
4	For more bus adapters with fiber optic cable connection, see Catalog IK PI or the Industry Mall.				,	· Jini	200

More information

6ES7193- 6ES7193-6AR00-0AA0 6AF00-0AA0

More information

SIMATIC ET 200SP Manual Collection, see

https://support.industry.siemens.com/cs/ww/en/view/84133942

Diagnostics blocks with visualization, see https://support.industry.siemens.com/cs/ww/en/view/109479103

connection, see Catalog IK PI or the Industry Mall.

AS-i block library for SIMATIC PCS 7 for easy connection of AS-Interface to PCS 7, see from page 14/19 onwards

Released combinations of the AS-i modules for ET 200SP, see https://support.industry.siemens.com/cs/ww/en/view/103624653

AS-Interface

Masters

Masters for SIMATIC ET 200

F-CM AS-i Safety ST for SIMATIC ET 200SP

Overview



F-CM AS-i Safety ST for SIMATIC ET 200SP

The F-CM AS-i Safety ST fail-safe communication module supplements an AS-Interface network without additional wiring to produce a safety-related AS-i network.

Important features:

- Fail-safe communication module for the ET 200SP
 - 31 fail-safe input channels in the process image
 - 16 fail-safe output channels in the process image
 - Certified up to SIL 3 (IEC 61508/EN 62061), PL e (EN ISO 13849-1)
 - Parameterization conforms with other fail-safe I/O modules of the ET 200SP
- The communication module supports PROFIsafe in PROFINET and PROFIBUS configurations. Can be used with fail-safe SIMATIC S7-300F / S7-400F CPUs and S7-1500F CPUs and also the fail-safe versions of the ET 200SP station with ET 200SP F-CPU 1510SP F/1512SP F (firmware V1.8 or higher) or 1515SP PC F.
- For reading up to 31 fail-safe AS-i input slaves
 - Two sensor inputs/signals for each fail-safe AS-i input slave
 - Adjustable evaluation of sensor signals: two-channel or 2 x single-channel
 - Integrated discrepancy evaluation in the case of two-channel signals
 - Integrated AND operation in the case of 2 x single-channel signals
 - Input delay can be parameterized
 - Startup test can be set
 - Sequence monitoring can be activated
- For control of up to 16 fail-safe AS-i output circuit groups
 - The output circuit groups are controlled independently of one another.
 - One output circuit group can act on one or more actuators (e.g. to switch drives simultaneously).
 - An actuator (e.g. a contactor) is interfaced via a fail-safe AS-i output module (e.g. safe SlimLine module S45F, Article No. 3RK1405-1SE15-0AA2, see page 2/30).
 - Simple fault acknowledgment via the process image
- Simple module replacement thanks to automatic importing of the safety parameters from the coding element
- Comprehensive diagnostic options
- Can be plugged onto type C1 or type C0 BaseUnits (BU)
- Informative automatic alarm indications (firmware V1.0.1 or higher)

- Supply via AS-Interface voltage
- Eight LED indicators for diagnostics, operating state, fault indication and supply voltage
- Informative front-side module inscription
 - Plain-text marking of the module type and function class
 - 2D matrix code (Article No. and serial number)
 - Circuit diagram
 - Color coding of the CM module type: Light gray
 - Hardware and firmware version
 - Complete article number
- · Optional labeling accessories
- Labeling strips
- Reference identification label

Design

The fail-safe F-CM AS-i Safety ST module has an ET 200SP module enclosure with a width of 20 mm.

One AS-i master according to the AS-i specification V3.0 and safe AS-i input slaves and/or safe AS-i output modules are needed for operation. The CM AS-i Master ST communication module (Article No. 3RK7137-6SA00-0BC1) is recommended as the AS-i master for the ET 200SP, see from page 2/36 onwards.

Simple combination of the CM AS-i Master ST and F-CM AS-i Safety ST modules in one ET 200SP station results in a powerful, safety-oriented network transition between PROFINET (or PROFIBUS) and AS-Interface, which can be expanded further in a modular fashion.



Combination of an ET 200SP interface module, CM AS-i Master ST and F-CM AS-i Safety ST $\,$

With the digital and analog I/O modules of the ET 200SP, additional local inputs and outputs can be realized so as to ensure that the modular AS-i router complies precisely with customer requirements. Expansion variants for almost every application are possible thanks to the selection of standard and fail-safe I/O modules.

Besides the single AS-i master, double, triple or generally multiple masters can be realized with or without fail-safe functionality.

Supported BaseUnits

With the combination of the CM AS-i Master ST and F-CM AS-i Safety ST modules, the CM module is plugged onto a light type C0 BaseUnit and, immediately to the right of it, the F-CM module is plugged onto a dark type C1 BaseUnit. The AS-i cable is connected only on the light BaseUnit of the CM module.

F-CM AS-i Safety ST for SIMATIC ET 200SP

Note on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

The following software is required for configuration of the F-CM AS-i Safety ST module:

STEP 7 (TIA Portal) V13 and higher with HSP 0070¹⁾ and Safety Advanced V13.
 STEP 7 V13 SP1 is required for connection to the S7-1500F. When configuring with STEP 7 V13 SP1, the latest version of HSP 0070 V2.0 (or higher) is an essential prerequisite.
 STEP 7 Safety V13 SP1 Update 4 and HSP 0070 V3.0 (or higher) are needed for configuration of the F-CM AS-i Safety ST module in an ET 200SP station with ET 200SP F-CPU 1510SP F / 1512SP F (firmware V1.8 or higher) or 1515SP PC F.

or

 STEP 7 (classic) V5.5 SP3 HF4 or higher with HSP 2093²⁾ and Distributed Safety V5.4 SP5 or F-Configuration Pack SP11 or SIMATIC S7 F/FH Systems

Configuration and programming are done entirely in the STEP 7 user interface. No additional configuration software is needed for commissioning.

Data management – together with all other configuration data of the SIMATIC – is realized completely in the S7 project.

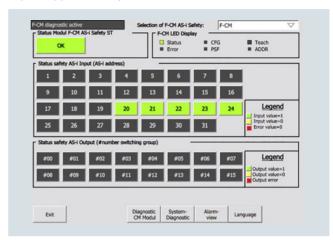
The input and output channels are assigned to the process image automatically and manual linking via configuration blocks is not necessary.

If the F-CM AS-i Safety ST module is replaced, all necessary settings are automatically imported into the new module.

The F-CM AS-i Safety ST module occupies 16 input bytes and 8 output bytes in the I/O data of the ET 200SP station.

For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser. see

https://support.industry.siemens.com/cs/ww/en/view/109479103.



Diagnostics block for F-CM AS-i Safety ST

1) HSP 0070, see

https://support.industry.siemens.com/cs/ww/en/view/72341852.

²⁾ HSP 2093, see

https://support.industry.siemens.com/cs/ww/en/view/23183356.

Application

Thanks to use of the fail-safe module in the ET 200SP, it is possible to fulfill the safety-related application requirements in a manner that is integrated in the overall automation solution.

The safety functions required for fail-safe operation are integrated in the modules. Communication with the fail-safe SIMATIC S7 CPUs is realized via PROFIsafe.

The safety application is programmed in the SIMATIC S7 F-CPU with Distributed Safety/S7 F/FH Systems/Safety Advanced. The fail-safe input signals of the ASIsafe slave modules are read via the AS-i bus line and are combined with any chosen further signals in the fail-safe program.

The fail-safe output signals can be output via safe SIMATIC output modules or also directly via AS-i – with the help of safe AS-i output modules, e.g. safe SlimLine S45F modules, Article No. 3RK1405-1SE15-0AA2 (see page 2/30). No special functions are required for this in the program.

Operation with SINUMERIK 840D sl is possible with SINUMERIK software version V4.7 SP2 HF1 or higher.

Together with an ET 200SP station with ET 200SP F-CPU 1510SP F/1512SP F (firmware V1.8 and higher) or 1515SP PC F, pre-processing of safe AS-i signals directly in the ET 200SP station is possible, as well as the configuration of an autonomous AS-i Safety station without a higher-level CPU.

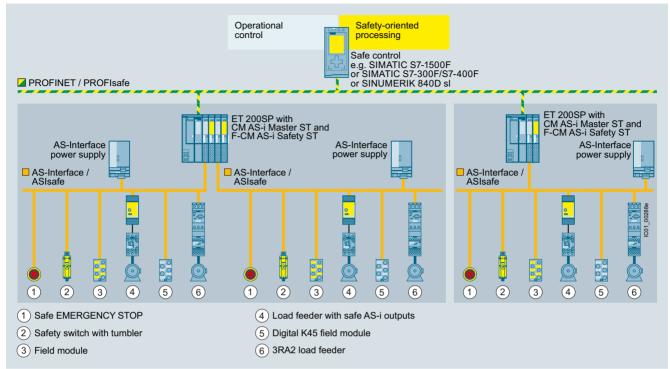
AS-Interface

Masters

Masters for SIMATIC ET 200

F-CM AS-i Safety ST for SIMATIC ET 200SP

Configuration examples of AS-Interface networks with CM AS-i Master ST and F-CM AS-i Safety ST for SIMATIC ET 200SP



AS-Interface configuration comprising an ET 200SP station with CM AS-i Master ST and F-CM AS-i Safety ST modules

F-CM AS-i Safety ST for SIMATIC ET 200SP

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
11-71-	F-CM AS-i Safety ST communication module	2	3RK7136-6SC00-0BC1		1	1 unit	42C
	 Fail-safe module for SIMATIC ET 200SP, can be plugged onto BaseUnit type C1 (alternatively type C0) 						
	Operation requires an AS-i master, e.g. CM AS-i Master ST (see page 2/38)						
	 Can be used up to SIL 3 (IEC 62061/IEC 61508), PL e (EN ISO 13849-1) 						
17 19 19 19 19 19 19 19 19 19 19 19 19 19	 Coding element type H (included in scope of supply) 						
0DV7100 00000 0D01	• Dimensions (W × H × D/mm): 20 x 73 x 58						
3RK7136-6SC00-0BC1							

Accessories

	Version	SD	Spring-type terminals	<u></u>	PU (UNIT, SET, M)	PS*	PG
		d	Article No.	Price per PU			
	BaseUnit BU20-P6+A2+4B BaseUnit (dark), BU type C1 Suitable for the F-CM AS-i Safety ST fail-safe communication module Continuation of an AS-i network, connection with the AS-i voltage of the left-hand module	X	6ES7193-6BP20-0BC1		1	1 unit	255
6ES7193-6BP20-0BC1	Coding element type H (spare part) • For the ET 200SP modules F-CM AS-i Safety ST and CM 4xIO-Link • Packing unit 5 items	1	6ES7193-6EH00-1AA0		1	5 units	256

More accessories, see page 2/39.

More information

ore information				
SIMATIC ET 200SP Manual Collection, see https://support.industry.siemens.com/cs/ww/en/view/84133942	Released combinations of the AS-i modules for ET 200SP, see https://support.industry.siemens.com/cs/ww/en/view/103624653			
Diagnostics blocks with visualization, see https://support.industry.siemens.com/cs/ww/en/view/109479103				

AS-Interface Routers

DP/AS-i Link Advanced

Overview



DP/AS-i Link Advanced

PN	DP-M	DP-S	AS-i M	
		•	•	K10_10195a

The DP/AS-i Link Advanced is a compact router between PROFIBUS (DP slave) and AS-Interface, with the following features:

- Single and double AS-Interface master (according to AS-Interface specification V3.0) for connection of 62 AS-Interface slaves or 124 AS-Interface slaves (with a double master)
- Integrated analog value transmission
- Integrated ground-fault monitoring for the AS-Interface cable
- User-friendly local diagnostics and startup by means of a full graphic display and control keys or through a web interface with a standard browser on the PC screen
- Vertical integration (standard web interface) through Industrial Ethernet
- Supply voltage from the AS-Interface shaped cable or alternatively with 24 V DC (optional)
- Suitable for AS-i Power24V (from product version 4 / firmware version 2.2) and for AS-Interface with 30 V voltage
- Module exchange without entering the connection parameters (e.g. PROFIBUS address) using C-PLUG (optional)

Design

- Compact plastic enclosure in degree of protection IP20 for standard rail mounting
- COMBICON plug-in screw terminals
- Compact design:
 - Pixel graphics display in the front panel for detailed display of the operating state and readiness for operation of all connected AS-Interface slaves
 - 6 pushbuttons for starting up and testing the AS-Interface line directly on the DP/AS-i Link Advanced
 - LED indication of the operating state of PROFIBUS DP and AS-Interface
 - Integrated Ethernet port (RJ45 socket) for user-friendly start-up, diagnostics and testing of DP/AS-i Link Advanced through a web interface using a standard browser
- Small mounting depth thanks to recessed plug mounting
- · Operation without fans and batteries

Functionality

Communications

The DP/AS-i Link Advanced enables a PROFIBUS DP master to cyclically access the I/O data of all the slaves of a lower-level AS-Interface segment.

The DP/AS-i Link Advanced occupies the following address space:

- As a single master: 32 bytes of input data and 32 bytes of output data in which the I/O data of the connected AS-Interface slaves (standard and A/B addressing) of an AS-i line is stored.
- As double master, double the number of bytes
- Optional additional I/O bytes for data from analog slaves

The size of the input/output image can be compressed so that only the actually required I/O address area is occupied in the system of the DP master. The integrated evaluation of analog signals is just as easy as access to digital values because the analog process data also lie directly in the I/O address area of the CPU.

PROFIBUS DP-V1 Masters also provide the option of triggering AS-Interface master calls over the acyclic PROFIBUS services (e.g. write parameters, amend addresses, read diagnostic values). Using an operating display in AS-i Link it is possible to fully commission the lower-level AS-Interface line even without a CPU.

DP/AS-i Link Advanced is equipped with an additional Ethernet port, which enables use of the integrated web server. The web server can be called up with any standard web browser (e.g. Internet Explorer) without additional software. It allows all diagnostics information, the set bus configuration and parameters and, if applicable, any adjustments to be displayed on the PC. Firmware updates are also possible using this port.

The optional C-PLUG supports module exchange without entering the connection parameters (PROFIBUS address etc.), keeping downtimes to a minimum in the event of a fault.

AS-Interface Routers

DP/AS-i Link Advanced

Diagnostics

The following diagnostics is possible using LEDs, the display and control keys, web interface or STEP 7:

- · Operating state of the DP/AS-i Link Advanced
- Status of the link as a PROFIBUS DP slave
- Diagnostics of the AS-Interface network
- Message frame statistics
- Standard diagnostics pages in the web interface for fast diagnostics access through Ethernet using a standard browser
- For the use of the web interfaces no network settings are necessary on the PC (Zeroconf procedure)
- The reporting of diagnostic events is optionally possible via email or SNMP Trap. The integrated diagnostic buffer saves the events including time stamp

Note on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

The DP/AS-i Link Advanced can be configured as follows:

- With STEP 7 (TIA Portal) V12 or higher or STEP 7 (classic) V5.4 or higher: In the case of STEP 7 configuration, the AS-Interface configuration can be uploaded in STEP 7. Furthermore, AS-Interface slaves can also be conveniently configured in HW-Config (slave selection dialog)
- By adopting the ACTUAL configuration of the AS-Interface on the display
- Alternatively DP/AS-i Link Advanced can be integrated into the engineering tool using the PROFIBUS GSD file (e.g. STEP 7 versions earlier than V5.4 or engineering tools from third-party suppliers)

Benefits

- Short startup times through simple configuration at the press of a button and testing of the AS-Interface line using the display or web interface
- Reduction of standstill and servicing times in the event of a slave failure thanks to user-friendly diagnostics using the display or web interface and through simple module exchange with the help of the C-PLUG exchange medium
- Reduced amount of engineering work thanks to user-friendly configuration of Siemens slaves using the slave catalog in HW-Config (STEP 7)
- Costs saved by the double AS-Interface master when large volumes of project data are involved
- Simple operation with AS-Interface power supply unit (see page 2/78) possible without restrictions, no additional operating voltage is required.
- Alternatively: No need for the AS-i power supply unit with AS-i Power24V. The AS-Interface cable is supplied through an existing 24 V DC PELV power supply unit. An S22.5 AS-i data decoupling module (e.g. 3RK1901-1DE12-1AA0) is required for the decoupling, see page 2/81.
- For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see

https://support.industry.siemens.com/cs/ww/en/view/61892138.

2/45

AS-InterfaceRouters

DP/AS-i Link Advanced

Application

The DP/AS-i Link Advanced is a PROFIBUS DP-V1 slave (according to IEC 61158/IEC 61784) and an AS-Interface master (based on AS-Interface specification V3.0 according to IEC 62026-2). It enables transparent data access to AS-Interface from PROFIBUS DP.

Exchanging data with the PROFIBUS DP master

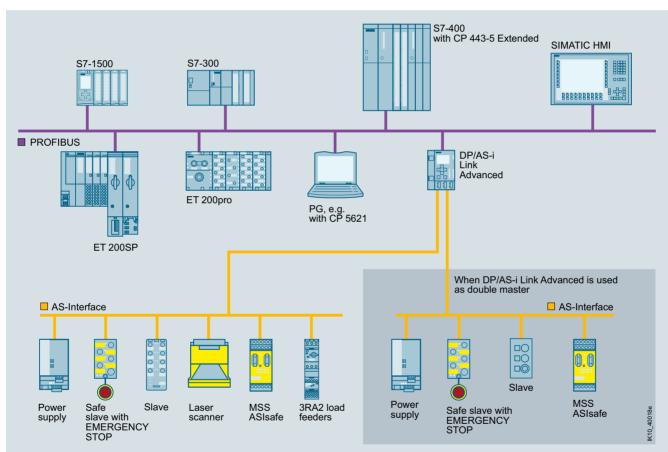
PROFIBUS DP masters (DP-V0) can exchange I/O data cyclically with the AS-Interface. DP masters with acyclic services (DP-V1) are additionally able to initiate AS-Interface master calls (e.g. reading/writing the AS-i configuration during normal operation). As such, the DP/AS-i Link Advanced is particularly well-suited for a distributed construction and for connection of a lower-level AS-Interface network.

Single master

For applications with typical volumes of project data, it is sufficient to use the DP/AS-i Link Advanced in its version as an AS-Interface single master. The single master can operate up to 248 DI / 248 DQ, using 62 A/B slaves with 4 DI / 4 DQ each.

Double master

The AS-Interface double master version of DP/AS-i Link Advanced is suitable for applications with large volumes of data. In this case, twice the volume of project data can be used on two AS-Interface lines running independently of each other. The double master can operate up to 496 DI / 496 DQ, using two AS-i networks each with 62 A/B slaves with 4 DI / 4 DQ each.



Integration of AS-Interface on PROFIBUS through DP/AS-i Link Advanced as single/double master

DP/AS-i Link Advanced

Selection	and	ordering	data
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Price per PU Version Article No. PS* PG (UNIT, SET, M) d

DP/AS-i Link Advanced



Router between PROFIBUS DP and AS-Interface; degree of protection IP20; including COMBICON plug-in screw terminals for connection of an AS-Interface cable (two AS-Interface cables for double masters) and the corresponds to AS-Interface specification V3.0; dimensions (W x H x D/mm): 90 x 132 x 88.5

COMBICON connection

DP/AS-i Link Advanced

• Single master with display • Double master with display

6GK1415-2BA10 6GK1415-2BA20 1 unit 42C 1 unit 42C

Accessories

Version	SD	Article No. Pr	rice PU	PU (UNIT, SET, M)	PS*	PG
	d					
C-PLUG	1	6GK1900-0AB00		1	1 unit	5N3
Exchange medium for the simple exchange of devices in the event of a fault; for accommodating configuration and application data; can be used in SIMATIC NET products with a C-PLUG slot						
PROFIBUS FastConnect standard cable GP	1	6XV1830-0EH10		1	1 M	5K1
FastConnect standard type with special design for fast installation, 2-core, shielded						
PROFIBUS FastConnect RS 485 bus plug with diagonal cable outlet (35°)						
With insulation displacement connection, the max. transmission rate is 12 Mbps, activatable terminating resistor is integrated						
Without PG connection socket	1	6ES7972-0BA61-0XA0		1	1 unit	250
With PG connection socket	1	6ES7972-0BB61-0XA0		1	1 unit	250
PROFIBUS FastConnect stripping tool	1	6GK1905-6AA00		1	1 unit	5K2
Preset stripping tool for speedy stripping of PROFIBUS FastConnect bus cables						
IE FC RJ45 Plug 90						
RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 90° cable feeder						
• 1 pack = 1 unit	1	6GK1901-1BB20-2AA0		1	1 unit	5K1
• 1 pack = 10 units	1	6GK1901-1BB20-2AB0		1	10 units	5K1
• 1 pack = 50 units	1	6GK1901-1BB20-2AE0		1	50 units	5K1

More information

More information	
AS-i block library for SIMATIC PCS 7 for easy connection of AS-Interface to PCS 7, see from page 14/19 onwards	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/24507/man

DP/AS-Interface Link 20E

Overview



DP/AS-Interface Link 20E manual

PN	DP-M	DP-S	AS-i M	
		•	•	K10_10195a

DP/AS-Interface Link 20E connects PROFIBUS DP to AS-Interface and has the following features:

- PROFIBUS DP slave and AS-Interface master
- Up to 62 AS-Interface slaves, each with four digital inputs and four digital outputs as well as analog slaves can be connected
- Integrated analog value transmission
- Supports all AS-Interface master functions according to the AS-Interface specification V3.0
- Supply from AS-Interface cable; hence no additional power supply required
- Suitable for AS-i Power24V (from product version 2 / firmware version 3.1) and for AS-Interface with 30 V voltage
- Supports uploading of the AS-Interface configuration in STEP 7 V5.2 and higher

Design

- Compact plastic enclosure in degree of protection IP20 for standard rail mounting
- LEDs in the front panel for indicating the operating state and functional readiness of all connected slaves
- Setting of PROFIBUS DP address is possible by pressing a button
- LED indication of the PROFIBUS DP slave address, PROFIBUS DP bus faults and diagnostics
- Two pushbuttons for switching over the operating state and for adopting the existing ACTUAL configuration as the TARGET configuration

Functionality

Communications

The DP/AS-Interface Link 20E enables a DP master to access all the slaves of an AS-Interface network.

The DP/AS-Interface Link 20E occupies a standard 32 bytes of input data and 32 bytes of output data in which the digital I/O data of the connected AS-Interface slaves (standard and A/B addressing) of an AS-i line is stored.

The size of the input/output image can be compressed so that only the actually required I/O address area is occupied in the system of the PROFIBUS DP master.

The analog I/O data can be accessed with the S7 system functions for read/write data records.

Configuration

The DP/AS-Interface Link 20E is configured as follows:

- With STEP 7 (TIA Portal) from V12 or STEP 7 (classic) from V5.1 SP2:
 - In the case of STEP 7 configuration, the AS-Interface configuration can be uploaded from STEP 7 V5.2. Furthermore, AS-Interface slaves from Siemens can also be conveniently configured in HW Config (slave selection dialog).
- By adopting the ACTUAL configuration of the AS-Interface by using the SET pushbutton on the front panel.
- Alternatively, DP/AS-Interface Link 20E can be integrated by means of the PROFIBUS GSD file in the engineering tool (e.g. for STEP 7 V5.1 and lower or for non-Siemens engineering tools).

Benefits

- Reduction of installation costs because the power is supplied entirely via the AS-Interface cable, which means that no additional power supply is required
- Short startup times thanks to easy configuration at the touch of a button
- The LED indicators help reduce downtime and service times if a slave fails
- Quick and easy commissioning by reading the AS-Interface configuration
- For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see

https://support.industry.siemens.com/cs/ww/en/view/61892138.

DP/AS-Interface Link 20E

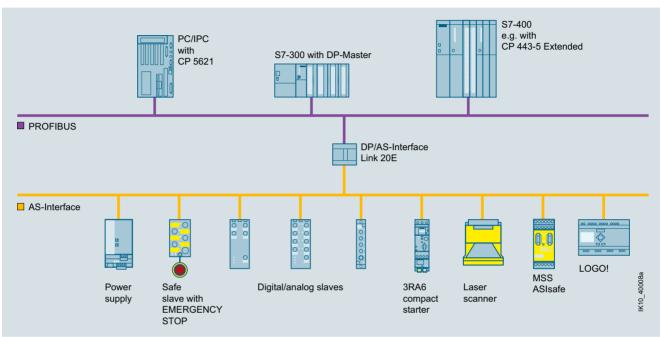
Application

The DP/AS-Interface Link 20E is a PROFIBUS DP slave (according to IEC 61158/IEC 61784) and an AS-Interface master (according to IEC 62026-2). It enables the AS-Interface to be operated on PROFIBUS DP.

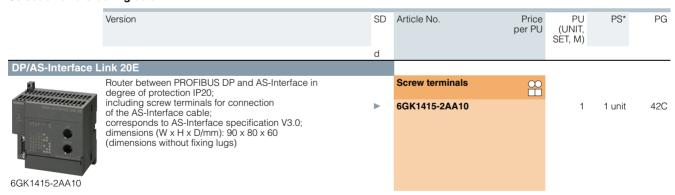
Up to 248 DI / 248 DQ can be operated via the DP/AS-Interface Link 20E using 62 A/B slaves with 4 DI / 4 DQ each.

PROFIBUS DP masters (DP-V0) can exchange digital I/O data cyclically with the AS-Interface.

PROFIBUS DP masters with acyclic services (DP-V1) are additionally able to exchange analog I/O data and initiate AS-Interface master calls (e.g. reading/writing the AS-i configuration during normal operation).



Transition from PROFIBUS DP to AS-Interface using DP/AS-Interface Link 20E



DP/AS-Interface Link 20E

Accessories

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					
PROFIBUS FC Standard Cable GP FastConnect standard type with special design for fast installation, 2-core, shielded	1	6XV1830-0EH10		1	1 M	5K1
PROFIBUS FastConnect bus plugs With insulation displacement connection, max. transmission rate 12 Mbps, activatable terminating resistor integrated	9					
 RS 485 bus plug with 90° cable feeder 						
- Without PG connection socket	1	6ES7972-0BA52-0XA0		1	1 unit	250
- With PG connection socket	1	6ES7972-0BB52-0XA0		1	1 unit	250
 RS 485 bus plug with diagonal cable outlet (35°) 						
- Without PG connection socket	1	6ES7972-0BA61-0XA0		1	1 unit	250
- With PG connection socket	1	6ES7972-0BB61-0XA0		1	1 unit	250
PROFIBUS FastConnect stripping tool Preset stripping tool for speedy stripping of PROFIBUS FastConnect bus cables	1	6GK1905-6AA00		1	1 unit	5K2

More information

More information

Manual "DP/AS-Interface Link 20E", see https://support.industry.siemens.com/cs/ww/en/view/5281638

IE/AS-i Link PN IO

Overview



IE/AS-i Link PN IO Single master (picture on left) and double master (picture on right)

PN	DP-M	DP-S	AS-i M	
•			•	IK10 10193a

The IE/AS-i Link PN IO is a compact router between PROFINET and AS-Interface, with the following features:

- Single and double AS-Interface master (according to AS-Interface specification V3.0) for connection of 62 or 124 AS-Interface slaves (with a double master)
- Integrated analog value transmission
- Integrated ground-fault monitoring for the AS-Interface cable
- User-friendly local diagnostics and startup by means of a full graphic display and control keys or through a web interface with a standard browser on the PC screen
- Vertical integration (standard web interface) through Industrial Ethernet
- Supply via AS-Interface cable or with 24 V DC
- Suitable for AS-i Power24V and for AS-Interface with 30 V voltage
- Module exchange without entering the PROFINET connection parameters when using the C-PLUG (optional)
- Costs saved by the double AS-Interface master when large volumes of project data are involved

Note:

As an alternative to the IE/AS-i Link PN IO, a high-performance router can be set up between PROFINET and AS-Interface by combining the CM AS-i Master ST and F-CM AS-i Safety ST modules in an ET 200SP station (for safety-related applications), see pages 2/38 and 2/43.

Design

- Compact plastic enclosure in degree of protection IP20 for standard rail mounting
- COMBICON plug-in screw terminals
- · Compact design
- Pixel graphics display in the front panel for detailed display of the operating state and readiness for operation of all connected AS-Interface slaves
- Six pushbuttons for starting up and testing the AS-Interface line directly on the IE/AS-i Link PN IO
- LED display of the operating state of PROFINET IO and AS-Interface
- Integrated 2-port switch (RJ45 socket) for connection to Industrial Ethernet
- Small mounting depth thanks to recessed plug mounting
- · Operation without fans and batteries

Functionality

Communications

The IE/AS-i Link PN IO enables a PROFINET IO controller to cyclically access the I/O data of all the slaves of a lower-level AS-Interface segment. Also supported are the expanded slave types with higher I/O data volume according to AS-i specification V3.0.

The IE/AS-i Link PN IO occupies the following address space:

- As a single master with full expansion: 62 bytes of input data and 62 bytes of output data in which the I/O data of the connected AS-Interface slaves (standard and A/B addressing) of an AS-i line is stored.
- As double master, double the number of bytes
- Optional additional I/O bytes for data from analog slaves

The size of the input/output image can be compressed so that only the actually required I/O address area is occupied in the system of the IO controller.

The integrated evaluation of analog signals is just as easy as access to digital values because the analog process data also lie directly in the I/O address area of the CPU.

PROFINET IO controllers are additionally able to initiate AS-Interface master calls (e.g. to write parameters, change addresses, read diagnostic values) through the acyclic PROFINET services.

Using an operating display in AS-Interface Link it is possible to fully commission the lower-level AS-i line.

The IE/AS-i Link PN IO is equipped with two Ethernet ports, which are connected by an internal switch. With the Ethernet it is possible in addition to use the integrated web server. The web server can be called up with any standard web browser (e.g. Internet Explorer) without additional software. It enables the PC to present all diagnostics information and to display the set bus configuration and parameters as well as their adaptation where applicable. Firmware updates are also possible using this port.

The optional C-PLUG supports module replacement without manually entering the connection parameters (PROFINET device name), keeping downtimes to a minimum in the event of a fault.

IE/AS-i Link PN IO

Diagnostics

The following diagnostics is possible using the display and control keys, web interface or STEP 7:

- Operating state of the IE/AS-i Link PN IO
- State of the link as a PROFINET IO device
- · Diagnostics of the AS-Interface network
- Message frame statistics
- Standard diagnostics pages in the web interface for fast diagnostics access through Ethernet using a standard browser
- Reporting of diagnostic events is optionally possible via e-mail or SNMP trap. The integrated diagnostic buffer saves the events including time stamp

Note on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

The IE/AS-i Link PN IO is configured as follows:

- With STEP 7 (TIA Portal) from V15 or STEP 7 (classic) from V5.4:
- In the case of STEP 7 configuration, the AS-Interface configuration can be uploaded from STEP 7 V5.4 SP2. Furthermore, AS-Interface slaves from Siemens can also be conveniently configured in HW Config (slave selection dialog)
- Alternatively, IE/AS-i Link PN IO can be integrated by means of the PROFINET GSD file in the engineering tool (e.g. for TIA Portal versions earlier than V15 or for STEP 7 versions earlier than V5.4 SP2, or for non-Siemens engineering tools).

Benefits

- Short startup times through simple configuration at the press of a button and testing of the AS-Interface line using the display or web interface
- Reduction of standstill and servicing times in the event of a slave failure thanks to user-friendly diagnostics using the display or web interface
- Costs saved by the double AS-Interface master when large volumes of project data are involved
- Simple operation with AS-Interface power supply unit (see page 2/78) possible without restrictions, no additional operating voltage is required.
- Alternatively: No need for the AS-i power supply unit with AS-i Power24V. The AS-Interface cable is supplied through an existing 24 V DC PELV power supply unit. An S22.5 AS-i data decoupling module (e.g. 3RK1901-1DE12-1AA0) is required for the decoupling, see page 2/81.
- For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see

https://support.industry.siemens.com/cs/ww/en/view/61892138.

IE/AS-i Link PN IO

Application

The IE/AS-i Link PN IO is a PROFINET IO device (according to IEC 61158/IEC 61784) and an AS-Interface master (based on AS-Interface specification V3.0 according to IEC 62026-2). It enables transparent data access to AS-Interface from PROFINET.

Exchanging data with PROFINET IO controllers

PROFINET IO controllers can exchange I/O data with AS-Interface in cyclic mode and can perform AS-i master calls in addition with acyclic services (e.g. reading/writing the AS-i configuration during normal operation).

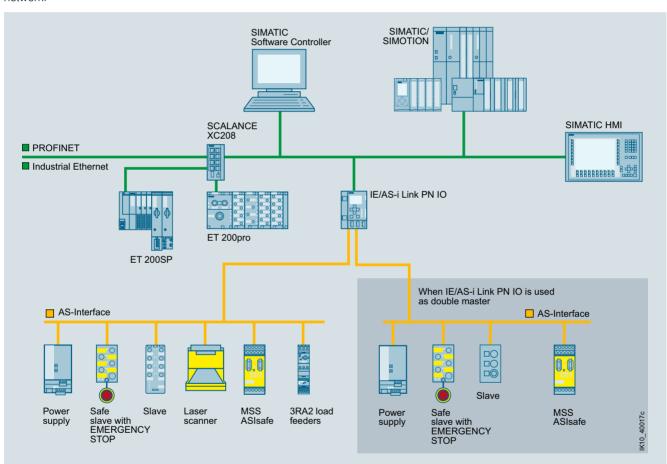
The IE/AS-i Link PN IO is therefore suitable for distributed configurations and for integrating a lower-level AS-Interface network.

Single master

The AS-i single master version of IE/AS-i i Link PN IO is suitable for applications with typical volumes of data. The single master can operate up to 248 DI / 248 DQ, using 62 A/B slaves with 4 DI / 4 DQ each.

Double master

The AS-i double master version of IE/AS-i Link PN IO is suitable for applications with large volumes of data. In this case, twice the volume of project data can be used on two AS-i lines running independently of each other. The double master can operate up to 496 DI / 496 DQ, using two AS-i networks each with 62 A/B slaves with 4 DI / 4 DQ each.



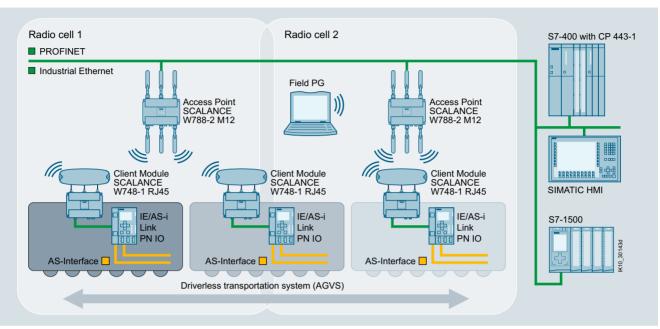
Integration of AS-Interface on PROFINET through IE/AS-i Link PN IO as single/double master

IE/AS-i Link PN IO

Wireless communication

Using an upstream IWLAN client module, e.g. SCALANCE W748-1 RJ45, an AS-Interface line can be integrated in the PROFINET world by wireless means.

Sample uses are applications which up to now have been performed with fault-prone tow chain or collector wire technology. Maintenance costs are thus reduced.



Wireless communication between Industrial Ethernet and AS-Interface components

Selection and ordering data

	Version	SD		Price er PU	PU (UNIT, SET, M)	PS*	PG
IE/AS-i Link PN IO		d					
	Router between PROFINET and AS-Interface in degree of protection IP20; including COMBICON plug-in screw terminals for connecting an AS-Interface cable (two AS-Interface cables for a double master) and the optional 24 V supply; complies with AS-Interface specification V3.0; dimensions (W x H x D/mm): 90 x 132 x 88.5		COMBICON connection				
IE/AS-i Link PN IO	Single master with displayDouble master with display	>	6GK1411-2AB10 6GK1411-2AB20		1 1	1 unit 1 unit	42C 42C

Accessories

Accessories						
	Version	SD	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
		d				
	C-PLUG	1	6GK1900-0AB00	1	1 unit	5N3
	Exchange medium for simple exchange of devices in the event of a fault; for accommodating configuration and application data; can be used in SIMATIC NET products with a C-PLUG slot					
	IE FC RJ45 Plug 90					
	RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 90° cable feeder					
	 1 pack = 1 unit 1 pack = 10 units 1 pack = 50 units 	1 1 1	6GK1901-1BB20-2AA0 6GK1901-1BB20-2AB0 6GK1901-1BB20-2AE0		1 unit 10 units 50 units	5K1 5K1 5K1

More information

More information	
Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/15762/man	AS-i block library for SIMATIC PCS 7 for easy connection of AS-Interface to PCS 7, see from page 14/19 onwards

AS-Interface Slaves

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP67 - Introduction

Overview



K60



K45



K20

Three coordinated series of AS-Interface compact modules with digital and analog compact modules and a high degree of protection are available for use in the field:

- Series K60 (digital and analog)
- Series K45 (digital)
- Series K20 (digital)

All compact modules are characterized by particularly simple handling. The K60 and K45 modules are mounted with a mounting plate. The mounting plate is used to mount the AS-Interface flat cables and enables mounting on a wall or standard mounting rail.

The particularly narrow K20 modules are directly mounted without a mounting plate and connected to the AS-Interface using a round cable.

Connection types

For flexible connection of different sensors and actuators, the following PIN assignments are available on the I/O modules with M12 sockets:

Standard assignment

With the standard assignment, one sensor/actuator is connected per M12 socket. In this case the signal for the outputs is acquired at PIN4 while the signal for the inputs is acquired at PIN4 and PIN2. As the result, sensors can be connected directly to PIN2 and PIN4.

Y-assignment

With the Y-assignment, two sensors or two actuators can be connected to one M12 socket. In this case, both PIN4 and PIN2 are provided for one sensor signal and one actuator signal on each M12 socket.

Y-II assignment

The Y-II assignment offers the following options:

- Individual connection of a sensor/actuator to one M12 socket
- Connection of two sensors/actuators to one M12 socket as follows:
 - The signal of the first sensor/actuator is connected to PIN4 of the first socket.
 - The signal of the second sensor/actuator is connected to PIN2 of the first socket and to PIN4 of the second socket. In this case, the second socket is not required and is closed with a sealing cap.

Overview of digital compact modules

The following table provides an overview of the important features of the digital compact modules.

Version	K60	K45	K20
8 inputs/2 outputs	✓		
8 inputs	✓	✓	
4 inputs/4 outputs	/	1	/
4 inputs/3 outputs	✓		
4 inputs/2 outputs	/		
4 inputs	✓	✓	/
2 inputs/2 outputs		1	/
4 outputs	✓	1	1
3 outputs		1	
AS-Interface connection	Flat cable / round cable	Flat cable	Round cable
I/O connection method	M12	M12/M8	M12/M8
Pin assignment	Standard/Y-II/Y	Standard/Y	Standard/Y
Degree of protection	IP65/IP67/IP68/IP69K	IP65/IP67	IP65/IP67
Addressing type A/B address	✓	1	1

- ✓ Available
- -- Not available

Slaves

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP67 - K60

Overview



K60

The K60 digital AS-Interface compact modules are characterized by optimized handling characteristics and user-friendliness. They permit the mounting times and startup times of AS-Interface to be reduced by up to 40%.

Mounting and connection of the AS-Interface shaped cables

Assembly of the K60 modules is performed with a mounting plate which accommodates the AS-Interface shaped cables. Two different mounting plates are offered for

- · Wall mounting
- · Standard rail mounting

The mounting plate and the compact module are joined together by means of a screw, with simultaneous contacting of the AS-Interface cable by the service-proven insulation piercing method.

Addressing and connection of the sensors/actuators

Addressing of the K60 modules is performed using an addressing socket integrated in the compact module. The addresses can also be assigned after installation.

K60 modules with a maximum of four digital inputs and outputs

These compact modules contain the M12 standard connections for inputs and outputs. Using M12 standard plugs, a maximum of four sensors and four actuators can be connected to the compact module.

K60 compact modules with a maximum of eight digital inputs

These modules have eight digital inputs for connection through M12 plugs.

The module requires two AS-Interface addresses for processing all eight inputs. The addressing can thus be performed through a double addressing socket integrated in the module.

K60 data couplers

An AS-Interface data coupler has been added to the K60 compact module range. Integrated in this module are two AS-i slaves which are connected to two different AS-i networks. Each of the two integrated slaves has four virtual inputs and four virtual outputs. The bidirectional data transmission of four data bits between two AS-i networks is thus possible in a simple and cost-effective manner. The data coupler needs its own address in each AS-i network. The data coupler is supplied with power directly from the AS-i cable.

Each AS-i network works with a different cycle time depending on the number of stations. Hence two AS-i networks are not necessarily synchronous. For this reason, the AS-i data coupler can be used to transmit only standard data and no safety data.

AS-Interface Slaves I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP67 – K60

Selection and ordering data

	Version					SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						d		per Pu	SEI, IVI)		
150	Digital I/O mo	dules, IP67 – K	60								
⊗	PNP transistor										
····	• Width 60 mm										
	Connection method: M12										
○	Modules supplied without mounting plate										
RK1400-	Туре	Current carry- ing capacity of outputs	Slave addressing type	Pin assign- ment	Sensor power supply via						
	8 inputs/ 2 outputs ¹⁾	2 A	A/B	Special	AS-i	2	3RK2400-1HQ00-0AA3		1	1 unit	420
	8 inputs ¹⁾		Standard	Y-II	AS-i		3RK1200-0DQ00-0AA3		1	1 unit	42C
			A/B	Y-II	AS-i		3RK2200-0DQ00-0AA3		1	1 unit	420
			A/B	Y-II	U_{aux}	5	3RK2200-1DQ00-1AA3		1	1 unit	42C
	4 inputs/	2 A	Standard	Y-II	AS-i		3RK1400-1DQ00-0AA3		1	1 unit	42C
	4 outputs	2 A	Standard	Standard	AS-i		3RK1400-1CQ00-0AA3		1	1 unit	42C
		1 A	Standard	Y-II	AS-i	2	3RK1400-1DQ01-0AA3		1	1 unit	42C
		1 A	Standard	Standard	AS-i		3RK1400-1DQ03-0AA3		1	1 unit	42C
		2 A	A/B (Spec. V3.0)	Y-II	AS-i	2	3RK2400-1DQ00-0AA3		1	1 unit	42C
		2 A	A/B (Spec. V3.0)	Y-II	U _{aux}	2	3RK2400-1DQ00-1AA3		1	1 unit	42C
	4 inputs/ 3 outputs	2 A	A/B	Y-II	AS-i	>	3RK2400-1FQ03-0AA3		1	1 unit	42C
	4 inputs/ 2 outputs	2 A	Standard	Y-II	AS-i	>	3RK1400-1MQ00-0AA3		1	1 unit	42C
	4 inputs		Standard	Y-II	AS-i	▶	3RK1200-0CQ00-0AA3		1	1 unit	42C
			A/B	Y-II	AS-i	2	3RK2200-0CQ00-0AA3		1	1 unit	42C
	2 x 2 inputs/ 2 x 2 outputs	1 A	Standard	Υ	AS-i	15	3RK1400-1DQ02-0AA3		1	1 unit	42C
	4 outputs	2 A	Standard	Y-II		▶	3RK1100-1CQ00-0AA3		1	1 unit	42C
		2 A	A/B (Spec. V3.0)	Y-II		2	3RK2100-1CQ00-0AA3		1	1 unit	42C
	Digital I/O modules, IP67 – K60 data couplers Modules supplied without mounting plate										
	Туре	Current carry- ing capacity of outputs	Slave addressing type	Pin assign- ment	Sensor power supply via						
	Data coupler 4 inputs/ 4 outputs (virtual)		Standard			10	3RK1408-8SQ00-0AA3		1	1 unit	42C

¹⁾ Module occupies two AS-Interface addresses

Accessories

	Version	SD		rice PU (L	INIT, 「, M)	PS*	PG
		d					
SIEMENS Managarian and managarian	K60 mounting plates Suitable for all K60 compact modules						
. 4	Wall mounting	▶	3RK1901-0CA00		1	1 unit	42C
	Standard rail mounting	•	3RK1901-0CB01		1	1 unit	42C
3RK1901-0CA00							
	AS-Interface sealing caps M12 For free M12 sockets	•	3RK1901-1KA00		100	10 units	42C
3RK1901-1KA00							
	Sealing sets	2	3RK1902-0AR00		100	5 units	42D
	 For K60 mounting plate and standard distributor 						
	 Cannot be used for K45 mounting plate 						
3RK1902-0AR00	One set contains one straight and one shaped seal						

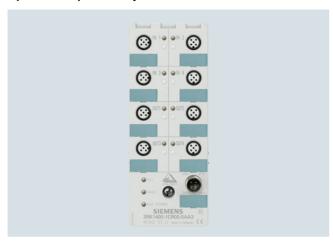
Slaves

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP68/IP69K - K60R

Overview

Operation in particularly harsh environments



K60R module in degree of protection IP68/IP69K

Modules with degree of protection IP67 cannot be used in areas exposed to permanently high levels of humidity, in applications with drilling emulsions and cutting oils or when cleaning with high-pressure cleaners. The answer for these applications is provided by the expansion of the K60 compact modules with the K60R module with degree of protection IP68/IP69K.

The K60R modules are connected instead of the AS-Interface flat cable using a round cable with M12 cable box. The AS-Interface bus cable and the 24 V DC auxiliary power supply are routed in this case in a shared round cable.

Degree of protection IP68 permits many new applications that were impossible with the former field modules with degree of protection IP67. In applications such as filling plants or machine tools, the K60R with degree of protection IP68 enables the module to be used directly in zones exposed to permanent loading by humidity. It is thus possible to make even more rigorous savings in wiring with AS-Interface. For more information on IP68 test conditions, see "IP68/IP69K tests" on page 2/59.

Cleaning with high-pressure cleaners, such as is regularly performed in the food and drinks industry for instance, is possible without difficulty (IP69K).

In applications with tow chains, many users rely on placing the AS-Interface bus cable in a round cable. With the K60R module, a round cable connection is possible for direct connection to a round cable. No adapter is required.

Mounting

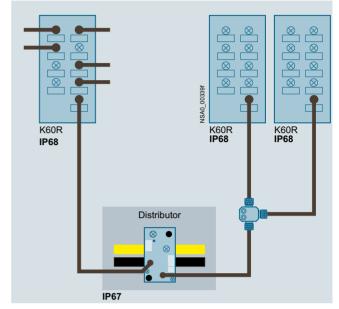
The same mounting plates are used as for the K60 modules. Instead of using flat cables, the K60R is connected using a 4-pole round cable with an M12 connection. With the K60R the mounting plate thus serves only as a fixture and ground terminal.

Addressing

Addressing is performed using the same socket as for the bus connection. Connecting the module to the addressing unit takes place over a 3-pole standard M12 cable.

When the mounting is finished, the module is connected with the addressing cable to the addressing unit and addressed. The addressing cable is then removed and the module connected to the bus cable.

Connection



K60R connection options

In the IP67 environment, the service-proven standard components are connected using flat cables. Spur lines are laid into the IP68 environment by means of an AS-Interface M12 feeder (3RK1901-2NR..). The module is connected with a round cable to an M12 cable box. For this purpose, the module has an M12 bus connection instead of the former addressing socket. The AS-Interface bus cable and the 24 V DC auxiliary voltage are routed together in a 4-pole round cable. There must be no ground conductor in this round cable. Connection to ground is made through the mounting plate.

In the IP68 environment, only cables with extruded M12 plugs may be used.

Please note the following conditions:

- The configuration guidelines for AS-Interface apply. For all M12 connecting cables, the maximum permissible current is limited to 4 A. The cross-section of these cables is just 0.34 mm². For connection of the K60R modules, the aforementioned M12 connecting cables can be used for the spur lines. The voltage drop caused by the ohmic resistance (approx. 0.11 Ω/m) must be taken into account.
- For round cable connections with shared AS-i and U_{aux} in a single cable, the following maximum lengths apply:
 - Per spur line from feeder to module: max. 5 m
 - Total of all round cable segments in an AS-Interface network: max. 20 m

AS-Interface Slaves I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP68/IP69K - K60R

IP68/IP69K tests

K60R modules were tested with the following tests:

- Stricter test than IP67: 90 min at 1.8 m depth of water (IP67: 30 min at 1 m depth of water)
- Salt water test: Five months in salt water, 20 cm deep, at room temperature
- Test with particularly creepable oil: Five months completely under oil at room temperature
- Test with drilling emulsion: Five months at room temperature (components of the drilling emulsion: Anionic and non-ionic emulsifiers, paraffinic low-aromatic mineral oil, boric acid alkanolamines, corrosion inhibitors, oil content 40%)
- Test in oil bath (Excellence 416 oil) with alternating oil bath temperature: 130 cycles of 15 to 55 °C, two months
- Cleaning with a high-pressure cleaner according to IP69K: 80 to 100 bar, 10 to 15 cm distance, time per side > 30 s, water temperature 80 °C

To simulate requirements as realistically as possible, the modules were artificially aged prior to the tests by 15 temperature cycles of -25/+85 °C. During the test, the modules were connected to 3RX1 connecting cables. Unassigned connections were closed with 3RK1901-1KA00 sealing caps.

Note:

Sealing caps and M12 connections must be tightened with the correct torque.



Slaves

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP68/IP69K – K60R

Accessories										
	Version				SD		Price er PU	PU (UNIT, SET, M)	PS*	PG
					d			, ,		
-	K60 moun	ting plates								
STEMENS Montappoints and the occupant		r all K60 and K60R c	ompact r	modules						400
, 4	Wall mou	•			>	3RK1901-0CA00		1	1 unit	42C
	• Standard	d rail mounting				3RK1901-0CB01		1	1 unit	42C
C TO										
3RK1901-0CA00	401111					001/4004 41/400		100	40 ''	100
	For free M	ce sealing caps M1 12 sockets	2		•	3RK1901-1KA00		100	10 units	42C
3RK1901-1KA00										
The speed amount of	AS-Interfa	ce M12 feeders, cur	rent car	rying capacity						
TO SE	For flat cable	For	Cable length	Cable end in feeder						
	AS-i/Uaux	M12 socket		Not available	2	3RK1901-2NR20		1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	1 m	Not available	2	3RK1901-2NR21		1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	2 m	Not available	2	3RK1901-2NR22		1	1 unit	42C
3RK1901-2NR21										
	AS-Interfa capacity u	ce M12 feeders, 4-fo ip to 4 A	old, curr	ent carrying						
1	For flat cable	For	Cable length	Cable end in feeder						
(h)	AS-i/U _{aux}	4-fold M12 socket, delivery includes mounting plate (for wall and standard rail mounting)		Not available	2	3RK1901-1NR04		1	1 unit	42C
3RK1901-1NR04	1110	3,			_	ODI/4000 4DD45 0440				405
	• 3-pole	ecting cables			5	3RK1902-4PB15-3AA0		1	1 unit	42D
3RK1902-4PB15-3AA0		essing AS-i slaves w	ith M12 h	ous connection						
	Cable ler		iui IVI IZ L	ous connection						
	00010101							I		

AS-Interface Slaves

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP67 – K45

Overview



Compact modules K45

The K45 series of compact modules supplements the large K60 compact modules which have a proven track record in industry. They are the logical consequence for rounding off the bottom end of the existing product range.

The acclaimed advantages of the existing K60 compact modules are fully emulated by the K45 modules. The K45 modules have a substantially smaller basic area and installation depth, however.

Yet in spite of these small dimensions all the modules have large labels and an integrated addressing socket.

Two mounting plates are offered for the K45 compact modules:

- Mounting plate for wall mounting This has a hole pattern that is identical to that of the K60 compact modules. This means that K60 compact modules can be mounted together with K45 modules in an aligned arrangement. The shaped cables can be inserted in the recesses of the mounting plates where they cause no hindrance.
- Mounting plate for standard rail mounting

Connection of the AS-Interface shaped cables

The mounting plate and the compact module are joined together by means of a screw, with simultaneous contacting of the AS-Interface cable by the service-proven insulation piercing method.

Now, mounting the AS-Interface shaped cables is in fact easier than ever. The yellow and black AS-Interface shaped cable can be inserted into the mounting plates from the left or right regardless of the position of the coding lug. The correct polarity of the applied voltages is thus guaranteed.

Addressing and connection of the sensors/actuators

Addressing of the K45 compact modules is performed using an addressing socket integrated in the module. The addresses can be assigned even when mounted.

K45 modules with a maximum of four digital inputs and outputs

These compact modules contain up to four M12 standard connections or M8 standard connections for inputs and outputs. Using M12 or M8 standard plugs, a maximum of four sensors and four actuators can be connected to the compact module. Depending on the module, the sockets can be assigned in duplicate.

Pin assignment: Y – i.e. via a socket, two sensors or one sensor/one actuator are connected.

K45 modules with a maximum of eight digital inputs

These modules have eight digital inputs for connection through M12 plugs. The sockets have duplicate assignments. Pin assignment: Y – i.e. via a socket, two sensors or one sensor/one actuator are connected.

The module requires two AS-Interface addresses for processing all eight inputs. The addresses can be assigned through a double addressing socket integrated in the module.

Slaves

3RK1400-0GQ20-0AA3

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP67 - K45

Selection and ordering data

•											
Version						SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						d					
Digital I/O n	nodules,	IP67 – K45									
 PNP transi 	stor										
• Width 45 n	nm										
 Current ca 	rrying cap	pacity of the inpu	ıts: 200 mA								
 Modules s 	upplied w	rithout mounting	plate								
Type	Current carrying capac- ity of outputs	addressing	Pin assign- ment	U _{aux} 24 V	Connection methods						
8 inputs ¹⁾		A/B	Υ		M12	2	3RK2200-0DQ20-0AA3		1	1 unit	42C
4 inputs		Standard	Standard		M12		3RK1200-0CQ20-0AA3		1	1 unit	42C
		Standard	Standard		M8	2	3RK1200-0CT20-0AA3		1	1 unit	42C
		A/B	Standard		M12	>	3RK2200-0CQ20-0AA3		1	1 unit	42C
		A/B	Standard		M8	5	3RK2200-0CT20-0AA3		1	1 unit	42C
2 x 2 inputs		A/B	Υ		M12	2	3RK2200-0CQ22-0AA3		1	1 unit	42C
2 inputs/ 2 outputs	2 A ²⁾	Standard	Standard	1	M12	>	3RK1400-1BQ20-0AA3		1	1 unit	42C
2 x (1 input/ 1 output)	0.2 A	Standard	Υ		M12	2	3RK1400-0GQ20-0AA3		1	1 unit	42C
4 x (1 input/ 1 output)	0.2 A	A/B (Spec. V3.0)	Υ		M12	5	3RK2400-0GQ20-0AA3		1	1 unit	42C
	0.5 A	A/B (Spec. V3.0)	Υ	1	M12	5	3RK2400-1GQ20-1AA3		1	1 unit	42C
4 outputs	1 A	A/B (Spec. V3.0)	Standard	/	M12	2	3RK2100-1CQ20-0AA3		1	1 unit	42C
3 outputs	1 A	A/B	Standard	✓	M12		3RK2100-1EQ20-0AA3		1	1 unit	42C
4 outputs	1 A	Standard	Standard	1	M12		3RK1100-1CQ20-0AA3		1	1 unit	42C
2 outputs/ 2 inputs	2 A	A/B	Standard	/	M12	2	3RK2400-1BQ20-0AA3		1	1 unit	42C
					1) 84-	-11-		- ddraac -			

- ✓ Available
- -- Not available

- 1) Module occupies two AS-Interface addresses
- 2) The typical current carrying capacity per output increases with version "E12" from 1.5 to 2 A (available since approx. 07/2003).

Accessories

	Version	SD	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
		d				
	K45 mounting plates					
	For wall mounting	>	3RK1901-2EA00	1	1 unit	42C
3RK1901-2EA00	For standard rail mounting	•	3RK1901-2DA00	1	1 unit	42C
MENS SPRINGS GAMO	Cable termination pieces For sealing of open cable ends (shaped AS-Interface cable) in IP67	•	3RK1901-1MN00	1	10 units	42C
3RK1901-1MN00	A0.1-1- (
	AS-Interface sealing caps • For free M12 sockets		3RK1901-1KA00	100	10 units	42C
	For free M8 sockets	2	3RK1901-1RA00			42C 42C
	For free M8 sockets	2	3K 1901-1PN00	100	10 units	420
3RK1901-1KA00						
3RK1901-1PN00						

AS-Interface Slaves

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP67 - K20

Overview



Digital I/O modules, IP67 - K20

The K20 compact module series rounds off the AS-Interface compact modules with a particularly slim design and only 20-mm width. Thanks to its extremely compact dimensions, these modules are particularly suited for handling machine applications in the field of production engineering where modules need to be arranged in the smallest of spaces.

Robotics is yet another application area. The K20 modules are connected to the AS-Interface with a round cable with M12 cable box instead of with the AS-Interface flat cable. The AS-Interface bus cable and the 24 V DC auxiliary energy are routed in this case in a shared round cable. This enables extremely compact installation.

The flexibility of the round cable means that it can also be used on moving machine parts without any problems. The K20 modules are also ideal for such applications as their non-encapsulated design makes them particularly light in weight.

In applications with tow chains, many users rely on placing the AS-Interface bus cable in a round cable. In this case, the K20 modules support direct connection to the round cable. No flat to round cable adapter is required.

The K20 compact module range includes standard AS-Interface modules, as well as an ASIsafe version for the connection of safety-related sensors, such as EMERGENCY STOP pushbuttons or protective door monitoring.

For particularly space-saving dimensions, the sensors and actuators are connected over M8 plug-in connectors.

Alternatively, M12 connectors with Y-assignment can be used.

	Version					SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Digital I/O r	nodules, IP	67 – K20								
	Width 20 mr	m									
	Type	Current carrying capacity of outputs	Slave addressing type	Pin assignment	Connection methods						
	4 inputs		A/B	Standard	M8	2	3RK2200-0CT30-0AA3		1	1 unit	42C
			A/B	Υ	M12	5	3RK2200-0CQ30-0AA3		1	1 unit	42C
	2 inputs/	1	A/B	Standard	M8	2	3RK2400-1BT30-0AA3		1	1 unit	42C
3RK2200-	2 outputs	1	A/B	Υ	M12	2	3RK2400-1BQ30-0AA3		1	1 unit	42C
0CT30-0AA3	4 outputs	1	A/B (Spec. V3.0)	Standard	M8	2	3RK2100-1CT30-0AA3		1	1 unit	42C
	4 inputs/	1	Standard	Standard	M8	10	3RK1400-1CT30-0AA3		1	1 unit	42C
	4 outputs	1	A/B (Spec. V3.0)	Standard	M8	2	3RK2400-1CT30-0AA3		1	1 unit	42C
	2 safe inputs		Standard	Y-II	M12	2	3RK1205-0BQ30-0AA3		1	1 unit	42C

Slaves

I/O Modules for Use in the Field, High Degree of Protection

Digital I/O modules, IP67 – K20

Accessories									
	Version				SD	Article No. Price per PU		PS*	PG
					d				
	AS-Interfac	ce sealing caps							
	• For free N	112 sockets			>	3RK1901-1KA00	100	10 units	42C
	• For free N	18 sockets			2	3RK1901-1PN00	100	10 units	42C
3RK1901-1KA00									
0.DI/(100 / 1/D)(100									
3RK1901-1PN00									
MEMENS		ce compact distributo rface flat cable <u>W</u>			2	3RK1901-2NN10	1	1 unit	42C
O A time sometowe		rying capacity up to 8							
3RK1901-2NN10		.,9,							
21 IV 1901-71/1/10	AS-Interfer	ce M12 feeders							
		f protection IP67							
	•	arrying capacity up to	2 Δ						
3RX9801-0AA00	For flat	For	Cable	Cable end					
311/3001-0/400	cable	1 01	length	in feeder					
	AS-i	M12 socket		Available		3RX9801-0AA00	1	1 unit	42C
SIELE	AS-Interfac	ce M12 feeders WEW							
SIEMENS SPEXION SIEMENS	• Degree o	f protection IP67/IP68/	IP69K						
ر ش گ	• Current c	arrying capacity up to	4 A						
3RK1901-2NR10	For flat cable	For	Cable length	Cable end in feeder					
311(1901-2111110	AS-i	M12 socket		Not available	2	3RK1901-2NR10	1	1 unit	42C
A S	AS-i	M12 cable box	1 m	Not available	2	3RK1901-2NR11	1	1 unit	42C
The Manney one	AS-i	M12 cable box	2 m	Not available	2	3RK1901-2NR12	1	1 unit	42C
	AS-i/U _{aux}	M12 socket		Not available	2	3RK1901-2NR20	1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	1 m	Not available	2	3RK1901-2NR21	1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	2 m	Not available	2	3RK1901-2NR22	1	1 unit	42C
	dan								
3RK1901-2NR21									
A Service Face A-Face NCC Service 1		ce M12 feeders, 4-fold							
		rying capacity up to 4							
(1)	For flat cable	For	Cable length	Cable end in feeder					
(a)	AS-i/U _{aux}	4-fold M12 socket,		Not available	2	3RK1901-1NR04	1	1 unit	42C
(4) 1	7.0 I/Caux	delivery includes		140t available	_	STIRTSOT THEOR		1 Gint	720
		mounting plate (for wall and standard							
3RK1901-1NR04		rail mounting)							
And)	M12 Y-sha	ped coupler plugs			1	6ES7194-1KA01-0XA0	1	1 unit	250
		tion of two sensors to	one M12	socket with					
	Y-assignme	nt							
6ES7194-1KA01-0XA0									
	M12 conne	ecting cables			5	3RK1902-4PB15-3AA0	1	1 unit	42D
3RK1902-4PB15-3AA0	• 3-pole	-							
0111/1302-41 D 10-0MAU	• For addre	essing AS-i slaves with	M12 bu	s connection					
	• Cable len	gth 1.5 m							

AS-Interface Slaves

I/O Modules for Use in the Field, High Degree of Protection

Analog I/O modules, IP67 - K60

Overview



K60 analog compact module

AS-Interface analog modules from the K60 compact series detect or issue analog signals locally. These modules are linked to the higher-level controller through an AS-Interface master according to specification V2.1 or specification V3.0.

The analog modules are divided into the following groups:

- · Input modules for
 - Sensors with current sensor
 - Sensors with voltage signal
 - Sensors with thermal resistor
- · Output modules for
 - Current actuators
 - Voltage actuators

The input modules according to profile 7.3/7.4 are available with two or four input channels. It is possible in addition to convert the two-channel module to using only one input channel, thus enabling very short times before the analog value is available. The conversion is effected by means of a jumper plug at socket 3. The transmission times achieved with analog modules according to Profile 7.A.9 are two times faster than those achieved with Profile 7.3/7.4. Operation is adjustable in this case, e.g. it is possible to choose with the ID1 code whether the module is operated with one or two channels.

The output modules are configured as two-channel modules as standard.

The input and output channels are electrically separated from the AS-Interface network. If sensors with a higher power requirement are to be connected, more power can be supplied through the auxiliary voltage as an alternative to the internal supply.

In the manual "AS-Interface Analog Modules Profile 7.3/Profile 7.A.9", the modules are presented in great detail along with their technical specifications and in-depth notes on operation. Sample function blocks round off the manual, see "More information" on page 2/67.

Benefits

- Analog modules are just as easy to integrate in AS-Interface as digital modules
- Analog values can be easily detected and issued locally
- Preprocessing of the analog value transfer in the master enables rapid evaluation of the analog values
- Up to four values can be detected using one analog module
- Faster transmission and conversion of analog values thanks to the new option for switching to single-channel operation

In addition, specification V3.0 now also offers:

- A/B technology, now also with analog modules
- On average, double fast transmission times (only 3 or 4 cycles, depending on the resolution selected)
- Variable adjustable mode: 12-bit or 14-bit resolution, single-channel or two-channel, selectable via the ID1 code

Slaves

I/O Modules for Use in the Field, High Degree of Protection

Analog I/O modules, IP67 – K60

Selection and ordering data

on and order	ing data								
	Version			SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d			021, 111)		
ì	Analog I/O module analog profile 7.3	es, IP67 – K60,							
	 Slave addressing 	type: Standard addr	ress						
	 Width 60 mm 								
	 Modules supplied 	d without mounting pl	ate						
	Inputs	Туре	Measuring range						
	1 or 2 inputs (selectable using jumper plug at	Current	4 20 mA or ± 20 mA (selectable) ¹⁾	2	3RK1207-1BQ40-0AA3		1	1 unit	42C
7-1BQ44-0AA3	socket 3)	Voltage	± 10 V or 1 5 V (selectable)	2	3RK1207-2BQ40-0AA3		1	1 unit	42C
		Thermal resistance	Pt100 or Ni100 or 0 600 Ω (selectable) ¹⁾	2	3RK1207-3BQ40-0AA3		1	1 unit	42C
	4 inputs	Current	4 20 mA or ± 20 mA (selectable)	2	3RK1207-1BQ44-0AA3		1	1 unit	42C
		Voltage	± 10 V or 1 5 V (selectable)	10	3RK1207-2BQ44-0AA3		1	1 unit	42C
		Thermal resistance	Pt100 or Ni100 or 0 600 Ω (selectable)	2	3RK1207-3BQ44-0AA3		1	1 unit	42C
	Outputs	Туре	Output range						
	2 outputs	Current for 2-wire actuators	4 20 mA or ± 20 mA or 0 20 mA (selectable) ¹⁾	2	3RK1107-1BQ40-0AA3		1	1 unit	42C
		Voltage for 2-wire actuators	± 10 V or 0 10 V or 1 5 V (selectable)	2	3RK1107-2BQ40-0AA3		1	1 unit	42C
	Analog I/O module analog profile 7.A								
	Slave addressingWidth 60 mm	type: A/B (Spec. V3.	.0)						
	 Modules supplied 	d without mounting pl	ate						
	Inputs	Туре	Measuring range						
	1 or 2 inputs (variably adjustable)	Current	4 20 mA or ± 20 mA (selectable)	2	3RK2207-1BQ50-0AA3		1	1 unit	42C
7-2BQ50-0AA3		Voltage	± 10 V or 1 5 V (selectable)	2	3RK2207-2BQ50-0AA3		1	1 unit	42C

¹⁾ Some modules are available in the extended temperature range (from -25 to 70 °C) and for use in difficult environmental conditions (coated according to environment standard IEC 60721).

Description	SIPLUS article number	Corresponds to module
SIPLUS AS-Interface 2AA, IP67	6AG1107-1BQ40-7AA3	3RK1107-1BQ40-0AA3
SIPLUS AS-Interface 2AI, IP67	6AG1207-1BQ40-7AA3	3RK1207-1BQ40-0AA3
SIPLUS AS-Interface 2AI, IP67	6AG1207-3BQ40-7AA3	3RK1207-3BQ40-0AA3

For more information, see www.siemens.com/siplus-extreme.

3RK2207

AS-Interface Slaves I/O Modules for Use in the Field, High Degree of Protection

Analog I/O modules, IP67 – K60

Accessories						
	Version	SD	Article No. Price per PU		PS*	PG
		d		OL1, WI)		
	K60 mounting plates					
SIEMENS Mentappalene and terr occupa	Wall mounting	>	3RK1901-0CA00	1	1 unit	42C
3RK1901-0CA00	Standard rail mounting	•	3RK1901-0CB01	1	1 unit	42C
3RK1901-1KA00	M12 sealing caps	>	3RK1901-1KA00	100	10 units	42C
	Sealing sets	2	3RK1902-0AR00	100	5 units	42D
	 For K60 mounting plate and distributor 					
	 Cannot be used for K45 mounting plate 					
3RK1902-0AR00	One set contains one straight and one shaped seal					
3RK1901-1AA00	Jumper plugs For changing over the two channel input modules	2	3RK1901-1AA00	1	1 unit	42C

More information

More information

For the Manual *AS-Interface Analog Modules Profile 7.3, Profile 7.A.9*, see https://support.industry.siemens.com/cs/ww/en/view/7643815

Slaves

I/O Modules for Use in the Control Cabinet

Introduction

Overview



SC17.5F, SC17.5 and SC22.5 SlimLine Compact modules



F90 module



Flat module

For AS-Interface applications inside control cabinets, there are various module series for the most diverse requirements:

- SlimLine Compact particularly slim design ideal for space-saving use in the control cabinet
- F90 module particularly flat design for flat control boxes
- Flat module special design for integration into customerspecific solutions

The existing SlimLine series of modules S22.5 and S45 are being replaced by the innovative new devices in the SlimLine Compact SC17.5, SC17.5F and SC22.5 series. The previous SlimLine modules are still available as replacements for existing systems.

Available versions

The following table provides an overview of the key features of the different series of control cabinet modules.

Feature	SlimLine Compact	F90 module	Flat module
Digital I/O	✓	1	✓
Analog I/O	✓		
Safe inputs	✓		
Relay outputs	✓		
Addressing method A/B address	✓		
Mounting onto TH 35 standard mounting rail according to IEC 60715	/	1	
Wall mounting using push-in lugs	✓		
Integrated lugs for screw fixing			1
Width in mm	17.5 or 22.5	90	80

- ✓ Available
- -- Not available

AS-Interface
Slaves
I/O Modules for Use in the Control Cabinet

SlimLine Compact

Overview

SlimLine Compact modules



SC17.5 and SC22.5 SlimLine Compact modules with screw terminals

The AS-Interface module series for the control cabinet SlimLine Compact with degree of protection IP20 creates space in the cabinet and in distributed local control boxes. A width of just 17.5 mm or 22.5 mm ensures considerable space savings in the control cabinet.

The SlimLine Compact module series comprises not only digital and analog I/O modules but also ASIsafe modules with safe inputs. Digital outputs are available as electronic and relay outputs.

Sensors and actuators, as well as the AS-Interface bus cable, are connected by means of removable screw or push-in spring-type terminals. Device connectors available as accessories offer the possibility of looping through the AS-Interface bus cable and the 24 V DC power supply $U_{\rm aux}$ from one module to additional modules. This significantly simplifies the wiring, as the AS-Interface bus cable and $U_{\rm aux}$ only have to be connected to one device.



SlimLine Compact module SC22.5 with connector with screw terminals

All devices for the connection of 3-wire sensors offer the option of supplying the sensors either from the AS-Interface bus cable or alternatively from the 24 V DC voltage supply $U_{\rm aux}$ depending on the requirements of the particular application. A slide switch is used to make the selection. If supply via $U_{\rm aux}$ is selected, the wiring of the sensor terminals remains unchanged. This means that no external supply is required for the sensors.

All modules have LEDs on the front that provide diagnostic information and indicate the status of the module inputs and outputs. Devices with semiconductor outputs indicate the status of each output by means of a dual LED. Thus the status (on/off/overload) is displayed for each output. An addressing socket integrated at the front enables the module to be addressed also when it is installed. Integrated adapters permit mounting onto a standard mounting rail – either directly for the module or for the device connector. Alternatively, the modules can also be screw-mounted using push-in lugs (accessories). These lugs for screw fastening must be ordered separately.

Slaves

I/O Modules for Use in the Control Cabinet

SlimLine Compact

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 42C

More information

For the "SlimLine Compact Modules" Manual, see

https://support.industry.siemens.com/cs/ww/en/view/109481489

Version				SD	Screw terminals	(1)	SD	Spring-type terminals	∞
I/O type	Width	Inputs	Outputs					(push-in)	Ш
					Article No.	Price		Article No.	Price
	mm			d		per PU	d		per PU

2

2

2

2

2

2

2

2

2

Voltage/

selectable

current

SC17.5 and SC22.5 digital SlimLine Compact modules



Slave addressing type: A/B address 4 inputs 17.5 2-wire 22.5 3-wire 4 outputs 22.5 2A electronic 2 4 inputs/ 2 outputs, 22.5 3-wire Relay (change-over relays contact) Relay 4 inputs/ 22.5 3-wire 4 outputs, relays (NO contacts) 4 inputs/ 22.5 3-wire 2A electronic 2

3RK2200-2CE00-2AA2 3RK2100-1CE00-2AA2 3RK2402-2ME00-2AA2

3RK2402-2CE00-2AA2

3RK1400-2CE00-2AA2

3RK2200-0CE00-2AA2

3RK2200-2CG00-2AA2 2 2 2

2

3RK2100-1CG00-2AA2 3RK2402-2MG00-2AA2

3RK2200-0CG00-2AA2

2 3RK2402-2CG00-2AA2

3RK2400-2CE00-2AA2 2 3RK2400-2CG00-2AA2

Slave addressing type: Standard address 4 inputs/ 22.5 3-wire 2A electronic 2

Slave addressing type: Standard address

3RK2400-2CG00- 4 outputs

3RK1400-2CG00-2AA2 2

SC22.5 analog SlimLine Compact modules

4 outputs



2442

Voltage/ 4 inputs 22.5 current selectable Thermal resistance 22.5 2 outputs

3RK1207-0CF00-2AA2 3RK1207-3CE00-2AA2 3RK1107-0BE00-2AA2

3RK1207-0CG00-2AA2 2

2 3RK1207-3CG00-2AA2 3RK1107-0BG00-2AA2

SC17.5F ASIsafe SlimLine Compact modules



Slave addressing type: Standard address 2 safe inputs 17.5 For mechanical contacts 2 safe inputs/ 17.5 For Electronic, mechanical $U_{\rm ASI}/U_{\rm aux}$ 2 standard supply selectable outputs contacts

3RK1205-0BE00-2AA2 3RK1405-2BE00-2AA2

3RK1205-0BG00-2AA2 2

3RK1405-2BG00-2AA2

AS-Interface Slaves I/O Modules for Use in the Control Cabinet

SlimLine Compact

Accesso	ries							
		Version	SD	Article No.	Price		PS*	PG
				p	er PU	(UNIT, SET, M)		
			d					
		Device connectors						
		For electrical connection of SlimLine Compact modules (connects AS-i bus cable and 24 V DC auxiliary power suppl	у					
	E	U _{aux} when using several SlimLine Compact modules) • Width 17.5 mm	2	3RK1901-1YA00		1	1 unit	420
1		• Width 17.5 mm	2	3RK1901-1YA10		1	1 unit 1 unit	42C 42C
	19	- Width 22.3 mm	۷	JIIK 1901-11A10		'	1 dilit	420
3RK1901- 1YA00	3RK1901- 1YA10							
ITAOO	IIAIU	Device termination connectors						
TO THE	THE STATE OF	Required for the last module in the network						
	1	• Width 17.5 mm	2	3RK1901-1YA01		1	1 unit	42C
		• Width 22.5 mm	2	3RK1901-1YA11		1	1 unit	42C
3RK1901- 1YA01	3RK1901- 1YA11							
47	l	Removable terminals		Screw terminals	(1)			
7		 Screw terminals up to 2 x 1.5 mm² or 1 x 2.5 mm² 						
	•	- 2-pole - 4-pole	2	3ZY1121-1BA00 3ZY1141-1BA00		1	6 units 6 units	41L 41L
3ZY1121-2	2BA00			Spring-type terminals (push-in)	$\stackrel{\circ}{\mathbb{H}}$			
		 Push-In terminals up to 2 x 1.5 mm² 2-pole 	2	3ZY1121-2BA00		1	6 units	41L
		- 2-pole - 4-pole	2	3ZY1141-2BA00		1	6 units	41L
SIEMENS	SIEMENS	Hinged cover NEW						
SIRIUS	SIRIUS	Replacement for SlimLine Compact module, without terminal labeling						
		• Width 17.5 mm						
_	_	Titanium gray for SC17.5Yellow for SC17.5F	2	3ZY1450-1AA00 3ZY1450-1BA00		1 1	5 units 5 units	41H 41H
1_1		• Width 22.5 mm						
		- Titanium gray for SC22.5	2	3ZY1450-1AB00		1	5 units	41H
3ZY1450-	3ZY1450-							
1BA00	1AB00	Push-in lugs for wall mounting	2	3ZY1311-0AA00		1	10 units	41L
		Two lugs are required per device	2	3211311-UAAUU		'	10 units	41L
3ZY1311-0)AA00							
		Coding pins for removable terminals	2	3ZY1440-1AA00		1	12 units	41L
		For mechanical coding of the terminals						
3ZY1440-1	1AA00							
		Blank labels Unit labeling plates ¹⁾						
		10 mm x 7 mm, titanium gray	20	3RT2900-1SB10		100	816 units	41B
	0181	• 20 mm x 7 mm, titanium gray	20	3RT2900-1SB20			340 units	41B
3PT2000 1	e LCP20							
3RT2900-1	15020	Tools for opening spring-type terminals		Spring-type terminals	<u> </u>			
	511	Screwdriver for SIRIUS devices with spring-type terminals	2	3RA2908-1A		1	1 unit	41B
		3.0 mm x 0.5 mm, length approx. 200 mm,						
3RA2908-	1A	titanium gray/black, partially insulated						

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

Slaves

I/O Modules for Use in the Control Cabinet

SlimLine Compact

More information



SlimLine modules S45 (picture on left) and S22.5 module (picture on right) with spring-type terminals

The existing SlimLine series of I/O modules for use in the control cabinet is being replaced by the new, innovative SlimLine Compact series. We recommend that these new devices are used in future.

The code conversion table indicates the best options for replacing the existing SlimLine devices with SlimLine Compact devices.

Note:

The previous SlimLine devices are still available for use as replacements in existing systems. As a result of the innovation, the new SlimLine Compact devices are not fully compatible in terms of either mechanical dimensions or electrical properties.

The code conversion table below links the existing SlimLine S22.5, S22.5F and S45 modules with the new SlimLine Compact SC17.5, SC17.5F and SC22.5 devices.

Code conversion table

S22.5, S22.5F and S45	SlimLine		Comparison type: SC1	7.5, SC17.5F and SC22.	5 SlimLine Compact
Screw terminals	Spring-type terminals	Version	Screw terminals	Spring-type terminals	Version
3RK1200-0CE00-0AA2	3RK1200-0CG00-0AA2	4 DI, 2-wire, standard address	3RK2200-0CE00-2AA2	3RK2200-0CG00-2AA2	4 DI, 2-wire, A/B address
3RK2200-0CE02-0AA2	3RK2200-0CG02-0AA2	4 DI, A/B address	3RK2200-2CE00-2AA2	3RK2200-2CG00-2AA2	4 DI, A/B address
3RK1200-0CE02-0AA2	3RK1200-0CG02-0AA2	4 DI, standard address			
3RK1400-0BE00-0AA2	3RK1400-0BG00-0AA2	2 DI / 2 DQ, standard address	3RK1400-2CE00-2AA2	3RK1400-2CG00-2AA2	4 DI / 4 DQ, standard address
3RK1402-0BE00-0AA2	3RK1402-0BG00-0AA2	2 DI / 2 DQ relay, standard address	3RK2402-2ME00-2AA2	3RK2402-2MG00-2AA2	4 DI / 2 DQ relay, A/B address
3RK1100-1CE00-0AA2	3RK1100-1CG00-0AA2	4 DQ, standard address	3RK2100-1CE00-2AA2	3RK2100-1CG00-2AA2	4 DQ, A/B address
3RK2400-1CE01-0AA2	3RK2400-1CG01-0AA2	4 DI / 4 DQ, A/B address	3RK2400-2CE00-2AA2	3RK2400-2CG00-2AA2	4 DI / 4 DQ, A/B address
3RK2400-1FE00-0AA2	3RK2400-1FG00-0AA2	4 DI / 3 DQ, A/B address			
3RK1400-1CE00-0AA2	3RK1400-1CG00-0AA2	4 DI / 4 DQ, 1A electronic, standard address	3RK1400-2CE00-2AA2	3RK1400-2CG00-2AA2	4 DI / 4 DQ, 2A electronic standard address
3RK1400-1CE01-0AA2	3RK1400-1CG01-0AA2	4 DI / 4 DQ, 2A electronic, standard address			
3RK1402-3CE01-0AA2	3RK1402-3CG01-0AA2	4 DI / 4 DQ (sensor supply from $U_{\rm aux}$), standard address			
3RK1402-3CE00-0AA2	3RK1402-3CG00-0AA2	4 DI / 4 DQ relay, standard address	3RK2402-2CE00-2AA2	3RK2402-2CG00-2AA2	4 DI / 4 DQ relay, A/B address
3RK1205-0BE00-0AA2	3RK1205-0BG00-0AA2	2 F-DI, standard address	3RK1205-0BE00-2AA2	3RK1205-0BG00-2AA2	2 F-DI, standard address
3RK1405-0BE00-0AA2	3RK1405-0BG00-0AA2	2 F-DI / 2 DQ, standard address (outputs supplied from $U_{\rm ASI}$)	3RK1405-2BE00-2AA2	3RK1405-2BG00-2AA2	standard address (supply $U_{\rm ASI}/U_{\rm aux}$
3RK1405-1BE00-0AA2	3RK1405-1BG00-0AA2	2 F-DI / 2 DQ, standard address (outputs supplied from U_{aux})			selectable)

1 A

AS-Interface Slaves I/O Modules for Use in the Control Cabinet

F90 module

Selection and ordering data

Version Article No. Price PS* PG per PU (UNIT, SET, M) d F90 module • Slave addressing type: Standard address • Width 90 mm With COMBICON version: Delivery without COMBICON plug Connection Inputs Outputs Type 2- and 3-wire PNP transistor 4 Screw PNP transistor 5 3RG9002-0DB00 42C 1 unit



3RG9002-0DB00

outputs		2- and 3-wire PNP transistor	PNP transistor 2 A	5	3RG9002-0DA00	1	1 unit	42C
		2- and 3-wire PNP transistor floating	PNP transistor 2 A	5	3RG9002-0DC00	1	1 unit	42C
	Combicon ¹⁾	2- and 3-wire PNP transistor	PNP transistor 1 A	5	3RG9004-0DB00	1	1 unit	42C
		2- and 3-wire PNP transistor	PNP transistor 2 A	5	3RG9004-0DA00	1	1 unit	42C
		2- and 3-wire PNP transistor	PNP transistor 2 A	5	3RG9004-0DC00	1	1 unit	42C

¹⁾ Scope of supply does not include Combicon plug set 3RX9810-0AA00, this must be ordered separately, see "Accessories"

inputs/

Accessories

SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
d					
5	3RX9810-0AA00		1	1 unit	42C
)					
_	d	d 5 3RX9810-0AA00	per PU d 5 3RX9810-0AA00	per PU (UNIT, SET, M) d 5 3RX9810-0AA00 1	d SRX9810-0AA00 1 1 unit

floating

Slaves

I/O Modules for Use in the Control Cabinet

Flat modules

Overview



The flat module for the control cabinet in degree of protection IP20 has four inputs and four outputs.

The module is fitted at the front with an LED which indicates the module's status.

With the integrated lugs, the modules can be screwed on.

An integrated addressing socket enables the module to be addressed when it is installed.

Standard sensors/actuators and the AS-Interface cable can be connected using screw terminals.

Flat module 4I/4O

	<u> </u>						
	Version	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		d	Article No.	Price per PU			
SIEMENS SIE	Flat module 4I/4O Slave addressing type: Standard address • 4 inputs/4 outputs • 200 mA for all I/Os	2	3RK1400-0CE00-0AA3		1	1 unit	42C

Overview



Counter module with spring-type terminals

The counter module is used to send hexadecimally coded count values (LSB=D0, MSB=D3) to a higher-level controller. The count value is increased by 1 for each valid count pulse at terminal 8. Beginning at 0, the module counts up to 15 and then begins again at 0. The controller adopts the current value and determines the number of pulses between two host invocations through subtraction from the previous value. The total number of count pulses is determined by adding these differences.

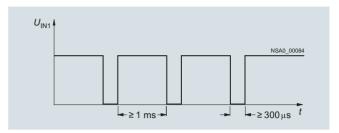
For the values sent to be unambiguous, no more than 15 count values are allowed between two host invocations or AS-Interface master invocations at terminal 8. The maximum permissible transmission frequency is calculated from these times:

$$f_{\text{TRmax}} = 15 / T_{\text{max}}$$

 T_{max} : max. possible transmission time from the slave to the host

A further condition for the maximum frequency is the required pulse shape. For the counter to accept a pulse as valid, a Low must have been applied at the input for at least 300 μs and a High for at least 1 ms.

This results in a maximum frequency of $f_{\rm Zmax} = 1 / 1.3$ ms = 769 Hz independently of the control system (see figure below).



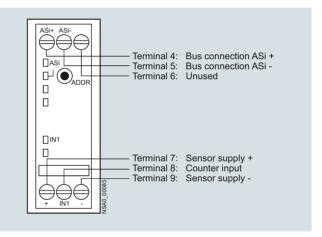
Maximum frequency for the counter module

If the time criterion stipulated in the figure is violated, the count value is rejected.

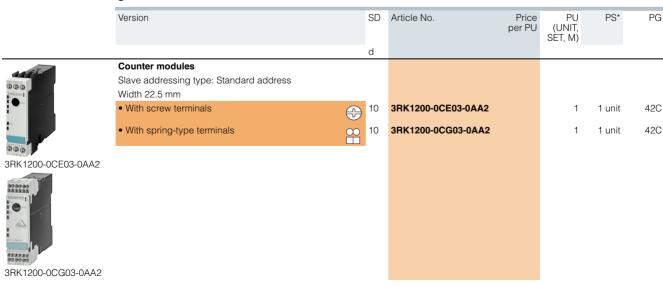
The counter is active only for the reset parameter P2 (default). The counter is deleted when P2 is set, and the incoming count pulses are not registered until after P2 is reset again.

Note:

A customized function block is necessary or must be programmed.



Counter module connection options



Slaves

Modules with Special Functions

Ground-fault detection modules

Overview



Ground-fault detection module

"Ground faults in any control circuit must not lead to unintentional starting or potentially hazardous movements or prevent the machine from stopping." (IEC 60204-1 / VDE 0113-1).

The AS-Interface ground-fault detection module is used to meet these requirements. Using this module from the SlimLine series, ground faults in AS-Interface systems can be reliably detected and reported.

The following ground faults are detected:

- Ground fault from AS-i "+"
- Ground fault from AS-i "-"
- Ground fault from sensors and actuators that are supplied from the AS-Interface voltage.

Note:

Not suitable for AS-i Power24V.

	<u> </u>						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			. ,		
1111	Ground-fault detection modules						
999	Module does not require an AS-i address						
888	Width 22.5 mm						
S S S	With screw terminals	5	3RK1408-8KE00-0AA2		1	1 unit	42C
Ext	With spring-type terminals	5	3RK1408-8KG00-0AA2		1	1 unit	42C
888							
3RK1408-8KE00-0AA2							

Overview



AS-Interface overvoltage protection module

The AS-Interface overvoltage protection module (protection module) protects downstream AS-Interface devices or individual sections in AS-i networks from conducted overvoltages which can be caused by switching operations and remote lightning strikes. The location of the protection module forms the transition from zone 1 to 2/3 within the lightning protection zone concept. Direct lightning strikes must be coped with using additional protective measures at the transitions from lightning protection zone 0A to 1.

With the AS-Interface overvoltage protection module, it is now also possible to integrate AS-Interface in the overall overvoltage protection concept of a plant or machine.

The module has the same design and degree of protection (IP67) as the AS-Interface K45 compact modules. It is a passive module and as such does not need its own address on the AS-Interface network. The module can be used to protect the AS-Interface cable and the cable for the auxiliary voltage from overvoltage. Overvoltages are discharged through a ground cable with a green/yellow oil-proof outer sheath. This cable is fixed in the module and must be connected with low resistance to the system's ground.

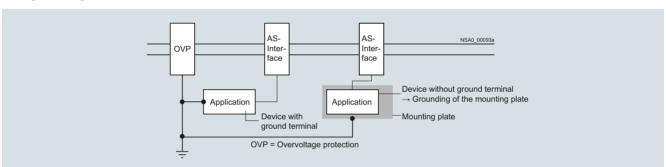
Rated discharge current I_{sn}

The rated discharge current is the peak value of a surge current of the form $8/20~\mu s$ (microseconds), for which the protection module is designed in accordance with a specified test program. With an 8/20 waveform, 100% of the value is achieved after $8~\mu s$ and 50% after $20~\mu s$.

Protection level U_n

The protection level of a protection module is the highest momentary value of the voltage at the terminals, established in individual tests and characterizes the capability of a protection module to limit overvoltages to a residual level.

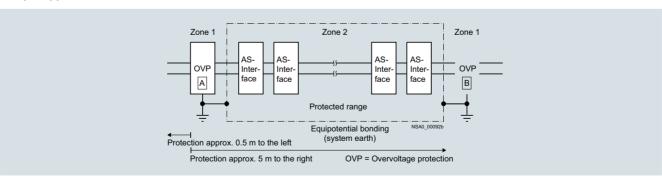
Configuration guidelines



The grounding of protection modules and the units to be protected must be effected through a shared grounding point.

If insulated devices are protected, their mounts must be included in the grounding points.

Sample application



	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
	AS-Interface overvoltage protection module	5	3RK1901-1GA01		1	1 unit	42C
5.3	Module does not require an AS-i address						
	Delivery includes mounting plate (for wall and standard rail mounting)						

Power Supply Units and Data Decoupling Modules

AS-Interface power supply units

Overview



AS-Interface power supply unit for 3 A

AS-Interface power supply units feed 30 V DC into the AS-Interface cable and supply the AS-Interface components. They include power-optimized data decoupling for the separation of communication signals and control supply voltage. As the result, AS-Interface is able to convey both data and power along a single line. The power supply units are resistant to overload and short circuits.

Dimensions

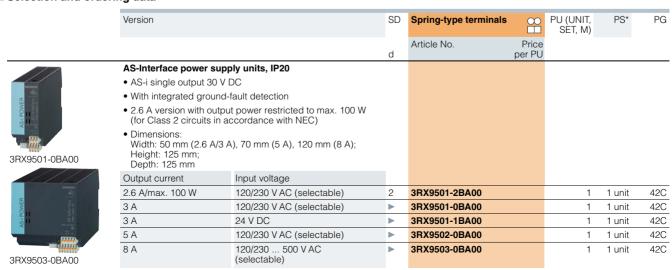
AS-Interface power supply units have compact dimensions in widths of 50/70/120 mm. No distances from other devices need to be observed when mounting the power supply units.

Features

- Higher rating: The power supply units deliver currents of 2.6 to 8 A.
- Integrated data decoupling: As the result, AS-Interface is able to convey both data and power along a single line.
- Integrated ground-fault detection: The power supply units perform the reliable detection and signaling of ground faults according to IEC 60204-1. The AS-Interface voltage can be disconnected automatically in the event of a ground fault.
- Integrated overload detection: An output overload is detected and reported over a diagnostics LED.
- Diagnostics memory: Any ground faults or overloads on the output side are stored in a diagnostics memory until the device is RESET.
- Remote RESET and remote signaling: Using relay contacts, a ground fault can be signaled and evaluated by a central controller and/or indicator light.
- Diagnostics LEDs: Three different LEDs indicate the status of the AS-Interface power supply locally at the power supply unit.
- Ultra-wide input range/two-phase connection: The ultra-wide input range of 120 to 500 V of the 8 A version means that the supply units can be used in virtually any network worldwide. In addition, this version dispenses with the need for an N conductor as the device can be connected directly between 2 phases of a network.
- Operation with 24 V DC: The 3 A power supply unit is also available as a version with a 24 V DC input. This power supply unit is suitable for use in battery-powered systems or in systems with UPS (uninterruptible power supply).
- Removable terminal blocks with spring-type connections:
 For easy exchanging of devices, each power supply unit has
 three removable terminal blocks: for the input side, for the
 output side and for Signal/RESET connections.

Benefits

- Complete solution for supplying AS-Interface networks while making full use of the maximum possible cable length per AS-i segment
- Only AS-i masters and AS-i slaves need to be connected to the AS-Interface cable in order to operate AS-Interface
- · Compact, space-saving dimensions
- Reliable power supply even for large numbers of AS-Interface modules with a high power requirement
- Integrated ground-fault and overload detection saves the need for additional components and enhances safety
- Fast fault detection and reduced downtimes thanks to diagnostics memory, remote signaling and remote RESET
- Reduced downtimes as the result of removable terminal blocks which enable the fast exchanging of devices
- Ultra-wide input range of the 8 A version permits single-phase and two-phase operation and removes the need for an N conductor
- Can be used world-wide thanks to, for example, UL/CSA approval (UL 508)
- With the 2.6 A version, the output power is restricted to max.
 100 W for use in Class 2 circuits in accordance with NEC (National Electrical Code)



AS-Interface Power Supply Units and Data Decoupling Modules

30 V power supply units

Overview



PSN130S 30 V power supply units for 3 A, 4 A and 8 A

The PSN130S 30 V power supplies feed 30 V DC into the AS-Interface cable and supply the AS-Interface components, but do not include data decoupling. Data decoupling modules are needed in addition therefore to separate communication signals and control supply voltage, see page 2/81 or 2/83.

The power supply units are resistant to overload and short circuits.

Dimensions

The 30 V power supply units have compact dimensions with widths of 50 and 70 mm. No distances from other devices need to be observed when mounting the power supply units.

Features

- Primary clocked power supply units for connection to a single-phase AC network
- Power for currents of 3 A, 4 A and 8 A
- The output voltage is floating, and resistant to short-circuits and no-load operation. If there is an overload, the output voltage is reduced or cut-off. After a short-circuit or overload, the devices start up again automatically.
- In the event of a device fault, the output voltage will be limited to max. 37 V.
- Modular installation devices in degree of protection IP20 and safety class I
- Diagnostics: With an output voltage > 26.5 V DC, the green LED (30V O.K.) is lit and the signaling contact 13-14 is closed.

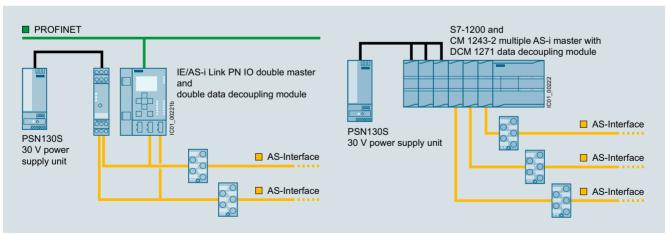
Benefits

- Low-cost alternative solution for supplying AS-Interface networks while making full use of the maximum possible cable length per AS-i segment
- · Cost advantage particularly for multiple networks
- · Compact, space-saving dimensions

- Reliable power supply even for large numbers of AS-Interface modules with a high power requirement
- Can be used world-wide thanks to, for example, UL/CSA approval (UL 508)

Application

Configuration examples of AS-Interface networks with a 30 V power supply unit



Configuration of AS-Interface multiple networks with one PSN130S 30 V power supply unit (examples with schematic representation): Left: Double network based on the S22.5 double data decoupling module and IE/AS-i Link PN IO double master Right: Triple network based on the SIMATIC S7-1200 with DCM 1271 data decoupling modules and CM 1243-2 communication processors

Power Supply Units and Data Decoupling Modules

30 V power supply units

Technical specifications

rechnical specifications					
Version		3 A	4 A	8 A	
Input data					
$ullet$ Input voltage, rated value $U_{ m e}$	V AC		/, single-ph selection	ase,	
 Range of input voltage 	V AC	85 132/	/174 264		
 Mains frequency 	Hz	50/60			
Power consumption at full load, typ.	W	103	139	270	
Output data					
$ullet$ Output voltage, rated value U_{a}	V DC	30			
Residual ripple	${\rm mV}_{\rm ss}$	< 150			
 Output current, rated value at -20 +60 °C 	Α	3	4	8	
 Max. output current at +60 +70 °C 	Α	3	3	4	
Degree of efficiency in rated condi	tions				
Degree of efficiency	%	87	88	90	
 Power loss, typ. 	W	12	17	25	
Protection and monitoring					
 Output overvoltage protection 	V	< 37			
Current limit, typ.	Α	4	5.5	11	
Safety					
Primary/secondary electrical isolation	Output voltage PELV/SELV according to IEC 60950 and EN 50178				
 Protection class 		I			
 Degree of protection 		IP20			

Version		3 A	4 A	8 A		
Approvals						
• UL		UL 508/	CSA 22.2			
 Pollution degree 		IEC 609	950			
 Overvoltage category and electrical separation 		EN 501	78 and IE	C 61558		
EMC						
• Emitted interference (class B)		IEC 610	000-6-3			
 Line harmonics limit 		IEC 610	000-3-2			
 Interference immunity 		IEC 610	IEC 61000-6-2			
Operating data						
Ambient temperature						
Operation	°C	-20 +	70			
Transport/storage	°C	-40 +	-40 +85			
Pollution degree		2				
Humidity class	Climate class according to DIN 50010, relative air humidity max. 100%, without condensation					
Dimensions and weight						
• Width	mm	50	50	70		
Height x depth	mm	125 x 1	26.5			
Weight	kg	0.4	0.4	0.7		

Selection and ordering data

	Version		SI	D	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
			d		Article No.	Price per PU			
	PSN130S 30 V (without AS-i	DC power supply unit lata decoupling)							
CO T THE REAL PROPERTY.	 Output voltag 								
PSN130.	 Dimensions: Width: 50 mm Height: 125 m Depth: 126.5 	(3 A/4 A); 70 mm (8 A); nm; mm							
-000	Output current	Input voltage							
3RX9511-0AA00	3 A	120/230 V AC (automatic selection)	2		3RX9511-0AA00		1	1 unit	42C
	4 A	120/230 V AC (automatic selection)	2		3RX9512-0AA00		1	1 unit	42C
PSN130S	8 A	120/230 V AC (automatic selection)	2		3RX9513-0AA00		1	1 unit	42C
3RX9512-0AA00									
3RX9513-0AA00									

More information

More information

For operating instructions and other technical information, see https://support.industry.siemens.com/cs/ww/en/view/64364000

AS-Interface Power Supply Units and Data Decoupling Modules

S22.5 data decoupling modules

Overview



AS-Interface S22.5 double data decoupling module: Screw terminal version (picture left), Spring-type terminal version (picture right)

With the aid of the S22.5 data decoupling module, the AS-Interface network can also be supplied with 24 V DC or 30 V DC from a standard power supply unit and the transmission of data and power can be realized along one cable.

The combination of data decoupling modules and standard power supply units is therefore a cost-efficient alternative to the service-proven AS-Interface power supply units.

The quality of the data signals and the reliable operation of the AS-i network are not negatively affected as the result.

Features of the S22.5 data decoupling unit

- Degree of protection IP20
- Narrow design: 22.5 mm wide
- Version with screw or spring-type terminals
- · Versions for single and double data decoupling
- Supply of several AS-i networks with a single power supply unit
- Operation with 24 V DC or 30 V DC, grounded or non-grounded
- Adjustable current limiting up to 2 x 4 A
- Integrated ground-fault detection with fault storage
- Diagnostics LEDs and signaling contacts
- RESET by button or remote RESET

Ground-fault detection

The integrated ground-fault detection works with a grounded and non-grounded supply: The connection of negative pole and ground (upstream from the data decoupling module) customary with 24 V DC power supplies is permitted. A ground fault to the negative or positive pole on the AS-Interface network (downstream from the data decoupling module) is detected and stored as a fault and will be signaled using LEDs and a relay contact.

Benefits

- Compatible expansion of the AS-Interface system
- An existing standard power supply unit with 24 V DC or 30 V DC can be used for supplying AS-i networks
- The AS-Interface system can also be used in tightly budgeted applications because no AS-Interface power supply unit needs to be purchased
- Applications benefit in addition from the advantages of a modern bus system:
 - High level of standardization
- Additional diagnostics and maintenance information
- Faster commissioning
- Easy and cost-efficient design of single and multiple networks is possible

Application

The AS-Interface data decoupling module is designed for AS-Interface networks with 30 V or 24 V supply (AS-i Power24V).

Operation of an AS-i network with the data decoupling module and a 30 V standard power supply unit is technically equivalent to the use of an AS-Interface power supply unit and offers the service-proven features of AS-Interface for all applications.

AS-Interface Power24V uses a 24 V power supply unit in conjunction with a data decoupling module and is particularly suitable for:

- Compact machines using AS-Interface input/output modules
- Applications in the control cabinet for AS-Interface integration of SIRIUS 3RT2 contactors using 3RA27 function modules

When using the double data decoupling module or other data decoupling units, several AS-Interface networks can be operated with a single power supply unit. This results in an additional cost advantage.

Note:

The power supply units must comply with the PELV (Protective Extra Low Voltage) or SELV (Safety Extra Low Voltage) standards, have a residual ripple of $<250~\mathrm{mV_{pp}},$ and in the event of a fault must limit the output voltage to a maximum of 40 V. We recommend SITOP power supplies (see page 15/1 onwards) or PSN130S 30 V power supplies (see page 2/79 onwards).

Note on AS-i Power24V:

The length of an AS-i Power24V network is restricted to 50 m in order to limit the voltage drop along the cable.

AS-i masters, AS-i slaves and the sensors and actuators supplied through the AS-i cable must be designed for the reduced voltage. Sensors and actuators for the standard voltage range of 10 to 30 V can be supplied with sufficient voltage.

Please also observe the requirements specified in "Extension of AS-i Power24V" for implementation of AS-i Power24V, see page 2/21.

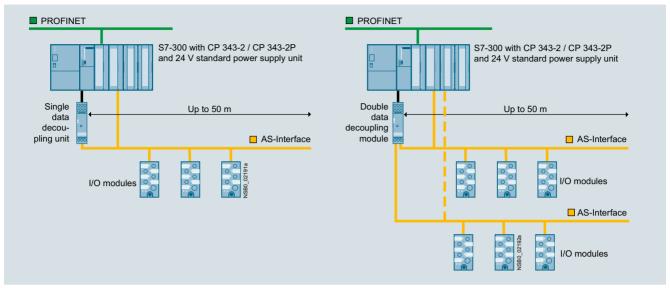
For more information on AS-i Power24V, see "AS-Interface System Manual",

https://support.industry.siemens.com/cs/ww/en/view/26250840.

Power Supply Units and Data Decoupling Modules

S22.5 data decoupling modules

Construction of an AS-i Power24V network with an AS-Interface S22.5 data decoupling module



Left: single network, right: Multiple network

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
1441	S22.5 data decoupling modules		Screw terminals	+			
900	With screw terminals, removable terminals, width 22.5 mm, height 101 mm, depth 115 mm						
	 Single data decoupling module, 1 x 4 A 	2	3RK1901-1DE12-1AA0		1	1 unit	42C
	Double data decoupling module, 2 x 4 A	2	3RK1901-1DE22-1AA0		1	1 unit	42C
3RK1901-1DE12-1AA0	000 5 1.1.1.1		0				
In on on	S22.5 data decoupling modules With spring-type terminals, removable terminals, width 22.5 mm, height 105 mm, depth 115 mm		Spring-type terminals				
Property and Prope	 Single data decoupling module, 1 x 4 A 	▶	3RK1901-1DG12-1AA0		1	1 unit	42C
A Taranta A Tara	Double data decoupling module, 2 x 4 A	•	3RK1901-1DG22-1AA0		1	1 unit	42C
3RK1901-1DG12-1AA0							

Power Supply Units and Data Decoupling Modules Data Decoupling Modules for S7-1200

DCM 1271 data decoupling module

Overview



DCM 1271 data decoupling module for SIMATIC S7-1200

With the aid of the DCM 1271 data decoupling module, the AS-Interface network can also be supplied with 24 V DC or 30 V DC from a standard power supply unit and the transmission of data and power can be realized along one cable.

The DCM 1271 data decoupling module has the same enclosure design as the S7-1200 module and is therefore ideal for combining with the CM 1243-2 AS-i master.

The DCM 1271 data decoupling module has no connection to the backplane bus of the SIMATIC S7-1200 and is not counted as a communication module when calculating the maximum configuration.

Features of the DCM 1271 data decoupling module

- Design: S7-1200, 30 mm wide, degree of protection IP20
- Detachable terminals (scope of supply)
- · Single data decoupling
- Supply of several AS-i networks with a single power supply unit
- Operation with 24 V DC or 30 V DC, grounded or non-grounded
- Current limiting at 4 A
- Integrated ground-fault detection
- Diagnostics LEDs for ground faults and overloads
- Signaling contacts for ground-fault detection

Ground-fault detection

The integrated ground-fault detection works with a grounded and non-grounded supply: The connection of negative pole and ground (upstream from the data decoupling module) customary with 24 V DC power supplies is permitted. A ground fault to the negative or positive pole on the AS-Interface network (behind the data decoupling module) is identified and signaled via LED and a transistor output.

Benefits

- An existing standard power supply unit with 24 V DC or 30 V DC can be used for supplying AS-i networks
- The AS-Interface system can also be used in tightly budgeted applications because no AS-Interface power supply unit needs to be purchased
- Applications benefit in addition from the advantages of a modern bus system:
 - High level of standardization
- Additional diagnostics and maintenance information
- Faster commissioning

Application

The AS-Interface data decoupling module is designed for AS-Interface networks with 30 V or 24 V supply (AS-i Power24V).

Operation of an AS-i network with the data decoupling module and a 30 V standard power supply unit is technically equivalent to the use of an AS-Interface power supply unit and offers the service-proven features of AS-Interface for all applications.

AS-i Power24V uses a 24 V power supply unit in conjunction with a data decoupling module and is particularly suitable for

- Compact machines using AS-Interface input/output modules
- Applications in the control cabinet for AS-Interface integration of SIRIUS 3RT2 contactors using 3RA27 function modules

Note:

The power supply units must comply with the PELV (Protective Extra Low Voltage) or SELV (Safety Extra Low Voltage) standards, have a residual ripple of < 250 mV_{pp}, and in the event of a fault must limit the output voltage to a maximum of 40 V. We recommend SITOP power supplies (see page 15/1 onwards) or PSN130S 30 V power supplies (see page 2/79 onwards).

Note on AS-i Power24V:

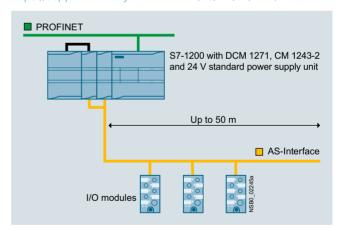
The length of an AS-i Power24V network is restricted to 50 m in order to limit the voltage drop along the cable.

AS-i masters, AS-i slaves and the sensors and actuators supplied through the AS-i cable must be designed for the reduced voltage. Sensors and actuators for the standard voltage range of 10 to 30 V can be supplied with sufficient voltage.

Please also observe the requirements specified in "Extension of AS-i Power24V" for implementation of AS-i Power24V, see page 2/21.

For more information on AS-i Power24V, see "AS-Interface System Manual",

https://support.industry.siemens.com/cs/ww/en/view/26250840.



Configuration of an AS-i Power24V network with DCM 1271 AS-Interface data decoupling unit

Power Supply Units and Data Decoupling Modules Data Decoupling Modules for S7-1200

DCM 1271 data decoupling module

Selection and ordering data

	Version	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		d	Article No.	Price per PU			
	DCM 1271 data decoupling module	2	3RK7271-1AA30-0AA0		1	1 unit	42C
	 With screw terminals, removable terminals (included in the scope of supply) 						
	• Dimensions (W × H × D/mm): 30 × 100 × 75						
3RK7271-1AA30-0AA0							

Accessories

	Version	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		d	Article No.	Price per PU			
,	Screw terminals (replacement)						
	 5-pole for AS-i master CM 1243-2 and AS-i DCM 1271 data decoupling module 	5	3RK1901-3MA00		1	1 unit	42C
	3-pole For AS-i DCM 1271 data decoupling module for connecting the power supply unit	5	3RK1901-3MB00		1	1 unit	42C
FFFF .	CM 1243-2 communication module	2	3RK7243-2AA30-0XB0		1	1 unit	42C
	 AS-Interface masters for SIMATIC S7-1200 						
	 Corresponds to AS-Interface specification V3.0 						
E German	With screw terminals, removable terminals (included in the scope of supply)						
	• Dimensions (W \times H \times D/mm): 30 \times 100 \times 75						
	see also from page 2/32 onwards						
3RK7243-2AA30-0XB0							

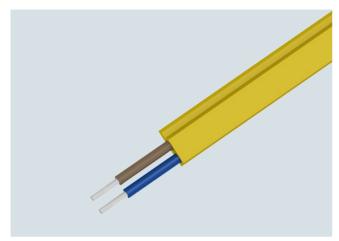
More information

 	_
	mation

More information on AS-i Power24V, see System Manual "AS-Interface", https://support.industry.siemens.com/cs/ww/en/view/26250840

Manual for AS-i master CM 1234-2 and AS-i DCM 1271 data decoupling module, see https://support.industry.siemens.com/cs/ww/en/view/57358958

Overview



AS-Interface shaped cable

The actuator-sensor interface – the networking system used for the lowest field area – is characterized by very easy mounting and installation. A new connection method was developed specially for AS-Interface.

The stations are connected using the AS-Interface cable. This two-wire AS-Interface shaped cable has a trapezoidal shape, thus ruling out polarity reversal.

Connection is effected by the insulation piercing method. In other words, male contacts pierce the shaped AS-Interface cable and make reliable contact with the two wires. Cutting to length and stripping are superfluous. Consequently, AS-Interface stations (e.g. I/O modules, intelligent devices) can be connected in the shortest possible time and exchanging devices is quick.

To enable use in the most varied ambient conditions (e.g. in an oily environment), the AS-Interface cable is available in different materials (rubber, TPE, PUR).

For special applications it is also possible to use an unshielded standard round cable H05VV-F 2 x 1.5 mm² according to AS-i specification. With AS-Interface, data and energy for the sensors (e.g. proximity switches) and actuators (e.g. indicator lights) are transmitted over the yellow AS-Interface cable.

The black AS-Interface cable must be used for actuators with a 24 V DC supply (e.g. solenoid valves) and a high power requirement.

Suitable for operation in tow chains

The use of the AS-Interface shaped cables with TPE and PUR outer sheath was checked in a tow chain test with the following conditions:

Chain length	m	6
Travel	m	10
Bending radius	mm	75
Travel speed	m/s	4
Acceleration	m/s ²	4
Number of cycles		10 million
Duration of test		approx. 3 years (11 000 cycles per day)

After termination of the 10 million cycles only slight wear was visible due to the lugs of the tow chain. No damage to the cores and core insulation could be detected.

Note:

When using a tow chain, the cables must be installed in such a way that they are not subject to tensile forces. On no account may the cables be twisted, but they must be routed flat through the tow chain.

Price

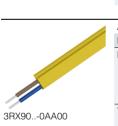
(UNIT,

per PU

PS*

PG

Selection and ordering data



					port	SET, M)		
				d				
AS	-Interface shap	ed cables						
Ма	iterial	Color	Quantity					
Rul	bber	Yellow (AS-Interface)	100 m roll	2	3RX9010-0AA00	1	1 unit	42C
		Yellow (AS-Interface)	1 km drum	5	3RX9012-0AA00	1	1 unit	42C
		Black (24 V DC)	100 m roll	2	3RX9020-0AA00	1	1 unit	42C
		Black (24 V DC)	1 km drum	5	3RX9022-0AA00	1	1 unit	42C
TPI	E	Yellow (AS-Interface)	100 m roll	2	3RX9013-0AA00	1	1 unit	42C
		Yellow (AS-Interface)	1 km drum	5	3RX9014-0AA00	1	1 unit	42C
		Black (24 V DC)	100 m roll	2	3RX9023-0AA00	1	1 unit	42C
		Black (24 V DC)	1 km drum	5	3RX9024-0AA00	1	1 unit	42C
	E special	Yellow (AS-Interface)	100 m roll	5	3RX9017-0AA00	1	1 unit	42C
	rsion according UL Class 2	Black (24 V DC)	100 m roll	5	3RX9027-0AA00	1	1 unit	42C
PU	R	Yellow (AS-Interface)	100 m roll	2	3RX9015-0AA00	1	1 unit	42C
		Yellow (AS-Interface)	1 km drum	5	3RX9016-0AA00	1	1 unit	42C
		Black (24 V DC)	100 m roll	2	3RX9025-0AA00	1	1 unit	42C
		Black (24 V DC)	1 km drum	5	3RX9026-0AA00	1	1 unit	42C

Article No.

System Components and Accessories

Repeaters

Overview



AS-Interface repeater

The AS-Interface repeater is used to extend the AS-Interface cable.

- In its basic version, an AS-i network comprises one segment with a maximum cable length of 100 m. An extension plug (see page 2/87) can be used to increase the cable length for a segment to a maximum of 200 m.
- If this is insufficient, however, you can use one or more repeaters
- A repeater adds an extra segment to an existing segment.
 The extra segment can have a cable length of up to 100 m
 (without extension plug) or up to 200 m (with an extension plug
 in the extra segment)
- Each segment requires a separate AS-i power supply unit
- Electrical separation of the two AS-Interface shaped cable
 lines.
- Slaves can be used on both sides of the repeater
- The additional power supply can increase the current infeed for slaves/sensors and lower the voltage drop on the AS-i cable
- Separate display of the correct AS-Interface voltage for each segment
- Installed in K45 module enclosure IP67 with mounting plate
- · Easy mounting

Benefits

- More possibilities of use and greater freedom for plant planning through extension of the AS-Interface network
- Reduced downtime and servicing times in the event of a fault thanks to separate display of the correct AS-Interface voltage for each side

Design of an AS-Interface network with repeaters

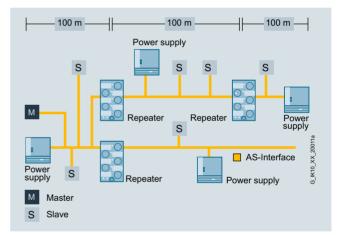
- Parallel switching of several repeaters possible (star configuration)
- Combination of series and parallel switching possible

The following conditions apply:

- When used without an extension plug no more than two repeaters are permitted between AS-i master and slave (repeaters connected in series)
- When used with an extension plug no more than one repeater is permitted between AS-i master and slave

In safety-related applications the following also applies:

- When used without an extension plug, no more than two repeaters are permitted between evaluation unit (e.g. MSS ASIsafe Modular Safety System, F-CM AS-i Safety ST for ET 200SP) and ASIsafe input slave or safe output module.
- When used with an extension plug, no more than one repeater is permitted between the evaluation unit (e.g. MSS ASIsafe Modular Safety System, F-CM AS-i Safety ST for ET 200SP) and ASIsafe input slave or safe output module.



Design of an example AS-Interface network with repeaters (without extension plug)

Note:

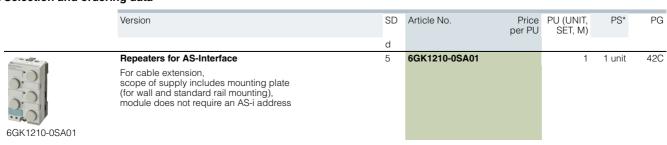
The AS-Interface repeater is not suitable for AS-i Power24V networks. It is recommended for use in AS-Interface networks with AS-Interface power supply units (e.g. 3RX9501-0BA00).

Application

The repeater is used to extend the AS-Interface network. In this case there are AS-Interface slaves and one AS-Interface power supply unit on each side of the repeater.

In the case of a line topology with two repeaters and three extension plugs, the maximum possible size of the AS-Interface network is 600 m, see example configuration with extension plug on page 2/87.

Selection and ordering data



AS-InterfaceSystem Components and Accessories

Extension plugs

Overview



AS-Interface extension plug compact

With the extension plug it is possible to double the cable length possible in an AS-Interface segment from 100 to 200 m.

Only one power supply unit is needed to supply power to the slaves on the up to 200 m long segment.

The extension plug compact can be installed directly onto an AS-i shaped cable. A separate M12 feeder, as was required for earlier extension plug versions, is no longer required with extension plug compact.

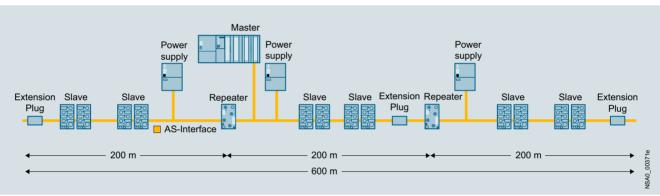
Design of an AS-Interface segment with an extension plug

To construct an AS-Interface segment with a cable length of more than 100 m and up to a maximum of 200 m, the extension plug is installed in a radius of around \pm 10 m at the point of the network that is furthest from the power supply unit. The extension plug is not allowed to be used in AS-Interface networks smaller than 100 m. As with all AS-Interface networks, any network structure (line, tree, star) is possible when using the extension plug. Only one extension plug is required per 200 m segment even with a tree or star structure.

Note:

The AS-i bus cable must not terminate in the extension plug compact. The AS-Interface shaped cable can be terminated by means of a cable terminating piece to provide degree of protection IP67 where required, see "Miscellaneous accessories" on page 2/95.

The AS-Interface extension plug is not suitable for AS-i Power24V networks.



Maximum network size with repeaters and extension plug (master at center of network)

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
SIE	AS-Interface Extension Plug Compact	2	3RK1901-1MX02		1	1 unit	42C
TO S	Doubling of the cable length to 200 m per AS-Interface segment						
7-	 With direct connection to AS-Interface shaped cable 						
	 Module does not require an AS-i address 						
3RK1901-1MX02							

Accessories

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					
Cable terminating piece		3RK1901-1MN00		1	10 units	42C
For sealing of open cable ends (shaped AS-Interface cable) in IP67						
	Cable terminating piece	Cable terminating piece	Cable terminating piece 3RK1901-1MN00	d Cable terminating piece Description of the per PU d Description of t	per PU (UNIT, SET, M) d	per PU (UNIT, SET, M) d Cable terminating piece ■ 3RK1901-1MN00 1 10 units

System Components and Accessories

Addressing units

Overview



The innovated addressing unit for AS-Interface of the AS-i specification V3.0

The addressing unit is used to assign an address during commissioning to each AS-Interface slave. The device detects a connected slave module or a complete AS-i network and displays the found module in the LCD display. Each address can be individually set using the Up/Down keys. By turning the rotary switch, further commissioning functions are selected intuitively. The innovative device has been adapted to the current AS-i specification V3.0 and can now also handle the I/O data of the latest slaves.

Functionality

- Reading out and adjusting the slave address 0 to 31 or 1A to 31A, 1B to 31B, with automatic addressing aid and prevention of double addresses
- Reading out the slave profile (IO, ID, ID2)
- Reading out and adjusting the ID1 code
- Input/output test when commissioning the slaves: Read input signals and write outputs with all digital and analog slaves according to AS-Interface specification V3.0, including safe input slaves and complex CTT2 slaves
- Measuring the voltage on the AS-Interface cable (measuring range from 2 to 35 V)
- Display of the operational current in case of direct connection of an AS-i slave (measuring range from 0 to 150 mA)
- Storage of complete network configurations (profiles of all slaves) to simplify the addressing
- Adjusting the slave parameters for commissioning
- Reading out the identification and diagnostics of CTT2 slaves
- Reading out the code table of safe input slaves (ASIsafe)

Note:

For operation of the addressing unit on an AS-Interface cable with connected power supply unit, the following applies: The AS-Interface addressing unit is suitable for standard AS-i networks and AS-i Power24V networks (min. operational voltage on the AS-Interface cable 19 V).

Benefits

- Increased power supply to the slaves to 150 mA
- Better utilization of the battery capacity thanks to improved circuitry
- Support for the current AS-i specification V3.0
- Expanded display for simultaneously displaying input and output states
- Clearly recognizable display of status of digital inputs/outputs in binary format (0/1), optionally also available as hexadecimal values
- Intuitive display of analog data either as decimal, hexadecimal or as a percentage (e.g. 100% corresponds to input/output value 20 mA)
- I/O data of complex slaves (CTT2 profile) can be displayed
- Decoded display of the input data of safe input slaves, including code table
- Simplification of the operating steps when setting the slave address with automatic read back of the set address
- Addressing cable, ready for operation even without screwing in tight into the M12 socket, thus faster availability of the addressing unit
- Proven compact housing with smooth keys and rotary switch
- Connection of standard AS-i networks possible with 30 V as well as Power24V networks
- Complex slaves with high operating currents can be addressed without external supply
- Longer operating time by automatic shutdown after approx.
 5 minutes (or approx. 1 minute when data exchange is active) after last operation
- Can be used with all types of digital and analog slaves
- Comprehensive and fast input/output test of plants, even for A/B slaves with 4 DI / 4 DQ and current analog modules with an A/B address
- Faster and more reliable commissioning of the AS-Interface modules
- One-hand operation possible, with unique selection of the functions
- Connection via M12 socket (pin 1: ASI+; Pin 3: ASI-; pins 2, 4, 5: not used)
- Universal applicability for all AS-i networks

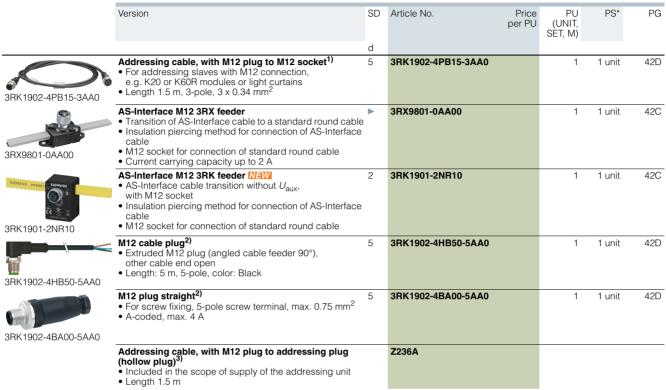
Selection and ordering data

oolootion and o	- ao ing data						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
3RK1904-2AB02	AS-Interface addressing unit V3.0 For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 for setting the AS-i address of slaves with standard addresses, and slaves with extended addressing mode (A/B slaves) With input/output test function and many other commissioning functions Battery operation with four type AA batteries (IEC LR6, NEDA 15) Degree of protection IP40 Dimensions (W x H x D) mm: 84 x 195 x 35 Scope of supply: Addressing unit with 4 batteries Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m	2	3RK1904-2AB02		1	1 unit	42C

AS-Interface System Components and Accessories

Addressing units

Accessories



¹⁾ Not included in scope of supply of the 3RK1904-2AB02 addressing unit.

- Pin 2, 4, 5 not connected.
- 3) Can only be ordered from GMC-I Messtechnik GmbH, see "External partners", page 16/16.

²⁾ For connecting the addressing unit to an AS-i network via AS-Interface M12 feeder, a connecting cable (M12 plug to M12 plug) must be produced and requires the following wiring:

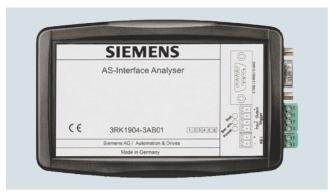
- M12 cable plug: Pin 1 / core brown ↔ M12 plug: Pin 1

- M12 cable plug: Pin 3 / core blue ↔ M12 plug: Pin 3

System Components and Accessories

Analyzer

Overview



AS-Interface analyzer

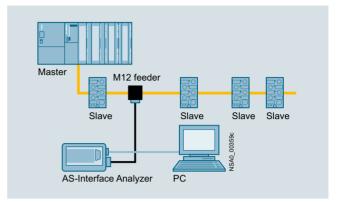
The AS-Interface analyzer is used to test AS-Interface networks.

Installation errors, e.g. loose contacts or EMC interference under extreme loads, can be revealed by this device.

Thanks to the easy-to-use software the user can assess the quality of complete networks even if he lacks detailed specialist knowledge of AS-Interface. In addition it is an easy matter with the AS-Interface analyzer to create test logs from the records produced, thus providing documentation for startups and service assignments.

For advanced AS-Interface users there are trigger functions for detailed diagnostics.

Connection



Connection of AS-Interface analyzer to PC and AS-Interface network

The AS-Interface analyzer follows the communication on the AS-Interface network as a passive station. The unit is supplied simultaneously from the AS-Interface cable.

This analyzer interprets the physical signals on the AS-Interface network and records the communication.

The data thus obtained is transferred through an RS 232 interface to a PC such as a notebook, for evaluation with the supplied diagnostics software.

Benefits

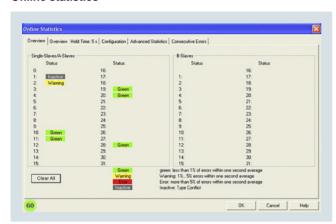
- Simple and user-friendly operation enables diagnostics of AS-Interface networks without help from specialists
- Speedy troubleshooting thanks to intuitive display in statistics mode
- Test logs provide verification of the state and quality of the installation for service and approval
- Recorded logs facilitate remote diagnostics by technical support
- Comprehensive trigger functions enable exact analysis
- Process data can be monitored online

AS-Interface System Components and Accessories

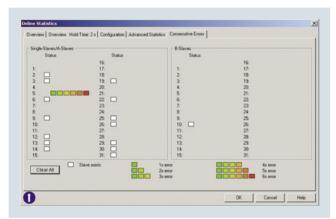
Analyzer

Application

Online statistics



Online statistics, overview



Online statistics, details, e.g. here a fault on slave 5

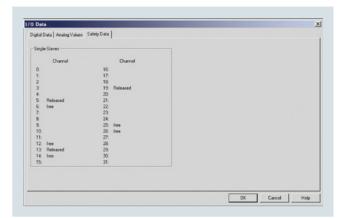
This mode provides a quick overview of the existing AS-Interface system. The error rates are displayed per slave in a traffic-light function (green, yellow, red).

The bus configuration and the currently transmitted data of the slaves are shown in a well arranged presentation.

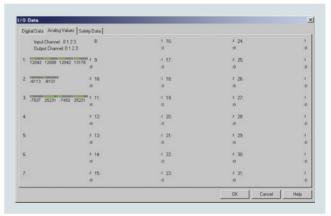
With the expanded statistics function, it is possible to determine the error rates as the number of transmitted or faulty bus message frames.

The bundle error overview shows in steps how many multiple repetitions of message frames occurred in order to enable a selective and look-ahead assessment of the transmission quality.

Data mode



Presentation of the I/O data: Safety data



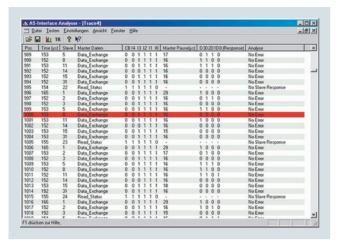
Presentation of the I/O data: Analog values

In this mode, the analyzer shows not only the digital input/output values but also the current analog values and the input status of the safety slaves.

System Components and Accessories

Analyzer

Trace mode



Presentation of message frames in trace mode

The presentation of message frames in the style of a classic fieldbus analyzer is indispensable for complex troubleshooting. Extensive trigger functions and recording and viewing filters are available for this purpose. An external trigger input and trigger output round off the scope of functions in order to find even the most difficult errors.

For troubleshooting in connection with ASIsafe applications, changes of status in the code tables of safety slaves are identified and assessed.

The AS-i analyzer can be used with an AS-i master in accordance with AS-Interface specification V3.0 or a predecessor version.

The analyzer does not automatically decode the process values for type CTT2 - CTT5 AS-i slaves. As for other slave types, the message frames are recorded and evaluated in the statistics. If required, decoding can also be performed by the user manually.

More information, see

https://support.industry.siemens.com/cs/ww/en/view/109746763.

Test log



Example of a test log

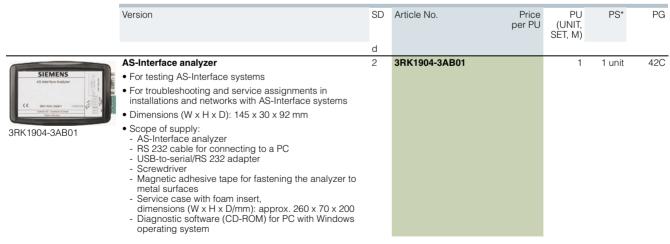
The recorded data of the online statistics are easy to output and document using a test log. Verification of the state of the plant can thus be provided for approvals or service assignments.

The integrated measurement assistant records the bus signals for a variable duration, thereby triggering creation of an automatic test log. A standardized quality test of AS-i plants is thus possible.

Note:

The AS-Interface analyzer is suitable for standard AS-i networks and AS-i Power24V networks (min. operating voltage 20 V).

Selection and ordering data



AS-Interface System Components and Accessories

Analyzer

Accessories						
	Version	SD	Article No. Pric		PS*	PG
		d				
	AS-Interface M12 3RX feeder	>	3RX9801-0AA00	1	1 unit	42C
3RX9801-0AA00	 Transition of shaped AS-Interface cable to a standard round cable 					
	Insulation piercing method for connection of AS-Interface cable					
	M12 socket for connection of standard round cable					
	 Current carrying capacity up to 2 A 					
	Degree of protection IP67					
Olivan	AS-Interface M12 3RK feeder NEW	2	3RK1901-2NR10	1	1 unit	42C
SIEMENS SPECIOT	 AS-Interface cable transition without U_{aux}, with M12 socket 					
3RK1901-2NR10	Insulation piercing method for connection of AS-Interface cable					
OTHER SOFT ZINTED	M12 socket for connection of standard round cable					
	• Max. 4 A					
	 Degree of protection IP67/IP68/IP69K 					
	M12 cable plugs	5	3RK1902-4HB50-5AA0	1	1 unit	42D
Total Control of the	PUR cable, 5-pole					
	• Length 5 m					
3RK1902-4HB50-5AA0	Color black					
	 Extruded M12 plug (angled cable feeder 90°), other cable end open 					

System Components and Accessories

Miscellaneous accessories

Se	lection	and	ordering	ı data

Selection and order	ng data									
	Version				SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
SIEMENS		ace compact distribu terface flat cable <i>NEV</i>			2	3RK1901-2NN10		1	1 unit	42C
O A THE STATE OF		carrying capacity up to								
3RK1901-2NN10	Degree	of protection IP67/IP68	3/IP69K							
311(1901-2111110	AS-Interfa	ace M12 3RX feeder								
		of protection IP67								
	0	carrying capacity up to	o 2 A							
3RX9801-0AA00	For flat cable	For	Cable length	Cable end in feeder						
	AS-i	M12 socket		Available		3RX9801-0AA00		1	1 unit	42C
SIEMENS SHOODS SIEMENS	AS-Interfa	ace M12 3RK feeder [VEW							
STEMENS STEMENS		of protection IP67/IP68								
	 Current 	carrying capacity up to	o 4 A							
3RK1901-2NR10	For flat cable	For	Cable length	Cable end in feeder						
Part 1	AS-i	M12 socket		Not available	2	3RK1901-2NR10		1	1 unit	42C
EDEC MORT-GRO	AS-i	M12 cable box	1 m	Not available	2	3RK1901-2NR11		1	1 unit	42C
(1) (1)	AS-i	M12 cable box	2 m	Not available	2	3RK1901-2NR12		1	1 unit	42C
	$AS\text{-}i/U_{aux}$	M12 socket		Not available	2	3RK1901-2NR20		1	1 unit	42C
	$AS\text{-}i/U_{aux}$		1 m	Not available	2	3RK1901-2NR21		1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	2 m	Not available	2	3RK1901-2NR22		1	1 unit	42C
3RK1901-2NR21										
	AS-Interfa	ace M12 feeders, 4-fo	ld							
	• Degree	of protection IP67								
1	 Current 	carrying capacity up t	o 4 A							
(a)	For flat cable	For	Cable length	Cable end in feeder						
3RK1901-1NR04	AS-i/U _{aux}	4-fold M12 socket, delivery includes mounting plate (for wall and stand- ard rail mounting)		Not available	2	3RK1901-1NR04		1	1 unit	42C
	M12 Y-sh	aped coupler plugs			1	6ES7194-1KA01-0XA0		1	1 unit	250
	For conne Y-assignm	ection of two sensors to ent	one M12	socket with						
6ES7194-1KA01-0XA0										

AS-Interface System Components and Accessories

Miscellaneous accessories

	Version	SD	Article No. Price	e PU	PS*	PG
			per Pl			
				SET, M)		
	AS-Interface sealing caps	d		_		
	For free M12 sockets					
	• M12	>	3RK1901-1KA00	100	10 units	42C
	- Tamper proof	2	3RK1901-1KA01	100	10 units	42C
3RK1901-1KA00	• M 8	2	3RK1901-1RA01	100	10 units	42C 42C
	• IVI O	_	3HK1901-1FN00	100	10 urills	420
3RK1901-1KA01						
3hk 1901-1kA01						
3RK1901-1PN00						
	AS-Interface M20 seals	2	3RK1901-1MD00	100	10 units	42C
	For AS-Interface cable, shaped					
4.9	For insertion in M20 glands					
3RK1901-1MD00						
	Cable adapters for flat cables					
	Connection of AS-Interface cable to metric gland with insulation piercing method					
	Continuation using standard cable					
	- For M16 gland	5	3RK1901-3QM00	1	1 unit	42C
	- For M20 gland	5	3RK1901-3QM10	1	1 unit	42C
	Continuation using pins	J	omerson odmio	· '	1 dilit	420
3RK1901-3QM00	- For M16 gland	10	3RK1901-3QM01	1	1 unit	42C
	- For M20 gland	5	3RK1901-3QM11	1	1 unit	42C
4	Cable clips for cable adapters	5	3RK1901-3QA00		10 units	42C
Os A	casis clips to: casis adaptors	Ü		100	10 011110	.20
3RK1901-3QA00						
	Cable terminating piece	>	3RK1901-1MN00	1	10 units	42C
	For sealing of open cable ends					
04400	(shaped AS-Interface cable) in IP67					
MENS 3RX9010-0AA00						
3RK1901-1MN00						
	Mounting plates					
	• K45					
	- For wall mounting	>	3RK1901-2EA00	1	1 unit	42C
100 100 100	- For standard rail mounting	•	3RK1901-2DA00	1	1 unit	42C
-	K60, suitable for all K60 compact modules					
= =	- For wall mounting	•	3RK1901-0CA00	1	1 unit	42C
-	- For standard rail mounting	>	3RK1901-0CB01	1	1 unit	42C
• • •	· ·					
3RK1901-2EA00						
SIEMENS						
Memographics and the SCARE						
4.5						
To 💩 😽						
The state of the s						
3PK1001.0C400						
3RK1901-0CA00						

System Components and Accessories

Miscellaneous accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			OL I, IVI)		
	Sealing sets	2	3RK1902-0AR00		100	5 units	42D
	For K60 mounting plate and standard distributor						
	Cannot be used for K45 mounting plate						
3RK1902-0AR00	One set contains one straight and one shaped seal						
3HN 1902-0AH00	Inscription labels	15	3RT1900-1SB50		100	380	41B
	• For K45 and K60 compact modules	10	31111900-13030		100	units	410
	• 20 x 9 mm, pastel turquoise						
	• 19 frames with 20 labels each						
							
	Control cable, assembled at one end Angular M12 plug for screw fixing, 4-pole, 4 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A						
3RK1902-4GB50-4AA0	Cable length 5 m	5	3RK1902-4GB50-4AA0		1	1 unit	42D
	M12 socket, angled	5	3RK1902-4CA00-4AA0		1	1 unit	42D
	For screw mounting, 4-pole screw terminals,						
	max. 0.75 mm ² ,						
	A-coded, max. 4 A						
001/1000 10100 1110							
3RK1902-4CA00-4AA0	- Maria						
	M12 plug						
	For screw mounting, 5-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A						
3RK1902-4BA00-5AA0	• Straight	5	3RK1902-4BA00-5AA0		1	1 unit	42D
	• Angled	5	3RK1902-4DA00-5AA0		1	1 unit	42D
	- , wigica	Ü	STIRTING TANK		'	Tanit	420
3RK1902-4DA00-5AA0							
	Control cable, assembled at one end						
T	Angular M12 plug for screw fixing, 5-pole, 5 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A						
3RK1902-4H5AA0	Cable length 1.5 m	5	3RK1902-4HB15-5AA0		1	1 unit	42D
	Cable length 5 m	5	3RK1902-4HB50-5AA0		1	1 unit	42D
	Cable length 10 m	5	3RK1902-4HC01-5AA0		1	1 unit	42D
	Control cable, assembled at both ends	5	3RK1902-4PB15-3AA0		1	1 unit	42D
3RK1902-4PB15-3AA0	Straight M12 plug, straight M12 socket, for screw fixing, 3-pole, $3 \times 0.34 \text{ mm}^2$, A-coded, black PUR sheath, max. 4 A						
	Cable length 1.5 m						
	 Also for addressing AS-i slaves with M12 bus connection (e.g. K20, K60R compact modules, M200D motor starters) 						

More information

More information

System Manual "AS-Interface", see https://support.industry.siemens.com/cs/ww/en/view/26250840

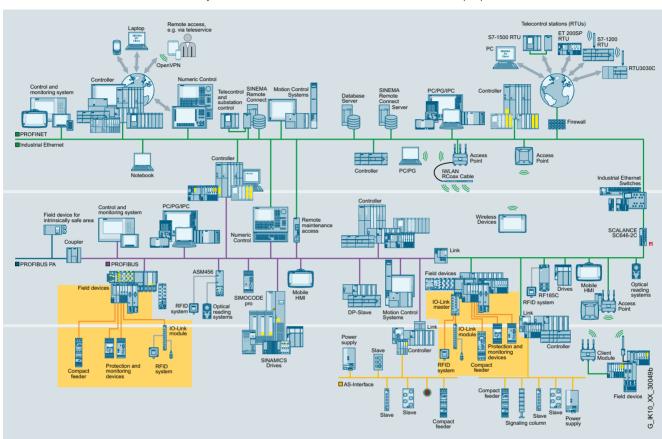
IO-Link Introduction

Communication overview

Overview

IO-Link is an open communication standard for sensors and actuators – defined by the PROFIBUS User Organization (PNO). IO-Link technology is based on the point-to-point connection of sensors and actuators to the control system.

Parameter and diagnostics data are transmitted in addition to the cyclic operating data for the connected sensors/actuators. The simple, unshielded three-wire cable customary for standard sensors is used for this purpose.



IO-Link in the SIMATIC NET communications landscape

Benefits

Engineering

- Standardized, open system for greater flexibility (non-Siemens IO-Link devices can be integrated in engineering)
- Uniform, transparent configuring and programming through integrated engineering (SIMATIC STEP 7)
- Unassigned SIMATIC function blocks for easy parameterization, diagnostics and read-out of measured values
- Efficient engineering thanks to pre-integration into SIMATIC HMI
- Low error rate in CAD circuit diagram design as a result of reduced control current wiring

Installation and commissioning

- Faster assembly with minimized error rate as a result of reduced control current wiring
- Less space required in the control cabinet
- Low-cost circuitry where there are several feeders by making full use of existing components

Operation and maintenance

- High transparency in the system right down to field level and integration into power management systems
- Reduction in downtimes and maintenance times thanks to system-wide diagnostics and faster fault correction
- Support of predictive maintenance
- Shorter changeover times, even for field devices, by means of parameter and recipe management

Application

IO-Link can be used in the following main applications:

- Easy connection of complex IO-Link sensors/actuators with a large number of parameters and diagnostic data to the control system
- Replacement of sensor boxes for connecting binary sensors with the IO-Link input modules optimized in terms of cabling
- Optimized cable connection of switching devices to the control system
- Simple transmission of energy values from the device to the control system for integration into a user program or power management

In these cases, all the diagnostics data is transmitted to the higher-level control system through IO-Link. The parameter settings can be changed during operation.

Integration in STEP 7

Integration of the device configuration in the STEP 7 environment guarantees:

- Quick and easy engineering
- Consistent data storage
- Quick localization and rectification of faults

IO-Link Introduction

System components

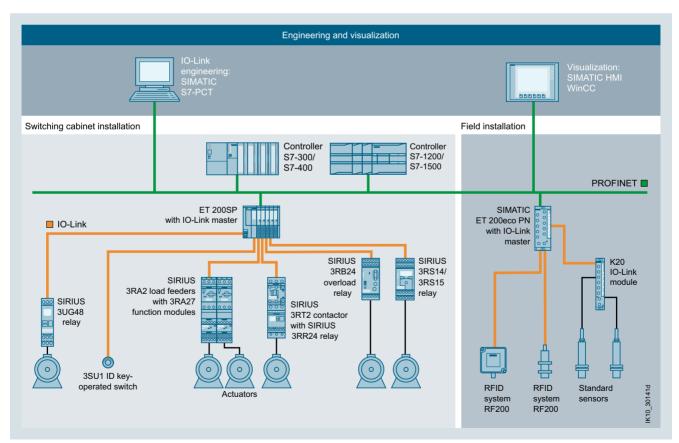
Overview

More information Homepage, see www.siemens.com/io-link For important topics at a glance, see https://support.industry.siemens.com/cs/ww/en/view/109737170

IO-Link product family

To implement communication, a system installation has the following main components:

- An IO-Link master
- One or more IO-Link devices, such as sensors (e.g. RFID systems), actuators or combinations thereof
- A standard 3-wire sensor/actuator cable



Example of a configuration with the system components

IO-Link compatibility

IO-Link ensures compatibility between IO-Link-capable modules and standard modules as follows:

- IO-Link sensors can generally be operated both on IO-Link modules (masters) and standard input modules.
- IO-Link sensors/actuators as well as today's standard sensors/actuators can be used on IO-Link masters.
- If conventional components are used in the IO-Link system, then of course only the standard functions are available at this point.

Analog signals

Another advantage of IO-Link technology is that analog signals are already digitized in the IO-Link sensor itself and are digitally transmitted via IO-Link communication. As the result, faults are prevented and there is no extra cost for cable shielding.

Enhancement with IO-Link input modules

IO-Link compatibility also permits connection of standard sensors/actuators, i.e. conventional sensors/actuators can also be connected to IO-Link. This is particularly cost-effective with the IO-Link input modules, which allow several sensors to be connected at one time via a cable to the controller.

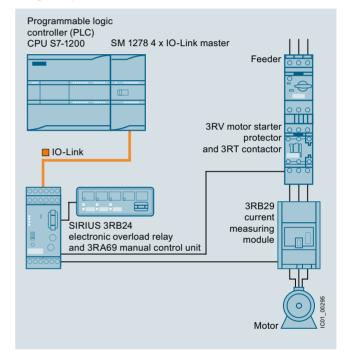
Overload relays

A starter combination, for example, consists of one or more SIRIUS 3RT contactors and one 3RB24 electronic overload relay for IO-Link plus its 3RB29 current measuring module.

3RB24 overload relays with IO-Link are basically designed to provide current-dependent protection for loads against inadmissibly high temperature rises due to overload, phase asymmetry or phase failure.

Direct-on-line starters can, therefore, as shown in the image, be connected to the control system via IO-Link without much wiring. Remote control of connected contactors, current value transmission and immediate remote fault diagnosis are just some examples of the large number of functions that can be implemented with this device.

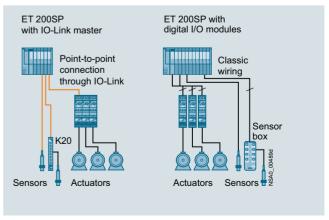
It is also possible to directly address a drive on-site via IO-Link using the optional hand-held device.



Connection of an IO-Link-capable overload relay to a SIMATIC S7-1200 controller

Load feeders and motor starters

Through IO-Link it is possible to control not only sensors but also actuators in the form of load feeders and motor starters.



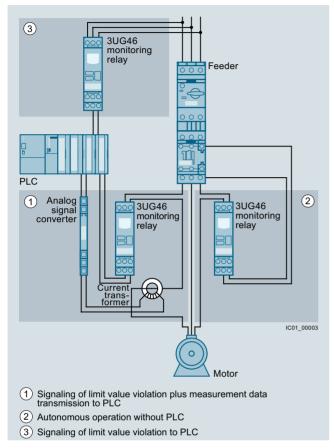
Possibilities for connecting load feeders and motor starters to IO-Link or in the conventional way

IO-Link Introduction

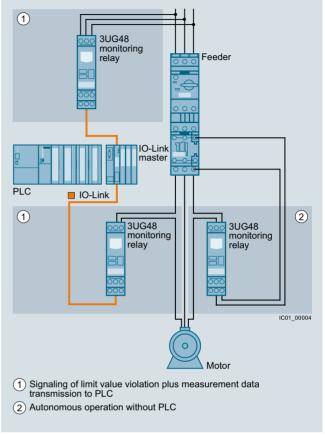
System components

Monitoring relays

By using monitoring relays with IO-Link it is now possible to send data that has already been recorded and evaluated in the devices directly to the controller. This avoids the use of duplicated sensors.



Possibilities for interfacing conventional 3UG46 monitoring relays (in comparison with 3UG48)

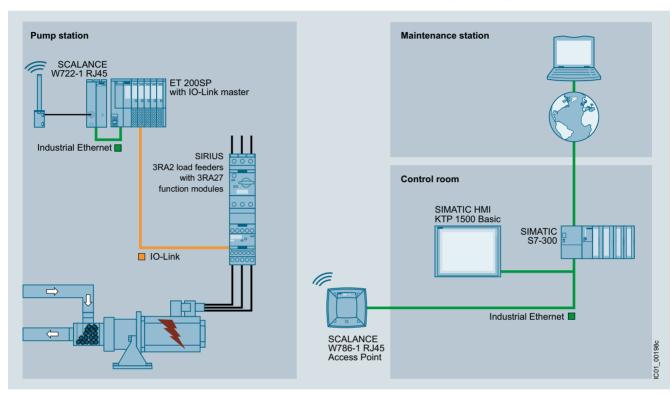


Possibilities of interfacing 3UG48 monitoring relays for IO-Link

Wireless communication

Using an upstream IWLAN client module, such as SCALANCE W722-1 RJ45, allows IO-Link to be integrated into the PROFINET world via a distributed I/O. Possible uses include acting as an alternative to fault-prone cable carrier or collector wire technology.

The individual diagnostics options offered by the various IO-Link devices provide greater transparency for the production process. Just like the parameter data for a device, these diagnostics data can be evaluated remotely using the possibilities offered by SIMATIC. This supports remote maintenance down to the lowest level in the field.



Wireless communication between Industrial Ethernet and IO-Link components

IO-Link components

IO-Link masters



for S7-1200

SM 1278 4xIO-Link

IO-Link master module for S7-1200

• SM 1278 4xIO-Link signal module, see from page 2/104 onwards

IO-Link master module for ET 200SP

• CM 4xIO-Link communication module, see from page 2/105 onwards

IO-Link master module for ET 200pro

• 4 IO-Link HF electronic module, see page 2/108 IO-Link master module for ET 200eco PN

• IO-Link master 4 IO-L + 8DI + 4DQ 24 V DC/1.3 A

IO-Link master 4 IO-L

See page 2/109 onwards

IO-Link master module for ET 200AL

• CM IO-Link communication module, see from

IO-Link devices

0.000000

Detection with IO-Link

IO-Link devices (continued)

SIRIUS 3RA2711 function modules for IO-Link

Switching with IO-Link Contactors and contactor assemblies

SIRIUS 3RT contactors, 3-pole up to 250 kW, see

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW, see page 3/156 onwards

SIRIUS 3RA24 contactor assemblies for wye-delta starting, up to 90 kW, see page 3/171 onwards

SIRIUS 3RA27 function modules

• For direct-on-line, reversing, and star-delta (wye-delta) starting with IO-Link connection, see

Motor starters for use in the control cabinet

SIRIUS 3RA64, 3RA65 compact starters for IO-Link

- 3RA64 direct-on-line starters, see page 8/68
- 3RA65 reversing starters, see page 8/69

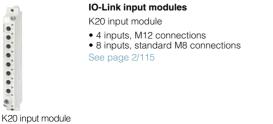
Infeed system for 3RA6, see page 8/78 onwards Accessories, see page 8/70 onwards

Contactors with IO-Link

Overload relays

SIRIUS 3RB24 electronic overload relays for IO-Link

- Evaluation modules
- Current measuring modules from 0.3 to 630 A
- · Controlling direct-on-line, reversing and star-delta starters via IO-Link in conjunction with contactors
- Full motor protection
- Diagnostics and current value transmission via IO-Link See page 7/130 onwards





SIRIUS 3RA64

direct-on-line

starter

IO-Link Introduction

System components

IO-Link devices (continued)

SIRIUS 3RR24 monitoring relavs



SIRIUS 3UG48 monitoring relays



SIRIUS 3RS14 temperature monitoring relay



SIRIUS ACT 3SU1 ID keyoperated switches



SIRIUS ACT 3SU1 electronic module

Monitoring with IO-Link

SIRIUS 3RR24 monitoring relays for mounting onto 3RT2 contactors for IO-Link

- Monitoring of current, phase failure, open circuit and phase sequence
- Designed for mounting on 3RT2 contactors
- Terminal supports for stand-alone installation for separate mounting

See page 10/70 onwards

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

- Monitoring the supply system, voltage, current, power factor and active current, residual current or speed depending on device design
- · On/tripping delay time can be adjusted

See page 10/109 onwards

SIRIUS 3RS14, 3RS15 temperature monitoring relays for IO-Link

- Temperature monitoring with connected sensors
- Two limit values, can be adjusted separately

See page 10/143 onwards

Actuating and indicating with IO-Link

SIRIUS ACT 3SU1 ID key-operated switches for IO-Link

- Access system and selection system for four authorization levels
- Authentication of groups and persons
- · Five ID keys with different coding
- Option for individual coding via IO-Link
- For installation in enclosures or fastening on front plate
- Electronic module for ID key-operated switches must be ordered separately

See page 13/10

SIRIUS ACT 3SU1 electronic modules for IO-Link

- Eight digital inputs and outputs possible
- DI and DQ freely selectable (programmable)
 Input and output functions parameterizable
- Connection system (push-in)
- For fastening on front plate, see page 13/98
- For installation in enclosure, see page 13/113

IO-Link RFID systems



RFID system for 10-Link

SIMATIC RF200 RFID system in the HF range

Products SIMATIC RF210R, SIMATIC RF220R SIMATIC RF240R, SIMATIC RF250R, SIMATIC RF260R

- Simple identification tasks such as reading an ID number (UID)
- Reading of user data
- Writing of user data
 No RFID-specific programming, ideal for those new
- to RFID Simple connection via master modules for IO-Link, such as SIMATIC S7-1200, ET 200SP, ET 200pro, ET 200eco PN and ET 200AL
- Use with the tried and tested ISO 15693 transponders (MDS xxx)

See Catalog ID

IO-Link Device Description (IODD)



IODD files for IO-Link

IODDfinder for

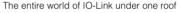
IO-Link

IODD files

These files provide the device description for IO-Link devices

- Comprehensive IODD catalog of SIEMENS IO-Link devices
- · Freely available for download from Industry Online Support, see https://support.industry.siemens.com/cs/ww/en/ps/15851

IODDfinder



STEP 7 PCT (Port Configuration Tool)

The IODDfinder is a service provided by the IO-Link community. It is a central cross-vendor database for descriptive files (IODDs). In addition, the platform provides an overview of the available IO-Link devices.

For more information, see https://ioddfinder.jo-link.com/#/

IO-Link software



STEP 7 PCT

Engineering software for configuring the IO-Link master modules for SIMATIC S7-1200, ET 200SP, ET 200pro, ET 200eco PN and ET 200AL

- Available as a stand-alone version or integrated into STEP 7 (V5.5 SP1 or later) and TIA (V12 or later)
- Engineering of the IO-Link devices connected to the master
- Monitoring of the process image of the IO-Link devices
- Open interface for importing further IODDs
- Freely available for download from Industry Online Support, see emens.com/cs/ww/en/view/32469496

IO-Link function blocks (IO-Link device and IO-Link master)

STEP 7 function block for easy acyclical data exchange in the user program

• Freely available for download from Industry Online Support, see https://support.industry.siemens.com/cs/ww/en/view/82981502

IO-Link device function block



Siemens IO-Link Devices" block library

"Siemens IO-Link Devices" block library

This library provides function blocks and user-defined data types (UDTs) for all IO-Link devices from the Siemens portfolio. These blocks and UDTs standardize and simplify communication with IO-Link devices.

· Freely available for download from Industry Online Support, see https://support.industry.siemens.com/cs/ww/en/view/90529409

Overview

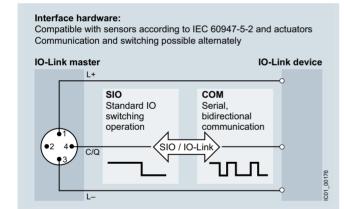
Principles of the IO-Link specification

According to the IO-Link specification, communication functions as follows:

- Transmission takes place via an unshielded three-wire cable no more than 20 m long, of the kind normally used for standard sensors
- Digital communication from 0 to 24 V on the so-called C/Q cable
- Most of the values transmitted are measured values from the sensors
- The sensors and actuators are described by the IO Device Description (IODD)
- As a matter of principle, one IO-Link device can be connected to one IO-Link port of the master (point-to-point connection)
- The transmission rates between IO-Link master and the devices are as follows:
 - Via COM1: 4 800 Bd - Via COM2: 38 400 Bd - Via COM3: 230 400 Bd
- The average cycle time is 2 ms for the reading/writing of 16 data bits at a transmission rate of 38 400 Bd

IO-Link protocol

The IO-Link protocol supports both the Standard IO mode (SIO) and the IO-Link communication mode (COM).



The structure of the protocol and its message frames depends on the types of data to be transmitted.

Data types

The IO-Link specification makes a distinction between the following data types:

Process data

The process data of the devices are transferred cyclically in a data frame, with the process data width defined by the device. Process data of 0 to 32 bytes are possible per device (input and output in each case). The consistency width of the transmission is not fixed and therefore depends on the master.

Value status

Each port has a value status (PortQualifier). The value status indicates whether the process data are valid or invalid. The value status can be transferred cyclically with the process data.

Device data

Device data can be parameters, identification data and diagnostics information. Device data replacement is acyclic and in response to an inquiry from the IO-Link master. Device data can be written into the device (Write) and also read from the device (Read).

Events

When an event occurs, the device sends a signal to the master to report that an event is active. The master then reads out the event. Events can be fault messages (e.g. short-circuit) and warnings/maintenance data (e.g. contamination, overheating). Fault messages are transferred from the device via the IO-Link master to the controller or HMI. The IO-Link master can also transfer events and states. Events include, for example, cable break or communication breakdown.

Device parameters and events are sent independently of the cyclic transmission of process data. The transmissions do not affect or impair each other.

Data storage

As of specification V1.1, a data storage concept has been created for IO-Link. In this concept, the IO-Link device initiates storage of its data on a higher-level parameter server. In the event that a device is replaced, the parameter server can restore the original parameterization. It is therefore possible to replace the devices without re-parameterization.

The IO-Link master contains the parameter server. The parameter server can also be implemented centrally in the PLC or in a system server. In this case the data must be downloaded to the control system by means of the function blocks provided.

IO-Link masters

The IO-Link master is the interface to higher-level control systems. The IO-Link master presents itself to the fieldbus as a normal fieldbus node, and is integrated into the appropriate network configurator via the relevant device description (GSD file).

IO Device Description (IODD)

The IO Device Description (IODD) has been defined to provide a full, transparent description of system characteristics as far as the IO-Link device.

The IODD contains information on communication characteristics, device parameters, identification, process and diagnostics data, and is supplied by the manufacturer. The design of the IODD is the same for all devices from all manufacturers, and is always presented in the same way by the IODD Interpreter Tools. This therefore ensures that the handling is the same for all IO-Link devices, whatever the manufacturer.

New in IO-Link specification V1.1

The IO-Link specification is currently available in Version 1.1, and standardized in accordance with IEC 61131-9.

Specification V1.1 offers the following new features compared with the previous specification V1.0:

- Transmission of up to 32 bytes of process data in one cycle
- Parameter server function

IO-Link Masters

IO-Link Master Module for S7-1200

SM 1278 4xIO-Link master

Overview



SM 1278 4xIO-Link master

Module for connecting up to four IO-Link devices in accordance with the IO-Link specification V1.1. The IO-Link parameters are configured by means of the Port Configuration Tool (PCT) with version V3.2 and higher.

Application

The SM 1278 module enables an exchange of data with up to four external IO-Link devices through one three-wire cable each or four standard actuators or standard encoders. Control can be flexibly adapted to the communication partners using the comprehensive parameter assignment options. Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

Design

- Expansion limits
 - Cable length: Max. 20 m
 - Max. 32 bytes of input data and 32 bytes of output data per port
 - Max. 32 bytes of input data and 32 bytes of output data per module

LED displays

- DIAG: Operating state display (green/red) of the module
- C1..C4: Port status display (green) for ports 1, 2, 3 and 4
- Q1..Q4: Channel status display (green) for ports 1, 2, 3 and 4
- F1..F4: Port error display (red) for ports 1, 2, 3 and 4

Depending on the CPU type used, up to 8 SM 1278 units can be used on one S7-1200 CPU.

Function

Supported functions

- I&M identification data
- Firmware update
- SIO Mode (standard IO mode)
- IO-Link parameter assignment with the S7-PCT interface configuration tool, TIA Portal from V13 and an S7-1200 CPU V4.0 or higher

Supported data transmission rates

- COM1 (4.8 kBd)
- COM2 (38.4 kBd)
- COM3 (230.4 kBd)

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
	SM 1278 4xIO-Link master signal module	1	6ES7278-4BD32-0XB0		1	1 unit	212
6ES7278-4BD32-0XB0	For connecting up to four IO-Link devices in accordance with the IO-Link specification V1.1						

Accessories

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
-	Terminal block (spare part)	1	6ES7292-1AG30-0XA0		1	4 units	212
	With 7 screws, zinc-plated; 4 units						
6ES7292-1AG30-0XA0							

CM 4xIO-Link

Overview



CM 4xIO-Link communication module

- CM 4xIO-Link communication module Serial communication module for connecting up to four IO-Link devices in accordance with the IO-Link specification V1.0 and V1.1. The IO-Link parameters are configured by means of the Port Configuration Tool (PCT) with version V3.0 and higher.
- Time-based IO

Time-based IO ensures that signals are output with a precisely defined response time. By combination of inputs and outputs, products passing by, for example, can be measured exactly or liquids can be perfectly dosed.

6ES7193-6BP00-0DA0

6ES7193-6BP00-2DA0

6ES7193-6BP20-0BA0

6ES7193-6BP20-2BA0

6ES7193-6BP00-0BA0

6ES7193-6BP00-2BA0

- Supported data transmission rates
 - COM1 (4.8 kBd)
 - COM2 (38.4 kBd)
 - COM3 (230.4 kBd)

- Expansion limits
- Cable length: Max. 20 m
- Max. 32 bytes of input data and 32 bytes of output data per port
- Max. 144 bytes of input data and 128 bytes of output data per module
- ET 200SP system functions supported
 - Exchange of IO-Link device parameters (V1.1 devices only) and of IO-Link master parameters without a PG including automatic backup recovery without an engineering tool by means of redundant parameter storage on the e-coding element
 - Reparameterization during ongoing operation
 - I&M identification data
 - Firmware update
- PROFlenergy
- Can be plugged onto type A0 BaseUnits (BU) with automatic e-coding
- LED displays
 - DIAG: Operating state display (green/red) of the module
- C1..C4: Port status display (green) for ports 1, 2, 3 and 4
- Q1. Q4: Channel status display (green) for ports 1, 2, 3 and 4
- F1..F4: Port error display (red) for ports 1, 2, 3 and 4
- PWR: Supply voltage display (green)
- Informative front-side module inscription
 - Plain-text marking of the module type and function class
- 2D matrix code (Article No. and serial number)
- Connection diagram
- CM module class color coding: Silver
- Hardware and firmware version
- Complete article number
- Optional accessories
- Labeling strips
- Reference identification label
- Color-coded label with color code CC04
- Optional system-integrated shield connection

CC71 to CC73

CC71 to CC73

CM 4xIO-Link overview mmunication modula

Communication module	Article number	CC code	ви туре	PU
CM 4xIO-Link	6ES7137-6BD00-0BA0	CC04	A0	1
Overview of BaseUnits				
BaseUnit	Article number	CC codes for process terminals	CC codes for AUX terminals	PU
BU type A0 • New load group (light) • 16 process terminals • With 10 AUX terminals	6ES7193-6BP20-0DA0	CC01 to CC05	CC71 to CC73	1
BU type A0 • New load group (light)	6ES7193-6BP20-2DA0	CC01 to CC05	CC71 to CC73	10

CC01 to CC05

BU type A0 New load group (light)16 process terminals

16 process terminals
With 10 AUX terminals

BU	type A0
• W	ithout AUX terminals
- 10	process terrinals

New load group (light) 16 process terminals Without AUX terminals

BU type AU
 Load group forwarding (dark)
 16 process terminals

BU type A0
 Load group forwarding (dark)
 16 process terminals

• With 10 AUX terminals

• With 10 AUX terminals

BU type A0
 Load group forwarding (dark)
• 16 process terminals

Without AUX terminals BU type A0

- 16 process terminals · Without AUX terminals
- Load group forwarding (dark)

1

10

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IO-Link Masters

IO-Link Master Module for ET 200SP

CM 4xIO-Link

Application

- The CM 4x IO-Link communication module enables an exchange of data with up to 4 external IO-Link devices through one three-wire cable each.
- Control can be flexibly adapted to the communication partners using the comprehensive parameter assignment options.
- Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131
 Type 1 can also be operated on the IO-Link master.

Design

Supported BaseUnits (BU)

All BUs of the A0 type are available for the CM 4x IO-Link communication module.

Load group formation

A light BU isolates the self-establishing internal voltage buses (P1, P2, AUX), thus opening a new load group. A load group's supply voltage must be fed in on this load group's light BU.

A dark BU passes on the supply voltage of the adjacent light BU on the left through the self-establishing voltage buses P1, P2 and AUX. Therefore, a supply again is only necessary at the following light BU on the right. Setting of a further light BU is always necessary if

- a new load group is to be formed (for example, to isolate the supply voltage from module groups) or
- the maximum simultaneously required current of the load group exceeds the permissible limit of 10 A.

Color coding of terminals

The potentials at the terminals of the BaseUnit are defined by the inserted I/O module. To avoid wiring errors, the terminals' potentials can be optionally identified by module-specific color-coded labels. The color-coded label matching the relevant I/O module is defined by the I/O module's color code CCxx. This color code is also printed onto the front of the module.

The color-coded label with the color code CC04 must be used for the "CM 4x IO-Link" communication module.

In the case of BaseUnits with the additional ten internally jumpered AUX terminals, these can also be color-coded with color-coded labels. Color-coded labels are available in red, blue and yellow-green for the ten AUX terminals.

Labeling

Labeling strips

Labeling strips can be inserted into the front of the interface or I/O modules and can be labeled individually via STEP 7, macros, etc. A special additional support is not required. They can be replaced easily with the component as necessary.

Reference identification labels

Reference identification labels enable easy equipment identification (e.g. in accordance with EN 81346). They are simply plugged onto the required component (interface module, I/O modules and BaseUnits) and can thus be replaced easily with the component, whenever required.

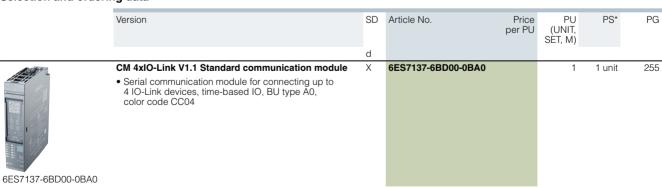
The following labeling components are available for selection:

- Film labeling strips, light gray, roll with 500 strips, pre-perforated, for thermal transfer roll printer
- Film labeling strips, yellow, roll with 500 strips, pre-perforated, for thermal transfer roll printer
- Cardboard labeling strips (180 g/m²), light gray, ten A4 sheets of 100 strips each, pre-perforated, for laser printer
- Cardboard labeling strips (180 g/m²), yellow, ten A4 sheets of 100 strips each, pre-perforated, for laser printer
- Reference identification labels, white, ten mats of 16 plates each, for thermal transfer card printer or labels

System-integrated shield connection

A shield terminal that can be fitted quickly and easily is available for space-saving and EMC-optimized connection of cable shields. It consists of a shield connection element and a shield terminal that can be plugged onto the BaseUnit for each module. Low-impedance connection to functional ground (DIN rail) is carried out by the user without additional wiring.

Selection and ordering data



CM 4xIO-Link

Accession

Accessories							
	Version	SD			PU	PS*	PG
			per	PU (UN SET,			
Accessories		d					
Usable type A0 Basel	Units		•				
A	BU15-P16+A10+2D						
	BU type A0; BaseUnit (light) with 16 process terminals (116) to the module and additionally 10 internally jumpered AUX terminals (1 A to 10 A); for beginning a new load group (max. 10 A) 1 unit 10 units	× ×	6ES7193-6BP20-0DA0 6ES7193-6BP20-2DA0		1	1 unit 10 units	255 255
6ES7193-6BP20-0DA0							
200	BU15-P16+A0+2D						
	BU type A0; BaseUnit (light) with 16 process terminals to the module; for beginning a new load group (max. 10 A) • 1 unit • 10 units	X X	6ES7193-6BP00-0DA0 6ES7193-6BP00-2DA0		1	1 unit 10 units	255 255
6ES7193-6BP00-0DA0							
	BU15-P16+A10+2B BU type A0; BaseUnit (dark) with 16 process terminals (116) to the module and additionally 10 internally jumpered AUX terminals (1 A to 10 A); for load group continuation 1 unit 10 units	××	6ES7193-6BP20-0BA0 6ES7193-6BP20-2BA0		1	1 unit 10 units	255 255
6ES7193-6BP20-0BA0							
	BU15-P16+A0+2B BU type A0; BaseUnit (dark) with 16 process terminals to the module; for load group continuation • 1 unit • 10 units	X X	6ES7193-6BP00-0BA0 6ES7193-6BP00-2BA0		1	1 unit 10 units	255 255
6ES7193-6BP00-0BA0	Defenses identification label	_	CE07400 CI E00 0 ANNO		_	10	055
	Reference identification label 10 sheets of 16 labels, for printing with thermal transfer card printer or plotter Labeling strips	1	6ES7193-6LF30-0AW0		ı	10 units	255
	500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer	1	6ES7193-6LR10-0AA0		1	1 unit	255
	500 labeling strips on roll, yellow, for inscription with thermal transfer roll printer	1	6ES7193-6LR10-0AG0		1	1 unit	255
	1 000 labeling strips DIN A4, light gray, card, perforated, for inscription with laser printer	1	6ES7193-6LA10-0AA0		1	1 unit	255
	1 000 labeling strips DIN A4, yellow, card, perforated, for inscription with laser printer	1	6ES7193-6LA10-0AG0		1	1 unit	255
	Color-coded labels						
	Color code CC04, for 16 push-in terminals, BU type A0, A1, gray (terminals 1 to 8), red (terminals 9 to 12), blue (terminals 13 to 16); 10 units	1	6ES7193-6CP04-2MA0		1	10 units	255
	Color code CC71, for 10 AUX terminals, BU type A0, yellow/green (terminals 1 A to 10 A); 10 units	1	6ES7193-6CP71-2AA0		1	10 units	255
	Color code CC72, for 10 AUX terminals, BU type A0, red (terminals 1 A to 10 A); 10 units	1	6ES7193-6CP72-2AA0		1	10 units	255
	Color code CC73, for 10 AUX terminals, BU type A0, blue (terminals 1 A to 10 A); 10 units	1	6ES7193-6CP73-2AA0		1	10 units	255
Spare parts							
	Electronic coding element type H Pack containing 5 units; included in the scope of supply of the CM 4x IO-Link module	1	6ES7193-6EH00-1AA0		1	5 units	256

IO-Link Masters

IO-Link Master Module for ET 200pro

IO-Link master modules

Overview



- 45-mm-wide 4 IO-Link HF electronic module
- 4 IO-Link ports acc. to IO-Link specification V1.1
- Port class B
- The IO-Link parameters are configured using the Port Configuration Tool (S7-PCT), version V3.4 and higher

4 IO-Link HF electronic module

Application

The 4 IO-Link HF electronic module enables the exchange of data with up to 4 IO-Link devices.

Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

Design

The 4 IO-Link HF electronic module is used together with the CM IO-LK 4 X M12 P connection module. Sensors and actuators are integrated using commercially available 3- or 5-pin M12 plugs on the CM IO-Link 4 X M12 P.

IO-Link devices (e.g. sensors) with a class A port are interconnected by means of a 3-wire cable. IO-Link devices that require an additional supply voltage and have a class B port (e.g. actuators) are interconnected by means of a 5-wire cable.

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
6ES7147-4JD00-0BA0	4 IO-Link HF electronic modules 4 IO-Link ports acc. to IO-Link specification V1.1 Port class B High Feature Channel diagnostics Including bus module Connection module must be ordered separately	1	6ES7147-4JD00-0AB0		1	1 unit	250

Accessories

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					
CM IO-Link 4 X M12 P connection modules	1	6ES7194-4CA20-0AA0		1	1 unit	250
4 M12 sockets for connection of IO-Link devices to ET 200pro 4 IO-Link HF electronic module						
Module labeling plates	1	6ES7194-4HA00-0AA0		1 5	00 units	250
For color coding of CM IOs in the colors white, red, blue and green; pack of 100						
M12 sealing caps	>	3RX9802-0AA00		100	10 units	42C
For protection of unused M12 terminals on ET 200pro						

IO-Link Masters IO-Link Master Module for ET 200eco PN

ET 200eco PN IO-Link master

Overview



ET 200eco PN IO-Link master modules

The ET200eco PN IO-Link master modules belong to the ET 200eco PN compact block I/O device family and are distinguished by the following features:

- Compact block I/O devices for connection of IO-Link devices and connection to the PROFINET bus system
- Design without a control cabinet in IP67 degree of protection with M12 connection system
- Very rugged and resistant encapsulated metal enclosure
- Compact module in an enclosure width of 30 mm or 60 mm
- PROFINET connection: 2 x M12 and automatic PROFINET addressing
- 100 MBit/s data transmission rate
- LLDP neighborhood detection without PG
- Supply and load voltage connection: 2 x M12
- · Channel-exact diagnostics

Application

IO-Link enables easy integration of sensors and actuators from different manufacturers. ET200eco PN IO-Link master modules enable an exchange of data with up to 4 IO-Link devices. Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

With a high degree of protection, ruggedness and small dimensions, the IO-Link master modules are especially well-suited for use at the machine level in confined spaces. They have adjustable parameters and diagnostic functions

and can therefore be flexibly adapted to individual process requirements.

The following IO-Link masters are available:

- Compact module in an enclosure width of 30 mm for connecting up to 4 IO-Link devices in accordance with the IO-Link specification V1.0 and V1.1 and Port Class B
- Compact module in an enclosure width of 60 mm for connecting up to 4 IO-Link devices in accordance with the IO-Link specification V1.0 and port class A and an additional 8 digital inputs and 4 digital outputs.

Design

The IO-Link master modules have a screw mounting hole at the front and side, and can be mounted in any position. As a result, they are extremely flexible to install on either a level surface or on aluminum mounting rails using sliding blocks.

ET 200eco PN IO-Link masters are compact modules with M12 connection technology.

Two load power supplies (4 A each) are available that can be used by the compact module or also be looped through to another compact module (line topology). PROFINET is connected via an M12 connection and can be looped through to a further PROFINET device. The maximum cable length to the IO-Link device is 20 m.

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
•	ET 200eco PN IO-Link master	u					
6ES7148-6JA00-0AB0	4 IO-L + 8 DI + 4 DQ, 24 V DC/1.3 A; 8 x M12, degree of protection IP67, enclosure width 60 mm for connecting up to 4 IO-Link devices according to IO-Link specification V1.0 and port Class A as well as 8 digital inputs and 4 digital outputs	1	6ES7148-6JA00-0AB0		1	1 unit	250
6ES7148-6JD00-0AB0	 4 IO-L 4 x M12, degree of protection IP67, enclosure width 30 mm for connecting up to 4 IO-Link devices according to IO-Link specification V1.0 and V1.1 and port Class B 	1;	6ES7148-6JD00-0AB0		1	1 unit	250

IO-Link Masters

IO-Link Master Module for ET 200eco PN

ET 200eco PN IO-Link master

Accessories

d 1 1 1 1 1	6ES7148-6CB00-0AA0 6ES7194-6CA00-0AA0 6ES7194-6HB00-0AA0	J (UNIT, SET, M)	1 unit	250 250
1 1 1	6ES7194-6CA00-0AA0	1	1 unit	
1	6ES7194-6CA00-0AA0	1	1 unit	
1				250
1				250
	6ES7194-6HB00-0AA0	1		
	6ES7194-6HB00-0AA0	1		
1			10 units	250
1				
	6ES7194-6GA00-0AA0	1	1 unit	250
1	6ES7194-6MA00-0AA0	1	50 units	250
	3RK1901-1KA00	100	10 units	42C
15	3RT1900-1SB10	100	816 units	41B
1				
_	001/4004 00000 0440		4 9	E1/4
				5K1
1	6GK1901-0DB20-6AA8	1	8 units	5K1
				5K1
1	6XV18/U-8AN15	1	1 unit	5K1
1	6GK1907-0DC10-6AA3	1	3 units	5W3
1	6GK1907-0DB10-6AA3	1	3 units	5W3
1	6XV1801-5DE30	1	1 unit	5K2
1	6XV1801-5DE50	1	1 unit	5K2
1	6XV1801-5DH10	1	1 unit	5K2
1	6XV1801-5DH15	1	1 unit	5K2
1	6XV1801-5DH20	1	1 unit	5K2
1	6XV1801-5DH30	1	1 unit	5K2
1	6XV1801-5DH50	1	1 unit	5K2
1	6XV1801-5DN10	1	1 unit	5K2
1	6XV1801-5DN15	1	1 unit	5K2
	1 1 1 1 1	15 3RT1900-1SB10 1 6GK1901-0DB20-6AA0 1 6GK1901-0DB20-6AA8 1 6XV1870-8AE30 1 6XV1870-8AE50 1 6XV1870-8AH10 1 6XV1870-8AH15 1 6XV1870-8AH30 1 6XV1870-8AH50 1 6XV1870-8AN10 1 6XV1870-8AN15 1 6GK1907-0DC10-6AA3 1 6GK1907-0DB10-6AA3 1 6XV1801-5DE30 1 6XV1801-5DH10 1 6XV1801-5DH15 1 6XV1801-5DH20 1 6XV1801-5DH30 1 6XV1801-5DH50 1 6XV1801-5DH50 1 6XV1801-5DN10 1 6XV1801-5DN10	15 3RT1900-1SB10 100 1 6GK1901-0DB20-6AA0 1 1 6GK1901-0DB20-6AA8 1 1 6XV1870-8AE30 1 1 6XV1870-8AE50 1 1 6XV1870-8AH10 1 1 6XV1870-8AH15 1 1 6XV1870-8AH20 1 1 6XV1870-8AH30 1 1 6XV1870-8AH50 1 1 6XV1870-8AH50 1 1 6XV1870-8AN10 1 1 6XV1870-8AN10 1 1 6XV1870-BAN10 1 1 6XV1870-BAN15 1 1 6GK1907-0DC10-6AA3 1 1 6GK1907-0DB10-6AA3 1 1 6XV1801-5DE50 1 1 6XV1801-5DH10 1 1 6XV1801-5DH10 1 1 6XV1801-5DH10 1 1 6XV1801-5DH10 1 1 6XV1801-5DH30 1 1 6XV1801-5DH30 1 1 6XV1801-5DH30 1 1 6XV1801-5DH50 1 1 6XV1801-5DH50 1 1 6XV1801-5DH50 1 1 6XV1801-5DH50 1 1 6XV1801-5DN10 1 1 6XV1801-5DN10 1 1 6XV1801-5DN10 1 1 6XV1801-5DN10 1	15 3RT1900-1SB10 100 816 units 1 6GK1901-0DB20-6AA0 1 1 unit 1 6GK1901-0DB20-6AA8 1 8 units 1 6XV1870-8AE30 1 1 unit 1 6XV1870-8AE50 1 1 unit 1 6XV1870-8AH10 1 1 unit 1 6XV1870-8AH20 1 1 unit 1 6XV1870-8AH30 1 1 unit 1 6XV1870-8AH30 1 1 unit 1 6XV1870-8AH50 1 1 unit 1 6XV1870-8AH50 1 1 unit 1 6XV1870-8AN10 1 1 unit 1 6XV1870-8AN10 1 1 unit 1 6XV1870-8AN15 1 1 unit 1 6XV1870-BAN15 1 1 unit 1 6XV1870-BAN15 1 1 unit 1 6XV1870-BAN15 1 1 unit 1 6XV1801-5DE30 1 1 unit 1 6XV1801-5DE50 1 1 unit 1 6XV1801-5DH10 1 1 unit 1 6XV1801-5DH30 1 1 unit 1 6XV1801-5DH30 1 1 unit 1 6XV1801-5DN10 1 1 unit 1 6XV1801-5DN10 1 1 unit

CM IO-Link

IO-Link

Overview



CM IO-Link communication module

• 30-mm-wide CM IO-Link communication module

- For connecting up to 4 IO-Link devices in accordance with the IO-Link specification V1.0 and V1.1 and Port Class B
- The IO-Link parameters are configured by means of the Port Configuration Tool S7-PCT with version V3.2 and higher.

Application

The CM IO-Link communication module supports data exchange between up to four IO-Link devices.

IO-Link devices (e.g. sensors) with a class A port are interconnected by means of a 3-wire cable. IO-Link devices that require an additional supply voltage and have a class B port (e.g. actuators) are interconnected by means of a 5-wire cable.

Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

The 30-mm-wide I/O modules are ideally suited for use in extremely confined spaces. They have adjustable parameters and diagnostic functions and can therefore be flexibly adapted to individual process requirements.

The following IO-Link masters are available:

• CM 4xIO-Link communication modules, 4XM12

Design

The I/O modules have a screw mounting hole at the front and side, and can be mounted in any position. As a result, they are extremely flexible to install on either a level surface or on aluminum mounting rails using sliding blocks.

The CM IO-Link communication module features:

- A backplane bus connection (Ethernet connection) with M8 connection system for connection to an interface module or other I/O modules
- A power supply connection with M8 connection system with loop-through
- LED display for port status
- LED display for channel status in SIO mode
- LED display for module status (DIAG)

- LED display for load voltage 2L+ (PWR)
- Labeling plates for channel, module and slot identification
- · Integrated cable tie holder
- Meaningful module inscription on front panel:
 - Plain text marking of module type
 - Interface marking
 - LED label
- Meaningful module inscription on side panel:
 - Article number, function level and FW version
- 2D matrix code (Article No. and serial number)
- Pin assignments of all interfaces

Labeling plates for channel, module and slot identification are supplied with the modules. These labeling plates can be inscribed using commercially available inscription machines.

Function

- IO-Link master according to IO-Link specification V1.1
- 4 ports, Class B type
- Supported data transmission rates
 - COM1 (4.8 kBd)
 - COM2 (38.4 kBd)
 - COM3 (230.4 kBd)
- · Expansion limits
 - Cable length: max. 20 m
 - Max. 32 bytes of input data and 32 bytes of output data per port
 - Max. 32 bytes of input data and 32 bytes of output data per module
- Automatic backup of device parameters when the IO-Link device is replaced (V1.1 devices only)

- Reparameterization during ongoing operation
- Standardized display and diagnostics concept:
 - Port status display (port activated or deactivated, green LED)
 - Channel status display for signal state in SIO mode (green LED)
 - Module status display (DIAG, red/green LED)
 - Display for monitoring the load voltage 2L+ (PWR, green LED)
- Supported functions:
 - Detailed module diagnostics and diagnostic interrupt
 - Identification and maintenance data IMO ... IM3
 - Firmware update
 - PROFlenergy

IO-Link Masters

IO-Link Master Module for ET 200AL

CM IO-Link

Selection and orderi	ng data						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
6ES7147-5JD00-0BA0	CM IO-Link CM 4X IO-Link, 4XM12; for the connection of up to 4 IO-Link devices according to IO-Link specification V1.0 and V1.1 and port Class B	15	6ES7147-5JD00-0BA0		1	1 unit	254
Accessories							

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
	Bus cable for backplane bus (ET connection) 4-pole, shielded						
6ES7194-2L0AA0	 Pre-assembled on both sides, 2 M8 plugs Length 0.19 m Length 0.3 m Length 1 m Length 2 m Length 5 m Length 10 m Length 15 m 	1 1 1 1 1 1	6ES7194-2LH02-0AA0 6ES7194-2LH03-0AA0 6ES7194-2LH10-0AA0 6ES7194-2LH20-0AA0 6ES7194-2LH50-0AA0 6ES7194-2LN10-0AA0 6ES7194-2LN15-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	254 254 254 254 254 254 254
6ES7194-2L0AB0	Pre-assembled on both sides, 2 M8 angular plugs Length 0.3 m Length 1 m Length 2 m Length 5 m Length 10 m Length 15 m	1 1 1 1 1	6ES7194-2LH03-0AB0 6ES7194-2LH10-0AB0 6ES7194-2LH20-0AB0 6ES7194-2LH50-0AB0 6ES7194-2LN10-0AB0 6ES7194-2LN15-0AB0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	254 254 254 254 254 254
6ES7194-2L0-0AC0	 Pre-assembled on one side, 1 M8 plug Length 2 m Length 5 m Length 10 m Length 15 m 	1 1 1	6ES7194-2LH20-0AC0 6ES7194-2LH50-0AC0 6ES7194-2LN10-0AC0 6ES7194-2LN15-0AC0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	254 254 254 254
	M8 power cable 4-pole • Pre-assembled on both sides, M8 plug and M8 socket - Length 0.19 m - Length 0.3 m	1 1	6ES7194-2LH02-1AA0 6ES7194-2LH03-1AA0		1 1	1 unit 1 unit	254 254
6ES7194-2L1AA0	- Length 1 m - Length 2 m - Length 5 m - Length 10 m - Length 15 m	1 1 1 1	6ES7194-2LH10-1AA0 6ES7194-2LH20-1AA0 6ES7194-2LH50-1AA0 6ES7194-2LN10-1AA0 6ES7194-2LN15-1AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	254 254 254 254 254
6ES7194-2L1AB0	Pre-assembled on both sides, M8 angular plug and M8 angular socket Length 0.3 m Length 1 m Length 2 m Length 5 m Length 10 m Length 15 m	1 1 1 1 1	6ES7194-2LH03-1AB0 6ES7194-2LH10-1AB0 6ES7194-2LH20-1AB0 6ES7194-2LH50-1AB0 6ES7194-2LN10-1AB0 6ES7194-2LN15-1AB0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	254 254 254 254 254 254
6ES7194-2L0-1AC0	Pre-assembled on one side, one M8 socket Length 2 m Length 5 m Length 10 m Length 15 m	1 1 1	6ES7194-2LH20-1AC0 6ES7194-2LH50-1AC0 6ES7194-2LN10-1AC0 6ES7194-2LN15-1AC0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	254 254 254 254

IO-Link Masters IO-Link Master Module for ET 200AL

CM IO-Link

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
	M8 plug for Ethernet connection 4-pole, shielded	1	6ES7194-2AB00-0AA0		1	1 unit	254
6ES7194-2AB00-0AA0							
	M8 power plug						
	Male contact insert, 4-pole	1	6ES7194-2AA00-0AA0		1	1 unit	254
	• Female insert, 4-pole	1	6ES7194-2AC00-0AA0		1	1 unit	254
6ES7194-2AA00-0AA0							
	Ethernet connection Fast Connect Stripping Tool	1	6ES7194-2KA00-0AA0		1	1 unit	254
	Stripping tool for stripping the Ethernet connection bus cable						
6ES7194-2KA00-0AA0							
	Labeling plates						
	10 x 5 mm, RAL 9016, 5 frames with 40 labels each	1	6ES7194-2BA00-0AA0		1	1 unit	254
6ES7194-2BA00-0AA0							

More information

More information

Brochures

Information material for downloading free of charge from the Internet at: http://www.siemens.com/simatic/printmaterial.

IO-Link Input Modules

General data

Overview



IO-Link input modules

Using IO-Link technology, it is basically possible to connect standard sensors to IO-Link masters. However, connecting standard sensors directly to the IO-Link master does not exploit the full potential of IO-Link.

The solution lies in the technology of the IO-Link modules. Their use is a more economically attractive solution in comparison to the direct connection of a sensor.

The IO-Link input module technology enhances IO-Link via a pure point-to-point cable connection towards decentralized structures. The maximum cable length of an IO-Link connection between an IO-Link module and an IO-Link master is 20 m. The use of sensor boxes with accordingly complex and error-prone wiring is no longer necessary.

Transmission of parameter and diagnostic signals

The IO-Link input modules also offer the possibility of transmitting parameters and diagnostic signals. This enables for example the inputs of modules to be parameterized as NC contacts or NO contacts through IO-Link. An overload or short-circuit in the sensor supply is signaled to the control system through the IO-Link master.

M8 and M12 terminals

M8 and M12 terminals are available for connecting the sensors. Connection to the IO-Link master is made using a standard M12 connecting cable.

Benefits

Benefits of using IO-Link input modules:

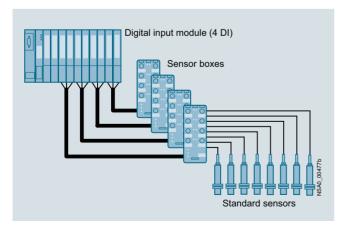
- Economical use of innovative IO-Link technology also for binary sensors
- · Optimum use of all ports of the IO-Link master
- Connection of several binary sensors/actuators to one port of the IO-Link master, hence low-cost connection also of binary sensors/actuators to the control system through IO-Link
- Reduction of digital input modules in the peripheral station
- Use of parameters also for binary sensors (e.g. NC contacts, NO contacts and input delay can be parameterized)
- Reduction of cabling and hence less risk of wiring errors by dispensing with sensor boxes
- Expansion toward distributed structures using pure point-to-point wiring
- Easy and elegant integration of sensors within a radius of 20 m around an IO-Link master, e.g. in an ET 200 station
- Possibility of transmitting parameter and diagnostic signals (e.g. sensor supply overload)
- Can also be used in harsh ambient conditions thanks to a very compact design and degree of protection IP67

Application

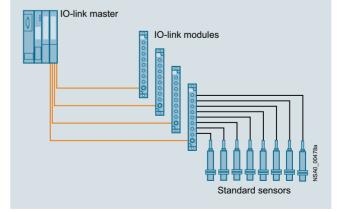
IO-Link input modules are particularly used where sensor boxes had previously been used for the connection of binary sensors.

Application example:

Replacement of sensor boxes by using IO-Link input modules



Former technology with sensor boxes



Technology with IO-Link input modules

IO-Link Input Modules

K20 IO-Link modules

Selection a	and o	rdering	data
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		Туре	Pin assignment	Connection	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	(4)	K20 IO-Link mod	ules							
8	•	• 4 inputs	Υ	M12	5	3RK5010-0BA10-0AA0		1	1 unit	42C
3RK5010- 0BA10- 0AA0	3RK5010- 0CA00- 0AA0	• 8 inputs	Standard	M8	5	3RK5010-0CA00-0AA0		1	1 unit	42C

0AA0	0CA00- 0AA0							
Accesso	ries							
		Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
		Sealing caps						
		• M12, for free M12 sockets	•	3RK1901-1KA00		100	10 units	42C
		• M8, for free M8 sockets	2	3RK1901-1PN00		100	10 units	42C
3RK1901-	1KA00							
3RK1901-	1PN00							
		Control cable, assembled at one end						
(Dis		Angular M12 plug for screw fixing,						
3RK 1902-/	4GB50-4AA0	4-pole, 4 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A						
3111(1302-	40000-4770	Cable length 5 m	5	3RK1902-4GB50-4AA0		1	1 unit	42D
		M12 socket, angled	5	3RK1902-4GB30-4AA0		1	1 unit	42D
		For screw mounting, 4-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A	O	omerous roads mad		·	Tanic	120
3RK1902-4	4CA00-4AA0							
		M12 plug						
		For screw mounting, 5-pole screw terminals, max. 0.75 mm ² ,						
3RK1902-4	4BA00-5AA0	A-coded, max. 4 A • Straight	5	3RK1902-4BA00-5AA0		1	1 unit	42D
all		Angled	5	3RK1902-4DA00-5AA0		1	1 unit	42D
		Aligieu	3	311K1302-4DA00-3AA0		'	i unit	420
3RK1902-4	4DA00-5AA0							
		Control cable, assembled at one end						
		Angular M12 plug for screw fixing, 5-pole, 5 x 0.34 mm ² ,						
3RK1902-4	4H5AA0	A-coded, black PUR sheath, max. 4 A						
		Cable length 1.5 m	5	3RK1902-4HB15-5AA0		1	1 unit	42D
		Cable length 5 m	5	3RK1902-4HB50-5AA0		1	1 unit	42D
		Cable length 10 m	5	3RK1902-4HC01-5AA0		1	1 unit	42D
		Control cable, assembled at both ends						
3RK1902-4	4PB15-3AA0	Straight M12 plug, straight M12 socket, for screw fixing, 3-pole, 3 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A						
		Cable length 1.5 m	5	3RK1902-4PB15-3AA0		1	1 unit	42D
		M12 Y-shaped coupler plugs	1	6ES7194-1KA01-0XA0		1	1 unit	250
	•	For connection of two sensors to one M12 socket with Y-assignment						
6ES7194-1	1KA01-0XA0							

IO-Link

Notes

Switching Devices - Contactors and Contactor Assemblies - for Switching Motors





clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.

Article No.	
3RA1943-2C 3RA1943-2B 3RA1953-2B 3RA1953-2N	1001_00413

Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

	Price groups PG 41A, 41B, 41E, 41H, 42F
3/2	Introduction
3/8	Power contactors for switching motors General data
3/17	SIRIUS 3RT contactors, 3-pole up to 250 kW WEW Accessories and spare parts for SIRIUS 3RT contactors and
3/76	SIRIUS 3RH2 contactor relays General data
3/78	Accessories
3/88 3/101 3/103 3/105	 - Auxiliary switch blocks, instantaneous - Auxiliary switch blocks, delayed - Surge suppressors - Modules for contactor control
3/110 3/115	- Link modules MaW - Terminal modules/adapters
3/118 3/119	- Covers NEW - Miscellaneous accessories
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3/126	SIRIUS 3RT12 and 3TF6 vacuum contactors Accessories and spare parts for
	SIRIUS 3RT12 and 3TF6 vacuum contactors
3/138	Accessories
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3/142	3TF2 miniature contactors, 3-pole
3/150	Accessories for 3TF2 miniature contactors
3/152	3TG10 power relays/miniature contactors
	Reversing contactor assemblies
3/156	SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW
3/167	Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW
	Contactor assemblies for star-delta
3/171	(wye-delta) starting SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW
3/184	Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Note:

Conversion tool, e.g. from 3RT10 to 3RT20, see www.siemens.com/sirius/conversion-tool

Siemens IC 10 · 2019

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction

Overview

More information

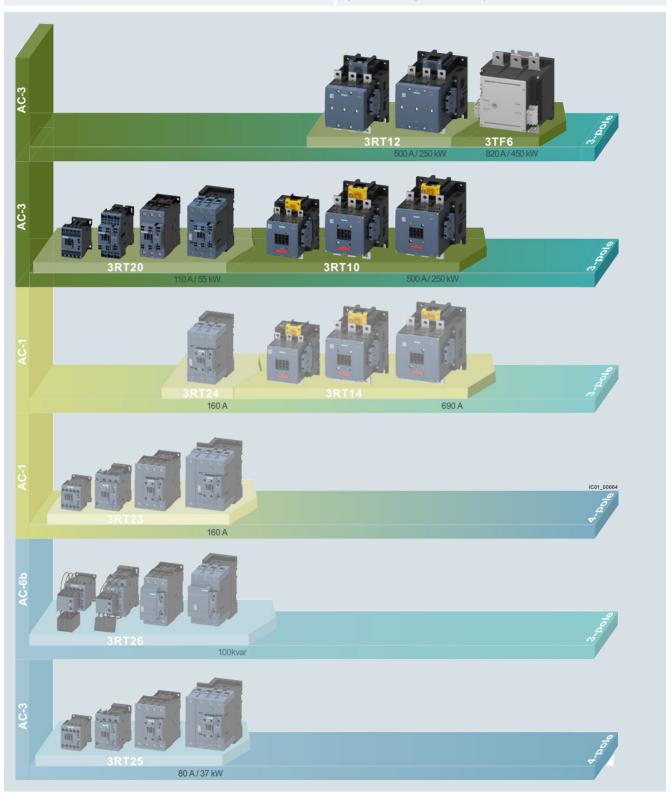
Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RT_3TK_3TC

Conversion tool, e.g. from 3RT10 to 3RT20, see

www.siemens.com/sirius/conversion-tool

TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/TSTWeb/?kmat=Contactor



Overview of the 3RT and 3TF contactors

Power Contactors for Switching Motors

Introduction





		161 ·	ļ			16					
Size Type		S00 3RT201				S0 3RT202					
3RT20 contactors		OTTIEOT				OTTLOE					
Type		3RT2015	3RT2016	3RT2017	3RT2018	3RT2023	3RT2024	3RT2025	3RT2026	3RT2027	3RT2028
AC, DC operation			/60 3/63)				3/57, 3/64				
AC-3		NI - /	. ,			VI - /	. , .				
<i>I</i> _e /AC-3/400 V	Α	7	9	12	16	9	12	17	25	32	38
400 V	kW	3	4	5.5	7.5	4	5.5	7.5	11	15	18.5
230 V	kW	1.5	2.2	3	4	2.2	3	4	5.5	7.5	11
690 V 1 000 V	kW kW	4	5.5 	5.5 	7.5 	7.5	7.5 	11	11 	18.5 	18.5
AC-4 (at $I_a = 6 \times I_e$)											
400 V	kW	3	4	4	5.5	4	5.5	7.5	7.5	11	11
400 V (200 000 operating cycles)	kW	1.15	2	2	2.5	2	2.6	3.5	4.4	6	6
AC-1 (40 °C, ≤ 690 V)						1					
$I_{\mathbf{e}}$	Α	18	22	22	22	40	40	40	40	50	50
Accessories for contactors	S										
Auxiliary • On front		3RH29, 3F	RA28	(p.	3/94 3/101	3RH29, 3F	RA28			(p. 3)	94 3/101)
switch blocks • Lateral		3RH29				3RH29				, , , , , , , , , , , , , , , , , , ,	(p. 3/98)
Function modules • Direct-on-line starting, star-de (wye-delta) sta		3RA281.			(p. 3/106	3RA281.					(p. 3/106)
• IO-Link, AS-Inte	erface	3RA271	AA00	(р	. 3/107, 3/108	3RA271	.AA00			(p. 3	/107, 3/108)
Surge suppressors		3RT2916		(p	. 3/103, 3/104	3RT2926				(p. 3	/103, 3/104)
3RU2 and 3RB3 overload r	elays	;									
3RU thermal overload relays		3RU2116	0.11 16	А	(p. 7/92	3RU2126	1.8 40 /	4			(p. 7/92)
3RB electronic overload relays	;										
For standard applications		3RB3016, 3RB3113	0.1 16 A	A (p. 7	7/105 7/107	3RB3026, 3RB3123	0.1 40 /	4		(p. 7/1	05 7/107)
• For High-Feature applications			RB23 and 3I		. 7/128, 7/136		RB23 and 3			(p. 7	7/128, 7/136)
		with curre 3RB2906-	ent measuri 2.G1 0.3 25 A	•	(p. 7/140			ing module			(p. 7/140)
3RV20 motor starter protect	ctors										
Motor starter protectors		3RV2011	0.11 16	Α	(p. 7/28	<i>'</i>	0.45 40	Α			(p. 7/29)
Link modules		3RA1921,	3RA2911		(p. 7/56	3RA2921					(p. 7/56)
3RA23 reversing contactor	r asse	emblies									
Complete units	Туре	3RA2315	3RA2316	3RA2317	3RA2318		3RA2324	3RA2325	3RA2326	3RA2327	3RA2328
		(p. 3/163)					(p. 3/164)				
400 V	kW	3	4	5.5	7.5		5.5	7.5	11	15	18.5
Assembly kits, etc.		3RA2913-	2AA.		(p. 3/110)	3RA2923-	-2AA.			(p. 3/110)
Function modules		3RA271	BA00		(p. 3/107)	3RA271	.BA00			(p. 3/107)
3RA24 contactor assembli	es fo	r star-delt	a (wye-de	lta) startin	ıg						
Complete units		1	3RA2416	3RA2417		3RA2423		3RA2425	3RA2426		
•	-1	(p. 3/180)				(p. 3/181)					
400 V	kW	5.5	7.5	11		11		15/18.5	22		
Assembly kits/wiring modules		3RA2913-			(p. 3/111		2BB.				(p. 3/111)
Function modules		3RA271			**	3RA271					(p. 3/107)
					(1.1.27.101	4	"				VI/ /

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

Power Contactors for Switching Motors

Introduction





		4 4 4				6 6			
Size		S2 3RT203				S3			
Type 3RT20 contactors	,	3R12U3				3RT204			
Type	1	3RT2035	3RT2036	3RT2037	3RT2038	3RT2045	3RT2046	3RT2047	
AC, DC operation		on 12033 (p. 3/58, 3/67,		3H12U31	3H12U30	(p. 3/59, 3/6		3H12U41	
AC-3						1			
I _e /AC-3/400 V	A	40	50	65	80	80	95	110	
400 V		18.5	22	30	37	37	45	55	
230 V 690 V		11 22	15 22	18.5 37	22 45	22 55	22 75	30 90	
1 000 V						37	37	37	
AC-4 (at $I_a = 6 \times I_{\Theta}$)									
400 V 400 V (200 000 operating cycles)		18.5 11.6	22 12.6	30 14.7	37 15.8	37 17.9	45 22	55 24.3	
AC-1 (40 °C, ≤ 690 V)									
I_{e}	A	60	70	80	90	125	130	130	
Accessories for contactors	;								
Auxiliary • On front switch blocks • Lateral		3RH29, 3RA2 3RH29	8		(p. 3/94 3/101) (p. 3/98)		A28		(p. 3/94 3/101) (p. 3/98)
Function modules • Direct-on-line st • IO-Link, AS-Inte		3RA283. 3RA271AA(00		(p. 3/106) (p. 3/107, 3/108)	3RA283. 3RA271A	A00		(p. 3/106) (p. 3/107, 3/108)
Surge suppressors		3RT2936			(p. 3/103, 3/104)		3RT2946		(p. 3/103, 3/104)
Terminal covers	;	3RT2936-4EA	2		(p. 3/118)	3RT2946-4I	EA2		(p. 3/118)
3RU2 and 3RB overload rel	ays								
3RU thermal overload relays	:	3RU2136	11 80 A		(p. 7/93)	3RU2146	28 100 A		(p. 7/93)
3RB electronic overload relays									
For standard applications		3RB3036, 3RB3133	12.5 80 A	(p. 7/105 7/107)	3RB3046, 3RB3143	12.5 115 A	(p. 7/105 7/107)
• For High-Feature applications		3RB22, 3RB2			(p. 7/128, 7/136)		B23 and 3RB24		(p. 7/128, 7/136)
		with current r module 3RB2			(p. 7/140)		nt measuring B2906-2JG1 10 100 A		(p. 7/140)
3RV20 motor starter protec	tors						10 100 / 1		
Motor starter protectors		3RV2031, 3R\	/2032	9.5 80 A	(p. 7/30)	3RV2041, 3	RV2042	28 100 A	(p. 7/30)
Link modules	;	3RA2931			(p. 7/56)	3RA1941			(p. 7/56)
3RA23 reversing contactor	assem	nblies							
•	Type	3RA2335 (p. 3/165)	3RA2336	3RA2337	3RA2338	3RA2345 (p. 3/166)	3RA2346	3RA2347	
400 V		18.5	22	30	37	37	45	55	
Assembly kits/wiring modules		3RA2933-2A	<u></u> \.		(p. 3/110)	3RA2943-2	AA.		(p. 3/110)
Function modules	;	3RA271BA0	00		(p. 3/107)	3RA271B	A00		(p. 3/107)
Mechanical interlocks	;	3RA2934-2B			(p. 3/114)	3RA2934-2	В		(p. 3/114)
3RA24 contactor assemblie	es for s	star-delta (w	ve-delta) st	arting					
Complete units		3RA2434	3RA2435	3RA2436	3RA2437	3RA2444	3RA2445	3RA2446	
p		(p. 3/182)		3	J	(p. 3/183)		J 110	
400 V	kW 2	22/30	37	45	55	55	75	90	
Assembly kits/wiring modules	;	3RA2933-2BE	3./-2C		(p. 3/111)	3RA2943-2	BB./-2C		(p. 3/111)
Function modules	:	3RA271CA	00		(p. 3/107)	3RA271C	A00		(p. 3/107)

¹⁾ From product version E03 onwards, 3RT2936-1B/-1E surge suppressors can be used for 3RT2.4 contactors. When using an AC/DC coil, the surge suppressor is already integrated in the electronics.

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

Power Contactors for Switching Motors

Introduction







			W 100 W			1000	-4			
Size			S6			S10			S12	
Туре			3RT105			3RT1.6			3RT1.7	
3RT10 conta	actors · 3RT12	2 vac	uum cont	actors						
Type AC, DC operat	rion		3RT1054 (p. 3/71)	3RT1055	3RT1056	3RT1064 (p. 3/71 3	3RT1065	3RT1066	3RT1075 (p. 3/71 3/73	3RT1076
Туре	.1011					3RT1264	3RT1265	3RT1266	3RT1275	3RT1276
						(p. 3/135)			(p. 3/135)	
AC-3			1			1			1	
<i>I_e</i> /AC-3/400 V		Α	115	150	185	225	265	300	400	500
400 V 230 V		kW kW	55 37	75 45	90 55	110 55	132 75	160 90	200 132	250 160
690 V	3RT10/3RT12	kW	110	132	160	200	250	250	400	400/500
1 000 V	3RT10/3RT12	kW	75	90	90	90/315	132/355	132/400	250/560	250/710
AC-4 (at $I_a = 6$	$i \times I_{e}$)									
400 V		kW	55	75	90	110	132	160	200	250
400 V	3RT10/3RT12	kW	29	38	45	54/78	66/93	71/112	84/140	98/161
(200 000 opera										
AC-1 (40 °C, ≤	3RT10/3RT12	^	160	185	215	275/330	330	330	430/610	610
I _e		<u> </u>	100	100	215	275/330	330	330	430/610	610
3RT14 AC-1	contactors									
Type			3RT1456		(p. 4/15, 4/	16) 3RT1466		(p. 4/15, 4/16)	3RT1476	(p. 4/15, 4/16)
I _e /AC-1/40 °C/	′≤ 690 V	Α	275			400			690	
Accessories	s for contacto	rs								
Auxiliary	On front	13	3RH19. 3R	T1026						(p. 3/97, 3/102)
switch blocks			3RH19	11320						(p. 3/99, 3/100)
Surge suppre	ssors		3RT1956-1	C (RC element)						(p. 3/104)
Terminal cove	ers		3RT1956-4	EA.	(p. 3/1	18) 3RT1966-4 I	EA.			(p. 3/118)
Box terminal I	blocks		3RT1955-4	G, 3RT1956-4G	(p. 3/1	16) 3RT1966-40	G			(p. 3/116)
3RB2 overlo	ad relave									
	c overload relay	/S	200000	EO 200 A	/n 7/117 7/1	10) appage	EE 0E0	A a z 100 - 000	. ^	(n 7/117 7/110)
 For standard 	applications		3RB2056 3RB2153	50 200 A 50 200 A	(p. 7/117, 7/1) (p. 7/1)			4 or 160 630 4 or 160 630		(p. 7/117, 7/118) (p. 7/119)
• For High-Fea	ature applications	2	3RB22, 3R		(p. 7/1	<i>'</i>				(p. 7/128)
r or riigir r oa	паго аррпоаноги	5	3RB24	DEG and	(p. 7/1		seo una			(p. 7/136)
				nt measuring	/n 7/1		t measuring	j module		/n 7/140)
			module 3H	B2956-2TH2 20 200 A	(p. 7/1	40) 3RB2966-2	WH2 63 630 /	4		(p. 7/140)
								·		
	led case moto	or sta								
Molded case i protectors	motor starter		3RV1063	40 200 A	(p. 7/	75) 3RV1073	160 400	A (p. 7/75)	3RV1083 252	2 630 A (p. 7/75)
Reversing c	ontactor asse	embli	ies ¹⁾							
Complete unit		Type	1							
400 V		kW	55	75	90	110	132	160	200	250
Assembly kits	s/		3RA1953-2	2A	(p. 3/1	10) 3RA1963-2	Α	(p. 3/110)	3RA1973-2A	(p. 3/110)
wiring module					Ms -7	,		(I/		(1/ -/
Mechanical in	terlocks		3RA1954-2	2A	(p. 3/1	14)				
Contactor a	ssemblies for	star	-delta (wy	e-delta) sta <u>rti</u>	ng ¹⁾					
Complete unit	ts	Type								
400 V		kW	-							
Assembly kits			3RA1953-2	!B	(p. 3/1	12) 3RA1963-2	В	(p. 3/112)	3RA1973-2B	(p. 3/112)
wiring module	es									

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

Contactor assemblies for customer assembly:

 Reversing contactor assemblies, see pages 3/168 to 3/170,
 Contactor assemblies for star-delta (wye-delta) starting, see pages 3/185 to 3/190.

Power Contactors for Switching Motors

Introduction



Size	14
Type	3TF6

Type		31-6						
3TF68/3TF69 vacuum coi	ntact	ors						
Туре		3TF68			3TF69			
		(p. 3/136, 3/137))		(p. 3/136, 3/137)			
AC-3								
I _e /AC-3/400 V	Α	630			820			
400 V	kW	335			450			
230 V	kW	200			260			
690 V 1 000 V	kW kW	600 600			800 800			
AC-4 (at $I_a = 6 \times I_e$)								
400 V	kW	355			400			
400 V	kW	168			191			
(200 000 operating cycles)								
AC-1 (40 °C, ≤ 690 V)		700			910			
I _e	Α	700			910			
Accessories for contacto	ors							
Auxiliary switch blocks								
Lateral		3TY7561				(p. 3/138)		
Surge suppressors		3TX7572				(p. 3/139)		
Terminal covers		3TX7686, 3TX76	596			(p. 3/139)		
3RB2 overload relays								
3RB electronic overload rela	ys							
 For standard applications 		3RB2066,	55 250 A		3RB22, 3RB23 and 3RB24	(p. 7/128, 7/136)		
		3RB2163	or 160 630 A	(p. 7/119)	with current measuring module 3RB2906-2.G1	(n. 7/140)		
• For High Footure application		3RB22, 3RB23 a		(n 7/100 7/106)	with 3UF series transformer	(p. 7/140)		
 For High-Feature application 	15	with current me		(p. 7/128, 7/136)	up to 820 A			
		module 3RB296	6-2WH2	(p. 7/140)				
			63 630 A		63 820 A			
3RV10 molded case motor	or sta	rter protectors	6					
Molded case motor starter		3RV1083	252 630 A			(p. 7/75)		
protectors								
Reversing contactor asse	embl	ies						
Complete units	Type							
400 V	kW	335						
Assembly kits/wiring module	es	3TX7680-1A				(Industry Mall)		
Mechanical interlocks		3TX7686-1A				(Industry Mall)		
Contactor assemblies for	r star	-delta (wye <u>-de</u>	Ita) starting					
Complete units	Туре							
400 V	kW	630						
Assembly kits/wiring module	es	3TX7680-1B				(Industry Mall)		
		1						

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

Switching Devices – Contactors and Contactor Assemblies Power Contactors for Switching Motors

Introduction



Size			
Type			3TG10
3TG10 power relays/n	niniatur	e cor	ntactors
Туре			3TG10
Number of main contacts			4
AC, DC operation			(p. 3/152)
AC-1			
I _e at 400 V	55 °C	Α	20
P at 400 V		kW	13
At 230 V		kW	7.5
AC-2 and AC-3			
$I_{\rm e}$ up to 400 V		Α	8.4
P at 400 V		kW	4

Connection methods

The contactors are available with screw terminals (box terminals or flat connectors) or with spring-type terminals.

Devices of the 3TF2 series are also available for connection with flat connectors and solder pin connectors.

The 3TG10 power relays/miniature contactors are available with screw terminals or flat connectors.

	Screw terminals
8	Spring-type terminals
0	Flat connectors
Н	Solder pin connections
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Use of 3RT contactors, 3RT and 3TF vacuum contactors, reversing contactor assemblies, and contactor assemblies for star-delta (wye-delta) starting with IE3/IE4 motors

Note:

For the use of 3RT contactors, 3RT and 3TF vacuum contactors, reversing contactor assemblies and contactor assemblies for star-delta (wye-delta) starting in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

SUVA-certified safety contactors

We offer special safety contactors for use in safety-related applications. They have NC contacts with mirror contact function and they have SUVA certification. This means they have non-removable auxiliary switch blocks and cannot be operated manually. They thus comply with all requirements for use in safety applications.

General data

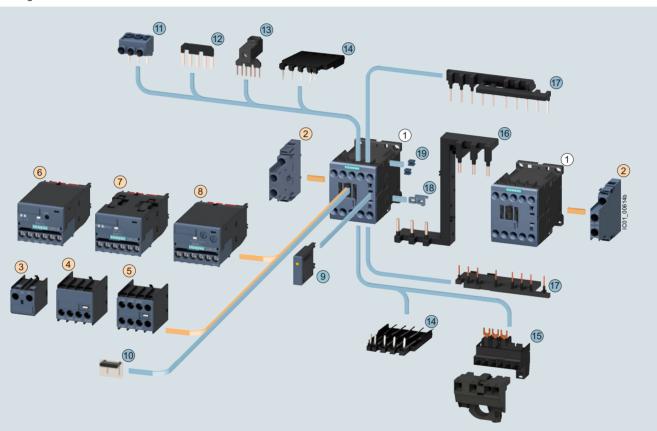
Overview

The SIRIUS family of controls

The SIRIUS modular system with its components for the switching, starting, protection and monitoring of motors and industrial systems stands for the fast, flexible and space-saving construction of control cabinets.

3RT2.1 contactors · Size S00 with mountable accessories

The figure shows the version with screw terminals



- 1 Contactor, size S00
- 2 2-pole auxiliary switch block, laterally mountable
- 3 1-pole auxiliary switch block, for snapping onto the front cable entry from the top
- 4 2-pole auxiliary switch block, for snapping onto the front cable entry from the bottom
- 5 4-pole auxiliary switch block, for snapping onto the front
- 6 3RA27 function module for AS-Interface, direct-on-line starting
- 7 3RA27 function module for IO-Link, direct-on-line starting
- 8 3RA28 function module
- 9 Surge suppressor with/without LED
- 10 Cover, sealable
- 11) Three-phase feeder terminal
- 1) 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.
- 2) The parts (8) and (9) can only be ordered together as 3RA2912-2H mechanical connectors.

- (12) Star jumper, 3-pole, without connecting terminal
- 13 Link for paralleling, 3-pole, with connecting terminal
- (14) Solder pin adapter
- (5) Connection module (adapter and connector) for contactors with screw-type connection
- (16) Safety main current connector for two contactors

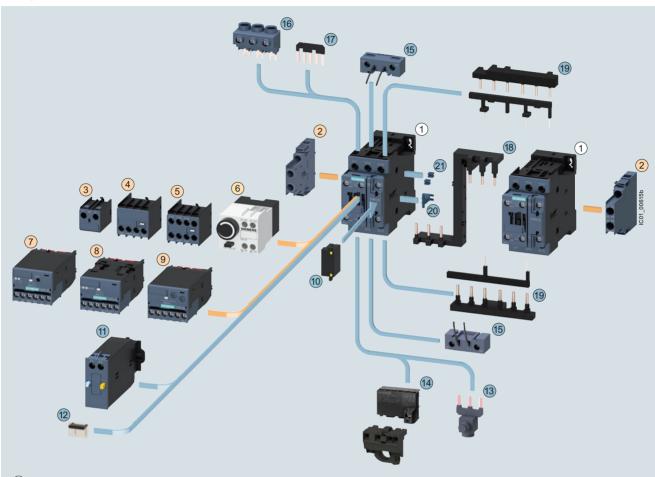
Assembly kit 3RA2913-2AA1 comprising:

- Wiring modules on the top and bottom for connecting the main, auxiliary and control current paths, electrical interlock¹⁾ included, can be broken off (NC contact interlock)
- (18) Mechanical interlocks²)
- (19) Two connecting clips for two contactors²⁾
- For contactors
- For contactors and coupling contactors

General data

3RT2.2 contactors · Size S0 with mountable accessories

The figure shows the version with screw terminals



- (1) Contactor, size S0
- 2 2-pole auxiliary switch block, laterally mountable
- 3 1-pole auxiliary switch block, for snapping onto the front cable entry from the top
- 4 2-pole auxiliary switch block, for snapping onto the front cable entry from the bottom
- - 4-pole auxiliary switch block, for snapping onto the front
- 6 Pneumatically delayed auxiliary switch block
- 7 3RA27 function modules for AS-Interface, direct-on-line starting
- 8 3RA27 function modules for IO-Link, direct-on-line starting
- 9 3RA28 function modules
- 10 Surge suppressor with/without LED
- 11) Mechanical latching block
- 12 Cover, sealable

- 13 Link for paralleling, 3-pole, with connecting terminal
- Connection module (adapter and plug) for contactors with screw-type connection
- (15) Coil terminal module, on the top and bottom
- 16 Three-phase feeder terminal
- Link for paralleling (star jumper), 3-pole, without connecting terminal
- 18 Safety main current connector for two contactors

Assembly kit 3RA2923-2AA1 comprising:

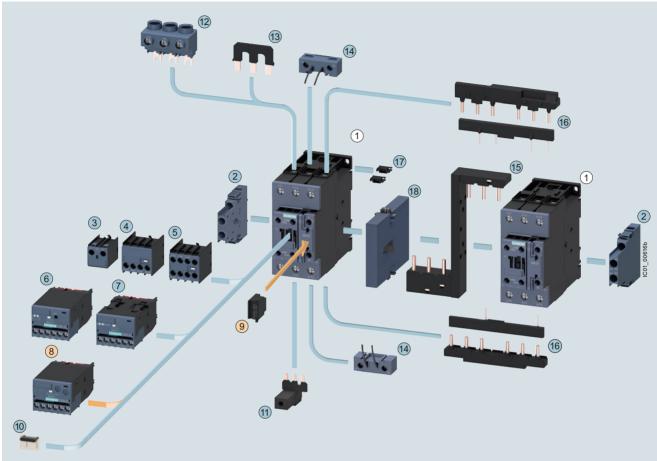
- 19 Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)
- 20 Mechanical interlocks 1)
- 21) Two connecting clips for two contactors 1)
- For contactors
- For contactors and coupling contactors

¹⁾ The parts 20 and 21 can only be ordered together as 3RA2922-2H mechanical connectors.

General data

3RT2.3 contactors · Size S2 with mountable accessories

The figure shows the version with screw terminals



- 1 Contactor, size S2
- 2 2-pole auxiliary switch block, laterally mountable
- 3 1-pole auxiliary switch block, for snapping onto the front, cable entry from above
- 4 2-pole auxiliary switch block, for snapping onto the front, cable entry from below
- (5) 4-pole auxiliary switch block, for snapping onto the front
- 6 3RA27 function modules for AS-Interface, direct-on-line starting
- (7) 3RA27 function modules for IO-Link, direct-on-line starting
- 8 3RA28 function modules
- 9 Surge suppressor with/without LED
- 10 Cover, sealable
- 11 Link for paralleling, 3-pole, with connection terminal
- 12 Three-phase infeed terminal
- Link for paralleling (star jumper), 3-pole, without connection terminal

- (4) Coil connection module, top and bottom
- (5) Safety main current connector for two contactors

Assembly kit 3RA2933-2AA1 comprising:

- (NC contact interlock)

 Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)
- 17 Two connecting clips for two contactors

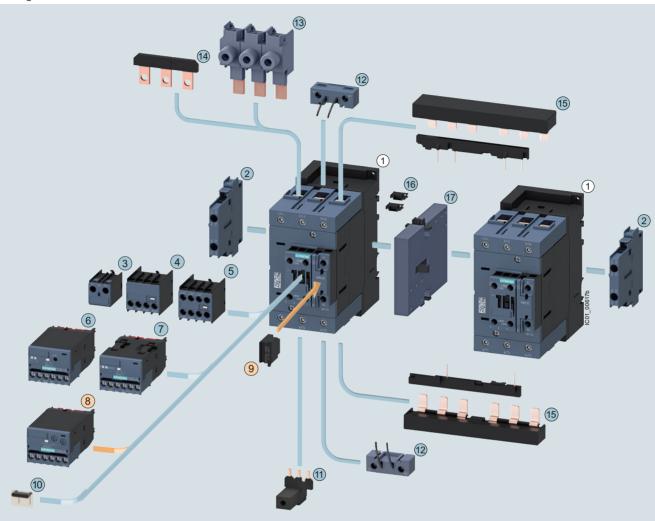
To be ordered separately:

- 18 Mechanical interlocks
- For contactors
- For contactors and coupling contactors

General data

3RT2.4 contactors · Size S3 with mountable accessories

The figure shows the version with screw terminals



- (1) Contactor, size S3
- 2 2-pole auxiliary switch block, laterally mountable
- 3 1-pole auxiliary switch block, for snapping onto the front, cable entry from above
- 2-pole auxiliary switch block, for snapping onto the front, cable entry from below
- (5) 4-pole auxiliary switch block, for snapping onto the front
- (6) 3RA27 function modules for AS-Interface, direct-on-line starting
- (7) 3RA27 function modules for IO-Link, direct-on-line starting
- 8 3RA28 function modules
- 9 Surge suppressor with/without LED
- (10) Cover, sealable

- 11) Links for paralleling, 3-pole, with connection terminal
- (2) Coil connection module, top and bottom
- (3 units)
- Links for paralleling (star jumper), 3-pole without connecting terminal

Assembly kit 3RA2943-2AA1

comprising:

- (15) Wiring modules on the top and bottom for connecting the main, auxiliary and control current paths, electrical interlock1) included, interruptible (NC contact interlock)
- 16) Two connectors for two contactors

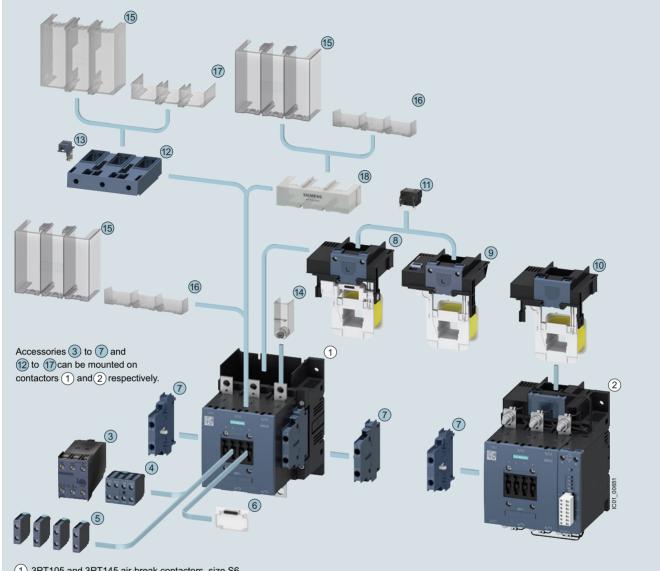
To be ordered separately:

- 17 Mechanical interlock
- For contactors
- For contactors and coupling contactors

^{1) 3}RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

General data

3RT105 and 3RT145 contactors · Size S6 with mountable accessories



- 1 3RT105 and 3RT145 air-break contactors, size S6 (version without withdrawable coil)
- ② 3RT105.-.P and 3RT145.-.P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S6 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted on the front of contactors (1) and (2)

- 3 3RT1926: Auxiliary switch block, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) start)
- 4) 3RH192: 4-pole auxiliary switch block
- (5) 3RH192: 1-pole auxiliary switch block (max. four can be snapped on)
- 6 3RT1926-4MA10: Cover, sealable

Can be mounted on the side of contactors 1 and 2

7 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- (8) 3RT1955-5A.3.: Withdrawable coil, standard operating mechanism
- (9) 3RT1955-5N.3.: Withdrawable coil, solid-state operating mechanism
- (10) 3RT1955-5P.3.: Withdrawable coil, solid-state operating mechanism and remaining lifetime indicator

Can be plugged onto the top of contactor operating mechanisms (8) and (9)

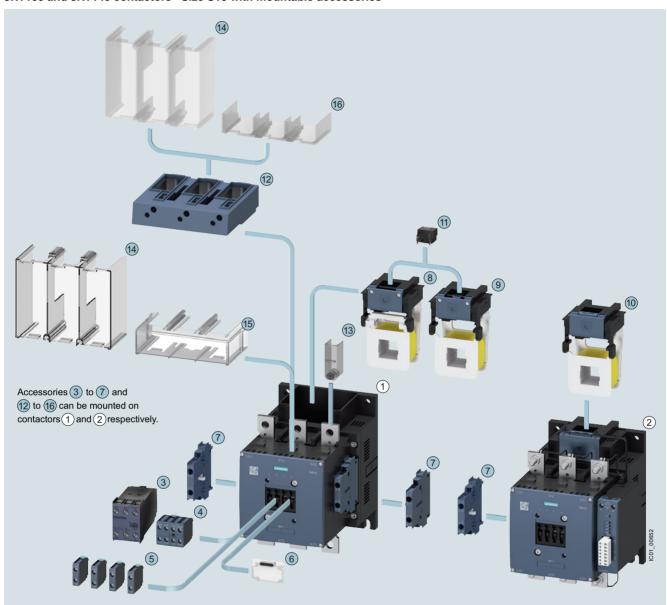
11) 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at the top or bottom on busbars or box terminals of contactors 1 and 2

- 12) 3RT1956-4G: Box terminal block
- 13 3TX7500-0A: Auxiliary terminal, 1-pole
- 14 3TX6526-3B: Terminal cover (can be screwed on), covers one busbar connection
- (15) 3RT1956-4EA1: Terminal cover for busbar connection and on box terminal
- (16) 3RT1956-4EA3: Terminal cover for busbar connection
- (17) 3RT1956-4EA2: Terminal cover on box terminal
- (18) 3RT1956-4EA4: Terminal cover for busbar connection, covers (15), (16) and (18) can be mounted

General data

3RT106 and 3RT146 contactors · Size S10 with mountable accessories



- 1 3RT106 and 3RT146 air-break contactors, size S10 (version without withdrawable coil)
- ② 3RT106.-.P and 3RT146.-.P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S10 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted on the front of contactors (1) and (2)

- 3 3RT1926: Auxiliary switch block, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) start)
- 4) 3RH192: 4-pole auxiliary switch block
- (5) 3RH192: 1-pole auxiliary switch block (max. four can be snapped on)
- 6 3RT1926-4MA10: Cover, sealable

Can be mounted on the side of contactors (1) and (2)

7 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- (8) 3RT1965-5A.3.: Withdrawable coil, standard operating mech.
- 9 3RT1965-5N.3.: Withdrawable coil, solid-state operating mech.
- (10) 3RT1965-5P.3.: Withdrawable coil, solid-state operating mech. and remaining lifetime indicator

Can be plugged onto top of contactor operating mechanisms $\fbox{8}$ and $\fbox{9}$

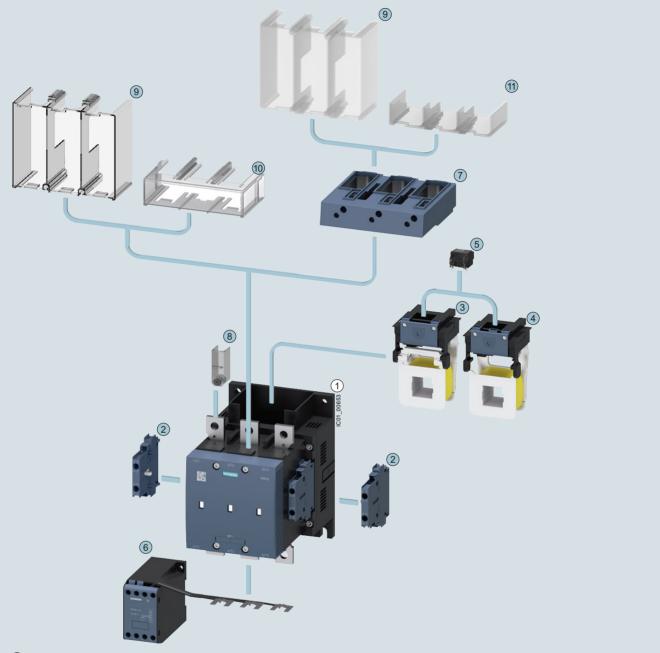
11) 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at the top or bottom on busbars or box terminals of contactors (1) and (2)

- (12) 3RT1966-4G: Box terminal block
- 3 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- (4) 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- (15) 3RT1966-4EA3: Terminal cover for busbar connection
- 16 3RT1966-4EA2: Terminal cover on box terminal

General data

3RT126 vacuum contactors · Size S10 with mountable accessories



1 3RT126 vacuum contactor, size S10 (version without withdrawable coil)

Can be mounted on side of contactor

2) 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactor

- 3 3RT1966-5A.3.: Withdrawable coil, standard operating mechanism
- 4) 3RT1966-5N.3.: Withdrawable coil, solid-state operating mechanism

Can be plugged onto top of contactor operating mechanisms

5 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

6 3RT1966-1PV.: Main current path surge suppression module

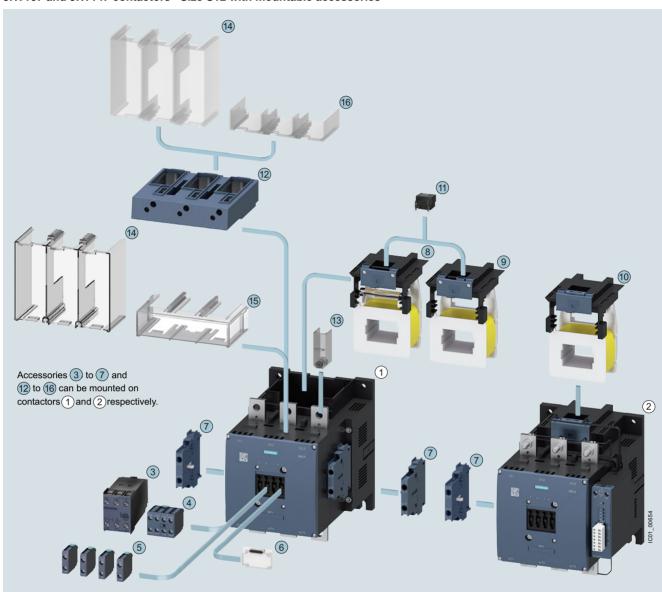
Can be mounted on the top or bottom on busbars or box terminals

- 7 3RT1966-4G: Box terminal block
- 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- 10 3RT1966-4EA3: Terminal cover for busbar connection
- 11) 3RT1966-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/76 to 3/125 and 3/138 to 3/141.

General data

3RT107 and 3RT147 contactors · Size S12 with mountable accessories



- 1 3RT107 and 3RT147 air-break contactors, size S12 (version without withdrawable coil)
- ② 3RT107.-.P and 3RT147.-.P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S12 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted on the front of contactors (1) and (2)

- 3 3RT1926: Auxiliary switch block, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) start)
- 4 3RH192: 4-pole auxiliary switch block
- 5 3RH192: 1-pole auxiliary switch block (max. four can be snapped on)
- (6) 3RT1926-4MA10: Cover, sealable

Can be mounted on the side of contactors (1) and (2)

7 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- (8) 3RT1975-5A.3.: Withdrawable coil, standard operating mech.
- 9 3RT1975-5N.3.: Withdrawable coil, solid-state operating mech.
- (10) 3RT1975-5P.3.: Withdrawable coil, solid-state operating mech. and remaining lifetime indicator

Can be plugged onto top of contactor operating mechanisms (8) and (9)

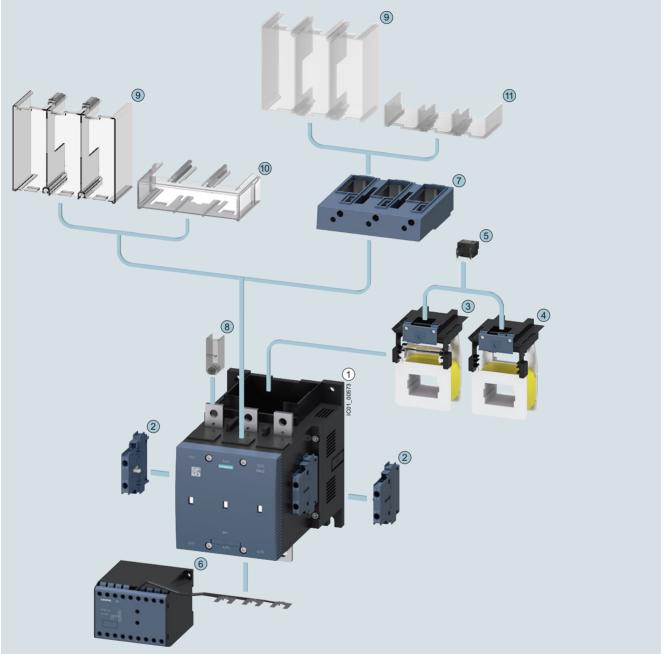
11) 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at the top or bottom on busbars or box terminals of contactors 1 and 2

- 12) 3RT1966-4G: Box terminal block
- 33TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- (4) 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- (15) 3RT1966-4EA3: Terminal cover for busbar connection
- (16) 3RT1966-4EA2: Terminal cover on box terminal

General data

3RT127 vacuum contactors · Size S12 with mountable accessories



1 3RT127 Vacuum contactor, size S12 (version without withdrawable coil)

Can be mounted on the side of contactor

2 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- 3 3RT1955-5A.3.: Withdrawable coil, standard operating mechanism
- (4) 3RT1955-5N.3.: Withdrawable coil, solid-state operating mechanism

Can be plugged onto the top of contactor operating mechanisms

5 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

(6) 3RT1966-1PV.: Main current path surge suppression module

Can be mounted at the top or bottom on busbars or box terminals

- 7 3RT1956-4G: Box terminal block
- (8) 3TX6526-3B: Terminal cover (can be screwed on), covers one busbar connection
- 3RT1956-4EA1: Terminal cover for busbar connection and on box terminal
- (10) 3RT1956-4EA3: Terminal cover for busbar connection
- 11) 3RT1956-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/76 to 3/125 and 3/138 to 3/141.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Overview

Version	Size	Ratings of three-phase motors at 50 Hz and 400 V	Connectio Screw terminals	n methods Spring- type terminals	Туре	Page
		kW				
Power contactors for switching motors						
AC operation						
Basic unit	S00	3 7.5	✓	✓	3RT201A.0.	3/55
With permanently mounted auxiliary switch block (SUVA-certified safety contactor)			✓	✓	3RT201P04-3MA0	3/55
Basic unit	S0	4 18.5	✓	✓	3RT202A.00	3/56
With removable mounted auxiliary switch block			✓	✓	3RT202A.04	3/57
With permanently mounted auxiliary switch block (SUVA-certified safety contactor)			1	✓	3RT202CL24-3MA0	3/57
Basic unit	S2	18.5 37	✓	✓	3RT203A.00	3/58
With removable mounted auxiliary switch block			✓		3RT2031A.04	3/58
With permanently mounted auxiliary switch block			✓	1	3RT203CL24-3MA0	3/58
Basic unit	S3	37 55	1	1	3RT20A.00	3/59
With removable mounted auxiliary switch block			✓		3RT2041A.04	3/59
With permanently mounted auxiliary switch block			✓		3RT2041CL24-3MA0	3/59
DC operation						
Basic unit	S00	3 7.5	/	/	3RT201B.4.	3/60
With integrated coil circuit			/	/	3RT201B4.	3/60
With permanently mounted auxiliary switch block (SUVA-certified safety contactor) and integrated coil circuit (diode)			✓	✓	3RT201B44-3MA0	3/61
With voltage tap-off			/	/	3RT201BB40CC0	3/61
Basic unit	S0	4 18.5	/	1	3RT202B.40	3/64
With coil circuit plugged into front			1	/	3RT202B40	3/64
With removable mounted auxiliary switch block			1	1	3RT202BB44	3/64
With permanently mounted auxiliary switch block (SUVA-certified safety contactor)			1	1	3RT202B44-3MA0	3/65
With voltage tap-off			/	1	3RT202BB40-0CC0	3/65
DC operation for direct control from the PLC (coupling	relays)					
Basic unit						
With and without integrated coil circuit	S00	3 5.5	/	1	3RT201B4.	3/62, 3/6
With integrated coil circuit	S0	4 15	/	/	3RT202KB40	3/66
	S2	18.5 37	1	1	3RT203KB40	3/67
	S3	37 and 45	/	/	3RT204KB40	3/67
AC/DC operation (50/60 Hz AC or DC)	00		•			-,-:
Basic unit with integrated coil circuit	S0	5.5 18.5	./	1	3RT202N.30	3/68
Basic unit with integrated coil circuit	S2	18.5 37	/	1	3RT203N.30	3/69
With removable mounted auxiliary switch block	J.L	. 5.5 57	/		3RT2031N.34	3/69
With permanently mounted auxiliary switch block			/	1	3RT203NB34-3MA0	3/69
With permanently modified auxiliary switch block With voltage tap-off			✓	/	3RT203NB30-0CC0	3/69
Basic unit with integrated coil circuit	S3	37 55	1	1	3RT204N.30	3/70
With removable mounted auxiliary switch block		or oo	1		3RT2041N.34	3/70
With permanently mounted auxiliary switch block			1	 ✓	3RT204NB34-3MA0	3/70
With voltage tap-off			1	1	3RT204NB30-0CC0	3/70
Basic unit with standard operating mechanism	S6 S12	55 250	√ 1)	1	3RT10A.36	3/71
Basic unit with solid-state operating mechanism with the option of control via a separate 24 V DC control signal input	30 012	230	·		511110	0/11
Fail-safe control signal input for safety-related applications up to SIL CL 3	S6 S12	55 250	✓ ¹⁾		3RT10S.36	3/72
Standard control signal input			✓ ¹⁾	1	3RT10N.36	3/73
• Standard control signal input, with remaining lifetime indication (RLT)			✓ ¹⁾		3RT10P.35	3/73

⁻⁻ Version not possible

[✓] Version possible

¹⁾ Connection method:

⁻ Main circuit: Busbar connection (optionally with box terminals),

⁻ Auxiliary/control circuit: Screw terminals or spring-type terminals.

SIRIUS 3RT contactors, 3-pole up to 250 kW



Contactors with screw terminals: 3RT2 (sizes S00 to S3) and 3RT1 (sizes S6 to S12)

3RT contactors, sizes S00 to S12

Our power range:

- · Contactors for switching motors:
 - Size S00: 3RT201 up to 7.5 kW
 - Size S0: 3RT202 up to 18.5 kW
 - Size S2: 3RT203 up to 37 kW Size S3: 3RT204 up to 55 kW

 - Sizes S6 to S12: 3RT10 up to 250 kW
- For vacuum contactors for switching motors, see page 3/126
 - Sizes S10 and S12: 3RT12 up to 250 kW
 - Size 14: 3TF6 up to 450 kW

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1 (auxiliary switches)

Ambient conditions

If the devices are used in ambient conditions which deviate from common industrial conditions (IEC 60721-3-3 "Stationary Use, Weather-Protected"), information must be obtained about possible restrictions with regard to the reliability and endurance of the device and possible protective measures. In this case contact our Technical Support:

https://support.industry.siemens.com/My/ww/en/requests

Auxiliary contact complement

- Size S00: an auxiliary contact is integrated in the basic device.
- Sizes S0 to S3: the basic units contain two integrated auxiliary contacts (1 NO + 1 NC).

All basic units, with the exception of coupling relays in sizes S00 and S0, can be expanded using auxiliary switch blocks, see page 3/88 for the permitted selection of auxiliary switches.

• Sizes S6 to S12: These contactors are supplied with two laterally mounted auxiliary switch blocks. The fitting of auxiliary switches is possible on the front and on the side (the 3RT12 vacuum contactor is an exception: only lateral fitting of auxiliary switches is possible here).

For detailed information about the fitting of auxiliary switches, see pages 3/88 to 3/93.

Contact reliability

If voltages $\leq 110 \text{ V}$ and currents $\leq 100 \text{ mA}$ are to be switched, the auxiliary contacts of the 3RT contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents ≥ 1 mA at a voltage ≥ 17 V.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Connection methods

Main circuit

- Sizes S00 and S0: screw or spring-type terminals, spring-type terminals with convenient plug-in design for device connectors
- Sizes S2 and S3: screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs for S3 when the box terminal is removed.
- Sizes S6 to S12: screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Alternatively, box terminals are available as accessories

Auxiliary/control circuit

• Sizes S00 to S12: Screw or spring-type terminals

Electromagnetic compatibility (EMC)

The 3RT contactors fulfill the requirements for environment category A.

Note:

When the contactors are used in an environment with frequency converters, the configuration notes in the Manual must be observed, see "More information" page 3/23.

Short-circuit protection

Short-circuit protection of contactors without overload relays, see "Technical specifications":

- For 3RT2 contactors, see pages 3/28, 3/34, 3/38 and 3/43
- For 3RT1 contactors, see page 3/48

Refer to the configuration manuals for details of short-circuit protection of contactors with overload relays or of load feeders, see "More information" on page 3/23.

For fuseless assembly of motor feeders consisting of 3RV2 motor starter protector and 3RT2 contactor, selection guides are available, see "SIRIUS 3RA2 load feeders" from page 8/4 onwards.

Motor protection

3RT2 contactors

For protection against overload, 3RU2 thermal overload relays (see page 7/92 onwards) or 3RB3 electronic overload relays (see page 7/105 onwards) can be mounted on the 3RT2 contactors.

3RT1 contactors

For protection against overload, 3RB2 electronic overload relays (see page 7/117 onwards) can be mounted on the 3RT1 contactors.

Plant and application monitoring

For monitoring and measuring in the application, 3RR2 monitoring relays can be mounted on the 3RT2 contactors (see page 10/62).

Ratings of three-phase motors

The quoted rating (in kW) refers to the output power on the motor shaft (according to the nameplate).

The power rating specifications of the contactors in kW (in accordance with IEC 60947-4-1, Table G) are guide values for 4-pole standard motors at 50 Hz AC and specified voltage (e.g. 400 V). The actual starting and rated data of the motor to be switched must be considered when selecting the units. The motor current, motor protection device and the permissible contactor current according to the utilization category must be aligned with each other.

Surge suppression

3RT contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (assembly of diode and Zener diode for short break times) for damping opening surges in the coil, see from page 3/103 onwards.

- Size S00: the surge suppressors are plugged onto the front of the contactors here. Space is provided for them next to a snap-on auxiliary switch block.
- Sizes S0 and S3: the surge suppressors can be plugged onto the front of the devices. In the case of size S3 contactors, surge suppressors can only be used as from product version E03
- Sizes S6 to S12: Exchangeable operating mechanisms with integrated coil circuit (varistor)

Note:

The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (for details, see the relevant manual → "More information" on page 3/23).

Contactors with voltage tap-off

3RT2 contactors

The size S00 to S3 contactors with voltage tap-off are special versions for mounting the SIRIUS 3RA27 function modules for connection to the control system via IO-Link or AS-Interface (see from page 3/80 onwards).

Without a function module, these contactors can be used like the standard versions.

For more information on IO-Link and AS-Interface, see "Industrial Communication", from page 2/1 onwards.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Operating mechanism types

3RT2 contactors

3RT2 contactors are available as standard versions with AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation possible).

DC coupling contactors with reduced power consumption are also ideally suited for connection to the controller.

With an operating range between 0.8 to 1.1 x $U_{\rm s}$, control takes place via the control supply voltage connection A1 - A2 as is typically the case.

3RT1 contactors

The following control and/or actuator versions are available in sizes S6 to S12:

- Standard operating mechanism with economy circuit for AC and DC operation (switchover from closing coil to holding coil)
- Solid-state operating mechanisms Overvoltage damping of the operating mechanism coil is already integrated in the electronics for contactors with solid-state operating mechanisms. The operating mechanisms are powered via a supply voltage with an operating range from 0.8 to 1.1 x $U_{\rm S}$, optionally also controlled depending on the chosen mode of operation. Alternatively, control is via the separate 24 V DC control signal input. Various rated voltage ranges for AC/DC control are available.

The following versions are available:

- With two operating modes: Direct control or via CPU input
- As above, but additionally with remaining lifetime indication (RLT)
- With fail-safe PLC input for simplification of safety applications (without mode of operation selection)

Solenoid coils/drive units

3RT2 contactors

Coil replacement is possible for sizes S0 to S3.

3RT1 contactors

The operating mechanisms for 3RT10....A/-.N/-.P contactors are removable and can be replaced simply by unlocking and pulling them out.

NOTICE: Removal or changing of the operating mechanism is not permitted for 3RT10....S contactors with fail-safe control.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Safety applications

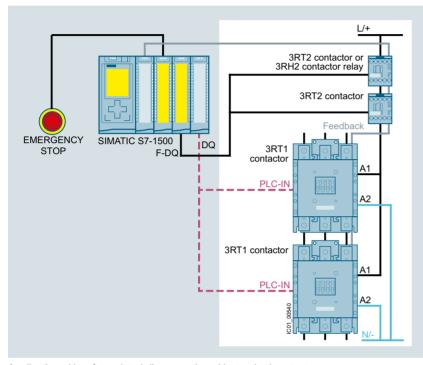
Contactors are a significant part of safety-related applications. They are generally the actuators that perform the switching operation leading to the safe disconnection of the corresponding application or system.

While contactors with smaller power ratings can be connected directly to the outputs of fail-safe controllers, implementing

safety-related applications with standard contactors with higher power is much more complicated and elaborate because of the necessary coupling links. Due to their fail-safe control input, the special versions provide a much simpler way of doing this.

For more information on safety systems, see from page 11/1 onwards.

Example for SIL 2 and SIL 3 / PLe application - previously:

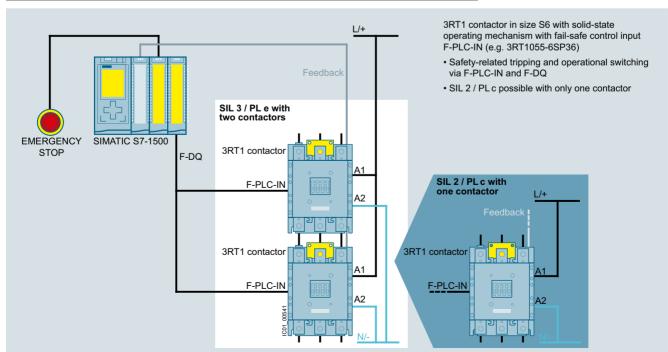


3RT1 contactor in size S6 with standard or solid-state operating mechanism with PLC-IN

- Safety-related tripping only possible via coupling links and F-DQ
- Standard operating mechanism: operational switching via coupling links and F-DQ
- Solid-state operating mechanism: operational switching with PLC-IN and DQ

Application with safety-related disconnection with standard contactors

Example for SIL 3 / PL e (left-hand side) and SIL 2 / PL c (right-hand side) Application - new:



Application with safety-related disconnection with contactors with fail-safe control

SIRIUS 3RT contactors, 3-pole up to 250 kW

Contactors for special applications

- SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole, see from page 4/6 onwards
- SIRIUS 3RT20 and 3RT10 contactors with an extended application range, 3-pole (for rail applications), see from page 4/52 onwards

Article No. scheme

Product versions		Article number
SIRIUS power contactors		3RT2
Device type	e.g. 0 = 3-pole motor contactor	
Size of the contactor	e.g. 4 = S3	
Power dependent on size	e.g. 5 = 37 kW in the case of S3	
Type of electrical connection	e.g. 1 = screw terminals (main and auxiliary circuits)	
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	
Rated control supply voltage	e.g. P0 = 230 V AC, 50 Hz	
Auxiliary switches	e.g. 0 = in the case of S3: 1 NO + 1 NC integrated	
Special version		0000
Example		3RT2 0 4 5 - 1 A P 0 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Technical specifications

More information							
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16134/td	System Manual "SIRIUS – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318						
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16134/faq	Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", see https://support.industry.siemens.com/cs/ww/en/view/60306557						
	Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820						
	Configuration Manual "Load Feeders – Configuring the SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188						
	Configuration Manual "Configuring SIRIUS Innovations UL", see https://support.industry.siemens.com/cs/ww/en/view/53433538						

		3RT2 S00 to S2	S3	3RT1 S6 to S12
		S00 to S2	S3	S6 to S12
	V	690	1 000 (3RT200CC0: 690)	
	V	690	690	500
	V	690	690	690
	Α	10		
) V) V		10 ¹⁾ 3 2	6	6 3 2 1 ²⁾
) V) V	A A A	10 6 3 2		10 6 3 2
) V	A A A	1 0.3 0.15		1 0.3 0.15 ²⁾
) V) V	A A A	10 ¹⁾ 2 1 0.9		10 ³⁾ 2 1 0.9
) V	A A A	0.3 0.14 0.1		0.3 0.14 0.15 ²⁾
	0 V	V A A O V A A	V 690 V 690 A 10 0 V A 10 ¹⁾ 0 V A 3 0 V A 2 0 V A 1 4 V A 10 0 V A 6 0 V A 3 5 V A 2 0 V A 1 0 V A 0.3 0 V A 0.15 4 V A 10 ¹⁾ 0 V A 2 0 V A 1 0 V A 0.3 0 V A 0.15	(3RT200CC0: 690) V 690 Fig. 690 A 10 OV A 10 ¹⁾ OV A 3 OV A 2 OV A 1 A 10 A 10 A 10 OV A 3 OV A 2 OV A 1 A 10 OV A 6 OV A 3 OV A 2 OV A 1 OV A 0.3 OV A 0.15 A V A 10 OV A 0.3 OV A 0.15

Contact reliability at 17 V, 1 mA Acc. to IEC/EN 60947-5-4

 $^{1)}$ 3RH22, 3RH29, 3RT2...-...4, 3RT2...-...6: $I_{\rm e}$ = 6 A at AC-15/AC-14 and DC-13.

Frequency of contact faults < 10⁻⁸ i. e. < 1 fault per 100 million operating cycles

²⁾ For laterally mountable auxiliary switch blocks, only the rated operational voltages up to 500 V apply.

³⁾ For laterally mountable auxiliary switch blocks, DC-13/at 24 V: max. 6 A.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Type Size

Contact endurance of the auxiliary contacts

It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the

The contact endurance is mainly dependent on the breaking

3RT contactors S00 to S12

Sizes S00 to S3

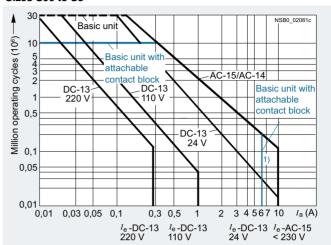


Diagram legend:

 I_a = Breaking current

 $I_{\rm e}$ = Rated operational current

The characteristic curves apply to:

integrated auxiliary contacts on 3RT2.
 3RH2911, 3RH2921 auxiliary switch blocks¹⁾

Sizes S6 to S12

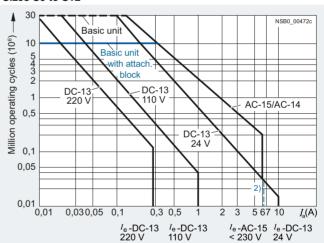


Diagram legend:

 I_a = Breaking current

 $I_{\rm e}$ = Rated operational current

- The characteristic curves apply to:
 Integrated auxiliary contacts on 3RT10
 3RH1911, 3RH1921 auxiliary switch blocks³⁾
- 1) 3RH22, 3RH29, 3RT2...-...4, 3RT2...-...6: $I_{\rm e}$ = 6 A at AC-15/AC-14 and DC-13, 3RT2.4: $I_e = 6$ A at AC-15/AC-14. ²⁾ For laterally mountable auxiliary switch blocks, DC-13/at 24 V: Max. 6 A.
- 3) For laterally mountable auxiliary switch blocks, only the rated operational voltages up to 500 V apply.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Type Size

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching resistive and inductive AC loads (AC-1/AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current $I_{\rm e}$ complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

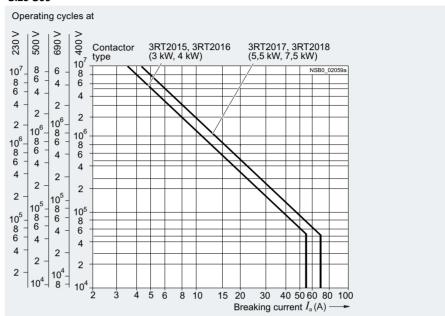
$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

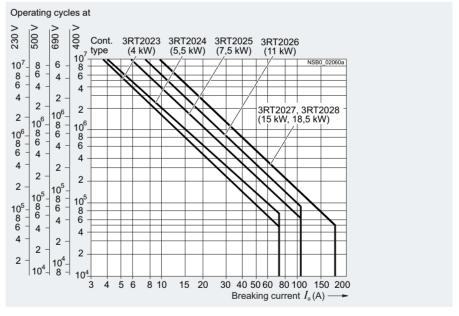
- X Contact endurance for mixed operation in operating cycles
- A Contact endurance for normal operation $(I_a = I_e)$ in operating cycles
- B Contact endurance for inching $(I_a = \text{multiple of } I_e)$ in operating cycles
- C Inching operations as a percentage of total switching operations

3RT2 contactors S00 and S0

Size S00



Size S0

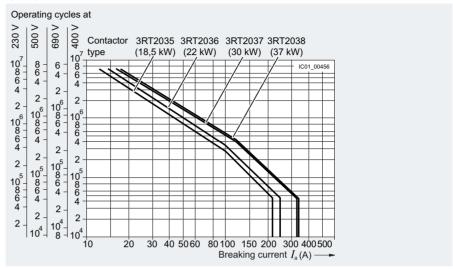


SIRIUS 3RT contactors, 3-pole up to 250 kW

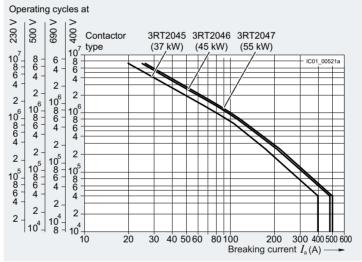
Type 3RT contactors
Size S2 to S12

Contact endurance of main contacts (continued)

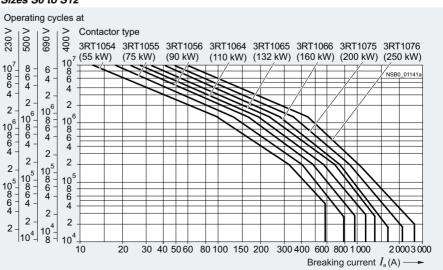
Size S2



Size S3



Sizes S6 to S12



		Contactors	
Туре		3RT2015, 3RT2016	3RT2017, 3RT2018
Size		S00	
General data			
Dimensions (W x H x D)			
Basic unit Screw terminals Spring-type terminals	mm ′mm	45 x 58 x 73 45 x 70 x 73	
Basic unit with mounted auxiliary switch block			
- Screw terminals - Spring-type terminals	mm mm	45 x 58 x 117 45 x 70 x 121	
 Basic unit with mounted function module or solid-state time-delayed auxiliary switch block Screw terminals Spring-type terminals 	mm mm	45 × 58 × 147 45 × 70 × 147	
Permissible mounting position	111111	40 X 70 X 147	
The contactors are designed for operation on			
a vertical mounting surface.		360° 22,5° 22,5° \$\frac{1}{2}\text{360} \text{360} \tex	
Upright mounting position			
		NSB0_00477a Special version required	
Mechanical endurance		Special version required	
Basic unit	Operat-	30 million	
- Dasic unit	ing	30 million	
	cycles		
- With mounted auxiliary switch block	Operat- ing cycles	10 million	
- with solid-state compatible auxiliary switch block	Operat- ing cycles	5 million	
Electrical endurance	-,	For contact endurance of the main of	contacts, see page 3/25.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690	
Rated impulse withstand voltage $U_{\rm imp}$			
Auxiliary circuit	kV	6	
Main circuit	kV	6	
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	400	
Mirror contacts			
A mirror contact is an auxiliary NC contact that cannot be closed			
simultaneously with an NO main contact. • 3RT2.1. (removable auxiliary switch block)		Yes, this applies to both the basic ur unit and the mounted auxiliary switch Appendix F	
3RH2919NF solid-state compatible auxiliary switch blocks		No mirror contact for size S00	
Ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-55 +80	
Degree of protection acc. to IEC 60529			
• On front		IP20 (screw terminals and spring-type	pe terminals)
Connecting terminal		IP20 (screw terminals and spring-type	•
Touch protection acc. to IEC 60529		Finger-safe (screw terminals and spi	·
Shock resistance		5 (J 7,1-1-1-1
Rectangular pulse			
- AC operation - DC operation	g/ms g/ms	6.7/5 and 4.2/10 6.7/5 and 4.2/10	7.3/5 and 4.7/10 7.3/5 and 4.7/10
Sine pulseAC operationDC operation	g/ms g/ms	10.5/5 and 6.6/10 10.5/5 and 6.6/10	11.4/5 and 7.3/10 11.4/5 and 7.3/10
ου οροιαιίοπ	giiis	10.0/0 and 0.0/10	11.7/3 and 7.3/10

		Combostore	
Type		Contactors	2PT2017 2PT2010
Type Size		3RT2015, 3RT2016 S00	3RT2017, 3RT2018
		300	
Short-circuit protection			
Main circuit			
 Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type acc. to IEC/EN 60947-4-1 Type of coordination "1" Type of coordination "2" Weld-free (test conditions acc. to IEC 60947-4-1) 	5SE A A A	35 20 10	50 25
 Miniature circuit breaker (up to 230 V) with C character Short-circuit current 1 kA, type of coordination "1" 	istic A	10	
Auxiliary circuit			
Short-circuit test according to IEC/EN 60947-5-1			
• With fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}=$ 1 kA	А	10	
With 230 V miniature circuit breaker, C characteristic with short-circuit current $I_{\rm k}=400~{\rm A}$	А	6	
Short-circuit protection for contactors with overload relay	S	See Configuration Manual for	load feeders
Short-circuit protection for fuseless load feeders		See 3RA2 load feeders on page	ge 8/4 onwards
Control			
Solenoid coil operating range			
AC operation	50 Hz 60 Hz	0.8 1.1 x <i>U</i> _s 0.85 1.1 x <i>U</i> _s	
DC operation	Up to 50 °C Up to 60 °C	0.8 1.1 x <i>U</i> _s 0.85 1.1 x <i>U</i> _s	
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_{\rm S}$)			
 AC operation, 50/60 Hz, standard version Closing P.f. Closed 	VA VA	27/24.3 0.8/0.75 4.2/3.3	37/33 5.7/4.4
P.f.AC operation, 50 Hz, for USA/CanadaClosing	VA	0.25/0.25	36
P.f. for closingClosedP.f. for closed	VA	0.81 4.4 0.24	0.8 5.9
 AC operation, 60 Hz, for USA/Canada Closing P.f. for closing Closed P.f. for closed DC operation (closing = closed) 	VA VA W	31.7 0.81 4.8 0.25	43 0.8 6.5
Permissible residual current of the electronics (with 0 signal)	VV	4	
• AC operation		$< 3 \text{ mA x } (230 \text{ V/}U_s)^{1)}$	$< 4 \text{ mA} \times (230 \text{ V/}U_{\text{S}})^{1)}$
DC operation		$< 10 \text{ mA} \times (24 \text{ V/}U_s)^{1)}$	<i>5,</i>
Operating times for 1.0 x $U_s^{(2)}$, . 3/	
Total break time = Opening delay + Arcing time			
AC operation Closing delay Opening delay	ms ms	9.5 24 4 14	9 22 4.5 15
DC operationClosing delayOpening delay	ms ms	35 50 7 12	
Arcing time	ms	10 15	
1) The 2PT2016 1GA00 additional load module is recomm			NO contacts and the ON delay times of the

The 3RT2916-1GA00 additional load module is recommended for higher residual currents, see page 3/120.

²⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; suppression diode +1 to 5 ms; varistor +2 to 5 ms).

_		Coupling contactors		
Type		3RT201HB4.	3RT201JB4.	3RT201KB4.
Size		S00		
Control				
Solenoid coil operating range		0.7 1.25 x <i>U</i> _s		
Power consumption of the solenoid coils (for cold coil) Closing = Closed	At U _s 24 V DC W	2.8		
Permissible residual current of the electronics (with 0 signal)		< 6 mA x (24 V/U _s)		
Upright mounting position		On request		
Overvoltage configuration of the solenoid coil		No overvoltage damping	Built-in diode	Built-in suppressor diode → → → → →
Operating times				
Closing delayON-delay NOOFF-delay NC	ms ms	35 60 25 40		
Opening delayON-delay NOOFF-delay NC	ms ms	7 20 20 30	38 65 55 75	7 20 20 30

		Coupling contactors		
Type		3RT2011MB40KT0	3RT2011VB4.	3RT2011SB4.
Size		S00		
Control				
Solenoid coil operating range		0.85 1.85 x <i>U</i> _s		
Power consumption of the solenoid coils (for cold coil) Closing = Closed	At U _s 24 V DC W	1.6		
Permissible residual current, upright mounting position		On request		
Overvoltage configuration of the solenoid coil		No overvoltage damping	Built-in diode	Built-in suppressor diode
Operating times				
Closing delayON-delay NOOFF-delay NC	ms ms	25 90 15 80		
Opening delay ON-delay NO OFF-delay NC	ms ms	5 20 10 30	20 80 30 90	5 20 10 30

			Comtostovo			
Туре			Contactors 3RT2015	3RT2016	3RT2017	3RT2018
Size			S00	3H12U10	3H12U17	3H12U10
Rated data of the main contacts			300			
Load rating with AC						
Utilization category AC-1, switching resistive loads						
• Rated operational currents $I_{\rm e}$	At 40 °C up to 690 V At 60 °C up to 690 V	A A	18 16	22 20		
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V 400 V 690 V	kW kW kW	6 10.5 18	7.5 13 22		
 Minimum conductor cross-section for loads with I_e 	At 40 °C At 60 °C	mm ² mm ²	2.5 2.5	4		
Utilization categories AC-2 and AC-3						
$ullet$ Rated operational currents $I_{ m e}$	Up to 400 V 440 V 500 V 690 V	A A A	7 7 6 4.9	9 9 7.7 6.7	12 11 9.2	16 14 12.4 8.9
Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz	At 230 V 400 V 690 V	kW kW kW	1.5 3 4	2.2 4 5.5	3 5.5	4 7.5 7.5
Thermal load capacity	10 s current	А	56	72	96	128
Power loss per conducting path	At I _e /AC-3	W	0.42	0.7	1.24	2.2
Utilization category AC-4 (at $I_a = 6 \times I_e$) ²⁾						
Maximum values						
- Rated operational current I_{e}	Up to 400 V	Α	6.5	8.5		11.5
 Rated power for squirrel-cage motors with 50 Hz and 60 Hz 	Up to 400 V	kW	3	4		5.5
• The following applies to a contact endurance of about 200 000 operating cycles:						
- Rated operational currents $I_{\rm e}$	Up to 400 V 690 V	A A	2.6 1.8	4.1 3.3		5.5 4.4
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 230 V 400 V 690 V	kW kW kW	0.67 1.15 1.15	1.1 2 2.5		1.5 2.5 3.5

Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

The data applies to 3RT2516 and 3RT2517 contactors (2 NO + 2 NC) up to a rated operational voltage of 400 V only.

			Contactors	
Туре			3RT2015	3RT2016 to 3RT2018
Size			S00	
Rated data of the main contacts (continued)				
Load rating with DC				
Utilization category DC-1, switching resistive loads (<i>L/R</i> ≤ 1 ms)				
• Rated operational currents $I_{\rm p}$ (at 60 °C)				
- 1 conducting path	Up to 24 V	Α	15	20
r conducting pain	60 V	Α	15	20
	110 V	A	1.5	2.1
	220 V 440 V	A A	0.6 0.42	0.8 0.6
	600 V	A	0.42	0.6
- 2 conducting paths in series	Up to 24 V	A	15	20
	60 V 110 V	A A	15 8.4	20 12
	220 V	Α	1.2	1.6
	440 V	A	0.6	0.8
O and the state of	600 V	A	0.5	0.7
- 3 conducting paths in series	Up to 24 V 60 V	A A	15 15	20 20
	110 V	Α	15	20
	220 V	A A	15 0.9	20 1.3
	440 V 600 V	A	0.7	1.3
Utilization category DC-3/DC-5,				
shunt-wound and series-wound motors (<i>L/R</i> ≤ 15 ms)				
 Rated operational currents I_e (at 60 °C) 			46	00
- 1 conducting path	Up to 24 V 60 V	A A	15 0.35	20 0.5
	110 V	Α	0.1	0.15
	220 V 440 V	A A		
	600 V	Ä		
- 2 conducting paths in series	Up to 24 V	Α	15	20
	60 V 110 V	A A	3.5 0.25	5 0.35
	220 V	Α		0.00
	440 V	Α		
	600 V	A		00
- 3 conducting paths in series	Up to 24 V 60 V	A A	15 15	20 20
	110 V	A	15	20
	220 V	A	1.2	1.5
	440 V 600 V	A A	0.14 0.14	0.2 0.2
Switching frequency				
Switching frequency z in operating cycles/hour				
Contactors without overload relays				
 No-load switching frequency 	AC/DC	1/h	10 000	
 Switching frequency z during rated operation¹⁾ 				
- I _e /AC-1	At 400 V	1/h	1 000	
- I _e /AC-2 - I _e /AC-3	At 400 V At 400 V	1/h 1/h	750 750	
- I _e /AC-4	At 400 V	1/h	250	
Contactors with overload relays				
Mean value		1/h	15	

¹⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$.

-		Contactors
Type		3RT2015 to 3RT2018
Size		\$00
Conductor cross-sections		
Main conductors, auxiliary conductors and coil terminals (1 or 2 conductors can be connected)		Screw terminals
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾ ; max. 2 x 4
 Finely stranded with end sleeve (DIN 46228-1) 	mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾ ; 2 x 12
Terminal screw		M3 (for Pozidriv size 2; Ø 5 6)
Tightening torque	Nm	0.8 1.2 (7 10.3 lb.in)
Main conductors, auxiliary conductors and coil terminals ²⁾ (1 or 2 conductors can be connected)		Spring-type terminals
Operating devices	mm	3.0 x 0.5
Solid or stranded	mm ²	2 x (0.5 4)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 2.5)
Finely stranded without end sleeve	mm ²	2 x (0.5 2.5)
 AWG cables, solid or stranded 	AWG	2 x (20 12)
Auxiliary conductors for front and laterally mounted auxiliary switches ²⁾ (1 or 2 conductors can be connected)		
Operating devices	mm	3.0×0.5
Solid or stranded	mm^2	2 x (0.5 2.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 1.5)
Finely stranded without end sleeve	mm ²	2 x (0.5 2.5)
AWG cables, solid or stranded	AWG	2 x (20 14)
1) If two different conductor cross-sections are connected to one clampi point, both cross-sections must lie in one of the ranges specified.	ng	²⁾ Max. external diameter of the conductor insulation: 3.6 mm. On spring-type terminals with conductor cross-sections ≤ 1 mm ² an insulation stop must be used, see page 3/121.

		Contactors	
Туре		3RT2023 to 3RT2025	3RT2026 to 3RT2028
Size		S0	
General data			
Dimensions (W x H x D)			
AC operation			
• Basic unit			
- Screw terminals	mm	45 x 85 x 97	
- Spring-type terminals	mm	45 x 102 x 97	
Basic unit with mounted auxiliary switch block Screw terminals	mm	45 x 85 x 141	
- Spring-type terminals	mm	45 x 102 x 145	
Basic unit with mounted function module or			
solid-state time-delayed auxiliary switch block	mm	45 v 95 v 171	
Screw terminalsSpring-type terminals	mm mm	45 x 85 x 171 45 x 102 x 171	
DC operation			
Basic unit			
- Screw terminals	mm	45 x 85 x 107	
- Spring-type terminals	mm	45 x 102 x 107	
 Basic unit with mounted auxiliary switch block Screw terminals 	mm	45 x 85 x 151	
- Screw terminals - Spring-type terminals	mm mm	45 x 102 x 155	
Basic unit with mounted function module or			
solid-state time-delayed auxiliary switch block			
Screw terminalsSpring-type terminals	mm mm	45 x 85 x 181 45 x 102 x 181	
Permissible mounting position	111111	40 X 102 X 101	
The contactors are designed for operation on		0000 00 50 00 50 0	
a vertical mounting surface.		360° 22,5° 22,5° %	
· ·			
		<i>*</i>	
Upright mounting position			
		NSB0_00477a	
		Special version required,	
Mark State of the Control of the Con		also applies for 3RT202K.40 coup	bling contactors
Mechanical endurance		40 ''''	
 Basic unit and basic unit with mounted auxiliary switch block 	Operating cycles	10 million	
Basic unit with solid-state compatible auxiliary switch block	Operating	5 million	
Salid and Militaria data demparation administry difficulty and	cycles		
Electrical endurance		For contact endurance of the main	contacts, see page 3/25.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690	
Rated impulse withstand voltage U _{imp}			
Auxiliary circuit	kV	6	
Main circuit	kV	6	
Protective separation between the coil and the main contacts	V	400	
(acc. to IEC 60947-1, Appendix N)			
Mirror contacts A mirror contact is an auxiliary NC contact that cannot			
be closed simultaneously with an NO main contact.			
Integrated auxiliary switches		Yes, acc. to IEC 60947-4-1, Append	dix F
3RT2.2. (removable auxiliary switch block)		Yes, acc. to IEC 60947-4-1, Append	
Permissible ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-55 +80	
Degree of protection acc. to IEC 60529			
• On front		IP20 (screw terminals and spring-ty	rpe terminals)
Connecting terminal		IP20 (screw terminals and spring-ty	
Touch protection acc. to IEC 60529		Finger-safe (screw terminals and sp	
Shock resistance		5 (3 31
Rectangular pulse			
- AC operation	g/ms	7.5/5 and 4.7/10	8.3/5 and 5.3/10
- DC operation	<i>g</i> /ms	10/5 and 7.5/10	
Sine pulse AC operation	almo	11.9/5 and 7.4/10	12.5/5 and 9.2/10
AC operationDC operation	<i>g</i> /ms <i>g</i> /ms	11.8/5 and 7.4/10 15/5 and 10/10	13.5/5 and 8.3/10
1	J		

Type Size		Contactors 3RT2023 to 3RT2025 S0	3RT2026	3RT2027, 3RT2028
Short-circuit protection				
Main circuit				
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1 Type of coordination "1" Type of coordination "2" Weld-free (test conditions acc. to IEC 60947-4-1)	A A A	63 25 10	100 35 16	125 50
Miniature circuit breaker with C characteristic (short-circuit current 3 kA, type of coordination "1")	А	25	32	40
Auxiliary circuit				
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at I_k ≤ 1 kA) 	А	10		
• 230 V miniature circuit breaker, C characteristic (short-circuit current $I_{\rm k}$ < 400 A)	А	10		
Short-circuit protection for contactors with overload relays		See Configuration Manual for load feeders		
Short-circuit protection for fuseless load feeders		See 3RA2 load feeders, from page 8/4 onwards		

		Contactors				
Туре		3RT2023 to 3RT2025	3RT2026 to 3RT2028	3RT202NB3	3RT202NF3	3RT202NP3
Size		S0				
Control						
Type of operating mechanism		AC or DC		AC/DC		
Solenoid coil operating range	AC/DC	0.8 1.1 x	U _s ¹⁾	0.7 1.3 x U _s ²	2)	
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)						
 AC operation, 50 Hz, standard version Closing P.f. 	VA	65 0.82	77	6.6 0.98	11.9	12.7
- Closed - P.f.	VA	7.6 0.25	9.8	1.9 0.86	1.6 0.79	3.9 0.51
 AC operation, 50/60 Hz, standard version Closing P.f. 	VA	68/67 0.72/0.74	81/79	6.6/6.7 0.98/0.98	11.9/12.0	12.7/14.7
- Closed - P.f.	VA	7.9/6.5 0.25/0.28	10.5/8.5	1.9/2.0 0.86/0.82	1.6/1.8 0.79/0.74	3.9/4.3 0.51/0.56
 AC operation, 50 Hz, for USA/Canada Closing P.f. 	VA	65 0.82	77 0.82	 		
- Closed - P.f.	VA	7.6 0.25	9.8 0.28			
 AC operation, 60 Hz, for USA/Canada Closing P.f. 	VA	73 0.76	87	 		
- Closed - P.f.	VA	7.2 0.28	9.4			
DC operation (closing = closed)	W	5.9/5.9		5.9/1.4	10.2/1.3	14.3/1.9
Permissible residual current of the electronics (with 0 signal)						
AC operation	mA	< 6 mA x (2	٥,	< 7 mA x (230 °	V/U _s)	
DC operation	mA	< 16 mA x (24 V/ <i>U</i> _s)			
Operating times at 1.0 x $U_s^{3)}$						
AC operationClosing delayOpening delay	ms ms	10 18 4 16	10 17	65 80 30 45	50 70 35 45	60 80 30 50
DC operationClosing delayOpening delay	ms ms	55 80 16 17		60 80 30 45	56 70 35 45	60 80 30 50
Arcing time	ms	10 17		OO 40	OO 40	00 00
1) Coil operating range					e ON-delay of the	

⁻ At 50 Hz: 0.8 to 1.1 x $U_{\rm S}$ - At 60 Hz: 0.85 to 1.1 x $U_{\rm S}$ - At 60 Hz: 0.85 to 1.1 x $U_{\rm S}$. 2) The following applies to $U_{\rm S\ max}$ = 280 V: Upper limit = 1.1 x $U_{\rm S\ max}$.

³⁾ The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (varistor +2 ms to 5 ms, diode assembly: 2x to 6x).

-		
		Coupling contactors
Туре		3RT202KB4.
Size		S0
Control		
Solenoid coil operating range		0.7 1.25 x U _s
Power consumption of the solenoid coils (for cold coil) Closing = Closed	At U _s 24 V DC W	4.5
Permissible residual current of the electronics (with 0 signal)		$<$ 10 mA x (24 V/ $U_{\rm s}$)
Overvoltage configuration of the solenoid coil		Built-in varistor
		-
		Ū
Operating times		
Closing delay		
- ON-delay NO	ms	65 90
- OFF-delay NC	ms	55 80
Opening delay		
- ON-delay NO - OFF-delay NC	ms	19 21
- OFF-uelay NO	ms	25 31

			Contactor	s				
Type			3RT2023	3RT2024	3RT2025	3RT2026	3RT2027	3RT2028
Size			S0					
Rated data of the main contacts								
Load rating with AC			•					
Utilization category AC-1, switching resistive loads								
$ullet$ Rated operational current I_{e}	At 40 °C up to 690 V At 60 °C up to 690 V	A A	40 35				50 42	
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V 400 V 690 V	kW kW kW	13.3 23 40				15.5 27.5 47.5	
 Minimum conductor cross-section for loads with I_e 	At 40 °C At 60 °C	mm ² mm ²	10 10					
Utilization categories AC-2 and AC-3								
Rated operational currents I _e	Up to 400 V 440 V 500 V 690 V	A A A	9 9 9	12 12 12	17 17 17 13	25 22 18	32 32 32 21	38 35
Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz	At 230 V 400 V 690 V	kW kW kW	2.2 4 7.5	3 5.5	4 7.5 11	5.5 11	7.5 15 18.5	11 18.5
Thermal load capacity	10 s current	Α	80	110	150	200	260	304
Power loss per conducting path	At I _e /AC-3	W	0.4	0.5	0.9	1.6	2.7	3.8
Utilization category AC-4 (for $I_a = 6 \times I_e$)								
Maximum values:								
- Rated operational current I _e	Up to 400 V	Α	8.5	12.5	15.5		22	
 Rated power for squirrel-cage motors with 50 Hz and 60 Hz 	At 400 V	kW	4	5.5	7.5		11	
 The following applies to a contact endurance of about 200 000 operating cycles: 								
- Rated operational currents $I_{\rm e}$	Up to 400 V 690 V	A A	4.1 3.3	5.5 5.5	7.7 7.7	9 9	12 12	
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 110 V 230 V 400 V 690 V	kW kW kW	0.5 1.1 2 2.5	0.73 1.5 2.6 4.6	1 2 3.5 6	1.2 2.5 4.4 7.7	1.6 3.4 6 10.3	

Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

			Contactors	
Туре			3RT2023 to 3RT2025	3RT2026 to 3RT2028
Size			S0	3H12U20 tO 3H12U20
Rated data of the main contacts (continued)			30	
Load rating with DC				
Utilization category DC-1,				
switching resistive loads (<i>L/R</i> ≤ 1 ms)				
• Rated operational currents I_e (at 60 °C)				
- 1 conducting path	Up to 24 V 60 V 110 V	A A A	35 20 4.5	
	220 V 440 V 600 V	A A A	1 0.4 0.25	
- 2 conducting paths in series	Up to 24 V 60 V 110 V	A A A	35 35 35	
	220 V 440 V 600 V	A A A	5 1 0.8	
- 3 conducting paths in series	Up to 24 V 60 V 110 V	A A A	35 35 35	
	220 V 440 V 600 V	A A A	35 2.9 1.4	
Utilization category DC-3/DC-5, shunt-wound and series-wound motors ($L/R \le 15$ ms) • Rated operational currents I_e (at 60 °C)				
	Up to 24 V	٨	20	
- 1 conducting path	60 V 110 V	A A A	20 5 2.5	
	220 V 440 V 600 V	A A A	1 0.09 0.06	
- 2 conducting paths in series	Up to 24 V 60 V 110 V	A A A	35 35 15	
	220 V 440 V 600 V	A A A	3 0.27 0.16	
- 3 conducting paths in series	Up to 24 V 60 V 110 V	A A A	35 35 35	
	220 V 440 V 600 V	A A A	10 0.6 0.6	
Switching frequency				
Switching frequency <i>z</i> in operating cycles/hour Contactors without overload relays				
No-load switching frequency	AC DC	1/h	5 000	
• Switching frequency <i>z</i> during rated operation ¹⁾	DC	1/h	1 500	
- I _e /AC-1	At 400 V	1/h	1 000	
- I ₀ /AC-2 - I ₀ /AC-3 - I ₀ /AC-4	At 400 V At 400 V At 400 V	1/h 1/h 1/h 1/h	1 000 1 000 300	750 750 250
Contactors with overload relays				
Mean value		1/h	15	
4)				

¹⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_{\theta} | I') \cdot (U_{\theta} | U)^{1.5} \cdot 1/h$.

Туре		Contactors 3RT2023 to 3RT2028
Size		S0
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		Screw terminals
Solid or stranded	mm^2	2 x (1 2.5) ¹⁾ ; 2 x (2.5 10) ¹⁾
 Finely stranded with end sleeve (DIN 46228-1) 	mm ²	2 x (1 2.5) ¹⁾ ; 2 x (2.5 6) ¹⁾ ; 1 x 10
AWG cables, solid or stranded	AWG	2 x (16 12) ¹⁾ ; 2 x (14 8) ¹⁾
Terminal screwsTightening torque	Nm	M4 (for Pozidriv size 2; Ø 5 6) 2 2.5 (18 22 lb.in)
Auxiliary conductors (1 or 2 conductors connectable)		
Solid or stranded	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾
Terminal screws Tightening torque	Nm	M3 (for Pozidriv size 2; Ø 5 6) 0.8 1.2 (7 10.3 lb.in)
Main conductors ²⁾ (1 or 2 conductors can be connected)		Spring-type terminals
Operating devices	mm	3.0 x 0.5
Solid or stranded	mm ²	2 x (1 10)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (1 6)
Finely stranded without end sleeve	mm ²	2 x (1 6)
AWG cables, solid or stranded	AWG	2 x (18 8)
Auxiliary conductors ²⁾ (1 or 2 conductors can be connected)		
Operating devices		3.0 x 0.5
Solid or stranded	mm ²	2 x (0.5 2.5)
 Finely stranded with end sleeve (DIN 46228-1) 	mm ²	2 x (0.5 1.5)
Finely stranded without end sleeve	mm ²	2 x (0.5 2.5)
AWG cables, solid or stranded	AWG	2 x (20 14)
1) If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.	ng	²⁾ Max. external diameter of the conductor insulation: 3.6 mm. On spring-type terminals with conductor cross-sections ≤ 1 mm ² an insulation stop must be used, see page 3/121.

		Contactors
Туре		3RT2035 3RT2036 3RT2037 3RT2038
Size		S2
General data		
Dimensions (W x H x D)		
Basic unit Screw/spring-type terminals	mm	55 x 114 x 130
Basic unit with mounted auxiliary switch block Screw terminals	mm	55 x 114 x 174
Spring-type terminals Basic unit with mounted function module or	mm	55 x 114 x 178
solid-state time-delayed auxiliary switch block - Screw/spring-type terminals	mm	55 x 114 x 204
Permissible mounting position		
The contactors are designed for operation on		360° 22,5° 22,5° ଛ
a vertical mounting surface.		22,3 22,3 22,5 22,5 22,5 22,5 22,5 22,5
Upright mounting position		NSB0_00477a Special version required
Mechanical endurance		
Basic units and basic units with mounted auxiliary switch block	Operating cycles	10 million
Basic units with solid-state compatible auxiliary switch block	Operating cycles	5 million
Electrical endurance	O y O l O O	For contact endurance of the main contacts, see page 3/26.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690
Rated impulse withstand voltage $U_{\rm imp}$		
Auxiliary circuit	kV	6
Main circuit	kV	6
Protective separation between the coil and the main contacts	V	400
(acc. to IEC 60947-1, Appendix N)		
Mirror contacts A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.		
Integrated auxiliary switches3RT2.3. (removable auxiliary switch block)		Yes, acc. to IEC 60947-4-1, Appendix F Yes, acc. to IEC 60947-4-1, Appendix F
Permissible ambient temperature		
During operation	°C	-25 + 60
During storage	°C	-55 + 80
Degree of protection acc. to IEC 60529		
• On front		IP20
Connecting terminal		IP00 (for higher degree of protection, use additional terminal covers)
Touch protection acc. to IEC 60529		Finger-safe for vertical touching from the front
Shock resistance		
Rectangular pulse	,	
- AC operation - DC operation	<i>g</i> /ms <i>g</i> /ms	11.8/5 and 7.4/10 7.7/5 and 4.5/10
Sine pulseAC operationDC operation	g/ms g/ms	18.5/5 and 11.6/10 12/5 and 7/10
Short-circuit protection	giiio	120 and 1,10
•		
Main circuit		
 Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1 		400
Type of coordination "1"Type of coordination "2"	A A	160 250 80 125 160
- Weld-free (test conditions acc. to IEC 60947-4-1)	A	16 25 50
Auxiliary circuit		
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at I_k ≤ 1 kA) 	Α	10
 230 V miniature circuit breaker, C characteristic (short-circuit current t_k < 400 A) 	Α	10
Short-circuit protection for contactors with overload relays		See Configuration Manual for load feeders
Short-circuit protection for fuseless load feeders		See 3RA2 load feeders, from page 8/4 onwards
· F. · · · · · · · · · · · · · · · · · ·		

_		Contactors		Coupling contactor
Type		3RT203A	3RT203N.3.	3RT203KB4.
Size		S2		
Control				
Type of operating mechanism		AC	AC/DC	DC
Solenoid coil operating range				
• AC operation ¹⁾		0.8 1.1 x <i>U</i> _s		
 AC/DC operation¹⁾ 			0.8 1.1 x U _s	
DC operation				0.8 1.2 x <i>U</i> _s
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_{\rm S}$)				
 AC operation, 50 Hz, standard version 				
- Closing	VA	190		
- P.f. - Closed	VA	0.72 16		
- P.f.	٧A	0.37		
AC operation, 50/60 Hz, standard version				
- Closing	VA	210/188		
- P.f. - Closed	VA	0.69/0.65		
- Closed - P.f.	VA	17.2/16.5 0.36/0.39		
AC operation, 60 Hz, for USA/Canada				
- Closing	VA	212		
- P.f.	1/4	0.67		
- Closed - P.f.	VA	18.5 0.37		
• AC/DC operation		0.07		
- Closing for AC operation	VA		40	
- P.f.			0.95	
- Closed for AC operation	VA		2	
- P.f.			0.95	
DC operationClosing for DC operation	W		23 ²⁾	21.5
- Closed for DC operation	W		1	1
Permissible residual current of the electronics with 0 signal)				
• AC/DC operation	mA		< 20	
DC operation	mA		. = -	< 20
Overvoltage configuration of the solenoid coil	111/1		Built-in varistor	Built-in varistor
o to to tage comingulation of the solellold coll			- Varistor	- Varistor
			U	U
Operating times at 0.7 1.25 x $U_{\rm s}^{(3)}$			· ·	
Total break time = Opening delay + Arcing time				
• DC operation				
- Closing delay	ms			45 60
- Opening delay	ms			35 55
Operating times at 1.0 x U _s ³⁾				
AC operation				
- Closing delay	ms	1222	35 80	
- Opening delay	ms	1018	30 55	
DC operation	ms		35 80	35 80
- Closing delay - Opening delay	ms		30 55	30 55
Arcing time	ms	10 20	0	
Along time	1113	3) TI OFF III (

¹⁾ Coil operating range

<sup>Coil operating range

At 50 Hz: 0.8 to 1.1 x U_s
At 60 Hz: 0.85 to 1.1 x U_s

In the case of AC/DC coils, increased starting currents (2.6 A on average) occur during the first 200 ms. For direct control from a PLC, we therefore recommend special coupling contactors with adapted power consumption. The connection of one 3RT203.-. KB4. coupling contactor is possible per PLC output port with an output current of 2 A, see page 3/67.</sup>

³⁾ The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (varistor +2 ms to 5 ms, diode assembly: 2x to 6x).

T			Contactors	ORTOOC	0DT0007	0PT0000
Type Size			3RT2035	3RT2036	3RT2037	3RT2038
			S2			
Rated data of the main contacts						
Load rating with AC						
Utilization category AC-1, switching resistive loads						
$ullet$ Rated operational current $I_{ m e}$	At 40 °C up to 690 V At 60 °C up to 690 V	A A	60 55	70 60	80 70	90 80
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V 400 V 690 V	kW kW kW	23 39 68	26 46 79	30 53 91	34 59 102
\bullet Minimum conductor cross-section for loads with $I_{\rm e}$	At 40 °C At 60 °C	mm^2 mm^2	16 16	25	25	35
Utilization categories AC-2 and AC-3						
$ullet$ Rated operational currents I_{e}	Up to 400 V 440 V 500 V 690 V	A A A	40 40 40 24	50 50 50	65 65 65 47	80 80 80 58
Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz	At 230 V 400 V 690 V	kW kW kW	11 18.5 22	15 22	18.5 30 37	22 37 45
Thermal load capacity	10 s current	Α	400	420	520	640
Power loss per conducting path	At I _e /AC-3	W	2.2	4	3.8	5.7
Utilization category AC-4 (for $I_a = 6 \times I_e$)						
Maximum values						
- Rated operational current I _e	Up to 400 V	Α	35	41	55	
 Rated power for squirrel-cage motors with 50 Hz and 60 Hz 	At 400 V	kW	18.5	22	30	
• The following applies to a contact endurance of about 200 000 operating cycles:						
- Rated operational currents I_{e}	Up to 400 V 690 V	A A	22 18.5	24 20	28 22	30 24
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 110 V 230 V 400 V 690 V	kW kW kW kW	3.2 6.7 11.6 16.8	3.5 7.3 12.6 18.2	4.1 8.5 14.7 20	4.3 9.1 15.8 21.8

Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

Torre			Contactors	OPTOOC	0070007	0DT0000
Type			3RT2035	3RT2036	3RT2037	3RT2038
Size			S2			
Rated data of the main contacts (continued)						
Load rating with DC						
Utilization category DC-1, switching resistive loads ($L/R \le 1$ ms)						
 Rated operational currents I_e (at 60 °C) 						
- 1 conducting path	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	55 23 4.5 1 0.4			
- 2 conducting paths in series	600 V Up to 24 V 60 V 110 V 220 V 440 V	A A A A	0.25 55 45 45 5			
- 3 conducting paths in series	600 V Up to 24 V 60 V 110 V 220 V 440 V	A A A A A	0.8 55 55 55 45 2.9			
	600 V	A	1.4			
Utilization category DC-3/DC-5, shunt-wound and series-wound motors ($L/R \le 15$ ms)						
 Rated operational currents I_e (at 60 °C) 						
- 1 conducting path	Up to 24 V 60 V 110 V 220 V	A A A	35 6 2.5			
	440 V 600 V	A A	0.1 0.06			
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V 600 V	A A A A A	55 45 25 5 0.27 0.16			
- 3 conducting paths in series	Up to 24 V 60 V 110 V	A A A	55 55 55			
	220 V 440 V 600 V	A A A	25 0.6 0.35			
Switching frequency						
Switching frequency <i>z</i> in operating cycles/hour Contactors without overload relays						
No-load switching frequency	AC	1/h	5 000			
- No load switching frequency	AC/DC	1/h	1 500			
• Switching frequency z during rated operation ¹⁾						
- I _e /AC-1 - I _e /AC-2	At 400 V At 400 V	1/h 1/h	1 200 750	1 000 600	800 400	700 350
- I _o /AC-3 - I _o /AC-4	At 400 V At 400 V	1/h 1/h	1 000	800 250	700 200	500 150
Contactors with overload relays	7.1.100 V			200	200	.00
Mean value		1/h	15			

¹⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_0/I') \cdot (U_0/U')^{1.5} \cdot 1/h$.

		Contactors
Туре		3RT2035 to 3RT2038
Size		S2
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		Screw terminals
Solid or stranded	mm^2	2 x (1 35) ¹⁾ ; 1 x (1 50) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (1 25) ¹⁾ ; 1 x (1 35) ¹⁾
AWG cables, solid or stranded	AWG	2 x (18 2) ¹⁾ ; 1 x (18 1) ¹⁾
Terminal screwsTightening torque	Nm	Pozidriv size 2; Ø 5 6 3 4.5 (27 40 lb.in)
Auxiliary conductors and control conductors (1 or 2 conductors can be connected)		
Solid or stranded	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾
Terminal screwsTightening torque	Nm	M3 (for Pozidriv size 2; Ø 5 6) 0.8 1.2 (7 10.3 lb.in)
Auxiliary and control conductors ²⁾ (1 or 2 conductors can be connected)		
Operating devices	mm	3.0 x 0.5
Solid or stranded	mm^2	2 x (0.5 2.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5)
• Finely stranded without end sleeve	mm^2	2 x (0.5 2.5)
AWG cables, solid or stranded	AWG	2 x (20 14)
1) If two different conductor cross-sections are connected to one clampi point, both cross-sections must lie in one of the ranges specified.	ng	2) Max. external diameter of the conductor insulation: 3.6 mm. On spring-type terminals with conductor cross-sections ≤ 1 mm ² an insulation stop must be used, see page 3/121.

		Contactors
Type		3RT2045 3RT2046 3RT2047
Size		S3
General data		
Dimensions (W x H x D)		
Basic unit Screw/spring-type terminals	mm	70 x 140 x 152
Basic unit with mounted auxiliary switch block Screw terminals Spring-type terminals	mm mm	70 x 140 x 196 70 x 140 x 200
Basic unit with mounted function module or solid-state time-delayed auxiliary switch block	111111	70 X 140 X 200
- Screw/spring-type terminals	mm	70 x 140 x 226
Permissible mounting position		
The contactors are designed for operation on		360° 22,5° 22,5° 🚆
a vertical mounting surface.		NSB0.0004
Upright mounting position		NSB0_00477a Special version required
Mechanical endurance		
Basic units and basic units with mounted auxiliary switch block	Operating cycles	10 million
Basic units with solid-state compatible auxiliary switch block	Operating cycles	5 million
Electrical endurance		For contact endurance of the main contacts, see page 3/26.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	1 000 (3RT200CC0: 690)
Rated impulse withstand voltage $\emph{U}_{ ext{imp}}$		
Auxiliary circuit	kV	6
Main circuit Production in the second description of the second	kV V	8
Protective separation between the coil and the main contacts (acc. to IEC 60947-1, Appendix N)	V	690
Mirror contacts		
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.		
Integrated auxiliary switches		Yes, acc. to IEC 60947-4-1, Appendix F
• 3RT2.4. (removable auxiliary switch block)		Yes, acc. to IEC 60947-4-1, Appendix F
Permissible ambient temperature	00	0500
During operationDuring storage	°C	-25 +60 -55 +80
Degree of protection acc. to IEC 60529		
• On front		IP20
Connecting terminal		IP00 (for higher degree of protection, use additional terminal covers)
Touch protection acc. to IEC 60529		Finger-safe for vertical touching from the front
Shock resistance		3 • • • • • • • • • • • • • • • • • • •
Rectangular pulse		
- AC operation - DC operation	g/ms g/ms	10.3/5 and 6.7/10 6.7/5 and 4.0/10 (3RT204KB40: 6.3/5 and 3.6/10)
Sine pulseAC operationDC operation	g/ms g/ms	16.3/5 and 10.5/10 10.6/5 and 6.3/10 (3RT204KB40: 9.8/5 and 5.6/10)
Short-circuit protection	giiis	10.0/0 and 0.0/10 (0111207. 10070. 3.0/0 and 0.0/10)
Main circuit		
 Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE 		
acc. to IEC/EN 60947-4-1	^	050
- Type of coordination "1" - Type of coordination "2"	A A	250 160 160 200
- Weld-free (test conditions acc. to IEC 60947-4-1)	Ä	On request
Auxiliary circuit		
Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (ASSE)	Α	10
 (weld-free protection at I_k ≤ 1 kA) 230 V miniature circuit breaker, C characteristic (short-circuit current I_k < 400 A) 	Α	10
Short-circuit protection for contactors with overload relays		See Configuration Manual for load feeders
Short-circuit protection for fuseless load feeders		See 3RA2 load feeders, from page 8/4 onwards
2 2 p. otobao. For tabolists foad foodoro		22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

		Contactors		Coupling contactors
Туре		3RT204A	3RT204N.3.	3RT204KB4.
Size		S3	311120414.3.	J111204KD4.
Control				
Type of operating mechanism		AC	AC/DC	DC
Solenoid coil operating range		AC	AC/DC	DC
AC operation ¹⁾		0.8 1.1 x U _s		
AC operation 1) AC/DC operation 1)		3		
			0.8 1.1 x <i>U</i> _S	
DC operation Power consumption of the solenoid coils (for cold soil and 1.0 v //)				0.8 1.2 x <i>U</i> _s
(for cold coil and 1.0 x U_s)				
 AC operation, 50 Hz, standard version Closing 	VA	296		
- P.f.		0.61		
- Closed	VA	19		
- P.f.		0.38		
 AC operation, 50/60 Hz, standard version Closing 	VA	348/296		
- Closing - P.f.	VA	0.62/0.55		
- Closed	VA	25/18		
- P.f.		0.35/0.41		
 AC operation, 60 Hz, for USA/Canada Closing 	VA	326		
- Closing - P.f.	VA	0.62		
- Closed	VA	22		
- P.f.		0.38		
AC/DC operation			400	
 Closing for AC operation P.f. 	VA		163 0.95	
- Closed for AC operation	VA		3.1	
- P.f.			0.95	
• DC operation			2)	
 Closing for DC operation Closed for DC operation 	W		76 ²⁾ 1.8	25 0.9
Permissible residual current of the electronics	VV		1.0	0.9
(with 0 signal)				
AC/DC operation	mA		< 20	
• DC operation	mA			< 20
Overvoltage configuration of the solenoid coil			Built-in varistor	Built-in varistor
overvoltage configuration of the solehold con			- <u>-</u> -	- <u>-</u> -
			U	U
Operating times at 0.8 1.2 x U _s ³⁾			-	-
Total break time = Opening delay + Arcing time				
DC operation				
- Closing delay	ms			50 70
- Opening delay	ms			38 57
Operating times at 1.0 x U _s ³⁾				
AC operation				
- Closing delay	ms	1525	50 70	
- Opening delay	ms	1120	38 57	
DC operationClosing delay	ms		50 70	
- Opening delay	ms		38 57	
Arcing time	ms	10 20		
· • ·	0	= -		

¹⁾ Coil operating range

<sup>Coil operating range

At 50 Hz: 0.8 to 1.1 x U_s
At 60 Hz: 0.85 to 1.1 x U_s

In the case of AC/DC coils, increased starting currents (2.6 A on average) occur during the first 200 ms. For direct control from a PLC, we therefore recommend special coupling contactors with adapted power consumption. The connection of one 3RT204.-.KB4. coupling contactor is possible per PLC output port with an output current of 2 A, see page 3/67.</sup>

 $^{^{\}rm 3)}$ The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (varistor +2 ms to 5 ms, diode assembly: 2x to 6x).

		Contactors		
Туре		3RT2045	3RT2046	3RT2047
Size		S3		
Rated data of the main contacts				
Load rating with AC		_		
Utilization category AC-1, switching resistive loads				
Rated operational current I _e	At 40 °C up to 690 V A At 60 °C up to 690 V A	125 105	130 110	
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V kW 400 V kW 690 V kW	40 69 119	42 72 125	
\bullet Minimum conductor cross-section for loads with $I_{\rm e}$	At 40 °C mm ² At 60 °C mm ²	50 35		
Utilization categories AC-2 and AC-3				
$ullet$ Rated operational currents $I_{ m e}$	Up to 400 V A 500 V A 690 V A 1 000 V A	80 80 58 30	95 95 78	110 110 98
 Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz 	At 230 V kW 400 V kW 690 V kW 1 000 V kW	22 37 55 37	22 45 75	30 55 90
Thermal load capacity	10 s current A	760		880
Power loss per conducting path	At I _e /AC-3 W	5.3	6.6	7.9
Utilization category AC-4 (for $I_a = 6 \times I_e$)				
Maximum values				
- Rated operational current I _e	Up to 400 V A	66	80	97
 Rated power for squirrel-cage motors with 50 Hz and 60 Hz 	At 400 V kW	37	45	55
• The following applies to a contact endurance of about 200 000 operating cycles:				
- Rated operational currents I_{e}	Up to 400 V A 690 V A	34 24	42 30	46 36
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 110 V kW 230 V kW 400 V kW 690 V kW	4.9 10.4 17.9 21.8	6.1 12 22 27.4	6.7 14 24.3 32.9

¹⁾ Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

			Contactors		
Туре			3RT2045	3RT2046	3RT2047
Size			S3		
Rated data of the main contacts (continued)					
Load rating with DC					
Utilization category DC-1,					
switching resistive loads ($L/R \le 1$ ms)					
 Rated operational currents I_e (at 60 °C) 					
- 1 conducting path	Up to 24 V 60 V	A A	100 60		
	110 V	Ā	9		
	220 V	Α	2		
	440 V	A	0.6		
O conducting noths in covice	600 V	A	0.4		
- 2 conducting paths in series	Up to 24 V 60 V	A A	100 100		
	110 V	Α	100		
	220 V	Α	10		
	440 V 600 V	A A	1.8 1.0		
- 3 conducting paths in series	Up to 24 V	Α	100		
5	60 V	Α	100		
	110 V	A	100		
	220 V 440 V	A A	80 4.5		
	600 V	A	2.6		
Utilization category DC-3/DC-5,					
shunt-wound and series-wound motors ($L/R \le 15$ ms)					
• Rated operational currents I _e (at 60 °C)					
- 1 conducting path	Up to 24 V 60 V	A A	40 6		
	110 V	A	2.5		
	220 V	Α	1		
	440 V 600 V	A A	0.15 0.06		
- 2 conducting paths in series	Up to 24 V	A	100		
- 2 conducting paths in series	60 V	Ä	100		
	110 V	Α	100		
	220 V 440 V	A A	7 0.42		
	600 V	Ā	0.42		
- 3 conducting paths in series	Up to 24 V	Α	100		
	60 V	A	100 100		
	110 V 220 V	A A	35		
	220 V 440 V	A	0.8		
	600 V	Α	0.35		
Switching frequency					
Switching frequency z in operating cycles/hour					
Contactors without overload relays					
 No-load switching frequency 	AC/DC	1/h	5 000		
• Switching frequency <i>z</i> during rated operation ¹⁾	AC/DC	1/h	1 000		
- Switching frequency 2 during rated operation - I ₀ /AC-1	At 400 V	1/h	900		
- I _o /AC-2	At 400 V	1/h	400	350	
- I _A /AC-3	At 400 V	1/h	1 000	850	200
- I _e /AC-4	At 400 V	1/h	300	250	200
Contactors with overload relays • Mean value		1/h	15		
Near value Dependence of the quitables frequency ='en		1/h	10		

¹⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_{\theta} | I') \cdot (U_{\theta} | U)^{1.5} \cdot 1/h$.

		Contactors
Туре		3RT2045 to 3RT2047
Size		S3
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		Screw terminals
• Solid	mm^2	2 x (2.5 16) ¹⁾
Stranded	mm^2	2 x (6 16) ¹⁾ ; 2 x (10 50) ¹⁾ ; 1 x (10 70) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (2.5 35) ¹⁾ ; 1 x (2.5 50) ¹⁾
AWG cables, solid or stranded	AWG	2 x (10 1/0) ¹⁾ ; 1 x (10 2/0) ¹⁾
Terminal screws Tightening torque	Nm	Hexagon socket, size 4 4.5 6 (40 53 lb.in)
Auxiliary conductors and control conductors (1 or 2 conductors can be connected)		
Solid or stranded	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾
Terminal screws Tightening torque	Nm	M3 (for Pozidriv size 2; Ø 5 6) 0.8 1.2 (7 10.3 lb.in)
Auxiliary and control conductors ²⁾ (1 or 2 conductors can be connected)		
Operating devices	mm	3.0 x 0.5
Solid or stranded	mm^2	2 x (0.5 2.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5)
Finely stranded without end sleeve	mm^2	2 x (0.5 2.5)
AWG cables, solid or stranded	AWG	2 x (20 16)
1) If two different conductor cross-sections are connected to one clampir point, both cross-sections must lie in one of the ranges specified.	ng	2) Max. external diameter of the conductor insulation: 3.6 mm. On spring-type terminals with conductor cross-sections ≤ 1 mm ² an insulation stop must be used, see page 3/121.

		Contactors	S			
Туре		3RT1054	3RT1055, 3RT1056	3RT1064 to 3RT1066	3RT1075	3RT1076
Size		S6		S10	S12	
General data						
Dimensions (W x H x D)						
• Basic unit	mm	120 x 172 >	x 170	145 x 210 x 202	160 x 214 :	x 225
Basic unit with mounted auxiliary switch block	mm	120 x 172 x		145 x 210 x 251	160 x 214 x	
sadio dini marmodino dosmilari y omiori sicolo	·······	120 X 172 /		110 % 210 % 201	100 X 2117	
Permissible mounting position			22,5°,22,5°	9a		
The contactors are designed for operation on a vertical mounting surface.		90° ++++	900	NSB0_0064		
Mechanical endurance	Operating cycles	10 million				
Electrical endurance		For contact	t endurance	of the main contacts,	see page 3/2	26.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	1 000				
Rated impulse withstand voltage U _{imp}						
Auxiliary circuit	kV	6				
Main circuit	kV	8				
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	690				
Mirror contacts		Yes, acc. to	IEC 60947-	4-1, Appendix F		
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.						
Permissible ambient temperature						
During operation	°C	-25 +60				
During storage	°C	-55 +80				
Degree of protection acc. to IEC 60529						
• On front		IP00				
Connecting terminal		IP00	oox terminal/ degree of pr	cover) otection, use addition	al terminal c	overs)
Touch protection acc. to IEC 60529		Finger-safe	for vertical t	ouching from the fron	nt with cover	
Shock resistance						
Rectangular pulse	<i>g</i> /ms	8.5/5 and 4	1.2/10			
• Sine pulse	<i>g</i> /ms	13.4/5 and	6.5/10			
Electromagnetic compatibility (EMC)		See page 3	3/19			
Short-circuit protection						
Main circuit						
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1						
• Type of coordination "1"	Α	355		500	630	
• Type of coordination "2"	Α	315		400	500	
Weld-free	А	80	160	250		315
Auxiliary circuit						
Short-circuit test						
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}=1$ kA acc. to IEC 60947-5-1	Α	10				
• With miniature circuit breakers with C characteristic with short-circuit current $I_{\rm k}$ = 400 A	Α	10				
Short-circuit protection for contactors with overload relays		See Config	uration Manu	ual for load feeders		

			Contactors		
Туре			3RT105.	3RT106.	3RT107.
Size			S6	S10	S12
Control					
Operating range of the solenoid operating mechanism	AC/DC		0.8 x <i>U</i> _{s min} 1.1	x U _{s max}	
Power consumption of the solenoid of (with cold coil and rated range $U_{\rm S\ min}$	operating mechanism . $U_{\rm s\ max}$)				
 Standard operating mechanism (3RT10A) 					
- AC operation	Closing at $U_{\rm S\ min}$ Closing at $U_{\rm S\ max}$ Closed at $U_{\rm S\ min}$ Closed at $U_{\rm S\ max}$	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	250/0.9 300/0.9 4.8/0.8 5.8/0.8	490/0.9 590/0.9 5.6/0.9 6.7/0.9	700/0.9 830/0.9 7.6/0.9 9.2/0.9
- DC operation	Closing at $U_{\rm S\ min}$ Closing at $U_{\rm S\ max}$ Closed at $U_{\rm S\ min}$ Closed at $U_{\rm S\ max}$	W W W	300 360 4.3 5.2	540 650 6.1 7.4	770 920 8.5 10
 Solid-state operating mechanism (3RT10N/P/S) 					
- AC operation	Closing at $U_{\rm S\ min}$ Closing at $U_{\rm S\ max}$ Closed at $U_{\rm S\ min}$ Closed at $U_{\rm S\ max}$	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	190/0.8 280/0.8 3.5/0.6 4.8/0.6	400/0.8 530/0.8 5.5/0.5 8.5/0.4	560/0.8 750/0.8 5.6/0.5 9/0.4
- DC operation	Closing at $U_{\rm S\ min}$ Closing at $U_{\rm S\ max}$ Closed at $U_{\rm S\ min}$ Closed at $U_{\rm S\ max}$	W W W	250 320 2.1 2.8	440 580 2.8 3.4	600 800 3 3.6
PLC control input acc. to IEC 60947-1					
Solid-state operating mechanism (3RT10N/P/S)			Type 1		
Rated voltage		V DC	24		
Operating range		V DC	17 30		
Power consumption		mA	≤30		
Recovery time after mains failure, typi (applicable only for fail-safe version 3)		S	2		
Operating times for rated range $U_{s min}$ (Total break time = Opening delay + Ar	U _{s max} cing time)				
 Standard operating mechanism (3RT10A) 	Closing delay Opening delay	ms ms	25 50 40 60	35 50 50 80	50 70 70 100
Solid-state operating mechanism					
- Actuated via A1/A2 (3RT10N/P)	Closing delay Opening delay	ms ms	100 120 80 100	110 130	125 150
 Actuated via PLC input (3RT10N/P) 	Closing delay Opening delay	ms ms	40 60 80 100	50 65	65 80
 Actuated via F-PLC input (3RT10S) 	Closing delay Opening delay	ms ms	60 75 115 130		
Arcing time		ms	10 15		

		Contactor	' S						
Type		3RT1054	3RT1055	3RT1056	3RT1064	3RT1065	3RT1066	3RT1075	3RT1076
Size		S6			S10			S12	
Rated data of the main contacts									
Load rating with AC									
Utilization category AC-1 Switching resistive loads									
• Rated operational currents $I_{\rm e}$									
- At 40 °C up to 690 V - At 60 °C up to 690 V - At 60 °C up to 1 000 V	A A A	160 140 80	185 160 90	215 185 100	275 250	330 300 150		430 400 200	610 550
 Rated power for AC loads¹⁾ with p.f. = 0.95 (at 60 °C) 									
- At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V	kW kW kW kW	53 92 115 159 131	60 105 131 181 148	70 121 152 210 165	94 164 205 283 164	113 197 246 340 246		151 263 329 454 329	208 362 452 624
 Minimum conductor cross-section for loads with I_e At 40 °C 	mm ² mm ²	70	95	O.F.	150	185		2 x 150	2 x 185
- At 60 °C Utilization categories AC-2 and AC-3	mm-	50	70	95	120	185		240	2 x 185
Rated operational currents I _P									
- Up to 500 V - At 690 V - At 1 000 V	A A A	115 115 53	150 150 65	185 170	225 225 68	265 265 95	300 280	400 400 180	500 450
Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz									
- At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V	kW kW kW kW	37 64 81 113 75	50 84 105 146 90	61 104 132 167	73 128 160 223	85 151 189 265 132	97 171 215 280	132 231 291 400 250	164 291 363 453
Thermal load capacity, 10 s current	Α	1 100	1 300	1 480	1 800	2 400		3 200	4 000
Power loss per main conducting path At $I_{\rm e}/{\rm AC}$ -3/500 V	W	7	9	13	17	18	22	35	55
Utilization category AC-4 (for $I_a = 6 \times I_e$)									
Maximum values:									
 Rated operational current I_e 									
- Up to 400 V	Α	97	132	160	195	230	280	350	430
 Rated power for squirrel-cage motors with 50 Hz and 60 Hz 									
- At 400 V	kW	55	75	90	110	132	160	200	250
The following applies to a contact endurance of about 200 000 operating cycles:									
 Rated operational currents I_e 									
- Up to 500 V - Up to 690 V	A A	54 48	68 57	81 65	96 85	117 105	125 115	150 135	175 150
Rated power for squirrel-cage motors with 50 Hz and 60 Hz									
- At 230 V - At 400 V - At 500 V - At 690 V	kW kW kW	16 29 37 48	20 38 47 55	25 45 57 65	30 54 67 82	37 66 82 102	40 71 87 112	48 85 105 133	56 98 123 148

Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

							· · ·		
			Contacto	rs					
Туре			3RT1054	3RT1055, 3RT1056	3RT1064	3RT1065	3RT1066	3RT1075	3RT1076
Size			S6		S10			S12	
Rated data of the main contacts (continued)								
Load rating with DC									
Utilization category DC-1, switching resistive loads ($L/R \le 1$ ms)									
 Rated operational currents I_e (at 60 °C) 									
- 1 conducting path	Up to 24 V / 60 V / 110 V /	Α	160 160 18		200 200	300 300 33		400 330	
	220 V / 440 V / 600 V /	Α	3.4 0.8 0.5			3.8 0.9 0.6			
- 2 conducting paths in series	Up to 24 V / 60 V / 110 V /	Α	160 160 160		200 200 200	300 300 300		400 400 400	
	220 V / 440 V /	A A	20 3.2		200	300 4		400	
- 3 conducting paths in series	600 V / Up to 24 V / 60 V / 110 V /	A A	1.6 160 160 160		200 200 200	2 300 300 300		400 400 400	
	220 V / 440 V / 600 V /	Α	160 11.5 4		200	300 11 5.2		400	
Utilization category DC-3/DC-5, shunt-wound and series-wound motors	s (<i>L/R</i> ≤ 15 ms)								
• Rated operational currents I _e (at 60 °C))								
- 1 conducting path	Up to 24 V / 60 V / 110 V /	Α	160 7.5 2.5		200	300 11 3		400	
	220 V / 440 V / 600 V /	Α	0.6 0.17 0.12			0.18 0.125			
- 2 conducting paths in series	Up to 24 V / 60 V / 110 V /	A A	160 160 160		200 200 200	300 300 300		400 400 400	
	220 V / 440 V / 600 V /	Α	2.5 0.65 0.37						
- 3 conducting paths in series	Up to 24 V 7 60 V 7 110 V 7 220 V 7	A A	160 160 160		200 200 200 200	300 300 300 300		400 400 400 400	
	440 V /		1.4						
Switching frequency	600 V /	М	0.75						
Switching frequency z in operating cycl	les/hour								
Contactors without overload relaysNo-load switching frequency									
- Standard operating mechanism	3RT10A	1/h	2 000						
- Solid-state operating mechanism	3RT10N/P 3RT10S	1/h 1/h 1/h	1 000 1 000					500	
• Switching frequency z during rated ope	eration ¹⁾								
3RT10A standard operating mechanism and 3RT10N/P solid-state operating mechanism	$I_{\rm e}/{\rm AC}$ -1 at 400 V $I_{\rm e}/{\rm AC}$ -2 at 400 V $I_{\rm e}/{\rm AC}$ -3 at 400 V $I_{\rm e}/{\rm AC}$ -4 at 400 V	1/h 1/h	800 400 1 000 130	300 750	750 250 500	800	750	700 200	500 170 420
3RT10S solid-state operating mechanism	I _e /AC-4 at 400 V I _e /AC-1 at 400 V I _e /AC-2 at 400 V I _e /AC-3 at 400 V I _e /AC-4 at 400 V	1/h 1/h 1/h	750 400 750 130	300	500 250 500			200 200 200	170
Contactors with mounted overload relay	-e/	-1-1	.55						
Mean value		1/h	60						
1) Dependence of the autitabing frequence	!	,							

¹⁾ Dependence of the switching frequency z'on the operational current I' and operational voltage U': $z' = z \cdot (I_e/I') \cdot (U_e/U)^{1.5} \cdot 1/h$.

			Contactors			
Туре			3RT105.		3RT106.	3RT107.
Size			S6		S10	S12
	tor cross-sections					V.2
	ductors (1 or 2 conductors can be connected)		Screw terminals			
With mour	ited box terminals	Type	3RT1955-4G (55 kW)	3RT1956-4G	3RT1966-40	3
with modi	Terminal screws	турс	M10 (hexagon socket,	<u>5111 1550 40</u>	M12 (hexag	_
			A/F 4)		A/F 5)	orr doorlot,
	- Tightening torque	Nm lb.in	10 12 90 110		20 22 180 195	
Front clam	ping point connected	10.111	00 110		100 100	
	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	16 70	16 120	70 240	
1 64	 Finely stranded without end sleeve 	mm ²	16 70	16 120	70 240	
	• Stranded	mm ²	16 70	16 120	95 300	
δã	AWG cables, solid or stranded		6 2/0	6 250 kcmil	3/0 600 k	
	 Ribbon cable conductors (number x width x thickness) 	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	Min. 6 x 9 x max. 20 x 2	
Rear clam	ping point connected	0				
1 8	 Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve 	mm ² mm ²	16 70 16 70	16 120 16 120	120 185 120 185	
26	Stranded	mm ²	16 70	16 120	120 103	
O S	 AWG cables, solid or stranded 	AWG	6 2/0	6 250 kcmil	250 500 k	cemil
	Ribbon cable conductors	mm	Min. 3 x 9 x 0.8,	Min. 3 x 9 x 0.8,	Min. 6 x 9 x	0.8,
	(number x width x thickness)		max. 6 x 15.5 x 0.8	max. 10 x 15.5 x 0.8	max. 20 x 2	4 x 0.5
	ping points connected cross-section 16 mm²)					
	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120		max. 2 x 185
<u> </u>	Finely stranded without end sleeveStranded	mm ² mm ²	Max. 1 x 50, 1 x 70 Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120 Max. 1 x 95, 1 x 120		max. 2 x 185 max. 2 x 240
	AWG cables, solid or stranded	AWG	Max. 2 x 1/0	Max. 2 x 3/0	Min. 2 x 2/0	
S					max. 2 x 50	
	 Ribbon cable conductors (number x width x thickness) 	mm	Max. 2 x (6 x 15.5 x 0.8)	Max. 2 x (10 x 15.5 x 0.8)	Max. 2 x (20	0 x 24 x 0.5)
Busbar co	nnections					
Connectin	g bar (max. width)	mm	17		25	
Cable lug	connection					
	• Finely stranded with cable lug ¹⁾²⁾	mm ² mm ²	16 95 25 120		50 240 70 240	
	 Stranded with cable lug^{1/2}) AWG cables, solid or stranded 		4 250 kcmil		2/0 500 k	omil
	Awg caples, solid or stranded Terminal screws	AVVG	4 250 KCMII M8 x 25 (A/F 13)		M10 x 30 (A	
	- Tightening torque	Nm	10 14		14 24	(1 17)
		lb.in	90 124		124 210	
Auxiliary	conductors (1 or 2 conductors connectable)	2		. 2)		
	SolidFinely stranded with end sleeve (DIN 46228-1)	mm ² mm ²	2 x (0.5 1.5) ³⁾ ; 2 x (0.75 2 x (0.5 1.5) ³⁾ ; 2 x (0.75	2.5) ³⁾ ; max. 2 x (0.75 4) ³ , 2.5) ³⁾)	
	 AWG cables, solid or stranded 	AWG	2 x (18 14)			
	Terminal screws		M3 (Pozidriv size 2)			
	- Tightening torque	Nm lb.in	0.8 1.2 7 10.3			
Auxiliary	conductors ⁴⁾ (1 or 2 conductors connectable)		Spring-type terminals	S		
	Operating devices		3.0 x 0.5; 3.5 x 0.5			
	• Solid	mm ²	2 x (0.25 2.5)			
	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.25 1.5)			
	Finely stranded without end sleeve AWC salklas salklas stranded.	mm ²	2 x (0.25 2.5)			
1)	AWG cables, solid or stranded		2 x (24 14)			
リ 3RT105	: When using cable lugs according to EN 46235, use	the	3) If two different o	conductor cross-sections are	connected to	one clamping

 ³RT105.: When using cable lugs according to EN 46235, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm² to keep the phase clearance, see page 3/118.
 3RT106. and 3RT107.: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain phase separation, see page 3/118.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Max. external diameter of the conductor insulation: 3.6 mm. With conductor cross-sections ≤ 1 mm² an "insulation stop" must be used, see page 3/121.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Data for North America

Type Size			Contactors 3RT2015 S00	3RT2016	3RT2017	3RT2018
® and ® rated data						
Rated operational voltage	V	/ AC	600			
Uninterrupted current, at 40 °C, open and enclosed	Д	4	20			
Maximum horsepower ratings (from 3 and 4 approved values)						
Rated power for three-phase motors at 60 Hz	At 200 V h 230 V h 460 V h 575 V h	ip ip	1.5 2 3 5	2 3 5 7.5	3 7.5 10	5 10
Short-circuit protection (contactor)	At 600 V k	κA	5			
Class J fuse (values for RK5 fuses available on request)	Д	Ą	60			
Circuit breakers in accordance with UL 489 ("Inverse Time Breakers")	Д	Ą	50			
Combination motor controllers, type E acc. to UL 508 and UL 60947-4-1			3RV2.1 or 3RV2	.2		

			Contacto	rs					
Туре			3RT2023	3RT2024	3RT2025	3RT2026	3RT23264AA0	3RT2027	3RT2028
Size			S0						
® and ® rated data									
Rated operational voltage		V AC	600						
Uninterrupted current, at 40 °C, open and enclosed		Α	30					42	
Maximum horsepower ratings (from ® and ® approved values)									
 Rated power for three-phase motors at 60 Hz 	At 200 V 230 V 460 V 575 V	hp hp	2 3 5 7.5	3 7.5 10	5 10 15	5 7.5 15 20	3 5 10 15	10 10 20 25	25
Short-circuit protection (contactor)	At 600 V	kA	5		_	_		_	
Class J fuse (values for RK5 fuses available on request)		А	125					150	
Circuit breakers in accordance with UL 489 ("Inverse Time Breakers")		А	70					100	
 Combination motor controllers, type E acc. to UL 508 and UL 60947-4-1 	At 480 V At 600 V		3RV202 3RV202						

			Contacto	rs					
Туре			3RT2035	3RT2036, 3RT23364AA0		3RT2038	3RT2045	3RT2046	3RT2047
Size			S2				S3		
⊕ and ⊕ rated data									
Rated operational voltage		V AC	600						
Uninterrupted current, at 40 °C, open and enclose	sed	Α	55	60	80	90	62	77	99
Maximum horsepower ratings (from 3 and 4 approved values)									
Rated power for three-phase motors at 60 Hz	At 200/208 V 230/240 V 460/480 V 575/600 V	hp hp	10 15 30 40	15 40 50	20 20 50	25 60	25 30 60 60	30 75 75	40 100
Short-circuit protection (contactor)	At 600 V	kA	5	10			10		
• RK5 fuse		Α	150	200	250		300	350	
 Combination motor controllers, type E acc. to UL 508 and UL 60947-4-1 		Туре	3RV203				3RV204		

		Contactor 3RT1054	s 3RT1055	3RT1056	3RT1064	3RT1065	3RT1066	3RT1075	3RT1076	
Size		S6			S10			S12		
⊕ and ⊕ rated data										
Rated operational voltage	V AC	600								
Uninterrupted current, at 40 °C, open and enclosed	А	140	195		250	330		400	540	
Maximum horsepower ratings (from 3 and 4 approved values)										
Rated power for three-phase motors at 60 Hz	At 200 V hp 230 V hp 460 V hp 575 V hp	40 50 100 125	50 60 125 150	60 75 150 200		75 100 200 250	100 125 250 300	125 150 300 400	150 200 400 500	
Short-circuit protection			More information, see Certificate of Compliance for the individual devices. For the dimensioning of load feeders, see Configuration Manual.							
		Contactor	s							

		Contactors			
Туре		3RT201	3RT202 to 3RT204		3RT105 to 3RT107
Size		S00	S0 to S3		S6 to S12
		Integrated or mountable auxiliary switch block	Integrated	Mountable auxiliary switch block	Mountable auxiliary switch block
® and ® rated data of the auxiliary conta	acts				
Rated voltage	VAC	600			
Switching capacity		A 600, Q 600	A 600, P 600	A 600, Q 600	A 600, Q 600
 Uninterrupted current at 240 V AC 	Α	10			

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

Selection and ordering data

AC operation ~

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B









3RT201.-1A..

Rated data AC-1, t_u: 40 °C AC-2 and AC-3, t_u: 60 °C Ratings of three-phase motors at Opera-Operational tional current I_e 50 Hz and up to

400 V

current I_e up to 690 V

Auxiliary contacts Rated control SD supply voltage U_s 50/60 Hz AC Ident. Version No NO NC

3RT201.-1AP04-3MA0 ⊕ SD **Screw terminals** Price per PU Article No.

3RT201.-2AP04-3MA0

Spring-type terminals	<u></u>
Article No.	Price per PU

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

_		_	_	_
C.	i 70	S	n	n

400 V

7	3	18	10	1		24	>	3RT2015-1AB01	>	3RT2015-2AB01
						110 230	•	3RT2015-1AF01 3RT2015-1AP01	>	3RT2015-2AF01 3RT2015-2AP01
			01		1	24	>	3RT2015-1AB02	>	3RT2015-2AB02
						110	>	3RT2015-1AF02	▶	3RT2015-2AF02
						230	•	3RT2015-1AP02	>	3RT2015-2AP02
9	4	22	10	1		24	>	3RT2016-1AB01	>	3RT2016-2AB01
						110 230	>	3RT2016-1AF01 3RT2016-1AP01	>	3RT2016-2AF01 3RT2016-2AP01
			01		1	24	<u> </u>	3RT2016-1AB02		3RT2016-2AB02
			UI		1	24 110		3RT2016-1AB02 3RT2016-1AF02		3RT2016-2AB02 3RT2016-2AF02
						230	•	3RT2016-1AP02	•	3RT2016-2AP02
12	5.5	22	10	1		24		3RT2017-1AB01		3RT2017-2AB01
						110	▶	3RT2017-1AF01	▶	3RT2017-2AF01
						230	>	3RT2017-1AP01	>	3RT2017-2AP01
			01		1	24		3RT2017-1AB02		3RT2017-2AB02
						110	>	3RT2017-1AF02	>	3RT2017-2AF02
						230		3RT2017-1AP02		3RT2017-2AP02
16	7.5	22	10	1		24	>	3RT2018-1AB01	▶	3RT2018-2AB01
						110		3RT2018-1AF01	>	3RT2018-2AF01
						230	>	3RT2018-1AP01		3RT2018-2AP01
			01		1	24		3RT2018-1AB02		3RT2018-2AB02
						110 230	>	3RT2018-1AF02 3RT2018-1AP02		3RT2018-2AF02 3RT2018-2AP02
14611					(011)			3N12010-1AF02		3N12010-2AP02
	ermanently m	ounted auxili	ary switci	п віоск	(50)	/A-certified				
7	3	18	22	2	2	230	2	3RT2015-1AP04-3MA0	5	3RT2015-2AP04-3MA0
9	4	22	22	2	2	230	2	3RT2016-1AP04-3MA0	5	3RT2016-2AP04-3MA0
12	5.5	22	22	2	2	230	2	3RT2017-1AP04-3MA0	5	3RT2017-2AP04-3MA0
16	7.5	22	22	2	2	230	•	3RT2018-1AP04-3MA0	5	3RT2018-2AP04-3MA0
		ounted auxili				/A-certified				
safety o	contactor) an	d varistor plu	gged into	the fro	ont					
7	3	18	22	2	2	230	5	3RT2015-1CP04-3MA0	5	3RT2015-2CP04-3MA0
9	4	22	22	2	2	230	5	3RT2016-1CP04-3MA0	5	3RT2016-2CP04-3MA0
12	5.5	22	22	2	2	230	5	3RT2017-1CP04-3MA0	5	3RT2017-2CP04-3MA0
16	7.5	22	22	2	2	230	5	3RT2018-1CP04-3MA0	5	3RT2018-2CP04-3MA0

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

AC operation ~

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B





3RT202.-1A.00

3RT2026-1AB00

3RT2026-1AF00 3RT2026-1AF00

3RT2027-1AB00 3RT2027-1AF00 3RT2027-1AP00

3RT2028-1AB00

3RT2028-1AF00 3RT2028-1AP00

3R1	Г202.	-2A.	00

2

2

2 2 2

3RT2026-2AB00

3RT2026-2AF00 3RT2026-2AP00

3RT2027-2AB00 3RT2027-2AF00 3RT2027-2AP00

3RT2028-2AB00

3RT2028-2AF00 3RT2028-2AP00

Rated data			Auxiliary	conta	cts	Rated control supply voltage	SD	Screw terminals		SD	Spring-type terminals	$\stackrel{\circ}{\Box}$
AC-2 and t_u : 60 °C	AC-3,	AC-1, t _u : 40 °C				U _s						
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Vers	ion	50 Hz AC						
$\begin{array}{c} \text{current } I_{\text{e}} \\ \text{up to} \end{array}$	motors at 50 Hz and	current $I_{\rm e}$ up to		٦	Ļ			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V)	1							
Α	kW	Α		NO	NC	V	d			d		
	w fixing and sna d mounting rail											
9	4	40	11	1	1	24 110 230	> >	3RT2023-1AB00 3RT2023-1AF00 3RT2023-1AP00		2 2 •	3RT2023-2AB00 3RT2023-2AF00 3RT2023-2AP00	
12	5.5	40	11	1	1	24 110 230	A A	3RT2024-1AB00 3RT2024-1AF00 3RT2024-1AP00		2	3RT2024-2AB00 3RT2024-2AF00 3RT2024-2AP00	
17	7.5	40	11	1	1	24 110 230	A A	3RT2025-1AB00 3RT2025-1AF00 3RT2025-1AP00		2	3RT2025-2AB00 3RT2025-2AF00 3RT2025-2AP00	

24

110

230

24 110

230

24 110

230

Other voltages according to page 3/74 on request.

Accessories and spare parts, see pages 3/76 to 3/125.

40

50

50

11

11

11

25

32

38

11

15

18.5

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC operation ~

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B









3RT202.-1A.04

3RT202.-2A.04

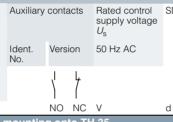
3RT202.-1CL24-3MA0

3RT202.-2CL24-3MA0

AC-2 and AC-3, t_u : 60 °C								
Operational current I_e up to	Ratings of three-phase motors at 50 Hz and							
400 V	400 V							

kW





Article No.

Price per PU

SD Spring-type terminals

Article No. Price per PU

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

_		
S	ize.	SO

With r	emovable mo	unted auxilia	ary switch	block						
9	4	40	22	2	2	24 230	5	3RT2023-1AB04 3RT2023-1AP04	5 2	3RT2023-2AB04 3RT2023-2AP04
12	5.5	40	22	2	2	24 110 230	5 5 •	3RT2024-1AB04 3RT2024-1AF04 3RT2024-1AP04	5 5 2	3RT2024-2AB04 3RT2024-2AF04 3RT2024-2AP04
17	7.5	40	22	2	2	24 110 230	5 5 •	3RT2025-1AB04 3RT2025-1AF04 3RT2025-1AP04	5 5 2	3RT2025-2AB04 3RT2025-2AF04 3RT2025-2AP04
25	11	40	22	2	2	24 110 230	5 5 •	3RT2026-1AB04 3RT2026-1AF04 3RT2026-1AP04	5 5 2	3RT2026-2AB04 3RT2026-2AF04 3RT2026-2AP04
32	15	50	22	2	2	24 110 230	5 5 •	3RT2027-1AB04 3RT2027-1AF04 3RT2027-1AP04	5 5 2	3RT2027-2AB04 3RT2027-2AF04 3RT2027-2AP04
38	18.5	50	22	2	2	24 110 230	5 5 •	3RT2028-1AB04 3RT2028-1AF04 3RT2028-1AP04	5 5 2	3RT2028-2AB04 3RT2028-2AF04 3RT2028-2AP04
(SUVÀ	ermanently r -certified saf ed into the fro	ety contacto				nently				
9	4	40	22	2	2	230	5	3RT2023-1CL24-3MA0	5	3RT2023-2CL24-3MA0
12	5.5	40	22	2	2	230	2	3RT2024-1CL24-3MA0	5	3RT2024-2CL24-3MA0
17	7.5	40	22	2	2	230	5	3RT2025-1CL24-3MA0	5	3RT2025-2CL24-3MA0
25	11	40	22	2	2	230	5	3RT2026-1CL24-3MA0	5	3RT2026-2CL24-3MA0
32	15	50	22	2	2	230	5	3RT2027-1CL24-3MA0	5	3RT2027-2CL24-3MA0
38	18.5	50	22	2	2	230	5	3RT2028-1CL24-3MA0	5	3RT2028-2CL24-3MA0

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

AC operation ~

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B











3RT203.-1A.00

3RT203.-3A.00

3RT203.-1A.04

3RT203.-1CL24-3MA0

3RT203.-3CL24-3MA0

Rated dat AC-2 and t _u : 60 °C		AC-1, t _u : 40 °C	Auxiliary contacts		Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	SD	Spring-type terminals	<u> </u>
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	50 Hz AC						
current I _e up to 400 V	motors at 50 Hz and 400 V	current I _e up to 690 V		\			Article No.	Price per PU		Article No.	Price per PU
Α	kW	Α		NO NC		d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Stant	iara mounti	ing raii								
Size S	S2									
40	18.5	60	11	1	1	24 110 230	>	3RT2035-1AB00 3RT2035-1AF00 3RT2035-1AP00	2 5 •	3RT2035-3AB00 3RT2035-3AF00 3RT2035-3AP00
50	22	70	11	1	1	24 110 230	>	3RT2036-1AB00 3RT2036-1AF00 3RT2036-1AP00	5 5 •	3RT2036-3AB00 3RT2036-3AF00 3RT2036-3AP00
65	30	80	11	1	1	24 110 230	>	3RT2037-1AB00 3RT2037-1AF00 3RT2037-1AP00	5 5 •	3RT2037-3AB00 3RT2037-3AF00 3RT2037-3AP00
80	37	90	11	1	1	24 110 230	2 2 •	3RT2038-1AB00 3RT2038-1AF00 3RT2038-1AP00	5 5 •	3RT2038-3AB00 3RT2038-3AF00 3RT2038-3AP00
With r	emovable mo	unted auxili	ary switch	block						
40	18.5	60	22	2	2	24 110 230	2 2 •	3RT2035-1AB04 3RT2035-1AF04 3RT2035-1AP04		- -
50	22	70	22	2	2	24 110 230	2 2 •	3RT2036-1AB04 3RT2036-1AF04 3RT2036-1AP04		-
65	30	80	22	2	2	24 110 230	2 2 •	3RT2037-1AB04 3RT2037-1AF04 3RT2037-1AP04		-
80	37	90	22	2	2	24 110 230	5 2	3RT2038-1AB04 3RT2038-1AF04 3RT2038-1AP04		Ξ
	ermanently r				k and	d				
40	18.5	60	22	2	2	230	5	3RT2035-1CL24-3MA0	5	3RT2035-3CL24-3MA0
50	22	70	22	2	2	230	5	3RT2036-1CL24-3MA0	5	3RT2036-3CL24-3MA0
65	30	80	22	2	2	230	5	3RT2037-1CL24-3MA0	5	3RT2037-3CL24-3MA0
80	37	90	22	2	2	230	5	3RT2038-1CL24-3MA0	5	3RT2038-3CL24-3MA0

Other voltages according to page 3/74 on request.

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC operation ~

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit = 41B









3R	T204	I1/	00.4

Rated data	Rated data						
AC-2 and AC-3, t _u : 60 °C							
$\begin{array}{c} \text{Operational} \\ \text{current } I_{\text{e}} \\ \text{up to} \end{array}$	Ratings of three-phase motors at 50 Hz and						
400 V	400 V						
Α	kW						

AC-1, t_u: 40 °C Operational current Ie up to 690 V Α

Auxiliary contacts Rated control supply voltage $U_{\rm s}$ 50 Hz AC Ident. Version NO NC V

3RT204.-1CL24-3MA0

Screw terminals	SE
Article No. Price per PU	
	d

	3RT2043A.00	
)	Spring-type terminals	••
	Article No.	Price per PU

For screw and	snap-on mount	ing onto l	ΓH 35-15 and
TH 75-15 stand	ard mounting r	aile	

Size S	3							-		
80	37	125	11	1	1	24 110 230	2 2 1	3RT2045-1AB00 3RT2045-1AF00 3RT2045-1AP00	5 5 2	3RT2045-3AB00 3RT2045-3AF00 3RT2045-3AP00
95	45	130	11	1	1	24 110 230	2 2 1	3RT2046-1AB00 3RT2046-1AF00 3RT2046-1AP00	5 5 2	3RT2046-3AB00 3RT2046-3AF00 3RT2046-3AP00
110	55	130	11	1	1	24 110 230	5 5 •	3RT2047-1AB00 3RT2047-1AF00 3RT2047-1AP00	5 5 5	3RT2047-3AB00 3RT2047-3AF00 3RT2047-3AP00
With re	movable m	ounted auxilia	ry switch	block						
80	37	125	22	2	2	24 110 230	5 2 2	3RT2045-1AB04 3RT2045-1AF04 3RT2045-1AP04		
95	45	130	22	2	2	24 110 230	5 2 2	3RT2046-1AB04 3RT2046-1AF04 3RT2046-1AP04		
110	55	130	22	2	2	24 110 230	5 5 5	3RT2047-1AB04 3RT2047-1AF04 3RT2047-1AP04		
		mounted auxi tly plugged in			k and	i				
80	37	125	22	2	2	230	5	3RT2045-1CL24-3MA0		
95	45	130	22	2	2	230	5	3RT2046-1CL24-3MA0		
110	55	130	22	2	2	230	5	3RT2047-1CL24-3MA0		

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

DC operation

PU (UNIT, SET, M) = 1 = 1 unit = 41B





3RT201.-1B...

3RT	201	2B
-----	-----	----

Rated data AC-2 and A t _u : 60 °C		AC-1, t _u : 40 °C	Auxiliary contacts		$\begin{array}{c} \text{Cts} & \text{Rated control} & \text{SI} \\ & \text{supply voltage} \\ & U_{\text{S}} \end{array}$		Screw terminals		SD	Spring-type terminals	<u></u>
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC						
current $I_{\rm e}$ up to	motors at 50 Hz and	current $I_{\rm e}$ up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V) (p			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
А	kW	А		NO NC	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

	ara moanting									
Size S	500									
7	3	18	10	1		24 220	2	3RT2015-1BB41 3RT2015-1BM41	5	3RT2015-2BB41 3RT2015-2BM41
			01		1	24 220	5	3RT2015-1BB42 3RT2015-1BM42	5	3RT2015-2BB42 3RT2015-2BM42
9	4	22	10	1		24 220	5	3RT2016-1BB41 3RT2016-1BM41	5	3RT2016-2BB41 3RT2016-2BM41
			01		1	24 220	5	3RT2016-1BB42 3RT2016-1BM42	5	3RT2016-2BB42 3RT2016-2BM42
12	5.5	22	10	1		24 220	5	3RT2017-1BB41 3RT2017-1BM41	5	3RT2017-2BB41 3RT2017-2BM41
			01		1	24 220	5	3RT2017-1BB42 3RT2017-1BM42	5	3RT2017-2BB42 3RT2017-2BM42
16	7.5	22	10	1		24 220	5	3RT2018-1BB41 3RT2018-1BM41	5	3RT2018-2BB41 3RT2018-2BM41
			01		1	24 220	5	3RT2018-1BB42 3RT2018-1BM42	5	3RT2018-2BB42 3RT2018-2BM42
With ir	ntegrated coil c	ircuit (varistor)	NEW							
7	3	18	10	1		24	5	3RT2015-1UB41	5	3RT2015-2UB41
			01		1	24	5	3RT2015-1UB42	5	3RT2015-2UB42
9	4	22	10	1		24	5	3RT2016-1UB41	5	3RT2016-2UB41
			01		1	24	5	3RT2016-1UB42	5	3RT2016-2UB42
12	5.5	22	10	1		24	5	3RT2017-1UB41	5	3RT2017-2UB41
			01		1	24	5	3RT2017-1UB42	5	3RT2017-2UB42
16	7.5	22	10	1		24	5	3RT2018-1UB41	5	3RT2018-2UB41
			01		1	24	5	3RT2018-1UB42	5	3RT2018-2UB42
With ir	ntegrated coil c	ircuit (diode) ¹⁾								
7	3	18	10	1		24	>	3RT2015-1FB41		3RT2015-2FB41
			01		1	24		3RT2015-1FB42		3RT2015-2FB42
9	4	22	10	1		24	•	3RT2016-1FB41		3RT2016-2FB41
			01		1	24		3RT2016-1FB42		3RT2016-2FB42
12	5.5	22	10	1		24		3RT2017-1FB41		3RT2017-2FB41
			01		1	24	>	3RT2017-1FB42		3RT2017-2FB42
16	7.5	22	10	1		24	>	3RT2018-1FB41		3RT2018-2FB41
			01		1	24	•	3RT2018-1FB42	•	3RT2018-2FB42

When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes.
 For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/74 on request.

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B









3RT201.-2BB44-3MA0 3RT201.-1BB4.-0CC0

3RT201.-2BB4.-0CC0

Rated dat AC-2 and t _u : 60 °C		AC-1, t _u : 40 °C	Auxiliary contacts		Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	SD	Spring-type terminals	<u></u>
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC						
up to	motors at 50 Hz and	up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V		1 1							
Α	kW	А		NO NC		d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S00

SIZE .	300									
	permanently m A-certified safe			block	•					
7	3	18	22	2	2	24	•	3RT2015-1BB44-3MA0	2	3RT2015-2BB44-3MA0
9	4	22	22	2	2	24	•	3RT2016-1BB44-3MA0	2	3RT2016-2BB44-3MA0
12	5.5	22	22	2	2	24	2	3RT2017-1BB44-3MA0	2	3RT2017-2BB44-3MA0
16	7.5	22	22	2	2	24	2	3RT2018-1BB44-3MA0	2	3RT2018-2BB44-3MA0
	permanently m A-certified safe					ircuit (d	liode) ¹⁾			
7	3	18	22	2	2	24	2	3RT2015-1FB44-3MA0	2	3RT2015-2FB44-3MA0
9	4	22	22	2	2	24	2	3RT2016-1FB44-3MA0	2	3RT2016-2FB44-3MA0
12	5.5	22	22	2	2	24	2	3RT2017-1FB44-3MA0	5	3RT2017-2FB44-3MA0
16	7.5	22	22	2	2	24	2	3RT2018-1FB44-3MA0	2	3RT2018-2FB44-3MA0
With v	oltage tap-off	(only availab	le with 24	V DC	coils)					
7	3	18	10	1		24	>	3RT2015-1BB41-0CC0	>	3RT2015-2BB41-0CC0
			01		1	24	>	3RT2015-1BB42-0CC0	2	3RT2015-2BB42-0CC0
9	4	22	10	1		24	>	3RT2016-1BB41-0CC0	2	3RT2016-2BB41-0CC0
			01		1	24	2	3RT2016-1BB42-0CC0	2	3RT2016-2BB42-0CC0
12	5.5	22	10	1		24	2	3RT2017-1BB41-0CC0	>	3RT2017-2BB41-0CC0
			01		1	24	5	3RT2017-1BB42-0CC0	>	3RT2017-2BB42-0CC0
16	7.5	22	10	1		24	2	3RT2018-1BB41-0CC0	>	3RT2018-2BB41-0CC0
			01		1	24	2	3RT2018-1BB42-0CC0	2	3RT2018-2BB42-0CC0

When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes. For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

DC operation for direct control from the PLC

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
- · Cannot be extended with auxiliary switch blocks

PU (UNIT, SET, M) = 1 = 1 unit = 41B





3RT201.-1.B4

3RT201.-2.B4

Rated data	Rated data		Auxiliary	contacts	Rated control	SD	Screw terminals	(1)	SD	Spring-type terminals	∞
AC-2 and t _u : 60 °C	AC-3,	AC-1, t _u : 40 °C			supply voltage U _s						Ш
tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC						
current $I_{\rm e}$ up to	motors at 50 Hz and	current $I_{\rm e}$ up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V) (
Α	kW	А		NO NC	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

_	_	_	
c	:	S00	n

Size S0	00								
Diode, v	aristor or RC el	ement, atta	achable						
(no auxili	iary switch block	s can be m	nounted)						
Operatin power co	g range 0.7 1 . onsumption of the	. 25 x <i>U</i>_s , e solenoid	coils 2.8 W	at 24	V				
7	3	18	10	1		24	5 3RT2015-1HB41	5	3RT2015-2HB41
			01		1	24	5 3RT2015-1HB42	5	3RT2015-2HB42
9	4	22	10 01	1	1	24 24	5 3RT2016-1HB41 2 3RT2016-1HB42	5 5	3RT2016-2HB41 3RT2016-2HB42
12	5.5 ¹⁾	22	10 01	1	1	24 24	5 3RT2017-1HB41 ▶ 3RT2017-1HB42	5 5	3RT2017-2HB41 3RT2017-2HB42
Operatin power co	g range 0.85 onsumption of the	1.85 x <i>U</i>_s , e solenoid	coils 1.6 W	at 24	V				
7	3	18	10	1		24	5 3RT2015-1MB41-0KT0	5	3RT2015-2MB41-0KT0
			01		1	24	5 3RT2015-1MB42-0KT0	5	3RT2015-2MB42-0KT0
9	4	22	10 01	1	1	24 24	5 3RT2016-1MB41-0KT0 5 3RT2016-1MB42-0KT0	5 5	3RT2016-2MB41-0KT0 3RT2016-2MB42-0KT0
12	5.5 ¹⁾	22	10 01	1	1	24 24	5 3RT2017-1MB41-0KT0 5 3RT2017-1MB42-0KT0	5 5	3RT2017-2MB41-0KT0 3RT2017-2MB42-0KT0
With inte	egrated coil circ	uit (diode)	1)		•				
	iary switch block								
Operatin power co	g range 0.7 1 . onsumption of the	.25 x <i>U</i> _s , e solenoid	coils 2.8 W	at 24	V				
7	3	18	10	1		24	2 3RT2015-1JB41	2	3RT2015-2JB41
			01		1	24	2 3RT2015-1JB42	5	3RT2015-2JB42
9	4	22	10 01	1	 1	24 24	> 3RT2016-1JB41 2 3RT2016-1JB42	5 5	3RT2016-2JB41 3RT2016-2JB42
12	5.5 ¹⁾	22	10	1	<u>'</u>	24	2 3RT2017-1JB41	5	3RT2017-2JB41
12	0.0		01		1	24	5 3RT2017-1JB42	5	3RT2017-2JB42
	g range 0.85 onsumption of the		coils 1.6 W	at 24	V				
7	3	18	10	1		24	5 3RT2015-1VB41	5	3RT2015-2VB41
			01		1	24	5 3RT2015-1VB42	5	3RT2015-2VB42
9	4	22	10 01	1	1	24 24	5 3RT2016-1VB41 5 3RT2016-1VB42	5 5	3RT2016-2VB41 3RT2016-2VB42
12	5.5 ¹⁾	22	10 01	1	1	24 24	5 3RT2017-1VB41 5 3RT2017-1VB42	5 5	3RT2017-2VB41 3RT2017-2VB42
			UI		1	24	3 N12017-1VD42	Ü	JN12017-2VD42

¹⁾ When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes. In the case of 5.5 kW coupling contactors of size S00, use 5.5 kW coupling contactors of size S0, see page 3/66. For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/74 on request.

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation for direct control from the PLC

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
 Cannot be extended with auxiliary switch blocks

PU (UNIT, SET, M) = 1 = 1 unit = 41B





3RT201.-1.B4.

3RT201.-2.B4.

Rated data AC-2 and to t _u : 60 °C	AC-2 and AC-3, AC-1, t_{u} : 40 °C		Auxiliary contacts		Rated control supply voltage $U_{\rm s}$	SD	Screw terminals	+	SD	Spring-type terminals	<u> </u>
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC						
current $I_{\rm e}$ up to	motors at 50 Hz and	current $I_{\rm e}$ up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V		1				·			•
Α	kW	Α		NO NC	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S00

With in	ntegrated coil c	ircuit (suppres	sor diode)	1)						
(no aux	xiliary switch blo	cks can be mou	unted)							
	ting range 0.7 consumption of		ils 2.8 W at	t 24 V						
7	3	18	10 01	1	 1	24 24	2 2	3RT2015-1KB41 3RT2015-1KB42	2	3RT2015-2KB41 3RT2015-2KB42
9	4	22	10 01	1	 1	24 24	2 2	3RT2016-1KB41 3RT2016-1KB42	2 2	3RT2016-2KB41 3RT2016-2KB42
12	5.5 ¹⁾	22	10 01	1	 1	24 24	2 2	3RT2017-1KB41 3RT2017-1KB42	A A	3RT2017-2KB41 3RT2017-2KB42
	ting range 0.85 . consumption of		ils 1.6 W at	t 24 V						
7	3	18	10 01	1	 1	24 24	5 5	3RT2015-1SB41 3RT2015-1SB42	5 5	3RT2015-2SB41 3RT2015-2SB42
9	4	22	10 01	1	 1	24 24	5 5	3RT2016-1SB41 3RT2016-1SB42	5 5	3RT2016-2SB41 3RT2016-2SB42
12	5.5 ¹⁾	22	10 01	1	 1	24 24	5 5	3RT2017-1SB41 3RT2017-1SB42	5 5	3RT2017-2SB41 3RT2017-2SB42

¹⁾ When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes. In the case of 5.5 kW coupling contactors of size S00, use 5.5 kW coupling contactors of size S0, see page 3/66. For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

DC operation

Suitable for solid-state PLC/F-PLC outputs

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$









3RT202.-1B.40

3RT202.-2B.40

3RT202.-1B.44

Rated data AC-2 and AC-3, $t_{\rm U}$: 60 °C Operational current $I_{\rm e}$ up to 400 V 400

Ratings of three-phase motors at 50 Hz and 400 V KW

AC-1, t_u: 40 °C Operational current I_e up to 690 V

Auxiliary contacts

Rated control supply voltage Us

Ident. Version DC

No. DC

NO NC V

Article No.

Price per PU

3RT202.-2B.44

SD Spring-type terminals

Article No. Price per PU

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S	<i>50</i>									
9	4	40	11	1	1	24	>	3RT2023-1BB40	•	3RT2023-2BB40
12	5.5	40	11	1	1	24	>	3RT2024-1BB40		3RT2024-2BB40
-						220	5	3RT2024-1BM40	5	3RT2024-2BM40
17	7.5	40	11	1	1	24 220	> 5	3RT2025-1BB40 3RT2025-1BM40	5	3RT2025-2BB40 3RT2025-2BM40
25	11	40	11	1	1	24	<u> </u>	3RT2025-1BW40 3RT2026-1BB40	5	3RT2025-2BM40 3RT2026-2BB40
25	"	40		ı	'	220	5	3RT2026-1BM40	5	3RT2026-2BM40
32	15	50	11	1	1	24	>	3RT2027-1BB40		3RT2027-2BB40
						220	5	3RT2027-1BM40	5	3RT2027-2BM40
38	18.5	50	11	1	1	24	<u> </u>	3RT2028-1BB40	▶	3RT2028-2BB40
						220	5	3RT2028-1BM40	5	3RT2028-2BM40
	oil circuit (varis	,								
9	4	40	11	1	1	24	5	3RT2023-1DB40	5	3RT2023-2DB40
12	5.5	40	11	1	1	24	5	3RT2024-1DB40	5	3RT2024-2DB40
17	7.5	40	11	1	1	24	5	3RT2025-1DB40	5	3RT2025-2DB40
25	11	40	11	1	1	24	5	3RT2026-1DB40	5	3RT2026-2DB40
32	15	50	11	1	1	24	5	3RT2027-1DB40	5	3RT2027-2DB40
38	18.5	50	11	1	1	24	5	3RT2028-1DB40	5	3RT2028-2DB40
With c	oil circuit plugg	jed into front (diode asse	embly)						
9	4	40	11	1	1	24	2	3RT2023-1FB40		3RT2023-2FB40
12	5.5	40	11	1	1	24	>	3RT2024-1FB40		3RT2024-2FB40
17	7.5	40	11	1	1	24	>	3RT2025-1FB40		3RT2025-2FB40
25	11	40	11	1	1	24	>	3RT2026-1FB40		3RT2026-2FB40
32	15	50	11	1	1	24	>	3RT2027-1FB40	•	3RT2027-2FB40
38	18.5	50	11	1	1	24	>	3RT2028-1FB40	•	3RT2028-2FB40
With re	emovable moun	ted auxiliary s	witch bloc	k						
9	4	40	22	2	2	24	>	3RT2023-1BB44		3RT2023-2BB44
12	5.5	40	22	2	2	24	>	3RT2024-1BB44	•	3RT2024-2BB44
17	7.5	40	22	2	2	24	>	3RT2025-1BB44		3RT2025-2BB44
25	11	40	22	2	2	24	>	3RT2026-1BB44		3RT2026-2BB44
32	15	50	22	2	2	24	>	3RT2027-1BB44		3RT2027-2BB44
38	18.5	50	22	2	2	24	>	3RT2028-1BB44		3RT2028-2BB44

Other voltages according to page 3/74 on request.

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B









3RT202.-1.B44-3MA0

3RT202.-2.B44-3MA0
Auxiliary contacts

3RT202.-1BB40-0CC0

3RT202.-2BB40-0CC0

400 V	400 V								
up to	50 Hz and								
current I _e	motors at								
tional	three-phase								
Opera-	Ratings of								
AC-2 and t_u : 60 °C	AC-3,								
Rated data	Rated data								

kW

AC-1, t_u: 40 °C Operational current I_e up to 690 V

Auxiliary contacts

Rated control supply voltage Us

Ident. No.

Version DC

NO NC V d

Article No.

Price per PU

D Spring-type terminals

Article No. Price per PU

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S0

With permanently mounted auxiliary switch block	(
(SUVA-certified safety contactor) and				
coil circuit permanently plugged into the front (value of the first state of the first st	2 24 2	3RT2024-1DB44-3MA0	5	3RT2024-2DB44-3MA0
17 7.5 40 22 2	2 24 5	***************************************	5	3RT2025-2DB44-3MA0
25 11 40 22 2	2 24 5	3RT2026-1DB44-3MA0	5	3RT2026-2DB44-3MA0
32 15 50 22 2	2 24 5	3RT2027-1DB44-3MA0	5	3RT2027-2DB44-3MA0
With permanently mounted auxiliary switch block (SUVA-certified safety contactor) and coil circuit permanently plugged into the front (dispersion of the contact of the con				
9 4 40 22 2	2 24 2	3RT2023-1FB44-3MA0	5	3RT2023-2FB44-3MA0
12 5.5 40 22 2	2 24 5	3RT2024-1FB44-3MA0	5	3RT2024-2FB44-3MA0
17 7.5 40 22 2	2 24 5	3RT2025-1FB44-3MA0	5	3RT2025-2FB44-3MA0
25 11 40 22 2	2 24 5	3RT2026-1FB44-3MA0	5	3RT2026-2FB44-3MA0
32 15 50 22 2	2 24 5	3RT2027-1FB44-3MA0	5	3RT2027-2FB44-3MA0
38 18.5 50 22 2	2 24 5	3RT2028-1FB44-3MA0	5	3RT2028-2FB44-3MA0
With voltage tap-off				
9 4 40 11 1	1 24 5	3RT2023-1BB40-0CC0	5	3RT2023-2BB40-0CC0
12 5.5 40 11 1	1 24 5	3RT2024-1BB40-0CC0	5	3RT2024-2BB40-0CC0
17 7.5 40 11 1	1 24 5	3RT2025-1BB40-0CC0	5	3RT2025-2BB40-0CC0
25 11 40 11 1	1 24 5	3RT2026-1BB40-0CC0	5	3RT2026-2BB40-0CC0
32 15 50 11 1	1 24 5	3RT2027-1BB40-0CC0	5	3RT2027-2BB40-0CC0
38 18.5 50 11 1	1 24 5	3RT2028-1BB40-0CC0	5	3RT2028-2BB40-0CC0

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

DC operation for direct control from the PLC

- Coupling contactors with adapted power consumption
 Suitable for solid-state PLC/F-PLC outputs
 Cannot be extended with auxiliary switch blocks

PU (UNIT, SET, M) = 1 = 1 unit = 41B





3RT202.-1KB40

Rated data			Auxiliary contacts		Rated control	SD	Screw terminals		SD	Spring-type terminals	∞
AC-2 and A t _u : 60 °C	AC-3,	AC-1, t _u : 40 °C			supply voltage U _s						ш
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC						
current $I_{\rm e}$ up to	motors at 50 Hz and	current I_e up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V) (
Α	kW	Α		NO NC	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S0

With ir	ntegrated coil ci	ircuit (varistor)								
(no aux	xiliary switch blo	cks can be mou	nted)							
	ting range 0.7 consumption of		ls 4.5 W at	24 V						
9	4	40	11	1	1	24	>	3RT2023-1KB40		3RT2023-2KB40
12	5.5	40	11	1	1	24	>	3RT2024-1KB40	5	3RT2024-2KB40
17	7.5	40	11	1	1	24	>	3RT2025-1KB40	2	3RT2025-2KB40
25	11	40	11	1	1	24	>	3RT2026-1KB40	2	3RT2026-2KB40
32	15	50	11	1	1	24		3RT2027-1KB40	5	3RT2027-2KB40

Other voltages according to page 3/74 on request.

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation for direct control from the PLC

- Coupling contactors with adapted power consumption
 Suitable for solid-state PLC/F-PLC outputs with 2 A

PU (UNIT, SET, M) = 1 PS* = 41B









3RT2031KB40)
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Rated data AC-2 and AC-3, $t_{\rm u}$: 60 °C Ratings of three-phase Operational current I_e motors at 50 Hz up to and 400 V 400 V

AC-1, t_u: 40 °C Operational current I_e up to 690 V Α

Auxiliary contacts Rated control supply voltage Us DC Ident. Version No. NO NC

Screw terminals Article No. Price per PU

Spring-type terminals Article No. Price per PU

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

c	i	CO
Э.	ıze	52

Α

with ir	ntegrated coll cil	rcuit (varistor)								
	ting range 0.8 g power of the sol		5 W at 24 \	/						
40	18.5	60	11	1	1	24	>	3RT2035-1KB40	X	3RT2035-3KB40
50	22	70	11	1	1	24	>	3RT2036-1KB40	X	3RT2036-3KB40
65	30	80	11	1	1	24	>	3RT2037-1KB40	X	3RT2037-3KB40
80	37	90	11	1	1	24		3RT2038-1KB40	5	3RT2038-3KB40

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With i	ntegrated coil ci	rcuit (varistor)									
	ating range 0.8 g power of the so		/ at 24 V								
80	37	125	11	1	1	24	2	3RT2045-1KB40	2	3RT2045-3KB40	
95	45	130	11	1	1	24	2	3RT2046-1KB40	2	3RT2046-3KB40	

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

AC/DC operation

- Extended operating range of the solenoid coil 0.7 to 1.3 x $U_{\rm S}$ Reduced power consumption when closing and in the closed

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B





3RT202.-1N.30

3RT202.-2N.30

Rated data AC-2 and tu: 60 °C	AC-2 and AC-3, AC-1,		Auxiliary	contacts	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	S	SD	Spring-type terminals	
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	50/60 Hz AC or DC						
current I _e up to	motors at 50 Hz and	current I_e up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V		1 1							
Α	kW	Α		NO NC	V	d		d	ŀ		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

c	محز	cn

Size S	50									
With in	ntegrated coil c	ircuit (varistor))							
12	5.5	40	11	1	1	21 28 95 130 200 280	2 2	3RT2024-1NB30 3RT2024-1NF30 3RT2024-1NP30	5 5 2	3RT2024-2NB30 3RT2024-2NF30 3RT2024-2NP30
17	7.5	40	11	1	1	21 28 95 130 200 280	2 2 2	3RT2025-1NB30 3RT2025-1NF30 3RT2025-1NP30	5 5 2	3RT2025-2NB30 3RT2025-2NF30 3RT2025-2NP30
25	11	40	11	1	1	21 28 95 130 200 280	2 5	3RT2026-1NB30 3RT2026-1NF30 3RT2026-1NP30	2 5 5	3RT2026-2NB30 3RT2026-2NF30 3RT2026-2NP30
32	15	50	11	1	1	21 28 95 130 200 280	2 2 2	3RT2027-1NB30 3RT2027-1NF30 3RT2027-1NP30	2 5 5	3RT2027-2NB30 3RT2027-2NF30 3RT2027-2NP30
38	18.5	50	11	1	1	21 28 95 130 200 280	5 5 2	3RT2028-1NB30 3RT2028-1NF30 3RT2028-1NP30	5 5 5	3RT2028-2NB30 3RT2028-2NF30 3RT2028-2NP30

Other voltages according to page 3/74 on request.

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC/DC operation <a>

- Extended operating range of the solenoid coil 0.8 to 1.1 x $U_{\rm S}$ • Reduced power consumption when closing and in the closed

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B



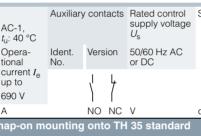








Rated data A									
AC-2 and t _u : 60 °C	AC-3,	AC-1, t _u : 40 °C							
Operational current I_e up to	Ratings of three-phase motors at 50 Hz and	Operational current I_e up to	Ident No.						
400 V	400 V	690 V							



Screw terminals Article No. Price per PU

3RT203.-3NB34-3MA0 **Spring-type terminals** Article No. Price per PU

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size	S2
Size	S2

With ir	ntegrated coil	circuit (variste	or)							
40	18.5	60	11	1	1	20 33 83 155 175 280	5 5	3RT2035-1NB30 3RT2035-1NF30 3RT2035-1NP30	5 5	3RT2035-3NB30 3RT2035-3NF30 3RT2035-3NP30
50	22	70	11	1	1	20 33 83 155 175 280	5 5	3RT2036-1NB30 3RT2036-1NF30 3RT2036-1NP30	5 5	3RT2036-3NB30 3RT2036-3NF30 3RT2036-3NP30
65	30	80	11	1	1	20 33 83 155 175 280	5 5	3RT2037-1NB30 3RT2037-1NF30 3RT2037-1NP30	▶ 5 5	3RT2037-3NB30 3RT2037-3NF30 3RT2037-3NP30
80	37	90	11	1	1	20 33 83 155 175 280	5 5	3RT2038-1NB30 3RT2038-1NF30 3RT2038-1NP30	X 2	3RT2038-3NB30 3RT2038-3NF30 3RT2038-3NP30
	emovable moι aristor)	ınted auxiliary	switch b	lock a	nd in	tegrated coil c	ir-			
40	18.5	60	22	2	2	20 33 83 155 175 280	5 5	3RT2035-1NB34 3RT2035-1NF34 3RT2035-1NP34		=
50	22	70	22	2	2	20 33 83 155 175 280	5 5	3RT2036-1NB34 3RT2036-1NF34 3RT2036-1NP34		
65	30	80	22	2	2	20 33 83 155 175 280	2 5 5	3RT2037-1NB34 3RT2037-1NF34 3RT2037-1NP34		
80	37	90	22	2	2	20 33 83 155 175 280	2 5 5	3RT2038-1NB34 3RT2038-1NF34 3RT2038-1NP34		<u> </u>
	ermanently m (varistor)	ounted auxilia	ary switch	block	and	l integrated coi	il			
40	18.5	60	22	2	2	20 33	>	3RT2035-1NB34-3MA0	5	3RT2035-3NB34-3MA0
50	22	70	22	2	2	20 33	•	3RT2036-1NB34-3MA0	5	3RT2036-3NB34-3MA0
65	30	80	22	2	2	20 33	2	3RT2037-1NB34-3MA0	5	3RT2037-3NB34-3MA0
80	37	90	22	2	2	20 33	2	3RT2038-1NB34-3MA0	2	3RT2038-3NB34-3MA0
With v	oltage tap-off	and integrate	d coil circ	uit (va	aristo	or)				
40	18.5	60	11	1	1	20 33	2	3RT2035-1NB30-0CC0	5	3RT2035-3NB30-0CC0
50	22	70	11	1	1	20 33	2	3RT2036-1NB30-0CC0	5	3RT2036-3NB30-0CC0
65	30	80	11	1	1	20 33	5	3RT2037-1NB30-0CC0	5	3RT2037-3NB30-0CC0
80	37	90	11	1	1	20 33	5	3RT2038-1NB30-0CC0	5	3RT2038-3NB30-0CC0

Other voltages according to page 3/74 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

AC/DC operation <a>

- Extended operating range of the solenoid coil 0.8 to 1.1 x $U_{\rm S}$ • Reduced power consumption when closing and in the closed

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B











3RT204.-3N.30

3RT204.-1NB34-3MA0

3RT204.-3NB34-3MA0

0111204. 1	114.00	0111204. 01	4.00	OTTI	204. 114.04		OTTIZOT. TIADOT OWN TO			OTTIZOT. OTTIDOT OTTIVO	
Rated dat	a		Auxiliar	contacts	Rated control	SD	Screw terminals	(1)	SD	Spring-type terminals	∞
AC-2 and $t_{\rm u}$: 60 °C	AC-3,	AC-1, t _u : 40 °C			supply voltage U_s						
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	50/60 Hz AC or DC						
current I_e up to	motors at 50 Hz and	current $I_{\rm e}$ up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690 V) (·				
Α	kW	Α		NO NC	V	d			d		
				TII 0 = 4 =							

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S	3.3									
		circuit (varisto	or)							
80	37	125	11	1	1	20 33 83 155 175 280	2 5 5	3RT2045-1NB30 3RT2045-1NF30 3RT2045-1NP30	2 5 5	3RT2045-3NB30 3RT2045-3NF30 3RT2045-3NP30
95	45	130	11	1	1	20 33 83 155 175 280	2 5 5	3RT2046-1NB30 3RT2046-1NF30 3RT2046-1NP30	2 5 5	3RT2046-3NB30 3RT2046-3NF30 3RT2046-3NP30
110	55	130	11	1	1	20 33 83 155 175 280	2 5 5	3RT2047-1NB30 3RT2047-1NF30 3RT2047-1NP30	2 5 5	3RT2047-3NB30 3RT2047-3NF30 3RT2047-3NP30
With re		unted auxiliary	/ switch b	lock a	nd in	tegrated coil c	ir-			
80	37	125	22	2	2	20 33 83 155 175 280	5 5 5	3RT2045-1NB34 3RT2045-1NF34 3RT2045-1NP34		=
95	45	130	22	2	2	20 33 83 155 175 280	5 5 5	3RT2046-1NB34 3RT2046-1NF34 3RT2046-1NP34		- - -
110	55	130	22	2	2	20 33 83 155 175 280	5 5 5	3RT2047-1NB34 3RT2047-1NF34 3RT2047-1NP34		
	ermanently n (varistor)	nounted auxilia	ary switch	block	c and	integrated co	il			
80	37	125	22	2	2	20 33	5	3RT2045-1NB34-3MA0	5	3RT2045-3NB34-3MA0
95	45	130	22	2	2	20 33	5	3RT2046-1NB34-3MA0	5	3RT2046-3NB34-3MA0
110	55	130	22	2	2	20 33	5	3RT2047-1NB34-3MA0	5	3RT2047-3NB34-3MA0
With vo	oltage tap-off	f and integrate	d coil circ	cuit (va	risto	or)				
80	37	125	11	1	1	20 33	5	3RT2045-1NB30-0CC0	5	3RT2045-3NB30-0CC0
95	45	130	11	1	1	20 33	5	3RT2046-1NB30-0CC0	5	3RT2046-3NB30-0CC0
110	55	130	11	1	1	20 33	5	3RT2047-1NB30-0CC0	5	3RT2047-3NB30-0CC0

Other voltages according to page 3/74 on request.

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC/DC operation <a>

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
- Auxiliary and control conductors: Screw or spring-type
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.

PU (UNIT, SET, M) = 1 = 1 unit = 41B









3RT105.-6A.36

3RT106.-6A.36

3RT107.-6A.36

3RT107.-2A.36

Size	Rated data AC-2 and to t _u : 60 °C				AC-1, t _u : 40 °C	Auxili conta latera	icts,	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	SD	Spring-type terminals	8
	Operational current I _e up to		s of three at 50 Hz		Operational current I_e up to	Version	on L	50/60 Hz AC or DC		Article No.	Price per PU		Article No.	Price per PU
	500 V	400 V	500 V	690 V	690 V	'	1							
	Α	kW	kW	kW	Α	NO	NC	V	d			d		
Stan	dard oper	ating m	nechan	ism wit	h econor	ny cii	rcuit f	or AC and						

	А	kW	kW	kW	Α	NO	NC	V	d		d	
	dard ope peration							for AC and coil)				
S6	115	55	75	110	160	2	2	110 127 220 240	>	3RT1054-6AF36 3RT1054-6AP36	5 5	3RT1054-2AF36 3RT1054-2AP36
	150	75	90	132	185	2	2	110 127 220 240	A	3RT1055-6AF36 3RT1055-6AP36	5 5	3RT1055-2AF36 3RT1055-2AP36
	185	90 ¹⁾	110	160	215	2	2	110 127 220 240	>	3RT1056-6AF36 3RT1056-6AP36	5 5	3RT1056-2AF36 3RT1056-2AP36
S10	225	110	160	200	275	2	2	110 127 220 240	A	3RT1064-6AF36 3RT1064-6AP36	5 5	3RT1064-2AF36 3RT1064-2AP36
	265	132	160	250	330	2	2	110 127 220 240	>	3RT1065-6AF36 3RT1065-6AP36	5 5	3RT1065-2AF36 3RT1065-2AP36
	300	160 ¹⁾	200	250	330	2	2	110 127 220 240	>	3RT1066-6AF36 3RT1066-6AP36	5 5	3RT1066-2AF36 3RT1066-2AP36
S12	400	200	250	400	430	2	2	110 127 220 240	>	3RT1075-6AF36 3RT1075-6AP36	5 5	3RT1075-2AF36 3RT1075-2AP36
	500	250 ¹⁾	355	400	610	2	2	110 127 220 240	>	3RT1076-6AF36 3RT1076-6AP36	5 5	3RT1076-2AF36 3RT1076-2AP36

 $^{^{1)}}$ For the use of 3RT10.6-. $\pmb{A}\dots$ contactors with IE3/IE4 motors from 8.5 times the starting current, use the versions with solid-state operating mechanism 3RT10.6- $N_{\rm max}$, see page 3/73.

For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/75 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

AC/DC operation

- Solid-state operating mechanism (with integrated varistor) with fail-safe control input for safety-related applications to
- 24 V DC control signal input, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay Attainable Safety Integrity Level (SIL):
- - With one contactor: SIL CL 2 acc. to IEC 62061 or PL c acc. to ISO 13849-1
 - With two contactors in series: SIL CL 3 acc. to IEC 62061 or PL e acc. to ISO 13849-1
- Version with removable lateral auxiliary switches or permanently mounted auxiliary switches and additional approval according to SUVA (on request)
- For screw fixing
- Auxiliary and control conductors: Screw or spring-type terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.

For more information on safety systems, see from page 11/1 onwards.











3RT105.-6S.36

3RT106.-6S.36

3RT105.-6S.36-3PA0

3RT107.-6S.36-3PA0

Size	Rated data ad AC-3, t _u : 60 °C	ccording to IEC 60947-4-1	Auxilia contac lateral	ets,	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Operational current I _e	Ratings of three-phase motors at 50 Hz and	Version	n	50/60 Hz AC or DC						
	up to	400 V	1	7			Article No.	Price per PU			
	300 V	400 V	1	ı							
	Α	kW	NO	NC	V	d					

	500 V	400 V								
	Α	kW	NO	NC	V	d				
Solid-	state operat	ing mechanism								
With to	wo removab	le laterally moun	ted auxiliary s	witche	es		_			
S6	115	55	2	2	96 127 200 270	5 5	3RT1054-6SF36 3RT1054-6SP36	1 1	1 unit 1 unit	41B 41B
	150	75	2	2	96 127 200 277	5 5	3RT1055-6SF36 3RT1055-6SP36	1 1	1 unit 1 unit	41B 41B
	185	90	2	2	96 127 200 277	5 5	3RT1056-6SF36 3RT1056-6SP36	1 1	1 unit 1 unit	41B 41B
S10	225	110	2	2	96 127 200 277	5 5	3RT1064-6SF36 3RT1064-6SP36	1 1	1 unit 1 unit	41B 41B
	265	132	2	2	96 127 200 277	5 5	3RT1065-6SF36 3RT1065-6SP36	1 1	1 unit 1 unit	41B 41B
	300	160	2	2	96 127 200 277	5 5	3RT1066-6SF36 3RT1066-6SP36	1 1	1 unit 1 unit	41B 41B
S12	400	200	2	2	96 127 200 277	5 5	3RT1075-6SF36 3RT1075-6SP36	1 1	1 unit 1 unit	41B 41B
	500	250	2	2	96 127 200 277	5 5	3RT1076-6SF36 3RT1076-6SP36	1 1	1 unit 1 unit	41B 41B
With to	wo permane	ntly laterally mou	ınted auxiliary	switc	hes					
S6	115	55	2	2	96 127 200 270	5 5	3RT1054-6SF36-3PA0 3RT1054-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	150	75	2	2	96 127 200 277	5 5	3RT1055-6SF36-3PA0 3RT1055-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	185	90	2	2	96 127 200 277	5 5	3RT1056-6SF36-3PA0 3RT1056-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S10	225	110	2	2	96 127 200 277	5 5	3RT1064-6SF36-3PA0 3RT1064-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	265	132	2	2	96 127 200 277	5 5	3RT1065-6SF36-3PA0 3RT1065-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	300	160	2	2	96 127 200 277	5 5	3RT1066-6SF36-3PA0 3RT1066-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S12	400	200	2	2	96 127 200 277	5 5	3RT1075-6SF36-3PA0 3RT1075-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	500	250	2	2	96 127 200 277	5 5	3RT1076-6SF36-3PA0 3RT1076-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC/DC operation <a>

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
- Auxiliary and control conductors: Screw or spring-type terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$











3RT	105.	-6N	.36

3RT106.-2N.36

3RT107.-6N.36

3RT107.-6P.35

3RT107.-2N.36

Size	Rated dat AC-2 and t_u : 60 °C				AC-1, t _u : 40 °C	Auxili conta latera	icts,	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	SD	Spring-type terminals	
	tional		of three- at 50 Hz		Opera- tional	Version	on	50/60 Hz AC or DC						
	current I _e up to				current I _e up to	Y	}			Article No.	Price per PU		Article No.	Price per PU
	500 V	400 V	500 V	690 V	690 V									
	Α	kW	kW	kW	А	NO	NC	V	d			d		

Solid-state operating mechanism

With 24 V DC control signal input e.g. for control by PLC

e.y.	ioi con	uoi by r	LU									
S6	115	55	75	110	160	2	2	96 127 200 277	5 5	3RT1054-6NF36 3RT1054-6NP36	5 5	3RT1054-2NF36 3RT1054-2NP36
	150	75	90	132	185	2	2	96 127 200 277	5	3RT1055-6NF36 3RT1055-6NP36	5 5	3RT1055-2NF36 3RT1055-2NP36
	185	90	110	160	215	2	2	96 127 200 277	5	3RT1056-6NF36 3RT1056-6NP36	5 5	3RT1056-2NF36 3RT1056-2NP36
S10	225	110	160	200	275	2	2	96 127 200 277	2 5	3RT1064-6NF36 3RT1064-6NP36	5 5	3RT1064-2NF36 3RT1064-2NP36
	265	132	160	250	330	2	2	96 127 200 277	2 2	3RT1065-6NF36 3RT1065-6NP36	5 5	3RT1065-2NF36 3RT1065-2NP36
	300	160	200	250	330	2	2	96 127 200 277	5 2	3RT1066-6NF36 3RT1066-6NP36	5 5	3RT1066-2NF36 3RT1066-2NP36
S12	400	200	250	400	430	2	2	96 127 200 277	2 5	3RT1075-6NF36 3RT1075-6NP36	5 5	3RT1075-2NF36 3RT1075-2NP36
	500	250	355	400	610	2	2	96 127 200 277	2 5	3RT1076-6NF36 3RT1076-6NP36	5 5	3RT1076-2NF36 3RT1076-2NP36

For 24 V DC control signal input · with indication of remaining lifetime (RLT) e.g. for control by PLC

e.g.	ioi con	uoi by r	LU								
S6	115	55	75	110	160	1	1	96 127 200 277	5 5	3RT1054-6PF35 3RT1054-6PP35	Ξ
	150	75	90	132	185	1	1	96 127 200 277	5 5	3RT1055-6PF35 3RT1055-6PP35	=
	185	90	110	160	215	1	1	96 127 200 277	5 5	3RT1056-6PF35 3RT1056-6PP35	_
S10	225	110	160	200	275	1	1	96 127 200 277	5 5	3RT1064-6PF35 3RT1064-6PP35	=
	265	132	160	250	330	1	1	96 127 200 277	5 5	3RT1065-6PF35 3RT1065-6PP35	_
	300	160	200	250	330	1	1	96 127 200 277	5 5	3RT1066-6PF35 3RT1066-6PP35	_
S12	400	200	250	400	430	1	1	96 127 200 277	5 5	3RT1075-6PF35 3RT1075-6PP35	Ξ
	500	250	355	400	610	1	1	96 127 200 277	5 5	3RT1076-6PF35 3RT1076-6PP35	

Other voltages according to page 3/75 on request.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Options

Rated control supply voltages for 3RT20 contactors, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control	Contactor type	·	3RT202	3RT203	3RT204
supply voltage U _s	Jize	S00	S0	S2	S3
Sizes S00 to S					
AC operation1)					
Solenoid coils for (exception: Size S00: 50 Hz a					
24 V AC 42 V AC 48 V AC 110 V AC 230 V AC 240 V AC 400 V AC		B0 D0 H0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0
Solenoid coils fo	or 50 Hz and 60 Hz ²⁾				
24 V AC 42 V AC 48 V AC 110 V AC 220 V AC 230 V AC		B0 D0 H0 F0 N2 P0	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2
Solenoid coils (fo	or USA and Canada ³⁾)				
50 Hz	60 Hz				
110 V AC 220 V AC	120 V AC 240 V AC	K6 P6	K6 P6	K6 P6	K6 P6
Solenoid coils (fo	or Japan)				
50/60 Hz ⁴⁾	60 Hz ⁵⁾				
100 V AC 200 V AC 400 V AC	110 V AC 220 V AC 440 V AC	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6
DC operation1))				
12 V DC 24 V DC 42 V DC 42 V DC 48 V DC 60 V DC 110 V DC 125 V DC 220 V DC 230 V DC		A4 B4 D4 W4 E4 F4 G4 M4 P4	A4 B4 D4 W4 E4 F4 G4 M4 P4	 	
Examples					
AC operation	3RT2023-1A P0 0 3RT2023-1A G2 0	Contactor with screw terr	ninals; with solenoid coil for 5	0 Hz for rated control supply v 0/60 Hz for rated control suppl	9
DC operation	3RT2025-2B B4 0	Contactor with spring-typ	e terminals; for rated control :	supply voltage 24 V DC.	

¹⁾ For deviating coil voltages and operating ranges of sizes S00 and S0, a SITOP 24 V DC power supply with wide-range input can be used for the coil control, see page 15/1 onwards.

3RT2025-2B**G4**0

Rated control supply	Contactor	3RT202N	Rated control supply	Contactor	3RT203N	3RT204N
voltage	type		voltage	type		
$U_{\rm smin}\ldotsU_{\rm smax}^{1)}$	Size	S0	<i>U</i> _{s min} <i>U</i> _{s max} 1)	Size	S2	S3
Sizes S00 to S3						

AC/DC operation (50/60 Hz AC or DC)

	•			
21 28 V AC/DC	B3	20 33 V AC/DC	B3	B3
95 130 V AC/DC	F3	48 80 V AC/DC	E3	E3
200 280 V AC/DC ²⁾	P3	83 155 V AC/DC	F3	F3
		175 280 V AC/DC	P3	P3

¹⁾ Coil operating range

²⁾ Coil operating range

⁻ At 50 Hz: 0.8 to 1.1 x U_s,

⁻ At 60 Hz: 0.85 to 1.1 x U_s.

³⁾ Coil operating range

⁻ Size S00:

At 50 Hz: 0.85 to 1.1 x U_s , at 60 Hz: 0.8 to 1.1 x U_s

⁻ Sizes S0 to S3: at 50 Hz and 60 Hz: 0.8 to 1.1 x U_s.

Contactor with spring-type terminals; for rated control supply voltage 125 V DC. 4) Coil operating range

⁻ Size S00: At 50/60 Hz: 0.85 to 1.1 x U_s

⁻ Size S0:

at 50 Hz: 0.8 to 1.1 x U_s ; at 60 Hz: 0.85 to 1.1 x U_s ;

 $^{^{5)}}$ Coil operating range at 60 Hz: 0.8 to 1.1 x $U_{\rm S}.$

⁻ Size S0: 0.7 x $U_{\rm S\,min}$ to 1.3 x $U_{\rm S\,max}$ - Sizes S2 and S3: 0.8 x $U_{\rm S\,min}$ to 1.1 x $U_{\rm S\,max}$

 $^{^{2)}}$ The following applies to S0 and $U_{\rm S\,max}$ = 280 V: Upper limit = 1.1 x $U_{\rm S\,max}$

SIRIUS 3RT contactors, 3-pole up to 250 kW

Rated control supply voltages for 3RT10 contactors, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage		3RT105A, 3RT106A, 3RT107A	Rated control supply voltage	type	3RT105N, 3RT106N, 3RT107N	3RT105P, 3RT105S, 3RT106P, 3RT106S, 3RT107P, 3RT107S
U _{s min} U _{s max}	Sizes	S6 to S12	U _{s min} U _{s max}	Sizes	S6 to S12	

Sizes S6 to S12

AC/DC operation (50/60 Hz AC or DC) and operating range 0.8 x U_{s min} ... 1.1 x U_{s max}

Standard operating mechanism		Solid-state operating mechanism		
23 26 V AC/DC 42 48 V AC/DC 110 127 V AC/DC 200 220 V AC/DC 220 240 V AC/DC	B3 D3 F3 M3 P3	21 27.3 V AC/DC 96 127 V AC/DC 200 277 V AC/DC	B3 F3 P3	 F3 P3
240 277 V AC/DC 380 420 V AC/DC 440 480 V AC/DC 500 550 V AC/DC 575 600 V AC/DC	U3 V3 R3 S3 T3			

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

General data

Overview

Extensive accessories and spare parts are available for SIRIUS 3RT power contactors and SIRIUS 3RH2 contactor relays.

These components are easily fitted to the contactors without the use of any tools according to requirements.

Overview graphics with mountable accessories:

- 3RT2 contactors, see pages 3/8 to 3/11
- 3RT10, 3RT12 and 3RT14contactors, see pages 3/12 to 3/16
- 3RH2 contactor relays, see page 5/4

More information

TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/TSTWeb/?kmat=Contactor

3RT10, 3RT12, 3RT14; sizes S6 to S12	Selection and ordering data
	Page
3RH19.1	3/88 3/100
	3/101
3RA2815 3RT1926-2E/-2F/-2G	3/101, 3/102
1E 3RT1956-1C	3/103, 3/104
	3/104
	3/105
	3/106
	3/106
	3/107, 3/108
	3/109
	3/109
	7/56
	3/110
3RA19.3-2A	3/110
.3-2C 3RA1953-3G, 3RA19.3-2.	/-3 . 3/111, 3/112
3RA19.3-3.	3/113
3RT19.6-4BA31	3/113
	3/114
3RA1954-2.	3/114
3RA1932-2D	3/114
	3/115
	3/116
5-5A	3/116
	3/116
	3/116
	5, . 10
3RT194G	3/116
3TX7500-0A	3/116
	3/116
	3/117
	3/117
	0/117
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Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

General data

	For contactors 3RT2, sizes S00 to S3; 3RH2, size S00	3RT10, 3RT12, 3RT14; sizes S6 to S12	Selection and ordering data Page
Accessories for 3RT contactors and 3RH2 contactor relays (rage
Covers	<u> </u>	-	_
Terminal covers	3RT1946-4EA1, 3RT29.6-4EA.	3RT1956-4EA., 3RT1966-4EA., 3TX65.6-3B	3/118
Sealable covers	3RT2916-4MA10	3RT1926-4MA10	3/118
Miscellaneous accessories			
Base plates			
For reversing contactor assemblies		3RT19.2-2A	3/119
 For contactor assemblies for star-delta (wye-delta) starting 	3RA29.2-2F	3RA19.2-2.	3/119
Adapters for screw fixing	3RT1926-4P		3/119
EMC suppression modules	3RT2916-1P		3/119
Additional load modules	3RT2916-1GA00		3/120
LED modules for displaying contactor operation	3RT2926-1QT00	3RT1926-1QT00	3/120
Control kit	3RT29.6-4MC00		3/120
insulation stop for securely holding back the conductor insulation fo conductors up to 1 mm ²	r 3RT2916-4JA02	3RT1916-4JA02	3/121
Tools for opening spring-type terminals	3RA2908-1A	3RA2908-1A	3/121
Blank labels	3RT2900-1SB.0	3RT1900-1S0	3/121
Spare parts for 3RT2 contactors			
Solenoid coils	3RT2951		3/122, 3/123
Withdrawable coils		3RT195	3/124
Contacts with fixing parts	3RT296.	3RT196.	3/125
Arc chambers		3RT197.	3/125

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Overview

Auxiliary switches

The auxiliary switches can be designed as positively driven contacts in 3RH contactor relays or also as mirror contacts in the case of 3RT power contactors.

For more information on positively driven operation and mirror contacts, see Manual → "More information", page 3/83, and in the selection and ordering data from page 3/88 onwards.

Solid-state time-delay auxiliary switch blocks for mounting on 3RT2 contactors and 3RH2 contactor relays

See pages 3/83 and 3/101

The 3RA28 solid-state time-delay auxiliary switches which can be mounted onto the contactor are designed for applications in the range from 24 to 240 V AC/DC (wide voltage range). Both the electrical and mechanical connection are made by simple snapping on and locking.

The time-delay auxiliary switch is supplied with power directly by two plug-in contacts through the coil terminals of the contactor, in parallel with A./A2.

A protection circuit (varistor) is integrated in each module.

A sealable cover is available to protect against careless adjustment of the set times.

Note:

Mounting more auxiliary switches to the contactor is not permitted.

Surge suppressors

- Without LED (also for spring-type terminals) Sizes S00 to S3, see page 3/103
- With LED (also for spring-type terminals)
 Sizes S00 to S3, see page 3/104

All 3RT2 contactors and 3RH2 contactor relays can be retrofitted with RC elements or varistors for damping opening surges in the coil. Diodes or diode assemblies (comprising noise suppression diodes and Zener diodes for short break times) can be used.

The surge suppressors are plugged onto the front of size S00 contactors. Space is provided for them next to a snap-on auxiliary switch block.

Varistors, RC elements or diode assemblies can be plugged onto the front of size S0 to S3 contactors.

Coupling contactors are supplied either without overvoltage damping or with a suppressor diode, varistor or diode connected as standard, according to the version.

Note:

The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assemblies 2x to 6x; varistor +2 to 5 ms).

Coupling links for control by PLC

See pages 3/85 and 3/105

- Operation with 24 V DC
- Operating range 17 to 30 V
- Low power consumption of 0.5 W
- An LED indicates the switching state.

The 3RH2924-1GP11 coupling link has an integrated surge suppressor (varistor) for the contactor coil being switched and is mounted onto the size S0 contactor coil via a coil connection module.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays

See pages 3/86 and 3/106

Simply by being plugged in place, the SIRIUS function modules enable different functionalities required for the assembly of starters to be realized in the feeder. The function modules and wiring kits thus help to reduce the wiring work within the feeder practically to zero.

SIRIUS function modules for direct-on-line starting

The electronic timing relays which can be mounted onto the contactor are available in these versions:

- Sizes S00 and S0 for applications in the range from 24 to 240 V AC/DC (wide voltage range)
- Sizes S2 and S3 for applications in either the range from 24 to 90 V AC/DC or 90 to 240 V AC/DC

Both the electrical and mechanical connection are made by simple snapping on and locking.

A protection circuit (varistor) is integrated in each module.

The electronic timing relay with semiconductor output uses two contact legs to actuate the contactor underneath by means of a semiconductor after the set time t has elapsed.

The switching state feedback is performed by a mechanical switching state indicator (plunger). In addition, the auxiliary switches in the contactors are freely accessible and can be used for feedbacks to the control system or for signal lamps.

A sealable cover is available to protect against careless adjustment of the set times.

The snap-on function modules for direct-on-line starting are used above all for realizing timing functions independently of the control system.

With the OFF-delay variant of the timing relay it is possible for example for the fan motor for cooling a main drive to be switched off with a delay so that sufficient cooling after operation is guaranteed; the programmer of the control system does not need to worry about such technical details of the plant.

The ON-delay timing relays enable for example the time-delayed starting of several drives so that the summation starting current does not rise too high, which could result in voltage failure.

The use of snap-on function modules for direct-on-line starting results in the following advantages:

- · Reduction of control current wiring
- · Prevention of wiring errors
- · Reduction of testing costs
- Implementation of timing functions independently of the control system
- Less space required in the control cabinet compared to a separate timing relay
- No additive protection circuit required (varistor integrated)

Assembly of reversing starters

We offer ready-made wiring kits for the assembly of reversing starters. Use of these wiring kits offers further advantages, see page 3/162.

SIRIUS function modules for star-delta (wye-delta) starting

Both interlocking and timing functions are required for the assembly of star-delta (wye-delta) starters. With the function modules for star-delta (wye-delta) starting and the matching link modules for the main circuit, these starters can be assembled easily and with absolutely no errors.

The entire sequence in the control circuit is integrated in the snap-on modules. This covers:

- An adjustable star time t from 0.5 to 60 s
- A non-adjustable dead interval of 50 ms
- Electrical contacting of the contactors by means of coil pick-off (contact legs)
- Feedback of the switching state at the contactor using a mechanical switch position indicator (plunger)
- Electrical interlocking between the contactors

These modules do not require their own terminals and can therefore be used for contactors with both screw and spring-type terminals in all the sizes S00 to S3. To start the star-delta (wyedelta) starter, only the first of the three contactors (line contactor) is actuated, like in the case of a direct-on-line starter. All other functions then take place inside the individual modules.

This also offers advantages if the timing function was previously implemented in a controller, as it again results in a significant reduction in the number of PLC outputs, the programming work and the wiring outlay.

The kits for the main circuit include the mechanical interlock, the star jumper, the wiring modules at the top and at the bottom, and the required connectors or connecting clips.

A protection circuit (varistor) is integrated in the basic module.

The function modules for star-delta (wye-delta) starting are mostly used where current-limiting measures for starting a drive are required and a high level of availability is essential at the same time. This technology has been used with success for several decades and has the additional advantage of requiring relatively little know-how. Through the use of function modules, the assembly work with simple standard components is even easier and absolutely error-free.

The use of function modules for star-delta (wye-delta) starting results in the following advantages:

- Operation solely through the line contactor A1/A2 no further control current wiring needed
- Prevention of wiring errors
- Reduction of testing costs
- Integrated electrical interlocking saves costs and prevents errors
- Less space needed in the control cabinet compared to using a separate timing relay
- Adjustable starting in star mode from 0.5 to 60 s
- Independent of the contactor's control supply voltage (24 to 240 V AC/DC)
- Varistor integrated no additive protection circuit required
- Mechanically coded assembly enables easy configuration and reliable wiring
- Fewer versions one module kit for screw and spring-type connection and for all the contactor sizes S00 to S3
- Mechanical interlocking (with wiring kit for the main circuit)

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

SIRIUS 3RA27 function modules for IO-Link or AS-Interface for mounting on 3RT2 contactors

See pages 3/87 and 3/107

The SIRIUS 3RA27 function modules enable the assembly of starters and contactor assemblies for direct-on-line, reversing and star-delta (wye-delta) starting without any additional, complicated wiring of the individual components. They include the key control functions required for the particular feeder, e.g. timing and interlocking, and can be connected to the control system via either IO-Link or AS-Interface.

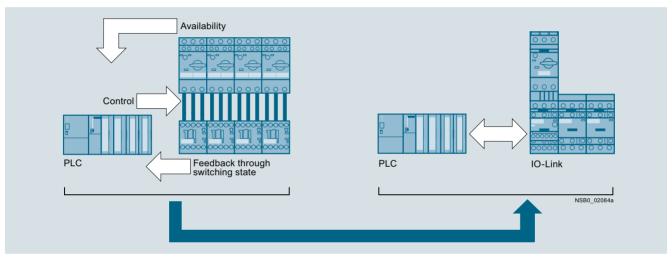
The electrical and mechanical connection to the contactor is established by snapping on and locking the respective modules. An additive protection circuit for the individual contactors can be dispensed with completely because a varistor is integrated in the modules. Feedback from the contactor contacts is performed with Hall sensors which provide reliable feedback concerning the switching state even under extremely dusty conditions.

The starters are connected to the higher-level control system through IO-Link, with the possibility of connecting up to four starters as a group to one port of the IO-Link master, or optionally via AS-Interface, Specification V2.1 or higher, in A/B technology. As a result, up to 62 starters can be connected to one master and the address is entered in the normal manner with an addressing unit.

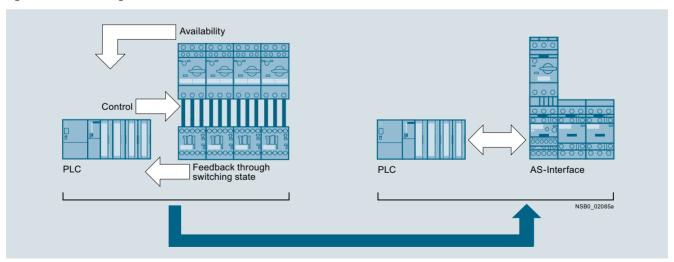
Through this type of connection to the control system, a maximum of wiring is saved. In the case of AS-Interface, the wiring amounts to the control supply voltage and the two individual wires for AS-Interface.

The following essential signals are thus transmitted:

- Availability of the feeder in response to an indirect inquiry from the motor starter protector/circuit breaker
- Starter control
- Feedback concerning the switching state of the starter



Signal transmission through IO-Link



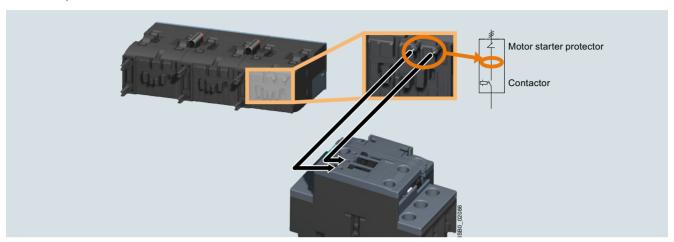
Signal transmission through AS-Interface

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

The inquiry from the motor starter protector/circuit breaker does not take place through additive wiring between the auxiliary switch and the module but by means of a voltage inquiry at the contactor input.

This requires special versions of the contactors with voltage tap-off (see pages 3/61, 3/65, 3/69 and 3/70).



Availability signal through voltage tap-off

The following benefits result from the use of SIRIUS 3RA27 function modules:

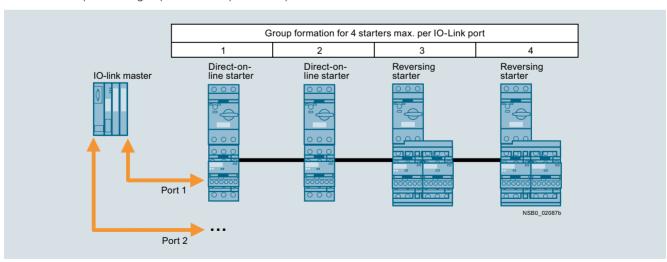
- Reduction of control current wiring. In the case of IO-Link to no more than three cables for four feeders.
- · Elimination of testing costs and wiring errors
- · Reduction of configuration work
- Parameter server functionality
- Integration in TIA means unambiguous IO-Link diagnostics if a fault occurs
- Dispensing with IO modules saves space in the control cabinet
- All essential timing and interlocking functions for reversing duty and star-delta (wye-delta) starting are integrated
- No additive protection circuit required

For more information on IO-Link and AS-Interface, see "Industrial Communication", from page 2/1 onwards.

SIRIUS 3RA2711 function modules for IO-Link for mounting on 3RT2 contactors

By grouping up to four starters, it is possible to connect up to 16 starters to one master of the ET 200SP or S7-1200. In this case all the signals of the individual controls are made available directly in the process image of the input through only three individual wires per starter group. If the same potential is present

at the ET 200SP or S7-1200 master and at the switching devices, the wiring can be reduced further by connecting the supply voltage of the contactor coils to the communication wires via jumpers.



Group formation with IO-Link

In case of a malfunction, the corresponding error signals are also sent directly to the PLC in acyclic mode. This is in addition to transmission of the switching signals and status signals.

Possible error signals:

- Switching element defective
- No main voltage (motor starter protector tripped)
- No control supply voltage
- · Limit position on the right/on the left
- · Manual mode
- · Process image fault

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

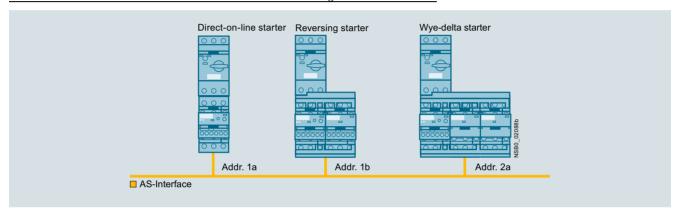
Accessories

This easy integration of the starters in the TIA world does not limit the flexibility in the field in the least. For example, all function modules have special terminals in order to enable direct local disconnection. These terminals can be connected for example to a position switch. The input interrupts the voltage supply to the contactor coil directly, i.e. without going through the PLC. These terminals are jumpered in the as-delivered state.

Local manual operation of the complete starter group is also straightforward using a hand-held device. The latter is easily connected to the last starter and can be built into the front panel of the control cabinet if required. This offers significant advantages particularly for commissioning.

SIRIUS function modules with IO-Link are used above all in machines and plants in which there are several motor feeders in one control cabinet. Using IO-Link, the connection of these feeders to the automation level is easy, quick and error-free. And with IO modules no longer needed, the width of the PLC is far smaller.

SIRIUS 3RA2712 function modules for AS-Interface for mounting on 3RT2 contactors



Topology with AS-Interface

This easy integration of the starters in the TIA world does not limit the flexibility in the field in the least. For example, all function modules have special terminals in order to enable direct local disconnection. These terminals can be connected for example to a position switch. The input interrupts the voltage supply to the contactor coil directly, i.e. without going through the PLC. These terminals are jumpered in the as-delivered state.

SIRIUS function modules with AS-Interface are recommended above all in machines and plants requiring easy connection of several different sensors and actuators both inside and outside the control cabinet to the higher-level control system. And with IO modules no longer needed, the width of the PLC is far smaller.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Technical specifications

More information TIA Selection Tool Cloud (TST Cloud), see **FAQs** https://mall.industry.siemens.com/spice/TSTWeb/?kmat=Contactor • For SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see Technical specifications https://support.industry.siemens.com/cs/ww/en/ps/16208/faq • For SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see • For SIRIUS 3RT1 contactors, see https://support.industry.siemens.com/cs/ww/en/ps/16209/faq https://support.industry.siemens.com/cs/ww/en/ps/16208/td System Manual, see "SIRIUS - System Overview" • For SIRIUS 3RT1 contactors, see https://support.industry.siemens.com/cs/ww/en/ps/16209/td https://support.industry.siemens.com/cs/ww/en/view/60311318 Manual, see "SIRIUS - SIRIUS 3RT Contactors/Contactor Assemblies", https://support.industry.siemens.com/cs/ww/en/view/60306557

Solid-state time-delay auxiliary switch blocks for mounting on 3RT201 to 3RT204 (sizes S00 to S3) and 3RH2 contactor relays (size S00)

Туре			3RA2813	3RA2814	3RA2815
Function			ON-delay	OFF-delay with control signal	OFF-delay without control signal
General data					
Dimensions (basic unit with mounted solid-state time-delay auxiliar	y switch block)		See 3RT2 contactors (p 3RH2 contactor relays (ages 3/27, 3/33, 3/38, 3/ page 5/7)	(43) and
Rated insulation voltage <i>U_i</i> Pollution degree 3, overvoltage category III		V AC	300		
Rated impulse withstand voltage U _{imp}		kV AC	4		
Permissible ambient temperature					
During operation		°C	-25 +60		
During storage		°C	-40 +80		
Degree of protection acc. to IEC 60529			IP20		
Shock resistance Half-sine acc. to IEC 60068-2-27		g/ms	15/11		
Vibration resistance acc. to IEC 60068-2-6		Hz/mm	10 55/0.35		
Electromagnetic compatibility (EMC)			IEC 61000-6-2, IEC 610	00-6-4, IEC 61812-1, IEC	C 60947-4-1
Overvoltage protection			Varistor integrated		
Permissible mounting position				on of 3RT2 contactors, so	ee pages 3/27, 3/33, 3/38 or relays, see page 5/6)
Control					
Operating range of excitation			0.85 1.1 x <i>U</i> _s , 0.95 1.05 times the ra	ated frequency	
Rated power		W	1		
 Power consumption at 230 V AC, 50 Hz 		VA	2		
Recovery time		ms	150		
Minimum ON period		ms		35	200
Setting accuracy, typ., with reference to upper limit of	scale		± 15 %		
Repeat accuracy, max.			± 1 %		
Load side					
Rated operational currents I _e					
• AC-15 at 24 250 V, 50 Hz		Α	3		
	- At 24 V	Α	1		
	- At 125 V - At 250 V	A A	0.2 0.1		
Mechanical endurance	- At 250 V	Operating cycles			
Electrical endurance at AC-15, 250 V, 3 A		Operating cycles	100 000		
Switching frequency for load		2,0.00			
• With I _e at 230 V AC		1/h	2 500		
With 7 _e at 250 V AC With 3RT2 contactor at 230 V AC		1/h	2 500		
Residual current, max.		mA			
Voltage drop, max., with conducting output		VA			
Short-circuit protection					
• Fuse links, operational class gG: DIAZED, type 5SB		Α	4		
		•			

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Туре		3RA2813	3RA2814	3RA2815
Function		ON-delay	OFF-delay with control signal	OFF-delay without control signal
Conductor cross-sections				
Connection type (1 or 2 conductors can be connected)		Screw terminals		
 Solid Finely stranded with end sleeve (DIN 46228-1) AWG cables, solid or stranded Terminal screws 	mm ² mm ² AWG	1 x (0.5 4), 2 x (0.5 1 x (0.5 2.5), 2 x (0.5 2 x (20 14) M3 (for standard screwo		2)
Tightening torque	Nm	0.8 1.2		
Connection type (1 or 2 conductors can be connected)		Spring-type termi	nals	
 Solid Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve AWG cables, solid or stranded Operating devices 	mm ² mm ² mm ² AWG mm	2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (24 16) 3.0 x 0.5		

Туре

Solid-state time-delay auxiliary switch blocks, for snapping onto 3RT1 contactors

Туре		3RT1926-2E, 3RT1926-2F, 3RT1926-2G
Sizes		S6 to S12
General data		
Dimensions (W x H x D)	mm	45 x 26 x 50
Rated insulation voltage <i>U</i> _i Pollution degree 3, Overvoltage category III acc. to IEC 60664-1	V AC	250
Permissible ambient temperature		
 During operation 	°C	-25 +60
During storage	°C	-40 +80
Degree of protection acc. to IEC 60529		
Terminals		IP20
Shock resistance Half-sine acc. to IEC 60068-2-27	g/ms	15/11
Vibration resistance acc. to IEC 60068-2-6	Hz/mm	10 55/0.35
Electromagnetic compatibility (EMC)		IEC 61812-1
Permissible mounting position		Any (see 3RT1 contactors, page 3/48)
Control		
Operating range of excitation		$0.85 \dots 1.1 \times U_s$, $0.95 \dots 1.05$ times the rated frequency
Rated power	W	2
Power consumption at 230 V AC, 50 Hz	VA	4
Recovery time	ms	150
Minimum ON period	ms	200 (with OFF-delay)
Setting accuracy , typ. with reference to upper limit of scale	%	± 15
Repeat accuracy, max.	%	± 1

Sizes		S6 to S12
Load side		
Rated operational currents I_e		
• AC-15, 230 V, 50 Hz	Α	3
• DC-13, 24 V	Α	1
• DC-13, 110 V	Α	0.2
• DC-13, 230 V	Α	0.1
Short-circuit protection		
Fuse links, operational class gG: DIAZED, type 5SB	Α	4
Mechanical endurance	Operating cycles	10 x 10 ⁶
Switching frequency for load		
 With I_e at 230 V AC 	1/h	2 500
With 3RT2016 contactor at 230 V AC	1/h	5 500
Conductor cross-sections		
Connection type (1 or 2 conductors can be connected)		Screw terminals
• Solid	mm ²	2 x (0.5 1.5), 2 x (0.75 4)
 Finely stranded with end sleeve 	mm^2	2 x (0.5 2.5)
 AWG cables, solid or stranded 	AWG	2 x (18 14)
Terminal screws		M3
Tightening torque	Nm	0.8 1.2

3RT1926-2E, 3RT1926-2F, 3RT1926-2G

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Coupling links for control by PLC

Туре		3RH2924-1GP11	3RH2914GP11
Mounting on contactors of size		S0	S00 to S3
General data			
Standards		IEC 60947	
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	300	
Protective separation between coil and contacts Acc. to IEC 60947-1, Appendix N	V AC	Up to 300	
Degree of protection acc. to IEC 60529			
Connections		IP20	
Permissible ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-40 +80	
Control side			
Rated control supply voltage U _s	V DC	24	
Operating range	V DC	17 30	
Power consumption at U _s	W	0.5	
Nominal current input	mA	20	
Release voltage	V	≥ 4	
Function display		Yellow LED	
Protection circuit		Varistors	
Load side			
Mechanical endurance	Operating cycles	20 million	10 million
Electrical endurance at $I_{\rm e}$	Operating cycles	0.1 million	
Switching frequency	1/h	5 000	
Make-time	ms	Approx. 7	
Break-time	ms	Approx. 4	
Bounce time	ms	Approx. 2	
Contact material		AgSnO ₂	
Switching voltage	V AC/DC	24 250	
Rated operational current I _e			
• AC-15/AC-14 at 230 V	Α	3	
• DC-13 at 230 V	Α	0.1	
Permissible residual current of the electronics (with 0 signal)	mA	2.5	
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)		Screw terminals	
• Solid	mm^2	2 x (0.5 2.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5)	
Terminal screws		M3	
Connection type (1 or 2 conductors can be connected)		Spring-type terminals	
• Solid	mm^2		2 x (0.25 1.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm^2		2 x (0.25 1.5)
Finely stranded without end sleeve	mm^2		2 x (0.25 1.5)
AWG cables, solid or stranded	AWG		2 x (24 16)
Operating devices	mm		3.0 x 0.5
-			

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays

Type Mounting on contactors of size Function			3RA2811 S00, S0 For direct-or	3RA2831 S2, S3 n-line starting	3RA2812 S00, S0	3RA2832 S2, S3	3RA2816 S00 to S3 For star-delta (wye-delta) starting
			ON-delay		OFF-delay with contro	l signal	()
General data						g	
Dimensions (basic unit with mou	unted function module)			ntactors (page tor relays (pag		3/38, 3/43) and	
Rated insulation voltage <i>U</i> _i Pollution degree 3		V AC	300				
Overvoltage category III							
Rated impulse withstand voltage	ge <i>U_{imp}</i>	kV AC	4				
Overvoltage protection			Varistor integ	rated			
Recovery time		ms	50				150
Minimum ON period	_	ms			35		
Setting accuracy With reference to upper limit of sc			± 15 %				
Repeat accuracy	Max.		±1%				
Degree of protection acc. to IEC			IP20				
Permissible ambient temperatu	ire		05 00				
During operation		°C	-25 +60				
During storage Shock resistance		°C	-40 +80				
Shock resistance Half-sine acc. to IEC 60068-2-27		<i>g</i> /ms	15/11				
Vibration resistance acc. to IEC		Hz/mm	10 55/0.35		=0		
Electromagnetic compatibility				2, IEC 61000-6	6-4, IEC 61812	2-1, IEC 60947	-4-1
Permissible mounting position						tors, see page tor relays, see	s 3/27, 3/33, 3/38, 3/43; page 5/6)
Control side							,
Operating range of excitation			0.85 1.1 x 0.95 1.05 t	<i>U</i> _s , imes the rated	frequency		
Rated power		W	1				
Power consumption at 230 V A	C, 50 Hz	VA	1				2
Load side							
Mechanical endurance		Operating cycles	100 x 10 ⁶				10 x 10 ⁶
Electrical endurance							
With 3RT2028 contactor		Operating cycles	100 000				
• At AC-15, 250 V, 3 A		Operating cycles					100 000
Switching frequency for load							
 With I_e at 230 V AC 		1/h	2 500				
With 3RT2 contactor at 230 V A	.C	1/h	2 500				
Residual current Voltage drop	Max. Max.	mA VA	5 3.5				
With conducting output							
DIAZED fuse protection Conductor cross-sections	Operational class gG	A					4
Connection type (1 or 2 conductors can be conne	cted)		Screw t	erminals			
• Solid	•	mm^2	1 x (0.5 4),	2 x (0.5 2.5)		
Finely stranded with end sleever	e (DIN 46228-1)	mm^2	1 x (0.5 2.5	5), 2 × (0.5 1	.5)		
AWG cables, solid or stranded		AWG	2 x (20 14)				
 Terminal screws 			M3 (for stand	ard screwdrive	er size 2 or Po	zidriv 2)	
Tightening torque		Nm	0.8 1.2				
Connection type (1 or 2 conductors can be conne	cted)		Spring -	type terminals	5		
Operating devices	•	mm	3.0 x 0.5				
• Solid		mm^2	2 x (0.25 1	.5)			
Finely stranded with end sleever	e (DIN 46228-1)	mm^2	2 x (0.25 1	.5)			
Finely stranded without end sle	eve	mm^2	2 x (0.25 1	.5)			
AWG cables, solid or stranded		AWG	2 x (24 16)				

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

3RA27 function modules for IO-Link for mounting on 3RT2 contactors

Туре			3RA2711
General data			
Dimensions			See 3RT2 contactors: pages 3/27, 3/33, 3/38 and 3/43
Suitable for IO-Link masters acc. to specification			1.1
Permissible ambient temperature			
During operation	Acc. to IEC 60947-1	°C	-25 +60
During storage	Acc. to IEC 60721-3-1	°C	-40 +80
During transport	Acc. to IEC 60721-3-2	°C	-40 +80
Degree of protection			IP20
Operating voltage <i>U</i> _{Hi}		V DC	24 ± 20 %
Max. length of the cables for the input Y1-Y2	Acc. to EN 50295	m	30
Electromagnetic compatibility (EMC)			IEC 61000-6-2, IEC 61000-6-4, IEC 60947-4-1
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)			Screw terminals
• Solid		mm^2	1 x (0.5 4), 2 x (0.5 2.5)
 Finely stranded with end sleeve (DIN 46228-1) 		mm^2	1 x (0.5 2.5), 2 x (0.5 1.5)
 AWG cables, solid or stranded 		AWG	2 x (20 14)
Terminal screws			M3 (for standard screwdriver Ø 6 mm or Pozidriv 2)
 Tightening torque of the terminal screws 		Nm	0.8 1.2
Connection type (1 or 2 conductors can be connected)			Spring-type terminals
Operating devices		mm	3.0 x 0.5
• Solid		mm^2	2 x (0.25 1.5)
 Finely stranded with end sleeve (DIN 46228-1) 		mm^2	2 x (0.25 1.5)
 Finely stranded without end sleeve 		mm ²	2 x (0.25 1.5)
 AWG cables, solid or stranded 		AWG	2 x (24 16)

Type			3RA2712
General data			
Dimensions			See 3RT2 contactors: pages 3/27, 3/33, 3/38 and 3/43
Slave type			A/B slave
Suitable for AS-i masters acc. to specification			2.1 or higher
AS-i slave profile IO.ID.ID2			7.A.E
ID1 code (factory setting)			7
Permissible ambient temperature			
During operation	Acc. to IEC 60947-1	°C	-25 +60
During storage	Acc. to IEC 60721-3-1	°C	-40 +80
During transport	Acc. to IEC 60721-3-2	°C	-40 +80
Degree of protection			IP20
Operational voltage			
AS-Interface		V	26.5 31.6
AUX PWR 24 V DC		V	24 ± 20 %
Current consumption, max.			
AS-Interface		mA	30
AUX PWR			
 Maximum pick-up/hold current 	Size S00	mΑ	200/200
	Size S0 Size S2	mA mA	300/300 1 300/50
	Size S3	mA	4 000/70
Max. length of the cables for the input Y1-Y2	According to EN 50295	m	30
Electromagnetic compatibility (EMC)			IEC 61000-6-2, IEC 61000-6-4, IEC 60947-4-1
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)			Screw terminals
• Solid		mm^2	1 x (0.5 4), 2 x (0.5 2.5)
 Finely stranded with end sleeve (DIN 46228-1) 		mm ²	1 x (0.5 2.5), 2 x (0.5 1.5)
 AWG cables, solid or stranded 		AWG	2 x (20 14)
Terminal screws			M3 (for standard screwdriver Ø 6 mm or Pozidriv 2)
Tightening torque of the terminal screws		Nm	0.8 1.2
Connection type (1 or 2 conductors can be connected)			Spring-type terminals
Operating devices		mm	3.0 x 0.5
• Solid		mm ²	2 x (0.25 1.5)
• Finely stranded with end sleeve (DIN 46228-1)		mm ²	2 x (0.25 1.5)
 Finely stranded without end sleeve 		mm ²	2 x (0.25 1.5)
 AWG cables, solid or stranded 		AWG	2 x (24 16)

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

Selection and ordering data

Auxiliary switch: Terminal designations and identification numbers for auxiliary contacts

Terminal designations

The terminal designations are 2-digit, e.g. 13, 14, 21, 22:

- Tens digit: Sequence digit
 - Related terminals have the same sequence digit
- Units digit: Function digit
 - 1-2 for normally closed contacts (NC)
 - 3-4 for normally open contacts (NO)

Identification numbers

The identification number indicates the number and type of the auxiliary contacts, e.g. 40, 31, 22, 13:

- 1st digit: number of normally open contacts (NO)
- 2nd digit: number of normally closed contacts (NC)

Examples:

- 31 = 3 NO + 1 NC
- 40 = 4 NO

Selection aid for mountable auxiliary switch blocks for power contactors and contactor relays

The auxiliary switch blocks of the 3RH29 series for mounting on the front and side can be used for 3RT2 power contactors as well as for 3RH2 contactor relays.

The possible combinations of basic unit and mounted auxiliary switch block can be found in the tables, see the following pages.

Where the columns and lines intersect (blue and green in the example) you will find the identification number for the combination of basic unit (column) and auxiliary switch block (line).

Additional auxiliary	switch	h blocks	3-pole co	ontactors	
Article number	Auxilia	ry contacts	3RT201	3RT201	3RT202 to 3RT204
	Versio	n	S00	S00	S0 to S3
	NO N	С	10	01	11
	\		13	21	13 21
			2. 3. 4. 5.	5. 6. 7. 8.	3. 4. 5. 6.
			Accordin	ng to EN 5	50012 ¹⁾
Auxiliary switch without NO cont	block acts	s			
3RH2911-□HA01	1	.1 - - .2	11	02	12
3RH2911-□HA02	2	.1 .1 - - .2 .2	12	03	13
3RH2911-□HA03	3	1 1 1 1	13	04	14
3RH2911-□FA04	4	1 1 1 1 1	14		
Auxiliary switch with 1 NO contact		s			
3RH2911-□HA10	1	-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	20	11	21

1) Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in bold print. All combinations comply with EN 50005.

Example 1

Basic unit: 3-pole 3RT2017 motor contactor with 1 NO

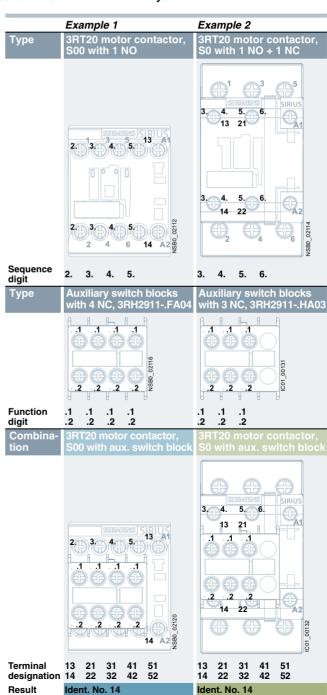
For screw terminals For spring-type terminals

Required: 1 NO + 4 NC (Ident. No. 14)
Result: 3RH2911-.FA04 auxiliary switch block

Example 2

Basic unit: 3-pole 3RT2023 motor contactor with 1 NO + 1 NC

Required: 1 NO + 4 NC (Ident. No. 14) Result: Auxiliary switch block 3RH2911-.HA03



Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

											Jiooko, iiio	
Additional auxilia	ary switc	h blocks	3-pole c	ontactor	s	4-pole c	ontactors			Contactor re	lays	
Article number	Auxiliary	y contacts	S00		S0 to S3	S00		S0 to S3		S00		
	Version		3RT201		3RT202, 3RT203, 3RT204, 3RT244	3RT231	3RT251	3RT232, 3RT233, 3RT234	3RT253,	3RH21, 3RH2	24	
	NO NC		10	01	11			11	11	40E	31E	22E
	\		13	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	+++	13 21 31 43
				5. 6. 7. 8.				3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
			Accordi	ng to EN	50012 ¹⁾	Accordi	ng to EN 5	50012 ¹⁾		According to	EN 50011 ¹⁾	
Auxiliary switch	h block	s, front										
Without NO co												
3RH2911-□HA01	1	1.2	11	02	12	01	01	12	12	41X	32X	23X
3RH2911-□HA02	2	1 1 1	12	03	13	02	02	13		42E	33X	24
3RH2911-□HA03	3	.1 .1 .1 	13	04	14	03				43	34	
3RH2911-□FA04	4	1.2 1.2 1.1	14							44E		
With 1 NO con	taat	1.2 1.2 1.2 1.2										
3RH2911-□HA10			20	11	21	10	10	21	21	50E	41E	32E
3RH2911-□HA11	1 1	.4 .1 .3	21	12	22	11	11	22	22	51X	42X	33X
3RH2911-□HA12	1 2	.2 .4 .1 .3	22	13	23	12	12	23		52	43	34
3RH2911-□HA13	1 3	.2 .2 .4 .1 .3 .4 .5 .5 .5 .4 .5 .5 .5	23	14	24	13				53X	44X	
With 2 NO con	taate	1.2 1.2 1.4										
3RH2911-□HA20		3 3	30	21	31	20	20	31	31	60E	51X	42X
3RH2911-□HA21	2 1	1 3 3	31	22	32	21	21	32	32	61	52	43
3RH2911-□HA22	2 2	1.2 1.4 1.4	32	23	33	22	22	33		62X	53	44X
3RH2911-□FA22	2 2	3 1 .1 .3 - 7 - 7 - 1 .4 .2 .2 .4	32	23	33	22	22	33		62X	53	44X
With 3 NO con	tacts											
3RH2911-□HA30		3 3 3	40	31	41	30	30	41	41	70	61	52
3RH2911-□HA31	3 1	1 3 3 3	41	32	42	31	31	42	42	71X	62X	53X
With 4 NO cons 3RH2911-□FA40		.3 .3 .3 .3	50	41	51	40	40	51	51	80E	71X	62X
4)		07 07 04 04										

¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Additional auxilia	ary :	switch	blocks	3-pole c	ontactor	S	4-pole co	ontactors			Contactor re	lays	
Article number		ixiliary rsion	contacts	S00 3RT201		S0 to S3 3RT202, 3RT203, 3RT204, 3RT244	S00 3RT231	3RT251	3RT233,		S00 3RH21, 3RH2	24	
	NC) NC		S00		S0 to S3	S00		S0 to S3		40E	31E	22E
	\ \	7		13	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43
					5. 6. 7. 8.				3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
Auxiliary switch	:h b	locks	s, front	Accordi	ng to EN	50005	Accordin	ng to EN 5	00005		According to	EN 50005	
(continued) With make-bef		broo	u(1)										
3RH2911-□FB11			1.7 5	21	12	22	11	11	22	22	51	42	33
3RH2911-□FB22	2	2	.8 .6 .3 .1 .5 .7	32	23	33	22	22	33		62	53	44
3RH2911-□FC22	2	2	14 1.2 1.6 1.8 1.7 1.7 1.5	32	23	33	22	22	33		62	53	44
Complete insc	rint	ion u	1.8 1.6	from to	n or hot	tom							
3RH2911-1AA10			73 -	20	11	21	10	10	21	21	50	41	32
3RH2911-1BA10	1		74 73 	20	11	21	10	10	21	21	50	41	32
3RH2911-1AA01		1	74 71 	11	02	12	01	01	12	12	41	32	23
3RH2911-1BA01		1	72 71 -	11	02	12	01	01	12	12	41	32	23
3RH2911-1LA11	1	1	73 81 	21	12	22	11	11	22	22	51	42	33
3RH2911-1MA11	1	1	73 81 	21	12	22	11	11	22	22	51	42	33
3RH2911-1LA20	2			30	21	31	20	20	31	31	60	51	42
3RH2911-1MA20	2		73 83 74 84	30	21	31	20	20	31	31	60	51	42

¹⁾ Contacts with make-before-break have no mirror contact function.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

Additional auxilia	ry s	witch	blocks	3-p	ole c	ontactors	3	4-pole co	ontactors			Contactor re	lays	
Article number			contacts	SO			S0 to S3	S00		S0 to S3		S00	•	
	Vei	rsion		3R	T201		3RT202, 3RT203, 3RT204, 3RT244	3RT231	3RT251	3RT233,	3RT252, 3RT253, 3RT254	3RH21, 3RH2	24	
	NC	NC		10		01	11			11	11	40E	31E	22E
	\	7		7	13 - 14	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43
						5. 6. 7. 8.			1. 2. 3. 4.		3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
Auxiliary switch	h b	locks	s front	AC	coraii	ng to EN	50005	Accordin	ng to EN 5	0005		According to	EN 50011"	
(continued)		TOOKE	,											
With complete		cripti	ion (for co	ntacto	r rela	ys) ²⁾								
3RH2911-□GA40	4		53 63 73 54 64 74	1								80E		
3RH2911-□GA31	3	1	53 61 73 54 62 74	83								71E		
3RH2911-□GA22	2	2	53 61 71 4 4	83								62E		
3RH2911-□GA13	1	3	53 61 71	81 #								53E		
3RH2911-□GA04		4	54 62 72 51 61 71 4 4 4	81								44E		
Complete insc	ript	ion												
3RH2911-□XA40 -0MA0	4		53 63 73 54 64 74	1		41	51	40	40	51	51	80E	71X	62X
3RH2911-□XA31 -0MA0	3	1	53 61 73 54 62 74	1		32	42	31	31	42	42	71E	62X	53
3RH2911-□XA22 -0MA0	2	2	53 61 71 7 7 7 7 7 7 7 7	83 32		23	33	22	22	33		62E	53	44X
3RH2911-□XA04 -0MA0		4	51 61 71	81 14								44E		
Solid-state con	npa	tible		-										
3RH2911-□NF02			[.1 /	1.1 12		03	13	02	02	13		42	33	24
3RH2911-□NF11	1	1	.3	.1 21 		12	22	11	11	22	22	51	42	33
3RH2911-□NF20	2		.3	1.2		21	31	20	20	31	31	60	51	42
4)														

¹⁾ Combinations according to EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

²⁾ For selection and ordering data, see page 3/96.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Additional auxiliary	y sw	itch blocks		3-pole c	ontactor	s	4-pole co	ontactors			Contactor re	lays	
		ary contacts	3	S00		S0 to S3	S00		S0 to S3		S00		
\	/ersi	on		3RT201		3RT202, 3RT203, 3RT204, 3RT244	3RT231	3RT251		3RT252, 3RT253, 3RT254	3RH21		
1	1 0	VC		10	01	11		-	11	11	40E	31E	22E
,	1	 		13	21	13 21			13 21	13 21	13 23 33 43	13 21 33 43	13 21 31 43
				2. 3. 4. 5.					3. 4. 5. 6.		5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
Lateral auxiliary	CW	tch block	•	Accordi	ng to EN	50012 ¹⁾	Accordin	ng to EN 5	50012 ¹⁾		According to	EN 50011 ¹⁾	
For size \$00	SWI		Right										
3RH2911-□DA02 -	- 2		-	12			02	02					
3RH2911-□DA02 -	- 2	2 41 51	22 32 21 31	14									
+ 3RH2911-□DA02 -	- 2	<i>TT</i>	22 32										
3RH2911-□DA11 1	1 1		21 33	21			11	11					
3RH2911-□DA11	1 1	41 53	21 33	32			22	22					
+ 3RH2911-□DA11	1 1	42 54	22 34										
3RH2911-□DA20 2	2 -	-	23 33	30			20	20					
3RH2911-□DA20 2 + 3RH2911-□DA20 2		- 43 53	23 33	50			40	40					
3RH2911-□DA20 2		44 54	24 34 21 33	41			31	31					
3RH2911-□DA11 1		44 54	22 34					00					
3RH2911-□DA20 2 + 3RH2911-□DA02 -		/ - 7	21 31	32			22	22					
3RH2911-□DA11 1		41 53		23			13						
3RH2911-□DA02 -	- 2	42 54	22 32										
For sizes S00 to 3RH2921-□DA02			Right	10	03	13	02	02	12				
3HH2921-□DAU2 -	- 2	<u> </u>	31 41	12	03	13	02	02	13				
3RH2921-□DA02 - + 3RH2921-□DA02 -		م کے کے	31 41	14									
3RH2921-□DA11		52 62	32 42 31 43	21	12	22	11	11	22	22			
3RH2921-□DA11 1	1 1	51 63	32 44 31 43	32	23	33	22	22	33				
+ 3RH2921-□DA11		الح كما	32 44										
3RH2921-□DA20 2	2 -	-	33 43	30	21	31	20	20	31	31			
3RH2921-□DA20 2 + 3RH2921-□DA20 2		- 53 63 - 54 64	33 43	50	41	51	40	40					

¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

Additional auxilia	a. ou	ritah	blooko		2 nole e	ontactors		4 nole e	ontootor	•		Contactor re	lovo	
Additional auxiliar Article number	-		contacts		S00	ontactors	S0 to S3	S00	ontactor	s S0 to S3		S00	iays	
	Vers	-			3RT201		3RT202, 3RT203, 3RT204, 3RT244		3RT251	3RT232,	3RT253,			
	NO	NC			10	01	11			11	11	40E	31E	22E
	1	7			13	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44		13 21 31 43
						5. 6. 7. 8. ng to EN			1. 2. 3. 4. ng to EN	3. 4. 5. 6. 50012¹)	3. 4. 5. 6.	5. 6. 7. 8. According to	5. 6. 7. 8. EN 50011 ¹)	5. 6. 7. 8.
Lateral auxiliary	/ SW	itch	blocks		Accordi	ilg to EN	30012	Accordi	ilg to EN	30012		According to	EN SOUTH	
(continued)														
For sizes S00 to				light										
3RH2921-□DA20 + 3RH2921-□DA11	1	1	53 63	31 43	41	32	42	31	31					
3RH2921-□DA20	2			31 41	32	23	33	22	22					
+ 3RH2921-□DA02		2	54 64	32 42										
3RH2921-□DA11 + 3RH2921-□DA02	ľ	1	51 63	31 41	23	14	24	13						
F	,	-2)		32 42										
For contactor re 3RH2921-□DA02			Left									42Z	33X	24
3HH2921-□DA02		2	52 62									422	33 X	24
3RH2921-□DA11	1	1	51 63 52 64									51X	42X	33X
3RH2921-□DA20	2		53 63 									60 Z	51X	42X
Solid-state com	pati	ble												
For size S00				light										
3RH2911-2DE11	1	1	\	23 31	21			11	11					
3RH2911-2DE11	1	1		23 31	32			22	22					
+ 3RH2911-2DE11	1	1	42 54											
For sizes S00 to S				light	04	10	00	4.4	4.4	00	00			
3RH2921-□DE11	1	1	\	33 41	21	12	22	11	11	22	22			
3RH2921-□DE11	1	1	51 63		32	23	33	22	22					
+ 3RH2921-□DE11			52 64	34 42										
For contactor rela	•		Left											
3RH2921-2DE11	1	1	51 63 52 64									51X	42X	33X
4)			.52 10-7											

¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

²⁾ Without positively driven operation.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B





			3RH2911-1HA22		3RH2911-2HA22	
For contactors/ contactor relays ¹⁾	Auxiliary contacts Version	SD	Screw terminals	SD	Spring-type terminals	•••
	\		Article No. Pric		Article No.	Price per PU
Туре	NO NC	d		d		

Type NO NC d d d d d d d d d d d Auxiliary switch blocks for snapping onto the front Sizes S00 to S3 SRT2.1 SRT2.1 SRH2911-1HA01 SRH2911-2HA01 SRH2911-2HA01 SRH2911-2HA01 SRH2911-2HA01 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA03 SRH2911-1HA03 SRH2911-2HA03 SRH2911-2HA10 SRH2911-1HA10 SRH2911-2HA10 SRH2911-2HA11 SRH2911-2HA11 SRH2911-2HA11 SRH2911-2HA12 SRH2911-2HA12 SRH2911-1HA12 SRH2911-2HA13 SRH2911-2HA13		Ì	ſ					
Sizes S00 to S3 SRH2911-1HA01 SRH2911-2HA01 SRH2911-2HA01 SRH2911-2HA01 SRH2911-2HA01 SRH2911-2HA01 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA02 SRH2911-2HA03 SRH2911-2HA03 SRH2911-2HA03 SRH2911-2HA10 SRH2911-2HA11 SRH2911-2HA11 SRH2911-2HA11 SRH2911-2HA11 SRH2911-2HA12 SRH2911-2HA12 SRH2911-2HA12 SRH2911-2HA12 SRH2911-2HA12 SRH2911-2HA12 SRH2911-2HA12 SRH2911-2HA13 SRH2911-2H					d		d	
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4 2			cks for	snapping onto the front				
3RT2.2, 3RT2.4 3RH21, 3RH24 2		o S3						
3R12.3, 3R12.4 3R12.1, 3R12.4			1	.1 e	>	3RH2911-1HA01		3RH2911-2HA01
3RH21, 3RH24 - 2	3RT2.3,							
3RH24 3				•••				
3			2		>	3RH2911-1HA02	>	3RH2911-2HA02
3 1 1 1 1 1 1 1 1 1								
1 3 3RH2911-1HA10 3RH2911-2HA10 3RH2911-2HA10 3RH2911-2HA11 3RH2911-2HA11 3RH2911-2HA11 3RH2911-2HA12 3RH2911-1HA12 3RH2911-2HA12 3RH2911-2HA13 3RH			0		-	0DU0044 411400	_	0D110044 011400
1 3 3RH2911-1HA10 3RH2911-2HA10 3RH2911-2HA10 3RH2911-2HA11 3RH2911-2HA11 3RH2911-2HA11 3RH2911-2HA12 3RH2911-1HA12 3RH2911-2HA12 3RH2911-2HA13 3RH			3		Э	SHIZETT-THAUS	5	3HHZ911-2HAU3
1 3 3RH2911-1HA10 3RH2911-2HA10 3RH2911-2HA10 3RH2911-2HA10 3RH2911-2HA11 3RH2911-2HA11 3RH2911-2HA12 3RH2911-1HA12 3RH2911-2HA12 3RH2911-2HA13 3RH								
1 1 1 3 3 3 3 3 3 3 3		1				3PH2011-1HA10		3DH2011-2HA10
1 2 1 1 3 3RH2911-1HA12 3RH2911-2HA12 3RH2911-2HA13 3RH2911-2HA13 3RH2911-2HA13		'		1		JIII 2911-III AIV		JIIII2311-ZIIA10
1 2 1 1 3 3RH2911-1HA12 3RH2911-2HA12 3RH2911-2HA13 3RH2911-2HA13 3RH2911-2HA13) _{.4}				
1 2 1 1 3 3RH2911-1HA12 3RH2911-2HA12 3RH2911-2HA13 3RH2911-2HA13 3RH2911-2HA13		1	1	.1 .3	>	3RH2911-1HA11		3RH2911-2HA11
1 2 1 1 3 3RH2911-1HA12 3RH2911-2HA12 3RH2911-2HA13 3RH2911-2HA13 3RH2911-2HA13 3RH2911-2HA13				F-1				
1 3 1 1 1 3				.2 .4				
1 3 1 1 1 3 > 3RH2911-1HA13 > 3RH2911-2HA13		1	2		>	3RH2911-1HA12		3RH2911-2HA12
1 3 1 1 1 3				/- /- \				
1 3 1 1 1 3				.2 .2 .4				
<i>f-f-f-</i> \		1	3	.1 .1 .3	▶	3RH2911-1HA13	▶	3RH2911-2HA13
				[7-7-]				
1.2 1.2 1.4								
2 3 3		2		.3 .3	>	3RH2911-1HA20		3RH2911-2HA20
				7-7				
		0		***		0DU0044 411404	L	apulant allant
2 1 1 3 3 3 SRH2911-1HA21 3RH2911-2HA21		2	ı	1 3 3 2 1 3		3HH2911-1HA21		3RH2911-2HA21
$\begin{pmatrix} 2 & 4 & 4 \end{pmatrix}$								
2 2 .1 .1 .3 .3		2	2	· ··· ···		3PH2011-1HA22		3DH2011-2HA22
		_	_			OTHIESTT THALE		OTHIESTT ETIALE
$\begin{pmatrix} 2 & 4 & 4 \end{pmatrix}$				$\begin{pmatrix} 2 & 4 \end{pmatrix} 4$				
3 3 3 3 5 3RH2911-1HA30 5 3RH2911-2HA30		3		1.3 1.3 1.3	5	3RH2911-1HA30	5	3RH2911-2HA30
4-4-4				1-1-1				
				.4 .4 .4				
3 1 .1 .3 .3 .3 ▶ 3RH2911-1HA31 ▶ 3RH2911-2HA31		3	1	.1 .3 .3 .3	>	3RH2911-1HA31		3RH2911-2HA31
\frac{1}{2} \frac{1}{2} - \frac{1}{2} - \frac{1}{2}				_ \'\-\'\-\'				
1.2 4 4 4				1.2 1.4 1.4 1.4				

¹⁾ For detailed information on use, see page 3/89.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

								Au	alliary S	MILC	n biocks, instantai	neous
PU (UNIT, SET, I PS* PG	M) = 1 = 1 unit = 41B											
3RH2911-1FC22	3RH2911	-2FC22			3RH	2911-1AA01	3RH29	11-1BA01 3RH29	81xc 85xc 6 6 11-1LA11		3RH2911-1MA11	
For contactors/	Connections	Auxi	iliary	conta	cts		SD	Screw terminals	(1)	SD	Spring-type terminals	00
contactor relays ¹⁾	Position	Vers	ion									
		Y	7	1	<u>}</u>			Article No.	Price per PU		Article No.	Price per PU
Туре		NO	NC	NO	NC		d			d		
Auxiliary switch		apping	j ont	o the	e froi	nt						
Sizes S00 to S3 3RT2.1, 3RT2.2, 3RT2.3,	3 	4				.3 .3 .3 .3	•	3RH2911-1FA40		>	3RH2911-2FA40	
3RT2.4 3RH21, 3RH24		2	2			.4 .4 .4 .4 .4 .3 .1 .1 .3	•	3RH2911-1FA22		>	3RH2911-2FA22	
			4			.4 .2 .2 .4 .1 .1 .1 .1 .1 .1 	•	3RH2911-1FA04		>	3RH2911-2FA04	
				1	1	.7 .5 -7 .8 .6	•	3RH2911-1FB11		>	3RH2911-2FB11	
		1	1	1	1	.3 .1 .5 .7 .4 .2 .6 .8	•	3RH2911-1FB22		>	3RH2911-2FB22	
				2	2	7 .7 .5 .5	•	3RH2911-1FC22		>	3RH2911-2FC22	
1- and 2-pole auxi	iliary switch block	s, cabl	le ent	ry fro	m to	p or bottom						
3RT2.1,	Тор	1				73	•	3RH2911-1AA10			-	
3RT2.2, 3RT2.3, 3RT2.4	Bottom	1				74	•	3RH2911-1BA10				
3RH21,	Тор		1			71	•	3RH2911-1AA01			-	
3RH24	Bottom		1			72	•	3RH2911-1BA01				
	Тор	1	1			73 81	>	3RH2911-1LA11			-	
	Bottom	1	1			74 82	•	3RH2911-1MA11			-	
	Top Bottom	2 2				73 83	>	3RH2911-1LA20 3RH2911-1MA20				
						74 84						

 $^{^{\}rm 1)}$ For detailed information on use, see pages 3/89 and 3/90.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B





31	$R \vdash$	1291	11	164	12

				OTTIZOTT TOMEZ		0111120111 201122	
For contactor relays ¹⁾	Contactor relay with auxiliary switch block	Auxiliary contacts	SD	Screw terminals	SD	Spring-type terminals	8
	Ident. No.	Version					
		\		Article No. Price per PU		Article No.	Price per PU
Type		NO NC	d		d		
Auxiliany awitch	blocks for anony	ning onto the front					

Auxiliary switch blocks for snapping onto the front

C:-- C00

Size S00 Blocks for the as	scombly of	ontactor re	lave wit	h 9 contacts				
3RH2140, 3RH2440, Ident. No. 40E	80E		4	53 63 73 83 54 64 74 84	>	3RH2911-1GA40	•	3RH2911-2GA40
	71E	;	3 1	53 61 73 83	•	3RH2911-1GA31	•	3RH2911-2GA31
	62E	:	2 2	53 61 71 83	•	3RH2911-1GA22	•	3RH2911-2GA22
	53E		1 3	53 61 71 81 54 62 72 82	•	3RH2911-1GA13	•	3RH2911-2GA13
	44E		4	51 61 71 81 4 4 4 4 4 4 4 4 4 4	•	3RH2911-1GA04	•	3RH2911-2GA04

¹⁾ For detailed information on use, see page 3/91.

PU(UNIT, SET, M) = 1





3RH2911-1XA22-0MA0

3RH2911-1XA04-0MA0

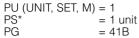
3RH2911-2XA22-0MA0

For contactors/ contactor relays ¹⁾	Auxiliar Version	,	cts	SD	Screw terminals	1	SD	Spring-type terminals	<u></u>
	\	<u> </u>			Article No.	Price per PU		Article No.	Price per PU
Туре	NO	NC		d			d		
Auxiliary switch	n block:	s for s	napping onto the front						
Sizes S00 to S3									
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	4		53 63 73 83 54 64 74 84	•	3RH2911-1XA40-0MA0		>	3RH2911-2XA40-0MA0	
3RH21, 3RH24	3	1	53 61 73 83 - +	•	3RH2911-1XA31-0MA0		>	3RH2911-2XA31-0MA0	
	2	2	53 61 71 83	>	3RH2911-1XA22-0MA0			3RH2911-2XA22-0MA0	

3RH2911-2XA04-0MA0

¹⁾ For detailed information on use, see page 3/91.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories





|--|

Sizes S6	to S12									
	-	ixiliary sw ing to EN								
3RT1.5 3RT1.7	22	2	2			53 61 7 	= /	3RH1921-1XA22-0MA0	20	3RH1921-2XA22-0MA0
	1-pole au	xiliary sw	itch bl	ocks						
	 Accord 	ing to EN	50005	and EN	50012					
3RT1.5 3RT1.7	10	1				.3 	•	3RH1921-1CA10	•	3RH1921-2CA10
	01		1			.1 - - .2	•	3RH1921-1CA01	Þ	3RH1921-2CA01
	10			1 (lead- ing)		.7 .8	•	3RH1921-1CD10		-
	01				1 (lead- ing)	.5 - .6	>	3RH1921-1CD01		-

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit = 41B





3RH2911-1DA	'n

		OTTI IZOTT ZDI TOZ
	0.0	
	SD	Spring-type terminals
(" /		

For contactors ¹⁾	Auxiliary Version	contacts	SD	Screw terminals	⊕	SD	Spring-type terminals	$\stackrel{\infty}{\square}$
	\I	}		Article No.	Price per PU		Article No.	Price per PU
Туре	NO	NC	d			d		

Laterally mountable auxiliary switch blocks, mounting on the right and/or on the left, 2-pole

2-pole								
Size S00			Left	Right				
3RT2.1		2	41 51 	21 31	2	3RH2911-1DA02	2	3RH2911-2DA02
	1	1	41 53 42 54	21 33	2	3RH2911-1DA11	2	3RH2911-2DA11
	2		43 53 	23 33	2	3RH2911-1DA20	2	3RH2911-2DA20
Sizes S0 to	o S3		Left	Right				
3RT2.1, 3RT2.2 ²⁾ , 3RT2.3 ³⁾ , 3RT2.4 ³⁾		2	51 61 - - 52 62	31 41	2	3RH2921-1DA02	2	3RH2921-2DA02
	1	1	51 63 52 64	31 43	2	3RH2921-1DA11	2	3RH2921-2DA11
	2		53 63 - 1 54 64	33 43	2	3RH2921-1DA20	2	3RH2921-2DA20

¹⁾ For detailed information on use, see pages 3/92 and 3/93.

²⁾ With 3RT232. and 3RT252. contactors, mountable only on the right.

^{3) 3}RH2921-1DA.. lateral auxiliary switch blocks can only be mounted on 3RT26 capacitor contactors of sizes S2 and S3.

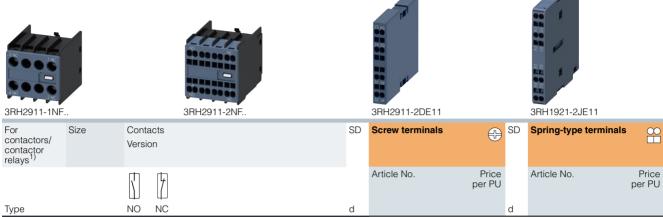
Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

								Auxiliary	/ sw	ritch blocks, instant	aneous
PU (UNIT, S PS* PG	ET, M) = = =	= 1 = 1 uni = 41B	t								
3RH1921-1D	A11	3B	H1921-1JA11		3RH1921-1EA02		3RH1921-1KA02			3RH1921-2DA11	
For contactors					0111110211121102	SD	Screw terminals		SD	Spring-type terminals	
TOI COITIACIOIS	Version		013			30	Screw terminals	+	JD	Spring-type terminals	8
T	1	 				۔	Article No.	Price per PU		Article No.	Price per PU
Type Lateral aux	NO iliarv sv	NC vitch b	locks.			d			d		
mounting o 2-pole	n left o	right									
Sizes S6 to	S12		Left	Right							
			witch block EN 50012								
3RT1.5	1	1	21 13	31 43		>	3RH1921-1DA11		>	3RH1921-2DA11	
3RT1.7			22 14	32 44							
	• Acco	rding to	EN 50005								
3RT1.5 3RT1.7	2		53 63 	73 83 		•	3RH1921-1EA20		•	3RH1921-2EA20	
	1	1	J51 J63	71 83		>	3RH1921-1EA11			-	
			52 64	72 84							
		2	I51 I61	71 81		>	3RH1921-1EA02			3RH1921-2EA02	
			52 62	72 82							
			switch block								
3RT1.5	• Acco	rding to	EN 50012	174 100		•	3RH1921-1JA11		•	3RH1921-2JA11	
3RT1.7	'	•	61 53 7 \	[71]83 * \			31111321-10A11			31111321-20A11	
			62 54	72 84							
0DT4 F		-	EN 50005				0D114004 41/400		00	ODUIAGOA OKAGO	
3RT1.5 3RT1.7	2		153 163 	173 18	33	•	3RH1921-1KA20		20	3RH1921-2KA20	
	1	1	154 164 151 163	1174 18		>	3RH1921-1KA11			_	
	•	•	F\	171 11 	03						
		0	152 164	172		-	2DU1001 1VA02		00	2DU1001 0K400	
		2	151 161 11	171 18 		•	3RH1921-1KA02		20	3RH1921-2KA02	
			152 162	172 1	32						

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B



Solid-state compatible auxiliary switch blocks, 2-pole

- For operation in dusty atmospheres
- \bullet For solid-state circuits with rated operational currents $I_{\rm e}/\rm AC$ -14 and DC-13 from 1 ... 300 mA at 3 ... 60 V
- Hard gold-plated contacts
- Laterally mountable auxiliary switches and auxiliary switches for snapping onto the front for 3RT2 contactors, sizes S0 to S3, are designed as mirror contacts according to IEC 60947-4-1, Appendix F.

Auxiliary s	witch block	s for	snapp	ing onto the front				
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	S00 S3		2	.1 .2	2	3RH2911-1NF02	2	3RH2911-2NF02
3RH21, 3RH24		1	1	\begin{align*} .3 & .1 \\	>	3RH2911-1NF11	•	3RH2911-2NF11
		2		\big .3 \\ \dots \	>	3RH2911-1NF20	•	3RH2911-2NF20

			1.4 1.4			
Lateral aux	ciliary switch	h blocks, m	ounting on the right and/or on the left,	, acc. to EN 50012		
		Auxiliary s	witch block			
			Left Right			
3RT2.1	S00	1 1	41 53 23 31	-	2	3RH2911-2DE11
3RT2.2, 3RT2.3, 3RT2.4	S0 S3	1 1	51 63	•	2	3RH2921-2DE11
		1st auxiliar	ry switch block			
3RT1.5 3RT1.7	S6 S12	1 1	Left Right 21 13 31 43		•	3RH1921-2DE11
		2nd auxilia	ry switch block			
3RT1.5 3RT1.7	S6 S12	1 1	Left Right 61 53 71 83 7 62 54 72 84	-	•	3RH1921-2JE11

¹⁾ For detailed information on use, see pages 3/91 and 3/93.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, delayed

Selection and ordering data

For contactors	Time setting range t	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Туре	S	d	Article No.	Price per PU			

Pneumatic time-delay auxiliary switch blocks for mounting on 3RT2 contactors



Size S0						
Auxiliary contacts	1 NO and 1 NC ¹⁾					
ON-delay						
3RT202	0.1 30	10	3RT2926-2PA01	1	1 unit	41B
	0.1 30 ²⁾	X	3RT2926-2PA01-0MT0	1	1 unit	41B
	1 60	10	3RT2926-2PA11	1	1 unit	41B
	1 60 ²⁾	X	3RT2926-2PA11-0MT0	1	1 unit	41B
OFF-delay						
3RT202	0.1 30	10	3RT2926-2PR01	1	1 unit	41B
	0.1 30 ²⁾	X	3RT2926-2PR01-0MT0	1	1 unit	41B
	1 60	10	3RT2926-2PR11	1	1 unit	41B
	1 60 ²⁾	X	3RT2926-2PR11-0MT0	1	1 unit	41B

¹⁾ In addition to these, no other auxiliary contacts are permitted

PU (UNIT, SET, M) = 1 = 1 unit = 41B



Technical specifications, see Manual.



					011/12010 11 1110			011/12010 2/11/10	
For contactors	Rated control supply voltage $U_s^{1)}$	Time setting range <i>t</i>	Output/ auxiliary contacts	SD	Screw terminals		SD	Spring-type terminals	<u> </u>
Туре	V	S		d	Article No.	Price per PU		Article No.	Price per PU

Solid-state time-delay auxiliary switch blocks²⁾ for mounting onto 3RT2 contactors and 3RH2 contactor relays

Sizes S00 to S3

	switch and the contacto	ne electrical connection between the solid-state time-delay auxiliary witch and the contactor or contactor relay underneath is established utomatically when it is snapped on and locked.					
	ON-delay (varistor integrated)						
3RT2 ³⁾⁴⁾ ,	24 240 AC/DC	0.05100	1 CO	2	3RA2813-1AW10	2	3RA2813-2AW10
3RH21 ³⁾ , 3RH24		(1, 10, 100 selectable)	1 NO + 1 NC	2	3RA2813-1FW10	2	3RA2813-2FW10
	OFF-delay with control (varistor integrated)	signal					
3RT2 ³⁾⁴⁾ ,	24 240 AC/DC	0.05100	1 CO	2	3RA2814-1AW10	2	3RA2814-2AW10
3RH21 ³⁾ , 3RH24		(1, 10, 100 selectable)	1 NO + 1 NC	2	3RA2814-1FW10	2	3RA2814-2FW10
	OFF-delay without con (varistor integrated)	trol signal ⁵⁾					
3RT2 ³⁾⁴⁾ ,	24 240 AC/DC	0.05100	1 CO	2	3RA2815-1AW10	2	3RA2815-2AW10
3RH21 ³⁾ , 3RH24		(1, 10, 100 selectable)	1 NO + 1 NC	2	3RA2815-1FW10	2	3RA2815-2FW10

 $^{^{1)}\,}$ AC voltage values apply for 50 Hz and 60 Hz.

²⁾ Certificate for furnaces according to EN 50156-1 on request.

²⁾ The solid-state time-delay auxiliary switch blocks are also available as 3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays, see page 3/106.

³⁾ Cannot be fitted onto coupling relays and coupling contactor relays.

⁴⁾ From product version E04 onwards, 3RA281. solid-state time-delayed auxiliary switch blocks can be used for 3RT2.4 contactors.

⁵⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

Technical specifications, see page 3/83.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, delayed

	For contactors	Auxiliary contacts	Rated control supply voltage $U_{\rm S}^{-1}$	Time setting range <i>t</i>	SD	Screw terminals	#	PU (UNIT, SET, M)	PS*	PG
	-					Article No.	Price			
	Туре		V	S	d		per PU			
for mounting		iary switch blocl actors	KS							
	Sizes S6 to S	512				-				
		ON-delay ²⁾								
0 0 0	3RT10, 3RT14	1 NO + 1 NC	24 AC/DC	0.05 1 0.5 10 5 100	10 • 2	3RT1926-2EJ11 3RT1926-2EJ21 3RT1926-2EJ31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
SIEMENS (S)			100 127 AC	0.05 1 0.5 10 5 100	15 • 10	3RT1926-2EC11 3RT1926-2EC21 3RT1926-2EC31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
3RT1926-2			200 240 AC	0.05 1 0.5 10 5 100	5 • 5	3RT1926-2ED11 3RT1926-2ED21 3RT1926-2ED31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
		OFF-delay withou	t control signal ²⁾³⁾							
	3RT10, 3RT14	1 NO + 1 NC	24 AC/DC	0.05 1 0.5 10 5 100	5 5	3RT1926-2FJ11 3RT1926-2FJ21 3RT1926-2FJ31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
			100 127 AC/DC	0.05 1 0.5 10 5 100	5 • 5	3RT1926-2FK11 3RT1926-2FK21 3RT1926-2FK31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
			200 240 AC/DC	0.05 1 0.5 10 5 100	5 2 2	3RT1926-2FL11 3RT1926-2FL21 3RT1926-2FL31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
		Star-delta (wye-de	elta) starting (varisto	or integrated) ²⁾						
	3RT10,	1 NO delayed +	24 AC/DC	1.5 30	>	3RT1926-2GJ51		1	1 unit	41H
	3RT14	1 NO instanta- neous,	100 127 AC	1.5 30	>	3RT1926-2GC51		1	1 unit	41H
		dead time 50 ms	200 240 AC	1.5 30	>	3RT1926-2GD51		1	1 unit	41H

¹⁾ The AC voltages are valid for 50 Hz and 60 Hz.

²⁾ Connecting terminals A1 and A2 for the control supply voltage of the solid-state time-delay auxiliary switch must be connected to the associated contactor by means of connecting cables.

³⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

Surge suppressors

Selection and	orderin	g data								
	For contactors	Version	Rated control voltage $U_{\rm s}^{1)}$		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				DC operation				JLI, IVI)		
	Туре		V AC	V DC	d					
Surge suppres	ssors wi	thout LED (also for	r spring-type	terminals)						
	Size S0	0								
		For plugging onto th (with or without auxi								
150 m	3RT2.1, 3RH2	Varistors	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250 	2	3RT2916-1BB00 3RT2916-1BC00 3RT2916-1BD00 3RT2916-1BE00 3RT2916-1BF00		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3RT2916-1B.00	3RT2.1, 3RH2	RC elements	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250	2 2	3RT2916-1CB00 3RT2916-1CC00 3RT2916-1CD00 3RT2916-1CE00 3RT2916-1CF00		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	3RT2.1, 3RH2	Noise suppression diodes		12 250	>	3RT2916-1DG00		1	1 unit	41B
	3RT2.1, 3RH2	Diode assemblies (diode and Zener diode) for DC operation		12 250	•	3RT2916-1EH00		1	1 unit	41B
	Size S0									
45/		For plugging onto th (before installing the								
	3RT2.2	Varistors ²⁾	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250 	2	3RT2926-1BB00 3RT2926-1BC00 3RT2926-1BD00 3RT2926-1BE00 3RT2926-1BF00		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3RT2926-1E.00	3RT2.2	RC elements	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250 	2 2	3RT2926-1CB00 3RT2926-1CC00 3RT2926-1CD00 3RT2926-1CE00 3RT2926-1CF00		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	3RT2.2	Diode assemblies for DC operation		24 30 250	>	3RT2926-1ER00 3RT2926-1ES00		1 1	1 unit 1 unit	41B 41B
	Sizes S	2 and S3								
		For plugging onto th (before installing the								
C 400600V	3RT2.3, 3RT2.4	Varistors ²⁾³⁾	24 48 48 127 127 240 240 400 400 600	 	5 5	3RT2936-1BB00 3RT2936-1BC00 3RT2936-1BD00 3RT2936-1BE00 3RT2936-1BF00		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3RT2936-1BF00	3RT2.3	RC elements	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250 	5 5	3RT2936-1CB00 3RT2936-1CC00 3RT2936-1CD00 3RT2936-1CE00 3RT2936-1CF00		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	3RT2.4	RC elements	24 48 48 127 127 240	24 70 70 150 150 250	5 5 •	3RT2946-1CB00 3RT2946-1CC00 3RT2946-1CD00		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

3RT2946-1CE00

3RT2946-1CF00

3RT2936-1ER00 3RT2936-1ES00

5

30 ... 250

240 ... 400

400 ... 600

1 unit

1 unit

1 unit

41B

41B

41B

41B

³RT2.3, **Diode assemblies³⁾**3RT2.4 for DC operation

1) Can be used for AC operation for 50/60 Hz.
Other voltages on request.

²⁾ The varistor is already integrated on the AC/DC contactors.

³⁾ Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Surge suppressors

	For contactors	Version	Rated contro		age U _s 1) peration	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре		V AC	V DC	;	d					
Surge suppresso	ors withou Sizes St										
STATE OF		For connectin	g to withdrawa	able coil for	contactors		Screw terminals	(1)			
			erating mecha					•			
3RT1956-1C.00	3RT1.5 3RT1.7	RC elements	24 48 48 127 127 240 240 400 400 600	70 .	70 150 250	20	3RT1956-1CB00 3RT1956-1CC00 3RT1956-1CD00 3RT1956-1CE00 3RT1956-1CF00		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
							Spring-type terminals				
	3RT1.5 3RT1.7	RC elements	24 48 48 127 127 240 240 400 400 600	70 .	70 150 250	2 2 2 20	3RT1956-1CB02 3RT1956-1CC02 3RT1956-1CD02 3RT1956-1CE02 3RT1956-1CF02		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
1) Can be used for A	C operation	for 50/60 Hz. Ot	her voltages on	request.							
04.750 4004 10.7	For contactors	Version	Rated contro		Power consumption	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
			operation	DC operation	P of LED at U _s				SÉT, M)		
Curre our present	Type	ED /alaa far a	V AC	V DC	mW	d					
Surge suppresso	Size S00	· · · · · · · · · · · · · · · · · · ·	pring-type te	minais)							
	3126 300	For plugging	onto the front out auxiliary sw								
	3RT2.1, 3RH2	Varistors	24 48 48 127 127 240	12 24 24 70 70 150 150 250	10 120 20 470 50 700 160 950	2	3RT2916-1JJ00 3RT2916-1JK00 3RT2916-1JL00 3RT2916-1JP00		1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
3RT2916-1J.00	3RT2.1, 3RH2	Noise suppression diodes	 	24 70 50 150 150 250	20 470 50 700 160 950	2	3RT2916-1LM00 3RT2916-1LN00 3RT2916-1LP00		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	Size S0										
15/			onto the front ing the auxilia								
	3RT2.2	Varistors	24 48 48 127 127 240	12 24 24 70 70 150	10 120 20 470 50 700	* *	3RT2926-1JJ00 3RT2926-1JK00 3RT2926-1JL00		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	3RT2.2	Diode assemblies		24	20 470	>	3RT2926-1MR00		1	1 unit	41B
3RT2926-1MR00											
	Sizes S2		onto the front								
3872936-11J00 06 12-24V	3RT2.3, 3RT2.4	Varistors ²⁾	24 48 48 127 127 240	12 24 24 70 70 150	10 120 20 470 50 700	5 5 •	3RT2936-1JJ00 3RT2936-1JK00 3RT2936-1JL00		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RT2936-1JJ00											

¹⁾ Can be used for AC operation for 50/60 Hz. Other voltages on request.

²⁾ From product version E03 onwards, 3RT2936 surge suppressors can be used for 3RT2.4 contactors.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

Modules for contactor control

Selection and orde	ering data							
	For contactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре		d					
Coupling links for	control by PL	С						,
				Screw terminals				
	Size S0				•			
	Size Su	For more with a cost the cost to make the						
		For mounting onto the coil terminals of the contactors (for contactors with screw terminals only) With LED for the switching state and with integrated varistor for damping opening surges						
775	3RT2.2	• 24 V DC control, 17 30 V DC operating range	>	3RH2924-1GP11		1	1 unit	41B
3RH2924-1GP11		17 00 v 20 operating range						
	Sizes S00 to	S3						
		For mounting on the front side of contactors with AC, DC or AC/DC operation						
STATES SRUE	3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4 3RH2	• 24 V DC control, 17 30 V DC operating range	5	3RH2914-1GP11		1	1 unit	41B
3RH2914-1GP11				Spring-type terminals	8			
3RH2914-2GP11	3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4 3RH2	• 24 V DC control, 17 30 V DC operating range	5	3RH2914-2GP11		1	1 unit	41B

Technical specifications, see page 3/85.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Modules for contactor control

PU (UNIT, SET, M) = 1 = 1 unit = 41B

More information

Manual "SIRIUS - SIRIUS 3RA28 function modules for mounting on 3RT2 contactors", se

https://support.industry.siemens.com/cs/ww/en/view/60279150.







3RA2811-2CW10

3RA2812-1DW10

3RA2816-0EW20

For contactors	Size	Version	Rated control supply voltage $U_s^{1)}$	Time setting range t	SD	Screw terminals	+	SD	Spring-type terminals	<u> </u>
Type 3RA28 function modules for mounting on and 3RH2 contactor relays			V AC/DC T2 contacto	s rs	d	Article No.	Price per PU	d	Article No.	Price per PU
For direct-	on-line sta	arting								
3RT2.1 ²⁾ , 3RT2.2 ²⁾ ,	S00, S0	ON-delay Two-wire design,	24 240	0.05100 (1, 10, 100;	2	3RA2811-1CW10		2	3RA2811-2CW10	

3RT2.1 ²⁾ , 3RT2.2 ²⁾ , 3RH21 ²⁾ , 3RH24	S00, S0	ON-delay Two-wire design, varistor integrated	24 240	0.05100 2 (1, 10, 100; selectable)	3RA2811-1CW10	2	3RA2811-2CW10
3RT2.3 ²⁾ , 3RT2.4 ²⁾³⁾	S2, S3	The electrical connection between the function module and the contactor underneath is established automatically when it is snapped on and locked.	24 90 90 240	0.05100 2 (1, 10, 100; 2 selectable) 2	3RA2831-1DG10 3RA2831-1DH10	2	3RA2831-2DG10 3RA2831-2DH10
3RT2.1 ²⁾ , 3RT2.2 ²⁾ , 3RH21 ²⁾ , 3RH24	S00, S0	OFF-delay with control signal, varistor integrated The electrical connection	24 240	0.05100 2 (1, 10, 100; selectable)	3RA2812-1DW10	2	3RA2812-2DW10
3RT2.3 ²⁾ 3RT2.4 ²⁾³⁾	S2, S3	between the function module and the contactor underneath is established automatically when it is snapped on and locked.	24 90 90 240	0.05100 2 (1, 10, 100; selectable) 2	3RA2832-1DG10 3RA2832-1DH10	2	3RA2832-2DG10 3RA2832-2DH10

For star-d	lelta (wye-	delta) starting					
3RT2.1,	S00 S3	Varistor integrated	24 240	0.5 60 2	3RA2816-0EW20	2	3RA2816-0EW20
3RT2.2, 3RT2.3 ²), 3RT2.4 ²⁾⁴⁾		Comprising one basic module and two coupling modules		(10, 30, 60; selectable)			
		The electrical connection between the function module and the contactor assembly is established automatically by snapping on and plugging in the connecting cables.					

Accessories

S00 ... S3 Cover, sealable 3RA28

Assembly of reversing starters

3RA2910-0

- 1) AC voltage values apply for 50 Hz and 60 Hz. ²⁾ Cannot be fitted onto coupling relays and coupling contactor relays.
- 3) From product version E03 onwards, 3RA283. function modules can be used for 3RT2.4 contactors.
- From product version E04 onwards, 3RA2816 function modules can be used for 3RT2.4 contactors.

Technical specifications, see page 3/86.

We offer ready-made wiring kits for the assembly of reversing starters. Use of these wiring kits offers further advantages, see page 3/162.

2

3RA2910-0

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Modules for contactor control

PU (UNIT, SET, M) = 1 = 1 unit = 41B

More information

Manual "SIRIUS - SIRIUS 3RA2711 Function Modules for IO-Link", see

Manual "SIRIUS - SIRIUS 3RA2712 Function Modules for AS-Interface", see













3RA271	1_1.	ΔΔΩ	٦ :
SNAZ/ I	1 - 17	+ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	J

3RA2711-2AA00 3RA2711-1BA00

3RA2711-2BA00

3RA2712-1CA00

3RA2711-2CA00

For con- tactors	Size	Version	SD	Screw terminals	+	SD	Spring-type terminals	<u> </u>
Туре			d	Article No.	Price per PU	d	Article No.	Price per PU
SIRIUS:	3RA27	' function modules for direct-on-line starting						
3RT201	S00 	IO-Link connection includes one module connector for creating an IO-Link group	2	3RA2711-1AA00		2	3RA2711-2AA00	
3RT204 ¹⁾	S3	AS-Interface connection	2	3RA2712-1AA00		2	3RA2712-2AA00	
SIRIUS	3RA27	' function modules for reversing starting ²⁾						
3RT201	S00	IO-Link connection	2	3RA2711-1BA00		2	3RA2711-2BA00	
 3RT204 ¹⁾	 S3	comprising one basic and one coupling module and an additional module connector ³⁾ for creating an IO-Link group						
		AS-Interface connection comprising one basic and one coupling module	2	3RA2712-1BA00		2	3RA2712-2BA00	
		Assembly kits for making 3-pole contactor assemblies						
		See page 3/110						
SIRIUS	3RA27	' function modules for star-delta (wye-delta) starting ⁴)					
3RT201	S00	IO-Link connection	2	3RA2711-1CA00		2	3RA2711-2CA00	
 3RT204 ¹⁾	 S3	comprising one basic and two coupling modules and an additional module connector ³⁾ for creating an IO-Link group						
		AS-Interface connection comprising one basic and two coupling modules	2	3RA2712-1CA00		2	3RA2712-2CA00	
		Assembly kits for making 3-pole contactor assemblies						
		See page 3/111						

¹⁾ From product version E06 onwards, 3RA271. function modules can be used for 3RT2.4 contactors.

For technical specifications for 3RA27 function modules, see page 3/87.

For contactors with voltage tap-off, see pages 3/61, 3/65, 3/69

For IO-Link masters and AS-Interface masters, routers and power supply units, see "Industrial Communication", from page 2/1 onwards

²⁾ For prewired reversing contactor assemblies with voltage tap-off, see pages 3/163 to 3/166. When these contactor assemblies are used, the assembly kit for the wiring is already integrated.

 $^{^{\}rm 3)}$ 3RA2711-0EE17 module connectors for size S3 must be ordered separately, see page 3/108.

⁴⁾ For complete contactor assemblies for star-delta (wye-delta) starting including function modules, see pages 3/180 to 3/183.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Modules for contactor control

			50-1			ř		8
3RA2711-0EE10	3RA2711-0EE06	3RA2711-0EE15	3RA2910-0	3RA6935-0A		3RA271	1-0EE11	
For function modules	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Туре			d					
Accessories f	or 3RA27 function modules							
3RA271A00	Module connector set Comprising: • Two module connectors, (14-pole, s • Two interface covers	hort)	2	3RA2711-0EE10		1	1 unit	41B
3RA271A00	Module connectors							
	• 14-pole - 6 cm - 9 cm - 13 cm - 26 cm - 33.5 cm		2 2 2 2 2	3RA2711-0EE17 3RA2711-0EE06 3RA2711-0EE18 3RA2711-0EE07 3RA2711-0EE08		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	• 10-pole, 9 cm for the additional auxiliary voltage in	feed	2	3RA2711-0EE16		1	1 unit	41B
	Note: Selection of module connectors, see M Modules for IO-Link".	lanual "SIRIUS 3RA27	711 Function					
3RA271A00	Interface covers (Set of 5)		2	3RA2711-0EE15		1	1 unit	41B
3RA271A00	Sealable covers		2	3RA2910-0		1	5 units	41B
Operator pane	el for communication via IO-Link							
3RA2711A00	Operator panel (set) Comprising: • 1 x operator panel • 1 x enabling module • 1 x interface cover • 1 x fixing terminal		10	3RA6935-0A		1	1 unit	42F
3RA2711A00	Connection cable For connecting the operator panel to t	he coupling module	2	3RA2711-0EE11		1	1 unit	41B
3RA2711A00	Length 2 m, 10- to 14-pole Enabling modules (replacement)		10	3RA6936-0A		1	1 unit	42F
3RA2711A00	Interface covers (replacement)		10	3RA6936-0B		1	5 units	42F
JIMZ/ 11MUU	interface covers (replacement)		10	311A0330-0D		'	Juliilo	441

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Modules for contactor control

For contactors	Rated control supply voltage $U_{\rm S}$	Time setting range <i>t</i>	SD	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
Туре	V	S	d	Article No.	Price per PU			

Mechanical latching blocks (no switching state change in the event of voltage drop)

Size S0

For snapping ont	o the front of contactors						
The contactor rema	ains in the energized state a	after a power fa	ilure.				
3RT202,	24 AC/DC		▶	3RT2926-3AB31	1	1 unit	41B
3RT232, 3RT252	110 AC/DC		5	3RT2926-3AF31	1	1 unit	41B
3111232	230 AC/DC		5	3RT2926-3AP31	1	1 unit	41B

3RT2926-3A.31

OFF-delay devices for contactors with AC/DC and DC operation

Sizes S00 to S3



3RT2916-2B.01

•		
	ì	
	•	

Non-adjustable delay time	e						
3RT2011BF4., 3RT2021BF4., 3RT2031NF3., 3RH21BF40	110 AC/DC	S00: > 0.1 S0: > 0.08 S2: > 0.25	5	3RT2916-2BK01	1	1 unit	41B
3RT2011BM4./1BP4., 3RT2021BM4./1BP4., 3RT2031NP3., 3RH21BM40/1BP40	220/230 AC/DC	S00: > 0.5 S0: > 0.3 S2: > 0.8	5	3RT2916-2BL01	1	1 unit	41B
3RT2011BB4., 3RT2021BB4., 3RT2031NB3., 3RT2041NB3., 3RT2441NB3., 3RH21BB40	24 DC	\$00: > 0.2 \$0: > 0.1 \$2: > 0.1 \$3: > 0.05	2	3RT2916-2BE01	1	1 unit	41B

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Link modules											
Selection and ord	dering d	ata									
	For Size Version		SD				PU (UNIT,	PS*	PG		
	contac Type	tors			d			per PU	SET, M)		
Safety main circu		ctors fo	r two contactors								
1000	3RT2.1		For series connection of two conta	actors		3RA2916-1A			1	1 unit	41B
. 111	3RT2.2				2	3RA2926-1A			1	1 unit	41B
	3RT2.3	S S2			2	3RA2936-1A			1	1 unit	41B
المراما											
3RA2926-1A											
PU (UNIT, SET, M) PS* PG		(unless	otherwise specified)								
	For con-	Size	Version	SD	Article	No.	Price	SD A	Article No.		Price
	tactors Type			d			per PU	d			per PU
Assembly kits for	reversi			u				u			
for making 3-pole	contact	or asser	mblies		0		-		·		0.0
					Screw	terminals	+	,	Spring-type te	rminais	
11111	3RT201	S00-S00	The assembly kit contains: Mechanical interlock,								
3RA2923-2AA1			two connecting clips for two contactors, wiring modules on the top and bottom								
and the same			 For main, auxiliary and control circuits 	; >	3RA29	13-2AA1		▶ 3	RA2913-2AA	2	
HERE	3RT202	S0-S0	The assembly kit contains:								
unce			Mechanical interlock, two connecting clips for two contactors,								
3RA2923-2AA2			wiring modules on the top and bottomFor main, auxiliary and control		3B A 20	23-2AA1					
111-111			circuits ¹⁾		OTTALO	LO LANT					
	3RT203	52-52	Only for main circuit ²⁾ The assembly kit contains:					> 3	RA2923-2AA	2	
	3111203	32-32	Two connectors for two contactors,								
3RA2933-2AA1			wiring modules on the top and bottom (3RA2934-2B mechanical interlock								
			must be ordered separately, see page 3/114)								
			For main and auxiliary circuits	>	3RA29	33-2AA1		-	-		
ALL III	3RT204	62-63	Only for main circuit ³⁾ The assembly kit contains:					5 3	RA2933-2AA	2	
3RA2943-2AA1	3111204	33-33	Two connectors for two contactors,								
511A2943-2AA1			wiring modules on the top and bottom (3RA2934-2B mechanical interlock								
8			must be ordered separately, see page 3/114)								
8			For main and auxiliary circuits	2	3RA29	43-2AA1		-	-		
	3RT1.5	26-26	Only for main circuit ³⁾ The assembly kit contains:	2	 3RA19	52-2A		_	RA2943-2AA RA1953-2A	2	
3RA2943-2AA2		S10-S10	Wiring modules on the top	2	3RA19				RA1963-2A		
000 000	3RT1.7	S12-S12	and bottom	2	3RA19	73-2A		2 3	RA1973-2A		
3RA1953-2A											
1010											
3PA1063.2A											

¹⁾ Use of the 3RA2923-2AA1 assembly kit in conjunction with the 3RT202.-....-3MA0 contactors is limited because the auxiliary switches in the basic unit are not allowed to be used on account of the permanently mounted auxiliary switch block.

3RA1963-2A

²⁾ Version in size S0 with spring-type terminals:
Only the wiring modules for the main circuit are included.
No connecting clips are included for the auxiliary and control circuit.

³⁾ Version in sizes S2 and S3 with spring-type terminals in the auxiliary and control circuits: Only the wiring modules for the main circuit are included. A cable set is included for the auxiliary circuit.

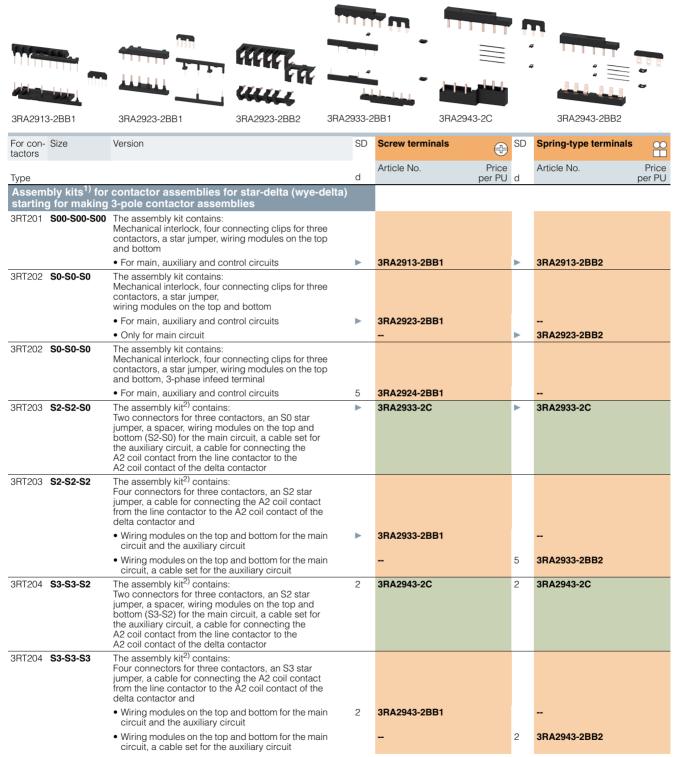
Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

Link modules

PU (UNIT, SET, M) = 1

PS* = 1 unit (unless otherwise specified)

PG = 41B



¹⁾ When using the function modules for contactor assemblies for star-delta (wye-delta) starting, the wiring modules for the auxiliary current are not required.

²⁾ The 3RA2934-2B mechanical interlock for sizes S2 and S3 must be ordered separately, see page 3/114.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Link modules

	For	Size	Version	SD	Article No. Price		PS*	PG
	contactors				per PU	(UNIT, SET, M)		
	Туре	111 6 1		d				
Assembly kits for cont starting for making 3-p	tactor asser pole contact	nblies for sta or assemblie	r-delta (wye-delta) s					
g			The assembly kit contains: link rails at bottom (a double infeed between the line contactor and the delta contactor is recommended.)					
3RA1953-3G	3RT1.5, 3RT204	S6-S6-S3 for connection with box terminal	The S3 star jumper must be ordered separately, see page 3/113.	Х	3RA1953-3G	1	1 unit	41B
	3RT1.5	S6-S6-S6 for connection with box terminal		2	3RA1953-2B	1	1 unit	41B
3RA1953-2B								
	3RT1.5	S6-S6-S6 for connection without box terminal	-	2	3RA1953-2N	1	1 unit	41B
3RA1953-2N	ODT4 C	040 040 00	The CO state in the state of th		0D04000 0F	4	dit	440
3RA1963-3E	3RT1.6, 3RT1.5	S10-S10-S6 for connec- tion with box terminal	The S6 star jumper must be ordered separately, see page 3/113.	20	3RA1963-3E	1	1 unit	41B
	3RT1.6	S10-S10-S10 for connection without box terminal		2	3RA1963-2B	1	1 unit	41B
3RA1963-2B								
3RA1973-3E	3RT1.7, 3RT1.6	S12-S12-S10 for connection with box terminal	The S10 star jumper must be ordered separately, see page 3/113.	20	3RA1973-3E	1	1 unit	41B
	3RT1.7	S12-S12-S12 for connection without box terminal		5	3RA1973-2B	1	1 unit	41B
3RA1973-2B								

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Link modules

PU (UNIT, SET, M) = 1
PS* = 1 unit (unless otherwise specified)
PG = 41B













3RA2913	3-3DA1	3RA2913-3DA2	3RT1933-3D		3RT1916-4BA3	1 3F	RT291	16-4BA32	3RT1936-4BA31
For con- tactors	Size	Version		SD	Article No.	Price er PU		Article No.	Price per PU
Туре				d			d		

laciors						per FO			pei Fu
Type				d		C	b		
	wiring modu king 3-pole d	ıles contactor assemblies							
					Screw terminals	(+)		Spring-type terminals	α
3RT201	S00-S00	Top (in-phase)	PS = 5 units	>	3RA2913-3DA1	5	5	3RA2913-3DA2	
		 Bottom (with phase reversal) 	PS = 5 units	5	3RA2913-3EA1	5	5	3RA2913-3EA2	
3RT202	S0-S0	Top (in-phase)	PS = 5 units	>	3RA2923-3DA1	5	5	3RA2923-3DA2	
		 Bottom (with phase reversal) 	PS = 5 units	5	3RA2923-3EA1	5	5	3RA2923-3EA2	
3RT203	S2-S2	 Top (in-phase), contactor clearance 10 mm 		•	3RA1933-3D		•	3RA1933-3D	
		 Bottom (with phase reversal), Contactor clearance 10 mm 		2	3RA1933-3E	2	2	3RA1933-3E	
3RT204	S3-S3	Top (in-phase), contactor clearance 10 mm		•	3RA1943-3D	•	•	3RA1943-3D	
		 Bottom (with phase reversal), Contactor clearance 10 mm 		5	3RA1943-3E	5	5	3RA1943-3E	
3RT1.5	S6-S6	 Top (in-phase, for connection with box terminal), contactor clearance 10 mm 		2	3RA1953-3D	2	2	3RA1953-3D	
		 Top (with phase reversal, for connection without box terminal), contactor clearance 10 mm 		5	3RA1953-3P	5	5	3RA1953-3P	
Star jur	mpers (links	for paralleling), 3-pole							
					Screw terminals			Spring-type terminals	$\overset{\circ}{\Box}$

		• • • • • • • • • • • • • • • • • • • •				
				Screw terminals	(1)	Spring-type terminals
3RT201	S00	With through-hole	>	3RT1916-4BA31	2	3RT2916-4BA32
3RT202	S0	The links for paralleling can be	>	3RT1926-4BA31	2	3RT2926-4BA32
3RT203	S2	reduced by one pole.	>	3RT1936-4BA31	•	3RT1936-4BA31
3RT204	S3	Without connecting terminal	>	3RT1946-4BA31	•	3RT1946-4BA31
3RT1.5	S6		2	3RT1956-4BA31	2	3RT1956-4BA31
3RT1.6, 3RT1.7	S10, S12		2	3RT1966-4BA31	2	3RT1966-4BA31

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Link modules

	For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре			d					
Mechanical inte for making 3- ar			s for two contactors						
		S00-S00	The interlocking assembly kits can be used without a contactor clearance.		3RA2912-2H		1	10 units	41B
T ***	3RT202,	S0-S0	 One assembly kit consists of a mechanical interlock and two connecting clips. 	>	3RA2922-2H		1	10 units	41B
3RA29.2-2H	3RT232		interious and two commoding empe.						
	For con-	Size	Version	SD	Article No.	Price	PU	PS*	PG
	tactors					per PU	(UNIT, SET, M)		
	Type			d			·		
Mechanical inte	rlocks fo	or contacto	or assemblies						
			A contactor clearance of 10 mm must be considered when using the following mechanical interlocks.						
0		S2-S2-S0,	Mechanical interlocks	>	3RA2934-2B		1	1 unit	41B
		\$2-\$2-\$2, \$3-\$3-\$2, \$3-\$3-\$3	Note: The mechanical interlock for sizes S2 and S3 must be ordered separately.						
3RA2934-2B									
4	3RT1.5 with	S6 (3RT1)- S6 (3RT1)-	Adapter in addition to the mechanical interlock	Х	3RA1954-2G		1	1 unit	41B
		S3 (3RT2)	The mechanical interlock is only possible together with this 3RA1954-2G adapter and the 3RA1954-2A mechanical interlock. Two connectors are included with the adapter, the interlock must be ordered separately.						
3RA1954-2G									
	3RT1.5 3RT1.6		Mechanical interlocks	•	3RA1954-2A		1	1 unit	41B
3RA1954-2A	3RT1.7		Without auxiliary contacts; contactors in sizes S6, S10 and S12 can be interlocked with each other as required. No adaption of mounting depth is necessary.						
Mechanical con	nectors	for contac							
			Two connectors are required for each assembly. The contactor clearance must be considered when selecting the connectors.						
			3-pole version						
0.00	3RT203,		Without contactor clearance	2	3RA2932-2C		1	10 units	41B
3RA1932-2D	3RT204		With 10 mm contactor clearance	>	3RA2932-2D		1	10 units	41B
	3RT105	S6-S6	 With 10 mm contactor clearance (1 unit corresponds to 2 parts for 1 assembly) 	•	3RA1932-2D		1	10 units	41B
			4-pole version						
	3RT233		With 20 mm contactor clearance	2	3RA2932-2G			10 units	41B
100	3RT234.	S3-S3	With 10 mm contactor clearance	W 5	3RA2942-2G		1	10 units	41B
3RA2942-2G									

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Terminal modules/adapters

Selection and o	ordering	data							
	For contactors	Size	Version	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Туре			d	Article No.	Price per PU			
Links for parall	eling for	main	circuits						
			The links for paralleling (insulated) can be reduced by one pole. With connecting terminal						
			3-pole						
3RT1916-4BB31	3RT201	S00	Max. conductor cross-section: 25 mm², stranded	•	3RT1916-4BB31		1	1 unit	41B
3RT2926-4BB31	3RT202	S0	Max. conductor cross-section: 50 mm², stranded	2	3RT2926-4BB31		1	1 unit	41B
	3RT203	S2	• Max. conductor cross-section: 120 mm ² , stranded	•	3RT1936-4BB31		1	1 unit	41B
3RT1936-4BB31 3RT1946-4BB31	3RT204, 3RT244	S3	• Max. conductor cross-section: 185 mm², stranded A cover plate is included for touch protection (can only be used when box terminal is removed).	2	3RT1946-4BB31		1	1 unit	41B
31111940-40031			4-pole						
3RT1916-4BB41	3RT231, 3RT251	S00	Max. conductor cross-section: 25 mm², stranded	15	3RT1916-4BB41		1	1 unit	41B

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Terminal modules/adapters

	For contactors	Size	Version	SD	Article No. Price per PL		PS*	PG
	Туре			d				
Single-phase in	feed term	inals						
3RA2943-3L	3RT204, 3RT244, 3RT264		Conductor cross-section: 95 mm ²	2	3RA2943-3L	1	1 unit	41B
	ood tormi	nale						
Three-phase inf	eed termi	iiais	Infeed terminal blocks for the line contactor					
	3RT201	S00	for large conductor cross-sections Max. conductor cross-section: up to 10 mm ² , AWG 12 8	2	3RA2913-3K	1	10 units	41B
3RA2913-3K								
0 0 0	3RT202	S0	Max. conductor cross-section: up to 25 mm ² , AWG 10 2/0	•	3RV2925-5AB	1	1 unit	41E
3RA2925-5AB								
3RA2935-5A	3RT203	S2	Max. conductor cross-section: up to 70 mm ² , AWG 10 2/0	•	3RV2935-5A	1	1 unit	41E
	eed termi	nals wi	th increased clearances and creepage					
distances	OPTOO	00	.		ODVOQUE EE		4 0	445
3RA2935-5E	3RT203	52	Max. conductor cross-section: up to 70 mm ² , AWG 10 2/0	•	3RV2935-5E	1	1 unit	41E
Three-phase bu	sbars							
3RA1915-1AB	3RT202	S0	Bridging phase-by-phase of all input terminals of the line contactor (Q11) and delta contactor (Q13)	>	3RV1915-1AB	1	1 unit	41E
Terminal blocks	for conn	ecting a	auxiliary conductors to main terminals					
			Box terminal blocks					
			For round and ribbon cables					
			Connectable cross-sections of the contactors, see Technical specifications, page 3/52.					
	3RT1.5	S6	• Up to 70 mm ² , as standard on 3RT1054-1	•	3RT1955-4G	1	1 unit	41B
AM AM /			contactor (55 kW) • Up to 120 mm ²	•	3RT1956-4G	1	1 unit	41B
3RT1956-4G	ODT4 C	010	• Up to 240 mm²		2DT1066 4C		4	440
OPTIONS AS	3RT1.6, 3RT1.7	\$10, \$12	Up to 240 mm ² , With auxiliary conductor connection up to 2.5 mm ²	•	3RT1966-4G	1	1 unit	41B
3RT1966-4G	3RT1.5	S6	Box terminal for auxiliary conductor	5	3TX7500-0A	1	1 unit	41B
No.	51111.5	30	connection, 1-pole	J	017/1000-0A	, '	i uiiit	410
3TX7500-0A			for connection of auxiliary and control cables (0.5 2.5 mm ²) to the main conductor terminals					
4	-		Auxiliary terminals, 3-pole	5	3RT2946-4F	1	1 unit	41B
3RT2946-4F	3RT204	S3	for connection of auxiliary and control cables (0.5 2.5 mm²) to the main conductor terminals					

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Terminal		

						renni	IIai IIIoc	luies/ada	apiers
	For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре			d					
Solder pin adapters up to 5.5 kW / 12 A	s for moun	ting conta	ctors on printed circuit boards						
up to 5.5 kW / 12 A					Screw terminals				
						+			
	3RT2.1, 3RH21	S00	Assembly kit for soldering contactors with an integrated auxiliary contact onto a printed circuit board Note: For 1 contactor, 1 set is required.	2	3RT1916-4KA1		1	4 units	41B
3RT1916-4KA1	3RT2.1, 3RH21	S00	Assembly kit for soldering contactors with 4-pole mounted auxiliary switch block onto a printed circuit board. Note: For 1 contactor, 1 set is required.	5	3RT1916-4KA2		1	4 units	41B
3RT1916-4KA2									
	ndules for a	connection	ns from top or from bottom						
	3RT2.2,		Connection from top	2	3RT2926-4RA11		1	1 unit	41B
A1	3RT2.3, 3RT2.4		Connection from bottom	5	3RT2926-4RB11		1	1 unit	41B
			Connection diagonally	5	3RT2926-4RC11		1	1 unit	41B
3RT2926-4RA11					Spring-type terminals				
3h12920-4hA11	3RT2.2	S0	Connection from top	5	3RT2926-4RA12		1	1 unit	41B
3RT2926-4RA12			Connection from bottom	5	3RT2926-4RB12		1	1 unit	41B
	For contactors	Size	Version	SD	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
	Туре			d	Article No.	Price per PU			
Motor feeder conne		ontactors	with screw terminals			p 0 0			
			Adapters for contactors						
SHE MANUFACTURE OF THE STATE OF	3RT201,	S00	Ambient temperature $t_{\text{u max.}} = 60 ^{\circ}\text{C}$ • Rated operational current I_{e} at	5	3RT1916-4RD01		1	1 unit	41B
	3RH2 3RT202	S0	AC-3/400 V: 20 A • Rated operational current I_e at	5	3RT1926-4RD01		1	1 unit	41B
3RT1926-4RD01			AC-3/400 V: 25 A						
3RT1900-4RE01	3RT201, 3RT202, 3RH2	S00, S0	Motor feeder connectors for contactor	5	3RT1900-4RE01		1	1 unit	41B

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Covers

I										
	Selection and	ordering data								
			For contactors	Size	Version	SD	Article No. Price per PU		PS*	PG
_			Туре			d				
	Terminal cove	ers						_		
					Covers for contactors with screw terminals (box terminals) (2 units required per contactor)					
		4	3RT203		 For 3-pole contactors 	>	3RT2936-4EA2	1	1 unit	41B
	3RT2936-4EA2	3RT2946-4EA2	3RT204, 3RT244			>	3RT2946-4EA2	1	1 unit	41B
	day a	Aug 1	3RT1.5	S6 ¹⁾		•	3RT1956-4EA2	1	1 unit	41B
	OPTION OF A	OPT 1000 IF 10	3RT1.6, 3RT1.7	S10 ¹⁾ , S12 ¹⁾		2	3RT1966-4EA2	1	1 unit	41B
	3RT1956-4EA2	3RT1966-4EA2	3RT233, 3RT253		For 4-pole contactors (Scope of supply: one 3-pole and two 1-pole	5	3RT2936-4EA4	1	1 unit	41B
		# 4	3RT234, 3RT254	S3	terminal covers are supplied)	5	3RT2946-4EA4	1	1 unit	41B
	3RT2936-4EA4	3RT2946-4EA4								
					Covers for contactors with cable lugs and busbar connections					
	M				For complying with the phase clearances and as touch protection if box terminal is removed (2 units required per contactor)					
	3RT1946-4EA1		2DT0_4	60	• Langth, 100 mm	E	2DT1046 4EA1	1	1 unit	41D
	hard all and	Por Por	3RT2.4 3RT1.5	S3 S6 ¹⁾	Length: 100 mmLength: 100 mm) 	3RT1946-4EA1 3RT1956-4EA1	1	1 unit	41B 41B
	3RT1956-4EA1	3RT1966-4EA1	3RT1.6, 3RT1.7	S10 ¹⁾ , S12 ¹⁾	• Length: 120 mm	2	3RT1966-4EA1	1	1 unit	41B
	3RT1956-4EA4				For the assembly kits for 3RA1953 contactor assemblies for star-delta (wye-delta) starting (page 3/112) or for the 3RA1953-3. single-wiring modules (page 3/113)					
			3RT1.5	S6	- Length: 38 mm	2	3RT1956-4EA4	1	1 unit	41B
					Terminal covers with busbar connections • Cover the three busbar connections, between					
	3RT1956-4EA3	3RT1966-4EA3			the contactor and 3RB2 overload relay					
		3N1 1900-4EA3	3RT1.5	S6	- Length: 27 mm	>	3RT1956-4EA3	1	1 unit	41B
			3RT1.6, 3RT1.7	S10 ²⁾ , S12 ²⁾	- Length: 42 mm	2	3RT1966-4EA3	1	1 unit	41B
					 Can be screwed on free screw end; cover one busbar connection (1 set = 6 units) 					
	5		3RT1.5	S6	- M8	5	3TX6526-3B	1	1 unit	41B
	3TX6526-3B	3TX6546-3B	3RT1.6, 3RT1.7	S10, S12	- M10	5	3TX6546-3B	1	1 unit	41B
	Sealable cove									
			3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4, 3RH2 ³⁾	S00 S3	For preventing manual operation (Not suitable for coupling relays)	2	3RT2916-4MA10	1	5 units	41B
	3RT2916-4MA10	3RT1926-4MA10	3RT1.5	S6	=	15	3RT1926-4MA10	1	5 units	41B
			 3RT1.7 ³⁾	S12						
) Also fits on son	taatara of aizon CG			minala 3) Evacr		contactors and contactor relava			

¹⁾ Also fits on contactors of sizes S6 to S12 with box terminals.

²⁾ The 3RT1966-4EA3 cover is required in addition for use in reversing contactor assemblies and contactor assemblies for star-delta (wye-delta) starting.

³⁾ Exception: contactors and contactor relays with auxiliary switch block mounted onto the front.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Miscellaneous accessories

Selection and orderi	ng data							
	For contactors	Size	Version	SD	Article No. Price per PL	UNIT,	PS*	PG
	_					SET, M)		
Base plates	Туре			d				
base plates	For row	orcina conta	otor assamblias					
	3RT1.5	S6	ctor assemblies For customer assembly of reversing	5	3RA1952-2A	1	1 unit	41B
•	3RT1.6	S10	contactor assemblies	5	3RA1962-2A	1	1 unit	41B
*	3RT1.7	S12	-	5	3RA1972-2A	1	1 unit	41B
	•			-				
3RA1952-2A								
	For cor	ntactor assen	nblies for star-delta (wye-delta)	start	ing			
	3RT2/ 3RT2/ 3RT2	S2-S2-S0, S2-S2-S2	For configuring contactor assemblies for star-delta (wye-delta) starting		3RA2932-2F	1	1 unit	41B
3RA2932-2F	SNIZ	S3-S3-S2, S3-S3-S3		3	3RA2942-2F	1	1 unit	41B
3RA2942-2F								
	3RT1/ 3RT1/ 3RT2	S6-S6-S3	For customer assembly of contactor assemblies for star-delta (wye-delta) starting with a laterally mounted	5	3RA1952-2E	1	1 unit	41B
	3RT1/	S6-S6-S6	timing relay	5	3RA1952-2F	1	1 unit	41B
	3RT1/	S10-S10-S6	10 mm distance between the	5	3RA1962-2E	1	1 unit	41B
	3RT1	S10-S10-S10	- contactors	5	3RA1962-2F	1	1 unit	41B
3RA1952-2E		S12-S12-S10	-	5	3RA1972-2E	1	1 unit	41B
		S12-S12-S12		5	3RA1972-2F	1	1 unit	41B
3RA1952-2F								
Adapters for screw fi								
	3RT2.2	S0	Screw adapters for securing the contactors, two units required per contactor	15	3RT1926-4P	1	10 units	41B
3RT1926-4P			(1 pack = 10 sets for 10 contactors)					
EMC suppression mo	odules; tl	hree-phase, u	p to 7.5 kW					
			AC or DC operation		•			
السألسل			·		Screw terminals)		
11117	3RT201	S00	RC elements (3 x 220 Ω/0.22 μF)					
SIEMUS SIRIUS			Up to 400 VUp to 575 VUp to 690 V	2 2	3RT2916-1PA1 3RT2916-1PA2 3RT2916-1PA3	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
* * * * * *	3RT201	S00	Varistors					
3RT2916-1PA.			Up to 400 VUp to 575 VUp to 690 V	2 2 15	3RT2916-1PB1 3RT2916-1PB2 3RT2916-1PB3	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Miscellaneous accessories

	For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре			d					
Additional load modu	les								
3RT2916-1GA00	3RT2.1, 3RH2	S00	For plugging onto the front side of the contactors with or without auxiliary switch blocks For increasing the permissible residual current and for limiting the residual voltage, it ensures the safe opening of contactors with direct control via 230 V AC semiconductor outputs of SIMATIC controllers, simultaneously provides overvoltage damping	•	3RT2916-1GA00		1	1 unit	41B
			Rated voltage: 50/60 Hz AC, 180 255 V Operating range: 0.8 1.1 x U _S						
LED modules for disp	laying c	ontactor ope	ration						<u>.</u>
3RT2926-1QT00	3RT2, 3RT1	S00 S12	For snapping into the location hole of an inscription label on the front of a contactor either directly on the contactor or on the front auxiliary switch. The LED module is connected to coil terminals A1 and A2 of the contactor and indicates its energized state with a yellow LED. Connecting leads need to be extended as required. Rated voltage: 24 240 V AC/DC with reverse polarity protection	5	3RT2926-1QT00		1	5 units	41B
Control kit									
	3RT2.1, 3RH2	S00	For manual operation of contactor contacts, for startup and service	2	3RT2916-4MC00		1	5 units	41B
	3RT2.2	S0	_	2	3RT2926-4MC00		1	5 units	41B
3RT2916-4MC00	3RT2.3, 3RT2.4	S2, S3		2	3RT2936-4MC00		1	5 units	41B

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Miscellaneous accessories

								10 400000	
	For contactors	Size	Version	SD	Article No.	Price er PU	PU (UNIT, SET, M)	PS*	PG
	Type			d			OL I, IVI)		
Inculation atom for an	71	olding boo	k the conductor insulation	u					
for conductors up to		lolullig bac	k the conductor insulation						
					Spring-type terminals	$\stackrel{\infty}{\square}$			
3RT2916-4JA02			Insulation stop strip Can be inserted in cable entry of the spring-type terminal (two strips per contactor required)						
31112910-40A02	3RT2.1, 3RH2	S00	• For basic units, removable individually	5	3RT2916-4JA02		1	20 units	41B
	3RT2.2	S0 S12	For auxiliary and control current on	5	3RT1916-4JA02		1	20 units	41B
3RT1916-4JA02	 3RT2.4, 3RT1, 3RH29		basic units and for mountable 3RH29 auxiliary switches, removable in pairs						
Tools for opening spi	ring-type	e terminals							
	3RT, 3RH	S00 S12	Screwdrivers For all SIRIUS devices with spring-type terminals	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A			Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated						
Blank labels									
			Unit labeling plates For SIRIUS devices 1)						
	3RT2	S00 S3	• 10 mm × 7 mm, titanium gray	20	3RT2900-1SB10		100	816 units	41B
붜붜붜붜			• 20 mm × 7 mm, titanium gray	20	3RT2900-1SB20		100	340 units	41B
	3RT1	S6 S12	• 10 mm × 7 mm, pastel turquoise	15	3RT1900-1SB10		100	816 units	41B
			• 20 mm × 7 mm, pastel turquoise	20	3RT1900-1SB20		100	340 units	41B
3RT2900-1SB20			Adhesive labels For SIRIUS devices						
	3RT2	S00 S3	• 19 mm × 6 mm, titanium gray	5	3RT2900-1SB60		100	3 060 units	41B
	3RT1	S6 S12	• 19 mm × 6 mm						
			- Pastel turquoise	15	3RT1900-1SB60		100	3 060 units	41B
			- Zinc/yellow	15	3RT1900-1SD60		100	3 060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Spare Parts

Solenoid coils

Selection and ordering data

Screw terminals and spring-type terminals



3RT2924-5A.01

					3RT2924-5A.01			
For contactors	Rated control supply vo	9 9	00.11-	SD	Article No. Price per Pl		PS*	PG
	50 Hz	50/60 Hz	60 Hz		· ·	SÈT, M)		
Туре	V	V	V	d				
Solenoid co	ils · AC operation							
Size S0								
3RT2023A, 3RT2024A,	24 42	 	 	5 5	3RT2924-5AB01 3RT2924-5AD01	1 1	1 unit 1 unit	41B 41B
3RT2025A	48 110			5 5	3RT2924-5AH01 3RT2924-5AF01	1	1 unit 1 unit	41B 41B
	230 400		 	5 5	3RT2924-5AP01 3RT2924-5AV01	1	1 unit 1 unit	41B 41B
		24 42		5 5	3RT2924-5AC21 3RT2924-5AD21	1	1 unit 1 unit	41B 41B
	 	48 110		5	3RT2924-5AH21 3RT2924-5AG21	1	1 unit 1 unit	41B 41B
		220 230		5 5	3RT2924-5AN21 3RT2924-5AL21	1	1 unit 1 unit	41B 41B
			24	X	3RT2924-5AC11	1	1 unit	41B
	110		120	5	3RT2924-5AK61	1	1 unit	41B
	220	 100	240 110	5 5	3RT2924-5AP61 3RT2924-5AG61	1	1 unit 1 unit	41B 41B
		200	220	5	3RT2924-5AN61	1	1 unit	41B
		400	440	5	3RT2924-5AR61	1	1 unit	41B
3RT2026A, 3RT2027A,	24 42			5 5	3RT2926-5AB01 3RT2926-5AD01	1	1 unit 1 unit	41B 41B
3RT2028A 3RT2325A,	48 110	 	 	5 5	3RT2926-5AH01 3RT2926-5AF01	1 1	1 unit 1 unit	41B 41B
3RT2326A, 3RT2327A	230 400		 	5 5	3RT2926-5AP01 3RT2926-5AV01	1 1	1 unit 1 unit	41B 41B
3RT2526A		24 42		5 X	3RT2926-5AC21 3RT2926-5AD21	1	1 unit 1 unit	41B 41B
	 	48 110	 	5 5	3RT2926-5AH21 3RT2926-5AG21	1 1	1 unit 1 unit	41B 41B
	 	220 230		5 5	3RT2926-5AN21 3RT2926-5AL21	1 1	1 unit 1 unit	41B 41B
			24	5	3RT2926-5AC11	1	1 unit	41B
	110 220		120 240	5 5	3RT2926-5AK61 3RT2926-5AP61	1	1 unit 1 unit	41B 41B
		100 200	110 220	X 5	3RT2926-5AG61 3RT2926-5AN61	1	1 unit 1 unit	41B 41B
		400	440	5	3RT2926-5AR61	1	1 unit	41B

Note:

Contactors with AC and AC/DC coils have different depths. It is only possible to replace the coils on AC contactors with AC coils. It is not possible to replace the coils on DC contactors.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Spare Parts

Solenoid coils

Screw terminals and spring-type terminals









**		1				700		00		
3RT2934-5A.0	1	3RT2934-5N.31				3RT2944-5A1		3RT2944-5	N.31	J
For contactors	Rated control sup 50 Hz	oply voltage <i>U</i> _s 50/60 Hz	60 Hz	DC	SD		Price r PU	PU (UNIT, SET, M)	PS*	PG
Туре	V	V	V		d			021, 111,		
Solenoid co	ils · AC operatio	on								
Size S2										
3RT203A, 3RT233A,	24 42				5 5	3RT2934-5AB01 3RT2934-5AD01		1 1	1 unit 1 unit	41B 41B
3RT243A, 3RT253A	48				5	3RT2934-5AH01		1	1 unit	41B
3H1233A	110 230				5 5	3RT2934-5AF01 3RT2934-5AP01		1 1	1 unit 1 unit	41B 41B
	400				5	3RT2934-5AV01		1	1 unit	41B
		24 42			5 X	3RT2934-5AC21 3RT2934-5AD21		1 1	1 unit 1 unit	41B 41B
		48 110			5	3RT2934-5AH21 3RT2934-5AG21		1	1 unit 1 unit	41B 41B
		208			5	3RT2934-5AM21		1	1 unit	41B
		220 230			5	3RT2934-5AN21 3RT2934-5AL21		1 1	1 unit 1 unit	41B 41B
	110		120		5	3RT2934-5AK61		1	1 unit	41B
	220		240 480		5 5	3RT2934-5AP61 3RT2934-5AV61		1 1	1 unit 1 unit	41B 41B
	=		600		5	3RT2934-5AT61		1	1 unit	41B
		100 200	110 220		X 5	3RT2934-5AG61 3RT2934-5AN61		1 1	1 unit 1 unit	41B 41B
			277		Χ	3RT2934-5AU61		1	1 unit	41B
Size S3		400	440		5	3RT2934-5AR61		1	1 unit	41B
3RT204A,	24				5	3RT2944-5AB01		1	1 unit	41B
3RT234A, 3RT244A,	42 48				5 5	3RT2944-5AD01 3RT2944-5AH01		1 1	1 unit 1 unit	41B 41B
3RT254A	110				5	3RT2944-5AF01		1	1 unit	41B
	230 400				5 5	3RT2944-5AP01 3RT2944-5AV01		1 1	1 unit 1 unit	41B 41B
		24			5	3RT2944-5AC21		1	1 unit	41B
		42 48			5 5	3RT2944-5AD21 3RT2944-5AH21		1 1	1 unit 1 unit	41B 41B
		110			5	3RT2944-5AG21		1	1 unit	41B
		220 230			5 5	3RT2944-5AN21 3RT2944-5AL21		1 1	1 unit 1 unit	41B 41B
	110		120		5	3RT2944-5AK61		1	1 unit	41B
	220		240 480		5 5	3RT2944-5AP61 3RT2944-5AV61		1 1	1 unit 1 unit	41B 41B
			600		5	3RT2944-5AT61		1	1 unit	41B
		100 200	110 220		5 5	3RT2944-5AG61 3RT2944-5AN61		1	1 unit 1 unit	41B 41B
Colonaid	 ils · AC/DC oper	400	440		5	3RT2944-5AR61		1	1 unit	41B
Size S2	ils · Ac/DC opei	iation, with van	Stoi			l				
3RT203N,		20 33		20 33	5	3RT2934-5NB31		1	1 unit	41B
3RT233N		30 42 48 80		30 42 48 80	X 5	3RT2934-5ND31 3RT2934-5NE31		1 1	1 unit 1 unit	41B 41B
		83 155		83 155	X	3RT2934-5NF31		1	1 unit	41B
0: 00		175 280		175 280	5	3RT2934-5NP31		1	1 unit	41B
Size S3 3RT204N,		20 33		20 33	5	3RT2944-5NB31		1	1 unit	41B
3RT234N,		30 42		30 42	5	3RT2944-5ND31		1	1 unit	41B
3RT244N, 3RT254N		48 80 83 155		48 80 83 155	5 5	3RT2944-5NE31 3RT2944-5NF31		1 1	1 unit 1 unit	41B 41B
		175 280		175 280	5	3RT2944-5NP31		i	1 unit	41B

Note:

It is only possible to replace the coils on AC contactors with AC coils, and on AC/DC contactors with AC/DC coils.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays **Spare Parts**

Solenoid coils

PU (UNIT, SET, M) = 1 = 1 unit= 41B

For	contactors	Rated control supply voltage	SD	Screw terminals		SD	Spring-type terminals	8
		$U_{\rm S}$		Article No.	Price		Article No.	Price
Siz	е Туре	V	d		per PU	d		per PU

3RT1955-5AR31

3RT1955-5AS31

3RT1955-5AT31

3RT1975-5AT31

5

5

5

5

5

Withdrawable coils 3RT1955-5A.31

Standard operating mechanism for AC/DC 3RT105.

3RT145

3RT106

S6

S10

23 ... 26 AC/DC 42 ... 48 AC/DC 110 ... 127 AC/DC 200 ... 220 AC/DC 220 . 240 AC/DC 240 ... 277 AC/DC 380 420 AC/DC 440 ... 480 AC/DC 500 ... 550 AC/DC 575 .. 600 AC/DC

23 ...

3RT1955-5AR31 5 5 3RT1955-5AB32 3RT1955-5AD31 3RT1955-5AD32 3RT1955-5AF31 3RT1955-5AF32 3RT1955-5AM31 5 3RT1955-5AM32 3RT1955-5AP31 5 3RT1955-5AP32 3RT1955-5AU31 3RT1955-5AU32 3RT1955-5AV31 3RT1955-5AV32



. 26 AC/DC . 48 AC/DC 42 3RT146 110 ... 127 AC/DC 200 ... 220 AC/DC 220 240 AC/DC ... 277 AC/DC 380 420 AC/DC 440 ... 480 AC/DC

3RT1965-5AB31 5 3RT1965-5AB32 3RT1965-5AD31 3RT1965-5AD32 3RT1965-5AF31 5 3RT1965-5AF32 3RT1965-5AM31 5 3RT1965-5AM32 3RT1965-5AP31 5 3RT1965-5AP32 3RT1965-5AU31 3RT1965-5AU32 3RT1965-5AV31 3RT1965-5AV32 3RT1965-5AR31 3RT1965-5AR32 3RT1965-5AS31 5 3RT1965-5AS32 3RT1965-5AT31 5 3RT1965-5AT32

5

5

5

5

3RT1955-5AR32

3RT1955-5AS32

3RT1955-5AT32

3RT1975-5AB32 3RT1975-5AD32

3RT1975-5AF32

3RT1955-5A.32

S12	3RT107,	23 26 AC/DC	5	3R11975-5AB31
	3RT147	42 48 AC/DC	5	3RT1975-5AD31
		110 127 AC/DC	5	3RT1975-5AF31
		200 220 AC/DC	5	3RT1975-5AM31
		220 240 AC/DC	5	3RT1975-5AP31
		240 277 AC/DC	5	3RT1975-5AU31
		380 420 AC/DC	5	3RT1975-5AV31
		440 480 AC/DC	5	3RT1975-5AR31
		500 550 AC/DC	5	3RT1975-5AS31

575 ... 600 AC/DC

500 ... 550 AC/DC

575 ... 600 AC/DC





Solid-state operating mechanism for AC/DC with 24 V DC control signal input e.g. for control by PLC

S6	3RT105, 3RT145	21 27.3 AC/DC 96 127 AC/DC 200 277 AC/DC	5 5 5	3RT1955-5NB31 3RT1955-5NF31 3RT1955-5NP31	5 5 5	3RT1955-5NB32 3RT1955-5NF32 3RT1955-5NP32
S10	3RT106, 3RT146	21 27.3 AC/DC 96 127 AC/DC 200 277 AC/DC	5 5 5	3RT1965-5NB31 3RT1965-5NF31 3RT1965-5NP31	5 5 5	3RT1965-5NB32 3RT1965-5NF32 3RT1965-5NP32
S12	3RT107, 3RT147	21 27.3 AC/DC 96 127 AC/DC 200 277 AC/DC	5 5 5	3RT1975-5NB31 3RT1975-5NF31 3RT1975-5NP31	5 5 5	3RT1975-5NB32 3RT1975-5NF32 3RT1975-5NP32

5

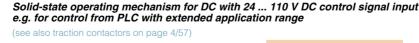


3RT1955-5N.31

3RT1955-5P.31

Additionally with PLC relay output and remaining lifetime indicator (RLT)

		erally mounted solid-state	9		
S6	3RT105, 3RT145	96 127 AC/DC 200 277 AC/DC	5 5	3RT1955-5PF31 3RT1955-5PP31	
S10	3RT106, 3RT146	96 127 AC/DC 200 277 AC/DC	5 5	3RT1965-5PF31 3RT1965-5PP31	
S12	3RT107, 3RT147	96 127 AC/DC 200 277 AC/DC	5 5	3RT1975-5PF31 3RT1975-5PP31	=





(see also	(see also traction contactors on page 4/57)								
S6	3RT105X 0LA2	24 DC 72 DC 110 DC	- - -	5 5 5	3RT1955-5XB42 3RT1955-5XJ42 3RT1955-5XF42				
S10	3RT106X 0LA2	24 DC 72 DC 110 DC	 	5 5 5	3RT1965-5XB42 3RT1965-5XJ42 3RT1965-5XF42				
S12	3RT107X 0LA2	24 DC 72 DC 110 DC	 	5 5 5	3RT1975-5XB42 3RT1975-5XJ42 3RT1975-5XF42				

Note:

In the case of 3RT10..-. S contactors with fail-safe control inputs, removing and replacing the operating mechanism are not permitted.

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Spare Parts

Contacts and arc chambers

Selection a	and order	ing data							
	For contactors		Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Туре		d					
Contacts v	vith fixing	parts							
	For cont	actors wit	th 3 main contacts		_				
	S2	3RT2035 3RT2036 3RT2037 3RT2038	Main contacts (3 NO contacts) for utilization category AC-3 (1 set = 3 movable and 6 fixed switching elements with fixing parts)	5 5 5 5	3RT2935-6A 3RT2936-6A 3RT2937-6A 3RT2938-6A		1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
	S3	3RT2045 3RT2046 3RT2047	_	5 5 5	3RT2945-6A 3RT2946-6A 3RT2947-6A		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RT2946A	S6	3RT1054 3RT1055 3RT1056	_	>	3RT1954-6A 3RT1955-6A 3RT1956-6A		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	S10	3RT1064 3RT1065 3RT1066	_	>	3RT1964-6A 3RT1965-6A 3RT1966-6A		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	S12	3RT1075 3RT1076		2	3RT1975-6A 3RT1976-6A		1 1	1 unit 1 unit	41B 41B
	S3	3RT2446 3RT2448	Main contacts (3 NO contacts) for utilization category AC-1	NEW 5 NEW 5	3RT2946-6D 3RT2948-6D		1 1	1 unit 1 unit	41B 41B
	S6	3RT1456	(1 set = 3 movable and 6 fixed switching	5	3RT1956-6D		1	1 unit	41B
	S10	3RT1466 3RT1467	elements with fixing parts)	5 NEW 10	3RT1966-6D 3RT1967-6D		1 1	1 unit 1 unit	41B 41B
	S12	3RT1476	_	5	3RT1976-6D		1	1 unit	41B
	For cont	actors wit	th 4 main contacts						
3RT2936-6E	\$2	3RT2336 3RT2337	Main contacts (4 NO contacts) for utilization category AC-1 (1 set = 3 movable and 6 fixed switching elements and spare pole with fixing parts)	X X	3RT2936-6E 3RT2937-6E		1	1 unit 1 unit	41B 41B
Arc chamb	ore								
Arc chaille		antore wit	th 3 main contacts		1				
	S6	3RT1054 3RT1055 3RT1056 3RT1456	Only for contactors with AC/DC coil	5 5 5 5	3RT1954-7A 3RT1955-7A 3RT1956-7A 3RT1956-7B		1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
	S10	3RT1064 3RT1065 3RT1066 3RT1466	_	5 5 5	3RT1964-7A 3RT1965-7A 3RT1966-7A 3RT1966-7B		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
	S12	3RT1075 3RT1076 3RT1476		5 5 5	3RT1975-7A 3RT1976-7A 3RT1976-7B		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

SIRIUS 3RT12 and 3TF6 vacuum contactors

Overview

Vacuum contactors

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1,

IEC/EN 60947-5-1 (auxiliary switches)

The SIRIUS 3RT12 and 3TF68/3TF69 vacuum contactors are suitable for use in any climate. They are finger-safe according to IEC 60529. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices (see pages 3/118 and 3/139).

Connection methods

The vacuum contactors are available with screw terminals (box terminals).

Contact reliability

If voltages \leq 110 V and currents \leq 100 mA are to be switched, the auxiliary contacts of the vacuum contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents \geq 1 mA at a voltage \geq 17 V.

Short-circuit protection

For short-circuit protection of the vacuum contactors with or without overload relays, refer to the Manuals and Configuration Manuals, see "More information" on page 3/127.

Electromagnetic compatibility (EMC)

The contactors with solid-state operating mechanism comply with the international standards IEC/EN 60947-1 and IEC/EN 60947-4-1.

These contactors have been developed for environment A.

Note:

Environment A refers to private low-voltage or industrial networks/locations/plants, including high-grade sources of interference.

Environment A corresponds to devices of Class A with CISPR 11, EN 55011.

Note:

In connection with converters, the control cables must be routed separately from the load cables to the converter.

Motor protection

For protection against overload, 3RB2 electronic overload relays (see page 7/117 onwards) can be mounted on the vacuum contactors. These must be ordered separately.

Ratings of three-phase motors

The quoted rating (in kW) refers to the output power on the motor shaft (according to the nameplate).

The power rating specifications of the vacuum contactors in kW are guide values for 4-pole standard motors at 50 Hz AC and specified voltage (e.g. 400 V). The specific starting and rated data of the motor to be switched are decisive when it comes to selecting the right devices, and the motor current, motor protection device and the permissible contactor current according to the utilization category must be aligned with each other when doing so.

Surge suppression

The vacuum contactors can be retrofitted with varistors for damping opening overvoltages in the coil.

Note:

The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (varistor +2 to 5 ms)

Vacuum contactors are basically unsuitable for switching DC voltage.

SIRIUS 3RT12 vacuum contactors, 3-pole, 110 to 250 kW

AC/DC operation

The contactors can be operated with AC (50 to 60 Hz) as well as with DC.

Two types of solenoid operation are available:

- Standard operating mechanism with economy circuit for AC and DC operation (switchover from closing coil to holding coil), version 3RT12..-A
- Solid-state operating mechanism, version 3RT12..-.N

Withdrawable coils

For simple coil replacement, e.g. if the application is replaced, the solenoid coil can be pulled out upwards after the release mechanism has been actuated and can be replaced by any other coil of the same size.

Vacuum interrupters

In contrast to the 3RT10 contactors – the main contacts operate in air under atmospheric conditions – the contact gaps of the 3RT12 vacuum contactors are contained in hermetically enclosed vacuum interrupters. Neither arcs nor arcing gases are produced. The particular benefit of 3RT12 vacuum contactors, however, is that their electrical endurance is at least twice as long as that of 3RT10 contactors. They are therefore particularly well suited to frequent switching in inching/mixed operation, e.g. in crane control systems.

Auxiliary contact complement

The 3RT12 vacuum contactors of sizes S10 to S12 are supplied with laterally mounted auxiliary switch blocks. These can be fitted with up to eight lateral auxiliary contacts (identical auxiliary switch blocks for S10 and S12). Of these, no more than four are permitted to be NC contacts.

3TF6 vacuum contactors, 3-pole, 335 to 450 kW

Main contacts

Contact erosion indication with 3TF68/3TF69 vacuum contactors: The contact erosion of the vacuum interrupters can be checked during operation with the help of three white double slides on the contactor base. If the distance indicated by one of the double slides is < 0.5 mm while the contactor is in the closed position, the vacuum interrupter must be replaced. To ensure maximum reliability, it is recommended to replace all three vacuum interrupters simultaneously.

SIRIUS 3RT12 and 3TF6 vacuum contactors

Auxiliary contacts

Contact reliability:

These auxiliary contacts are particularly suitable for solid-state circuits with currents \geq 1 mA at a voltage \geq 17 V.

Protection of the main current paths

An integrated RC varistor connection for the main current paths dampens the switching overvoltage rises to safe values. This prevents multiple restricting. It can therefore be assumed that the motor winding cannot be damaged by switching overvoltages with steep voltage rises.

During operation in installations in which the emitted interference limits cannot be observed, e.g. when used for output contactors in converters, 3TF68/3TF69... **Q** vacuum contactors – without connection of the main current path circuit – are recommended.

Technical specifications

Unless otherwise listed on subsequent pages, the technical specifications of the SIRIUS 3RT12 vacuum contactors correspond to those of the 3RT10 basic units, see pages 3/23, and 3/48 to 3/54.

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16137/td

AQs, see

https://support.industry.siemens.com/cs/ww/en/ps/16137/faq

System Manual, see "SIRIUS – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", see https://support.industry.siemens.com/cs/ww/en/view/60306557

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Configuration Manual "Load Feeders – Configuring the SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/3971418

Configuration Manual "Configuring SIRIUS Innovations UL", see https://support.industry.siemens.com/cs/ww/en/view/53433538

Type Size

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching resistive and inductive AC loads (AC-1/AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current $I_{\rm e}$ complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

If the contacts are used for <u>mixed operation</u>, i.e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

X Contact endurance for mixed operation in operating cycles

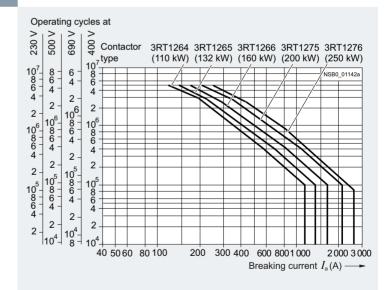
A Contact endurance for normal operation

 $(I_a = I_e)$ in operating cycles 3 Contact endurance for inching

 $(I_a = \text{multiple of } I_e)$ in operating cycles

C Inching operations as a percentage of total switching operations

SIRIUS vacuum contactors 3RT12 S10 and S12



SIRIUS 3RT12 and 3TF6 vacuum contactors

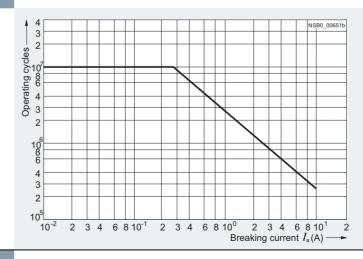
Time		Vacuum contacto	ors	
Type				
Size		14	COD47 F 1	
Rated data of the auxiliary contacts		According to IEC	60947-5-1	
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690		
Conventional thermal current I_{th} = rated operational current I_e /AC-12	Α	10		
AC load Rated operational current I_e /AC-15/AC-14 • For rated operational voltage U_e				
- At 24 V - At 110 V - At 125 V - At 220 V - At 230 V	A A A A	10 10 10 6 5.6		
- At 380 V - At 400 V - At 500 V - At 660 V - At 690 V	A A A A	4 3.6 2.5 2.5 2.3		
DC load Rated operational current <i>I_e</i> /DC-12 • For rated operational voltage <i>U_e</i>				
- At 24 V - At 60 V - At 110 V - At 125 V	A A A	10 10 3.2 2.5		
- At 220 V - At 440 V - At 600 V	A A A	0.9 0.33 0.22		
Rated operational current <i>I_e</i> /DC-13 • For rated operational voltage <i>U_e</i>			Auxiliary contacts with delayed NC contact:	N S = No specification
- At 24 V - At 60 V - At 110 V - At 125 V	A A A	10 5 1.14 0.98	6 N S 0.98 N S	
- At 220 V - At 440 V - At 600 V	A A A	0.48 0.13 0.07	N S N S 0.07	
® and ® rated data of the auxiliary co	ntacts	6		
Rated voltage, max.	VA	C 600		

Hated voitage, max.	V AC 600
Switching capacity	A 600, P 600

Endurance of the auxiliary contacts

The contact endurance for utilization category AC-12 or AC-15/AC-14 depends mainly on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The characteristic curves apply to 230 V AC.



Contact erosion indication with vacuum contactors

The contact erosion of the vacuum interrupters can be checked during operation with the help of three white double slides on the contactor base.

If the distance indicated by one of the double slides is < 0.5 mm while the contactor is in the closed position, the vacuum interrupter must be replaced. To ensure maximum reliability, it is recommended to replace all three vacuum interrupters at once.

SIRIUS 3RT12 and 3TF6 vacuum contactors

	Vacuum contactors
Type	3TF6
Size	14

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching resistive and inductive AC loads (AC-1/AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current $I_{\rm e}$ complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

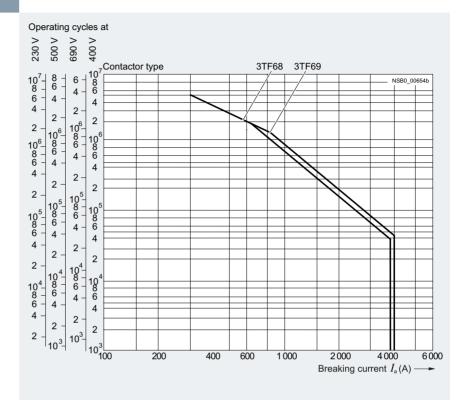
If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

- Contact endurance for mixed operation in operating cycles
- 4 Contact endurance for normal operation $(I_a = I_e)$ in operating cycles
- B Contact endurance for inching $(I_a = \text{multiple of } I_e)$ in operating cycles
- C Inching operations as a percentage of total switching operations



Type Size		SIRIUS vacuum contactors 3RT126 S10	3RT127 S12	Vacuum contacto 3TF68 14	rs 3TF69
General data					
Dimensions (W x H x D)	mm	145 x 210 x 206	160 x 214 x 225	230 x 276 x 237	230 x 295 x 237
Permissible mounting position		22,5°, 22,5° 22,5°, 22,5° §		22,5°	_22,5°
The contactors are designed for operation on a vertical mounting surface.		NS BO. OOS		90° 90°	NSB0_0064
To easily replace the laterally mounted auxiliary switches it is recommended to maintain a minimum distance of 30 mm between the contactors.		No		Yes	
 If mounted at a 90° angle (current paths are horizontally above each other), the switching frequency is reduced by 80% compared with the normal values. 		No		Yes	
Mechanical endurance	Operating cycles	10 million		5 million	
Electrical endurance					
Contact endurance of the main contacts		See page 3/127		See above	
Rated insulation voltage <i>U</i> _i (pollution degree 3)	kV	1			
Rated impulse withstand voltage $U_{\rm imp}$	kV	8			
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	690		1 000	
Mirror contacts	-	Yes, acc. to IEC 60947-4-1, Ap	pendix F	Yes, acc. to IEC 60	947-4-1, Appendix
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.				One NC contact ea connected in series auxiliary switch blo	s for the left and righ

Туре		SIRIUS vacuum contactors 3RT126	3RT127	Vacuum contacto 3TF68	rs 3TF69
Size		S10	S12	14	
General data (continued)					
Permissible ambient temperature					
During operationDuring storage	°C	-25 +60 -55 +80		-25 +55 ¹⁾ -55 +80	
Degree of protection acc. to IEC 60529					
On front		IP00 (IP20 with box terminal/cover)		2)3)	
Connecting terminal		IP00 (for higher degree of prote	ection, use additional	terminal covers)	
Touch protection acc. to IEC 60529		Finger-safe for vertical touching	g from the front with c	over	
Shock resistance					
Rectangular pulseAC operationDC operation	g/ms g/ms	8.5/5 and 4.2/10 8.5/5 and 4.2/10		8.1/5 and 4.7/10 9/5 and 5.7/10	9.5/5 and 5.7/10 8.6/5 and 5.1/10
Sine pulseAC operationDC operation	g/ms g/ms	13.4/5 and 6.5/10 13.4/5 and 6.5/10			13.5/5 and 7.8/10 13.5/5 and 7.8/10
Electromagnetic compatibility (EMC)		See page 3/126			
Short-circuit protection					
Main circuit					
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1					
Type of coordination "1"	Α	500	800	1 000	1 250
Type of coordination "2"	Α	500	800	500	630
Weld-free (test conditions acc. to IEC 60947-4-1)	Α	400	500	400	500
Auxiliary circuit					
Short-circuit test					
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at I_k ≤ 1 kA) 	Α	10			
• Miniature circuit breaker with C characteristic (short-circuit current $I_{\rm k} \! \leq \! 400$ A)	А	10			
Short-circuit protection for contactors with overload relays	3	See Configuration Manual for Id	oad feeders		

¹⁾ For ambient temperatures > 55 °C, only 3TF6.33-.Q..-Z A02 contactors (= without connection of the main current path circuits) can be used. Then, derating is also possible with these contactors: - AC-1: $I_{\rm e}$ = 782 A, 644 operating cycles/h; - AC-3: Operating range 0.85 to 1.05 × $U_{\rm s}$, 460 operating cycles/h, mech. endurance 5 million operating cycles, lateral clearance 10 mm.

- $^{2)}\,$ The following applies for 3TF6.-.C..:
 - IP00 without cover (the connecting bar is reached directly from the front)
 - IP00 with cover for conductor entry
 - IP20 on the front plate with cover.
- 3) The following applies for 3TF6.-.Q../-.D..:
 - IP00 without box terminal (the connecting bar, series resistor and the 3TC44 reversing contactor are reached directly from the front)
 - IP00 with box terminal (the series resistor and the 3TC44 reversing contactor are reached directly).

		SIRIUS vacuum	contactors	Vacuum contactors	
Туре		3RT126	3RT127	3TF68	3TF69
Size		S10	S12	14	
Control					
Solenoid coil operating range	AC/DC	0.8 x <i>U</i> _{s min} 1.1	x U _{s may}		
Power consumption of the solenoid coils		3111111	- 3 IIIdA		
(for cold coil and 1.0 x $U_{\rm s}$)					
		Standard operatir	ng mechanism		
• AC operation		F00/000	700/000		
- Closing at $U_{\text{s min}}/U_{\text{s max}}$ - P.f.	VA	530/630 0.9	700/830		
 Closed at U_{s min}/U_{s max} 	VA	6.1/7.4	7.6/9.2		
- P.f.		0.9			
DC operation Closing at I =	W	580/780	770/920		
- Closing at $U_{\rm Smin}/U_{\rm Smax}$ - Closed at $U_{\rm Smin}/U_{\rm Smax}$	W	6.8/8.2	8.5/10		
		Solid-state opera	ting mechanism		
AC operation					
- Closing at $U_{\text{s min}}/U_{\text{s max}}$ - P.f.	VA	420/570 0.8	560/750	1 200/1 850 1	600/950 0.98
- Closed at $U_{\rm smin}/U_{\rm smax}$	VA	5.5/8.5	5.6/9	13.5/49	12.9/30.6
- P.f.		0.5/0.4		0.15	0.31
 AC operation for 3TF68/3TF69Q Closing at U_{s min} 	VA			1 000	1 150
- P.f.	VA			0.99	1 150
- Closed at U _{s min}	VA			11	
- P.f.				1	
 DC operation Closing at U_{e min}/U_{e max} 	W	460/630	600/800		
- Closing at $U_{\rm s~min}/U_{\rm s~max}$ - Closed at $U_{\rm s~min}/U_{\rm s~max}$	W	2.8/3.4	3/3.6		
DC economy circuit ¹⁾	10/			1.010	000
- Closing at $U_{\rm S\ min}$ - Closed at $U_{\rm S\ min}$	W			1 010 28	960 20.6
PLC control input acc. to IEC 61131-2		Type 2			
Rated voltage	V DC	24			
Operating range	V DC	17 30			
Power consumption	mA	≤ 30			
Operating times				(Values apply to cold	and warm coil)
(Total break time = Opening delay + Arcing time)		0			
• For 0.9 v // 1.1 v //		Standard operating	ng mechanism		
 For 0.8 x U_{s min} 1.1 x U_{s max} Closing delay 	ms	30 95	45 100		
- Opening delay	ms	40 80	60 100		
• For $U_{\text{s min}} \dots U_{\text{s max}}$		05 50	FO 70		
- Closing delay - Opening delay	ms ms	35 50 50 80	50 70 70 100		
opening and,		Solid-state opera		(Values in brackets a	pply to contactor
		actuated via A1/A		with reduced operation	
AC operation at 0.8 x U _{s min} 1.1 x U _{s max}		105 145	100 150	70 100 (00 05)	00 100
- Closing delay - Opening delay	ms ms	105 145 80 100	120 150	70 120 (22 65) 70 100	80 120 70 80
• AC operation for 3TF68/3TF69 Q at $U_{\rm s \; min}$					
(including reversing contactor)				05 00	45 400
- Closing delay - Opening delay	ms ms			35 90 65 90	45 160 30 80
• AC operation at $U_{s min} \dots U_{s max}$	1110			55 55	55 66
- Closing delay	ms	110 130	125 150	80 100 (30 45)	85 100
- Opening delay	ms	80 100		70 100	70
		Solid-state opera			
• For 0.8 x <i>U</i> _{s min} 1.1 x <i>U</i> _{s max}		doludied via i LU	put		
- Closing delay	ms	45 80	60 90		
- Opening delay	ms	80 100			
 DC economy circuit for 0.8 x U_{s min} 1.1 x U_{s max} Closing delay 	ms			76 110	86 280
- Opening delay	ms			50	19 25
• For $U_{s, min} \dots U_{s, max}$		50 05	05 05		
- Closing delay - Opening delay	ms ms	50 65 80 100	65 80	 	
 DC economy circuit for U_{s min} U_{s max} 	1110	30 100			
- Closing delay	ms			80 90	90 125
- Opening delay	ms			50	19 25
Arcing time	ms	10 15		10 15	10
Minimum command duration For closing Standard Reduced make-tir	ms ne ms			120 90	
Minimum interval time between two ON commands				100	300
william interval time between two ON Commands	ms			100	300

 $^{^{1)}}$ At 24 V DC; for further voltages, deviations of up to $\pm\,10$ % are possible.

			SIRIUS v	acuum co	ntactors			Vacuum o	contactors
Туре			3RT1264	3RT1265	3RT1266	3RT1275	3RT1276	3TF68	3TF69
Size			S10			S12		14	
Rated data of the main conta	cts								
Load rating with AC			_						
Utilization category AC-1 Switching resistive loads									
 Rated operational currents I_e 	- At 40 °C up to 690 V - At 40 °C up to 1 000 V	Α	330 330			610 610		700	910
	- At 55 °C up to 690 V - At 55 °C up to 1 000 V - At 60 °C up to 1 000 V	A A A	 300			550		630 450	850 800
Rated power	71.00 0 up to 1 000 v	, ,	At 60 °C			At 60 °C		At 55 °C	At 55 °C
for AC loads 1)	- At 230 V	kW	113			208		240	323
with p.f. = 0.95	- At 400 V	kW	197			362		415	558
	- At 500 V	kW	246			452		545	735
	- At 690 V - At 1 000 V	kW kW	340 492			624 905		720 780	970 1 385
Minimum conductor	- At 1000 v	mm ²	185			905 2 x 185		2 x 240	
cross-section for loads with $I_{\rm e}$	- At 40 °C		100			2 X 165		2 X 240	$I_e \ge 800 \text{ A}$: 2 x 60 x 5 (copper busbars
	- At 55 °C	mm ²						2 x 185	I _e < 800 A: 2 x 240
	- At 60 °C	mm ²	185			2 x 185			
Utilization categories AC-2 and A									
 Rated operational currents I_e 	- Up to 690 V	A		OCE	200	400	F00	630	820
5	- Up to 1 000 V	A	225	265	300	400	500	435	580
 Rated power for slipring or squirrel-cage 	- At 230 V - At 400 V	kW kW	73 128	85 151	97 171	132 231	164 291	200 347	260 450
motors at 50 Hz and 60 Hz	- At 500 V	kW	160	189	215	291	363	434	600
	- At 690 V	kW	223	265	288	400	507	600	800
	- At 1 000 V	kW	320	378	428	578	728	600	800
Thermal load capacity, 10 s currer		Α	1 800	2 120	2 400	3 200	4 000	5 040	7 000
Power loss per conducting path a	<u> </u>	W	9	12	14	21	32	45	70
Utilization category AC-4 (for $I_a =$	$6 \times I_{\rm e}$)								
Maximum values:									
 Rated operational current I_e 	- Up to 690 V	Α	195	230	280	350	430	610	690
 Rated power for squirrel-cage motors with 50 Hz and 60 Hz 	- At 400 V	kW	110	132	160	200	250	355	400
The following applies to a contact e	indurance of about								
200 000 operating cycles:	ilidulance of about								
	- Up to 690 V	A	97	115	140	175	215	300	360
200 000 operating cycles: • Rated operational currents I_e	- Up to 690 V - Up to 1 000 V	Α	68	81	98	123	151	210	250
 Rated operational currents I_e Rated power 	- Up to 690 V - Up to 1 000 V - At 230 V	A kW	68 30	81 37	98 45	123 56	151 70	210 97	250 110
• Rated operational currents $I_{\rm e}$	- Up to 690 V - Up to 1 000 V	Α	68	81	98	123	151	210 97 168 210 ²⁾	250 110 191 250 ²⁾
 Rated operational currents I_e Rated power for squirrel-cage motors 	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V	A kW kW kW	68 30 55 68 94	81 37 65 81 112	98 45 79 98 138	123 56 98 124 172	151 70 122 153 212	210 97 168 210 ²⁾ 278 ²⁾	250 110 191 250 ²⁾ 335 ²⁾
• Rated operational currents I_e • Rated power for squirrel-cage motors with 50 Hz and 60 Hz	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V	A kW kW kW	68 30 55 68	81 37 65 81	98 45 79 98	123 56 98 124	151 70 122 153	210 97 168 210 ²⁾	250 110 191 250 ²⁾
• Rated operational currents I_e • Rated power for squirrel-cage motors with 50 Hz and 60 Hz Switching frequency	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V	A kW kW kW	68 30 55 68 94	81 37 65 81 112	98 45 79 98 138	123 56 98 124 172	151 70 122 153 212	210 97 168 210 ²⁾ 278 ²⁾	250 110 191 250 ²⁾ 335 ²⁾
• Rated operational currents I_e • Rated power for squirrel-cage motors with 50 Hz and 60 Hz • Switching frequency • Switching frequency z in operating	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V	A kW kW kW	68 30 55 68 94	81 37 65 81 112	98 45 79 98 138	123 56 98 124 172	151 70 122 153 212	210 97 168 210 ²⁾ 278 ²⁾	250 110 191 250 ²⁾ 335 ²⁾
• Rated operational currents I_e • Rated power for squirrel-cage motors with 50 Hz and 60 Hz • Switching frequency Switching frequency z in operating Contactors without overload relays	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V	A kW kW kW kW	68 30 55 68 94 95	81 37 65 81 112 114	98 45 79 98 138 140	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²⁾ 278 ²⁾	250 110 191 250 ²⁾ 335 ²⁾
• Rated operational currents I_e • Rated power for squirrel-cage motors with 50 Hz and 60 Hz • Switching frequency Switching frequency z in operating Contactors without overload relays	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V g cycles/hour	A kW kW kW kW	68 30 55 68 94 95	81 37 65 81 112 114	98 45 79 98 138	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²⁾ 278 ²⁾ 290 ²⁾	250 110 191 250 ²) 335 ²) 350 ²)
Rated operational currents I _e Rated power for squirrel-cage motors with 50 Hz and 60 Hz Switching frequency Switching frequency z in operating Contactors without overload relays	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V	A kW kW kW kW hW	68 30 55 68 94 95 Standard Solid-stat	81 37 65 81 112 114	98 45 79 98 138 140 mechanisr	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²) 278 ²) 290 ²)	250 110 191 250 ²⁾ 335 ²⁾
• Rated operational currents I _e • Rated power for squirrel-cage motors with 50 Hz and 60 Hz • Switching frequency • Switching frequency z in operating Contactors without overload relays • No-load switching frequency	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V g cycles/hour - AC/DC - AC	A kW kW kW kW hW	68 30 55 68 94 95 Standard Solid-stat	81 37 65 81 112 114 operating	98 45 79 98 138 140 mechanisr	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²) 278 ²) 290 ²) 2 000 1 000	250 110 191 250 ²) 335 ²) 350 ²)
Rated operational currents I _e Rated power for squirrel-cage motors with 50 Hz and 60 Hz Switching frequency Switching frequency z in operating Contactors without overload relays No-load switching frequency Switching frequency z during	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V g cycles/hour - AC/DC - AC - DC - I _e /AC-1 at 400 V	A kW kW kW kW kW	68 30 55 68 94 95 Standard Solid-stat	81 37 65 81 112 114 operating	98 45 79 98 138 140 mechanisr	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²) 278 ²) 290 ²) 2 000 1 000 700	250 110 191 250 ²) 335 ²) 350 ²)
 Rated operational currents I_e Rated power for squirrel-cage motors 	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V g cycles/hour - AC/DC - AC	A kW kW kW kW hW	68 30 55 68 94 95 Standard Solid-stat	81 37 65 81 112 114 operating	98 45 79 98 138 140 mechanisr	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²) 278 ²) 290 ²) 2 000 1 000	250 110 191 250 ²⁾ 335 ²⁾ 350 ²⁾
• Rated operational currents I _e • Rated power for squirrel-cage motors with 50 Hz and 60 Hz Switching frequency Switching frequency z in operating Contactors without overload relays • No-load switching frequency • Switching frequency z during	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V - AC DC - AC - DC - I _e /AC-1 at 400 V - I _e /AC-2 at 400 V	A	68 30 55 68 94 95 Standard Solid-stat 800 300	81 37 65 81 112 114 operating	98 45 79 98 138 140 mechanisr	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²) 278 ²) 290 ²) 2 000 1 000 700 200	250 110 191 250 ²⁾ 335 ²⁾ 350 ²⁾
Rated operational currents I_e Rated power for squirrel-cage motors with 50 Hz and 60 Hz Switching frequency Switching frequency z in operating contactors without overload relays No-load switching frequency Switching frequency	- Up to 690 V - Up to 1 000 V - At 230 V - At 400 V - At 500 V - At 690 V - At 1 000 V g cycles/hour - AC/DC - AC - DC - I _e /AC-1 at 400 V - I _e /AC-3 at 400 V	A kW kW kW kW kW hw kW hw	68 30 55 68 94 95 Standard Solid-stat 800 300 750	81 37 65 81 112 114 operating	98 45 79 98 138 140 mechanisr	123 56 98 124 172 183	151 70 122 153 212	210 97 168 210 ²) 278 ²) 290 ²) 2 000 1 000 700 200 500	250 110 191 250 ²⁾ 335 ²⁾ 350 ²⁾

Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

²⁾ Max. permissible rated operational current I_e /AC-4 = I_e /AC-3 up to 500 V, for reduced contact endurance and reduced switching frequency.

³⁾ Dependence of the switching frequency z'on the operational current I' and operational voltage U': $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$.

			SIRIUS vacuum co	ntactors	Vacuum contacto	ors		
Type			3RT126.	3RT127.	3TF68	3TF69		
Size			S10	S12	14			
Conduc	tor cross-sections							
Main con	ductors (1 or 2 conductors can be connected)		Screw termina	als				
With mour	nted box terminals	Type	3RT1966-4G					
·-	Terminal screws		M12 (hexagon sock					
	- Tightening torque	Nm	20 22 (180 195	lb.in)				
Front clan	nping point connected	2						
File:	 Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve 	mm ² mm ²	70 240 70 240					
0 0	Stranded	mm ²	95 300					
NS MS MS	 AWG cables, solid or stranded 	AWG	3/0 600 kcmil					
	 Ribbon cable conductors (number x width x thickness) 	Min. 6 x 9 x 0.8; max	x. 20 x 24 x 0.5					
Rear clam	nping point connected							
File.	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	120 185					
00 \$	Finely stranded without end sleeveStranded	mm ² mm ²	120 185 120 240					
	AWG cables, solid or stranded	250 500 kcmil						
	Ribbon cable conductors (number x width x thickness)	x. 20 x 24 x 0.5						
Both clam	ping points connected							
	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	Min. 2 x 50, max. 2 x					
n h _e	Finely stranded without end sleeveStranded	mm ² mm ²	Min. 2 x 50, max. 2 x Min. 2 x 70, max. 2 x		<u> </u>			
Ö	AWG cables, solid or stranded	AWG	Min. 2 x 2/0, max. 1					
	Ribbon cable conductors	mm	Max. 2 x (20 x 24 x 0					
	(number x width x thickness)		Max 2 x (20 x 2 1 x 1	5.57				
Cable lug	connection							
	 Finely stranded with cable lug¹⁾ Stranded with cable lug¹⁾ 	mm ² mm ²	50 240 70 240					
	AWG cables, solid or stranded	AWG	2/0 500 kcmil					
	Terminal screws	7.WG	M10 x 30 (A/F 17)					
	- Tightening torque	Nm	14 24 (124 210	lb.in)				
Busbar co	onnections							
	Finely stranded with cable lug	mm ²			50 240	50 040		
	Stranded with cable lugSolid or stranded	mm ² AWG			70 240 2/0 500 MCM	50 240 2/0 500 MCM		
	 Connecting bar (max. width) 	mm	25		50	$60 (U_e \le 690 \text{ V})$		
	• Torminal carava				M10 v 20	$50 (U_e > 690 \text{ V})$		
	Terminal screwsTightening torque	Nm			M10 x 30 14 24	M12 x 40 20 35		
	5 · · 5 · · 4· ·	lb.in			124 210	177 310		
With box t	terminal (see page 3/139)							
	Connectable laminated copper barsWidth	mm			Yes 15 25	15 38		
	Max. thickness	mm mm			1 x 26 or 2 x 11	1 x 46 or 2 x 18		
	Terminal screw				A/F 6 (hexagon	A/F 8 (hexagon		
	Tightening torque	Nm			socket) 25 40	socket) 35 50		
					(221 354 lb.in)	(266 443 lb.in		
Auxiliary	conductors (1 or 2 conductors connectable)	0			0)	0)		
	• Solid	mm ²	2 x (0.5 1.5) ²⁾ ; 2 x acc. to IEC 60947; r	((0.75 2.5) ²⁾	2 x (0.5 1) ²⁾ /2 x	(1 2.5) ²⁾		
	• Finely stranded with end sleeve (DIN 46228-1)	mm ² mm ²	2 x (0.5 1.5) ²⁾ ; 2 x		2 x (0.5 1) ²⁾ , 2 x (0.75 2.5) ²⁾			
	Pin-end connector to DIN 46231			2 x (1 1.5)				
	AWG cables, solid or stranded	AWG	2 x (18 14)		2 x (18 12)			
	Terminal screws Tightening torque	M3 (Pozidriv size 2) 0.8 1.2 (7 10.3 lb.in) 0.8 1.4 (7 12 lb.in)			lh in)			
4)	- Tightening torque	Nm	0.6 1.2 (7 10.3	10.1(1)	0.0 1.4 (1 12	10.111)		

When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain phase separation, see page 3/118.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

		SIRIUS	vacuum c	ontactors			Vacuum contac	ctors
Туре		3RT126	4 3RT126	3RT1266	3RT1275	3RT1276	3TF68	3TF69
Size		S10			S12		14	
® and ® rated data								
Rated insulation voltage	V AC	600					600	
Uninterrupted current at 40 °C, open and enclosed	А	330			540		630	820
Maximum horsepower ratings (from 3 and 3 approved values)								
Rated power for three-phase motors at 60 Hz								
- At 200 V - At 230 V - At 460 V - At 575 V	hp hp hp hp	60 75 150 200	75 100 200 250	100 125 250 300	125 150 300 400	150 200 400 500	231 266 530 664	290 350 700 860
NEMA/EEMAC ratings								
SIZE	hp						6	7
Uninterrupted current								
- Open - Enclosed	A A						600 540	820 810
 Rated power for three-phase motors at 60 Hz 								
- At 200 V - At 230 V - At 460 V - At 575 V	hp hp hp hp	 					150 200 400 400	 300 600 600
Short-circuit protection ¹⁾	kA	10	18			30	100	
CLASS L fuse	Α	600	700	800	1 000	1 200	1 600	
Circuit breakers acc. to UL 489	Α	500	700	800	1 000	1 200	On request ¹⁾	

¹⁾ For more information about short-circuit values, e.g. for protection against short-circuit currents, see Certificate of Compliance for the individual

For the selection and dimensioning of load feeders, see UL Configuration Manual and the UL guide *Industrial Control Panels and Electrical Equipment of Industrial Machinery for North America*.

IE3/IE4 ready SIRIUS 3RT12 and 3TF6 vacuum contactors

Selection and ordering data

SIRIUS 3RT12 vacuum contactors, 3-pole, 110 ... 250 kW

AC/DC operation

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections







3RT127.-6N.36

Size	Rated data					AC-1.	Auxi	liary acts.	Rated control supply	SD	Screw terminals	(1)	PU (UNIT.	PS*	PG
	AC-2 and t _u : Up to 6					t _u : 40 °C	later	al	voltage U _s 50/60 Hz AC or DC				SÈT, M)		
	Operational current I_e up to	Rating three-p at 50 H	hase mo	otors		Operational current I_e up to	1	7			Article No.	Price per PU			
	1 000 V	230 V	400 V	500 V	690 V	1 000 V									
	Α	kW	kW	kW	kW	А	NO	NC		d					
	dard oper ation (swi							r AC	and DC						
S10	225	55	110	160	200	330	2	2	110 127 220 240	5 2	3RT1264-6AF36 3RT1264-6AP36		1 1	1 unit 1 unit	41B 41B
	265	75	132	160	250	330	2	2	110 127 220 240	2 5	3RT1265-6AF36 3RT1265-6AP36		1 1	1 unit 1 unit	41B 41B
	300	90	160 ¹⁾	200	250	330	2	2	110 127 220 240	2 2	3RT1266-6AF36 3RT1266-6AP36		1 1	1 unit 1 unit	41B 41B
S12	400	132	200	250	400	610	2	2	110 127 220 240	5 2	3RT1275-6AF36 3RT1275-6AP36		1 1	1 unit 1 unit	41B 41B
	500	160	250 ¹⁾	355	500	610	2	2	110 127 220 240	5 5	3RT1276-6AF36 3RT1276-6AP36		1 1	1 unit 1 unit	41B 41B
Solid	d-state op	erating	mecha	nism											
	24 V DC of			input											
S10	225	55	110	160	200	330	2	2	96 127 200 277	5 5	3RT1264-6NF36 3RT1264-6NP36		1	1 unit 1 unit	41B 41B
	265	75	132	160	250	330	2	2	96 127 200 277	5 5	3RT1265-6NF36 3RT1265-6NP36		1 1	1 unit 1 unit	41B 41B
	300	90	160	200	250	330	2	2	96 127 200 277	5 5	3RT1266-6NF36 3RT1266-6NP36		1 1	1 unit 1 unit	41B 41B
S12	400	132	200	250	400	610	2	2	96 127 200 277	5 5	3RT1275-6NF36 3RT1275-6NP36		1 1	1 unit 1 unit	41B 41B
	500	160	250	355	500	610	2	2	96 127 200 277	5 5	3RT1276-6NF36 3RT1276-6NP36		1 1	1 unit 1 unit	41B 41B

When using 3RT12.6-6A... vacuum contactors with IE3/IE4 motors from 8.5 times the starting current, use the versions with solid-state operating mechanism 3RT12.6-6N....

For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/75 on request.

For an overview of the 3RT12 vacuum contactors with mountable accessories, see pages 3/14 and 3/16.

The accessories for the 3RT1 vacuum contactors correspond to those for the basic units of the 3RT1 contactors, see from page 3/76 onwards.

For spare parts, see page 3/140.

SIRIUS 3RT12 and 3TF6 vacuum contactors

3TF6 vacuum contactors, 3-pole, 335 ... 450 kW

AC operation ~



- For screw fixing
- Main conductors: Busbar connections
- Auxiliary and control conductors: Screw terminals
- With overvoltage protection of the coil (varistor)



3TF68/3TF69

												•				
Size	Rated dat AC-2 and t_u : Up to 5	AC-3,					AC-1, t _u : 40 °C		acts,	Rated control supply voltage U _s 50/60 Hz AC	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to		phase r				Operational current I_e up to	1	7			Article No.	Price per PU			
	690 V	230 V	400 V	500 V	690 V	1 000 V	690 V									
	Α	kW	kW	kW	kW	kW	А	NO	NC	V	d					
AC o	peration,	50/60	Hz ¹⁾													
14	630	200	335 ²⁾	434	600		700	4	4	110 132 200 240	X	3TF6844-0CF7 3TF6844-0CM7		1 1	1 unit 1 unit	41B 41B
						600	700	4	4	110 132 200 240	X	3TF6844-8CF7 3TF6844-8CM7		1 1	1 unit 1 unit	41B 41B
14	820	260	450 ³⁾	600	800		910	4	4	110 132 200 240	X	3TF6944-0CF7 3TF6944-0CM7		1 1	1 unit 1 unit	41B 41B
						800	910	4	4	110 132 200 240	X	3TF6944-8CF7 3TF6944-8CM7		1 1	1 unit 1 unit	41B 41B

¹⁾ For use of 3TF6 vacuum contactors in the environment of frequency converters, we recommend ordering a special version: **3TF6...-...-Z A02**.

3TF68/3TF69 vacuum contactors in their basic version are supplied with integrated overvoltage damping for the main current paths. The surge suppression circuit is not required for operation in circuits with DC choppers, frequency converters or speed-variable operating mechanisms, for example.

The circuit could be damaged by the voltage peaks and harmonics and thus cause phase-to-phase short circuits. For this reason, the contactors can also be supplied without integrated overvoltage damping. Without additional price.

The article number must be supplemented by "-Z" and the order code "A02"

Accessories and spare parts, see pages 3/138 to 3/141.

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

500 ... 600 V AC

Rated control supply voltage U_s	Contactor type	3TF6844C, 3TF6944C
	Size	14
AC operation		
Solenoid coils for 50/60 Ha	z	
110 132 V AC		F7
200 240 V AC		M7
230 277 V AC		P7
380 460 V AC		Q7

S7

²⁾ When using 3TF68 vacuum contactors with IE3/IE4 motors from 8.5 times the starting current, please use 3TF69 vacuum contactors. For more information about dimensioning and configuring, see page 3/7.

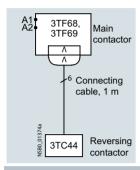
³⁾ Please inquire about use of 3TF69 vacuum contactors with IE3/IE4 motors.

IE3/IE4 ready SIRIUS 3RT12 and 3TF6 vacuum contactors

DC operation and for AC operation subject to strong interference



- Main conductors: Busbar connections
- Auxiliary and control conductors: Screw terminals
- DC solenoid system with 3TC44 reversing contactor for series resistor





3TF6 33- Q 7

Size	Rated data AC-2 and t_u : Up to 5	AC-3,					AC-1, t _u : 40 °C	cont	tacts,	Rated control supply voltage <i>U</i> _s 50/60 Hz AC or DC	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to		phase				Operational current I_e up to	Y	7			Article No.	Price per PU			
	690 V	230 V	400 V	500 V	690 V	1 000 V	690 V									
	Α	kW	kW	kW	kW	kW	Α	NO	NC	V	d					
DC (operation	· DC	econo	my cir	cuit ¹⁾²	2)										
14	630	200	335 ³⁾	434	600		700	3	3	24 DC	Χ	3TF6833-1DB4		1	1 unit	41B
						600	700	3	3	24 DC	Χ	3TF6833-8DB4		1	1 unit	41B
14	820	260	450 ⁴⁾	600	800		910	3	3	24 DC	Χ	3TF6933-1DB4		1	1 unit	41B
						800	910	3	3	24 DC	Χ	3TF6933-8DB4		1	1 unit	41B
	operation AC opera															
14	630	200	335 ³⁾	434	600		700	3	3	110 120 AC 220 240 AC 380 420 AC	X	3TF6833-1QG7 3TF6833-1QL7 3TF6833-1QV7		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
						600	700	3	3	220 240 AC	X	3TF6833-8QL7		1	1 unit	41B
14	820	260	450 ⁴⁾	600	800		910	3	3	110 120 AC 220 240 AC 380 420 AC	X	3TF6933-1QG7 3TF6933-1QL7 3TF6933-1QV7		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
						800	910	3	3	110 120 AC 220 240 AC		3TF6933-8QG7 3TF6933-8QL7		1	1 unit 1 unit	41B 41B

¹⁾ On this version, a magnetic system is used in the DC economy circuit. A varistor can be retrofitted. A 3TC4417-4A.. reversing contactor is included in the scope of supply of the vacuum contactor

3TF6...-Z A02.

3TF68/3TF69 vacuum contactors in their basic version are supplied with integrated overvoltage damping for the main current paths. The surge suppression circuit is not required for operation in circuits with DC choppers, frequency converters or speed-variable operating mechanisms,

The circuit could be damaged by the voltage peaks and harmonics and thus cause phase-to-phase short circuits. For this reason, the contactors can also be supplied without integrated overvoltage damping. Without additional price.

The article number must be supplemented by "-Z" and the order code "A02"

- 3) When using 3TF68 vacuum contactors with IE3/IE4 motors from 8.5 times the starting current, please use 3TF69 vacuum contactors. For more information about dimensioning and configuring, see page 37.
- 4) Please inquire about use of 3TF69 vacuum contactors with IE3/IE4 motors.
- On this version, a magnetic system with rectifier is used in the DC economy circuit. Varistor integrated. A 3TC4417-... reversing contactor with preassembled connecting cable (approx. 1 m) and plug is included in the scope of supply of the vacuum contactor.

Accessories and spare parts, see pages 3/138 to 3/141.

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage $U_{\rm S}$	Contactor type	3TF6833D, 3TF6933D
	Size	14

DC operation

Salanaid sails for DC aconomy sirouit

Soleliola colls for DC economy circuit	
24 V DC	B4
110 V DC	F4
125 V DC	G4
220 V DC	M4
230 V DC	P4

²⁾ For use of 3TF6 vacuum contactors in the environment of frequency converters, we recommend ordering a special version:

Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

Accessories

Selection and ordering data

For further accessories for the SIRIUS 3RT12 vacuum contactors, see 3RT1 basic devices, from page 3/76 onwards.

	For contacto	irs	Version	Auxil Versi	iary co	ntacts	Connect	ions	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
				\ \	7	7				Article No.	Price per PU			
	Size	Type		NO	NC	NC	Left	Right	d					
Auxiliary switc														
		ral mount	•		4-1-1-1-	-1.				OTV7564 4 \$ \$ 00			4	440
TOPA-	14	31F68, 3TF69	1st auxilia (replacem				/3TY7561-	-1B)		3TY7561-1AA00		1	1 unit	41B
				1	1		13 21 	31 43						
3TY7561-1.A00		3TF68, 3TF69	1st auxilia	ary swi	tch blo	ck			20	3TY7561-1EA00		1	1 unit	41B
				1		1	13 25 14 26	35 43 						
		3TF68, 3TF69	2nd auxili (replacen	nent fo	r 3TY7		/3TY7561-	-1L)	5	3TY7561-1KA00		1	1 unit	41B
				1	1		53 61 7 54 62	71 83 72 84						
	For swit	chover o	f the coil w	ith DO	econ	omy ci	rcuit							
	14	3TF68, 3TF69				1	°B1 25 / oB2 26		20	3TY7681-1G		1	1 unit	41B
	Solid-s	tate con	npatible a	auxilia	ary sv	vitch l	olocks							
		ral mount	•											
5TY7561-1UA00	14	3TF68, 3TF69	2nd auxili (replacen	nent fo	vitch bl r 3TY6) conta	561-1L	t or right 1/3TY6561- 52 54 52 54 8	-1V) 61 8900 088 162 64 88	5	3TY7561-1UA00		1	1 unit	41B

Power Contactors for Switching Motors Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

								Acces	sories
	For co	ontactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Туре		ما			OLI, WI)		
Main accurant not	h 01111		veccion medules	d					
Main current pat	S10/ S12		For damping overvoltages and protecting motor windings against multiple re-ignition when switching off three-phase motors For connection on the contactor feeder side (2-T1/4-T2/6-T3), for separate installation Rated operational voltage $U_{\rm e}$						
CALLE CONTRACTOR	,		• 690 V AC	10	3RT1966-1PV3		1	1 unit	41B
			• 1 000 V AC	10	3RT1966-1PV4		1	1 unit	41B
3RT1966-1PV4									
Surge suppresso	ors								
Manage State	14	3TF68, 3TF69	Varistors AC operation The surge suppressor (varistor) is included in the scope of supply of the 3TF68 and 3TF69 contactors with AC operation.						
5			DC operation · DC economy circuit						
3TX7572-3.			Varistor for snapping onto the side of the auxiliary switch (includes the peak value of the alternating voltage on the DC side)						
			Rated control supply voltage U_s						
			• 24 48 V DC	20	3TX7572-3G		1	1 unit	41B
			• 127 240 V DC	20	3TX7572-3J		1	1 unit	41B
Terminal covers									
	14		Two units required per contactor (1 set = 2 units).						
0 0		3TF68	For protection against inadvertent contact with exposed busbar connections	5	3TX7686-0A		1	1 unit	41B
3TX7686-0A		3TF69	Can be screwed onto free screw end on middle connecting bar	5	3TX7696-0A		1	1 unit	41B
Links for paralle	ling (s	star jum	pers), 3-pole						
	14	3TF68, 3TF69	Links for paralleling Without connecting terminal (the link for paralleling can be reduced by one pole)	5	3TX7680-0D		1	1 unit	41B
	14	3TF68,	Cover plates for links for paralleling	15	3TX7680-0E		1	1 unit	41B
		3TF69	A cover plate must be used to protect against inadvertent contact with exposed busbar connections (IEC 60529).						
Box terminals fo	r lami								
	14	3TF68	Without auxiliary conductor connection (1 set = 3 units)	30	3TX7570-1E		1	1 unit	41B
			With single covers for protection against inadvertent contact (IEC 60529)						
	14	3TF69	With auxiliary conductor connection (1 set = 3 units)	30	3TX7690-1F		1	1 unit	41B
			Conductor cross-sections for auxiliary conductors: Solid 2 x (0.75 2.5) mm² Finely stranded with end sleeve 2 x (0.5 2.5) mm² AWG, solid or stranded 2 x (18 12) Tightening torque 0.8 1.4 Nm (7 12 lb.in)						
Locking devices	for m	echanic	cal interlock						
	14	3TF68	For two contactors of the same size	15	3TX7686-1A		1	1 unit	41B

Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

Spare parts

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B

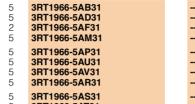
For cont	actors	Rated control supply voltage $U_{\rm s\ min} \dots U_{\rm s\ max}$	SD	Screw terminals	(1)	SD	Spring-type terminals	$\overset{\infty}{\square}$
Size	Туре	V AC/DC	d		Price er PU	d	Article No.	Price per PU

Withdrawable coils



Standa	ard operatii	ng mechanism for AC/DC
S10	3RT126	23 26
		42 48

575 ... 600



3RT1975-5A 31



3RT127 23 ... 26 S12 42 ... 48 110 ... 127 200 ... 220 220 ... 240

... 277 240 380 420 440 ... 480 500 ... 550 575 ... 600

5 3RT1966-5AT31 3RT1975-5AB31 5 5 5 3RT1975-5AD31 3RT1975-5AF31 5 3RT1975-5AM31 5 3RT1975-5AP31 3RT1975-5AU31

3RT1975-5AV31

3RT1975-5AR31

3RT1975-5AS31

3RT1975-5AT31

SD Article No

5

3RT1975-5AB32 3RT1975-5AD32 3RT1975-5AF32 5 3RT1975-5AM32 5 3RT1975-5AP32 3RT1975-5AU32 3RT1975-5AV32

3RT1975-5AR32

3RT1975-5AS32

3RT1975-5AT32

3RT1975-5NP32

PU

PS*

1 unit

1 unit

1 unit

41B

41B

41B

PG

3RT1975-5A.32



Solid-state operating mechanism for AC/DC with 24 V DC control signal input e.g. for control by PLC

Version

3RT1966-5NB31	5	21 27.3	3RT126	S10
3RT1966-5NF31	5	96 127		
3RT1966-5NP31	5	200 277		
3RT1975-5NB31	5	21 27.3	3RT127	S12
3RT1975-5NF31	5	96 127		
3RT1975-5NP31	5	200 277		

Set with 3 vacuum interrupters with

In order to ensure reliable operation of the contactors, only original replacement interrupters should be used.

components

Note:

3RT1966-5NB31		-
3RT1966-5NF31		
3RT1966-5NP31		
3RT1975-5NB31	5	3RT1975-5NB32
3RT1975-5NF31	5	3RT1975-5NF32

3RT1975-5N.31

					per PU	(UNIT, SET, M)		
	Size	Type		d				
Solenoid coils								
8-6			AC operation ¹⁾					
	14	3TF68	The solenoid coils are fitted as standard		3TY7683-0C			
		3TF69	with varistors against overvoltage; the coil is supplied with switch-on electronics.		3TY7693-0C			
			DC operation ¹⁾ · DC economy circuit					
	14	3TF68	The solenoid coils are supplied without		3TY7683-0D			
13 5		3TF69	reversing contactor.		3TY7693-0D			
3TY76.3-0								
Vacuum interru	pters							
	S10	3RT1264	Set with 3 vacuum interrupters with fixing	5	3RT1964-6V	1	1 unit	41B
		3RT1265 3RT1266	parts	5 5	3RT1965-6V 3RT1966-6V	1 1	1 unit 1 unit	41B 41B
	S12	3RT1275	_	5	3RT1975-6V	1	1 unit	41B

5

5

15

3RT1976-6V

3TY7680-0B

3TY7690-0B

3RT1276

3TF68

3TF69

1

14

For contactors

¹⁾ Rated control supply voltages for solenoid coils: The 10th and 11th digits of the article number must be supplemented accordingly, see the tables on pages 3/136 and 3/137

Power Contactors for Switching Motors Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

									Spare	parts
	For contact	otors	Version	Rated control supply voltage U_s	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Size	Туре		V AC	d	Article No.	Price per PU			
Solenoid coils	for main (contactor								
	14	3TF68Q	With rectifier bridge	110 120 220 240 380 420	20 X X	3TY7683-0QG7 3TY7683-0QL7 3TY7683-0QV7		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	14	3TF69Q	With rectifier bridge	110 120 220 240 380 420	20 20 X	3TY7693-0QG7 3TY7693-0QL7 3TY7693-0QV7		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3TC44 reversin	g contact	ors								
	14	3TF68Q, 3TF69Q	Complete with series resistor, 1 m connecting cable and plug-in connector	110 120 220 240 380 420	20 20 X	3TY7684-0QG7 3TY7684-0QL7 3TY7684-0QV7		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

3TF2 miniature contactors, 3-pole

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1 (auxiliary switches)

The 3TF2 miniature contactors are climate-proof, and the versions with screw terminals are finger-safe according to IEC 60529.

Connection methods

The miniature contactors are available in versions with screw terminals, 6.3 mm plug-in terminals and solder pin connections for soldering in printed circuit boards.

3TF2

00

Ratings of three-phase motors

The quoted rating (in kW) refers to the output power on the motor shaft (according to the nameplate).

The power rating specifications of the contactors in kW are guide values for 4-pole standard motors at 50 Hz AC and specified voltage (e.g. 400 V). The actual starting and rated data of the motor to be switched must be considered when selecting the units

Technical specifications

More information

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16142/td

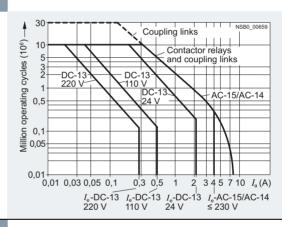
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16142/faq

Type Size

Contact endurance of the auxiliary contacts

The contact endurance for utilization category AC-12 or AC-15/AC-14 depends mainly on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

Diagram legend: I_a = Breaking current I_e = Rated operational current



Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching inductive AC loads (AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

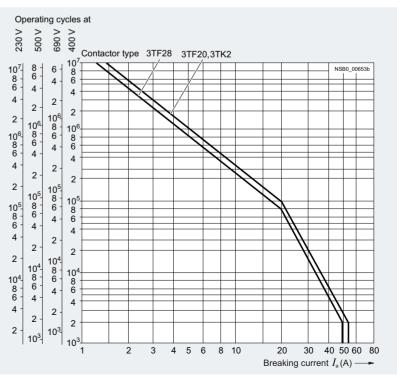
The rated operational current $I_{\rm e}$ in accordance with utilization category AC-4 (breaking 6 times the rated operational current) is determined for a contact endurance of approximately 200 000 operating cycles. If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC-4}$ can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking the rated operational current several times according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

- Contact endurance for mixed operation in operating cycles
- A Contact endurance for normal operation $(I_a = I_e)$ in operating cycles
- B Contact endurance for inching $(I_a = \text{multiple of } I_e)$ in operating cycles
- C Inching operations as a percentage of total switching operations



Туре			3TF20, 3TF28	3TF22, 3TF29
Size General data			00	
Dimensions (W x H x D)				
Basic unit Basic unit with mounted auxiliary switch block Basic unit with 3TX4490 surge suppressor	w o	mm mm mm	45 x 48 x 63 45 x 48 x 91 45 x 48 x 88	 45 x 48 x 116
Permissible mounting position			Any	
Mechanical endurance				
AC operationDC operationAuxiliary switch block		ing	10 million 30 million 10 million	
Rated insulation voltage <i>U</i> _i (Pollution degree 3)				
Screw terminals Flat connectors 6.3 mm x 0.8 mm Solder pin connections		V V V	690 500 500	690 (auxiliary contacts 500 V)
Rated impulse withstand voltage <i>U</i> _{imp} (Pollution degree 3)				
 Screw terminals Flat connectors 6.3 mm x 0.8 mm Solder pin connections 		kV kV kV	6 (control circuit max. 4 kV) 6 6	I
Protective separation between coil and main contacts (according to IEC 60947-1, Appendix N)		V	Up to 300	
Mirror contacts A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.			Yes, this applies to both the basic unit as well as to between the basic unit and the mounted auxiliary switch block according to IEC 60947-4-1, Appendix F	Yes, acc. to IEC 60947-4-1, Appendix F and SUVA
Permissible ambient temperature ¹⁾				
During operationDuring storage		°C	-25 +55 -55 +80	
Degree of protection acc. to IEC 60529 On front Connecting terminal			IP20 (with screw terminals) IP20 (with screw terminals)	
Touch protection acc. to IEC 60529			Finger-safe (for screw terminals)	
Shock resistance • Without 3TX44 auxiliary switch block				
- Rectangular pulse A	C operation		8.3/5 and 5.2/10 11.3/5 and 9.2/10	_
- Sine pulse A	C operation C operation	<i>g</i> /ms	13/5 and 8/10 17.4/5 and 12.9/10	
With 3TX44 auxiliary switch block	о орстаноп	9/1113	17.4/0 and 12.5/10	
	C operation		5/5 and 3.6/10 9/5 and 6.9/10	9/5 and 7.3/10
- Sine pulse A	C operation	<i>g</i> /ms	7.8/5 and 5.6/10 13.9/5 and 10.1/10	14/5 and 11/10
Short-circuit protection		<u>U</u>		
Main circuit ²⁾				
 Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1 				
 Type of coordination "1" Type of coordination "2"³⁾ Weld-free 		A A A	25 10 10	
Weid-free Miniature circuit breaker with C characteristic		A	10	
Auxiliary circuit				
Short-circuit test • With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}$ = 1 kA acc. to IEC 60947-5-1		А	6	
$^{1)}$ Applies to 50/60 Hz coil: At 50 Hz, 1.1 x $U_{\rm s}$, with side-by-side mounting and 100 % 0 the max. ambient temperature is +40 °C.	ON period		According to excerpt from IEC 6094 Type of coordination "1": Destruction of the contactor and the The contactor and/or overload relay Type of coordination "2": The overload relay must not suffer a contactor is permissible, however, if $I_{\rm c} \leq 1$ A short-circuit current of $I_{\rm c} \leq 1$ A short-circuit current of $I_{\rm c} \leq 1$ A short-circuit current of $I_{\rm c} \leq 1$	overload relay is permissible. can be replaced if necessary. ny damage. Contact welding on the the contacts can be easily separated.

Туре			3TF2
Size			00
Control			
Solenoid coil operating range	1)		0.8 1.1 x U _s
Solenoid coil power consumption (for cold coil and $1.0 \times U_s$)	tion		
Standard version			
AC operation, 50 Hz	Closing P.f. Closed P.f.	VA VA	15 0.41 6.8 0.42
AC operation, 60 Hz	Closing P.f. Closed P.f.	VA VA	14.4 0.36 6.1 0.46
• AC operation, 50/60 Hz ¹⁾	Closing P.f. Closed P.f.	VA VA	16.5/13.2 0.43/0.38 8.0/5.4 0.48/0.42
For USA and Canada			
AC operation, 50 Hz	Closing P.f. Closed	VA VA	14.6 0.38 6.5
	P.f.		0.40
AC operation, 60 Hz	Closing P.f. Closed	VA VA	14.4 0.30 6.0
	P.f.		0.44
DC operation	Closing = Closed	W	3
Permissible residual current o (with 0 signal)	f the electronic circuit ²⁾		
AC operationDC operation		mA mA	$\leq 3 \times (230 \text{ V}/U_8)$ $\leq 1 \times (230 \text{ V}/U_8)$
Operating times for 0.8 1.1 of Total break time = Opening de	lay and arcing time		
Values apply with coil in cold sta operating range	ate and at operating temperature for		
AC operation	Closing delay Opening delay	ms ms	5 19 2 22
	Dead interval		To use the 3TF2 AC-operated contactor in reversing an additional dead interval of 50 ms is required along with an NC contact interlock.
DC operation	Closing delay Opening delay	ms ms	16 65 2 5
Arcing time		ms	10 15
Operating times for 1.0 x $U_s^{(3)}$			
AC operation	Closing delay Opening delay	ms ms	5 18 3 21
	Dead interval		To use the 3TF2 AC-operated contactor in reversing an additional dead interval of 50 ms is required along with an NC contact interlock.
DC operation	Closing delay Opening delay	ms ms	19 31 3 4
 Arcing time 		ms	10 15

Applies to 50/60 Hz coil:
 At 50 Hz, 1.1 x U_s, with side-by-side mounting and 100% ON period the max, ambient temperature is +40 °C.

²⁾ The 3TX4490-1J additional load module is recommended for higher residual currents, see page 3/151.

³⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

Туре			3TF28, 3TF29	3TF200, 3TF220	3TF203, 3TF206, 3TF207
Size			00		
Rated data of the main contacts					
Load rating with AC					
Utilization category AC-1, switching resistive loads					
 Rated operational current I_e (at 40 °C) 	Up to 400/380 V 690/660 V	A A	18 18		
• Rated operational current I _e (at 55 °C)	400/380 V	A	16		
Trated operational outrem 18 (at 55 °C)	690/660 V	A	16		
Rated power of AC loads	At 230/220 V	kW	6.0		
P.f. = 1	400/380 V 500 V	kW kW	10 13		
	690/660 V	kW	17		
$ullet$ Minimum conductor cross-section for loads with $I_{ m e}$		mm ²	2.5		
Utilization categories AC-2 and AC-3					
 Rated operational current I_e 	Up to 220 V 230 V	A A	5.1 5.1	9.0 9.0	
	380 V	A	5.1	9.0	
	400 V	A	5.1	8.4	
	500 V 660 V	A A	4.8 4.8	6.5 5.2	
	690 V	Α	4.8	5.2	
 Rated power for motors with slipring or squirrel cage at 50 Hz and 60 Hz and 	At 110 V 115 V	kW kW	0.7 0.7	1.2 1.2	
at 50 Hz and 50 Hz and	120 V	kW	0.7	1.3	
	127 V	kW	0.8	1.4	
	200 V 220 V	kW kW	1.2 1.3	2.2 2.4	
	230 V	kW	1.4	2.5	
	240 V 380 V	kW kW	1.5 2.2	2.6 4.0	
	400 V	kW	2.2	4.0	
	415 V	kW	2.5	4.0	
	440 V	kW	2.5	4.0 4.0	
	460 V 500 V	kW kW	2.7	4.0	
	575 V	kW	3.2	4.0	
	660 V 690 V	kW kW	3.8 4.0	4.0	
Utilization category AC-4					
(Contact endurance approx. 200 000 operating cycles at I_a	$= 6 \times I_{e}$				
Rated operational current I _e	Up to 400 V	A	1.9	2.6	
(max. permissible operational current $I_e/AC-4 \cong I_e/AC-3$ up to 500 V, for reduced contact	690 V	Α	1.4	1.8	
endurance and reduced switching frequency)					
 Rated power for motors with squirrel cage at 50 Hz and 60 Hz and 	At 110 V 115 V	kW kW	0.23 0.24	0.32 0.33	
30 FIZ AND GO FIZ AND	120 V	kW	0.26	0.35	
	127 V	kW	0.27	0.37	
	200 V 220 V	kW kW	0.42 0.47	0.58 0.64	
	230 V	kW	0.49	0.67	
	240 V 380 V	kW kW	0.51 0.81	0.70 1.10	
	400 V	kW	0.85	1.15	
	415 V	kW	0.93	1.20	
	440 V	kW	1.0	1.27	
	460 V 500 V	kW kW	1.0	1.33 1.45	
	575 V	kW	1.0	1.30	
	660 V 690 V	kW kW	0.86 0.89	1.10 1.15	
Thermal load capacity	10 s current	A	70	1.10	
Power loss per conducting path	At I _e /AC-3	W	0.3		
· · · · · · · · · · · · · · · · · · ·	, 1 _e ,				

Туре			3TF28,	3TF20,
			3TF29	3TF22
Size	od)		00	
Rated data of the main contacts (continu	eu)			
Utilization category DC-1,				
switching resistive loads (<i>L/R</i> ≤ 1 ms)				
$ullet$ Rated operational currents $I_{ m e}$ (at 55 °C)				
- 1 conducting path	Up to 24 V 60 V	A	10 4	16 6
	110 V	A A	1.5	2
	220/240 V	A	0.6	1
- 2 conducting paths in series	Up to 24 V 60 V	A A	10 10	16 16
	110 V 220/240 V	A A	4	6
- 3 conducting paths in series	Up to 24 V	A	1.5	16
o defiduoting patrio in defide	60 V	Α	10	16
	110 V 220/240 V	A A	10 4	16 6
Utilization category DC-3/DC-5,				
shunt-wound and series-wound motors (<i>L/R</i> ≤ 15 ms)				
Rated operational currents I _e (at 55 °C) Leanducting path	Up to 24 V	А	4	6
- 1 conducting path	60 V	A	1.8	3
	110 V 220/240 V	A A	0.3	0.5 0.1
- 2 conducting paths in series	Up to 24 V	Α	6	10
	60 V	A	3	5
	110 V 220/240 V	A A	1.5 0.3	2 0.5
- 3 conducting paths in series	Up to 24 V	Α	10	16
	60 V 110 V	A A	10	16 16
	220/240 V	Α	1.5	2
Switching frequency				
Switching frequency z in operating cycles/hour				
 Contactors without overload relays for rated operation 	No-load switching frequency	1/h	10 000	
Dependence of the switching frequency z' on the operational current I' and operational	AC-1 AC-2	1/h 1/h	1 000 500	
voltage U' : $z' = z \cdot (I_{\Theta}/I') \cdot (U_{\Theta}/U')^{1.5} \cdot 1/h$	AC-3	1/h	1 000	
Contactors with overload relays (mean value)		1/h	15	
Conductor cross-sections				
Main and auxiliary conductors (1 or 2 conductors connectable)			Screw termina	als
• Solid		mm^2	2 x (0.5 2.5), 1 x 4	1
• Finely stranded with end sleeve		mm ²	2 x (0.5 1.5), 1 x 2.5	
AWG cables, solid or stranded		AWG	2 x (20 14), 1 x 12	
• Pin-end connector (DIN 46231)		mm^2	1 x 1 2.5	
Terminal screw			M3	
Prescribed tightening torque for terminal screws		Nm lb.in	0.8 1.3 7 11	
Main and auxiliary conductors			Flat connecto	rs
(1 or 2 conductors connectable)When using a plug-in sleeve 6.3–1		mm ²	0.5 1	
• Solid with 6.3–2.5		mm ²	1 2.5	
			LI Solder pin cor	
		mm ²	(only for print	ed circuit boards)
Solder pin cross-section Solder pin cross-section plug in base	(does not apply to plug-in bases)		0.8 x 1.2	
Solder pin cross-section, plug-in base		mm ²	0.32 x 1.0	

3TF2 miniature contactors, 3-pole

T			OTFO	
Type Size			3TF2 00	
Rated data of the auxiliary contacts according to	IFC 60947-5-1		00	
General data	120 00347-3-1			
Rated insulation voltage <i>U</i> _i		V	690	
(Pollution degree 3) Conventional thermal current I _{th} =		Α	10	
Rated operational current I _e /AC-12				
Load rating with AC				
Rated operational current I _e /AC-15/AC-14	041/	^	A	
$ullet$ For rated operational voltage $U_{ m e}$	24 V 110 V	A A	4	
	125 V	Α	4	
	220 V	A	4	
	230 V 380 V	A A	4	
	400 V	Α	3	
	500 V	Α	2	
	660 V 690 V	A A	1	
Load rating with DC				
Rated operational current I _e /DC-12				
$ullet$ For rated operational voltage $U_{ m e}$	24 V	A	4	
	48 V 110 V	A A	2.2 1.1	
	125 V	Α	1.1	
	220 V	Α	0.5	
	440 V 600 V	A A		
Rated operational current I _e /DC-13				
• For rated operational voltage $U_{\rm e}$	24 V	Α	2.1	
•	48 V	A	1.1 0.52	
	110 V 125 V	A A	0.52	
	220 V	A	0.27	
	440 V 600 V	A A		
P	000 V			
Туре			3TF207	3TF203, 3TF206, 3TF207
Size			00	
⊕ and ⊕ rated data				
Rated insulation voltage <i>U</i> _i		V AC	600	300
Uninterrupted current	Open and enclosed	Α	16	16 (10 for solder pin connection)
Maximum horsepower ratings (© and ® approved values)				
 Rated power for three-phase motors at 60 Hz 				
- Single-phase	At 115 V	hp	0.5	
	200 V 230 V	hp hp	1 1.5	1
	460/575 V	hp		
- Three-phase	At 115 V	hp		
	200 V 230 V	hp hp	3	3 (1 for 3TF206) 3 (1 for 3TF206)
	460/575 V	hp	5	
(§, (!) and %! rated data of the auxiliary contacts				
Rated voltage, max.		V AC	600	
Auxiliary switch blocks, max.		V AC	300	
Switching capacity			A 600, Q 300	
Uninterrupted current at 240 V AC		Α	10	

3TF2 miniature contactors, 3-pole

Selection and ordering data

AC operation or DC operation

3TF22..-0...,

3TF29..-0...

• AC-1: Operational current I_e = 16 A (at 55 °C)

- For screw fixing and snap-on mounting onto TH 35 standard mounting rail
- Screw terminals

	Rated dat Utilization		ries AC	-2 and <i>i</i>	AC-3	Auxiliary co	ontacts		SD	Screw terminals		PU (UNIT,	PS*	PG
	Operational current I_e		s of thre at 50 h		e	Ident. No.	Version	on				SET, M)		
	At 380 V	230 V	400/ 380 V	500 V	690 V		\ \	 		Article No.	Price per PU			
	Α	kW	kW	kW	kW		NO	NC	d					
Miniature contact	ors with	screw	termin	als										
(Character)	AC oper	ation,	rated	contro	l supp	ly voltage	U _s =	50 Hz	230/2	20 V AC ¹⁾				
66888	5.1	1.4	2.2	2.9	4	10 01	1	 1	20 20	3TF2810-0AP0 3TF2801-0AP0		1	1 unit 1 unit	41B 41B
12	9	2.5	4	4	4	10 01	1	 1	2	3TF2010-0AP0 3TF2001-0AP0		1 1	1 unit 1 unit	41B 41B
66666	With pern	nanent	ly moui	nted au	xiliary s	witch block	(S							
3TF200, 3TF280	5.1	1.4	2.2	2.9	4	11 22	1 2	1 2	20 20	3TF2911-0AP0 3TF2922-0AP0		1 1	1 unit 1 unit	41B 41B
	9	2.5	4	4	4	11 22	1 2	1 2	20 2	3TF2211-0AP0 3TF2222-0AP0		1	1 unit 1 unit	41B 41B
9999	DC oper	ation,	rated	contro	ol supp	ly voltage	U _s =	24 V D	C					
<u> </u>	5.1	1.4	2.2	2.9	4	10 01	1	 1	5 5	3TF2810-0BB4 3TF2801-0BB4		1 1	1 unit 1 unit	41B 41B
3TE22 -0	9	2.5	4	4	4	10 01	1	 1	>	3TF2010-0BB4 3TF2001-0BB4		1 1	1 unit 1 unit	41B 41B

9

1.4

2.5

2.2

4

With permanently mounted auxiliary switch blocks

4

4

2.9

22

11

22

2

1

2

2

For further rated control supply voltages, see page 3/149.

1 unit

1 unit

1 unit

1 unit

41B

41B

41B

41B

Accessories, see pages 3/150 and 3/151.

3TF2911-0BB4

3TF2922-0BB4

3TF2211-0BB4

3TF2222-0BB4

20

20

20

2

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

41B

41B

41B

41B

41B

41B

41B

41B

1 unit

Power Contactors for Switching Motors

0

3TF2 miniature contactors, 3-pole

AC operation or DC operation

- AC-1: Operational current I_e = 16 A (at 55 °C)
- For screw fixing and snap-on mounting onto TH 35 standard mounting rail or screw fixing (diagonal)
- Flat connectors or solder pin connection

Rated da Utilizatio	ata on categori	es AC-2	and AC-	-3	Auxiliary	contac	ets	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
Opera- tional current I	at 50 F	s of three Iz and	e-phase	motors	Ident. No.	Versi	on				SET, M)		
At 380 V	230 V	400/ 380 V	500 V	690 V		\	7						
Α	kW	kW	kW	kW		NO	NC	d					

Flat connectors

3TF2010-3BB4

3TF2001-3BB4

Miniature contactors with 6.3 mm x 0.8 mm flat connectors

3TF20..-3...

AC operation, rated control supply voltage $U_s = 50 \text{ Hz } 230/2$	20 V AC ¹⁾
For screw fixing and snap-on mounting onto TH 35 standard	
mounting rail	

	9	2.0	-	-				20	011 2010 OAI 0		i dilit	710
					01		1	15	3TF2001-3AP0	1	1 unit	41B
	For screw	fixing	(diago	nal)								
	9	2.5	4	4	 10	1		20	3TF2010-7AP0	1	1 unit	41B
_					01		1	20	3TF2001-7AP0	1	1 unit	41B



3TF20..-7...

DC opera	auon,	rated	Contro	Suppi	y vonage	θ υ _s = 2	24 V L	,,
For screw mounting		and sr	ap-on n	nounting	g onto TH	35 stan	dard	
9	2.5	4	4		10 01	1 	 1	20 20

For screw fixing (diagonal) 2.5 10 20 3TF2010-7BB4 01 20 3TF2001-7BB4 Miniature contactors with solder pin connections for printed circuit boards

Solder pin connections





24 V DC

AC operation, rated control supply voltage $U_s = 50$ Hz 230/220 V AC 1)

For screw fixing and snap-on mounting onto TH 35 standard mounting rail 2.5

DC operation, rated control supply voltage $U_s = 24 \text{ V DC}$

For screw fixing (diagonal)

 $^{1)}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S};$

lower operating range limit according to IEC 60947.

2.5

3TF2010-6BB4 3TF2001-6BB4 Accessories, see pages 3/150 and 3/151.

3TF2010-6AP0

3TF2001-6AP0

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

10

01

Delivery time on request

Rated control supply voltage $U_{\rm S}$	Cor	ntactor type Size	3TF20, 3TF28 00
AC operation			
Solenoid coils for A	50 Hz and 60 Hz		
50 Hz	60 Hz		
24 V AC	29 V AC		B0
110 V AC	132 V AC		F0
230/220 V AC	276 V AC		P0 ¹⁾
Solenoid coils for A	50/60 Hz		
230 V AC			L2
DC operation			

¹⁾ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Other voltages and delivery times on request.

Conta	• • •	· ·
C 50 Hz and 60 Hz		
60 Hz		
276 V AC		P0 ¹⁾
		B4
	C 50 Hz and 60 Hz 60 Hz	C 50 Hz and 60 Hz 60 Hz

Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm s}$; lower operating range limit according to IEC 60947.

Other voltages and delivery times on request.

Accessories for 3TF2 miniature contactors

Selection and ordering data

Rated o	operatio	nal	Auxiliary c	onta	cts				SD	Screw terminals		PU (UNIT,	PS*	PG
I _e /AC-1	15/AC-1	4 at	Ident. No.	Vers	ion			Connections				SÈT, M)		
230/ 220 V	400/ 380 V	500 V		\ \	 	ļ	}			Article No.	Price per PU			
Α	А	Α		NO	NC	NO	NC		d					

Snap-on auxiliary switch blocks for 3TF2 miniature contactor relays



For expansion to 2, 4 or 5 auxiliary contacts according to EN 50012

only	for 3TF2	2.10, Ide	nt. No.	10 (with a	uxilia	ry cc	ntact	1 NO)				
4	3	2	11		1			20 3TX440	1-1A	1	1 unit	41A
			22	1	2			2 3TX441	2-1A	1	1 unit	41A
			23	1	3			5 3TX441	3-1A	1	1 unit	41A
			32	2	2			2 3TX442	2-1A	1	1 unit	41A
_						-		,,				

			32	_	_				_	31A4422-1A	- 1	i uiiit	41A
For e	expans N 5000	ion to 5	3 or 5 au	xilia	ry co	onta	cts a	ccording					
4	3	2	20	2				53 63 	2	3TX4420-2A	1	1 unit	41A
			11	1	1			53 61 54 62	2	3TX4411-2A	1	1 unit	41A
			02		2			51 61 • • • • • • • • • • • • • • • • • • •	20	3TX4402-2A	1	1 unit	41A
			11; U			1	1	57 65 58 66	20	3TX4411-2G	1	1 unit	41A
4	3	2	40	4				53 63 73 83 	2	3TX4440-2A	1	1 unit	41A
			31	3	1			53 61 73 83 	2	3TX4431-2A	1	1 unit	41A
			22	2	2			53 61 71 83 	•	3TX4422-2A	1	1 unit	41A
			22; 2 U			2	2	57 67 75 85 \\\\\\\\\\\\\	2	3TX4422-2G	1	1 unit	41A

Accessories for 3TF2 miniature contactors

	For contactors	Rated control voltage $U_{\rm S}$	supply	Power consumption of LED at U_s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре	V AC	V DC	mW	d					
Surge suppress For plugging of with and withou	nto 3TF2 minia	ture contacto	ors							
	Version with					•				
	RC elements									
	3TF20, 3TF21	24 48 48 127	24 70		5 5	3TX4490-3R 3TX4490-3S		1 1	1 unit	41B 41B
	J11 Z1	127 240	70 150 150 250		5	3TX4490-3T		1	1 unit 1 unit	41B
		240 400			5	3TX4490-3U		1	1 unit	41B
		400 600			5	3TX4490-3V		1	1 unit	41B
	Varistors									
	3TF20, 3TF21	≤ 48 48 127	24 70 70 150		5	3TX4490-3G 3TX4490-3H		1 1	1 unit 1 unit	41B 41B
	011 2 1	127 240	150 250		5	3TX4490-3J		i	1 unit	41B
		240 400			5 5	3TX4490-3K		1	10 units	41B 41B
	Noise suppress	400 600			5	3TX4490-3L		1	10 units	416
- :	3TF20,		12 250		>	3TX4490-3A		1	1 unit	41B
STEASON SE IN	3TF21									
500	Diode assembli For DC operation									
3TX4490-3A	3TF20, 3TF21		24 250		5	3TX4490-3B		1	1 unit	41B
-	Version with	LED								
- 301	Varistors									
STX400-45 Miles	3TF20,	24 48	12 24	10 120	5	3TX4490-4G		1	1 unit	41B
DCTN Jos	3TF21	48 127 127 240	24 70 70 150	20 470 50 700	5 5	3TX4490-4H 3TX4490-4J		1 1	1 unit 1 unit	41B 41B
3TX4490-4G			150 250	160 950	20	3TX4490-4K		1	1 unit	41B
	Noise suppress	sion diodes			_					
	3TF20, 3TF21		24 70 70 150	20 470 50 700	5 5	3TX4490-4A 3TX4490-4B		1 1	1 unit 1 unit	41B 41B
-			150 250	160 950	5	3TX4490-4C		1	1 unit	41B
Additional load For plugging of with and withou	nto 3TF2 minia		ors							
	To increase the	permissible resi		d limit the residual						
	voltage, identica			ge suppressor.	20	2TV4400 1 I		4	4 umit	44D
	3TF20A, 3TF21A	230/220, 50 H 230, 60 Hz	1Z		20	3TX4490-1J		1	1 unit	41B
		230, 50/60 Hz	z nge 0.8 1.1 x	11						
Plug-in bases v	with solder pin			ircuit boards, 45 m	m					
	Rated insulation	voltage Ui: 400	•	,						
	(for pollution deg rated impulse wi	gree 3); ithstand voltage	U _{ima} ; 6 kV;							
	rated operationa	al current I _e : 6 A	;							
	and n rated 3TF203,		v, o A s with flat con-		20	3TX4491-2A		1	5 units	41A
3TX4491-2A	3TF207,	nectors, 6.3 n			20	3174431-ZA		'	o unito	417
017(1101 27)	3TK203, 3TK207									
Release tools										
	For releasing min	niature contacto	ors from 3TX449	1-2A plug-in bases						
	3TF27, 3TK27				20	3TX4491-2K		1	1 unit	41A
1) The OFF-delay ti		ntacts and the	ON-delay times	of the						

The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

3TG10 power relays/miniature contactors

Overview

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1

Version

The 3TG10 power relays/miniature contactors are available with screw terminals or 6.3 mm × 0.8 mm flat connectors. The versions with screw terminals are suitable for use in any climate and finger-safe according to IEC 60529.

The 3TG10 miniature contactors are characterized by their width of just 36 mm.

Surge suppression

The 3TG10 power relays/miniature contactors have an integrated protective circuit against opening surges.

Application

Because they are hum-free they are suitable for use in household appliances and distribution boards in office and residential areas.

They can also be used for applications where there is little space such as air conditioners, heating systems, pumps and fans, i.e. for simple electrical controls.

Technical specifications

More information Reference Manual "Switching Devices - Contactors and Contactor Assemblies", Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16186/td see https://support.industry.siemens.com/cs/ww/en/view/35554359 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16186/faq

_			
Туре			3TG10
General data			
Dimensions (W x H x D)	W	mm	36 x 56 x 56
Endurance			
Mechanical	Operating cycles		3 million
Electrical	0		0.4 == 110 ==
- AC-1 at I _e - AC-3 at I _e	Operating cycles Operating cycles		0.1 million 0.4 million
Rated insulation voltage <i>U</i> _i (pollution degree 3)	- 1	V	400
Rated impulse withstand voltage U_{imp}		kV	4
Protective separation Between coil and contacts acc. to IEC 60947-1, Appendi	x N	V	Up to 300
Permissible ambient temperature			
 During operation¹⁾ During storage 		°C	-25 + 55 -50 + 80
Degree of protection acc. to IEC 60529			IP00
Touch protection acc. to IEC 60529			Finger-safe for vertical touching from the front (with screw terminals)
Short-circuit protection			
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5S according to IEC 60947-4-1	E		
Type of coordination "1"Type of coordination "2"		A A	25 10
Miniature circuit breakers, C characteristic		Α	10
Control			
Solenoid coil operating range			0.85 1.1 x <i>U</i> _s
Power consumption of the solenoid coils (for cold coil	and 1.0 x U _s)		
AC operation, 45 450 Hz		VA	4.4
P.f.DC operation		W	0.9 (hum-free)
Rated data of the main contacts			
Load rating with AC			•

ng with AC		
category AC-1, switching resistive loads		
erational current $I_{\rm e}$ up to 400 V at 55 °C ¹⁾	Α	20 for screw terminals, 16 for flat connectors
wer U_e for AC loads with p.f. = 1, 230/220 V		
ew terminals	kW	7.5 (13 at 400 V)
connectors	kW _	6 (10 at 400 V)
conductor cross-section for loads with $I_{\rm e}$	mm ²	2.5
	erational current $I_{\rm e}$ up to 400 V at 55 °C ¹⁾ wer $U_{\rm e}$ for AC loads with p.f. = 1, 230/220 V ew terminals connectors	category AC-1, switching resistive loads erational current $I_{\rm e}$ up to 400 V at 55 °C ¹⁾ A wer $U_{\rm e}$ for AC loads with p.f. = 1, 230/220 V ew terminals kW connectors kW

¹⁾ If the three main current paths carry a load of 20 A, the following applies if I > 10 A in the fourth current path: Permissible ambient temperature 40 °C.

3TG10 power relays/miniature contactors

Туре					3TG10
Rated data of the main	n contacts (c	ontinued)			2.2.2
Load rating with AC	(0				•
Utilization categories AC-	2 and AC-3				
Operational current for A		V rated value	j	Α	8.4
Rated power for slipring of the slipring	Ü		•	kW	4
with 50 Hz and 60 Hz and					
Utilization category AC-5	a (permissible n	ominal imped	lance: $\geq 0.5 \Omega$)		
Switching of gas discharg	ge lamps				
Per main current path at 23					
Rated power/rated operation					
Uncompensated	18 W 36 W 58 W	0.37 A 0.43 A 0.67 A		Unit(s) Unit(s) Unit(s)	43 37 24
DUO switching	18 W 36 W 58 W	2 x 0.11 A 2 x 0.21 A 2 x 0.32 A		Unit(s) Unit(s) Unit(s)	2 x 81 2 x 42 2 x 28
Switching gas discharge			or ECG	2(0)	
Per main current path 230	=				
Connection	Rated power per lamp	Capacitor capacitance	Rated operational current per lamp		
Shunt compensation	L18 W L36 W L58 W	4.5 μF 4.5 μF 7 μF	0.11 A 0.21 A 0.32 A	Unit(s) Unit(s) Unit(s)	15 15 10
With ECG (single lamp)	L18 W L36 W L58 W	6.8 µF 6.8 µF 10 µF	0.10 A 0.18 A 0.27 A	Unit(s) Unit(s) Unit(s)	39 39 26
With ECG (two lamps)	L18 W L36 W L58 W	10 µF 10 µF 22 µF	0.18 A 0.35 A 0.52 A	Unit(s) Unit(s) Unit(s)	2 x 26 2 x 26 2 x 12
Utilization category AC-5	b, switching in			kW	1.6
Per main current path at 23	30 V, 50 Hz				
Load rating with DC	and the second	tastina to the	1/0 - 45		
Utilization category DC-1		istive loads (L/H ≤ 15 ms)		
Rated operational curren	is I _e		Hn to 24 V	۸	16
- 1 conducting path			Up to 24 V 60 V 110 V 220 V/240 V	A A A	16 6 2 0.8
- 2 conducting paths in s	series		Up to 24 V 60 V 110 V 220 V/240 V	A A A	16 16 6 1.6
- 3 conducting paths in s	series		Up to 24 V 60 V 110 V	A A A	18 18 16
- 4 conducting paths in s	series		220 V/240 V Up to 24 V 60 V 110 V	A A A	6 20 20 20 20
Utilization category DC-3 Shunt-wound and series-		(<i>L/R</i> ≤ 15 ms	220 V/240 V	A	20
Rated operational curren					
- 1 conducting path			Up to 24 V 60 V 110 V	A A	10 0.5 0.15
- 2 conducting paths in s	series		220 V/240 V Up to 24 V 60 V	A A	0 16 5
- 3 conducting paths in s	series		110 V 220 V/240 V Up to 24 V 60 V	A A A	0.35 0 16 16
- 4 conducting paths in s	series		110 V 220 V/240 V Up to 24 V	A A A	10 1.75 18
			60 V 110 V 220 V/240 V	Α	16 10 2

3TG10 power relays/miniature contactors

Туре			3TG10
Conductor cross-sec	tions		
			Screw terminals
 Terminal screws 			M3
 Finely stranded with end 	sleeve (DIN 46228 Form A/D/C)	mm ²	2 x (0.75 2.5)
 Solid 		mm ²	2 x (1 2.5), 1 x 4
 Permissible opening tool 	I (screwdriver)		3.0 mm x 0.5 mm (3RA2908-1A) or Pozidriv 2
			Flat connectors
• Finely stranded 6.3 mm	plug-in sleeve acc. to DIN 46245/DIN 46247		
- 6.3 1 - 6.3 2.5		mm ² mm ²	0.5 1 1 2.5
® and ® rating (screv	v terminals)		
Rated insulation voltage		V AC	600
Uninterrupted current	Open and enclosed	Α	20
Maximum horsepower ra (from ® and ® approved	tings values)		Single-phase/three-phase
Rated power for three-phase motors at 60	At 115 V 200 V 230 V 460 600 V	hp hp hp hp	0.5/ 1/ 3 1.5/ 3 0/ 5

3TG10 power relays/miniature contactors

Selection and ordering data

AC operation or DC operation

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Rated data Utilization category	Main contacts	control	D	Article No.	Price per PU	PU (UNIT,	PS*	PG
AC-1 AC-2 and Switching of resistive loads at 55 °C	AC-3	supply voltage $U_{\rm s}$				SET, M)		
	loads at							
A kW A	kW NO NC	V d						

									Screw terminals	+			
- Sister Com	AC ope	eration, 45	450 Hz										
STMINS 1 - 0	20	13	8.4	4	4		24 AC 110 AC 230 AC	▶ 5 ▶	3TG1010-0AC2 3TG1010-0AG2 3TG1010-0AL2		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
3TG100					3	1	24 AC 110 AC 230 AC	▶ 5 ▶	3TG1001-0AC2 3TG1001-0AG2 3TG1001-0AL2		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
	DC ope	eration											
	20	13	8.4	4	4 3	 1	24 DC 24 DC	>	3TG1010-0BB4 3TG1001-0BB4		1 1	1 unit 1 unit	41H 41H
Hum-free · wit	h 6.3 mn	n x 0.8 mm fl	at conne	ctors									
# 6									Flat connectors	0			

H. C.	4
1 6 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	1
3TG101	

AC op	eration, 45	. 450 Hz								
16	10	8.4	4	4 -	- 24 AC 110 AC 230 AC	5 30 5	3TG1010-1AC2 3TG1010-1AG2 3TG1010-1AL2	1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
				3 1	24 AC 110 AC 230 AC	30 30 •	3TG1001-1AC2 3TG1001-1AG2 3TG1001-1AL2	1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
DC op	eration									
16	10	8.4 8.4	4 4	4 3 1	- 24 DC 24 DC	5 5	3TG1010-1BB4 3TG1001-1BB4	1 1	1 unit 1 unit	41H 41H

¹⁾ The rated operational currents apply to each pole.

Accessories

	Version	Max. rated operational currents $I_e/AC-1$ (at 55 °C) of the contactors	Max. conductor cross-sections	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		А	mm ²	d	Article No.	Price per PU			
Links for para	lleling (insulated star jun	npers) ¹⁾							
	3-pole								
	 Without connection terminal (replacement for 3TX4490-2C) 	16		•	3RT1916-4BA31		1	1 unit	41B
3RT1916-4BB31	 With connection terminal (replacement for 3TX4490-2A) 	40	25	•	3RT1916-4BB31		1	1 unit	41B
	4-pole								
	 With connection terminal (replacement for 3TX4490-2B) 	40	25	15	3RT1916-4BB41		1	1 unit	41B

The links for paralleling can be reduced by one pole. The rated operational currents apply to each pole.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Overview

More information

Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RA23_3RT1

The 3RA23 reversing contactor assemblies in sizes S00 to S3 can be ordered as follows:

- Fully wired and tested, with mechanical and electrical interlock, see from page 3/163 onwards.
- For all individual parts for customer assembly, see from page 3/76 onwards.

The 3RA23 reversing contactor assemblies have screw or spring-type terminals (main and control circuits) and are suitable for screw fixing and snap-on mounting onto TH 35 standard mounting rails.

Conversion tool, e.g. from 3RT10 to 3RT20, see

www.siemens.com/sirius/conversion-tool

TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/TSTWeb/?kmat=LoadFeeder

Complete 3RA23 reversing contactor assemblies

The fully wired reversing contactor assemblies are suitable for use in any climate.

They are finger-safe according to IEC 60529.

The 3RA23 reversing contactor assemblies of size S00 to S3 each consist of two contactors with the same power, with one NC contact (S00) or one NO contact and one NC contact (S0 to S3) in the basic unit. The contactors are mechanically and electrically interlocked (NC contact interlock).

3RU2 overload relays (see from page 7/92 onwards) or 3RB3 overload relays (see from page 7/105 onwards) for contactor mounting or stand-alone installation, SIMOCODE pro 3UF7 motor management and control devices (from page 10/16 onwards) or 3RN thermistor motor protection relays (page 10/161) can be used for motor protection.

3RA23 reversing contactor assemblies with voltage tap-off

The reversing contactor assemblies with voltage tap-off (see pages 3/163 to 3/166) are required for mounting the function modules for connection to the controller via the IO-Link or AS-Interface communication systems. The 3RA27 function modules must be ordered separately, see page 3/107.

For more information on IO-Link and AS-Interface, see "Industrial Communication", from page 2/1 onwards.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Sizes S00 to S3

Rated data AC-2 for 50 Hz 400 V		Size	Туре		
Rating	Operational current I _e		Contactor	Assembly kit	Fully-wired and tested reversing
kW	A		(See from page 3/55 onwards)	(See page 3/110)	contactor assemblies
			Screw terminals		
3	7	S00	3RT2015-12	3RA2913-2AA1	3RA2315-8XB30-1
4	9		3RT2016-12	3RA2913-2AA1	3RA2316-8XB30-1
5.5	12		3RT2017-12	3RA2913-2AA1	3RA2317-8XB30-1
7.5	16		3RT2018-12	3RA2913-2AA1	3RA2318-8XB30-1
5.5	12	S0	3RT2024-10	3RA2923-2AA1	3RA2324-8XB30-1
7.5	16		3RT2025-10	3RA2923-2AA1	3RA2325-8XB30-1
11	25		3RT2026-10	3RA2923-2AA1	3RA2326-8XB30-1
15	32		3RT2027-10	3RA2923-2AA1	3RA2327-8XB30-1
18.5	38		3RT2028-10	3RA2923-2AA1	3RA2328-8XB30-1
18.5	40	S2	3RT2035-10	3RA2933-2AA1	3RA2335-8XB30-1
22	55		3RT2036-10	3RA2933-2AA1	3RA2336-8XB30-1
30	65		3RT2037-10	3RA2933-2AA1	3RA2337-8XB30-1
37	80		3RT2038-10	3RA2933-2AA1	3RA2338-8XB30-1
37	80	S3	3RT2045-10	3RA2943-2AA1	3RA2345-8XB30-1
45	90		3RT2046-10	3RA2943-2AA1	3RA2346-8XB30-1
55	110		3RT2047-10	3RA2943-2AA1	3RA2347-8XB30-1
			Spring-type tern	ninals	
3	7	S00	3RT2015-22	3RA2913-2AA2	3RA2315-8XB30-2
4	9		3RT2016-22	3RA2913-2AA2	3RA2316-8XB30-2
5.5	12		3RT2017-22	3RA2913-2AA2	3RA2317-8XB30-2
7.5	16		3RT2018-22	3RA2913-2AA2	3RA2318-8XB30-2
5.5	12	S0	3RT2024-20	3RA2923-2AA2	3RA2324-8XB30-2
7.5	16		3RT2025-20	3RA2923-2AA2	3RA2325-8XB30-2
11	25		3RT2026-20	3RA2923-2AA2	3RA2326-8XB30-2
15	32		3RT2027-20	3RA2923-2AA2	3RA2327-8XB30-2
18.5	38		3RT2028-20	3RA2923-2AA2	3RA2328-8XB30-2

Note:

The 3RA2934-2B mechanical interlock for sizes S2 and S3 must be ordered separately, see page 3/114.

Article No. scheme

Product versions		Article number
SIRIUS reversing contactor assembly		3RA23 🗆 — 🗆 🗆 🗆 — 🗆 🗆 🗆
Size of the contactor	e.g. 4 = \$3	
Rating dependent on size	e.g. 5 = 37 kW for size S3	
Type of overload relay	e.g. 8X = without	
Assembly	e.g. E = communication-capable installation	
Interlock	e.g. 3 = mechanical and electrical	
Free auxiliary switches	e.g. 0 = S3: 2 NO total	
Type of electrical connection	e.g. 1 = screw terminals (main and auxiliary circuits)	
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	
Rated control supply voltage	e.g. L2 = 230 V AC, 50/60 Hz	
Example		3RA23 4 5 - 8 X E 3 0 - 1 A L 2

Note:

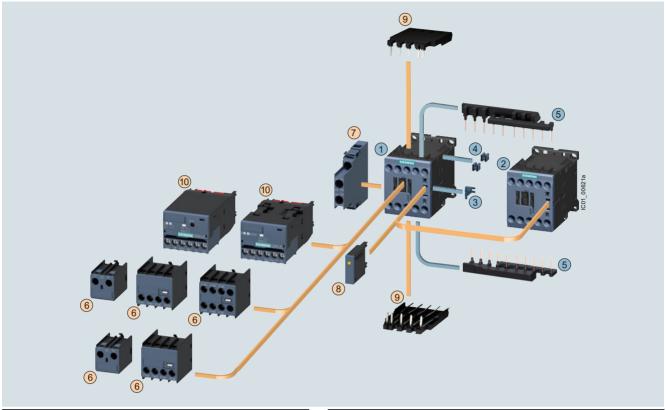
The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S00 · Up to 7.5 kW

The figure shows the version with screw terminals



Mountable accessories (optional)									
To be ordered separately	Туре	Page							
-									
6 Auxiliary switch block, front ¹⁾	3RH2911	3/94 3/96							
7 Auxiliary switch block, lateral	3RH2921	3/98							
8 Surge suppressors	3RT2916	3/103, 3/104							
Solder pin adapters	3RT1916-4KA1	3/117							
Function module for connection to the control system	3RA2711BA00	3/107							

Comple	Complete reversing contactor assembly										
Individu	al parts	Туре	Туре								
		Q11	Q12								
12	Contactors, 3 kW	3RT2015	3RT2015	3/55, 3/62							
12	Contactors, 4 kW	3RT2016	3RT2016	3/55, 3/62							
12	Contactors, 5.5 kW	3RT2017	3RT2017	3/55, 3/62							
12	Contactors, 7.5 kW	3RT2018	3RT2018	3/55, 3/62							
3 5) Assembly kit comprising:	3RA2913-2	3RA2913-2AA1								

- Mechanical interlock²⁾
- 4 Two connecting clips for two contactors²⁾
- Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included³), interruptible (NC contact interlock)

For complete reversing contactor assemblies, see page 3/163.

¹⁾ Auxiliary switch block according to EN 50005 must be used.

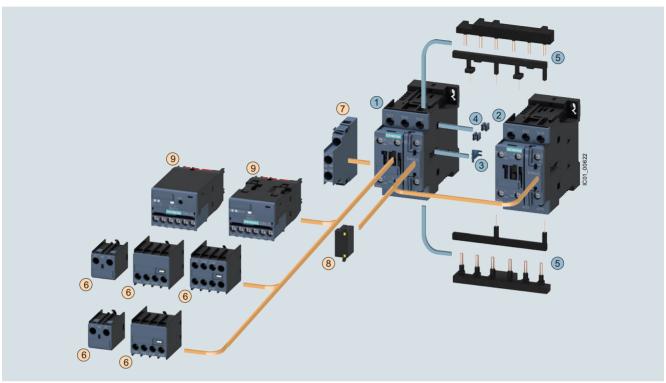
²⁾ The parts 3 and 4 can only be ordered together as 3RA2912-2H mechanical connectors.

^{3) 3}RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies \cdot Size S0 \cdot Up to 18.5 kW

The figure shows the version with screw terminals



Мс	ountable accessories (optiona	al)		
То	be ordered separately	Туре	Page	
6	Auxiliary switch block, front	3RH2911	3/94 3/96	
7	Auxiliary switch block, lateral	3RH2921	3/98	
8	Surge suppressors	3RT2926	3/103, 3/104	
9	Function module for connection to the control system	3RA2711BA00	3/107	

Compl	ete reversing contact	or assembly	1				
Individu	al parts	Type	Туре				
		Q11	Q12				
12	Contactors, 5.5 kW	3RT2024	3RT2024	3/56, 3/66			
12	Contactors, 7.5 kW	3RT2025	3RT2025	3/56, 3/66			
12	Contactors, 11 kW	3RT2026	3RT2026	3/56, 3/66			
12	Contactors, 15 kW	3RT2027	3RT2027	3/56, 3/66			
12	Contactors, 18.5 kW	3RT2028	3RT2028	3/56, 3/66			
3 5) Assembly kit comprising:	3RA2923-2	AA1	3/110			

- Mechanical interlock¹⁾
- 4) Two connecting clips for two contactors 1)
- (5) Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)

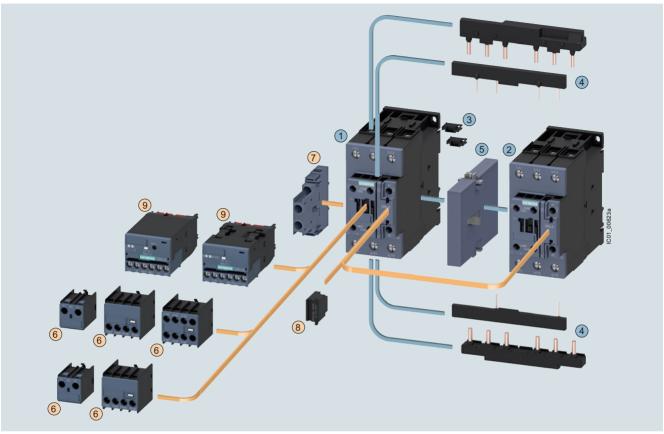
For complete reversing contactor assemblies, see page 3/164.

¹⁾ The parts 3 and 4 can only be ordered together as 3RA2922-2H mechanical connectors.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies \cdot Size S2 \cdot Up to 37 kW

The figure shows the version with screw terminals



Мс	ountable accessories (option	al)	
То	be ordered separately	Туре	Page
6	Auxiliary switch block, front	3RH2911	3/94 3/96
7	Auxiliary switch block, lateral	3RH2921	3/98
8	Surge suppressors	3RT2936	3/103, 3/104
9	Function module for connection to the control system	3RA2711BA00	3/107

Complete reversing contactor assembly										
Individu	al par	rts	Туре		Page					
			Q11	Q12						
12	Con	tactors, 18.5 kW	3RT2035	3RT2035	3/58, 3/67					
12	Con	tactors, 22 kW	3RT2036	3RT2036	3/58, 3/67					
12	Con	tactors, 30 kW	3RT2037	3RT2037	3/58, 3/67					
12	Con	tactors, 37 kW	3RT2038	3RT2038	3/58, 3/67					
34		embly kit prising:	3RA2933-2	2AA1	3/110					
	3	Two connectors for two co	ontactors							
	Wiring modules on the top and bottom for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)									

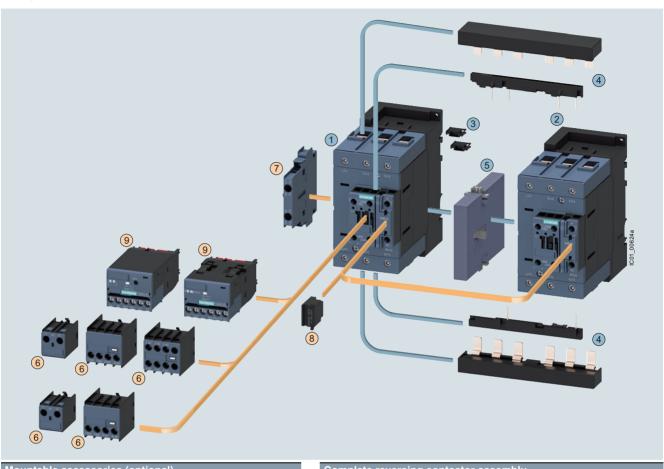
Mechanical interlock 3RA2934-2B 3/114 (must be ordered separately)

For complete reversing contactor assemblies, see page 3/165.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies \cdot Size S3 \cdot Up to 55 kW

The figure shows the version with screw terminals



Мо	untable accessories (opti-	onal)			
To b	pe ordered separately	Туре	Page		
6	Auxiliary switch block, front Auxiliary switch block, lateral	3RH2911 3RH2921	3/94 3/96 3/98		
8	Surge suppressors	3RT2936 ¹⁾ , 3RT2946	3/103, 3/104		
9	Function module for connection to the control system (the associated module connectors 3RA2711-0EE17 must	3RA2711BA00	3/107		

be ordered separately, see page 3/108)

Comp	Complete reversing contactor assembly										
Individu	ıal pa	rts	Туре		Page						
			Q11	Q12							
12	Cont	actors, 37 kW	3RT2045	3RT2045	3/59, 3/67						
12	Cont	actors, 45 kW	3RT2046	3RT2046	3/59, 3/67						
12	Cont	actors, 55 kW	3RT2047	3RT2047	3/59, 3/67						
34		mbly kit orising:	3RA2943	3/110							
	3	Two connectors for two contacto	rs								
	4										
(5)		nanical interlock t be ordered separately)	3RA2934	-2B	3/114						

¹⁾ From product version E03 onwards, 3RT2936-1B/-1E surge suppressors can be used for 3RT2.4 contactors.

For complete reversing contactor assemblies, see page 3/166.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Benefits

Using wiring kits for reversing contactor assemblies has the following advantages:

- Notable reduction of wiring in the control circuit
- Integrated mechanical interlock for sizes S00 and S0
- · Prevention of wiring errors in the main circuit

Connecting combs for screw terminals also result in:

- Prevention of wiring errors in the control circuit
- Reduction of testing costs
- Ready-jumpered actuation of the auxiliary switches and the frame (A2)
- Integrated electrical interlocking

Accessories

Selecting the auxiliary switches

The following points should be noted:

Size S00

- For maintained-contact operation:
 Use contactors with an NC contact in the basic unit for the electrical interlock.
- For momentary-contact operation:
 Use contactors with an NC contact in the basic unit for the electrical interlock; in addition, an auxiliary switch block with at least one NO contact for latching is required per contactor.

Sizes S0 to S3

- For maintained-contact operation:
 The contactors have two integrated auxiliary contacts
 (1 NO + 1 NC); the NC contact can be used for electrical interlocking.
- For momentary-contact operation:
 Electrical interlock as for maintained-contact operation;
 the NO contact in the basic unit can be used for the latching.

Surge suppression

Sizes S00 to S3

All reversing contactor assemblies can be fitted with RC elements or varistors for damping opening surges in the coil.

As with the individual contactors, the surge suppressors can either be plugged onto the top of the contactors (S00) or be plugged into the front of the contactors (S0 to S3).

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16146/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16146/faq

System Manual "SIRIUS – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", see https://support.industry.siemens.com/cs/ww/en/view/60306557

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

The technical specifications are the same as for the individual contactors (see page 3/23 onwards).

IE3/IE4 ready SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Selection and ordering data

Fully wired and tested reversing contactor assemblies¹⁾ · Size S00 · Up to 7.5 kW AC operation or DC operation

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B











3RA231.-8XB30-2A.0

Rated data AC-2	and AC-3			Rated control	SD	Screw terminals	(1)	SD	Spring-type terminals	8
Operational		three-phase	motors	supply voltage $U_{\rm s}$						
current I _e up to 400 V	at 50 Hz a	and 400 V	COO V	O _S		Article No.	Price		Article No.	Price
			690 V				per PU			per PU
A	kW	kW	kW	V	d			d		
AC operation	<u>′ </u>	_						_		
7	2.2	3	4	24 AC	5	3RA2315-8XB30-1AB0		5	3RA2315-8XB30-2AB0	
				110 AC	5	3RA2315-8XB30-1AF0		5	3RA2315-8XB30-2AF0	
				230 AC	2	3RA2315-8XB30-1AP0		2	3RA2315-8XB30-2AP0	
9	3	4	5.5	24 AC	5	3RA2316-8XB30-1AB0		5	3RA2316-8XB30-2AB0	
				110 AC	5	3RA2316-8XB30-1AF0		5	3RA2316-8XB30-2AF0	
				230 AC	2	3RA2316-8XB30-1AP0		2	3RA2316-8XB30-2AP0	
12	3	5.5	5.5	24 AC	5	3RA2317-8XB30-1AB0		5	3RA2317-8XB30-2AB0	
				110 AC	5	3RA2317-8XB30-1AF0		5	3RA2317-8XB30-2AF0	
				230 AC	2	3RA2317-8XB30-1AP0		2	3RA2317-8XB30-2AP0	
16	4	7.5	7.5	24 AC	5	3RA2318-8XB30-1AB0		5	3RA2318-8XB30-2AB0	
				110 AC	5	3RA2318-8XB30-1AF0		5	3RA2318-8XB30-2AF0	
				230 AC	2	3RA2318-8XB30-1AP0		2	3RA2318-8XB30-2AP0	
DC operation										
7	2.2	3	4	24 DC	2	3RA2315-8XB30-1BB4		2	3RA2315-8XB30-2BB4	
9	3	4	5.5	24 DC	2	3RA2316-8XB30-1BB4		2	3RA2316-8XB30-2BB4	
12	3	5.5	5.5	24 DC	2	3RA2317-8XB30-1BB4		2	3RA2317-8XB30-2BB4	
16	4	7.5	7.5	24 DC	2	3RA2318-8XB30-1BB4		2	3RA2318-8XB30-2BB4	
With voltage t	tap-off									
7	2.2	3	4	24 DC	2	3RA2315-8XE30-1BB4		5	3RA2315-8XE30-2BB4	
9	3	4	5.5	24 DC	2	3RA2316-8XE30-1BB4		5	3RA2316-8XE30-2BB4	
12	3	5.5	5.5	24 DC	2	3RA2317-8XE30-1BB4		2	3RA2317-8XE30-2BB4	
16	4	7.5	7.5	24 DC	2	3RA2318-8XE30-1BB4		2	3RA2318-8XE30-2BB4	

¹⁾ The contactors integrated in the reversing contactor assemblies have no unassigned auxiliary contacts. When used with a voltage tap-off and function module, the auxiliary contacts are unassigned.

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/158.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW IE3/IE4 ready

Fully wired and tested reversing contactor assemblies \cdot Size S0 \cdot Up to 18.5 kW AC operation \frown or DC operation \frown

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B







3HAZ3Z0XD3U-1A.Z	2328XB30-	-1A.2
------------------	-----------	-------

3RA2324-8XE30-1BB4

3RA232.-8XB30-2A.2

Rated data AC-2	and AC-3			Rated control	SD	Screw terminals	(+)	SD	Spring-type terminals	∞
Operational	Rating of t at 50 Hz a	hree-phase	motors	supply voltage U _s			Ŭ			
current I _e up to 400 V	230 V	400 V	690 V	- 5		Article No.	Price per PU		Article No.	Price per PU
400 v	kW	kW	kW	V	d		perro	d		perro
AC operation.		KVV	N.V.V		u			u		
12	3	5.5	7.5	24 AC	5	3RA2324-8XB30-1AC2		5	3RA2324-8XB30-2AC2	
12	O	0.0	7.5	110 AC	5	3RA2324-8XB30-1AG2		5	3RA2324-8XB30-2AG2	
				230 AC	5	3RA2324-8XB30-1AL2		5	3RA2324-8XB30-2AL2	
17	4	7.5	11	24 AC	5	3RA2325-8XB30-1AC2		5	3RA2325-8XB30-2AC2	
**				110 AC	5	3RA2325-8XB30-1AG2		5	3RA2325-8XB30-2AG2	
				230 AC	5	3RA2325-8XB30-1AL2		5	3RA2325-8XB30-2AL2	
25	5.5	11	11	24 AC	5	3RA2326-8XB30-1AC2		5	3RA2326-8XB30-2AC2	
20	0.0			110 AC	5	3RA2326-8XB30-1AG2		5	3RA2326-8XB30-2AG2	
				230 AC	5	3RA2326-8XB30-1AL2		5	3RA2326-8XB30-2AL2	
32	7.5	15	18.5	24 AC	5	3RA2327-8XB30-1AC2		5	3RA2327-8XB30-2AC2	
				110 AC	5	3RA2327-8XB30-1AG2		5	3RA2327-8XB30-2AG2	
				230 AC	5	3RA2327-8XB30-1AL2		5	3RA2327-8XB30-2AL2	
38	11	18.5	18.5	24 AC	5	3RA2328-8XB30-1AC2		5	3RA2328-8XB30-2AC2	
				110 AC	5	3RA2328-8XB30-1AG2		5	3RA2328-8XB30-2AG2	
				230 AC	5	3RA2328-8XB30-1AL2		5	3RA2328-8XB30-2AL2	
DC operation										
12	3	5.5	7.5	24 DC	2	3RA2324-8XB30-1BB4		2	3RA2324-8XB30-2BB4	
17	4	7.5	11	24 DC	2	3RA2325-8XB30-1BB4		2	3RA2325-8XB30-2BB4	
25	5.5	11	11	24 DC	2	3RA2326-8XB30-1BB4		2	3RA2326-8XB30-2BB4	
32	7.5	15	18.5	24 DC	2	3RA2327-8XB30-1BB4		2	3RA2327-8XB30-2BB4	
38	11	18.5	18.5	24 DC	2	3RA2328-8XB30-1BB4		2	3RA2328-8XB30-2BB4	
With voltage to	ap-off									
12	3	5.5	7.5	24 DC	2	3RA2324-8XE30-1BB4		2	3RA2324-8XE30-2BB4	
17	4	7.5	11	24 DC	2	3RA2325-8XE30-1BB4		5	3RA2325-8XE30-2BB4	
25	5.5	11	11	24 DC	2	3RA2326-8XE30-1BB4		2	3RA2326-8XE30-2BB4	
32	7.5	15	18.5	24 DC	5	3RA2327-8XE30-1BB4		2	3RA2327-8XE30-2BB4	
38	11	18.5	18.5	24 DC	2	3RA2328-8XE30-1BB4		2	3RA2328-8XE30-2BB4	

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/159.

IE3/IE4 ready SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies \cdot Size S2 \cdot Up to 37 kW AC operation \frown or AC/DC operation \frown

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B







3RA233.-8XE30-1NB3

Rated data AC-2	and AC-3			Rated control	SD	Screw terminals	(1)	SD	Spring-type terminals	∞
Operational current Ie up to	Rating of t at 50 Hz a	hree-phase r nd	motors	supply voltage U_s		Article No.	Price		Article No.	Price
400 V	230 V	400 V	690 V			Article No.	per PU		Article No.	per PU
A	kW	kW	kW	V	d		'	d		,
AC operation,	50/60 Hz									
40	11	18.5	22	110 AC	2	3RA2335-8XB30-1AG2				
				230 AC	2	3RA2335-8XB30-1AL2				
50	15	22	22	110 AC	5	3RA2336-8XB30-1AG2				
				230 AC	2	3RA2336-8XB30-1AL2				
65	18.5	30	37	110 AC	5	3RA2337-8XB30-1AG2				
				230 AC	2	3RA2337-8XB30-1AL2				
80	22	37	45	110 AC	5	3RA2338-8XB30-1AG2				
				230 AC	2	3RA2338-8XB30-1AL2				
AC/DC operat	ion ¹⁾									
40	11	18.5	22	20 33 AC/DC	2	3RA2335-8XB30-1NB3			-	
50	15	22	22	20 33 AC/DC	2	3RA2336-8XB30-1NB3				
65	18.5	30	37	20 33 AC/DC	2	3RA2337-8XB30-1NB3				
80	22	37	45	20 33 AC/DC	2	3RA2338-8XB30-1NB3				
With voltage to	ap-off									
40	11	18.5	22	20 33 AC/DC	5	3RA2335-8XE30-1NB3			-	
50	15	22	22	20 33 AC/DC	5	3RA2336-8XE30-1NB3				
65	18.5	30	37	20 33 AC/DC	5	3RA2337-8XE30-1NB3				
80	22	37	45	20 33 AC/DC	5	3RA2338-8XE30-1NB3				

¹⁾ With integrated coil circuit (varistor).

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/160.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW IE3/IE4 ready

Fully wired and tested reversing contactor assemblies \cdot Size S3 \cdot Up to 55 kW AC operation \frown or AC/DC operation \frown

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B







3RA234.-8XE30-1NB3

Rated data AC-2	and AC-3			Rated control	SD	Screw terminals	(1)	SD	Spring-type terminals	<u></u>
Operational current I_e up to	Rating of that 50 Hz ar	nree-phase n	notors	supply voltage $U_s^{(1)}$						
400 V	230 V	400 V	690 V			Article No.	Price per PU		Article No.	Price per PU
400 V	kW	kW	kW	V	d			d		perio
AC operation,		N.V.	NVV		u			u		
•		07		110.10	\ <u>'</u>	0D40045 0VD00 4400				
80	22	37	55	110 AC	Χ	3RA2345-8XB30-1AG2				
				230 AC	Χ	3RA2345-8XB30-1AL2				
95	22	45	75	110 AC	Χ	3RA2346-8XB30-1AG2				
				230 AC	Χ	3RA2346-8XB30-1AL2				
110	30	55	75	110 AC	Χ	3RA2347-8XB30-1AG2				
				230 AC	Χ	3RA2347-8XB30-1AL2			-	
AC/DC operati	ion ¹⁾									
80	22	37	55	20 33 AC/DC	Χ	3RA2345-8XB30-1NB3			-	
95	22	45	75	20 33 AC/DC	Χ	3RA2346-8XB30-1NB3				
110	30	55	75	20 33 AC/DC	Χ	3RA2347-8XB30-1NB3				
With voltage ta	ap-off ²⁾									
80	22	37	55	20 33 AC/DC	Χ	3RA2345-8XE30-1NB3				
95	22	45	75	20 33 AC/DC	Χ	3RA2346-8XE30-1NB3				
110	30	55	75	20 33 AC/DC	Χ	3RA2347-8XE30-1NB3				

¹⁾ With integrated coil circuit (varistor).

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/161.

²⁾ The associated module connectors 3RA2711-0EE17 for the 3RA271. function modules must be ordered separately, see page 3/108.

Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Overview

The individual parts for the reversing contactor assemblies for customer assembly must be ordered separately.

 3RT contactors: The operating times of the individual 3RT10 contactors are rated in such a way that no overlapping of the contact making and the arcing time between two contactors can occur on reversing, provided they are interlocked by way of their auxiliary switches (NC contact interlock) and the mechanical interlock.

For assemblies with AC operation and 50/60 Hz, a dead interval of 50 ms must be provided when used with voltages over 500 V; a dead interval of 30 ms is recommended for use with voltages up to and including 400 V. These dead times do not apply to assemblies with DC operation.

The operating times of the individual contactors are not affected by the mechanical interlock.

- · Mechanical interlock
- · Wiring kits consisting of link rails
- · Base plate

Additional components

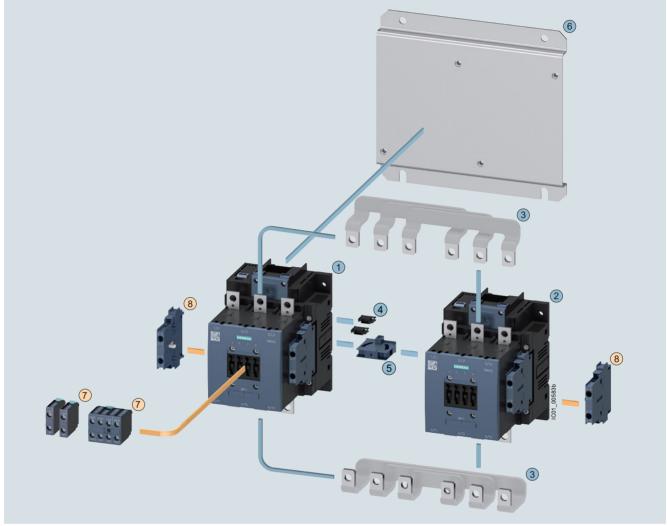
- For momentary-contact operation: auxiliary switch (NO contact) for self-locking
- 3RB2 overload relays (see from page 7/117 onwards), SIMOCODE pro 3UF7 motor management and control devices (from page 10/16 onwards) or 3RN thermistor motor protection relays (page 10/161) can be used for overload protection.

More information

Homepage, see www.siemens.com/sirius Industry Mall, see www.siemens.com/product?3RA23_3RT1

Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Reversing contactor assemblies for customer assembly \cdot Size S6 \cdot Up to 90 kW



Mounto	bla again	oorioo (optional)
IM COLUMNIA	DIE ACCE	ssories i	ODLOHAD

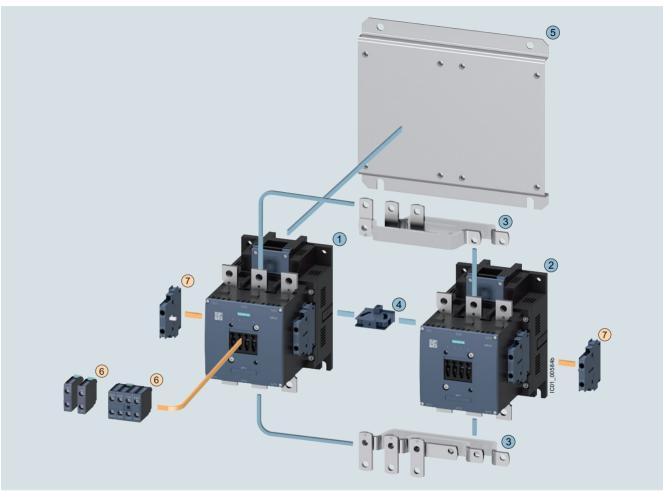
To I	be ordered separately	Туре	Page
7	Auxiliary switch block, front	3RH1921	3/97
0	Auxiliary switch block lateral	3BH1021	3/00

Reversing contactor assembly for customer assembly

Individu	ual parts	Type		Page	
		Q11	Q12		
(1)(2)	Contactors, 55 kW	3RT1.54	3RT1.54	3/71 3/73	
12	Contactors, 75 kW	3RT1.55	3RT1.55	3/71 3/73	
12	Contactors, 90 kW	3RT1.56	3RT1.56	3/71 3/73	
3	Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1953-	2A	3/110	
4	Two connectors for two contactors	3RA1932-	2D	3/114	
5	Mechanical interlock (must be ordered separately)	3RA1954-	·2A	3/114	
6	Base plate for reversing contactor assemblies	3RA1952-	-2A	3/119	

Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Reversing contactor assemblies for customer assembly \cdot Size S10 \cdot Up to 160 kW

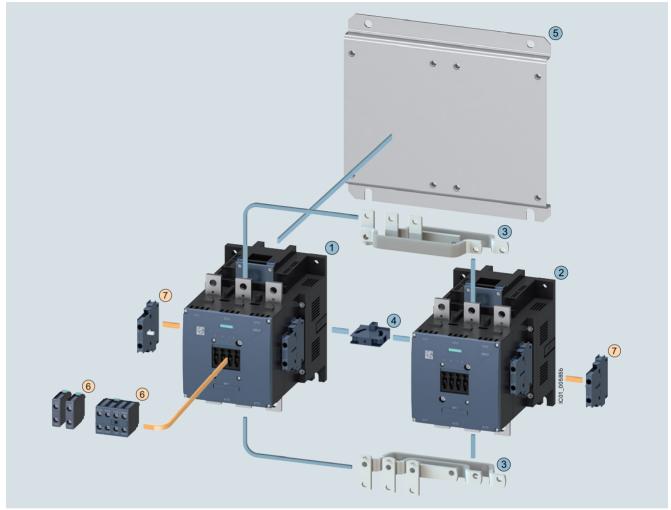


Mountable accessories (optional)					
То	be ordered separately	Туре	Page		
6	Auxiliary switch block, front	3RH1921	3/97		
$\tilde{7}$	Auxiliary switch block, lateral	3RH1921	3/99		

Reversing contactor assembly for customer assembly					
Individua	ıl parts	Туре		Page	
		Q11	Q12		
12	Contactors, 110 kW	3RT1.64	3RT1.64	3/71 3/73	
12	Contactors, 132 kW	3RT1.65	3RT1.65	3/71 3/73	
12	Contactors, 160 kW	3RT1.66	3RT1.66	3/71 3/73	
3	Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1963-2	2A	3/110	
4	Mechanical interlock (must be ordered separately)	3RA1954-2	2A	3/114	
5	Base plate for reversing contactor assemblies	3RA1962-2	2A	3/119	

Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Reversing contactor assemblies for customer assembly \cdot Size S12 \cdot Up to 250 kW



Mountable accessories (optional)					
То	be ordered separately	Туре	Page		
6	Auxiliary switch block, front	3RH1921	3/97		
$\overline{7}$	Auxiliary switch block, lateral	3RH1921	3/99		

Revers	sing contactor assembly for custor	ner assen	nbly	
Individu	ual parts	Туре		Page
		Q11	Q12	
12	Contactors, 200 kW	3RT1.74	3RT1.74	3/71 3/73
(1)(2)	Contactors, 250 kW	3RT1.75	3RT1.75	3/71 3/73
3	Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1973-	2A	3/110
4	Mechanical interlock (must be ordered separately)	3RA1954-	-2A	3/114
(5)	Base plate for reversing contactor assemblies	3RA1972-	·2A	3/119

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Overview

More information

Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RA24_3RT

The 3RA24 contactor assemblies for star-delta (wye-delta) starting in sizes S00 to S3 can be ordered as follows:

- Fully wired and tested, with electrical and mechanical interlock, see page 3/180 onwards.
- For all individual parts for customer assembly, see from page 3/76 onwards.

The 3RA24 contactor assemblies for star-delta (wye-delta) starting have screw or spring-type terminals and are suitable for screwing and snapping onto TH 35 standard mounting rails.

A base plate is also available for the size S2 and S3 assemblies.

A dead interval of 50 ms on reversing is already integrated in the 3RA28 function module for star-delta (wye-delta) starting.

With the fully wired and tested 3RA24 contactor assemblies for star-delta (wye-delta) starting, the auxiliary contacts included in the basic units are unassigned.

The 3RA24 contactor assemblies for star-delta (wye-delta) starting are designed for standard applications.

Note

Contactor assemblies for star-delta (wye-delta) starting in special applications such as very heavy starting ¹⁾ or star-delta (wye-delta) starting of special motors must be customized. Help with designing such special applications is available from our Technical Support:

https://support.industry.siemens.com/My/ww/en/requests

- Rated motor voltage
- Rated motor current
- Service factor, operating values
- Motor starting current factor
- Starting time
- Ambient temperature.

Conversion tool, e.g. from 3RT10 to 3RT20, see

www.siemens.com/sirius/conversion-tool

TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/TSTWeb/?kmat=LoadFeeder

Surge suppression

Surge suppression (varistor) is included in the 3RA28 function modules for star-delta (wve-delta) starting.

Motor protection

3RU2 overload relays (see from page 7/92 onwards) or 3RB3 overload relays (see from page 7/105 onwards) for contactor mounting or stand-alone installation, SIMOCODE pro 3UF7 motor management and control devices (from page 10/16 onwards) or 3RN thermistor motor protection relays (page 10/161) can be used for motor protection.

The overload relay can be either mounted onto the line contactor or separately fitted. It must be set to 0.58 times the rated motor current.

SIRIUS 3RA28 function module for star-delta (wye-delta) starting

The 3RA2816-0EW20 star-delta (wye-delta) function module (see page 3/106) replaces the complete wiring in the control circuit and can be used in the voltage range from 24 to 240 V AC/DC. It is snapped onto the front of the contactor assembly for star-delta (wye-delta) starting size S00, S0, S2 or S3.

One function module comprises a complete module kit:

- Basic module with integrated control logic and time setting
- Two coupling modules with corresponding connecting cables

The scope of supply thus comprises a complete module kit for one contactor assembly for star-delta (wye-delta) starting in size S00, S0, S2 or S3, regardless of the connection method.

Data of the control circuit:

- Wide voltage range 24 to 240 V AC/DC
- Time setting range 0.5 to 60 s (3 selectable settings)
- Dead interval of 50 ms, non-adjustable

¹⁾ For effective support from Technical Support you must provide the following details:

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Complete units

Note:

The selection of contactor types refers to fused designs.

Rated data at 50	0 Hz 400 V AC		Size	Type		
Rating <i>P</i> kW	Operational current I_0	Motor current A		Line/delta contactor	Star contactor	Fully-wired and tested contactor assemblies for star-delta (wye-delta) starting
				Screw terminal	ls	
5.5	12	9.5 13.8	S00-S00-S00	3RT2015-1	3RT2015-1	3RA2415-8XF31-1
7.5	16	12.1 17		3RT2017-1	3RT2015-1	3RA2416-8XF31-1
11	25	19 25		3RT2018-1	3RT2016-1	3RA2417-8XF31-1
11	25	19 25	S0-S0-S0	3RT2024-10	3RT2024-10	3RA2423-8XF32-1
15	32	24.1 34		3RT2026-10	3RT2024-10	3RA2425-8XF32-1
18.5	40	34.5 40		3RT2026-10	3RT2024-10	3RA2425-8XF32-1
22	50	31 43		3RT2027-10	3RT2026-10	3RA2426-8XF32-1
22/30	50	31 43	S2-S2-S0	3RT2035-10	3RT2026-10	3RA2434-8XF32-1
37	80	62.1 77.8		3RT2035-10	3RT2027-10	3RA2435-8XF32-1
45	86	69 86		3RT2036-10	3RT2028-10	3RA2436-8XF32-1
55	115	77.6 108.6	S2-S2-S2	3RT2037-10	3RT2035-10	3RA2437-8XF32-1
55	115	77.6 108.6	S3-S3-S2	3RT2045-10	3RT2035-10	3RA2444-8XF32-1
75	150	120.7 150		3RT2045-10	3RT2036-10	3RA2445-8XF32-1
90	160	86 160		3RT2046-10	3RT2037-10	3RA2446-8XF32-1
				Spring-type ter	rminals	
5.5	12	9.5 13.8	S00-S00-S00	3RT2015-2	3RT2015-2	3RA2415-8XF31-2
7.5	16	12.1 17		3RT2017-2	3RT2015-2	3RA2416-8XF31-2
11	25	19 25		3RT2018-2	3RT2016-2	3RA2417-8XF31-2
11	25	19 25	S0-S0-S0	3RT2024-20	3RT2024-20	3RA2423-8XF32-2
15	32	24.1 34		3RT2026-20	3RT2024-20	3RA2425-8XF32-2
18.5	40	34.5 40		3RT2026-20	3RT2024-20	3RA2425-8XF32-2
22	50	31 43		3RT2027-20	3RT2026-20	3RA2426-8XF32-2

Article No. scheme

Product versions		Article number
SIRIUS contactor assembly for star-delta	a (wye-delta) starting	3RA24 🗆 🗆 – 🗆 🗆 🗆 – 🗆 🗆 🗆
Contactor size	e.g. 4 = S3	
Rating dependent on size	e.g. 5 = 75 kW for size S3	
Type of overload relay	e.g. 8X = without	
Assembly	e.g. F = ready-assembled with function modules	
Interlock	e.g. 3 = mechanical and electrical	
Free auxiliary switches	e.g. 2 = S3: 3 NO + 3 NC total	
Type of electrical connection	e.g. 1 = screw terminals (main and auxiliary circuits)	
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	
Rated control supply voltage	e.g. L2 = 230 V AC, 50/60 Hz	
Example		3RA24 4 5 - 8 X F 3 2 - 1 A L 2

Note:

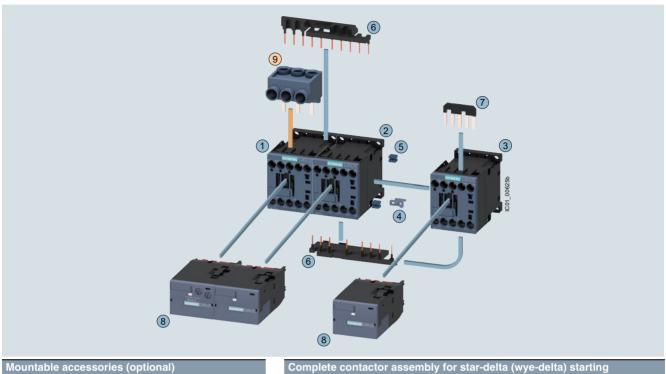
The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S00-S00-S00 · Up to 11 kW

The figure shows the version with screw terminals



Mountable accessories (optional)	
To be ordered separately	Туре	Page

Three-phase infeed terminal¹⁾

3RA2913-3K 3/116

Individual parts	Туре			Page
	Q11 ²⁾	Q13	Q12	
(1)(2)(3) Contactors, 5.5 kW	3RT2015	3RT2015	3RT2015	3/55, 3/62
(1)(2)(3) Contactors, 7.5 kW	3RT2017	3RT2017	3RT2015	3/55, 3/62
(1)2(3) Contactors, 11 kW	3RT2018	3RT2018	3RT2016	3/55, 3/62
4 7 Assembly kit S00-S00-S00 comprising:	3RA2913-	2BB1		3/111
Manhania al intanta de al				

4 Mechanical interlock

5 Four connecting clips for three contactors

Wiring modules on top and bottom for connecting the main and auxiliary circuits

7 Star jumper

Function modules for star-delta 3RA2816-0EW20 (wye-delta) starting

3/106

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/180.

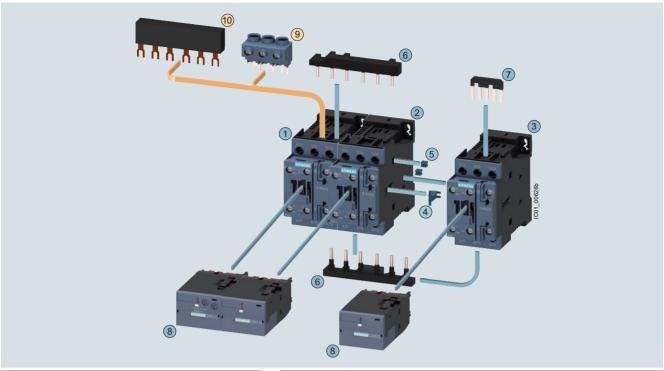
¹⁾ Part (9) can only be mounted in the case of contactors with screw terminal.

²⁾ The version with 1 NO is required for momentary-contact operation.

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S0-S0-S0 · Up to 22 kW

The figure shows the version with screw terminals



modifiable accessories (optional)				
To be ordered separately	Туре	Page		
(9) Three-phase infeed terminal ¹⁾	3RV2925-5AB	3/116		

	Three-phase infeed terminal ¹⁾ Three-phase busbar ¹⁾	3RV2925-5AB 3RV1915-1AB	
_			

Complet	е со	ntactor assembly for s	star-delta	(wye-delta) starting			
Individual parts		3	Туре		Page			
			Q11	Q13	Q12			
123	Cont	actors, 11 kW	3RT2024	3RT2024	3RT2024	3/56, 3/66		
123	Cont	actors, 15/18.5 kW	3RT2026	3RT2026	3RT2024	3/56, 3/66		
123	Cont	actors, 22 kW	3RT2027	3RT2027	3RT2026	3/56, 3/66		
47		mbly kit S0-S0-S0 orising:	3RA2923-2	BB1		3/111		
	4	Mechanical interlock						
	(5)	Four connecting clips for three contactors						
	6	Wiring modules on top and bottom for connecting the main and auxiliary circuits						

Function modules for star-delta (wye-delta) starting

Star jumper

3/106

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/181.

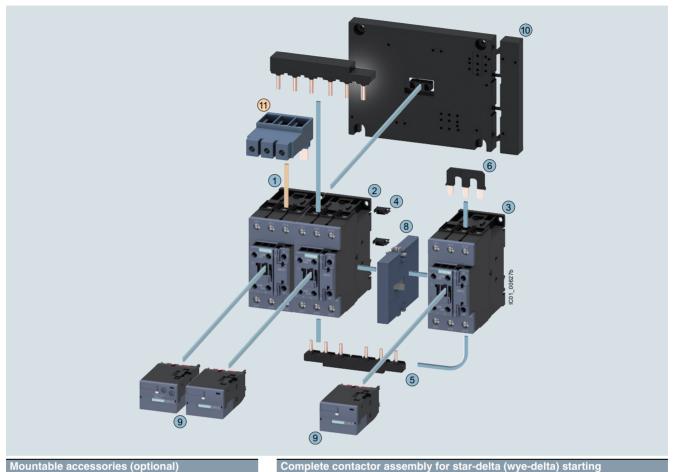
3RA2816-0EW20

¹⁾ The parts (9) and (10) can only be mounted with contactors with screw terminal, the (6) wiring modules must be removed beforehand.

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting \cdot Size S2-S2-S0^1) \cdot Up to 45 kW and S2-S2-S2 \cdot 55 kW

The figure shows the version with screw terminals in S2-S2-S2



Mountable accessories (opt	ional)	
To be ordered separately	Туре	Page
Three-phase infeed terminal	3RV2935-5A	3/116

Individua	l part	s	Туре			Page
			Q11	Q13	Q12	
123	Cont	tactors, 22/30 kW	3RT2035	3RT2035	3RT2026	3/58, 3/67
123	Cont	actors, 37 kW	3RT2035	3RT2035	3RT2027	3/58, 3/67
123	Cont	tactors, 45 kW	3RT2036	3RT2036	3RT2028	3/58, 3/67
123	Cont	tactors, 55 kW	3RT2037	3RT2037	3RT2035	3/58, 3/67
47		embly kit S2-S2-S2 prising:	3RA2933-2	BB1		3/111
	4	Four connectors for three pre-wired contactor asse starting)				
	(5)	Wiring modules on top ar connecting the main and				
	6	Star jumper S2				

	connecting the main and
6	Star jumper S2

Cable for connecting the A2 coil contact from the line contactor with the A2 coil contact of the delta contactor (not shown in the drawing)

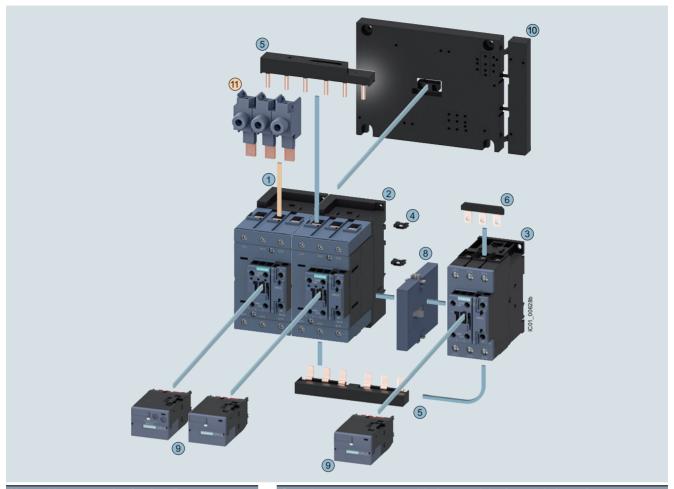
8	Mechanical interlock	3RA2934-2B	3/114
9	Function modules for star-delta (wye-delta) starting	3RA2816-0EW20	3/106
10	Base plate star-delta (wye-delta)	3RA2932-2F	3/119

¹⁾ Complete contactor assembly for star-delta (wye-delta) starting in size S2-S2-S0 (not shown): The 3RA2933-2C assembly kit is to be used here, see page 3/111.

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/182.

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S3-S2-S2-1) · Up to 90 kW



Mountable accessories (d	optional)	
To be ordered separately	Туре	Page
_		

Single-phase infeed terminal 3F (3 units are required)	RA2943-3L 3/116
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Comple	te contactor assembly for	star-delta	(wye-delta) starting			
Individua	l parts	Туре	Туре				
		Q11	Q13	Q12			
123	Contactors, 55 kW	3RT2045	3RT2045	3RT2035	3/59, 3/67		
123	Contactors, 75 kW	3RT2045	3RT2045	3RT2036	3/59, 3/67		
123	Contactors, 90 kW	3RT2046	3RT2046	3RT2037	3/59, 3/67		
47	Assembly kit S3-S3-S2 comprising:	3RA2943-2	2C		3/111		

- Two connectors for three contactors (not required for fully pre-wired contactor assemblies for star-delta (wye-delta) starting)
- Wiring modules on top and bottom (S3-S2) for connecting the main and auxiliary circuits and a cable set for the auxiliary circuit
- 6 Star jumper S2

(wye-delta)

Cable for connecting the A2 coil contact from the line contactor with the A2 coil contact of the delta contactor (not shown in the drawing)

8	Mechanical interlock	3RA2934-2B	3/114
9	Function modules for star-delta (wye-delta) starting	3RA2816-0EW20	3/106
10	Base plate star-delta	3BA2042-2E	3/110

¹⁾ Contactor assembly for star-delta (wye-delta) starting for customer assembly in size S3-S3-S3 (not shown): The 3RA2943-2BB. assembly kit is to be used here, see page 3/111.

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/183.

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16150/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16150/faq

System Manual "SIRIUS - System Overview", see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", see https://support.industry.siemens.com/cs/ww/en/view/60306557

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Unless otherwise indicated, the technical specifications correspond to those of the 3RT individual contactors (see from page 3/23 onwards) and 3RU2 overload relays (see from page 7/88 onwards).

Туре		3RA2415	3RA2416	3RA2417	3RA2423	3RA2425	3RA2426
Sizes		S00-S00-S00	S00-S00-S00	S00-S00-S00	S0-S0-S0	S0-S0-S0	S0-S0-S0
General data							
Dimensions (W x H x D) with function module							
AC operation							
- Screw terminals	mm	135 x 68 x 14	5		135 x101 x 17	71	
- Spring-type terminals	mm	135 x 84 x 14	5		135 x114 x 17	71	
• DC operation							
- Screw terminals	mm	135 x 68 x 14	5		135 x101 x 18	81	
- Spring-type terminals	mm	135 x 84 x 14	5		135 x114 x 18	81	
Individual contactors							
Q11 line contactor	Type	3RT2015	3RT2017	3RT2018	3RT2024	3RT2026	3RT2027
Q13 delta contactor	Type	3RT2015	3RT2017	3RT2018	3RT2024	3RT2026	3RT2027
Q12 star contactor	Type	3RT2015	3RT2015	3RT2016	3RT2024	3RT2024	3RT2026
Mechanical endurance	Operating cycles	3 million					
Unassigned auxiliary contacts of the individual contactors		For circuit diag	grams of the cor	ntrol circuit, see	Manual for Cor	ntactors/Conta	ctor assemblies.
Short-circuit protection							
Main circuit without overload relays							
 Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE with single or double infeed 							
Greatest rated current of the fuse according to IEC 60947-4-1							
- Type of coordination "1"	Α	35		63		100	125
- Type of coordination "2"	Α	20		25		35	63
Auxiliary circuit							
Short-circuit test							
With fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE A		10 6 (up tp $I_k < 0.5 \text{ kA}; \le 260 \text{ V}$),					
with short-circuit current $I_k = 1$ kA acc. to IEC 60947-5-1			contact of the		is connected in	n the contacto	or coil circuit.
With miniature circuit breaker, C characteristic	Α	10					
with short-circuit current $I_k = 400 \text{ A}$	Α		.5 kA; ≤ 260 V) contact of the		is connected in	n the contacto	or coil circuit
Short-circuit protection with overload relay		See Configura	ation Manual for	r load feeders			

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Туре			3RA2415	3RA2416	3RA2417	3RA2423	3RA2425	3RA2426
Sizes			S00-S00-S00	S00-S00-S00	S00-S00-S00	S0-S0-S0	S0-S0-S0	S0-S0-S0
Rated data of the main contacts	;							
Current-carrying capacity with reverup to 10 s	sing time							
$ullet$ Rated operational current $I_{ m e}$	At 400 V	Α	12	17	25		40	55
	690 V	Α	6.9	9	20.8		22.5	35
 Rated power for three-phase 	At 230 V	kW	3.3	4.7	7.2		12	16.6
motors with 50 Hz and 60 Hz	400 V	kW	5.8	8.2	12.5		21	30.1
	690 V	kW	5.8	7.5	18		20.4	33
Switching frequency with overload in	relay	1/h	15					
Current-carrying capacity with reverup to 15 s	sing time							
 Rated operational current I_e 	At 400 V	Α	12	17	25		31	44
	690 V	Α	6.9	9	20.8		22.5	35
 Rated power for three-phase 	At 230 V	kW	3.3	4.7	7.2		9.4	13.8
motors with 50 Hz and 60 Hz	400 V	kW	5.8	8.2	12.5		16.3	24
	690 V	kW	5.8	7.5	18		20.4	33
Switching frequency with overload in	relay	1/h	15					
Current-carrying capacity with reverup to 20 s	sing time							
 Rated operational current I_e 	At 400 V	Α	12	17	25		28	39
	690 V	Α	6.9	9	20.8		22.5	35
 Rated power for three-phase 	At 230 V	kW	3.3	4.7	7.2		8.5	12.2
motors with 50 Hz and 60 Hz	400 V	kW	5.8	8.2	12.5		14.7	21.3
	690 V	kW	5.8	7.5	18		20.4	33
• Switching frequency with overload	relay	1/h	15					

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

-									
Type			3RA2434	3RA2435	3RA2436	3RA2437	3RA2444	3RA2445	3RA2446
Sizes			S2-S2-S0	S2-S2-S0	S2-S2-S0	S2-S2-S2	S3-S3-S2	S3-S3-S2	S3-S3-S2
General data									
Dimensions (W x H x D) with function module \overline{A}									
• AC and DC operation =									
- Screw terminals		mm	177.5 x 142	x 223			220 x 180 x	244	
	₩ ► V								
Individual contactors									
Q11 line contactor		Type	3RT2035	3RT2035	3RT2036	3RT2037	3RT2045	3RT2045	3RT2046
Q13 delta contactor		Туре	3RT2035	3RT2035	3RT2036	3RT2037	3RT2045	3RT2045	3RT2046
Q12 star contactor		Type	3RT2026	3RT2027	3RT2028	3RT2035	3RT2035	3RT2036	3RT2037
Mechanical endurance		Operat- ing	1 million						
		cycles							
Unassigned auxiliary contacts individual contactors	of the		For circuit d	liagrams of the	e control circuit	t, see Manual.			
Short-circuit protection									
Main circuit without overload re	elays								
• Fuse links, operational class go	-								
LV HRC, type 3NA; DIAZED, type									
NEOZED, type 5SE with single or double infeed									
<u> </u>									
Greatest rated current of the fur according to IEC 60947-4-1	ot .								
- Type of coordination "1"		Α	160			250			
- Type of coordination "2"		Α	80			125	160		
Auxiliary circuit									
Short-circuit test									
With fuse links, operational class		A	10	0.514.4000					
With fuse links, operational class DIAZED, type 5SB; NEOZED, ty	rpe 5SE	A A	6 (up to I_k <	: 0.5 kA; ≤ 260 rv contact of t		lav is connect	ed in the conta	actor coil circui	it.
With fuse links, operational class	rpe 5SE		6 (up to I_k <) V), he overload re	lay is connect	ed in the conta	actor coil circui	it.
 With fuse links, operational class DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C 	rpe 5SE KA C characteristic	A	6 (up to I_k < if the auxiliar 10	ry contact of t	he overload re	lay is connect	ed in the conta	actor coil circui	it.
• With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current $I_{\rm k}=1$ acc. to IEC 60947-5-1	rpe 5SE KA C characteristic	Α	6 (up to I_k < if the auxiliar 10 6 (up to I_k <	ry contact of t : 0.5 kA; ≤ 260	he overload re				
 With fuse links, operational class DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C 	rpe 5SE AA C characteristic 10 A	A	6 (up to I_k < if the auxiliar 10 6 (up to I_k < if the auxiliar 10 6 (up to I_k <	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re	lay is connect			
 With fuse links, operational class DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 40 	characteristic A Codar relay	A	6 (up to I_k < if the auxiliar 10 6 (up to I_k < if the auxiliar 10 6 (up to I_k <	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overlocated data of the main con Current-carrying capacity with 	rpē 5SE kA C characteristic 10 A Dad relay	A	6 (up to I_k < if the auxiliar 10 6 (up to I_k < if the auxiliar 10 6 (up to I_k <	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overlocated data of the main con Current-carrying capacity with rup to 10 s 	characteristic A characteristic A characteristic A characteristic A characteristic A characteristic C characteristic C characteristic	A A A	6 (up to I_k < if the auxiliar 10 6 (up to I_k < if the auxiliar See Configu	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overlocated data of the main con Current-carrying capacity with 	characteristic O A	A A A	$\begin{array}{c} \text{6 (up to } I_k \\ \text{if the auxilia} \\ \\ \text{10} \\ \text{6 (up to } I_k \\ \text{if the auxilia} \\ \\ \text{See Configu} \\ \\ \\ \text{On request} \end{array}$	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overland the main con Current-carrying capacity with rup to 10 s Rated operational current I_e 	characteristic of A charac	A A A	$\begin{array}{c} \text{6 (up to } I_k \\ \text{if the auxilia} \\ \\ \text{10} \\ \text{6 (up to } I_k \\ \text{if the auxilia} \\ \\ \text{See Configu} \\ \\ \\ \text{On request} \\ \\ \text{On request} \end{array}$	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, 0 with short-circuit current I_k = 40 Short-circuit protection with overlowers. Rated data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 	characteristic O A	A A A	$\begin{array}{c} 6 \text{ (up to } I_k \\ \text{ if the auxilia} \\ \\ 10 \\ 6 \text{ (up to } I_k \\ \text{ if the auxilia} \\ \\ \hline \text{See Configu} \\ \\ \\ \\ \text{On request} \\ \\ \text{On request} \\ \\ \text{On request} \\ \\ \\ \text{On request} \\ \\ \\ \text{On request} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, 0 with short-circuit current I_k = 40 Short-circuit protection with overland data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for 	characteristic of A charac	A A A A KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, 0 with short-circuit current I_k = 40 Short-circuit protection with overlowers. Rated data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 	characteristic of A charac	A A A KW KW	$\begin{array}{c} 6 \text{ (up to } I_k \\ \text{ if the auxilia} \\ \\ 10 \\ 6 \text{ (up to } I_k \\ \text{ if the auxilia} \\ \\ \hline \text{See Configu} \\ \\ \\ \\ \text{On request} \\ \\ \text{On request} \\ \\ \text{On request} \\ \\ \\ \text{On request} \\ \\ \\ \text{On request} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overleaded data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with over Current-carrying capacity with over Current-carrying capacity with 	characteristic of A charac	A A A A A KW kW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request On request On request	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overleaded data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s 	characteristic of A charac	A A A KW kW kW 1/h	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request On request 15	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current $I_k = 1$ acc. to IEC 60947-5-1 With miniature circuit breaker, 0 with short-circuit current $I_k = 40$. Short-circuit protection with overleaded data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational	characteristic on A charac	A A A A kW kW kW 1/h A	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request	ry contact of t c 0.5 kA; ≤ 260 ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overlend and the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational current I_e 	characteristic on A charac	A A A A KW KW KW 1/h A A	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current $I_k = 1$ acc. to IEC 60947-5-1 With miniature circuit breaker, 0 with short-circuit current $I_k = 40$. Short-circuit protection with overleaded data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational	characteristic on A charac	A A A A KW KW KW 1/h A A KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request On request On request On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 40 Short-circuit protection with overlated data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational current I_e Rated power for 	characteristic on A charac	A A A A KW KW I/h A A KW KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, 0 with short-circuit current I_k = 40. Short-circuit protection with overladded and the main con Current-carrying capacity with 1 up to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with 1 up to 15 s Rated operational current I_e Rated power for three-phase motors with 	characteristic on A charac	A A A A KW KW KW 1/h A A KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request On request On request On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overlocation with short-circuit protection with overlocation with so 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with overlocation with short with short with so 15 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with over Current-carrying capacity with over Current-carrying capacity with over Current-carrying capacity with the property with short with	characteristic on A charac	A A A A KW KW KW 1/h A A KW KW KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overleaded data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational current I_e Rated operational current I_e Switching frequency with over Current-carrying capacity with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with capacity with capacity with capacity with capacity with capacity with c	characteristic of A charac	A A A A KW KW KW I/h A A KW KW KW KW KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 40 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 40 acc. The short-circuit protection with overland and the short-circuit protection with overland the short-circuit protection with short-circu	characteristic on A characteristic on A characteristic on A characteristic on A characteristic c	A A A A KW KW KW 1/h A A KW KW KW A A A A A A A A A A A A A	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overleaded data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational current I_e Rated operational current I_e Switching frequency with over Current-carrying capacity with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with over Current I_e Rated operational current I_e 	characteristic on A charac	A A A A KW KW KW 1/h A A KW KW KW A A A	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 40 Short-circuit protection with overlated data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational current I_e Rated operational current I_e Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 20 s Rated operational current I_e Rated power for 	characteristic on A charac	A A A A KW KW KW 1/h A A KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overleaded data of the main con Current-carrying capacity with rup to 10 s Rated operational current I_e Rated power for three-phase motors with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with rup to 15 s Rated operational current I_e Rated operational current I_e Switching frequency with over Current-carrying capacity with 50 Hz and 60 Hz Switching frequency with over Current-carrying capacity with over Current I_e Rated operational current I_e 	characteristic on A charac	A A A A KW KW KW I/h A A KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		
 With fuse links, operational clas DIAZED, type 5SB; NEOZED, ty with short-circuit current I_k = 1 acc. to IEC 60947-5-1 With miniature circuit breaker, C with short-circuit current I_k = 4C Short-circuit protection with overlend the short-circuit current I_k = 4C Short-circuit protection with overlend the short-circuit graph of the short-circuit current I_k = 4C Short-circuit protection with overlend the short-circuit graph of the sho	characteristic of A charac	A A A A KW KW KW 1/h A A KW	6 (up to I_k if the auxilia 10 6 (up to I_k if the auxilia See Configu On request On request On request On request 15 On request	ry contact of t	he overload re) V), he overload re	lay is connect	ed in the conta		

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW IE3/IE4 ready

Selection and ordering data

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S00-S00-S00 · Up to 11 kW AC operation or DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$







3RA2418XF31-1A.0	3RA2418XF31-2A.0	3RA2418XE31-2BB4

Rated data AC-3				Rated control	SD	Screw terminals	(1)	SD	Spring-type terminals	8
Operational current I_e up to		Rating of three-phase motors at 50 Hz and		supply voltage U _s		A .:: 1 A1				
400 V	230 V	400 V	690 V			Article No.	Price per PU		Article No.	Price per PU
A	kW	kW	kW	V	d			d		
AC operation,	50/60 Hz									
12	3.3	5.5	9.2	24 AC	2	3RA2415-8XF31-1AB0		2	3RA2415-8XF31-2AB0	
				110 AC	2	3RA2415-8XF31-1AF0		5	3RA2415-8XF31-2AF0	
				230 AC	2	3RA2415-8XF31-1AP0		2	3RA2415-8XF31-2AP0	
16	4.7	7.5	9.2	24 AC	2	3RA2416-8XF31-1AB0		5	3RA2416-8XF31-2AB0	
				110 AC	2	3RA2416-8XF31-1AF0		5	3RA2416-8XF31-2AF0	
				230 AC	2	3RA2416-8XF31-1AP0		2	3RA2416-8XF31-2AP0	
25	5.5	11	11	24 AC	2	3RA2417-8XF31-1AB0		5	3RA2417-8XF31-2AB0	
				110 AC	2	3RA2417-8XF31-1AF0		5	3RA2417-8XF31-2AF0	
				230 AC	2	3RA2417-8XF31-1AP0		2	3RA2417-8XF31-2AP0	
DC operation										
12	3.3	5.5	9.2	24 DC	2	3RA2415-8XF31-1BB4		2	3RA2415-8XF31-2BB4	
16	4.7	7.5	9.2	24 DC	2	3RA2416-8XF31-1BB4		2	3RA2416-8XF31-2BB4	
25	5.5	11	11	24 DC	2	3RA2417-8XF31-1BB4		2	3RA2417-8XF31-2BB4	
For IO-Link co	nnection									
12	3.3	5.5	9.2	24 DC	2	3RA2415-8XE31-1BB4		2	3RA2415-8XE31-2BB4	
16	4.7	7.5	9.2	24 DC	2	3RA2416-8XE31-1BB4		2	3RA2416-8XE31-2BB4	
25	5.5	11	11	24 DC	2	3RA2417-8XE31-1BB4		2	3RA2417-8XE31-2BB4	
For AS-Interfa	ce connec	ction								
12	3.3	5.5	9.2	24 DC	5	3RA2415-8XH31-1BB4		2	3RA2415-8XH31-2BB4	
16	4.7	7.5	9.2	24 DC	2	3RA2416-8XH31-1BB4		5	3RA2416-8XH31-2BB4	
25	5.5	11	11	24 DC	2	3RA2417-8XH31-1BB4		2	3RA2417-8XH31-2BB4	

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/173.

IE3/IE4 ready SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S0-S0-S0 · Up to 22 kW AC operation or DC operation

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B







3RA2428XF32-			3RA2428XE32	-1BB4	3RA2428XF32-2A.2					
Rated data AC-3 Operational Rating of three-phase motors at 50 Hz and		Rated control supply voltage U_s	SD	Screw terminals		SD	Spring-type terminals	<u></u>		
current I _e up to 400 V	230 V	400 V	690 V	- 3		Article No.	Price per PU		Article No.	Price per PU
400 V	kW	kW	kW	V	d			d		perio
AC operation			11.00	<u> </u>	<u>u</u>					
25	7.1	11	19	24 AC	2	3RA2423-8XF32-1AC2	2	2	3RA2423-8XF32-2AC2	
		• •	.0	110 AC	2	3RA2423-8XF32-1AG2	_	5	3RA2423-8XF32-2AG2	
				230 AC	5	3RA2423-8XF32-1AL2	5	5	3RA2423-8XF32-2AL2	
32/40	11.4	15/18.5	19	24 AC	2	3RA2425-8XF32-1AC2	2	2	3RA2425-8XF32-2AC2	
				110 AC	2	3RA2425-8XF32-1AG2	5	5	3RA2425-8XF32-2AG2	
				230 AC	>	3RA2425-8XF32-1AL2	5	5	3RA2425-8XF32-2AL2	
50		22	19	24 AC	2	3RA2426-8XF32-1AC2	5	5	3RA2426-8XF32-2AC2	
				110 AC	2	3RA2426-8XF32-1AG2	5	5	3RA2426-8XF32-2AG2	
				230 AC	5	3RA2426-8XF32-1AL2	5	5	3RA2426-8XF32-2AL2	
DC operation										
25	7.1	11	19	24 DC	2	3RA2423-8XF32-1BB4	2	2	3RA2423-8XF32-2BB4	
32/40	11.4	15/18.5	19	24 DC	2	3RA2425-8XF32-1BB4	2	2	3RA2425-8XF32-2BB4	
50		22	19	24 DC	2	3RA2426-8XF32-1BB4	2	2	3RA2426-8XF32-2BB4	
For IO-Link c	onnection									
25	7.1	11	19	24 DC	2	3RA2423-8XE32-1BB4	5	5	3RA2423-8XE32-2BB4	
32/40	11.4	15/18.5	19	24 DC	2	3RA2425-8XE32-1BB4	5	5	3RA2425-8XE32-2BB4	
50		22	19	24 DC	2	3RA2426-8XE32-1BB4	5	5	3RA2426-8XE32-2BB4	
For AS-Interfa	ace conne	ection								
25	7.1	11	19	24 DC	5	3RA2423-8XH32-1BB4	2	2	3RA2423-8XH32-2BB4	
32/40	11.4	15/18.5	19	24 DC	5	3RA2425-8XH32-1BB4	5	5	3RA2425-8XH32-2BB4	
50		22	19	24 DC	2	3RA2426-8XH32-1BB4	5	5	3RA2426-8XH32-2BB4	

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/174.

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW IE3/IE4 ready

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting \cdot Size S2-S2-S0 \cdot Up to 45 kW and S2-S2-S2 \cdot 55 kW AC operation \frown or DC operation \frown

PU (UNIT, SET, M) = 1 PS* = 1 unit = 41B





Rated data AC-3	3RA2434-8XE32-1NB3				
Article No. Price per PU d AC Operation, 50/60 Hz 50/65	<u></u>				
A kW kW kW V d d AC operation, 50/60 Hz 50/65 19.6 22/30 34 24 AC 5 3RA2434-8XF32-1AC2 - 50/65 19.6 22/30 34 24 AC 5 3RA2434-8XF32-1AC2 - 80 25 37 63 24 AC 2 3RA2435-8XF32-1AC2 - 86 27 45 63 24 AC 2 3RA2435-8XF32-1AC2 - 86 27 45 63 24 AC 2 3RA2436-8XF32-1AC2 - 110 AC 2 3RA2436-8XF32-1AC2 - - 110 AC 2 3RA2436-8XF32-1AC2 - 115 37 55 93 24 AC 5 3RA2436-8XF32-1AC2 - 110 AC 3 3RA2437-8XF32-1AC2 - - 110 AC 3 3RA2437-8XF32-1AC2 - 110 AC 3 3RA2437-8XF32-1AC2 - 110 AC	Price				
AC operation, 50/60 Hz	per PU				
50/65					
110 AC 5 3RA2434-8XF32-1AG2					
230 AC 2 3RA2434-8XF32-1AL2					
80					
110 AC 2 3RA2435-8XF32-1AG2					
Second					
86					
110 AC 2 3RA2436-8XF32-1AG2					
230 AC 2 3RA2436-8XF32-1AL2					
115 37 55 93 24 AC 5 3RA2437-8XF32-1AC2					
110 AC 5 3RA2437-8XF32-1AG2					
AC/DC operation					
AC/DC operation 50/65 19.6 22/30 34 24 33 AC/DC 2 3RA2434-8XF32-1NB3 80 25 37 63 24 33 AC/DC 2 3RA2435-8XF32-1NB3 86 27 45 63 24 33 AC/DC 2 3RA2436-8XF32-1NB3 115 37 55 93 24 33 AC/DC 5 3RA2437-8XF32-1NB3 DC operation For IO-Link connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XE32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 166 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
50/65 19.6 22/30 34 24 33 AC/DC 2 3RA2434-8XF32-1NB3 80 25 37 63 24 33 AC/DC 2 3RA2435-8XF32-1NB3 86 27 45 63 24 33 AC/DC 2 3RA2436-8XF32-1NB3 DC operation For IO-Link connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XE32-1NB3 80 25 37 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2436-8XH32-1NB3<					
80 25 37 63 24 33 AC/DC 2 3RA2435-8XF32-1NB3 86 27 45 63 24 33 AC/DC 2 3RA2436-8XF32-1NB3 I15 37 55 93 24 33 AC/DC 5 3RA2437-8XF32-1NB3 DC operation For IO-Link connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XE32-1NB3 80 25 37 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-					
86 27 45 63 24 33 AC/DC 2 3RA2436-8XF32-1NB3 DC operation For IO-Link connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XE32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XE32-1NB3 86 27 45 63 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2436-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
115 37 55 93 24 33 AC/DC 5 3RA2437-8XF32-1NB3					
DC operation For IO-Link connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XE32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XE32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
For IO-Link connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XE32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XE32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
50/65 19.6 22/30 34 24 DC 5 3RA2434-8XE32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XE32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
80 25 37 63 24 DC 5 3RA2435-8XE32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
86 27 45 63 24 DC 5 3RA2436-8XE32-1NB3 115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
115 37 55 93 24 DC 5 3RA2437-8XE32-1NB3 For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
For AS-Interface connection 50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
50/65 19.6 22/30 34 24 DC 5 3RA2434-8XH32-1NB3 80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
80 25 37 63 24 DC 5 3RA2435-8XH32-1NB3 86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
86 27 45 63 24 DC 5 3RA2436-8XH32-1NB3					
115 37 55 93 24 DC 5 3RA2437-8XH32-1NB3					

Representation of the complete contactor assemblies for star-delta (wye-delta) starting in size S2-S2-S2 with optionally mountable accessories, see page 3/175.

IE3/IE4 ready SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting \cdot Size S3-S3-S2 \cdot Up to 90 kW AC operation \frown or DC operation \frown

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B







BRA2448XF32-1A.2	3RA2448XE32-1NB3	3RA2448XH32-1NB3

Rated data AC-3 Operational	Rating of	three-phase	e motors	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	⊕ SI	Spring-type terminals	
current I _e up to 400 V	at 50 Hz a	and 400 V	690 V			Article No.	Price per PU	Article No.	Price per PU
A	kW	kW	kW	V	d		d		porro
AC operation	, 50/60 Hz	2							
115	30	55	90	24 AC	Χ	3RA2444-8XF32-1AC2			
				110 AC	Χ	3RA2444-8XF32-1AG2			
				230 AC	Χ	3RA2444-8XF32-1AL2			
150	37	75	110	24 AC	Χ	3RA2445-8XF32-1AC2		-	
				110 AC	Χ	3RA2445-8XF32-1AG2			
				230 AC	Χ	3RA2445-8XF32-1AL2			
160	45	90	132	24 AC	Χ	3RA2446-8XF32-1AC2		-	
				110 AC	Χ	3RA2446-8XF32-1AG2			
				230 AC	Χ	3RA2446-8XF32-1AL2			
AC/DC opera	tion								
115	30	55	90	24 33 AC/DC	Χ	3RA2444-8XF32-1NB3			
150	37	75	110	24 33 AC/DC	Χ	3RA2445-8XF32-1NB3			
160	45	90	132	24 33 AC/DC	Χ	3RA2446-8XF32-1NB3			
DC operation									
For IO-Link co	onnection	1							
115	30	55	90	24 DC	Χ	3RA2444-8XE32-1NB3		-	
150	37	75	110	24 DC	Χ	3RA2445-8XE32-1NB3			
160	45	90	132	24 DC	Χ	3RA2446-8XE32-1NB3			
For AS-Interfa	ace conne	ection							
115	30	55	90	24 DC	Χ	3RA2444-8XH32-1NB3			
150	37	75	110	24 DC	Χ	3RA2445-8XH32-1NB3		-	
160	45	90	132	24 DC	Χ	3RA2446-8XH32-1NB3			

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/176.

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Overview

The individual parts for the contactor assemblies for star-delta (wye-delta) starting for customer assembly must be ordered separately.

3RT contactors: The operating times of the individual 3RT10 contactors are rated in such a way that no overlapping of the contact making and the arcing time between two contactors can occur on reversing, provided they are interlocked by way of their auxiliary switches (NC contact interlock) and the mechanical interlock. For assemblies with AC operation and 50/60 Hz, a dead interval of 50 ms must be provided when used with voltages over 500 V; a dead interval of 30 ms is recommended for use with voltages up to and including 400 V. These dead times do not apply to assemblies with DC operation.

Mechanical interlock

affected by the mechanical interlock.

Wiring kits: consisting of wiring modules or link rails and star jumpers

The operating times of the individual contactors are not

- Adapter for the mechanical interlock between S6 and S3
- Base plate

Additional components

- For momentary-contact operation: auxiliary switch (NO contact) for self-locking
- 3RB2 overload relays (from page 7/117 onwards), SIMOCODE pro 3UF7 motor management and control devices (from page 10/16 onwards) or 3RN thermistor motor protection relays (page 10/161) can be used for overload protection. The overload relay can either be mounted onto the line contactor or separately fitted. It must be set to 0.58 times the rated motor current
- Optional surge suppression for the S3 contactors; the contactors in sizes \$6 to \$12 are wired as standard with varistors.

The contactor assemblies for star-delta (wye-delta) starting for customer assembly are designed for standard applications.

Note:

Contactor assemblies for star-delta (wye-delta) starting in special applications such as very heavy starting 1) or star-delta (wye-delta) starting of special motors must be customized. Help with designing such special applications is available from our Technical Support:

https://support.industry.siemens.com/My/ww/en/requests

For effective support from Technical Support you must provide the

- following details: Rated motor voltage
- Rated motor current
- Service factor, operating values
 Motor starting current factor
- Starting time
- Ambient temperature

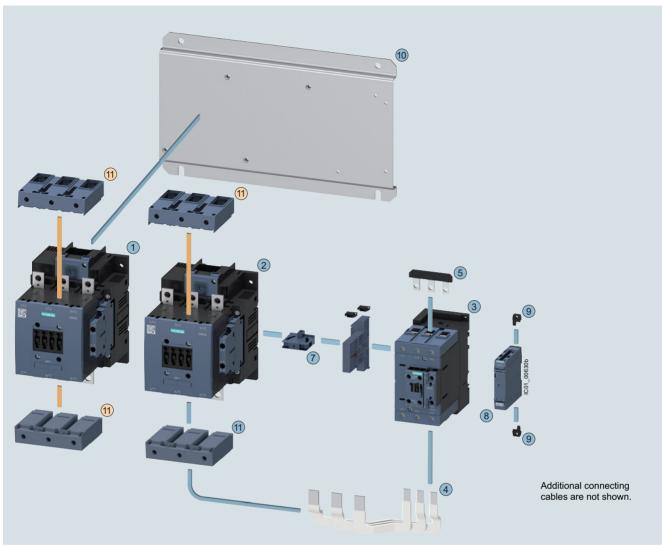
More information

Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RA24_3RT

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S6-S6-S3 · Up to 160 kW



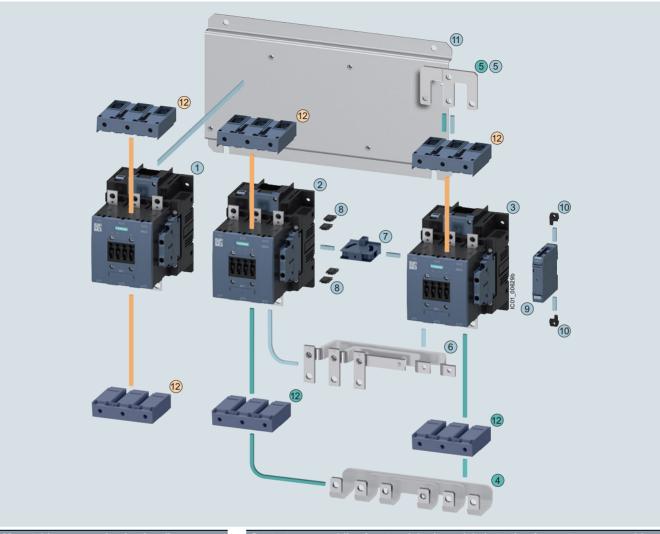
Mountable accessories	(optional)	
To be ordered separately	Туре	Page

Box terminal blocks	3RT1955-4G	3/116

Contact	or assemblies for star-delta (wye	e-delta) st	arting for	custome	r assembly
Individua	parts	Туре	Page		
		Q11	Q13	Q12	
123	Contactors, 110 kW	3RT1.54	3RT1.54	3RT2045	3/59, 3/67, 3/70 3/73
123	Contactors, 132 kW	3RT1.55	3RT1.55	3RT2046	3/59, 3/67, 3/70 3/73
123	Contactors, 160 kW	3RT1.56	3RT1.56	3RT2047	3/59, 3/67, 3/70 3/73
4	Assembly kit S6-S6-S3 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1953-3	3G		3/112
(5)	Star jumper S3	3RT1946-4	1BA31		3/113
6	Adapter for the mechanical interlock between S6 and S3 (including two connectors)	3RA1954-2	2G		3/114
7	Mechanical interlock between S6 and S3	3RA1954-2	2A		3/114
8	Timing relay with star-delta (wye-delta) function	3RP257.			10/49
9	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0	DAA00		10/50
10	Base plate star-delta (wye-delta)	3RA1952-2	2E		3/119
1	Box terminal block	3RT1955-4	1G		3/116

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S6-S6-S6 · Up to 160 kW



Modificable accessories	(optional)	
To be ordered separately	Туре	Page

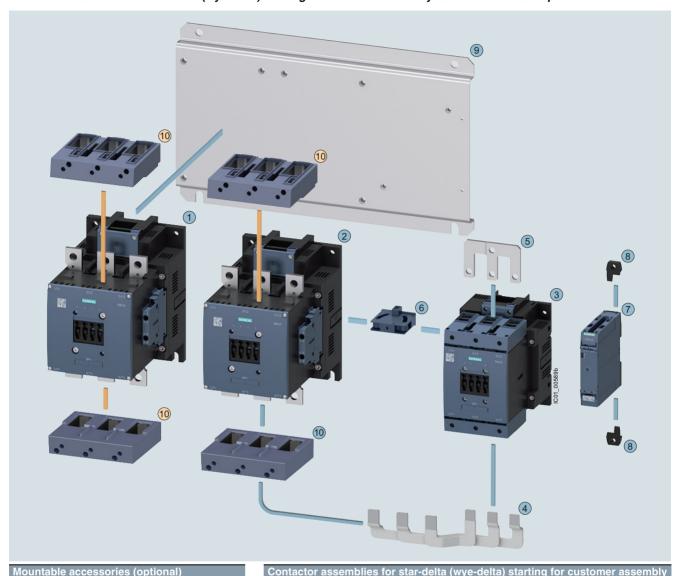
12 Box terminal blocks 3RT1955-4G 3/116

Contactor cocomblica for star dolta (usua dolta) starting for quatemer cocombly

Ind	dividua	l parts		Type			Page
				Q11	Q13	Q12	
(1)	23	Contac	tors, 110 kW	3RT1.54	3RT1.54	3RT1.54	3/71 3/73
<u>(1)</u>	23	Contac	tors, 132 kW	3RT1.55	3RT1.55	3RT1.55	3/71 3/73
<u>(1)</u>	23	Contac	tors, 160 kW	3RT1.56	3RT1.56	3RT1.56	3/71 3/73
4	(5)		oly kit S6-S6-S6 tactors with box terminals ing of:	3RA1953	I-2B		3/112
		(4)	Link rails, bottom				
		<u>(5)</u>	Star jumper S6				
(5))6		bly kit S6-S6-S6 tactors without box terminals ing of:	3RA1953	I-2N		3/112
		6	Link rails, bottom				
		<u>(5)</u>	Star jumper S6				
7)	Mecha	nical interlock	3RA1954	-2A		3/114
8)	Four co	onnectors	3RA1932	2-2D		3/114
9)	Timing functio	relay with star-delta (wye-delta) n	3RP257.			10/49
10)	Push-ir timing	n lugs for star-delta (wye-delta) relays	3ZY1311	-0AA00		10/50
1)	Base p	late star-delta (wye-delta)	3RA1952	?-2F		3/119
12		Box ter	minal block	3RT1955	-4G		3/116

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S10-S10-S6 · Up to 250 kW

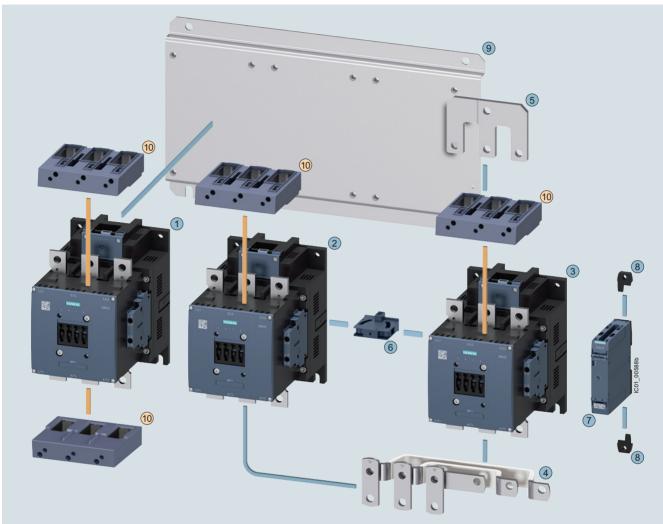


	, ,	
To be ordered separately	Туре	Page
Box terminal blocks	3RT1966-4G	3/116

Contactor assemblies for star-delta (wye-delta) starting for customer assembly						
Individua	l parts	Туре			Page	
		Q11	Q13	Q12		
123	Contactors, 200 kW	3RT1.64	3RT1.64	3RT1.54	3/71 3/73, 3/135	
123	Contactors, 250 kW	3RT1.65	3RT1.65	3RT1.55	3/71 3/73, 3/135	
4	Assembly kit S10-S10-S6 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1963-	3E		3/112	
(5)	Star jumper S6	3RT1956-	4BA31		3/113	
6	Mechanical interlock between S10 and S6	3RA1954-	-2A		3/114	
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/49	
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	0AA00		10/50	
9	Base plate star-delta (wye-delta)	3RA1962-	-2E		3/119	
10	Box terminal block	3RT1966-	4G		3/116	

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S10-S10-S10 · Up to 250 kW

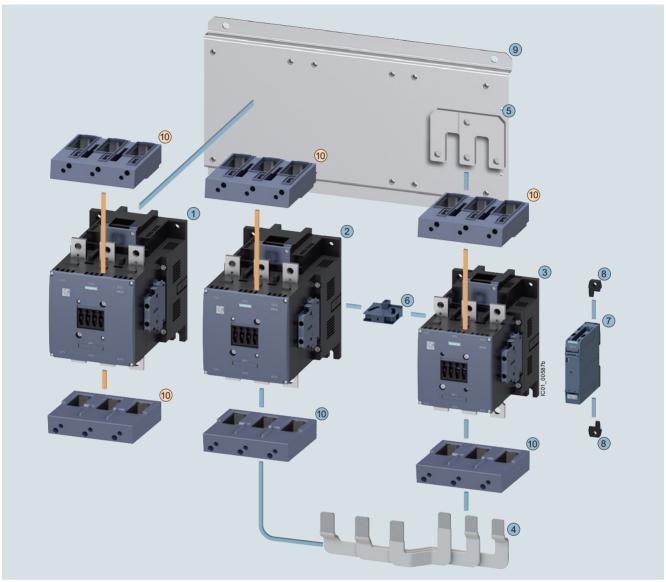


Mountable accessories	(optional)	
To be ordered separately	Туре	Page
Roy terminal blocks	2PT1066 4C	2/116

Contact	Contactor assemblies for star-delta (wye-delta) starting for customer assembly						
Individua	parts	Туре			Page		
		Q11	Q13	Q12			
(1)(2)(3)	Contactors, 200 kW	3RT1.64	3RT1.64	3RT1.64	3/71 3/73, 3/135		
123	Contactors, 250 kW	3RT1.65	3RT1.65	3RT1.65	3/71 3/73, 3/135		
45	Assembly kit S10-S10-S10 for contactors without box terminals consisting of:	3RA1963-	2B		3/112		
	4 Link rails, bottom						
	5 Star jumper S10						
6	Mechanical interlock	3RA1954-	2A		3/114		
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/49		
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	0AA00		10/50		
9	Base plate star-delta (wye-delta)	3RA1962-	2F		3/119		

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S12-S12-S10 · Up to 500 kW

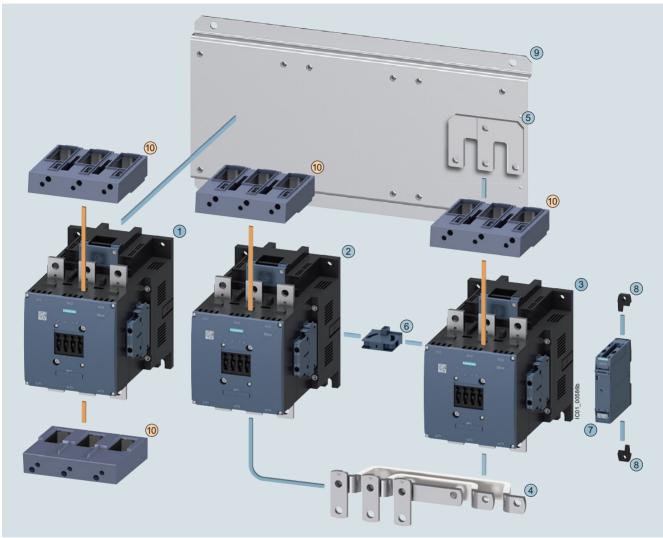


Mountable accessories (optional)							
To be ordered separately	Туре	Page					
Box terminal blocks	3RT1966-4G	3/116					

Contactor assemblies for star-delta (wye-delta) starting for customer assembly								
Individua	l parts	Туре			Page			
		Q11	Q13	Q12				
123	Contactors, 355 kW	3RT1.75	3RT1.75	3RT1.64	3/71 3/73, 3/135			
123	Contactors, 400 kW	3RT1.75	3RT1.75	3RT1.65	3/71 3/73, 3/135			
123	Contactors, 500 kW	3RT1.76	3RT1.76	3RT1.66	3/71 3/73, 3/135			
4	Assembly kit S12-S12-S10 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1973	-3E		3/112			
(5)	Star jumper S10	3RT1966-	4BA31		3/113			
6	Mechanical interlock between S12 and S10	3RA1954	3RA1954-2A		3/114			
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/49			
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	0AA00		10/50			
9	Base plate star-delta (wye-delta)	3RA1972	-2E		3/119			
10	Box terminal blocks	3RT1966-	4G		3/116			

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S12-S12-S12 · Up to 500 kW



Mountable accessories	(optional)	
To be ordered separately	Туре	Page
(1) Box terminal blocks	3RT1966-4G	3/116

Contact	Contactor assemblies for star-delta (wye-delta) starting for customer assembly									
Individua	l parts	Type			Page					
		Q11	Q13	Q12						
123	Contactors, 400 kW	3RT1.75	3RT1.75	3RT1.75	3/71 3/73, 3/135					
123	Contactors, 500 kW	3RT1.76	3RT1.76	3RT1.76	3/71 3/73, 3/135					
45	Assembly kit S12-S12-S12 for contactors without box terminals consisting of: 4 Link rails, bottom 5 Star jumper S12	3RA1973-	-2B		3/112					
6	Mechanical interlock	3RA1954	-2A		3/114					
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/49					
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	0AA00		10/50					
9	Base plate star-delta (wye-delta)	3RA1972	-2F		3/119					

4

Switching Devices - Contactors and Contactor Assemblies - Special Applications



applications SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole NEW SIRIUS 3RT23 contactors, 4-pole SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole 3TK20 miniature contactors for resistive loads (AC-1), 4-pole Contactors for railway applications - SIRIUS 3RT contactors with extended operating range, 3-pole NEW - SIRIUS 3RH2 contactor relays with extended operating range - 3TH4 contactor relays, 8-pole - 3TC contactors for switching DC voltage, 2-pole 3TC contactors for switching DC voltage, 1-pole and 2-pole 3TG10 power relays/miniature contactors

Note:

Conversion tool

e.g. from 3RT13 to 3RT23, see www.siemens.com/sirius/conversion-tool

Price groups
PG 41A, 41B
Introduction

Contactors for special

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



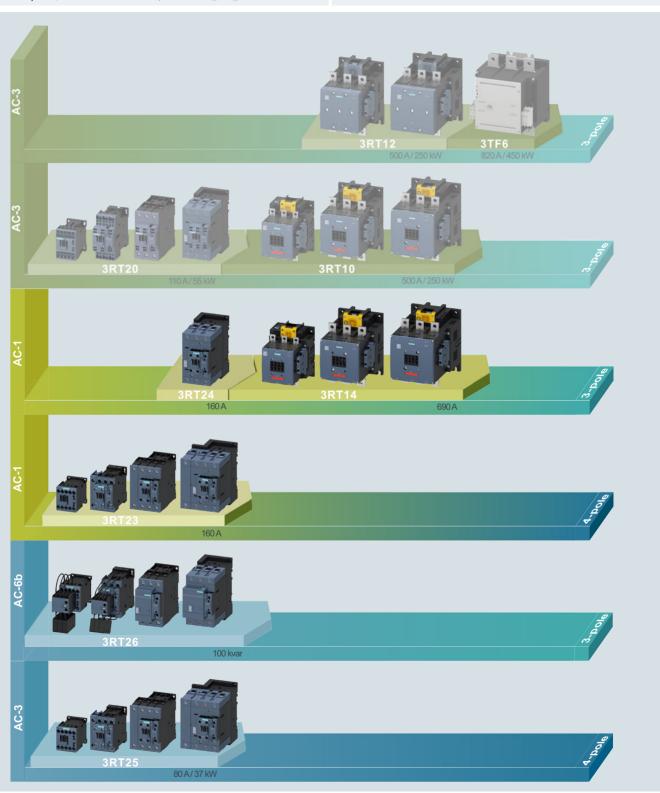
Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Contactors for Special Applications

Introduction

Overview

More information Homepage, see www.siemens.com/sirius Industry Mall, see www.siemens.com/product?3RT_3TK_3TC Conversion tool e.g. from 3RT13 to 3RT23, see www.siemens.com/sirius/conversion-tool



Overview of the 3RT and 3TF contactors

Contactors for Special Applications

Introduction









Size	S3	S6	S10	S12
Туре	3RT244.	3RT1456	3RT146.	3RT1476

.,,,,,		0		0.11.1.00	0		01111110
3RT244, and 3RT14	5 to 3RT147 3	3-pole contac	tors				
Туре	3RT2446 3RT2448		3RT1456	3RT1466	3RT1467	3RT1476	
Number of main contact	ts	3 NO		3 NO	3 NO		3 NO
AC, AC/DC operation		(p. 4/14)		(p. 4/15, 4/16)	(p. 4/15, 4/	16)	(p. 4/15, 4/16)
AC-1		•		•			·
<i>U</i> i	U _i V 1 000						
<i>U</i> e	V	1 000					
$I_{\rm e}$ up to 690 V	40 °C A	140	160	275	400	500	690
	60 °C A	130	140	250	380	450	Standard operating
							mechanism: 650, solid-state operating mechanism: 600
A							1 0
Accessories for co	ntactors						
Auxiliary switch blocks	s	3RH29, 3RA2	8 (p. 3/94 3/101)	3RH19, 3RT1926			(p. 3/97, 3/99, 3/100, 3/102)
Functional modules (D star-delta (wye-delta) s		3RA281.	(p. 3/106)				
Terminal covers 3RT2946-4			(p. 3/118)	3RT1956-4EA.			(p. 3/118)
Box terminal blocks		-	•	3RT1955/56-4G			(p. 3/116)
Surge suppressors 3RT2936 ¹⁾ , (p. 3/3RT2946			(p. 3/103, 3/104)	3RT1956-1C (RC element)			(p. 3/104)

Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03. When using an AC/DC coil, the surge suppressor is already integrated in the electronics.









Size		S00		S0			S2		S3		
Type		3RT231.		3RT232.			3RT233.		3RT234.		
4-pole 3RT23 contact	tors										
Туре		3RT2316	3RT2317	3RT2325	3RT2326	3RT2327	3RT2336	3RT2337	3RT2344	3RT2346	3RT2348
Number of main contacts		4 NO		4 NO			4 NO		4 NO		
AC, DC and AC/DC opera	ation	(p. 4/22, 4	1/24)	(p. 4/22	4/24)		(p. 4/22 4	/26)	(p. 4/22	4/26)	
AC-1											
<i>U</i> i	V	690									
U _e	V	690									
$I_{\rm e}$ up to 690 V	40 °C A	18	22	35	40	50	60	110	110	140	160
	60 °C A	16	20	30	35	42	55	95	100	130	140
AC-2 and AC-3											
$I_{\rm e}$ up to 400 V	А	9	12	15.5	15.5	15.5					
P at 400 V	kW	4	5.5	7.5	7.5	7.5					

Accessories for contactors						
Auxiliary switch blocks	3RH29, 3RA28					(p. 3/94 3/101)
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	3RA281.					(p. 3/106)
Terminal covers			3RT2936-	4EA4 (p. 3/118)	3RT2946-4EA4	(p. 3/118)
Surge suppressors	3RT2916	(p. 3/103, 3/104)	3RT2936	(p. 3/103, 3/104)	3RT2936 ¹⁾ , 3RT2946	(p. 3/103, 3/104)

Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03. When using an AC/DC coil, the surge suppressor is already integrated in the electronics.

Contactors for Special Applications

Introduction









Size			S00			S0	S2		S3	
Type			3RT251.		3RT252.	3RT253		3RT254.		
4-pole 3RT25 contactors										
Туре			3RT251	6 3RT2517	3RT2518	3RT2526	3RT253	5 3RT2536	3RT2544	3RT2545
Number of main contacts			2 NO +	2 NC		2 NO + 2 NC	2 NO +	2 NC	2 NO + 2	2 NC
AC, DC and AC/DC operation			(p. 4/30	, 4/31)		(p. 4/30, 4/31)	(p. 4/30	, 4/32)	(p. 4/30,	4/32)
AC-1										
<i>U</i> _i		V	690							
U _e		V	690							
I _e up to 690 V	40 °C	Α	18	22	22	40	60	70	100	125
	60 °C	Α	16	20	20	35	55	60	90	105
AC-2 and AC-3										
$I_{ m e}$ up to 400 V	NO	Α	9	12	16	25	35	41	65	80
	NC	Α	9	9	9	25 (20) ¹⁾	35	41	65	80
P										
at 400 V	NO	kW	4	5.5	7.5	11	18.5	22	30	37
	NC	kW	4	4	4	11 (7.5) ¹⁾	18.5	22	30	37
At 230 V	NO	kW	2.2	3 / 2.2	4 / 2.2	5.5	11	11	18.5	22
	NC	kW	2.2	3 / 2.2	4 / 2.2	5.5	11	11	18.5	22

'	NVV	2.2 012.2	7 / 2.2	0.0		10.0 22
Accessories for contactors						
Auxiliary switch blocks		3RH29, 3RA28				(p. 3/94 3/101)
Function modules (direct-on-line starti star-delta (wye-delta) starting)	ng,	3RA281.				(p. 3/106)
Terminal covers		-			3RT2936-4EA4 (p. 3/118)	3RT2946-4EA4 (p. 3/118)
Surge suppressors		3RT2916 (p. 3/103, 3/104)		3RT2926 (p. 3/103, 3/104)	3RT2936 (p. 3/103, 3/104)	3RT2936²⁾, 3RT2946 (p. 3/103, 3/104)

¹⁾ The value in brackets applies to the NC for DC operation.

2	²⁾ Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as
	from product version E03.
	When using an AC/DC coil, the surge suppressor is already integrated in
	the electronics

Further contactors

- For SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole, see page 4/33
- For 3TC contactors for switching DC voltage, 1 and 2-pole, see page 4/65
- Contactors for railway applications
 - For SIRIUS 3RT contactors with extended operating range, 3-pole, see page 4/52
 - For SIRIUS 3RH2 contactor relays with extended operating range, see page 4/59
 - For 3TH4 contactor relays, 8-pole, see page 4/61
 - For 3TC contactors for switching DC voltage, 2-pole, see page 4/63



Size Type		00 3TK20
4-pole 3TK miniatu	ire contactors	
Туре		3TK20
Number of main conta-	cts	4
AC, DC operation		(p. 4/50, 4/51)
AC-1		
I _e at 400 V	Up to 690 V A	18
AC-2 and AC-3		
I _e at 400 V	А	8.4
P at 400 V	kW	4
At 127 V At 230 V	kW kW	1.4 2.5
At 500 V At 690 V	kW kW	4 4
Accessories for co	ontactors	

Accessories for contactors										
Auxiliary switch blocks	Lateral									
Terminal covers		-								
Surge suppressors		3TX4490	(p. 3/151)							

Contactors for Special Applications

Introduction

Connection methods

The following connection options are available for 3RT contactors depending on the size and version:

- 3RT2 contactors, sizes S00 and S0: screw terminals or spring-type terminals both for the main as well as for the auxiliary and control circuits
- 3RT2 contactors, sizes S2 and S3: screw terminals (complete devices) or spring-type terminals (auxiliary circuit only)
- 3RT14 contactors, sizes S6 to S12: busbar connections, optionally with box terminal blocks, auxiliary and control circuit available either with screw or spring type connection system

Devices of the 3TK2 series are available with flat connectors and solder pin connections.

+	Screw terminals
$\stackrel{\circ}{\square}$	Spring-type terminals
00	Busbar connections
•	Flat connectors
Н	Solder pin connections
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1 (auxiliary switches)

3RT.4 contactors are used for switching resistive loads (AC-1) or as contactors that normally only have to carry the current, for example, for variable-speed drives.

The accessories and spare parts of the 3RT contactors can also be used here, see from page 3/76 onwards.

For a general description of 3RT contactors, sizes S3 to S12, see from page 3/17 onwards.

Connection methods

Main circuit

- Size S3: screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs when the box terminal is removed.
- Sizes S6 to S12: screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Alternatively, box terminals are available as accessories.

Auxiliary/control circuit

Sizes S3 to S12: Screw terminals

Operating mechanism types

3RT2 contactors

3RT2 contactors are available as versions with conventional AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation).

With an operating range from 0.8 to 1.1 x $U_{\rm S}$, control takes place via the control supply voltage connection A1 - A2 as is typically the case.

3RT1 contactors

The following control and/or actuator versions are available in sizes S6 to S12:

- Standard operating mechanism with economy circuit for AC and DC operating mechanism (switchover from closing coil to holding coil)
- Solid-state operating mechanisms
 Overvoltage damping of the operating mechanism coil is
 already integrated in the electronics for contactors with
 solid-state operating mechanisms. The operating mechanisms are powered via a supply voltage with an operating
 range from 0.8 to 1.1 x U_s, optionally also controlled depending on the chosen mode of operation. Alternatively, control is
 via the separate 24 V DC control signal input. Various rated
 voltage ranges for AC/DC control are available.

The following versions are available:

- With two operating modes: Direct control or via CPU input
- As above, but additionally with remaining lifetime indication (RLT)
- With fail-safe PLC input for simplification of safety applications (without mode of operation selection)

Solenoid coils/drive units

3RT2 contactors

Coil replacement is possible for sizes S0 to S3.

3RT1 contactors

The operating mechanisms for 3RT14..-.A/-.N/-.P contactors are removable and can be replaced simply by unlocking and pulling them out.

NOTICE: Removal or changing of the operating mechanism is not permitted for 3RT14..-.S contactors with fail-safe control.

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Safety applications

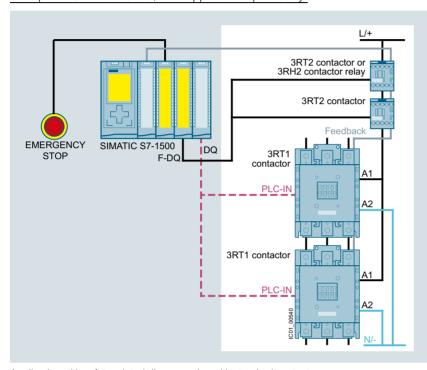
Contactors are a significant part of safety-related applications. They are generally the actuators that perform the switching operation leading to the safe disconnection of the corresponding application or system.

While contactors with smaller power ratings can be connected directly to the outputs of fail-safe controllers, implementing

safety-related applications with standard contactors with higher power is much more complicated and elaborate because of the necessary coupling links. Due to their fail-safe control input, the special versions with size S6 (3RT14..-.S) provide a much simpler way of doing this.

For more information on safety systems, see from page 11/1 onwards.

Example for SIL 2 and SIL 3 / PL e application - previously:

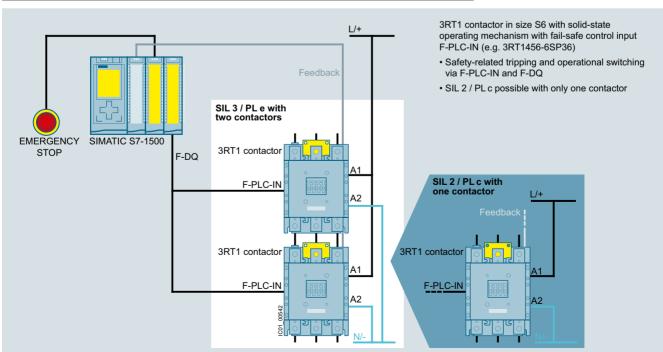


3RT1 contactor in size S6 with standard or solid-state operating mechanism with PLC-IN

- Safety-related tripping only possible via coupling links and F-DQ
- Standard operating mechanism: operational switching via coupling links and F-DQ
- Solid-state operating mechanism: operational switching with PLC-IN and DQ

Application with safety-related disconnection with standard contactors

Example for SIL 3 / PL e (left-hand side) and SIL 2 / PL c (right-hand side) Application - new:



Application with safety-related disconnection with contactors with fail-safe control

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/24229/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/24229/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/24229/faq	

Туре		3RT2446, 3RT2448	3RT1456		BRT1467	3RT1476
Size		S3	S6	S10		S12
General data						
Dimensions (W x H x D)						
Basic units Screw/spring-type terminals	mm	70 x 140 x 152	120 x 172 x 170	145 x 210 x 2	202	160 x 214 x 225
Basic unit with mounted auxiliary switch block						
Screw terminalsSpring-type terminals	mm mm	70 x 140 x 196 70 x 140 x 200	120 x 172 x 217 	145 x 210 x 2	251	160 x 214 x 271
Basic unit with mounted function module or solid-state time-delayed auxiliary switch block						
- Screw/spring-type terminals	mm	70 x 140 x 226				
Permissible mounting position		360° 22,5° 22,5° &	22,5°,22	5° g		
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5° 36,250° 008SN	90° 1111 90°	NSB0_00649		
Upright mounting position						
		NSB0_00477a				
		Special version required				
Mechanical endurance						
Basic units and basic units with mounted auxiliary switch block	Oper- ating cycles	10 million				
Basic units with solid-state compatible auxiliary switch block	Oper- ating cycles	5 million				
Electrical endurance for utilization category AC-1, at U_e = 400 V	Oper- ating cycles	0.5 million		(On request	0.5 million
Rated insulation voltage U _i (pollution degree 3)	V	1 000				
Rated impulse withstand voltage U _{imp}	kV	6	8			
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	690				
Mirror contacts according to IEC 60947-4-1, Appendix F						
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.						
Integrated auxiliary switchesRemovable auxiliary switch block		Yes 	 Yes			
Permissible ambient temperature						
During operation	°C	-25 +60				
During storage	°C	-55 +80				
Degree of protection acc. to IEC 60529						
• On front		IP20	IP00 (IP20 with box te	erminal/cover)		
Connecting terminal		IP00 (for higher degree of				
Touch protection acc. to IEC 60529		Finger-safe	Finger-safe		,	
readil protection add. to 120 00020		for vertical touching from the front		rom the front w	vith cover	
Shock resistance						
Rectangular pulse						
AC operationDC operation		10.3/5 and 10.5/10 6.7/5 and 4.0/10	8.5/5 and 4.2/10 8.5/5 and 4.2/10			
Sine pulse AC operation		16.3/5 and 10.5/10	13.4/5 and 6.5/10			
- DC operation	<i>g</i> /ms	10.6/5 and 6.3/10	13.4/5 and 6.5/10			

Type Size		3RT2446, S3	3RT2448	3RT14	56	3RT1466 S10	3RT146	7 3RT14	76
Short-circuit protection		33		30		310		312	
Main circuit									
Version of the fuse link required for short-circuit protection of the main circuit									
- for type of coordination "1"		gG: 250 A (690 V, 10		gG: 35 (690 V,	5 A 100 kA)	gG: 500 A (690 V, 100 kA)	A On request	gG: 80 (690 V,	0 A 50 kA)
- for type of coordination "2"		gG: 250 A (690 V, 10		gG: 35 (690 V,	0 A 100 kA)	gG: 500 A (690 V, 100 kA)	A On request	gG: 71 (690 V,	0 A 100 kA)
Auxiliary circuit									
 Version of the fuse link required for short-circuit protection of the auxiliary switch 	Α	Fuse gG:	10						
 Miniature circuit breaker version required for short-circuit protection of the auxiliary switch 	Α	On reques	st						
Short-circuit protection for contactors with overload relays		See Config	guration Mar	nual for load	d feeders				
Short-circuit protection for fuseless load feeders			ad feeders, f ation Manua						
Туре		3RT2446,	3RT2448 N	3RT1456 A	N/P/S	3RT1466, 3	RT1467 N/P/S	3RT1476 A	N/P/S
Size		S3		S6		S10		S12	
Control									
Solenoid coil operating range (AC/DC)		0.8	0.8 x <i>U</i> _{s mi}	_n 1.1 x <i>U</i> _s	s max				
·		1.1 x <i>U</i> _s							
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_{\rm S}$)									
AC operation, 50 Hz, standard version									
- Closing - P.f.	VA	296 0.61							
- Closed - P.f.	VA	19 0.38							
 AC operation, 50/60 Hz, standard version 									
- Closing	VA	348/296							
- P.f. - Closed - P.f.	VA	0.62/0.55 25/18 0.35/0.41	 						
AC operation, 50/60 Hz, for USA/Canada									
- Closing	VA	326/326							
- P.f. - Closed - P.f.	VA	0.62/0.55 22/22 0.38/0.4	 						
AC/DC operation									
- Closing for AC operation	VA		163	300	280		530	830	750
1.7 +				0.9	0.8	0.9	0.8	0.9	0.8
P.f.Closed for AC operationP.f.	VA		3.1	5.8 0.8	4.8 0.6		8.5 0.4	9.2 0.9	9 0.4

Туре			3RT2446, 3RT2448	3RT1456	3RT1466, 3RT1467	3RT1476
Size			S3	S6	S10	S12
Control (continued)						
Type of PLC control input according	ng to IEC 60947-1					
Solid-state operating mechanism						
Version	3RT14N/P/S	3		Type 1		
Rated voltage		V DC		24		
Operating range		V DC		17 30		
Power consumption		mΑ		≤30		
Recovery time after mains failure, typical	3RT14S	S		2		
Operating times for 1.0 x $U_s^{1)}$ (Total break time = Opening delay + Arcing time)						
Standard operating mechanism	3RT.4A					
Closing delayOpening delay		ms ms	13 50 10 21	25 50 40 60	35 50 50 80	50 70 70 100
Solid-state operating mechanism						
 Actuated via A1/A2 	3RT.4N/P					
Closing delayOpening delay		ms ms	50 70 38 57	100 120 80 100	110 130	125 150
Actuated via PLC input	3RT14N/P					
Closing delayOpening delay		ms ms		40 60 80 100	50 65	65 80
Actuated via F-PLC input	3RT14S					
Closing delayOpening delay		ms ms		60 75 115 130		
Arcing time		ms	10 20	10 15		

¹⁾ The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (varistor +2 to 5 ms, diode assembly: 2x to 6x).

Type Size		3RT2446 S3	3RT2448	3RT1456 S6	3RT1466 S10	3RT1467	3RT1476 S12
Rated data of the main contacts					0.0		V.1
Load rating with AC		•					
Utilization category AC-1,							
 witching resistive loads Rated operational currents I_e 	At 40 °C up to 690 V A At 60 °C up to 690 V A	140 130	160 140	275 250	400 380	500 450	690 Standard operating mechanism: 650, solid-state operating mech- anism: 600
Minimum conductor cross-section for loads with I _e	Up to 1 000 V A At 40 °C mm ² At 60 °C mm ²	60 50 50	80 70	100 2 x 70 120	150 240 240	 300 300	250 2 x 240 2 x 240
Utilization categories AC-2 and AC-3 With an electrical endurance of 1.3 million		30		120	240	300	2 / 240
$ullet$ Rated operational currents I_{e}	Up to 400 V A Up to 690 V A	44 44		97 97	138 138		170 170
Rated power for slipring or squirrel-cage motors at 50 and 60 Hz	At 230 V kW 400 V kW 500 V kW 690 V kW	12.7 22 29.9 38.2		30 55 55 90	37 75 90 132		55 90 110 160
Power loss per conducting path	At I _e /AC-1 W			20	27	42	55
Load rating with DC							
Utilization category DC-1, switching resistive loads (<i>L/R</i> ≤ 1 ms)							
 Rated operational currents I_e (at 60 °C) 1 conducting path 	Up to 24 V A	130	140	250	380		500
- 1 conducting patri	60 V A 110 V A	80 12	140	250 18	380 33		500
	220 V A 440 V A 600 V A	2.5 0.8 0.48		3.4 0.8 0.5	3.8 0.9 0.6		
- 2 conducting paths in series	Up to 24 V A 60 V A 110 V A	130 130 130	140 140 140	250 250 250	380 380 380		500 500 500
	220 V A 440 V A 600 V A	13 2.4 1.3		20 3.2 1.6	380 4 2		500
- 3 conducting paths in series	Up to 24 V A 60 V A 110 V A	130 130 130	140 140 140	250 250 250	380 380 380		500 500 500
	220 V A 440 V A 600 V A	130 6 3.4	140	250 11.5 4	380 11 5.2		500
Utilization category DC-3/DC-5, shunt-wound and series-wound motors	(<i>L/R</i> ≤ 15 ms)			•	1		
 Rated operational currents I_e (at 60 °C) 							
- 1 conducting path	Up to 24 V A 60 V A 110 V A	6 3 1.25		250 7.5 2.5	380 11 3		500
	220 V A 440 V A 600 V A	0.35 0.15 0.1		0.6 0.17 0.12	0.18 0.125		
- 2 conducting paths in series	Up to 24 V A 60 V A 110 V A 220 V A	130 130 130 1.75	140 140 140	250 250 250 250	380 380 380		500 500 500
	220 V A 440 V A 600 V A	0.42 0.27		0.65 0.37			
- 3 conducting paths in series	Up to 24 V A 60 V A 110 V A	130 130 130	140 140 140	250 250 250	380 380 380		500 500 500
	220 V A 440 V A 600 V A	4 0.8 0.45		250 1.4 0.75	380		500

	3RT2446	3RT2448	3RT1456	3RT1466, 3RT1467	3RT1476
	S3		S6	S10	S12
1/h 1/h	5 000	1 000	 2 000		
1/h 1/h			1 000 1 000		500
/ 1/h	650				
/ 1/h			600		
/ 1/h			350		
	3RT2446,	3RT2448			
	S3				
	⊕ Scre	w terminal	s		
mm^2	,	,			
mm^2				x (10 70) ¹⁾	
		,	,		
AWG	2 x (10	1/0) ¹⁾ ; 1 x (10 2/0) ¹⁾		
Nm					
mm^2	2 x (0.5	1.5) ¹⁾ ; 2 x ((0.75 2.5)	1)	
mm^2					
AWG	2 x (20	16) ¹⁾ ; 2 x (1	8 14) ¹⁾		
Nm					
	1/h	1/h 5 000 1/h 1/h 1/h 1/h 1/h / 1/h 650 / 1/h / 1/h / 1/h 3RT2446, S3 Scre mm² 2 x (2.5 mm² 2 x (2.5 AWG 2 x (10 Hexagon s Nm 4.5 6 (4) mm² 2 x (0.5 AWG 2 x (20 M3 (for Po	1/h 5 000 1 000 1/h 1/h 1/h 1/h 1/h / 1/h 650 / 1/h 3RT2446, 3RT2448 S3 Screw terminal	1/h 5 000 1 000 1/h 2 000 1/h 1 000 1/h 1 000 1 1 000 / 1/h 650 / 1/h 600 / 1/h 350	1/h 5 000 1 000 1/h 1/h 1/h 1 1 000 1 1 000 7 1/h 650 7 1/h 600 8 3RT2446, 3RT2448 83 Screw terminals mm² 2 x (2.5 16)¹¹ (2 x (10 50)¹¹; 1 x (10 70)¹¹ (2 x (2.5 35)¹¹; 1 x (2.5 50)¹¹ (2 x (10 1/0)¹²; 1 x (10 70)¹¹ (2 x (2.5 35)¹²; 1 x (10 2/0)¹¹ (2 x (10 1/0)¹²; 2 x (0.75 2.5)¹¹ (2 x (0.5 1.5)¹¹; 2 x (0.75 2.5)¹¹ (2 x (20 1.5)¹¹; 2 x (18 14)¹¹ (2 x (20 16)¹¹; 2 x (18 14)¹¹ (3 (for Pozidriv size 2; Ø 5 6)

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Туре			3RT1456		3RT1466, 3RT1467	3RT1476
Size			S6		S10	S12
Conduc	ctor cross-sections					
Main con	nductors anductors can be connected)		Screw terminals			
•	inted box terminals	Туре	3RT1955-4G	3RT1956-4G	3RT1966-4G	<u> </u>
vvitii iiiou	Terminal screws	туре		M10 (hexagon socket, A/F 4)		-
	Tightening torque	Nm	10 12	10 12	20 22) 11 300 NOL, 7 VI
	rightorning torque	lb.in	90 110	90 110	180 195	
Front clar	mping point connected					
EL.	• Finely stranded with end sleeve (DIN 46228-1)		16 70	16 120	70 240	
0047	Finely stranded without end sleeveStranded	mm ² mm ²	16 70 16 70	16 120 16 120	70 240 95 300	
	AWG cables, solid or stranded	AWG	6 2/0	6 250 kcmil	3/0 600 kg	emil
	Ribbon cable conductors	mm	Min. 3 x 9 x 0.8,	Min. 3 x 9 x 0.8,	Min. 6 x 9 x	
	(Number x Width x Thickness)		max. 6 x 15.5 x 0.8	max. 10 x 15.5 x 0.8	max. 20 x 24	
Rear clan	nping point connected	_				
₽ ·	• Finely stranded with end sleeve (DIN 46228-1)		16 70	16 120	120 185	
90 3	Finely stranded without end sleeveStranded	mm ² mm ²	16 70 16 70	16 120 16 120	120 185 120 240	
	AWG cables, solid or stranded	AWG	6 2/0	6 250 kcmil	250 500 k	cmil
	Ribbon cable conductors	mm	Min. 3 x 9 x 0.8,	Min. 3 x 9 x 0.8,	Min. 6 x 9 x	
	(Number x Width x Thickness)		max. 6 x 15.5 x 0.8	max. 10 x 15.5 x 0.8	max. 20 x 24	4 x 0.5
	nping points connected n cross-section 16 mm²)					
T	• Finely stranded with end sleeve (DIN 46228-1)		Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120	,	max. 2 x 185
₽	Finely stranded without end sleeveStranded	mm ² mm ²	Max. 1 x 50, 1 x 70 Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120 Max. 1 x 95, 1 x 120		max. 2 x 185 max. 2 x 240
	AWG cables, solid or stranded	AWG	Max. 2 x 1/0	Max. 2 x 3/0	Min. 2 x 2/0, max. 2 x 500	
	 Ribbon cable conductors (Number x Width x Thickness) 	mm	Max. 2 x (6 x 15.5 x 0.8)	Max. 2 x (10 x 15.5 x 0.8)	Max. 2 x (20	x 24 x 0.5)
Busbar c	onnections					
	 Connecting bar (max. width) 	mm	17		25	
	- Bore diameter	mm	9		11	
Cable lug	g connection		1)		2)	
	 Finely stranded with cable lug 	mm ² mm ²	16 95 25 120		50 240	
	 Stranded with cable lug 				70 240	
	 AWG cables, solid or stranded 	AWG	4 250 kcmil		2/0 500 kg	
	Terminal screwsTightening torque	Nm	M8 x 25 (A/F 13) 10 14		M10 x 30 (A)	/F 17)
	- rightening torque	lb.in	90 124		124 210	
	conductors unductors can be connected)					
	• Solid	mm^2	2 x (0.5 1.5) ³⁾ ; 2 x (0.75 max. 2 x (0.75 4) ³⁾	. 2.5) ³⁾ acc. to IEC 60947;		
	• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5) ³⁾ ; 2 x (0.75	. 2.5) ³⁾		
	AWG cables, solid or stranded	AWG	2 x (18 14)			
	Terminal screwsTightening torque	Nm lb.in	M3 (Pozidriv size 2) 0.8 1.2 7 10.3			
Auxiliarv	conductors ⁴⁾		○ Spring-type terminals			
	onductors can be connected)					
	 Operating tool 		3.0 x 0.5; 3.5 x 0.5			
	• Solid	mm ²	2 x (0.25 2.5)			
	 Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve AWG cables, solid or stranded 	mm ² mm ²	2 x (0.25 1.5) 2 x (0.25 2.5) 2 x (24 14)			

- AWG cables, solid or stranded AWG
- 1) 3RT1456: When connecting cable lugs according to DIN 46235, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm² to keep the phase clearance, see page 3/118.
- 2) 3RT1466, 3RT1467 and 3RT1476: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain phase separation, see page 3/118

2 x (0.25 ... 2.5) 2 x (24 ... 14)

3) If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

 ⁴⁾ Max. external diameter of the conductor insulation: 3.6 mm.
 With conductor cross-sections ≤ 1 mm² an "insulation stop" must be used, see page 3/121.

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Selection and ordering data

Size S3: AC operation or AC/DC operation

- Coil circuits (varistors, diodes, etc.) retrofittable
 Auxiliary switches can be retrofitted
 Main and control conductors: Screw terminals



3RT244.-1...0

									01112 111 11110				
Size	Rated data AC-1, t _u :		Auxiliary contacts			Rated con	trol supply voltage $U_{\rm s}$	SD	Screw terminals	+	PU (UNIT,	PS*	PG
	40 °C 60 °C										SET, M)		
	Operational current		Ident. No.	Versi	on	50 Hz AC	50 Hz AC or DC						
	I _e up to			\I	4				Article No.	Price per PU			
	690 V	690 V			ſ								
	Α			NO	NC	V	V	d					
mou	nting rai	ls		9 0			H 75-15 standard						
S3	140	130	11	1	1	24		5	3RT2446-1AB00		1	1 unit	41B
			• •	•		110		5	3RT2446-1AF00		1	1 unit	41B
						230		2	3RT2446-1AP00		1	1 unit	41B
	160	140	11	1	1	24		5	3RT2448-1AB00		1	1 unit	41B
						110 230		5 5	3RT2448-1AF00 3RT2448-1AP00		1	1 unit 1 unit	41B 41B
AC/L	OC opera	tion				230		<u> </u>	3H12440-TAP00		'	Turiit	410
With	integrated	l coil circui	t (varistor)										
S3	140	130	11	1	1		20 33	2	3RT2446-1NB30		1	1 unit	41B
							83 155	5	3RT2446-1NF30		1	1 unit	41B
							175 280	5	3RT2446-1NP30		1	1 unit	41B
	160	140	11	1	1		20 33	5	3RT2448-1NB30		1	1 unit	41B
							83 155	5	3RT2448-1NF30		1	1 unit	41B
							175 280	5	3RT2448-1NP30		1	1 unit	41B

Other voltages according to page 4/42 on request.

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Sizes S6 to S12: AC/DC operation

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
 Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.











RT1456-6A.36	3RT1466-

3RT1476-6A.36

3RT1476-6N.36

3RT1476-6P.35

Size	e Rated data		Auxilia		Rated control	SD	Screw terminals	(1)	PU	PS*	PG
	AC-1, t _u :		contac	ts, lateral	supply voltage U _s				(UNIT, SET, M)		
	40 °C	60 °C							JLI, IVI)		
	Operational current I_e up to		Version	า	50/60 Hz AC or DC						
	690 V	690 V	\	7			Article No.	Price per PU			
	A	A	NO	NC	V	d					
Stand	dard operatin	g mechanisn	n								
S6	275	250	2	2	110 127 220 240	>	3RT1456-6AF36 3RT1456-6AP36		1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	110 127 220 240	5	3RT1466-6AF36 3RT1466-6AP36		1 1	1 unit 1 unit	41B 41B
	500	450	2	2	110 127 220 240	NEW 5 NEW 5	3RT1467-6AF36 3RT1467-6AP36		1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	110 127 220 240	2	3RT1476-6AF36 3RT1476-6AP36		1 1	1 unit 1 unit	41B 41B
Colid	ototo opovot	ina maahanid	2100								

Solid-state oper	ating mechan	ism
------------------	--------------	-----

With 24 V DC control signal input e. g. for control by PLC

_		•								
S6	275	250	2	2	96 127	5	3RT1456-6NF36	1	1 unit	41B
					200 277	5	3RT1456-6NP36	1	1 unit	41B
S10	400	380	2	2	96 127	5	3RT1466-6NF36	1	1 unit	41B
					200 277	5	3RT1466-6NP36	1	1 unit	41B
	500	450	2	2	110 127	NEW 5	3RT1467-6NF36	1	1 unit	41B
					220 240	<i>NEW</i> 5	3RT1467-6NP36	1	1 unit	41B
S12	690	650	2	2	96 127	5	3RT1476-6NF36	1	1 unit	41B
					200 277	2	3RT1476-6NP36	1	1 unit	41B

For 24 V DC control signal input · with indication of remaining lifetime (RLT) e.g. for control by PLC

٠,		•								
S6	275	250	1	1	96 127 200 277	5 5	3RT1456-6PF35 3RT1456-6PP35	1 1	1 unit 1 unit	41B 41B
S10	400	380	1	1	96 127 200 277	5 5	3RT1466-6PF35 3RT1466-6PP35	1	1 unit 1 unit	41B 41B
	500	450	2	2	110 127 220 240	NEW 5 NEW 5	3RT1467-6PF35 3RT1467-6PP35	1 1	1 unit 1 unit	41B 41B
S12	690	650	1	1	96 127 200 277	5 5	3RT1476-6PF35 3RT1476-6PP35	1 1	1 unit 1 unit	41B 41B

Other voltages according to page 4/43 on request.

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Sizes S6 to S12: AC/DC operation

- Solid-state operating mechanism (with integrated varistor) with fail-safe control input for safety-related applications to SIL CL 3
- 24 V DC control signal input, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay
- Attainable Safety Integrity Level (SIL):
 - With one contactor: SIL CL 2 acc. to IEC 62061 or PL c acc. to ISO 13849-1
 - With two contactors in series: SIL CL 3 acc. to IEC 62061 or PL e acc. to ISO 13849-1
- Version with removable lateral auxiliary switches or permanently mounted auxiliary switches and additional approval according to SUVA (on request)
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.

For more information on safety systems, see from page 11/1 onwards.











3RT1456-6S.36

36 3RT1466-6S.36

3RT1476-6S.36

3RT1456-6S.36-3PA0

3RT1476-6S.36-3PA0

Size	Rated data IEC 60947- AC-1, t _u :	according to 4-1	Auxilia: contac	ry ts, lateral	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	40 °C	60 °C									
	Operationa	l current I _e	Version	ı	50/60 Hz AC or DC						
	up to	690 V	\\	7			Article No.	Price per PU			
	Α	Α	NO	NC	V	d					
Solid	l-state opera	ting mechar	nism								

Some State Sportaining moontament	
With two removable laterally mounted auxiliary cu	itak

With	two remo	vable latera	lly moun	ted aux	iliary switches					
S6	275	250	2	2	96 127 200 277	5 5	3RT1456-6SF36 3RT1456-6SP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	5 5	3RT1466-6SF36 3RT1466-6SP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 127 200 277	NEW 5 NEW 5	3RT1467-6SF36 3RT1467-6SP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	5 5	3RT1476-6SF36 3RT1476-6SP36	1 1	1 unit 1 unit	41B 41B
With	two perm	anently late	rally mou	unted a	uxiliary switches					
S6	275	250	2	2	96 127 200 277	5 5	3RT1456-6SF36-3PA0 3RT1456-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	5 5	3RT1466-6SF36-3PA0 3RT1466-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 127 200 277	NEW 5 NEW 5	3RT1467-6SF36-3PA0 3RT1467-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	5 5	3RT1476-6SF36-3PA0 3RT1476-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B

SIRIUS 3RT23 contactors, 4-pole

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1 (auxiliary switches)

In sizes S0 to S3, the 3RT23 contactors have two auxiliary contacts with 1 NO and 1 NC.

Connection methods

Main circuit

- Sizes S00 and S0: screw or spring-type terminals, spring-type terminals with convenient plug-in design for device connectors
- Sizes S2 and S3: screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs for S3 when the box terminal is removed.

Auxiliary/control circuit

Sizes S00 to S3: Screw or spring-type terminals

Operating mechanism types

Sizes S00 to S3

3RT23 contactors are available as versions with conventional AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation possible).

With an operating range between 0.8 to 1.1 x U_s , control typically takes place via the control supply voltage connection A1 - A2.

Mounting of additional auxiliary contacts

Size S00

Four auxiliary contacts, including no more than three NC

Sizes S0 to S3

Four additional auxiliary contacts, including no more than two $\ensuremath{\mathsf{NC}}$

Accessories and spare parts

See from page 3/76 onwards

Application

The contactors are suitable:

- · For switching resistive loads
- For disconnecting from power systems (with neutral conductor to be switched)
- For system transfers when alternative AC power supplies are used
- For use as contactors which only carry current and do not have to switch in case of inductive loads – e.g. upstream of frequency converters for variable-speed drives
- For switching mixed loads in distribution systems (e.g. for supplying heaters, lamps, motors, PC power supply units) with p.f. > 0.8 according to IEC 60947-4-1 test conditions for utilization category AC-1

For a general description of 3RT contactors, sizes S00 to S3, see from page 3/17 onwards.

SIRIUS 3RT23 contactors, 4-pole

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16165/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16165/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16165/man

Туре		3RT2316, 3RT2317	3RT2325 to 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size		S00	S0	S2	S3
General data					
Dimensions (W x H x D)			(The values in brackets		
AC or DC operation			apply for DC opera- tion)		
Basic units Screw terminals Spring-type terminals Basic unit with mounted	mm mm	45 x 58 x 73 45 x 70 x 73	60 x 85 x 97 (107) 61 x 102 x 97 (107)	75 x 114 x 130	96 x 140 x 152
auxiliary switch block - Screw terminals - Spring-type terminals	mm mm	45 x 58 x 117 45 x 70 x 121	60 x 85 x 141 (151) 61 x 102 x 145 (155)	75 x 114 x 174	96 x 140 x 196
Basic unit with mounted function module or solid-state time-delayed auxiliary switch block					
Screw terminalsSpring-type terminals	mm mm	45 x 58 x 147 45 x 70 x 147	60 x 85 x 171 (181) 61 x 102 x 171 (181)	75 x 114 x 204 	96 x 140 x 226
Permissible mounting position					
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5°	NSB0_00786		
Upright mounting position		NSB0_00477a Special vers	sion required		
Mechanical endurance	Oper- ating cycles	30 million	10 million		
Electrical endurance at $I_{\rm e}/{\rm AC}$ -1	Oper- ating cycles	Approx. 0.5 million			
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690			
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	400			690
Permissible ambient temperature					
During operation	°C	-25 +60			
During storage	°C	-55 +80			
Degree of protection acc. to IEC 60529					
On frontConnecting terminal		IP20 (screw terminals IP20 (screw terminals terminals)	s and spring-type termina s and spring-type	,	ree of protection, use additional
Touch protection acc. to IEC 60529		Finger-safe (screw te terminals)	rminals and spring-type	Finger-safe for vertice	cal touching from the front

SIRIUS 3RT23 contactors, 4-pole

Туре	3RT2316, 3RT2317	3RT2325, 3RT2326	3RT2326-10-4AA0	3RT2327
Size	S00	S0		
Short-circuit protection				
Main circuit				
Version of the fuse link required for short-circuit protection of the main circuit				
- for type of coordination "1"	gG: 35 A (690 V, 100 kA)	gG: 63 A (690 V, 100 kA)	gG: 100 A (690 V, 100 kA), aM: 50 A (690 V, 100 kA), BS88: 100 A (415 V, 80 kA)	gG: 63 A (690 V, 100 kA)
- for type of coordination "2"	gG: 20 A (690 V, 100 kA)		gG: 35 A (690 V, 100 kA), aM: 20 A (690 V, 100 kA), BS88: 35 A (415 V, 80 kA)	gG: 20 A (690 V, 100 kA)
Auxiliary circuit				
Version of the fuse link required for short-circuit protection of the auxiliary switch	Fuse gG: 10 A (690 V	′, 1 kA)		
Miniature circuit breaker version required for short-circuit protection of the auxiliary switch	6 A (230 V, 400 A, C	characteristic)		

Type	3RT2336, 3	3RT2337	3RT2344, 3RT2346	3RT2346-10-4AA0	3RT2348
Size	S2		S3		
Short-circuit protection					
Main circuit					
Version of the fuse link required for short-circuit protection of the main circuit					
- for type of coordination "1"	gG: 160 A (690 V, 100) kA)	gG: 250 A (690 V, 100 kA)	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)	gG: 250 A (690 V, 100 kA)
- for type of coordination "2"	gG: 63 A (690 V, 100 kA)	gR: 80 A (690 V, 100 kA)	gR: 250 A (690 V, 100 kA)	gG: 160 A (690 V, 100 kA), aM: 100 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)	gR: 250 A (690 V, 100 kA)
Auxiliary circuit					
Version of the fuse link required for short-circuit protection of the auxiliary switch	Fuse gG: 1	Fuse gG: 10 A (690 V, 1 kA)			
Miniature circuit breaker version required for short-circuit protection of the auxiliary switch	6 A (230 V,	400 A, C cha	aracteristic)		

SIRIUS 3RT23 contactors, 4-pole

Туре		3RT2316 3RT2317	3RT2325 3RT2326, 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size		S00	S0	S2	S3
Control					
Solenoid coil operating range					
 AC operation 	At 50 Hz	0.8 1.1 x U _s	0.0 1.1 v //		0.05 1.1 v. / /
DC operation	At 60 Hz At 50 °C	0.85 1.1 x <i>U</i> _s 0.8 1.1 x <i>U</i> _s	0.8 1.1 x <i>U</i> _s		0.85 1.1 x <i>U</i> _s
DC operation	At 60 °C	0.85 1.1 x U _s			
 AC/DC operation 				0.8 1.1 x <i>U</i> _s	
Power consumption of the soleno (for cold coil and $1.0 \times U_s$)	oid coils				
• AC operation, 50 Hz, standard ve	ersion				
- Closing - P.f.	VA		77 0.82	190 0.72	296 0.61
- Closed - P.f.	VA		9.8 0.25	16 0.37	19 0.38
AC operation, 50/60 Hz, standard	d version				
- Closing - P.f.		27/24.3 37/33 0.8/0.75	81/79 0.72/0.74	210/188 0.69/0.65	348/296 0.62/0.55
- Closed - P.f.	VA	4.2/3.3 5.7/4.4 0.25/0.25	10.5/8.5 0.25/0.28	17.2/16.5 0.36/0.39	25/18 0.35/0.41
 AC operation, 60 Hz, USA, Canad 	da	0.20, 0.20			-1-5, -1.1.
- Closing - P.f.	VA	31.7 43 0.77	87 0.76	188 0.67	326 0.55
- Closed - P.f.	VA	4.8 6.5 0.25	9.4 0.28	16.5 0.37	22 0.4
 AC/DC operation 					
Closing for AC operationP.f.	VA			40 0.95	151 0.95
Closed for AC operationP.f.	VA			2 0.95	3.5 0.95
Closing for DC operationClosed for DC operation	W W			23 1	59 2.7
 DC operation (closing = closed) 	W	4	5.9		
Operating times for 0.8 1.1 x U, Total break time = Opening delay + Arcing time	s -				
AC operation					
Closing delayOpening delay	ms ms	8 35 8 33 3.5 14 4 15	9 38 8 40 4 16 4 16	10 80 10 18	13 50 10 21
DC operation					
Closing delayOpening delay	ms ms	30 100 7 13	50 170 15 17.5		
 AC/DC operation 					
Closing delayOpening delay	ms ms			35 110 30 55	50 70 38 57
Arcing time	ms	10 15	10	10 20	

 $^{^{1)}}$ With size S00, DC operation: Operating times at 0.85 to 1.1 x $U_{\rm S}.$

SIRIUS 3RT23 contactors, 4-pole

Type				3RT2317		3RT2326	3RT2327		3RT2337	3RT2344	3RT2346	3RT234
Size Rated data of the main of	contacts		S00		S0			S2		S3		
Load rating with AC	Contacts											
Utilization category AC-1,												
switching resistive loadsRated operational	At 40 °C, up to	Α	18	22	35	40	50	60	110	110	140	160
currents $I_{\rm e}$	690 V										$(110)^{1)}$	
	At 60 °C, up to 690 V	Α	16	20	30	35	42	55	95	100	130 (100) ¹⁾	140
 Rated power for AC loads P.f. = 0.95 (at 60 °C) 	At 230 V 400 V	kW kW	6 10.5	7.5 13	11 20	13 23	16 28	21 36	36 63	38 72	49 92	53 105
 Minimum conductor cross-section for loads with I_e 	At 40 °C At 60 °C	mm ² mm ²		4	10 6	10		16 16	35 35		50 (35) ¹⁾ 50 (35) ¹⁾	70 50
Utilization categories AC-2	and AC-3											
 Rated operational currents I_e (at 60 °C) 	At 400 V At 690 V	A A	9	12	15.5	15.5 (25) ¹⁾ (21) ¹⁾	15.5 	38 (50) ¹⁾ (24) ¹⁾	38		(95) ¹⁾ (58) ¹⁾	
Rated power for slipring or squirrel-cage motors at 50 and 60 Hz	At 230 V 400 V 690 V	kW kW kW	2.2	3 5.5	4 7.5	4 (7.5) ¹⁾ 7.5 (15) ¹⁾ (18.5) ¹⁾	4 7.5 	(15) ¹⁾ (22) ¹⁾ (22) ¹⁾	 		(22) ¹⁾	
Load rating with DC						,						
Utilization category DC-1, switching resistive loads (L	•											
Rated operational currents	•	•	40	00	00	0.5	40	55		70	00	
- 1 conducting path	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 2.1 0.8 0.6	20 20	30 4.5 1 0.4	35	42	55 23		70	80 60 9 2 0.6	
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220 V	A A A	16 16 12 1.6	20 20	30 30 30 1	35 35 35	42 42 42	55 55 45 5		70 70 70	80 80 80 10	
- 3 conducting paths in series	440 V Up to 24 V 60 V 110 V 220 V 440 V	A A A A A	0.8 16 16 16 16 1.3	20 20 20 20	1 30 30 30 30 2.9	35 35 35 35	42 42 42 42	55 55 55 45		70 70 70 70	1.8 80 80 80 80 4.5	
- 4 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 16 16 16	20 20 20 20 20	30 30 30 30 30 2.9	35 35 35 35	42 42 42 42	55 55 55 45	65 65 55 3.5	70 70 70 70 2.9	80 80 80 80 4.5	
Utilization category DC-3/Do shunt-wound and series-wo (<i>L/R</i> ≤ 15 ms)												
Rated operational currents	I _e (at 60 °C)											
- 1 conducting path	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 0.5 0.15 	20	5 2.5 1 0.09			0.1		6 0.15	6.5	
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 5 0.35 	20	30 30 15 3 0.27	35 35	42 42	45 45 25 5		70 70 70 70 7	80 80 80	
- 3 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 16 1.5 0.2	20 20 20	30 30 30 10 0.6	35 35 35	42 42 42	45 45 45 25		70 70 70 35 0.8	80 80 80	
- 4 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A	16 16 16 1.5 0.2	20 20 20	30 30 30 30 30 0.6	35 35 35 35	42 42 42 42	45 45 45 25		70 70 70 70 70 0.8	80 80 80 80	

 $^{^{\}rm 1)}$ The values in brackets apply for 3RT23.6-1...0-4AA0. versions.

Data for North America

For technical specifications of 3RT contactors, see from page 3/53 onwards.

SIRIUS 3RT23 contactors, 4-pole

Selection and ordering data

AC operation ~

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B













3RT231.-1A.00

3RT231.-2A.00

3RT232.-1A.00

3RT232.-2A.00

3RT233.-1A.00

3RT234.-1A.00

Rated data AC-1, t _u : 40 / 60 °C	Auxiliary contacts		Rated control supply voltage $U_{\rm S}$			Screw terminals		SD	Spring-type terminals	<u></u>	
Operational current $I_{\rm e}$ up to 690 V	Ident. No.	Versio	on 	50/60 Hz AC	50 Hz AC		Article No.	Price per PU		Article No.	Price per PU
Α		NO	NC	V	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S00									
18 / 16	-			24		2	3RT2316-1AB00	5	3RT2316-2AB00
				110		5	3RT2316-1AF00	5	3RT2316-2AF00
				230		2	3RT2316-1AP00	5	3RT2316-2AP00
22 / 20				24		2	3RT2317-1AB00	5	3RT2317-2AB00
				110		5	3RT2317-1AF00	5	3RT2317-2AF00
				230		>	3RT2317-1AP00	5	3RT2317-2AP00
Size S0									
35 / 30 ¹⁾	11	1	1		24	5	3RT2325-1AB00	5	3RT2325-2AB00
					110	5	3RT2325-1AF00	X	3RT2325-2AF00
					230	5	3RT2325-1AP00	2	3RT2325-2AP00
40 / 35 ¹⁾	11	1	1		24	5	3RT2326-1AB00	5	3RT2326-2AB00
					110	5	3RT2326-1AF00	X	3RT2326-2AF00
					230	2	3RT2326-1AP00	2	3RT2326-2AP00
50 / 42 ¹⁾	11	1	1		24	5	3RT2327-1AB00	5	3RT2327-2AB00
					110	5	3RT2327-1AF00	5	3RT2327-2AF00
					230	2	3RT2327-1AP00	2	3RT2327-2AP00
Size S2									
60 / 55	11	1	1		24	5	3RT2336-1AB00		
					110	5	3RT2336-1AF00		
					230	>	3RT2336-1AP00		
110 / 95	11	1	1		24	5	3RT2337-1AB00		
					110	5	3RT2337-1AF00		-
					230	>	3RT2337-1AP00		
					200		01112007 TAT 00		

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

¹⁾ Required conductor cross-section 10 mm².

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

SIRIUS 3RT23 contactors, 4-pole

AC operation ~

Version for AC-3 motor loads

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B







3RT2336-1AP00-4AA0



3RT2346-1AP00-4AA0

Rated data		Auxiliary contacts		Rated control SD		Screw terminals	⊕ S	Spring-type terminals	∞
AC-2/AC-3, $t_{\rm u}$: Up to 60 °C	AC-1, t _u : 40 / 60 °C			supply voltage U _s					
Operational	Operational	Ident. No.	Version	50 Hz AC					
current I _e up to	current $I_{\rm e}$ up to		\				Price r PU	Article No.	Price per PU
400 V	690 V) (
Α	А		NO NC	V	d		d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size	S0
------	----

32	40 / 35	11	1	1	230	5	3RT2326-1AP00-4AA0	-
Size S2								
50	60 / 55	11	1	1	230	5	3RT2336-1AP00-4AA0	-

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

95 110 / 100 230 3RT2346-1AP00-4AA0

Other voltages according to page 4/42 on request.

SIRIUS 3RT23 contactors, 4-pole

DC operation

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B









3RT2311	B.40
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3RT231.-2B.40

3RT232.-1B.40 3RT

3RT232.-2B.40

Rated data AC-1, $t_{\rm u}$: 40 / 60 °C Operational current $I_{\rm e}$ up to
690 V

Auxiliary conta	acts	Rated control supply voltage U_s	SD					
Ident. No.	Version		DC					
	\	7						
	NO	NC	V	d				
on mounting onto TH 25 standard								

Screw terminals	(1)	S
Article No.	Price per PU	
		Ч

	SD	Spring-type terminals	
!		Article No.	Price per PU
	d		

For screw	fixing and	l snap-on	mounting	onto TH	35 standard
mounting	rail				

mounting rail								
Size S00						_		
18 / 16				24 220	2 5	3RT2316-1BB40 3RT2316-1BM40	5	3RT2316-2BB40 3RT2316-2BM40
22 / 20				24 220	5	3RT2317-1BB40 3RT2317-1BM40	5	3RT2317-2BB40 3RT2317-2BM40
Size S0								
35 / 30 ¹⁾	11	1	1	24 220	2 5	3RT2325-1BB40 3RT2325-1BM40	2 5	3RT2325-2BB40 3RT2325-2BM40
40 / 35 ¹⁾	11	1	1	24 220	2 5	3RT2326-1BB40 3RT2326-1BM40	2 X	3RT2326-2BB40 3RT2326-2BM40
50 / 42 ¹⁾	11	1	1	24 220	2 5	3RT2327-1BB40 3RT2327-1BM40	2 X	3RT2327-2BB40 3RT2327-2BM40

¹⁾ Required conductor cross-section 10 mm².

Other voltages according to page 4/42 on request.

SIRIUS 3RT23 contactors, 4-pole

AC/DC operation <a>

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B



3RT233.-1N.30



3RT234.-1N.30

Rated data AC-1, t _U : 40 / 60 °C	Auxiliary co		Rated control supply voltage $U_{\rm s}$	SD	Screw terminals	⊕ S	Spring-type terminal	s 🚃
Operational current I _e	Ident. No.	Version	50/60 Hz AC or DC					
up to		\			Article No.	Price per PU	Article No.	Price per PU
690 V) (·		·
A		NO NC	V	d		d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S2

With integrated of	coil circuit (varisto	r)					
60 / 55	11	1	1	20 33	2	3RT2336-1NB30	
				175 280	5	3RT2336-1NP30	
110 / 95	11	1	1	20 33	5	3RT2337-1NB30	
				175 280	5	3RT2337-1NP30	

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With integrated of	coil circuit (varist	or)					
110 / 100	11	1	1	20 33	X	3RT2344-1NB30	-
				175 280	5	3RT2344-1NP30	-
140 / 130	11	1	1	20 33	5	3RT2346-1NB30	
				175 280	5	3RT2346-1NP30	-
160 / 140	11	1	1	20 33	5	3RT2348-1NB30	-
				175 280	5	3RT2348-1NP30	-

Other voltages according to page 4/42 on request.

SIRIUS 3RT23 contactors, 4-pole

AC/DC operation

Version for AC-3 motor loads

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B



3RT2336-1NB30-4AA0



3RT2346-1NB30-4AA0

Rated data		Auxiliary c	ontac	ts	Rated control supply voltage $U_{\rm s}$	SD	Screw terminals		SD	Spring-type terminals	<u> </u>
AC-2/AC-3, t _u : Up to 60 °C	AC-1, c t _u : 40/60 °C	Ident. No.	Versi	ion	50/60 Hz AC or DC						
Operational current I_e up to	Operational current I_e up to		\ \	7			Article No.	Price per PU		Article No.	Price per PU
400 V	690 V										
Α	Α		NO	NC	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S2

 With integrated coil circuit (varistor)

 50
 60/55
 11
 1
 1
 20 ... 33

60/55 **11** 1 1 20 ... 33 5 **3RT2336-1NB30-4AA0**

--

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With integrated coil circuit (varistor)

95 110/100 **11** 1 1 20 ... 33 5 **3RT2346-1NB30-4AA0** --

Other voltages according to page 4/42 on request.

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1 (auxiliary switches)

The contactors are suitable for use in any climate. They are finger-safe according to IEC 60529.

The accessories for the 3-pole SIRIUS 3RT2 contactors can also be used for the 4-pole versions, see from page 3/76 onwards.

Size S0 to S3 contactors have two auxiliary contacts 1 NO and 1 NC integrated in the basic version.

Mountable auxiliary contacts

Sizes S00 to S3

Four additional auxiliary contacts, including no more than two NC.

For a general description of sizes S00 to S3 of 3RT2 contactors, see from page 3/17 onwards.

Use of 3RT contactors with IE3/IE4 motors

Note:

For the use of 3RT25 contactors in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Application

The contactors are suitable:

- For changing the polarity of hoisting gear motors
- For switching two separate loads

Note:

Single device for pole reversal; not suitable for reversing duty. 3RT25 contactors are not suitable for switching a load between two current sources.

Technical specifications

	mation

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16169/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16169/faq

Manuals, see

https://support.industry.siemens.com/cs/ww/en/ps/16169/man

Туре		3RT2516 to 3RT2518	3RT2526	3RT2535	3RT2536	3RT2544, 3RT2545
Size		S00	S0	S2		S3
General data						
Dimensions (W x H x D)		See 3RT231., page 4/18	See 3RT232., page 4/18	See 3RT233. page 4/18	3	See 3RT234., page 4/18
Permissible mounting position						
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5°	NSB0_00478c			
Upright mounting position		NSB0_00477a Special version require	ed			
Mechanical endurance	Operating cycles	30 million	10 million			
Electrical endurance at I _e /AC-1	Operating cycles	Approx. 0.5 million				
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690				
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	400				690
Permissible ambient temperature						
During operation	°C	-25 +60				
During storage	°C	-55 +80				
Degree of protection acc. to IEC 60529						
On front		IP20 (screw terminals a	and spring-type	terminals)		
Connecting terminal		IP20 (screw terminals a terminals)	and spring-type		egree of protec	ction, use additional termin
Touch protection acc. to IEC 60529		Finger-safe (screw terr spring-type terminals)	ninals and	Finger-safe for	or vertical touc	thing from the front

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Туре	3RT2516 to 3RT2518	3RT2526	3RT2535	3RT2536	3RT2544, 3RT2545			
Size	S00	S0	S2		S3			
Short-circuit protection								
Main circuit								
Version of the fuse link required for short-circuit protection of the main circuit								
- for type of coordination "1"	gG: 35 A (690 V, 100 kA)	gG: 63 A (690 V, 100 kA)	gG: 125 A (690 V, 100 kA)	gG: 160 A (690 V, 100 kA)	gG: 250 A (690 V, 100 kA)			
- for type of coordination "2"	gG: 20 A (690 V, 100 kA)	gG: 35 A (690 V, 50 kA)	gG: 63 A (690 V, 100 kA)	gG: 80 A (690 V, 100 kA)	gR: 250 A (690 V, 100 kA)			
Auxiliary circuit								
Version of the fuse link required for short-circuit protection of the auxiliary switch	Fuse gG: 10 A (690 V,	Fuse gG: 10 A (690 V, 1 kA)						
Miniature circuit breaker version required for short-circuit protection of the auxiliary switch	6 A (230 V, 400 A, C cl	haracteristic)						

Туре			3RT2516- 1A		3RT2516-1B, 3RT2517-1B, 3RT2518-1B		3RT2526- 1B	3RT253 1A	3RT253 1N	3RT254 1A	3RT254 1N
Size			S00			S0		S2		S3	
Control											
Type of operating me	echanism		AC		DC	AC	DC	AC	AC/DC	AC	AC/DC
Solenoid coil operat	ing range										
AC operation	At 50 Hz		0.8 1.1 x <i>U</i> _S			0.8 1.1 x <i>U</i> _s		0.8 1.1 x <i>U</i> _s		0.8 1.1 x <i>U</i> _s	
	At 60 Hz		0.8 1.1 x <i>U</i> _S			0.8 1.1 x <i>U</i> _s		0.8 1.1 x <i>U</i> _s		0.85 1.1 x <i>U</i> _s	
DC operation	Up to 50 °C				0.8 1.1 x <i>U</i> _S		0.8 1.1 x <i>U</i> _s				
	Up to 60 °C				0.85 1.1 x <i>U</i> _s		0.85 1.1 x <i>U</i> _s				
 AC/DC operation 									$0.8 \times U_{\rm s min}$		0.8 x <i>U</i> _{s min}
									1.1 x U _{s max}	,	 1.1 x <i>U</i> _{s max}
Power consumption solenoid coils (for cold coil and 1.0 :	x U _s)										
 AC operation, 50/60 version) Hz, standard										
- Closing - P.f.	`		27/24.3 0.8/0.75	37/33		81/79 0.72/0.74		210/188 0.69/0.65	110 0.95	348/296 0.62/0.55	
- Closed - P.f.	`	VA	4.2/3.3 0.25/0.25	5.7/4.4		10.5/8.5 0.25/0.28	 	17.2/16.5 0.36/0.39	2.5 0.95	25/18 0.35/0.41	
 DC operation 											
ClosingClosed					4		5.9 5.9	23 1	70 1.5		76 1.8
Operating times for Total break time = Opening delay + Arci	J										
 AC operation 											
Closing delayOpening delay			9.5 24 4 14	9 22 4.5 15		10 17 4 16		12 22 10 18	30 70 30 55	15 25 11 20	50 70 38 57
 DC operation 											
Closing delayOpening delay		ms ms			35 50 7 12		55 80 16 17		30 70 30 55		50 70 38 57
 Arcing time 	1	ms	10 15			10		10 20			

¹⁾ The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (varistor +2 ms to 5 ms, diode assembly: 2x to 6x).

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Туре			3RT2516	3RT2517	3RT2518	3RT25	26	3RT2535	3RT2536	3RT2544	3RT2545
Size			S00			S0		S2		S3	
Rated data of the ma	in contacts										
Load rating with AC											
Utilization category AC- switching resistive load											
 Rated operational currents I_e 	At 40 °C up to 690 V At 60 °C up to 690 V	A A	18 16	22 20		40 35		60 55	70 60	100 90	125 105
 Rated power for AC loads P.f. = 0.95 (at 60 °C) 	At 230 V 400 V	kW kW	6 10.5	7.5 13		13.3 23		21 36	23 39	34 40	59 69
 Minimum conductor cross-section for loads with I_e 	At 40 °C	mm ²	2.5	4		10		16	25	35	50
Utilization categories AC	C-2 and AC-3					AC1)	DC ¹⁾				
 Rated operational currents I_e (at 60 °C) 	NO up to 400 V NC up to 400 V	A A	9	12	16	25 25	20	35 35	41 41	65 65	80 80
• Rated power for slipring or squirrel-cage motors	NO at 230 V NC at 230 V	kW kW	2.2 2.2	3	4	5.5 5.5		11 11		18.5 18.5	22 22
at 50 and 60 Hz	NO at 400 V NC at 400 V	kW kW	4 4	5.5	7.5	11 11	7.5	18.5 18.5	22 22	30 30	37 37
Load rating with DC											
Utilization category DC- switching resistive loads											
• Rated operational curre	nts I _e (at 60 °C)										
- 1 conducting path	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 2.1 0.8 0.6	20 20		35 20 4.5 1 0.4		55 23	60	100 60 9 2 0.6	
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 12 1.6 0.8	20 20		35 35 35 5		55 45 45		100 100 100 10 1.8	
Utilization category DC- shunt-wound and series (<i>L/R</i> ≤ 15 ms)	3/DC-5 ²⁾ , -wound motors										
Rated operational curre	nts I _e (at 60 °C)										
- 1 conducting path	Up to 24 V 60 V 110 V 220 V	A A A	16 0.5 0.15 0.75	20		5 2.5 1		35 6		40	
- 2 conducting paths in series	440 V Up to 24 V 60 V 110 V 220 V 440 V	A A A A A	 16 5 0.35 	20		0.09 35 35 15 3 0.27		0.1 55 45 25 5		0.15 100 100 100 7 0.42	
Switching frequency	110 V	••				0.27				JL	
Switching frequency z in											
Contactors without overlo No-load switching frequency	AC DC AC/DC	1/h 1/h 1/h	 10 000			5 000	 1 500	5 000 500		1 000	
 Switching frequency z during rated operation³⁾ 	I _e /AC-1 at 400 V	1/h	1 000					1 200 (350) ⁴⁾	1 000 (350) ⁴⁾	900	

Values for devices with AC and DC operation: For 3RT2526 with DC operation, different values apply to AC-2 and AC-3 for the NC.
 For U_e > 24 V, the rated operational currents I_e for the NC contact current paths are equal to 50% of the values for the NO contact current paths.

patris are equal to 50% of the values is in a second of the switching frequency z' on the operational current I' and operational voltage U': $Z' = z \cdot (I_{\theta}/I') \cdot (U_{\theta}/U')^{1.5} \cdot 1/h.$

⁴⁾ The values in brackets apply for 3RT253.-.N.

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Selection and ordering data

AC operation ~

Single device for pole reversal (not suitable for reversing duty)

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$













3RT251.-1A.00

3RT251.-2A.00

3RT252.-1A.00

3RT252.-2A.00

3RT253.-1A.00

3RT254.-1A.00

Rated dat	ta		Auxilia		Rated control supply SD voltage $U_{\rm S}$		SD	Screw terminals	+	SD	Spring-type terminals	<u>~</u>
AC-2/AC- t_u : Up to 6		AC-1, t _u : 40/60 °C		Version	50/60 Hz AC	50 Hz AC						
Operational current I_e up to	Ratings of three- phase motors at 50 Hz and	Operational current I_e up to		\				Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690										
Α	kW	Α		NO NC	V	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

moun	ting raii										
Size S	00										
9	4	18 / 16				24 110 230	 	5 5 2	3RT2516-1AB00 3RT2516-1AF00 3RT2516-1AP00	5 5 5	3RT2516-2AB00 3RT2516-2AF00 3RT2516-2AP00
12/9 ¹⁾	5.5/4 ¹⁾	22 / 20				24 110 230	 	5 5	3RT2517-1AB00 3RT2517-1AF00 3RT2517-1AP00	5 5 5	3RT2517-2AB00 3RT2517-2AF00 3RT2517-2AP00
16/9 ¹⁾	7.5/4 ¹⁾	22 / 20	-			24 110 230	 	5 5 5	3RT2518-1AB00 3RT2518-1AF00 3RT2518-1AP00	5 5 5	3RT2518-2AB00 3RT2518-2AF00 3RT2518-2AP00
Size S	<i>60</i>										
25	11	40 / 35	11	1	1	 	24 110 230	5 5 2	3RT2526-1AB00 3RT2526-1AF00 3RT2526-1AP00	5 5 2	3RT2526-2AB00 3RT2526-2AF00 3RT2526-2AP00
Size S	32										
35	18.5	60 / 55	11	1	1	 	24 110 230	2 2 2	3RT2535-1AB00 3RT2535-1AF00 3RT2535-1AP00		<u>-</u>
41	22	70 / 60	11	1	1	 	24 110 230	5 5 2	3RT2536-1AB00 3RT2536-1AF00 3RT2536-1AP00		- - -

For screw and snap-on mounting onto TH 35-15 and TH 75-15

Stant	aaru mounti	ing rails							
Size	S3							_	
65	30	100 / 90	11	1	1	 24	5	3RT2544-1AB00	
						 110 230	5 5	3RT2544-1AF00 3RT2544-1AP00	
80	37	125 / 105	11	1	1	 24	5	3RT2545-1AB00	
						 110	5	3RT2545-1AF00	
						 230	5	3RT2545-1AP00	

¹⁾ Values for NO contact/NC contact. The NC contact can switch no more than 4 kW.

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

DC operation

Single device for pole reversal (not suitable for reversing duty)

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B









3RT251.-1B.40 3RT251.-2B.40

Rated dat	a		Auxilia contac			Rated control supply voltage U_s	SD
AC-2/AC- t_u : Up to 6		AC-1, t _u : 40/60 °C	Ident. No.	Versi	on	DC	
Operational current I_e up to	Ratings of three- phase motors at 50 Hz and	Operational current I_e up to		1	 		
400 V	400 V	690					
Α	kW	Α		NO	NC	V	d

3RT252.-2B.40

crew terminals	+	SD	Spring-type terminals	
rticle No.	Price per PU		Article No.	Price per PU
		d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

	Size	S00
--	------	-----

9	4	18 / 16				24 220	5	3RT2516-1BB40 3RT2516-1BM40	2 5	3RT2516-2BB40 3RT2516-2BM40
12/9 ¹⁾	5.5/4 ¹⁾	22 / 20	-			24 220	2 5	3RT2517-1BB40 3RT2517-1BM40	2 5	3RT2517-2BB40 3RT2517-2BM40
16/9 ¹⁾	7.5/4 ¹⁾	22 / 20	-			24 220	5 5	3RT2518-1BB40 3RT2518-1BM40	2 5	3RT2518-2BB40 3RT2518-2BM40
Size S0	1									
25 (20) ²⁾	11 (7.5) ²⁾	40 / 35	11	1	1	24 220	2 5	3RT2526-1BB40 3RT2526-1BM40	2 5	3RT2526-2BB40 3RT2526-2BM40

¹⁾ Values for NO contact/NC contact. The NC contact can switch no more

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

Value in brackets for NC contact (the deviating value for the NC contact applies only for devices with DC operation).

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

AC/DC operation

Single device for pole reversal (not suitable for reversing duty)

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$





3RT253.-1N.30

3R I	254 ⁻	IN	1.3
------	------------------	----	-----

Rated dat	Rated data		Auxiliary contacts		Rated control supply voltage $U_{\rm s}$	SD	Screw terminals	+	SD	Spring-type terminals	8
AC-2/AC-3 t _u : Up to 6		AC-1, t _u : 40/60 °C		Version	50/60 Hz AC or DC						
Operational current I_e up to	Ratings of three- phase motors at 50 Hz and	Operational current I_e up to		\			Article No.	Price per PU		Article No.	Price per PU
400 V	400 V	690									
Α	kW	Α		NO NC	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S2

With in	ntegrated coil c	ircuit (varistor)							
35	18.5	60 / 55	11	1	1	20 33	2	3RT2535-1NB30	
						83 155	5	3RT2535-1NF30	
						175 280	5	3RT2535-1NP30	
41	22	70 / 60	11	1	1	20 33	2	3RT2536-1NB30	
						83 155	5	3RT2536-1NF30	
						175 280	5	3RT2536-1NP30	

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With in	tegrated coi	l circuit (varistor)							
65	30	100 / 90	11	1	1	20 33 175 280	5 5	3RT2544-1NB30 3RT2544-1NP30	-
80	37	125 / 105	11	1	1	20 33 175 280	5 5	3RT2545-1NB30 3RT2545-1NP30	

Other voltages according to page 4/42 on request.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 60831-1, IEC/EN 61921

The 3RT26 contactors are suitable for use in any climate. They are finger-safe according to IEC 60529.

Function

The 3RT26 contactors for capacitive loads (AC-6b) are special versions of the 3RT20 contactors in sizes S00 to S3 that are configured for switching banks of capacitors.

They are designed to convey the inrush current in such applications, and are weld-resistant in compliance with the technical specifications.

The 3RT26 contactors are suitable for choked and unchoked capacitors. Besides switching power capacitors in reactive-current compensation systems, they are also used to switch converters.

In the case of 3RT26 contactors, the precharging resistors are an integral component of the contactor. The precharging resistors are activated via leading auxiliary contacts before the main contacts close. During switching, after attenuation of the peak current, they are decoupled again. Attenuation of the inrush current peaks also reduces interfering harmonics in the supply.

Notes

Only switching onto discharged capacitors is permitted with 3RT26 contactors.

Manual operation for function tests is not permitted. The series resistors must not be removed.

Auxiliary switches

The variance of unassigned auxiliary switches has been increased; for available versions, see from page 4/38 onwards. Details of deviating versions are available on request.

In sizes S00 and S0, the auxiliary switch block which is snapped onto the capacitor contactor contains the three leading NO contacts and one unassigned auxiliary contact. In addition, another one (S00) or two (S0) unassigned auxiliary contacts are provided in the basic unit.

The fitting of auxiliary switches for 3RT26 contactors in sizes S00 and S0 of the respective version is not expandable. For sizes S2 and S3, freely available auxiliary switches are implemented by means of lateral auxiliary switch blocks. More auxiliary switch blocks can be mounted laterally corresponding to the 3RT20 contactors.

Devices with 2 NC contacts are now consistently available in all power quantities.

Technical specifications

More information

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16171/td

Manuals, see

3RT26

S00 ... S3

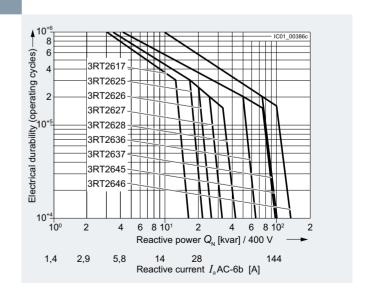
https://support.industry.siemens.com/cs/ww/en/ps/16171/man

Type Size

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching capacitive loads (AC-6b) depending on the reactive power Q_N and rated operational voltage.

The rated operational current $I_{\rm e}$ in accordance with utilization category AC-6b (breaking of 1.35 times the rated operational current) is specified for a contact endurance of approximately 150 000 to 200 000 operating cycles.



SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

All technical specifications not mentioned in the table below are identical to those of the 3RT20 contactors: $\frac{1}{2} \frac{1}{2} \frac{1}{2$

- For size S00 as for the 3RT201 contactors
- For size S0 as for the 3RT202 contactors
- For size S2 as for the 3RT203 contactors
- For size S3 as for the 3RT204 contactors

See page 3/23 onwards.

<u> </u>										
Type		3RT2617		3RT2626	3RT2627	3RT2628	3RT2636	3RT2637		3RT2646
Size		S00	S0				S2		S3	
General data										
Dimensions (W x H x D) including auxiliary switches and connecting cables										
• AC operation	mm	45 x 125 x 120	45 x 135 x	155		45 x 150 x 155	65 x 114 x	130	80 x 140 x	(152
DC operation, AC/DC operation	mm	45 x 125 x 120	45 x 135 x	165		45 x 150 x 165	65 x 114 x	130	80 x 140 x	(152
Permissible mounting position		360°	22,5° 22,5°	280						
The contactors are designed for operation on a vertical mounting surface.				NSB0_00478c						
Mechanical endurance										
Basic units with mounted auxiliary switch block	Operat- ing cycles	3 million								
Electrical endurance	kvar	12.5	16.7	20	25	33	50	75		100
For apparent power at 400 V	Operat- ing cycles	300 000	200 000			150 000	200 000	150 000	200 000	150 000
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690							1 000 ²⁾	
Rated impulse withstand voltage U _{imp}	kV	6							8 ²⁾	
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	400							690	
Permissible ambient temperature										
 During operation¹⁾ 	°C	-25 +60)							
During storage	°C	-55 +80)							
Degree of protection acc. to IEC 60529										
• On front		IP20								
Connecting terminal		IP20						gher degree		on,
Touch protection acc. to IEC 60529		Finger-safe	e					for vertical	,	om the front
Shock resistance										
Rectangular pulse	g/ms	6.7/5 and 4.2/10	7.5/5 and 4.7/10	8.3/5 and	5.3/10		6.8/5 and 4	I/10	10.3/5 and	d 6.7/10
• Sine pulse	g/ms	10.5/5 and 6.6/10	11.8/5 and 7.4/10	13.5/5 and	d 8.3/10		10.6/5 and	6.2/10	16.3/5 and	d 10.5/10
Short-circuit protection										
Main circuit										
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1										
• Type of coordination "1"	Α	25 40	32 80	40 80	50 100	63 100	100 160	160 200		200 250
Auxiliary circuit										
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE With short-circuit current $I_{\rm k}$ = 1 kA acc. to IEC 60947-5-1	Α	10								
With miniature circuit breakers with C characteristic with short-circuit current $I_{\rm k} = 400~{\rm A}$	А	10								
1) 4				2)						

¹⁾ A clearance of 10 mm is required for side-by-side mounting.

²⁾ Only applies for main current paths, otherwise $U_{\rm i}$ = 690 V; $U_{\rm imp}$ = 6 kV.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Туре		3RT2617-1A, -1B	3RT2625-1A, -1B	3RT2626-1A, -1B; 3RT2627-1A, -1B; 3RT2628-1A, -1B	3RT2636-1A, 3RT2637-1A	3RT2645-1A, 3RT2646-1A
Size		S00	S0		S2	S3
Control						
Solenoid coil operating range						
AC operation	50 Hz 60 Hz	0.8 1.1 x <i>U</i> _s 0.85 1.1 x <i>U</i> _s	0.8 1.1 x <i>U</i> _s			
	At 50 °C At 60 °C	0.8 1.1 x <i>U</i> _s 0.85 1.1 x <i>U</i> _s				
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)	s					
AC operation, 50 Hz, standard version						
- Closing - P.f. - Closed	VA VA	 	77 0.82 9.8		190 0.72 16	296 0.61 19
- P.f.			0.25		0.37	0.38
 AC operation, 50/60 Hz, standard version 	n					
- Closing	VA	49 0.8	81/79		210/188	348/296
- P.f. - Closed	VA	0.8 7.8	0.72/0.74 10.5/8.5		0.69/0.65 17.2/16.5	0.62/0.55 25/18
- P.f.		0.25	0.25/0.28		0.36/0.39	0.35/0.41
DC operation						
- Closing	W	4	5.9			
- Closed	W	4	5.9			
Maximum permissible residual current on the electronics (with 0 signal) ()	of					
• AC operation (230 V/U _c)	mA	41)	7			
 DC operation (24 V/U_s) 	mA	10 ¹⁾	16			
Operating times for 0.8 1.1 x U _s ²⁾ Total break time = Opening delay + Arcing		10	10			
• AC operation						
- Closing delay - Opening delay	ms ms	8 33 4 15	9 38 4 16	8 40	10 80 10 18	15 25 11 20
DC operation						
Closing delayOpening delay	ms ms	30 100 7 13	55 80 16 17	50 170 15 18		
Arcing time	ms	10 15				
1) Size S00: The 3RT2916-1GA00 additiona	al load module is	s recommended	2) With size S00. DC	operation: Operating	g times at 0.85 to	1.1 x U _c .

¹⁾ Size S00: The 3RT2916-1GA00 additional load module is recommended for higher residual currents, see page 3/120.

 $^{^{2)}}$ With size S00, DC operation: Operating times at 0.85 to 1.1 x $U_{\rm S}.$

Туре		3RT2621NB35	3RT2621NF35	3RT2621NP35	3RT2631N.35	3RT2641N.35
Size		S0			S2	S3
Control						
Solenoid coil operating range						
 AC/DC operation (50/60 Hz AC or DC) 			0.7 1.3 x <i>U</i> _s		0.8 1.1 x <i>U</i> _s	
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)						
• AC operation, 50/60 Hz, standard version						
- Closing	VA	6.6/6.7	11.9/12.0	12.7/14.7	110	163
- P.f. - Closed	VA	0.98/0.98 1.9/2.0	1.6/1.8	3.9/4.3	0.95 2.5	 3.1
- Closed - P.f.	VA	0.86/0.82	0.79/0.74	0.51/0.56	2.5 0.95	3.1
DC operation						
- Closing	W	5.9	10.2	14.3	70	76
- Closed	W	1.4	1.3	1.9	1.5	1.8
Maximum permissible residual current of the electronics (with 0 signal)						
• AC operation (230 V/U _s)	mA	7			< 20	
• DC operation (24 V/U _s)	mA	16			< 20	
Operating times for 0.8 1.1 x U _s Total break time = Opening delay + Arcing til	me					
AC/DC operation						
- Closing delay for 0.8 1.1 for 1.0 x $U_{\rm S}$	x U _s ms	50 70 			30 100 30 70	50 70
- Opening delay	ms	35 45			30 55	38 57
Arcing time	ms	10 15				

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Type Size			3RT2617 S00	3RT2625 S0	3RT2626	3RT2627	3RT2628	3RT2636 S2	3RT2637	3RT2645 S3	3RT2646
Auxiliary circuit			500	50				32		33	
Auxiliary contacts (unassign	ned)		1 NO + 1 NC, 2 NC	1 NO + 2	NC			1 NO + 1	NC, 2 NC		
Another auxiliary contact can be mounted laterally									han one late be mounted		switch
Technical specifications inclurated data of the auxiliary corcontactors", from page 3/23 c	ntacts, see "3RT20										
Rated data of the main of	contacts										
Load rating with AC			_								
Utilization category AC-6b Switching of AC capacitors											
 Rated operational current I_e for AC 											
Up to 690 V at ambient temperatureUp to 1 000 V at ambient temperature	40 °C 60 °C 60 °C	Α	18.9 18 	25.3 24	30.2 29	37.8 36	50 47.6	75.8 72.2	113.4 108	113 54	151 144 68
Rated operational reactive power at rated operational voltage	230 V, 50/60 Hz 400 V, 50/60 Hz 500 V, 50/60 Hz 690 V, 50/60 Hz 1 000 V, 50/60 Hz	kvar kvar kvar	0 7.2 0 12.5 0 15 0 21	3 9.6 6 16.7 7 21 10 29	4 11.5 7 20 8 25 11 34	5 14 8 25 10 31 14 43	6 19 11 33 14 41 19 57	10 29 17 50 21 63 29 86	14 43 25 75 31 94 43 129	31 94	19 57 33 100 41 125 57 172 41 125
Switching frequency											
No-load switching frequency	AC operation DC operation	1/h 1/h	500 500					500 ²⁾ 500 ²⁾			
Max. switching frequency z at $T_u = 60 ^{\circ}\text{C}^{1)}$ in operating cycles/hour											
$ullet$ At $I_{ m e}$ /AC-6b and at	230 V, 50/60 Hz 400 V, 50/60 Hz 480 V, 50/60 Hz 500 V, 50/60 Hz 600 V, 50/60 Hz 690 V, 50/60 Hz 1 000 V, 50/60 Hz	1/h 1/h 1/h 1/h 1/h	180 180 180 180 180 180	150	100 100 100 100 100 100	72	70 65 45 36	60 55 40 30	100 / 80 ³⁾ 50 45 32 25	200 100 / 80 ³⁾ 53 53 30 30 30	150 80 / 60 ⁴⁾ 40 40 20 20 20
® and ® rated data											
Rated insulation voltage		V AC	600								
Operational reactive power at AC-6b, 3-phase, at operational voltage	110 120 V 200 208 V 220 230 V 460 480 V 575 600 V	kvar kvar kvar	3.4 6.2 6.9 14	4.6 8.3 9.2 18 23	5.5 10 11 22 27	6.3 11 13 25 31	8.3 15 17 33 41	14 25 27 55 69	19 34 38 75 94	20 37 41 82 103	25 45 50 100 125
Short-circuit protection	At 600 V		5		-	-		10			
Fuse for main circuit	Class RK5		40	80			100	250			
1) Specifications for worst cas	se scenario, higher	switchir	na frequenc	V	3) Opera	ating cycles	/h: 100 with	AC operati	on: 80 with	AC/DC one	ration

¹⁾ Specifications for worst case scenario, higher switching frequency

²⁾ In case of AC/DC operation (UC operating mechanisms): max. 300/h.

Operating cycles/h: 100 with AC operation; 80 with AC/DC operation.
 Operating cycles/h: 80 with AC operation; 60 with AC/DC operation.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Туре		3RT2617	3RT2625, 3RT2626, 3RT2627	3RT2628	3RT2636	3RT2637	3RT2645, 3RT2646
Size		S00	S0 ¹⁾		S2 ²⁾		S3 ³⁾
Conductor cross-sections							
Main conductors (1 or 2 conductors can be connected)		Screw termi	nals				
Solid or stranded	mm ²	2 x (0.5 1.5) ⁴⁾ ; 2 x (0.75 2.5) ⁴⁾ ; max. 2 x 4	2 x (1 2.5) ⁴⁾ . 2 x (2.5 10) ⁴⁾	1 x (2.5 25)	2 x (2.5 35); 1 x (2.5 50)		2 x (10 70); 1 x (10 70)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 1.5) ⁴⁾ . 2 x (0.75 2.5) ⁴⁾	2 x (1 2.5) ⁴⁾ ; 2 x (2.5 6) ⁴⁾ ; 1 x 10	1 x (2.5 16)	2 x (1 25); 1 x (1 35)		2 x (10 50); 1 x (10 50)
 AWG cables, solid or stranded 	AWG	2 x (20 16) ⁴⁾ ; 2 x (18 14) ⁴⁾ ; 2 x 12	2 x (16 12) ⁴⁾ ; 2 x (14 8) ⁴⁾	1 x (10 4)	2 x (18 2); 1 x (18 0)		2 x (8 3/0); 1 x (8 3/0)
Terminal screw		M3 (for Pozidriv size 2; Ø 5 6)	M4 (for Pozidriv size 2; Ø 5 6)	M8	M6 (for Pozidriv size : Ø 5 6)	2;	M8 (Inbus size 4)
Tightening torque	Nm lb.in	0.8 1.2 7 10.3	2 2.5 18 22	3 4 27 36	3 4.5 27 40		4.5 6 40 53
Auxiliary conductors (1 or 2 conductors can be connected)							
Solid or stranded	mm ²	2 x (0.5 1.5) ⁴⁾ . 2 x (0.75 2.5) ⁴⁾ ;	max. 2 x 4				
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 1.5) ⁴⁾ . 2 x (0.75 2.5) ⁴⁾					
 AWG cables, solid or stranded 	AWG	2 x (20 16) ⁴⁾ ; 2 x (18 14) ⁴⁾ ; 2 x 12					
Terminal screw		M3 (for Pozidriv size 2 Ø 5 6));				
Tightening torque	Nm lb.in	0.8 1.2 7 10.3					

 ³⁻phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

^{2) 3-}phase infeed terminal 3RV2935-5A available, see page 3/116.

^{3) 1-}phase infeed terminal 3RA2943-3L available, see page 3/116.

⁴⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Selection and ordering data

AC operation ~

Main, auxiliary and control conductors: Screw terminals







3RT262.-1A.05



3RT2628-1A.05 with infeed terminal

Switching	AC capacite ient tempera	ors	°C		cts, igned	Rated con voltage U _s		SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Capacitor operational At 230 V	rating at al voltage 50 At 400 V	0/60 Hz At 500 V	At 690 V	Versio	on 	50 Hz AC	50/60 Hz AC		Article No.	Price per PU			
kvar	kvar	kvar	kvar	NO	NC	V	V	d					
For scre	w fixing a	ınd snap-o	on mounti	ng ont	o TH 35	standard	mounting ra						
Size S00)								•				
0 7.2	0 12.5	0 15	0 21	1	1	 	24 110 230	5 5 •	3RT2617-1AB03 3RT2617-1AF03 3RT2617-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
0 7.2	0 12.5	0 15	0 21	0	2	 	24 110 230	5 5 5	3RT2617-1AB05 3RT2617-1AF05 3RT2617-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Size S01)												
3 9.6	6 16.7	7 21	10 29	1	2	24 110 230	 	5 5 5	3RT2625-1AB05 3RT2625-1AF05 3RT2625-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
4 11.5	7 20	8 25	11 34	1	2	24 110 230	 	5 5 5	3RT2626-1AB05 3RT2626-1AF05 3RT2626-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
5 14	8 25	10 31	14 43	1	2	24 110 230	 	5 5 •	3RT2627-1AB05 3RT2627-1AF05 3RT2627-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
6 19	11 33	14 41	19 57	1	2	24 110 230	 	5 5 5	3RT2628-1AB05 3RT2628-1AF05 3RT2628-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

³⁻phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope of delivery.

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

AC operation ~

Main, auxiliary and control conductors: Screw terminals







3RT264 -14 05

			3RT2631	4.05				3RT2641A.05				
Switching .	AC capacitor ent temperati	S		Auxilia conta unass Versio	cts, signed	Rated control supply voltage $U_{\rm S}$ 50 Hz AC	SD	Screw terminals	4	PU (UNIT, SET, M)	PS*	PG
Capacitor operationa At 230 V	rating at Il voltage 50/6 At 400 V	60 Hz At 500 V	At 690 V	\\	7			Article No.	Price per PU			
kvar	kvar	kvar	kvar	NO	NC	V	d					
For scre	w fixing an	d snap-on	mounting	onto T	'H 35 sta	ndard mounting ra	i					
Size S21)								_				
10 29	17 50	21 63	29 86	1	1	24 110 230	5 5	3RT2636-1AB03 3RT2636-1AF03 3RT2636-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
10 29	17 50	21 63	29 86	0	2	24 110 230	5 5 5	3RT2636-1AB05 3RT2636-1AF05 3RT2636-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 43	25 75	31 94	43 129	1	1	24 110 230	5 5 5	3RT2637-1AB03 3RT2637-1AF03 3RT2637-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 43	25 75	31 94	43 129	0	2	24 110 230	5 5 5	3RT2637-1AB05 3RT2637-1AF05 3RT2637-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For scre		o-on moun	iting onto 1	TH 35-1	15 and T	H 75-15 standard						
Size S3 ²⁾								•				
14 43	25 75	31 94	43 129	1	1	24 110 230	5 5 5	3RT2645-1AB03 3RT2645-1AF03 3RT2645-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 43	25 75	31 94	43 129	0	2	24 110 230	5 5 5	3RT2645-1AB05 3RT2645-1AF05 3RT2645-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19 57	33 100	41 125	57 172	1	1	24 110 230	5 5 5	3RT2646-1AB03 3RT2646-1AF03 3RT2646-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19 57	33 100	41 125	57 172	0	2	24 110 230	5 5 5	3RT2646-1AB05 3RT2646-1AF05 3RT2646-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Other voltages according to page 4/42 on request.

Accessories, see page 3/76 onwards.

^{1) 3-}phase infeed terminal 3RV2935-5A available, see page 3/116.
2) 1-phase infeed terminal 3RA2943-3L available, see page 3/116.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

DC operation

Main, auxiliary and control conductors: Screw terminals







3RT262.-1B.45



3RT2628-1B.45 with infeed terminal

								with infect terminal				
Switching	AC capacition temperature and	ors	С	Auxilia conta unass Versio	cts, signed	Rated control supply voltage $U_{\rm s}$	SD	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
	al voltage 50			1	}			Article No.	Price per PU			
At 230 V	At 400 V	At 500 V	At 690 V	_ '								
kvar	kvar	kvar	kvar	NO	NC	V	d					
For scre	w fixing a	nd snap-c	on mounti	ng ont	o TH 3	5 standard mounting r	ail					
Size S00)							-				
0 7.2	0 12.5	0 15	0 21	1	1	24 110	5 5	3RT2617-1BB43 3RT2617-1BF43		1	1 unit 1 unit	41B 41B
0 7.2	0 12.5	0 15	0 21	0	2	24	5 5	3RT2617-1BB45 3RT2617-1BF45		1 1	1 unit 1 unit	41B 41B
Size S01)											
3 9.6	6 16.7	7 21	10 29	1	2	24 110	5 5	3RT2625-1BB45 3RT2625-1BF45		1 1	1 unit 1 unit	41B 41B
4 11.5	7 20	8 25	11 34	1	2	24 110	5 5	3RT2626-1BB45 3RT2626-1BF45		1 1	1 unit 1 unit	41B 41B
5 14	8 25	10 31	14 43	1	2	24 110	5 5	3RT2627-1BB45 3RT2627-1BF45		1 1	1 unit 1 unit	41B 41B
6 19	11 33	14 41	19 57	1	2	24 110	5 5	3RT2628-1BB45 3RT2628-1BF45		1 1	1 unit 1 unit	41B 41B

³⁻phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

Other voltages according to page 4/42 on request. Accessories, see page 3/76 onwards.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

AC/DC operation

Main, auxiliary and control conductors: Screw terminals











3RT2621	RT2621N.35			628-1N.3 nfeed ter			3RT2631N.35		3RT2641N.35			
Switching	AC capacitient tempera		С	Auxili conta unass Versio	icts, signed	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Capacitor operations	rating at al voltage 50 At 400 V	0/60 Hz At 500 V	At 690 V		}	30/00 112 AO 01 DO		Article No.	Price per PU			
kvar	kvar	kvar	kvar	NO	NC	V	d					
For scre Size S0 ¹		nd snap-o	on mounti	ng on	to TH 3	ร standard mounting เ	rail					
3 9.6	6 16.7	7 21	10 29	1	2	21 28 95 130 200 280	5 5 5	3RT2625-1NB35 3RT2625-1NF35 3RT2625-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
4 11.5	7 20	8 25	11 34	1	2	21 28 95 130 200 280	5 5 5	3RT2626-1NB35 3RT2626-1NF35 3RT2626-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
5 14	8 25	10 31	14 43	1	2	21 28 95 130 200 280	5 5 5	3RT2627-1NB35 3RT2627-1NF35 3RT2627-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
6 19	11 33	14 41	19 57	1	2	21 28 95 130 200 280	5 5 5	3RT2628-1NB35 3RT2628-1NF35 3RT2628-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Size S22)											
10 29	17 50	21 63	29 86	0	2	20 33 83 155 175 280	5 5 5	3RT2636-1NB35 3RT2636-1NF35 3RT2636-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 43	25 75	31 94	43 129	0	2	20 33 83 155 175 280	5 5 5	3RT2637-1NB35 3RT2637-1NF35 3RT2637-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For scre mountin		ap-on mou	ınting ont	o TH 3	35-15 ar	nd TH 75-15 standard						
Size S33)											
14 43	25 75	31 94	43 129	0	2	20 33 83 155 175 280	5 5 5	3RT2645-1NB35 3RT2645-1NF35 3RT2645-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19 57	33 100	41 125	57 172	0	2	20 33 83 155 175 280	5 5 5	3RT2646-1NB35 3RT2646-1NF35 3RT2646-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

³⁻phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope

Other voltages according to page 4/42 on request. Accessories, see page 3/76 onwards.

²⁾ 3-phase infeed terminal 3RV2935-5A available, see page 3/116.

^{3) 1-}phase infeed terminal 3RA2943-3L available, see page 3/116.

SIRIUS 3RT23 to 3RT26, 3RT14 contactors

Options

Rated control supply voltages for 3RT2 contactors, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage $U_{\rm S}$	Contactor type	3RT231, 3RT251	3RT232, 3RT252	3RT233, 3RT253	3RT234, 3RT244, 3RT254	3RT2617, 3RT262, 3RT263, 3RT264
	Size	S00	S0	S2	S3	S00 to S3
Sizes S00 to S3						
AC operation ¹⁾						
Solenoid coils for 50 Hz (exception: Size S00: 50 a	and 60 Hz ²⁾)					
24 V AC 42 V AC 48 V AC 110 V AC 230 V AC 240 V AC 400 V AC		B0 D0 H0 F0 P0 V0	B0 D0 F0 P0 V0	B0 D0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0	B0 F0 P0
Solenoid coils for 50 and	l 60 Hz ²⁾					
24 V AC 42 V AC 48 V AC 110 V AC 220 V AC 230 V AC		B0 D0 H0 F0 N2 P0	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 N2 L2
Solenoid coils (for USA a	and Canada ³⁾)					
50 Hz 60						
	V AC V AC	K6 P6	K6 P6	K6 P6	K6 P6	
Solenoid coils (for Japan 50/60 Hz ⁴⁾ 60	n) Hz ⁵⁾					
200 V AC 220 400 V AC 440	V AC V AC V AC	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6
DC operation ¹⁾						
12 V DC 24 V DC 42 V DC 48 V DC 60 V DC 110 V DC 125 V DC 220 V DC 230 V DC		A4 B4 D4 W4 F4 G4 M4 P4	A4 B4 D4 W4 F4 G4 M4	 	 	 B4 F4
Evamples						

Examples

AC operation 3RT2325-1A**P0**0 Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage of 230 V AC 3RT2325-1AG20 Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage of 110 V AC

DC operation 3RT2526-2B**B4**0 Contactor with spring-type terminals; for rated control supply voltage of 24 V DC 3RT2526-2B**G4**0 Contactor with spring-type terminals; for rated control supply voltage of 125 V DC

- At 50 Hz: 0.8 to 1.1 x U_s,
- At 60 Hz: 0.85 to 1.1 x U_s

- Size S00:
 - At 50 Hz: 0.85 to 1.1 x U_s,
- at 60 Hz: 0.8 to 1.1 x $U_{\rm S}$
- Sizes S0 to S3: At 50 Hz and 60 Hz: 0.8 to 1.1 x U_s

- 4) Coil operating range
 - Size S00:
 - At 50/60 Hz: 0.85 to 1.1 x U_s
 - Sizes S0 to S3: At 50 Hz: 0.8 to 1.1 x $U_{\rm s}$, at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$
- ⁵⁾ Coil operating range at 60 Hz: 0.8 to 1.1 x $U_{\rm s}$.

Rated control supply	Contactor	3RT2.2N	Rated control supply	Contactor	3RT2.3N	3RT2.4N
voltage	type		voltage	type		
<i>U</i> _{s min} <i>U</i> _{s max} 1)	Size	S0	<i>U</i> _{s min} <i>U</i> _{s max} 1)	Size	S2	S3
Sizes S0 to S3						

AC/DC operation (50/60 Hz AC or DC)

none operation (corec in	- /				
21 28 V AC/DC	B3	20 33 V AC/DC	B3	B3	
95 130 V AC/DC	F3	48 80 V AC/DC	E3	E3	
200 280 V AC/DC	P3	83 155 V AC/DC	F3	F3	
		175 280 V AC/DC	P3	P3	

 $^{^{1)}}$ Coil operating range: 0.8 x $U_{\rm S~min}$ to 1.1 x $U_{\rm S~max}$

¹⁾ For deviating coil voltages and operating ranges of sizes S00 and S0, a SITOP 24 V DC power supply with wide-range input can be used for the coil control, see page 15/1 onwards.

²⁾ Coil operating range

³⁾ Coil operating range

SIRIUS 3RT23 to 3RT26, 3RT14 contactors

Rated control supply voltages for 3RT14 contactors, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage	type	3RT145A, 3RT146A, 3RT147A	Rated control supply voltage	type	3RT145N, 3RT146N, 3RT147N	3RT145P, 3RT145S, 3RT146P, 3RT146S, 3RT147P, 3RT147S
U _{s min} U _{s max}	Sizes	S6 to S12	U _{s min} U _{s max}	Sizes	S6 to S12	_

Sizes S6 to S12

AC/DC operation (50/60 Hz AC or DC) an	d operating range 0.	8 x U _{s min} 1.1 x U _{s max}
--	----------------------	---

Standard operating mechanism		Solid-state operating mechanism		
23 26 V AC/DC 42 48 V AC/DC 110 127 V AC/DC 200 220 V AC/DC 220 240 V AC/DC		21 27.3 V AC/DC 96 127 V AC/DC 200 277 V AC/DC	B3 F3 P3	 F3 P3
240 277 V AC/DC 380 420 V AC/DC 440 480 V AC/DC 500 550 V AC/DC 575 600 V AC/DC	U3 V3 R3 S3 T3			

3TK20 miniature contactors for resistive loads (AC-1), 4-pole

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1

The 3TK20 miniature contactors are climate-proof, and the versions with screw terminals are finger-safe according to IEC 60529.

Connection methods

The miniature contactors are available in versions with screw terminals, 6.3 mm plug-in terminals and solder pin connections for soldering to printed circuit boards.

3TK20 miniature contactors with $6.3~\text{mm} \times 0.8~\text{mm}$ flat connectors are coded and can be used in the plug-in base with solder pin connections for printed circuit boards (see page 3/151).

Ratings of three-phase motors

The quoted rating (in kW) refers to the output power on the motor shaft (according to the nameplate).

The power rating specifications of the contactors in kW are guide values for 4-pole standard motors at 50 Hz AC and specified voltage (e.g. 400 V). The actual starting and rated data of the motor to be switched must be considered when selecting the units.

Application

Contactors with plug-in terminals

The main area of application for the 3TK20 miniature contactors with flat connectors is in household equipment. These contactors are also suitable for simple electric controllers.

No auxiliary switch blocks can be retrofitted

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16168/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16168/faq

Manuals, se

3TK20

00

https://support.industry.siemens.com/cs/ww/en/ps/16168/man

Type Size

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching inductive AC loads (AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current $I_{\rm e}$ in accordance with utilization category AC-4 (breaking 6 times the rated operational current) is determined for a contact endurance of approximately 200 000 operating cycles.

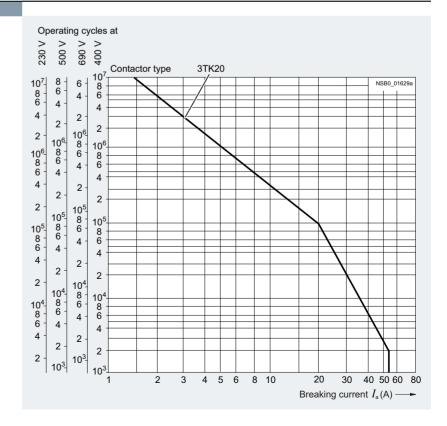
If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking the rated operational current several times according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

- Contact endurance for mixed operation in operating cycles
- A Contact endurance for normal operation $(I_a = I_e)$ in operating cycles
- B Contact endurance for inching $(I_a = \text{multiple of } I_e)$ in operating cycles
- C Inching operations as a percentage of total switching operations



3TK20 miniature contactors for resistive loads (AC-1), 4-pole

Туре		3TK20
Size		00
General data		
Dimensions (W x H x D)	mm	45 x 48 x 63
Permissible mounting position AC and DC operation		Any
Mechanical endurance		
AC operationDC operationAuxiliary switch block	Operat- ing cycles	10 million 30 million 10 million
Rated insulation voltage <i>U</i> _i (Pollution degree 3)		
 Screw terminals Flat connector 6.3 mm x 0.8 mm Solder pin connections 	V V V	690 500 500
Rated impulse withstand voltage <i>U</i> _{imp} (Pollution degree 3)		
 Screw terminals Flat connector 6.3 mm x 0.8 mm Solder pin connections 	kV kV kV	6 6 6
Protective separation between coil and main contacts According to IEC 60947-1, Appendix N	V	Up to 300
Permissible ambient temperature ¹⁾		
During operation	°C	-25 +55
During storage	°C	-55 +80
Degree of protection acc. to IEC 60529		
On frontConnecting terminal		IP20 (with screw terminals) IP20 (with screw terminals)
Touch protection acc. to IEC 60529		Finger-safe (with screw terminals)
Shock resistance		
Rectangular pulse		
- AC operation - DC operation	<i>g</i> /ms <i>g</i> /ms	8.3/5 and 5.2/10 11.3/5 and 9.2/10
• Sine pulse		
- AC operation - DC operation	g/ms g/ms	13/5 and 8/10 17.4/5 and 12.9/10
Short-circuit protection		
Main circuit ²⁾ • Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1		
 Type of coordination "1" Type of coordination "2"³⁾ Weld-free 	A A A	25 10 10
Miniature circuit breaker with C characteristic	Α	10
Auxiliary circuit		
Short-circuit test		
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}=$ 1 kA acc. to IEC 60947-5-1	А	6
1) 4 " + 50/00 1		

Applies to 50/60 Hz coil: At 50 Hz, 1.1 x $U_{\rm s}$, with side-by-side mounting and 100% ON period the max. ambient temperature is +40 °C.

- ²⁾ According to excerpt from IEC 60947-4-1:
 - Type of coordination "1"

Destruction of the contactor and the overload relay is permissible. The contactor and/or overload relay can be replaced if necessary.

- Type of coordination "2" The overload relay must not suffer any damage. Contact welding on the contactor is permissible, however, if the contacts can be easily
- 3) A short-circuit current of $I_{\rm q} \le 6$ kA applies to type of coordination "2".

Type		3TK20
Size		00
Control		
Solenoid coil operating range ¹⁾		0.8 1.1 x <i>U</i>
Solenoid coil power consumption (for cold coil and $1.0 \times U_{\rm S}$)		
Standard version		
 AC operation, 50 Hz Closing P.f. Closed P.f. 	VA VA	15 0.41 6.8 0.42
 AC operation, 60 Hz Closing P.f. Closed P.f. 	VA VA	14.4 0.36 6.1 0.46
 AC operation, 50/60 Hz¹⁾ Closing P.f. Closed P.f. 	VA VA	16.5/13.2 0.43/0.38 8.0/5.4 0.48/0.42
For USA and Canada • AC operation, 50 Hz - Closing - P.f. - Closed - P.f.	VA VA	14.6 0.38 6.5 0.40
 AC operation, 60 Hz Closing P.f. Closed P.f. DC operation (closing = closed) 	VA VA W	14.4 0.30 6.0 0.44
Permissible residual current of the electronic circuit ²⁾		
(with 0 signal)AC operationDC operation	mA mA	≤3 x (230 V/U _S) ≤1 x (230 V/U _S)
Operating times for 1.0 x $U_s^{(3)}$		
AC operationClosing delayOpening delayDead interval	ms ms	5 18 3 21 To use the 3TK20 AC-operated contactor in reversing duty an additional dead interval of 50 ms is required along with an NC contact interlock.
DC operation Closing delay Opening delay	ms ms	19 31 3 4
• Arcing time	ms	10 15
1) Applies to 50/60 Hz coil:		3) The OFF-delay times of the NO contacts and the ON-delay times of the

Applies to 50/60 Hz coil: At 50 Hz, $1.1 \times U_s$, with side-by-side mounting and 100% ON period the max ambient temperature is $+40 \,^{\circ}$ C.

²⁾ The 3TX4490-1J additional load module is recommended for higher residual currents (see page 3/120).

³⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

Size					
Rated operational current I_a	Туре			3TK200	
Load rating with AC Utilization category AC-1, switching resistive loads Stated operational current I _R (at 40 °C)				00	
Utilization category AC-1, switching resistive loads • Rated operational current I _Q (at 40 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Minimum conductor cross-section for loads with I _Q • Rated operational current I _Q • Power loads of the I Control					
• Rated operational current I ₆ (at 40 °C)	_				
• Rated operational current I ₆ (at 55 °C)				40	
• Rated power for AC loads with p.f. = 1 • Minimum conductor cross-section for loads with I₀ ■	• Hated operational current $I_{\rm e}$ (at 40 °C)				
with p.f. = 1	 Rated operational current I_e (at 55 °C) 				
Minimum conductor cross-section for loads with I ₀		400/380 V	kW	10	
Vilization categories AC-2 and AC-3 • Rated operational current I₂					
 • Rated operational current I₆ ■ 230 V A 9.0 ■ 380 V A 9.0 ■ 380 V A 9.0 ■ 400 V A 8.4 ■ 500 V A 6.5 ■ 690 V A 5.2 ■ 690 V A 5.2 ■ 7 ■ 800 V A 5.2 ■ 800 V A 5.2 ■ 150 V W 1.2 ■ 150 V W 1.2 ■ 150 V W 1.2 ■ 120 V W 1.3 ■ 120 V W 1.3 ■ 120 V W 2.2 ■ 200 V W 2.2 ■ 200 V W 2.2 ■ 200 V W 2.4 ■ 380 V W 4.0 ■ 415 V W 4.0 ■ 415 V W 4.0 ■ 460 V W 4.0 ■ 460 V W 4.0 ■ 660 V W 4.0 ■ 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	\bullet Minimum conductor cross-section for loads with $I_{\rm e}$		mm ²	2.5	
230 V A 9.0	_				
• Rated power for motors with slipring or squirrel cage at 50 and 60 Hz • Rated power for motors with slipring or squirrel cage at 50 and 60 Hz • Rated power for motors with slipring or squirrel cage 115 V kW 1.2 120 V kW 1.3 120 V kW 1.3 120 V kW 1.4 200 V kW 2.2 220 V kW 2.4 230 V kW 2.6 240 V kW 2.6 380 V kW 4.0 400 V kW 4.0 415 V kW 4.0 415 V kW 4.0 415 V kW 4.0 416 V kW 4.0 416 V kW 4.0 416 V kW 4.0 417 V kW 4.0 418 V kW 4.0 418 V kW 4.0 419 V kW 4.0 410 V kW 4.0 410 V kW 4.0 411 V kW 4.0 410 V kW 4.0 411 V kW 4.0 41 V kW 6.7 41	Rated operational current I _e	230 V	Α	9.0	
Rated power for motors		500 V			
with slipring or squirrel cage at 50 and 60 Hz					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	with slipring or squirrel cage	115 V	kW	1.2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	4.00 4.4 00 1.2	127 V 200 V	kW kW	1.4 2.2	
240 V kW 2.6					
A15 V kW				2.6	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		415 V	kW	4.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		460 V 500 V	kW kW	4.0 4.0	
• Power loss per conducting path At $I_e/AC-3$ W 0.3 Utilization category AC-4 (Contact endurance approx. 200 000 operating cycles at $I_a = 6 \times I_e$) • Rated operational current I_e Up to 400 V A 2.6 (max. permissible operational current $I_e/AC-3$ up to 500 V, for reduced contact endurance and reduced switching frequency) • Rated power for squirrel-cage motors At 110 V kW 0.32 at 50 and 60 Hz 115 V kW 0.35 127 V kW 0.37 200 V kW 0.58 220 V kW 0.64 230 V kW 0.64 230 V kW 0.70 380 V kW 1.10 400 V kW 1.15		660 V	kW	4.0	
Utilization category AC-4 (Contact endurance approx. 200 000 operating cycles at $I_a = 6 \times I_e$) • Rated operational current I_e (max. permissible operational current I_e /AC-4 $\cong I_e$ /AC-3 up to 500 V, for reduced contact endurance and reduced switching frequency) 4 t 110 V kW 0.32 at 50 and 60 Hz • Rated power for squirrel-cage motors at 50 and 60 Hz At 110 V kW 0.33 at 20 V kW 0.35 at 50 kW 0.64 0.37 at 50 kW 0.64 220 V kW 0.64 230 V kW 0.67 at 240 V kW 0.70 at 380 V kW 1.10 at 20 V kW 1.15	Power loss per conducting path				
(Contact endurance approx. 200 000 operating cycles at $I_a = 6 \times I_e$) • Rated operational current I_e		At 1 _e /AO-3	v v	0.0	
 Rated operational current I_e (max. permissible operational current I_e/AC-4 ⊆ I_e/AC-3 up to 500 V, for reduced contact endurance and reduced switching frequency) Rated power for squirrel-cage motors at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.33 at 50 and 60 Hz At 110 V kW 0.35 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 at	• •	$I_{e} = 6 \times I_{e}$			
at 50 and 60 Hz 115 V kW 0.33 120 V kW 0.35 127 V kW 0.58 220 V kW 0.64 230 V kW 0.67 240 V kW 0.70 380 V kW 1.10 400 V kW 1.15	• Rated operational current I_e (max. permissible operational current $I_e/AC-4 \cong I_e/AC-3$ up to 500 V, for reduced contact	Up to 400 V			-
127 V kW 0.37 200 V kW 0.58 220 V kW 0.64 230 V kW 0.67 240 V kW 0.70 380 V kW 1.10 400 V kW 1.15	 Rated power for squirrel-cage motors at 50 and 60 Hz 	115 V	kW	0.33	
220 V kW 0.64 230 V kW 0.67 240 V kW 0.70 380 V kW 1.10 400 V kW 1.15		127 V	kW	0.37	
240 V kW 0.70 380 V kW 1.10 400 V kW 1.15		220 V	kW	0.64	
		240 V 380 V	kW	0.70	
440 V kW 1.27		415 V	kW	1.20	
460 V kW 1.33		460 V	kW	1.33	
575 V kW 1.30		575 V	kW	1.30	
660 V kW 1.10 690 V kW 1.15					

Туре			3TK20
Size			00
Rated data of the main contacts (continued)			
Load rating with DC			
Utilization category DC-1, switching resistive loads ($L/R \le 1$ ms) (contact endurance 0.1 x 10 ⁶ operating cycles)			
 Rated operational currents I_e (at 55 °C) 			
- 1 conducting path	Up to 24 V 60 V 110 V 220/240 V	A A A	16 6 2 1
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	16 16 6 2
- 3 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	16 16 16 6
Utilization category DC-3/DC-5, shunt-wound and series-wound motors ($L/R \le 15$ ms)			
 Rated operational currents I_e (at 55 °C) 			
- 1 conducting path	Up to 24 V 60 V 110 V 220/240 V	A A A	6 3 0.5 0.1
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	10 5 2 0.5
- 3 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	16 16 16 2
Switching frequency			
Switching frequency z in operating cycles/hour			
Contactors without overload relays for rated operation	No-load switching frequency	h ⁻¹	10 000
Dependence of the switching frequency z' on the operational current I' and operational voltage U' : $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$	AC-1 AC-2 AC-3	h ⁻¹ h ⁻¹ h ⁻¹ h ⁻¹	1 000 500 1 000
Contactors with overload relays (mean value)		n'	15

Туре			3TK20
Size			00
Conductor cross-sections			
Main and auxiliary conductors (1 or 2 conductors connectable)			Screw terminals
• Solid		mm^2	2 x (0.5 2.5), 1 x 4
Finely stranded with end sleeve		mm ²	2 x (0.5 1.5), 1 x 2.5
AWG cables, solid or stranded		AWG	2 x (20 14), 1 x 12
Pin-end connector (DIN 46231)		mm^2	1 x 1 2.5
Terminal screw			M3
Prescribed tightening torque for terminal screws		Nm lb.in	0.8 1.3 7 11
Main and auxiliary conductors (1 or 2 conductors connectable)			Flat connectors
When using a plug-in sleeve 6.3 – 1		mm ²	0.5 1
• Finely stranded with 6.3 – 2.5		mm ²	1 2.5
- , , , , , , , , , , , , , , , , , , ,			L.I. Solder pin connections
			(only for printed circuit boards)
Solder pin cross-section		mm ²	0.8 x 1.2
Туре			3TK20
Size			00
Rated data of the auxiliary contacts according to IEC	60947-5-1		
General data			
Standards			IEC 60947-5-1
Rated insulation voltage <i>U</i> _i (Pollution degree 3)		V	690
Conventional thermal current I_{th} = Rated operational current I_{e} /AC-12		Α	10
Load rating with AC			
Rated operational current I _e /AC-15/AC-14			
	24 230 V 80 400 V 500 V 660 V 690 V	A A A A	4 3 2 1 1
Load rating with DC			
Rated operational current I _e /DC-12			
$ullet$ For rated operational voltage $U_{ m e}$	24 V 48 V 110 V 125 V 220 V 440 V 600 V	A A A A A A	4 2.2 1.1 1.1 0.5
Rated operational current I _e /DC-13			
$ullet$ For rated operational voltage $U_{ m e}$	24 V 48 V 110 V 125 V 220 V 440 V 600 V	A A A A A A	2.1 1.1 0.52 0.52 0.27

3TK20 miniature contactors for resistive loads (AC-1), 4-pole

Туре			3TK200	3TK203, 3TK206, 3TK207
Size			00	
® and ® rated data				
Rated insulation voltage <i>U</i> _i		V AC	600	300
Uninterrupted current, open and enclosed		А	16	16 (10 for solder pin connection)
Maximum horsepower ratings (@ and @ approved values)				
 Rated power for three-phase motors at 60 Hz 				
- Single-phase	At 115 V 200 V 230 V 460/575 V	hp hp hp hp	0.5 1 1.5	1
- Three-phase	At 115 V 200 V 230 V 460/575 V	hp hp hp hp	 3 3 5	3 (1 for 3TK206) 3 (1 for 3TK206)
⑤, ⑥ and ћ rated data of the auxiliary contacts				
Rated voltage, max.		V AC	600	
Auxiliary switch blocks, max.		VAC	300	
Switching capacity			A 600, Q 300	
Uninterrupted current at 240 V AC		Α	10	

Selection and ordering data

AC operation or DC operation

- Size 00
- AC-1: Operational current I_e = 16 A (at 55 °C)
- For screw fixing and snap-on mounting onto TH 35 standard mounting rail
- Screw terminals

	Rated data Utilization categ	gories AC-2 and AC-3					cts	SD	Screw terminals		PU (UNIT,	PS*	PG
					Version					SET, M)			
	current I _e	at 50 Hz	and			1 1			Article No.	Price			
	At 380 V	220 V	400/ 380 V	500 V	690/ 660 V	\ 	7			per PU			
	A	kW	kW	kW	kW	NO	NC	d					
Miniature contact	liniature contactors with screw terminals												

AC operation, rated control supply voltage $U_s = 50 \text{ Hz } 230/220 \text{ V AC}^{-1}$

	9	2.5	4	4	4	4		20	3TK2040-0AP0	1	1 unit	41B
						3	1	20	3TK2031-0AP0	1	1 unit	41B
						2	2	20	3TK2022-0AP0	1	1 unit	41B
1	DC operation	n, rated	control	supply	voltage	U _s = 2	4 V D)				
	9	2.5	4	4	4	4		20	3TK2040-0BB4	1	1 unit	41B
						3	1	20	3TK2031-0BB4	1	1 unit	41B
						2	2	20	3TK2022-0BB4	1	1 unit	41B

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S};$ lower operating range limit according to IEC 60947.

Plug-in base and release tool, see page 3/151.

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control suppositions $U_{\rm S}$	Contactor type Size	
AC operation		
Solenoid coils fo	r 50 and 60 Hz AC	
50 Hz	60 Hz	
24 V AC	29 V AC	B0
110 V AC	132 V AC	F0
230/220 V AC	276 V AC	P0 ¹⁾
Solenoid coils fo	r 50/60 Hz AC	
230 V AC		L2
DC operation		
24 V DC		B4

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S};$ lower operating range limit according to IEC 60947.

Other voltages and delivery time on request.

3TK20 miniature contactors for resistive loads (AC-1), 4-pole

AC operation or DC operation

- Size 00
- AC-1: Operational current I_e = 16 A (at 55 °C)
- For screw fixing and snap-on mounting onto TH 35 standard mounting rail (diagonal)
- Flat connectors or solder pin connection

Rated data Utilization categ	,				Main					
Operational current I_e	Ratings at 50 Hz	of three-p and	hase mot	ors	Versio	n ı			OL1, WI)	
At 380 V	220 V	400/ 380 V	500 V	690/ 660 V	\	7				
A	kW	kW	kW	kW	NO	NC	d			

Flat connectors

Miniature contactors with 6.3 mm x 0.8 mm flat connectors

CCCCC.
CCCCC 1

3TK20..-3...

AC operation, rated control supply voltage U _s = 50 Hz 230/220 V A	1C 1)
---	-------

mountin	ıg rail									
9	2.5	4	4	 4		20	3TK2040-3AP0	1	1 unit	41B
				3	1	20	3TK2031-3AP0	1	1 unit	41B
				2	2	20	3TK2022-3AP0	1	1 unit	41B
For scre	w fixing (diag	gonal)								
9	2.5	4	4	 4		20	3TK2040-7AP0	1	1 unit	41B
				3	1	20	3TK2031-7AP0	1	1 unit	41B
				2	2	20	3TK2022-7AP0	1	1 unit	41B



3TK20..-7...

DC operation, rated control supply voltage $U_s = 24 \text{ V DC}$
For screw fixing and snap-on mounting onto TH 35 standard
mounting rail

For screw fixing and snap-on mounting onto TH 35 standard

9	2.5	4	4	 4		X	3TK2040-3BB4	1	1 unit	41B
				3	1	20	3TK2031-3BB4	1	1 unit	41B
				2	2	X	3TK2022-3BB4	1	1 unit	41B
For sci	ew fixing (diag	onal)								
9	2.5	4	4	 4		5	3TK2040-7BB4	1	1 unit	41B
				3	1	20	3TK2031-7BB4	1	1 unit	41B
				2	2	20	3TK2022-7BB4	1	1 unit	41B

Miniature contactors with solder pin connections for printed circuit boards

Solder pin	بلسلم
connections	



AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC¹⁾ For screw fixing (diagonal)

	9	2.5	4	4	 4		20	3TK2040-6AP0	1	1 unit	41B
,					3	1	20	3TK2031-6AP0	1	1 unit	41B
					2	2	20	3TK2022-6AP0	1	1 unit	41B

3TK20..-6...

DC operation, rated control supply voltage $U_s = 24 \text{ V DC}$ For screw fixing (diagonal)

3 (, ,								
2.5	4	4	 4		5	3TK2040-6BB4	1	1 unit	41B
			3	1	2	3TK2031-6BB4	1	1 unit	41B
			2	2	20	3TK2022-6BB4	1	1 unit	41B
		2.5 4	 - : - :	2.5 4 4 4	2.5 4 4 4	2.5 4 4 4 5 3 1 2	2.5 4 4 4 5 3TK2040-6BB4 3 1 2 3TK2031-6BB4 2 2 2 20 3TK2022-6BB4	2.5 4 4 4 5 3TK2040-6BB4 1 3 TK2031-6BB4 1	2.5 4 4 4 5 3TK2040-6BB4 1 1 unit 3TK2031-6BB4 1 1 unit

¹⁾ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Plug-in base and release tool, see page 3/151.

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control suppoltage $U_{\rm S}$,	ype Size								
AC operation										
Solenoid coils for 50 and 60 Hz AC										
50 Hz	60 Hz									
24 V AC	29 V AC		B0							
110 V AC	132 V AC		F0							
230/220 V AC	276 V AC		P0 ¹⁾							
Solenoid coils fo	r AC 50/60 Hz									
230 V AC			L2							
DC operation										
24 V DC			B4							

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Other voltages and delivery time on request.

Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Overview

Standards

IEC/EN 60947-4-1, IEC/EN 60077-2, EN 50155

Performance range

Sizes S00 to S3

• 3RT20 contactors for motor loads (AC-3) up to 110 A/55 kW

Sizes S6 to S12

- 3RT10 contactors for motor loads (AC-3) from 55 kW to 500 A / 250 kW
- 3RT14 contactors for resistive loads (AC-1) up to 690 A

Application

Besides standard approval in compliance with IEC 60947-4-1, the contactors with an extended operating range are also approved in compliance with the relevant parts of IEC 60077-2, thus fulfilling the requirement for use in railway applications.

Thus, their suitability for increased requirements such as an

- extended temperature range compared to the IEC 60947-4-1 product standard or
- extended operating range of the solenoid coils or also
- increased resistance to mechanical oscillations and vibrations is warranted. The design of the terminals in the spring-type connection system also contributes toward vibration resistance.

Versions

In addition to the complete motor contactor series (AC-3) up to 250 kW of sizes S00 to S12 (3RT.0), as from size S6, new variants of the 3RT14 contactors optimized for AC-1 operation up to 525 kW with extended operating conditions are also available.

Operating range of contactor operating mechanisms

The contactors with extended operating range and railway approval are available with a solid-state DC operating mechanism in all sizes from S00 to S12.

This operating mechanism version has an operating range from 0.7 to 1.25 x $U_{\rm S}$ in the temperature range -40 to 70 °C. Overvoltage damping of the contactor coil with a varistor circuit is already implemented.

As from size S6, the operating mechanisms are equipped with an additional control input that can be operated between 24 DC and 110 V. This function can optionally be switched on or off via a selector switch.

Auxiliary switches

These devices can be equipped with auxiliary switches in the same way as their corresponding versions of the standard motor contactors (see overview diagrams of the contactors from page 3/8).

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full operating range of the operating mechanisms) is -40 to +70 °C.

Side-by-side mounting

Up to an ambient temperature of 60 °C, these device versions can be mounted side by side. Above 60 °C, a clearance of at least 10 mm must be provided.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16177/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16177/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16177/man

Туре			3RT2017	3RT201 2XB40LA2	3RT201 2XF40LA2	3RT202.	3RT202 2XB40-0LA2	3RT202 2XF40-0LA2
Size			S00			S0		
General data								
Upright mounting position								
Contactors with series resistorContactors with conventional coil			•	on (on request) on (on request)				
Ambient temperature								
During operation		°C	-40 +70 ¹⁾	-40 +70				
During storage		°C	-55 +80					
Control								
Solenoid coil operating range	DC		0.7 1.25 x	$U_{\rm s}$				
Power consumption of the solenoid c	oils		For cold coil	and 1.0 x <i>U</i> _s				
Contactors with series resistor	Closing Closed	W W	13 4.0					
Contactors with conventional coil	Closing Closed	W W	2.8 2.8			4.5 4.5		
Contactors with solid-state operating mechanism	Closing Closed	W		4.0	4.5 0.75		6.7 0.8	13.2 1.56

³RT20..-.K contactors without the article number suffix "-0LA2" are coupling contactors that are certified for the -25 to +60 °C temperature range. For railway applications, an additional certification approves these contactors with a minimum distance of 10 mm for the extended temperature range from -40 to +70 °C.

All details and technical specifications not mentioned here are identical to those of the basic units, see from page 3/23 onwards.

Contactors for Special Applications Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Туре			3RT2033XB40- 0LA2	3RT2033XF40- 0LA2	3RT2043XB40- 0LA2	3RT2043XF40- 0LA2			
Size			S2 S3						
General data									
Ambient temperature									
During operation		°C	-40 +70						
During storage		°C	-55 +80						
Control									
Solenoid coil operating range	DC		0.7 1.25 x <i>U</i> _S						
Power consumption of the solenoid co	oils		For cold coil and 1.0	x U _s					
Contactors with solid-state operating mechanism	Closing Closed	W W	23		76 1.8	64 1.0			

All details and technical specifications not mentioned here are identical to those of the basic units, see from page 3/23 onwards.

Туре		3RT1054- .X.46- 0LA2	3RT1055- .X.46- 0LA2	3RT1056- .X.46- 0LA2	3RT1064- .X.46- 0LA2	3RT1065- .X.46- 0LA2	3RT1066- .X.46- 0LA2	3RT1075- .X.46- 0LA2	3RT1076- .X.46- 0LA2
Size		S6			S10			S12	
General data									
Ambient temperature									
During operation	°C	-40 +70	1						
During storage	°C	-55 +80							
Control									
Operating range		0.7 1.25	j						
Control input rated voltage	V DC	24 110							
Power consumption									
 Contactor operating mechanism at A1/A2 	Closing W Closed W	320 2.8			580 3.4			800 3.6	
Rated data of the main contact	s								
Switching frequency									
Switching frequency z in operating of	cycles/hour								
Contactors without overload relays									
 No-load switching frequency 									
- Contactors with solid-state operati	ng mechanism 1/h	1 000			700			500	
• Switching frequency z during rated	operation ¹⁾								
Contactors with solid-state operating mechanism	$I_e/AC-1$ at 400 V h ⁻¹ $I_e/AC-2$ at 400 V h ⁻¹ $I_e/AC-3$ at 400 V h ⁻¹ $I_e/AC-4$ at 400 V h ⁻¹	800 400 1 000 130	300 750		700 250 500	300 700	250 500	500 200	170 420
4)									

¹⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_{\Theta}/I') \cdot (U_{\Theta}/U')^{1.5} \cdot 1/h$.

For all details and technical specifications not mentioned here, \sec

https://support.industry.siemens.com/cs/ww/en/ps/16177/td.

Туре		3RT1456X.46-0LA2	3RT1466X.46-0LA2	3RT1467X.46-0LA2	3RT1476X.46-0LA2
Size		S6	S10		S12
General data					
Ambient temperature					
During operation	°C	-40 +70			
During storage	°C	-55 +80			
Control					
Control version of the switch operating mechanism		PLC-IN or standard A	1 - A2 (can be set)		
Actuated via A1/A2					
Rated control supply voltage	V DC	24, 72 or 110			
Operating range		0.7 1.25			
Actuated via PLC input					
• Type of PLC control input according to IEC 60947-1		Type 1			
Rated voltage	V DC	24 110			
Operating range		0.7 1.25			
Consumed current at PLC control input according to IEC 60947-1, maximum	mA	2			

Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole IE3/IE4 ready

Selection and ordering data

DC operation

Solenoid coil fitted with surge suppressor





										3RT2012K.4.		3RT2012	K.42-0LA0	1
Rated data a AC-2 and AC t _u : 70 °C	•	g to IEC	60947-4	-1	Auxiliary c	ontac	ts	Rated control supply voltage $U_{\rm s}$	SD	Spring-type terminals		PU (UNIT, SET, M)	PS*	PG
Operational current I_e up to	Ratings three-p at	s of hase mo	otors		Ident. No. Version				Article No.	Price per PU				
400 V	230 V	400 V	500 V	690 V)	1				p 5 5			
Α	kW	kW	kW	kW		NO	NC	V DC	d					
For screw rail Size S00	fixing a	and sna	ap-on n	nountir	ng onto Th	1 35 s	standa	rd mounting						
With conver	ntional c	oil												
• Fitted with	suppres:	sor diod	e (coupl	ing conta	actors)									
12	3	5.5	5.5	5.5	10 ¹⁾	1		24	>	3RT2017-2KB41		1	1 unit	41B

• Fitted with	n suppr	essor did
12	3	5.5

 Fitted v 	vith suppre	essor dio	de (cou	pling cor	ntactors)								
12	3	5.5	5.5	5.5	10 ¹⁾	1		24 110	5	3RT2017-2KB41 3RT2017-2KF41	1 1	1 unit 1 unit	41B 41B
12	3	5.5	5.5	5.5	01 ¹⁾		1	24 110	> 5	3RT2017-2KB42 3RT2017-2KF42	1 1	1 unit 1 unit	41B 41B
 Fitted v 	vith varisto	r											
12	3	5.5	5.5	5.5	10 ¹⁾	1		24 110	5 5	3RT2017-2LB41 3RT2017-2LF41	1 1	1 unit 1 unit	41B 41B
12	3	5.5	5.5	5.5	01 ¹⁾		1	24 110	5 5	3RT2017-2LB42 3RT2017-2LF42	1 1	1 unit 1 unit	41B 41B
With ser	ies resisto	or											
 Fitted v 	vith suppre	essor dio	de										
12	3	5.5	5.5	5.5	2)		1 ³⁾	24 110	5 5	3RT2017-2KB42-0LA0 3RT2017-2KF42-0LA0	1 1	1 unit 1 unit	41B 41B
16	4	7.5	10	11	2)		1 ³⁾	24 110	5 5	3RT2018-2KB42-0LA0 3RT2018-2KF42-0LA0	1 1	1 unit 1 unit	41B 41B
 Fitted v 	vith varisto	r											
12	3	5.5	5.5	5.5	2)		1 ³⁾	24 110	5 5	3RT2017-2LB42-0LA0 3RT2017-2LF42-0LA0	1 1	1 unit 1 unit	41B 41B
16	4	7.5	10	11	2)		1 ³⁾	24 110	5 5	3RT2018-2LB42-0LA0 3RT2018-2LF42-0LA0	1 1	1 unit 1 unit	41B 41B

¹⁾ It is not possible to mount an auxiliary switch block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

²⁾ One 4-pole auxiliary switch block according to EN 50005 can be mounted from -40 to 70 °C; no clearance required.

³⁾ NC contact cannot be used because it is used for switching of the series resistor.

Contactors for Special Applications Contactors for Railway Applications

3RT202.-2X.40-0LA2

SIRIUS 3RT contactors with extended operating range, 3-pole

IE3/IE4 ready DC operation

Solenoid coil fitted with varistor



Rate	ea aata a	CC. TO					Auxiliary	conta	CIS	Rated	SD	Spring-type terminals	∞	PU	PS*	PG
IEC	60077-2	IEC 6094	7-4-1							control			ш	(UNIT, SET, M)		
		AC-3								voltage U _s				OL1, 141)		
<i>t</i> _u : 7	70 °C	<i>t</i> _u : 60 °C														
tion		Opera- tional	motor		ree-pha	ase	Ident. No.	Versi	ion							
ther curr up t	rent I _{th}	current I _e up to						,l	Ļ			Article No.	Price per PU			
690	V	400 V	230 V	400 V	500 V	690 V)								
Α		А	kW	kW	kW	kW		NO	NC	V DC	d					
Eas	r oorow.	fiving an	dono	2 2 2 1	mount.	ina on	to TU of	oton	dord	mounting						

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

With sol	lid-state ope	erating n	nechan	ism, wi	th inte	grated v	aristor							
18	12	3	5.5	5.5	5.5	10	1		24 34 72 125	5 5	3RT2017-2XB41-0LA2 3RT2017-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	12	3	5.5	5.5	5.5	01		1	24 34 72 125	5 5	3RT2017-2XB42-0LA2 3RT2017-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	10	1		24 34 72 125	5 5	3RT2018-2XB41-0LA2 3RT2018-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	01		1	24 34 72 125	5 5	3RT2018-2XB42-0LA2 3RT2018-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B
Size St)													
With co	nventional c	perating	g mech	anism ((coupli	ng cont	actors)							
	17	4	7.5	10	11	11 ¹⁾	1	1	24 110	2 5	3RT2025-2KB40 3RT2025-2KF40	1 1	1 unit 1 unit	41B 41B
	25	5.5	11	11	11	11 ¹⁾	1	1	24 110	2 5	3RT2026-2KB40 3RT2026-2KF40	1 1	1 unit 1 unit	41B 41B
	32	7.5	15	18.5	18.5	11 ¹⁾	1	1	24 110	5 5	3RT2027-2KB40 3RT2027-2KF40	1 1	1 unit 1 unit	41B 41B
With sol	lid-state ope	erating n	nechan	ism										
30	17	4	7.5	10	11	11	1	1	24 110	5 5	3RT2025-2XB40-0LA2 3RT2025-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
30	25	5.5	11	11	11	11	1	1	24 110	5 5	3RT2026-2XB40-0LA2 3RT2026-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
36	32	7.5	15	18.5	18.5	11	1	1	24 110	5 5	3RT2027-2XB40-0LA2 3RT2027-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
38	38	7.5	18.5	18.5	18.5	11	1	1	24 110	5 5	3RT2028-2XB40-0LA2 3RT2028-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B

 $^{^{1)}}$ It is not possible to mount an auxiliary switch block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 $^{\circ}{\rm C}.$

Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole | IE3/IE4 ready

DC operation

Solenoid coil fitted with varistor







3RT204	-3X /	1∩_∩	ΙΔク

Rated data a IEC 60077-2 t_u : 70 °C		7-4-1				Auxiliary contacts			Rated control supply voltage $U_{\rm s}$	SD	Spring-type terminals for auxiliary and control circuits	8	PU (UNIT, SET, M)	PS*	PG
Conven- tional ther- mal current	Opera- tional current I_e	motors		ree-pha	ase	Ident. No.	Versi	on			Article No.	Price			
I _{th} up to	up to	220 V	400 V	500 V	690 V		\	}			7.11.0.0.7.10.	per PU			
A	400 V	kW	kW	kW	kW		I NO	NC	V DC	d					

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S2

With so	lid-state ope	erating m	nechan	ism										
50	40	11	18.5	22	22	11	1	1	24 110	5 5	3RT2035-3XB40-0LA2 3RT2035-3XF40-0LA2	1	1 unit 1 unit	41B 41B
55	50	15	22	30	22	11	1	1	24 110	5 5	3RT2036-3XB40-0LA2 3RT2036-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
60	65	18.5	30	37	37	11	1	1	24 110	5 5	3RT2037-3XB40-0LA2 3RT2037-3XF40-0LA2	1	1 unit 1 unit	41B 41B
75	80	22	37	37	45	11	1	1	24 110	5 5	3RT2038-3XB40-0LA2 3RT2038-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With soli	d-state ope	rating n	nechar	nism										
90	80	22	37	45	55	11	1	1	24 110	5 5	3RT2045-3XB40-0LA2 3RT2045-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	95	22	45	55	75	11	1	1	24 110	5 5	3RT2046-3XB40-0LA2 3RT2046-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	110	30	55	75	75	11	1	1	24 110	5 5	3RT2047-3XB40-0LA2 3RT2047-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B

Contactors for Special Applications Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole IE3/IE4 ready

DC operation

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
 Auxiliary and control conductors: Spring-type terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.







3RT105.-2X.46-0LA2 3RT106.-2X.46-0LA2

3H	1107	′2X.4	16-0	LA
----	------	-------	------	----

Size	Rated data acc. to IEC 60077-2 t _u : 70 °C Conventional thermal	IEC 60947-4-1 AC-3 t _u : 60 °C Operational	Auxiliary contacts, lateral		Rated control supply voltage $U_{\rm S}$	SD	Spring-type terminals		PU (UNIT, SET, M)	PS*	PG
	current I _{th} up to 690 V	current I _e up to 400 V A	l NO	n NC	V DC	d	Article No.	Price per PU			

O 11 1 1 1			
Solid-state of	neratine	mechani	C ma
JUHU-State t	and an inc		C-1111

W	'ith	control signal input 24	110 V	/ DC
_	~	for control by DLC		

e. g.	for control b	y PLC								
S6	120	115	2	2	24 72 110	5 5 5	3RT1054-2XB46-0LA2 3RT1054-2XJ46-0LA2 3RT1054-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	140	150	2	2	24 72 110	5 5 5	3RT1055-2XB46-0LA2 3RT1055-2XJ46-0LA2 3RT1055-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	145	185	2	2	24 72 110	5 5 5	3RT1056-2XB46-0LA2 3RT1056-2XJ46-0LA2 3RT1056-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S10	215	225	2	2	24 72 110	5 5 5	3RT1064-2XB46-0LA2 3RT1064-2XJ46-0LA2 3RT1064-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	265	265	2	2	24 72 110	5 5 5	3RT1065-2XB46-0LA2 3RT1065-2XJ46-0LA2 3RT1065-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	265	300	2	2	24 72 110	5 5 5	3RT1066-2XB46-0LA2 3RT1066-2XJ46-0LA2 3RT1066-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S12	350	400	2	2	24 72 110	5 5 5	3RT1075-2XB46-0LA2 3RT1075-2XJ46-0LA2 3RT1075-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	475	500	2	2	24 72 110	5 5 5	3RT1076-2XB46-0LA2 3RT1076-2XJ46-0LA2 3RT1076-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
 Auxiliary and control conductors: Spring-type terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.







3H1-	1456-2X.46-0LA2	-
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3RT146.-2X.46-0LA2

3RT1476-2X.46-0LA2

Size	Rated data acc. to IEC 60077-2 t _u : 70 °C Conventional	IEC 60947-4-1 AC-1 t _u : 40 °C Operational		ary cts,	Rated control supply voltage $U_{\rm S}$	SD	Spring-type terminals		PU (UNIT, SET, M)	PS*	PG
	thermal current I _{th} up to 690 V	current I _e up to 400 V A	NO NO	L NC	V DC	d	Article No.	Price per PU			
Solid	l-state operating me				. 50	<u> </u>					

With control signal input 24 ... 110 V DC

e.g.	for control by PL	•								
S6	190	275	2	2	24 72 110	5 5 5	3RT1456-2XB46-0LA2 3RT1456-2XJ46-0LA2 3RT1456-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S10	330	400	2	2	24 72 110	5 5 5	3RT1466-2XB46-0LA2 3RT1466-2XJ46-0LA2 3RT1466-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	330	500	2	2	24 72 110	5 5 5	3RT1467-2XB46-0LA2 3RT1467-2XJ46-0LA2 3RT1467-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S12	520	690	2	2	24 72 110	5 5 5	3RT1476-2XB46-0LA2 3RT1476-2XJ46-0LA2 3RT1476-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Contactors for Special Applications Contactors for Railway Applications

SIRIUS 3RH2 contactor relays with extended operating range

Overview

Standards

IEC/EN 60947-5-1

The contactor relays are finger-safe according to IEC 60529. The size S00 contactor relays have spring-type connections for all terminals.

Ambient temperature

The permissible ambient temperature for operation of the contactor relays (across the full coil operating range) is -40 to +70 °C.

Uninterrupted duty at temperatures > +60 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to $1.25 \times U_{\rm s}$ and are fitted as standard with surge suppressors. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Application

For operation in installations that are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. railway applications under extreme climatic conditions, rolling mills, etc.

Also for control supply voltages with battery buffering to extend the operating time in the event of battery charge failure.

Contactor relays with conventional coil

Control and auxiliary circuits

These contactor relays have an extended operating range from 0.7 to 1.25 x $U_{\rm s}$; the solenoid coils are fitted with suppressor diodes as standard. An additional series resistor is not required.

Note:

An additional auxiliary switch block cannot be mounted.

Side-by-side mounting

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C \le 70 °C.

Contactor relays with series resistor

Control and auxiliary circuits

The DC solenoid systems of the contactor relays are modified (to holding coil) by means of a series resistor.

The size S00 contactor relays are supplied prewired with a plug-on module containing the series resistor. A surge suppressor (a suppressor diode or varistor as preferred) is integrated.

A 4-pole auxiliary switch block (according to EN 50005) can be fitted additionally.

Side-by-side mounting

Side-by-side mounting is permissible at ambient temperatures up to 70 $^{\circ}\text{C}.$

Contactor relays with solid-state operating mechanism

Control and auxiliary circuits

The solenoid coils of these contactor relays have an extended coil operating range from 0.7 to 1.25 x $U_{\rm S}$ and are fitted as standard with varistors to provide protection against overvoltage.

The contactor relays are energized via upstream control electronics which ensure the coil operating range of 0.7 to 1.25 x $U_{\rm s}$ at an ambient temperature of 70 °C. They are supplied as complete units with integrated coil electronics. A varistor is integrated for damping opening surges in the coil.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16174/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16174/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16174/faq	

Contactor relays		Type	3RH212K, -2L	3RH2122-2XB40-0LA2	3RH2122-2XF40-0LA2
General data					
Upright mounting position					
Contactors with series resistor			Special version (on request)		
 Contactors with conventional coil 			Special version (on request)		
Ambient temperature					
During operation		°C	-40 +70 ¹⁾		
During storage		°C	-55 +80		
Control					
Solenoid coil operating range	DC		0.7 1.25 x <i>U</i> _s		
Power consumption of the solenoid c	oils		For cold coil and 1.0 x $U_{\rm S}$		
Contactors with series resistor	ClosingClosed	W W	13 4		
Contactors with conventional coil	ClosingClosed	W W	2.8 2.8		
Contactors with solid-state operating mechanism	ClosingClosed	W W		4 0.7	4.5 0.75

^{1) 3}RH21...K contactor relays without article number suffix "-0LA." are coupling contactor relays that are certified for the temperature range -25 to +60 °C. For railway applications, an additional certification approves these contactors with a minimum distance of 10 mm for the extended temperature range from -40 to +70 °C.

All details and technical specifications not mentioned here are identical to those of the 3RH2 basic units, see from page 5/4 onwards.

Contactors for Railway Applications

SIRIUS 3RH2 contactor relays with extended operating range

Contacts

Ident. No.

acc. to EN 50011

Version

Selection and ordering data

DC operation

Solenoid coil with surge suppression





$^{\circ}$		04	00	Ω	40
.3H	н	12 1	22.	-/n	. 40

SD

31	۲ŀ	121	22-	2K	40

"	14	122	211.40		

Spring-type terminals	
	1

Price per PU

PU (UNIT, SET, M) PS*

Rated operational current

I_e/AC-15/AC-14 t_u: 70 °C at

NO NIC

Rated control

supply voltage

Article No.

PG

Α	А	А	А		NO	NC	V DC	а				
For s	screw fi	xing and	d snap-o	n mounting	g onto T	H 35 st	tandard moun	ting rail				
Size	S00								_			
With	conventi	onal coil										
• Fitte	d with su	ppressor	diode									
10	3	2	1	22E	2	2 ¹⁾	24 110	2	3RH2122-2KB40 3RH2122-2KF40	1 1	1 unit 1 unit	41A 41A
				31E	3	1 ¹⁾	24	▶	3RH2131-2KB40	1	1 unit	41A
				40E	4	O ¹⁾	24	5	3RH2140-2KB40	1	1 unit	41A
• Fitte	d with va	aristor										
10	3	2	1	22E	2	2 ¹⁾	24 110	5 2	3RH2122-2LB40 3RH2122-2LF40	1 1	1 unit 1 unit	41A 41A
With	series re	sistor										
• Fitte	d with su	ppressor	diode									
10	3	2	1	21X	2	1 ²⁾	24 110	5 5	3RH2122-2KB40-0LA0 3RH2122-2KF40-0LA0	1 1	1 unit 1 unit	41A 41A
• Fitte	d with va	aristor										
10	3	2	1	21X	2	1 ²⁾	24 110	2 2	3RH2122-2LB40-0LA0 3RH2122-2LF40-0LA0	1 1	1 unit 1 unit	41A 41A
With	solid-sta	te operat	ing mech	anism, with i	ntegrate	d variste	or					
10	3	2	1	22E	2	2 ²⁾	24 34 72 125	5 5	3RH2122-2XB40-0LA2 3RH2122-2XF40-0LA2	1 1	1 unit 1 unit	41A 41A

¹⁾ It is not possible to mount an auxiliary switch block.

Accessories, see page 3/76 onwards.

Other voltages according to page 3/74 on request.

²⁾ 4-pole auxiliary switch block according to EN 50005 can be mounted.

Contactors for Special Applications Contactors for Railway Applications

3TH4 contactor relays, 8-pole

Overview

Standards

IEC/EN 60947-5-1

The contactor relays are finger-safe according to IEC 60529. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full coil operating range) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 55 °C. There is no need to reduce the technical specifications.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e.g. in railway applications.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 x $U_{\rm s}$ and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16176/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16176/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16176/faq	

Contactor relays		Туре	3TH42
General data			
Permissible ambient temperature			
During operation		°C	-50 +70 ¹⁾
During storage		°C	-55 +80
Control			
Solenoid coil operating range			0.7 1.25 x <i>U</i> _s
Power consumption of the solenoid color For cold coil: Closing = Closed	ils (for cold coil and 1.0 x U _s)	W	5.2
Permissible residual current of the elec	tronics (with 0 signal)		
DC operation			\leq 10 mA x (24 V/ $U_{\rm S}$)
Operating times for 1.0 x U _s (Total break time = OFF-delay + Arcing tir	ne)		
• Closing	ON-delay (NO) OFF-delay (NC)	ms ms	45 80 30 34
• Opening	OFF-delay (NO) ON-delay (NC)	ms ms	20 30 22 32
Arcing time		ms	10

¹⁾ Side-by-side mounting with 10 mm distance.

All details and technical specifications not mentioned here are identical to those of the 3TH4 basic units, see from page 5/16 onwards.

Contactors for Railway Applications

3TH4 contactor relays, 8-pole

Selection and ordering data

DC operation

Solenoid coil fitted with varistor



3TH4244-0I

Contacts		operatio 15/AC-14 400 V		ent 690 V	Contacts ¹⁾ Ident. No. acc. to EN 50011	Versi	on	Rated control supply voltage $U_{\rm s}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
						\	 			Article No.	Price per PU			
Number	Α	Α	Α	Α		NO	NC	V DC	d					
For scre	ew fixir	ng and	snap-o	n mou	nting onto	TH 35	stanc	lard mounting rai	il					
8	10	6	4	2	44E	4	4	24 110	X	3TH4244-0LB4 3TH4244-0LF4		1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	53E	5	3	24 110	X	3TH4253-0LB4 3TH4253-0LF4		1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	62E	6	2	24 110	X	3TH4262-0LB4 3TH4262-0LF4		1	1 unit 1 unit	41A 41A

¹⁾ Contacts not extendable.

Other voltages according to page 5/22 on request.

Accessories, see page 5/23.

Contactors for Special Applications Contactors for Railway Applications

3TC contactors for switching DC voltage, 2-pole

Overview

Standards

IEC/EN 60947-4-1

The contactors are finger-safe according to IEC 60529 (exception: series resistor). Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

All details and technical specifications not mentioned here are identical to those of the standard 3TC contactors, see page 4/65.

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full coil operating range) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

At ambient temperatures > 55 °C, a clearance of 10 mm is required for side-by-side mounting of size 2 contactors. There is no need to reduce the technical specifications.

Series resistor

The DC solenoid systems of the 3TC contactors must be modified (to holding coil) by means of a series resistor. This series resistor is supplied separately packed with the contactors.

With types 3TC48, the series resistor must be attached onto the right-hand side of the auxiliary switch block by means of the enclosed mounting parts and sets of links provided, while in the case of the 3TC44 it must be mounted and wired between the contactor poles. With types 3TC52 and 3TC56, the series resistor must be attached separately next to the contactors.

Auxiliary contacts

The contactors are equipped with two lateral auxiliary switch blocks each with 1 NO + 1 NC contact. Further auxiliary switch blocks cannot be fitted to the DC-operated contactors.

One NC contact is required for the series resistor function. Two NO contacts and one NC contact are thus freely available.

Reversing contactors

With the 3TC52 and 3TC56 contactors, the series resistor must be connected using an additional K2 reversing contactor (3RT1317-1F.40). This contactor is automatically included in the scope of supply in the same packaging as the contactor.

Dimensions

Attaching resistors and varistors increases the width of the contactors.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e.g. in railway applications.

Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to 1.25 x $U_{\rm S}$ and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Technical specifications

More information									
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16180/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16180/man								
Туре		3TC44	3TC48	3TC52	3TC56				
Size		2	4	8	12				
General data									
Ambient temperature									
During operation	°C	-40 +70							
Control									
Solenoid coil operating range		0.7 1.25 x	$U_{\rm S}$						
Power consumption of the solenoid coils		For cold coil	and 1.0 x U _s						
Closing	W	48	26	40	130				
• Closed	W	13	14	21	59				

All details and technical specifications not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/65.

Contactors for Railway Applications

3TC contactors for switching DC voltage, 2-pole

Selection and ordering data

DC operation

- 3TC44: For screw fixing and snap-on mounting onto 35 mm standard mounting rail 3TC48 to 3TC56: For screw fixing
- · Solenoid coil fitted with varistor



3TC48

Size	Utilization category	Rated operational current I_e at	of loa	of loads		Auxiliary contacts ¹⁾ Version		Rated control supply voltage <i>U</i> _s	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG	
		750 V	220 V	′ 440 V	600 V	750 V	1	7			Article No.	Price per PU			
		Α	kW	kW	kW	kW	NO	NC	V DC	d					
Con	tactors for	switching	DC vo	oltage											
2	DC-1 DC-3/DC-5	32 7.5	7 5	14 9	19.2 9	24 4	2	1 ²⁾	24 110	5 10	3TC4417-0LB4 3TC4417-0LF4		1 1	1 unit 1 unit	41B 41B
4	DC-1 DC-3/DC-5	75 75	16.5 13	33 27	45 38	56 45	2	1 ²⁾	24 110	15 15	3TC4817-0LB4 3TC4817-0LF4		1 1	1 unit 1 unit	41B 41B
8	DC-1 DC-3/DC-5	170 170	48 41	97 82	132 110	165 110	2	1 ²⁾	24 110	15 15	3TC5217-0LB4 3TC5217-0LF4		1 1	1 unit 1 unit	41B 41B
12	DC-1 DC-3/DC-5	400 400	88 70	176 140	240 200	300 250	2	1 ²⁾	24 110	15 15	3TC5617-0LB4 3TC5617-0LF4		1	1 unit 1 unit	41B 41B

¹⁾ The number of auxiliary contacts cannot be increased.

Other rated control supply voltages according to page 4/72 on request.

Accessories

Accessories, see basic units of the 3TC contactors, from page 4/72 onwards.

Spare parts for contactors with extended operating range

For contactors	6	Remarks	Rated control supply voltage $U_{\rm S}$	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Туре		V DC	d					
Arc chutes									
2	3TC4417-0L	With cutout for resistor mounting		Χ	3TY2442-0B		1	1 unit	41B
Solenoid co	oils								
2	3TC44	With series resistor, without varistor	24 110	15 X	3TY6443-0LB4 3TY6443-0LF4		1 1	1 unit 1 unit	41B 41B
4	3TC48		24 110	X	3TY6483-0LB4 3TY6483-0LF4		1 1	1 unit 1 unit	41B 41B

All spare parts not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/74.

²⁾ One NC contact used for series resistor.

3TC contactors for switching DC voltage, 1-pole and 2-pole

Overview

3TC4 and 3TC5

IEC/EN 60947-1, IEC/EN 60947-4-1,

IEC/EN 60947-5-1 (auxiliary switches)

The contactors are finger-safe according to IEC 60529. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

The DC motor ratings given in the tables are applicable to the DC-3 and DC-5 utilization categories with 2-pole switching of the load or with the two conducting paths of the contactor connected in series.

One contactor conducting path can switch full power up to 220 V. For voltages over 220 V, the two conducting paths are to be switched in series, see "Rated data of the main contacts", page 4/67.

Auxiliary contacts

The contactors are equipped with two lateral auxiliary switch blocks each with 1 NO + 1 NC contact. On the contactors 3TC48 to 3TC56 with AC operation, a second auxiliary switch block can be mounted on the right and left. On contactors with DC operation, expansion of the auxiliary contacts is not possible.

3TC7

IEC/EN 60947-4-1

The contactors are suitable for use in any climate. They are suitable for switching and controlling DC motors as well as all other DC circuits.

The solenoid excitation is configured for a particularly large operating range. It is between 0.7 or 0.8 and $1.2 \times U_c$.

3TC74 contactors can be used at up to 750 V/400 A and 50 Hz in AC-1 operation.

For voltages over 750 V, the two conducting paths (3TC74: two contactors) are to be switched in series, see "Rated data of the main contacts", page 4/69.

Application

The contactors are suitable for switching and controlling DC motors as well as all other DC circuits.

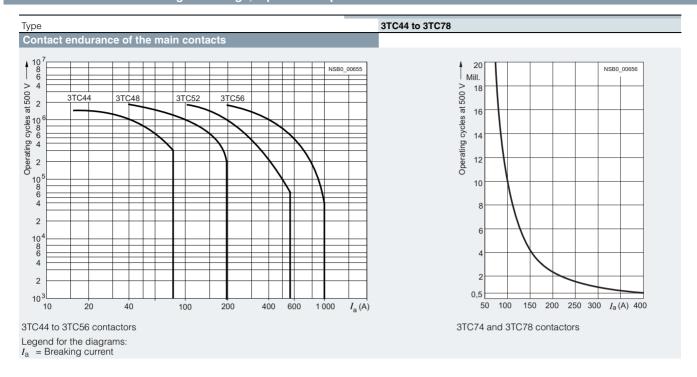
A version with an especially large actuating voltage is available for operation in electrically driven vehicles and in switchgear with a particularly large coil operating range (see page 4/74).

Technical specifications

Туре			3TC4 and 3TC7	3TC5
Rated data of the auxiliary contacts				
Rated insulation voltage <i>U</i> _i (pollution degree 3)		V	690	
Conventional thermal current I_{th} = rated operational current I_e /AC-12		Α	10	10
AC load				
Rated operational current I _e /AC-15/AC-14				
$ullet$ For rated operational voltage $U_{ m e}$	24 V 110 V 125 V 220 V 230 V 380 V 400 V 500 V 660 V	AAAA AAAAA	10 10 10 6 5.6 4 3.6 2.5 2.5	10 10 10 6 5.6 4 3.6 2.5 2.5
DC load				
Rated operational current I _e /DC-12				
• For rated operational voltage $U_{\rm e}$	24 V 60 V 110 V 125 V 220 V 440 V 600 V	A A A A A	10 10 3.2 2.5 0.9 0.33 0.22	10 10 8 6 2 0.6 0.4
Rated operational current I _e /DC-13				
$ullet$ For rated operational voltage $U_{ m e}$	24 V 48 V 110 V 125 V 220 V 440 V 600 V	A A A A A A	10 5 1.14 0.98 0.48 0.13 0.07	10 5 2.4 2.1 1.1 0.32 0.21

Туре		3TC44 to 3TC56
® and ® rated data of the auxiliary contacts		
Rated voltage, max.	V AC	600
Switching capacity		A 600, P 600

3TC contactors for switching DC voltage, 1-pole and 2-pole



Contactor Typ	е	3TC44	3TC48	3TC52	3TC56		
Siz	е	2	4	8	12		
General data							
Dimensions (W x H x D)							
• DC operation	mm	70 x 85 x 141	100 x 183 x 180	135 x 238 x 232	160 x 279 x 310		
• AC operation	mm	70 x 85 x 100	100 x 183 x 154	135 x 238 x 200	160 x 279 x 251		
Permissible mounting position		22,5°, 22,5° 22,5°,	22.5° ĕ				
The contactors are designed for operation on a vertical mounting surface.			NSB0_0066				
Mechanical endurance Operating cycle	S	10 million					
Electrical endurance		See the endurance	ce diagram above				
Rated insulation voltage U_i (pollution degree 3)	V	800		1 000			
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	Up to 300 Up to 660					
Mirror contacts ¹⁾ A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.		Yes, acc. to IEC 6	60947-4-1, Appen	dix F			
Permissible ambient temperature							
During operation	°C	-25 +55					
During storage	°C	-50 +80	-50 +80				
Degree of protection acc. to IEC 60529							
Connecting terminals		IP00					
Touch protection acc. to IEC 60529		Finger-safe with t	erminal covers				
Shock resistance Rectangular pulse	<i>g</i> /ms	7.5/5 and 3.4/10	10/5 and 5/10	12/5 and 5.5/10	12/5 and 5.6/10		
Short-circuit protection							
Main circuit							
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE							
Type of coordination "1"	Α	50	160	250	400		
Type of coordination "2"	Α	35	63	80	250		
Auxiliary circuit (short-circuit current $I_k \le 1$ kA)							
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE 	А	16					
Miniature circuit breaker with C characteristic	Α	10					
1) For 3TC44, one NC contact each must be connected in series for the righ and left auxiliary switch block respectively.	t Ra	ted data of the	auxiliary contac	cts, see page 4	/65.		

3TC contactors for switching DC voltage, 1-pole and 2-pole

Туре			3TC44	3TC48	3TC52	3TC56
Size			2	4	8	12
Control						
Solenoid coil operating range			0.8 1.1 x U _s			
Power consumption of the solenoid coils						
(for cold coil and 1.0 x U _s) • DC operation	- Closing = Closed	W	10	19	30	86
AC operation, 50 Hz coil	- Closing = Closed - Closing	VV VA/p.f.	68/0.86	300/0.5	640/0.48	1780/0.3
AC operation, 30 Hz con	- Closing - Closed	VA/p.i. VA/p.f.	10/0.29	26/0.24	46/0.23	121/0.22
AC operation, 60 Hz coil	ClosingClosed	VA/p.f. VA/p.f.	95/0.79 12/0.3	365/0.45 35/0.26	730/0.38 56/0.24	2140/0.3 140/0.29
 AC operation, 50/60 Hz coil 	- Closing	VA/p.f.	79/73/0.83/0.78			
	at 50 Hz/60 Hz - Closed at 50 Hz/60 Hz	VA/p.f.	11/9/0.28/0.27			
Operating times (for 0.8 1.1 x U _s)	at 00 112/00 112		(The values appl	v up to and inclu	ding 20% underv	roltage
Total break time = Opening delay + Arcing time			10% overvoltage			
DC operation	- Closing delay	ms	35 190	90 380	120 400	110 400
• AC aparation	- Opening delay ¹⁾	ms	10 25	17 28 20 50	22 35	40 110
AC operation	 Closing delay Opening delay¹⁾ 	ms ms	10 40 5 25	5 30	10 30	
Arcing time	- DC-1	ms	20			
Bata dalah salah sarah	- DC-3/DC-5	ms	30			
Rated data of the main contacts						
Load rating with DC	laada // /D < 4					
Utilization category DC-1, switching resistive	` ,	۸	20	7.5	000	400
 Rated operational currents I_e (at 55 °C) 	Up to <i>U</i> _e 750 V	Α	32	75	220	400
Minimum conductor cross-section		mm ²	6	25	95	240
• Rated power at $U_{\rm e}$	At 220 V	kW	7	16.5	48	88
(≤ 220 V DC: one conducting path,	440 V	kW	14	33	97	176
> 220 V DC: two conducting paths in series)	600 V 750 V	kW kW	19.2 24	45 56	132 165	240 300
Utilization category DC-3 and DC-5,						
Shunt-wound and series-wound motors (L/R	≤ 15 ms)					
Rated operational currents I _e (at 55, 80)	Up to 220 V	A	32	75 75	220	400
(at 55 °C)	440 V 600 V	A A	29 21	75 75	220 220	400 400
	750 V	A	7.5	75	170	400
• Rated power at U_e	At 110 V	kW	2.5	6.5	20	35
(≤ 220 V DC: one conducting path, > 220 V DC: two conducting paths in series)	220 V 440 V	kW kW	5 9	13 27	41 82	70 140
> 220 v Do. two conducting paths in selles)	600 V	kW	9	38	110	200
	750 V	kW	4	45	110	250
Switching frequency						
Switching frequency z in operating cycles/hour						
AC/DC operation		. 4				
With resistive load DC-1		h ⁻¹	1 500	1 000		
For inductive load DC-3/DC-5		h ⁻¹	750	600		
Conductor cross-sections						
Main conductors (1 or 2 conductors connectable)		2	Screw term			
• Solid		mm ²	2 x (2.5 10)	2 x (6 16)		
Finely stranded with end sleeve		mm ²	2 x (1.5 4)			
Stranded with cable lug		mm ²	2 x 16	2 x 35	2 x 120	2 x 150
Pin-end connector to DIN 46231		mm ²	2 x (1 6)			
• Busbars		mm		15 x 2.5	25 x 4	2 x (25 x 3
Terminal screw			M5	M6	M10	
Auxiliary conductors (1 or 2 conductors connectable)						
• Solid		mm ²	2 x (1 2.5)			
Finely stranded with end sleeve		mm ²	2 x (0.75 1.5)			
The opening delay times can increase if the co	entantar naila ara attarii at		ted data of the	arnelliaer 1	oto 00	4/05

¹⁾ The opening delay times can increase if the contactor coils are attenuated against voltage peaks. The 3TC44 contactors are not allowed to be fitted with diodes.

Rated data of the auxiliary contacts, see page 4/65.

3TC contactors for switching DC voltage, 1-pole and 2-pole

Туре			3TC74	3TC78
Design			1-pole contactors	2-pole contactors
General data				•
Dimensions (W x H x D)		mm	78 x 352 x 276	160 x 366 x 290
Permissible mounting position			22,5° ₊ 22,5° 22,5° ₊ 22,5° gg	
The contactors are designed for operation on a vertice mounting surface.	al		NSB0 - 000	
Mechanical endurance		Oper- ating cycles	30 million	
Electrical endurance			See page 4/66	
Rated insulation voltage U_i (pollution degree 3)		V	1 500	
Rated impulse withstand voltage U_{imp}		kV	8	
Protective separation between the coil and the mair acc. to IEC 60947-1, Appendix N	n contacts	V	630	
Permissible ambient temperature		°C	-25 +55	
Degree of protection acc. to IEC 60529				
Connecting terminals			IP00	
Touch protection acc. to IEC 60529			Finger-safe with terminal covers	
Short-circuit protection				
Main circuit				
Fuse links, operational class gG: LV HRC, type 3NA				
Type of coordination "1"		A	630	
Type of coordination "2"		Α	500	
Auxiliary circuit (Short-circuit current $I_k \le 1 \text{ kA}$)				
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE 		А	16	
Miniature circuit breaker with C characteristic		Α	10	
Control				
Solenoid coil operating range				
DC operation	At $U_c = 24 \text{ V}$		0.8 1.2 x U _s	
• AC aparation	At $U_{\rm c} > 24 \text{ V}$		0.7 1.2 x U _s 0.7 1.15 x U _s	
AC operation	At $U_c = 24 \text{ V}$ At $U_c > 24 \text{ V}$		0.7 1.15 x U _s	
Power consumption of the solenoid coils (for cold			0.7 1.14 X U _S	
• DC operation	Closing = Closed	W	46	92
• AC operation, 50 Hz	Closing = Closed	VA	80	160
		P.f.	0.95	
Operating times Total break time = Opening delay + Arcing time			(The values apply up to and includ 10% overvoltage, as well as when	
AC and DC operation	Closing delay	ms	60 100	
	Opening delay	ms	20 35	
 Arcing time at 0.06 4 x I_e 		ms	40 70	

Rated data of the auxiliary contacts, see page 4/65.

3TC contactors for switching DC voltage, 1-pole and 2-pole

Туре			3TC74	3TC78
Design			1-pole contactors	2-pole contactors
Rated data of the main contacts				•
Load rating with DC				
Utilization category DC-1, switching resistive loads (L/R	≤ 1 ms)			
• Rated operational current $I_e/DC-1$ (at 55 °C)	•	Α	500	
Minimum conductor cross-section		mm^2	2 x 150	
 Rated power (≤ 750 V DC: one conducting path, > 750 V DC: two conducting paths in series) 	At 220 V 440 V 600 V	kW kW kW	110 220 300	
	750 V 1 200 V 1 500 V	kW kW kW	375 	600 750
critical currents, without arc extinction	At 440 V 600 V 750 V	A A A	≤ 7 ≤ 13 ≤ 15	
	≤ 800 V 1 200 V 1 500 V	A A A	 	≤7 ≤13 ≤15
Utilization category DC-3 and DC-5, Shunt-wound and series-wound motors (<i>L/R</i> ≤ 15 ms)				
 Rated operational current I_e (at 55 °C) 		Α	400	
 Rated power at U_e (≤ 220 V DC: one conducting path, > 220 V DC: two conducting paths in series) 	At 110 V 220 V 440 V 600 V 750 V 1 200 V 1 500 V	kW kW kW kW kW kW	35 70 140 200 250 	400 500
Permissible rated current for regenerative braking at 110 600 V		Α	400	
Switching frequency				
Switching frequency z in operating cycles/hour				
AC/DC operation				
With resistive load DC-1		h ⁻¹	750	1 000
For inductive load DC-3/DC-5		h ⁻¹	500	
Conductor cross-sections				
Main conductors (1 or 2 conductors can be connected)			Screw terminals	
Stranded with cable lug		mm ²	2 x 150	
Busbars		mm	2 x (30 x 4)	
Auxiliary conductors (1 or 2 conductors connectable)				
• Solid		mm^2	1 2.5	
• Finely stranded with end sleeve		mm^2	0.75 1.5	

Rated data of the auxiliary contacts, see page 4/65.

Size

Utilization category¹⁾

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole

Selection and ordering data

DC operation === or AC operation, 50 Hz

Opera-tional DC motors

kW

current at $I_e^{(2)}$

Α





31044

Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Article No.	Price per PU			

3TC44 to 3TC56 2-pole contactors ·	· Operational voltage up to 750 V
------------------------------------	-----------------------------------

kW

110 V 220 V 440 V 600 V 750 V

kW

kW

kW

DC	operation											•			
Fors	screw fixing	and sna	p-on n	nounti	ng onto	TH 3	5 stand	dard r	nounti	ng rail					
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	24 DC 110 DC 220 DC	>	3TC4417-0AB4 3TC4417-0AF4 3TC4417-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For s	screw fixing)													
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	24 DC 110 DC 220 DC	2 2 2	3TC4817-0AB4 3TC4817-0AF4 3TC4817-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	24 DC 110 DC 220 DC	15 15 10	3TC5217-0AB4 3TC5217-0AF4 3TC5217-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	24 DC 110 DC 220 DC	15 15 15	3TC5617-0AB4 3TC5617-0AF4 3TC5617-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
AC	operation	50 Hz													

Rated control supply voltage

Auxiliary contacts³⁾

NC

Version

NO

AC operation, 50 Hz

700	peranon, i	JU 112													
For se	crew fixing a	and sna _l	o-on m	nountir	ng onto	TH 35	stanc	lard m	ountii	ng rail					
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	220/230 AC ⁵⁾ 110/110 AC	2	3TC4417-0BP0 3TC4417-0BF0	1 1	1 unit 1 unit	41B 41B
For se	crew fixing														
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	220/230 AC ⁵⁾ 110 AC	2 2	3TC4817-0BP0 3TC4817-0BF0	1 1	1 unit 1 unit	41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	220/230 AC ⁵⁾ 110 AC	2 10	3TC5217-0BP0 3TC5217-0BF0	1 1	1 unit 1 unit	41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	220/230 AC ⁵⁾ 110 AC	15 15	3TC5617-0BP0 3TC5617-0BF0	1 1	1 unit 1 unit	41B 41B

¹⁾ Permissible load for DC-1 utilization category, see detailed technical specifications in the Reference Manual.

²⁾ The following rated operational currents are permitted for reversing duty with 3TC44 to 3TC56 contactors:

Contactor Type	Rated operati	
3TC44	32 A	7 A
3TC48	75 A	75 A
3TC52	170 A	170 A
3TC56	400 A	400 A

³⁾ The fitting of auxiliary switches cannot be altered on DC-operated contactors.

Other rated control supply voltages according to page 4/72 on request.

Accessories, see page 4/72 onwards.

Spare parts, see page 4/74.

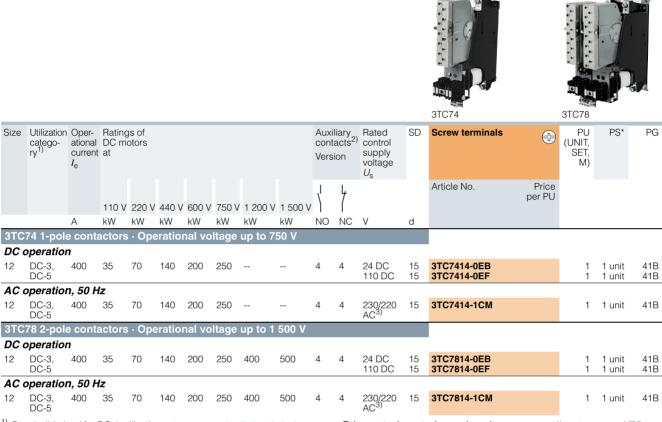
⁴⁾ At > 600 V: $I_{\rm e}$ = 170 A.

⁵⁾ Operating range at 220 V AC: 0.85 to $1.15 \times U_{\rm S}$; lower operating range limit according to IEC 60947.

3TC contactors for switching DC voltage, 1-pole and 2-pole

DC operation === or AC operation, 50 Hz

For screw fixing



Permissible load for DC-1 utilization category, see detailed technical specifications in the Reference Manual.

Other rated control supply voltages according to page 4/72 on request.

Spare parts, see page 4/74.

²⁾ The fitting of auxiliary switches cannot be altered on DC-operated contactors.

 $^{^{3)}}$ Upper operating range limit at 230 V AC: 1.14 x $U_{\rm S}$

3TC contactors for switching DC voltage, 1-pole and 2-pole

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage $U_{\rm S}$	Contactor type	3TC44	3TC48	3TC52/3TC56	3TC74/3TC78
DC operation					
24 V DC 48 V DC 60 V DC		B4 W4 E4	B4 W4 E4	B4 	B
110 V DC 125 V DC 220 V DC		F4 G4 M4	F4 G4 M4	F4 M4	F M
230 V DC		P4	P4		
AC operation					
Solenoid coils for 50 Hz					
24 V AC 110 V AC		B0 F0	B0 F0	 F0	
230/220 V AC 240 V AC		P0 ¹⁾ U0	P0 ¹⁾ U0	P0 ¹⁾ 	M ²⁾
Solenoid coils for 50/60 Hz					
24 V AC 110 V AC 120 V AC		C2 G2 K2	 	 	
220 V AC 230 V AC		N2 L2	 	 	

 $^{^{1)}}$ Operating range at 220 V AC: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Accessories

Accessories											
	For conta	ctors	Version Auxiliary contacts	Auxiliary s Left	witch block Right	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
			1 1	†			Article No.	Price per PU			
	Size	Туре		IC .		d					
Second auxil	iary swite	ch block	s (for AC	operation onl	y)						
	4	3TC48	2nd auxil 1 1	iary switch block, 53 61 54 62	left 	20	3TY6501-1K		1	1 unit	41B
			2nd auxil	iary switch block, 	right 71 83 2 1 84	20	3TY6501-1L		1	1 unit	41B
	8 and 12	3TC52, 3TC56	2nd auxil 1 1	iary switch block, 53 61 	left 	20	3TY6561-1K		1	1 unit	41B
			2nd auxil 1 1	iary switch block, 	right 71 83 72 84	20	3TY6561-1L		1	1 unit	41B
Solid-state co	ompatible	e auxiliai	ry switch	blocks							
ון אונס	2 and 4	3TC44, 3TC48	solid-stat I _{e/} AC-14 2 nd auxili	and DC-13 of 1 ary switch block,	ed operational currents . 300 mA at 3 60 V	5	3TY7561-1UA00		1	1 unit	41B

1 CO contact

²⁾ Upper operating range limit at 230 V AC: $1.14 \times U_s$.

3TC contactors for switching DC voltage, 1-pole and 2-pole

	For contact	tors	Version	Rated cont	rol supply	SD	Article No.	rice	PU	PS*	PG
	1 or contac	1010	VOIGIGIT	voltage U _s	югоаррту	OD		PU	(UNIT, SET, M)	10	1 G
	Size	Type		V AC	V DC	d					
Surge suppressors	s · Varistoi	ſS									
	2	3TC44 ¹⁾	Varistors ²⁾ With line spacer, for mounting onto the coil terminal	127 240	24 70 70 150 150 250 	2 2 2 20 20	3TX7402-3G 3TX7402-3H 3TX7402-3J 3TX7402-3K 3TX7402-3L		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3TX7402-3.	4	3TC48	Varistors ²⁾ For sticking onto the contactor base or for mounting separately	240 400 400 600		2 5 2 5 5	3TX7462-3G 3TX7462-3H 3TX7462-3J 3TX7462-3K 3TX7462-3L		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	8 and 12	3TC52, 3TC56	Varistors For sticking onto the contactor base or for mounting separately	24 48 48 127 127 240 240 400 400 600		2 5 2 5 5	3TX7462-3G 3TX7462-3H 3TX7462-3J 3TX7462-3K 3TX7462-3L		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3TX7462-3.	8 and 12	3TC52, 3TC56	Varistors ²⁾ For separate screw fixing or snapping onto TH 35 standard mounting rail		24 70 70 150 150 250	5 5 5	3TX7522-3G 3TX7522-3H 3TX7522-3J		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3TX7522-3.											
Surge suppressors	· RC elen	nents									
	4	3TC48	RC elements	24 48	70	20	3TX7462-3R		1	1 unit	41B
			For lateral snapping onto auxiliary switch or	 48 127 	24 70 70 150	5 2 5	3TX7522-3R 3TX7462-3S 3TX7522-3S		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Titory E-ball			TH 35 standard mounting rail	127 240 		2 5	3TX7462-3T 3TX7522-3T		1 1	1 unit 1 unit	41B 41B
				240 400 400 600		2 5	3TX7462-3U 3TX7462-3V		1 1	1 unit 1 unit	41B 41B
3TX7462-3., 3TX7522-3.	8 and 12	3TC52, 3TC56	RC elements For lateral snapping onto auxiliary switch or TH 35 standard mounting rail	24 48 48 127 127 240 240 400 400 600		5 5 5 5 5	3TX7522-3R 3TX7522-3S 3TX7522-3T 3TX7522-3U 3TX7522-3V		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
Surge suppressors	· Diodes										
3TX7462-3.	4 to 12	3TC48, 3TC52, 3TC56	Diode assemblies ³⁾ (Diode and Zener diode) for DC solenoid system, for sticking onto the contactor base or for mounting separately		24 250	2	3TX7462-3D		1	1 unit	41B
1) The connection piece	e for mountir	ng the sur	ge suppressor must l	oe bent	2) Includ	les the	e peak value of the alternatin	g vo	tage on the	e DC side.	

slightly.

³⁾ Not for DC economy circuit.

	For contact	ctors	Version	SI	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Type		d					
Terminal covers									
4.4	6	3TC48	For protection against inadvertent con- M6	5 5	3TX6506-3B		1	1 unit	41B
	8 and 12	3TC52, 3TC56	tact with exposed busbar connections M: Can be screwed on free screw end; covers one busbar connection (1 set = 6 units)	10 5	3TX6546-3B		1	1 unit	41B
3TX6546-3B									

3TC contactors for switching DC voltage, 1-pole and 2-pole

Spare	parts
-------	-------

Spare parts	S												
	For conta	ctors	Version		iliary tacts	Auxiliary swi	tch block Right	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
				\	7				Article No.	Price per PU			
	Size	Туре		NO	NC			d					
Auxiliary s	witch blo												
AA	For late	ral mou	nting										
	2 and 4		Auxiliary switch block (replacement for 3TY6501-1A, 3TY6501-1B)	1	1	13 21 	31 43 2 32 44	20	3TY6501-1AA00		1	1 unit	41B
	8 and 12		Auxiliary switch block, left	1	1	13 21		20	3TY6561-1A		1	1 unit	41B
3TY6561-1A			Auxiliary switch block, right	1	1		31 43	20	3TY6561-1B		1	1 unit	41B
	12	3TC74	Auxiliary switch block	4	4	13 21 31 43 	53 61 71 83 	5	3TY2741-2J		1	1 unit	41B
	12	3TC78	Auxiliary switch block, left	2	2	13 21 31 43 		20	3TY2781-2C		1	1 unit	41B
			Auxiliary switch block, right	2	2		53 61 71 83 	15	3TY2781-2D		1	1 unit	41B
	For conta	ctore	Version			Rated contro	al sunnly	SD	Article No.	Price	PU (UNIT,	PS*	PG
	1 or conta	01013	VCISIOII			voltage U_s	л заррту	OD	7 it itole 140.	per PU	SET, M)	10	1 0
	Size	Туре				V AC/DC		d					
Surge supp	12	Varisto 3TC7	For sticking onto contactor base	the		24 110		15 10	3TX2746-2F 3TX2746-2G		1 1	1 unit 1 unit	41B 41B
	For conta	ctors	Version					SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
0 1 11	Size	Туре						d					
Solenoid c									l				
	DC oper 2 4 8 12	3TC44 3TC48 3TC52 3TC56							3TY6443-0B 3TY6483-0B 3TY6523-0B 3TY6563-0B				
	AC oper	ration ¹⁾											
	2 4 8 12	3TC44 3TC48 3TC52 3TC56							3TY7403-0A 3TY6483-0A 3TY6523-0A 3TY6566-0A				
Contacts w	ith fixing	parts											-
			reliable operation o										
3TY2520-0A	2 4 8 12	3TC44 3TC48 3TC52 3TC56	(1 set = 2 moving	and	4 fixe	ed switching e	lements)	5 5 5 5	3TY2440-0A 3TY2480-0A 3TY2520-0A 3TY2560-0A		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
	12	3TC7	Main contacts (1 For 3TC78: 2 unit		uired	per contactor		5	3TY2740-0E		1	1 unit	41B
Arc chutes													
	2 4 8 12	3TC44 3TC48 3TC52 3TC56	Arc chutes, 2-pol	е				15 15 15 15	3TY2442-0A 3TY2482-0A 3TY2522-0A 3TY2562-0A		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
3TY2482-0A	12	3TC7	for 3TC78: 2 units	requ	uired	per contactor		15	3TY2742-0C		1	1 unit	41B

¹⁾ For rated control supply voltages, see page 4/72. The 10th and 11th digits of the article number must be supplemented accordingly.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays





	Price groups PG 41A, 41B, 41H, 41L
5/2	Introduction
	Contactor relays
5/4	SIRIUS 3RH2 contactor relays, 4- and 8-pole
5/16	3TH4 contactor relays, 8- and 10-pole
5/23	- Accessories for 3TH4 contactor relays
5/24	3TH2 miniature contactor relays, 4- and 8-pole
5/30	 Accessories for 3TH2 miniature contactor relays
4/59	Contactors for railway applications - SIRIUS 3RH2 contactor relays with extended operating range
4/61	- 3TH4 contactor relays, 8-pole
	Coupling relays
5/32	SIRIUS 3RQ3 coupling relays, narrow design
5/40	SIRIUS 3RQ2 coupling relays with industrial enclosure NEW
5/44	LZS coupling relays with plug-in relays
3/152	3TG10 power relays/miniature

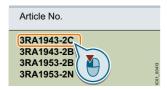
Note:

contactors

Conversion tool e.g. from 3RH11 to 3RH21, see www.siemens.com/sirius/conversion-tool

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Switching Devices – Contactors and Contactor Assemblies

Contactor Relays and Relays

Introduction

Overview

Size

Туре

More information

Homepage, see www.siemens.com/sirius Industry Mall, see www.siemens.com/product?3RH_3TH For the conversion tool, e.g. from 3RH11 to 3RH21, see

The advantages at a glance



3RH21



3RH22



3TH42



3TH43

Article No.

3RT2916



3TH2

3/120

		Article No.	Page
SIRIUS 3RH2 contactor re	lays		
4-pole	Screw or spring-type terminals	3RH21	5/12, 5/13
8-pole		3RH22	5/12, 5/13
4-pole, latched		3RH24	5/12, 5/13
Coupling contactor relays	Coils for control by PLC	3RH21	5/14, 5/15
Contactor relays for railway applications	Coils with extended voltage range	3RH21	4/60
3TH4 contactor relays			
8-pole	Screw terminals	3TH42	5/20
10-pole		3TH43	5/21
Contactor relays for railway applications	Coils with extended voltage range	3TH42	4/62
3TH2 miniature contactor	relays		
4-pole	Screw terminals, flat connectors and solder pin connections	3TH20	5/28, 5/29
0 nolo	• Carow tarminals	2TH22	E/00

• Screw terminals 3TH22 5/28 Accessories for SIRIUS 3RH2 contactor relays from 3/88, 3/101 **Auxiliary switch blocks** 3RH29, • On front 3RA281. Lateral 3RH29 3/98 **Function modules** • On front 3RA281., 3RA283. 3/106 (direct-on-line starting, star-delta (wye-delta) starting) • On front 3RT2916 3/103, 3/104 Surge suppressors

Note:

Additional load modules

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

• On front

Switching Devices – Contactors and Contactor Assemblies Contactor Relays and Relays

Introduction

More information

Homepage, see www.siemens.com/relays

Industry Mall, see www.siemens.com/product?3RQ_3RS_LZ

Conversion tool, e.g. from 3TX7 to 3RQ3 or 3RS18 to 3RQ2, see www.siemens.com/sirius/conversion-tool

The advantages at a glance







Type 3RQ3

2 LZS/LZX

		Article No.	Page
SIRIUS 3RQ3 coupling relay	s, narrow design		_
Coupling relays with relay outpu (not plug-in)	 Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available Output coupling links Input coupling links 	3RQ301 3RQ303	5/38 5/38
Coupling relays with plug-in relays	Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available - Output coupling links	3RQ311	5/38
Coupling relays with semiconductor output (not plug-in)	 Width 6.2 mm, output 1 semiconductor, triac or transistor Output coupling links Input coupling links 	3RQ305, 3RQ306 3RQ307	5/38 5/38
SIRIUS 3RQ2 coupling relay	s with industrial enclosure		
Coupling relays with relay outpu	 t • 1, 2 or 3 changeover contacts with wide voltage range • Also available with hard gold-plated contacts 	3RQ2	5/42
LZS coupling relays with plu	ıg-in relays		
Coupling relays with plug-in relays with 2, 3 and 4 changeover contacts	 Switching capacity 12 A/10 A/6 A Width 27 mm Base with or without logical separation 	LZS:PT, LZX:PT	5/48 5/50
Coupling relays with plug-in relays with 3 changeover contacts and circular base	Switching capacity 10 A11-pole circular baseWidth 38 mm	LZS:MT, LZX:MT	5/50
Coupling relays with plug-in relays with 1 or 2 changeover contacts	 Switching capacity 16 A/8 A Width 15.5 mm Base with or without logical separation 	LZS:RT, LZX:RT	5/51

Connection methods

The contactor relays and the relays are available with screw terminals (box terminals) or with spring-type terminals.

Devices of the 3TH2 series are also available with screw terminals, flat connectors and solder pin connectors.

The 3RQ coupling relays are supplied with screw terminals and spring-type (push-in) terminals. The plug-in bases for LZS/LZX coupling relays are also available with plug-in (push-in) terminals.

(1)	Screw terminals
8	Spring-type terminals, spring-type terminals (push-in)
•	Flat connectors
ㅂ	Solder pin connections
	Plug-in terminals (push-in)
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

<u>3RQ</u> coupling relays: Spring-type terminals (push-in) with TOP-wiring

Push-in connections are a form of spring-type terminals allowing fast wiring without tools for rigid conductors or conductors equipped with end sleeves.

As with other spring-type terminals, a screwdriver (with 3.0 x 0.5 mm blade) is required to disconnect the conductor. The same tool can also be used to wire finely-stranded or stranded conductors with no end finishing.

The advantages of the push-in terminals are found, as with all spring-type terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals.

With the TOP wiring method, the wire inlet and terminals can be reached from the front. This helps to speed up the wiring process and eliminate wiring errors.

SUVA-certified safety contactors

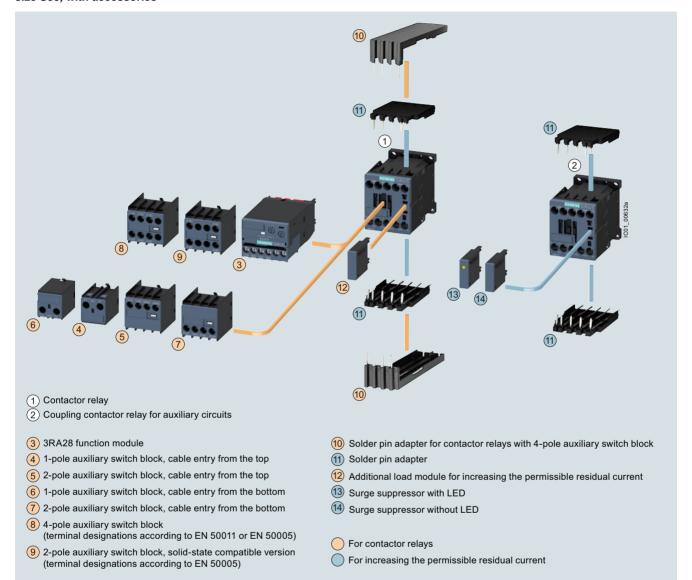
We offer special safety contactors for use in safety-related applications. They have NC contacts with mirror contact function and they have SUVA certification. This means they have permanently fitted auxiliary switch blocks and cannot be operated manually. They thus comply with all requirements for use in safety applications.

5/3

SIRIUS 3RH2 contactor relays, 4- and 8-pole

Overview

Contactor relays, size S00, with accessories



SIRIUS 3RH2 contactor relays, 4- and 8-pole

Standards

IEC/EN 60947-1, IEC/EN 60947-5-1

The 3RH2 contactor relays are available with screw or springtype terminals. The basic unit contains four contacts with terminal designations according to EN 50011.

The 3RH2 contactor relays are suitable for use in any climate. They are finger-safe according to IEC 60529.

The 3RH21 coupling contactor relays for switching auxiliary circuits are tailored to the special requirements of working with electronic controls.

Contact reliability

High contact stability at low voltages and currents, suitable for solid-state circuits with currents \geq 1 mA at a voltage of \geq 17 V.

Surge suppression

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) can be plugged onto all 3RH2 contactor relays from the front for damping opening surges in the coil. The plug-in direction is determined by a coding device.

Coupling contactor relays have a low power consumption and an extended solenoid coil operating range.

Depending on the version, the solenoid coils of the coupling contactor relays are supplied either without overvoltage damping (versions 3RH21..-.HB40 or 3RH21..-.MB40-0KT0) or with a diode or suppressor diode connected as standard.

Accessories

The accessories for the 3RT2 contactors in size S00 can also be used for the 3RH2 contactor relays (see from page 3/76 onwards).

Auxiliary switch blocks

The 3RH21 contactor relays (with the exception of coupling contactor relays) can be expanded by up to four contacts by the addition of mounted auxiliary switch blocks.

The auxiliary switch block can easily be snapped onto the front of the contactor relays. The auxiliary switch block has a centrally positioned release lever for disassembly.

The conventional front auxiliary contacts fulfill the characteristics of positively driven operation and are therefore suitable for safety applications.

Article No. scheme

Product versions		Article number
SIRIUS contactor relays		3RH2
Device type	e.g. 1 = 4-pole motor contactor	
Number of NO contacts	e.g. 2 = 2 NO	
Number of NC contacts	e.g. 2 = 2 NC	
Type of electrical connection	Screw terminals	1
	Spring-type terminals	2
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	
Rated control supply voltage	e.g. P0 = 50/60 Hz 230 V AC	
Special version		
Example		3RH2 1 2 2 - 1 A P 0 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16188/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16188/faq

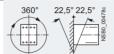
Manuals see, https://support.industry.siemens.com/cs/ww/en/ps/16188/man

Contactor relays

3RH2 S00

Permissible mounting position

The contactor relays are designed for operation on a vertical mounting surface.



Upright mounting position



NSB0_00477a Special version required

(in the case of coupling contactor relays and contactor relays with extended operating range 3RH2122-2K. 40 on request)

Positively-driven operation of contacts in contactor relays

3RH2:

Type

Size

Yes, in the basic unit and the auxiliary switch block as well as between the basic unit and the mounted auxiliary switch block (removable) acc. to:

- ZH1/457
- IEC 60947-5-1, Appendix L

3RH22:

Yes, in the basic unit and the auxiliary switch block as well as between the basic unit and the mounted auxiliary switch block (permanently mounted) acc. to:

- ZH1/45
- IEC 60947-5-1, Appendix L

Note:

3RH2911-.NF. solid-state compatible auxiliary switch blocks have no positively-driven contacts

There is positively-driven operation if it is ensured that the NC and NO contacts cannot be closed at the same time.

Safety Rules for Controls on Power-Operated Metalworking Presses.

IEC 60947-5-1, Appendix L

Standard for low-voltage switchgear and controlgear; special requirements for positively-driven contacts

Contact reliability

Contact reliability at 17 V, 1 mA acc. to IEC 60947-5-4

Frequency of contact faults < 10⁻⁸, i.e. < 1 fault per 100 million operating cvcles

Contact endurance for AC-15/AC-14 and DC-13 utilization categories

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

If magnetic circuits other than the contactor coil systems or solenoid valves are present, e.g. magnetic brakes, protective measures for the load circuits are necessary, e.g. in the form of RC elements and freewheel diodes

The characteristic curves apply to

- 3RH21/3RH22 contactor relays 1)
- 3RH24 latched contactor relays
- 3RH2911 auxiliary switch blocks¹⁾
 Auxiliary switch blocks for snapping onto the front. max. 4-pole and for mounting onto the side in size S00

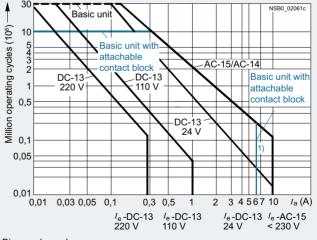


Diagram legend:

 I_a = Breaking current

 I_e = Rated operational current

^{1) 3}RH22, 3RH2911: I_B = 6 A for AC-15/AC-14 and DC-13.

		Contactor relays					
Туре		3RH21	3RH22	3RH24			
Size		S00					
General data							
Dimensions (W x H x D)							
• Basic units							
- Screw terminals	mm	45 x 58 x 73		90 x 58 x 73			
- Spring-type terminals	mm	45 x 70 x 73					
Basic unit with mounted auxiliary switch block							
- Screw terminals	mm	45 x 58 x 117					
- Spring-type terminals	mm	45 x 70 x 121					
Basic unit with mounted function module or solid-state time-delay auxiliary switch block							
- Screw terminals	mm	45 x 58 x 147					
- Spring-type terminals	mm	45 x 70 x 147					
Mechanical endurance							
Basic units	Operat- ing cycles	30 million		5 million			
Basic unit with mounted auxiliary switch block	Operat- ing cycles	10 million		5 million			
Solid-state compatible auxiliary switch block	Operat- ing cycles	5 million					
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690					
Rated impulse withstand voltage $U_{\rm imp}$	kV	6					
Protective separation between the coil and the contacts in the basic unit, acc. to IEC 60947-1, Appendix N $$	V	400					
Permissible ambient temperature							
During operation	°C	-25 +60					
During storage	°C	-55 +80					
Degree of protection acc. to IEC 60529							
• On front			nd spring-type terminals)				
Connecting terminal			nd spring-type terminals)				
Touch protection acc. to IEC 60529		Finger-safe (screw term	inals and spring-type terr	ninals)			
Shock resistance							
Rectangular pulse							
- AC operation	<i>g</i> /ms	7.3/5 and 4.7/10					
- DC operation	<i>g</i> /ms	10/5 and 5/10					
• Sine pulse	,	14.4/5 1.7.0/40					
- AC operation	<i>g</i> /ms	11.4/5 and 7.3/10					
- DC operation	<i>g</i> /ms	15/5 and 8/10					
Short-circuit protection							
Short-circuit test							
- With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}$ = 1 kA acc. to IEC 60947-5-1	А	10					
- With miniature circuit breakers with C characteristic with short-circuit current $I_{\rm k}=400~{\rm A}$ acc. to IEC 60947-5-1	Α	6					

	Contactor relays
	3RH21 3RH22 3RH24
	S00
	Screw terminals
mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾ , max. 2 x 4
mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾
	M3 (for Pozidriv size 2, Ø 5 6 mm)
Nm	0.8 1.2 (7 10.3 lb.in)
	Spring-type terminals
mm	3.0 x 0.5; 3.5 x 0.5
mm ²	2 x (0.5 4)
mm ²	2 x (0.5 2.5)
mm ²	2 x (0.5 2.5)
AWG	2 x (20 12)
mm	3.0×0.5 ; 3.5×0.5
mm ²	2 x (0.5 2.5)
mm ²	2 x (0.5 1.5)
mm ²	2 x (0.5 2.5)
AWG	2 x (20 14)
	mm² AWG Nm mm mm² mm² mm² AWG mm² awg² mm² awg² awg² mm² awg² mm² mm² mm²

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

 ²⁾ Max. external diameter of the conductor insulation: 3.6 mm.
 On spring-type terminals with conductor cross-sections ≤ 1 mm² an "insulation stop" must be used; see page 3/121.

			Contactor relays
Туре			3RH2
Size			S00
Control			
Solenoid coil operating range			
AC operation	At 50 Hz At 60 Hz		0.8 1.1 x U _s 0.85 1.1 x U _s
DC operation	At +50 °C At +60 °C		0.8 1.1 x U _s 0.85 1.1 x U _s
Solenoid coil power consumption (for cold coil and $1.0 \times U_s$)			
AC operation, 50 Hz			
- Closing		VA/p.f.	37/0.8
- Closed		VA/p.f.	5.7/0.25
AC operation, 60 Hz			
- Closing		VA/p.f.	33/0.75
- Closed		VA/p.f.	4.4/0.25
DC operation Closing = Closed		W	4.0
Permissible residual current of the electronics (with 0 signal)			
• AC operation ¹⁾			$< 4 \text{ mA} \times (230 \text{ V/}U_{\text{s}})$
For DC operation			< 10 mA x (24 V/U _s)
Operating times for 1.0 x U _s ²⁾ Total break time = OFF-delay + Arcing time			
Values apply with coil in cold state and at operating temperat operating range	ure for		
AC operation			
Closing			
- ON-delay of NO contact 3RH24 minimum operating time		ms ms	9 22 ≥35
- OFF-delay of NC contact		ms	6.5 19
Opening			
 OFF-delay of NO contact 3RH24 minimum operating time 		ms ms	4.5 15 ≥ 30
- ON-delay of NC contact		ms	5 15
DC operation			
Closing			
- ON-delay of NO contact 3RH24 minimum operating time		ms ms	35 50 ≥ 100
- OFF-delay of NC contact		ms	30 45
Opening			
- OFF-delay of NO contact 3RH24 minimum operating time		ms ms	7 12 ≥ 30
- ON-delay of NC contact		ms	13 18
Arcing time		ms	10 15

¹⁾ The 3RT2916-1GA00 additional load module is recommended for higher residual currents, see page 3/120.

Pesidual currents, see page 3/120.
2) The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

			O						
Tuna			Coupling contactor relays	2DH04 ID40	2DH24 KB40				
Type Size			3RH21HB40 3RH21JB40 3RH21KB40 S00						
			500						
Control			0.7. 4.05. //						
Solenoid coil operating range		W	0.7 1.25 x U _s						
Power consumption of the sole (for cold coil and 1.0 x U_s) Closing = Closed at U_s = 24 V	enola coli	VV	2.8						
Permissible residual current Of the electronics for 0 signal			<10 mA x (24 V/U _s)						
Overvoltage configuration of t	he solenoid coil		No overvoltage damping	Built-in diode	Built-in suppressor diode				
			∮ ⁻⁽⁾ ••••••••••••••••••••••••••••••••••••	->	- DK -				
Operating times at 1.0 x U _s									
Closing delay	ON-delay NO OFF-delay NC	ms ms	35 60 25 40						
Opening delay	OFF-delay NO ON-delay NO	ms ms	7 20 10 30	38 65 30 90	7 20 10 30				
Upright mounting position			On request						
			Coupling contactor relays						
T			3RH21MB40-0KT0	3RH21VB40	3RH21SB40				
Type									
lype Size			S00						
* '			S00						
Size			S00 0.85 1.85 x <i>U</i> _s						
Size Control	enoid coil	W							
Size Control Solenoid coil operating range Power consumption of the sole (for cold coil and $1.0 \times U_s$)	enoid coil	W	0.85 1.85 x U _s						
Size Control Solenoid coil operating range Power consumption of the sole (for cold coil and $1.0 \times U_s$) Closing = Closed at U_s = 24 V Permissible residual current		W	0.85 1.85 x U _S 1.6	Built-in diode	Built-in suppressor diode				
Size Control Solenoid coil operating range Power consumption of the sole (for cold coil and $1.0 \times U_s$) Closing = Closed at U_s = 24 V Permissible residual current Of the electronics for 0 signal		W	0.85 1.85 x U _S 1.6 < 8 mA x (24 V/U _S)	Built-in diode	Built-in suppressor diode				
Size Control Solenoid coil operating range Power consumption of the sole (for cold coil and $1.0 \times U_s$) Closing = Closed at U_s = 24 V Permissible residual current Of the electronics for 0 signal		W	0.85 1.85 x U _S 1.6 < 8 mA x (24 V/U _S)						
Size Control Solenoid coil operating range Power consumption of the sole (for cold coil and $1.0 \times U_s$) Closing = Closed at U_s = 24 V Permissible residual current Of the electronics for 0 signal Overvoltage configuration of t		W ms ms	0.85 1.85 x U _S 1.6 < 8 mA x (24 V/U _S)						
Size Control Solenoid coil operating range Power consumption of the sole (for cold coil and $1.0 \times U_s$) Closing = Closed at U_s = 24 V Permissible residual current Of the electronics for 0 signal Overvoltage configuration of t	he solenoid coil ON-delay NO	ms	0.85 1.85 x U _s 1.6 < 8 mA x (24 V/U _s) No overvoltage damping		• • • • • • • • • • • • • • • • • • • •				

_			Contactor relays
Type			3RH2
Size Rated data of the auxiliary contacts			800
Load rating with AC			
Rated operational currents I_e			
AC-12		Α	10
AC-15/AC-14, for rated operational voltage $U_{\rm e}$		/ \	
To Topico TT, for faled operational voltage of	Up to 230 V	Α	10 ¹⁾
	400 V 500 V	A A	3 2
	690 V	A	1
Load rating with DC			
Rated operational currents I_{e}			
DC-12, for rated operational voltage $U_{\rm e}$			
1 conducting path	24 V 60 V	A A	10 6
	110 V	Α	3
	220 V 440 V	A A	1 0.3
	600 V	Ä	0.15
• 2 conducting paths in series	24 V	A	10
	60 V 110 V	A A	10 4
	220 V	Α	2
	440 V 600 V	A A	1.3 0.65
3 conducting paths in series	24 V	Α	10
	60 V	A	10
	110 V 220 V	A A	10 3.6
	440 V 600 V	A A	2.5 1.8
DC-13, for rated operational voltage $U_{\rm e}$	000 V		1.0
• 1 conducting path	24 V	Α	10 ¹⁾
	60 V	A	2
	110 V 220 V	A A	1 0.3
	440 V	Α	0.14
• 2 conducting paths in series	600 V 24 V	A A	0.1
2 conducting paths in school	60 V	A	3.5
	110 V 220 V	A A	1.3 0.9
	440 V	A	0.2
	600 V	Α	0.1
3 conducting paths in series	24 V 60 V	A A	10 4.7
	110 V	Α	3
	220 V 440 V	A A	1.2 0.5
	600 V	A	0.26
Switching frequency			
Switching frequency z in operating cycles/hour			
Rated operation for utilization category	AC-12/DC-12 AC-15/AC-14	1/h 1/h	1 000 1 000
Dependence of the switching frequency z' on the operational current I' and operational voltage U' : $z' = z \cdot (I_{\Theta} I') \cdot (U_{\Theta} U')^{1.5} \cdot 1/h$	DC-13	1/h	1 000
No-load switching frequency		1/h	10 000
® and ® rated data			
Basic units and auxiliary switch blocks			
Rated control supply voltage		V AC	max. 600
Rated voltage Suitabling apposits		V AC	600 A 500 O 500
Switching capacityUninterrupted current at 240 V AC		Α	A 600, Q 600 10
		^	10
¹⁾ 3RH22, 3RH29: $I_{\rm e}$ = 6 A for AC-15/AC-14 and DC-13.			

SIRIUS 3RH2 contactor relays, 4- and 8-pole

Selection and ordering data

AC operation ~

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41A











3RH2122-1A..0

3RH2122-2A..0

3RH2244-1A..0

3RH2244-2A..0

3RH2422-1A..0

Rated operational current I_e /AC-15/AC-14	Contacts			Rated control supply voltage $U_{\rm S}$ at 50/60 Hz ¹⁾	SD	Screw terminals		SD	Spring-type terminals	8
at 230 V	Ident. No.	Versio	n							
		\	 			Article No.	Price per PU		Article No.	Price per PU
Α		NO	NC	V AC	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Ci-a Coo

Size S00								
10	40E	4		24 110 230	>	3RH2140-1AB00 3RH2140-1AF00 3RH2140-1AP00	2 2	3RH2140-2AB00 3RH2140-2AF00 3RH2140-2AP00
	31E	3	1	24 110 230	>	3RH2131-1AB00 3RH2131-1AF00 3RH2131-1AP00	2	3RH2131-2AB00 3RH2131-2AF00 3RH2131-2AP00
	22E	2	2	24 110 230	>	3RH2122-1AB00 3RH2122-1AF00 3RH2122-1AP00	2	3RH2122-2AB00 3RH2122-2AF00 3RH2122-2AP00
With permanently (SUVA-certified sa			tch blo	ck				
6	44E	4	4	230	>	3RH2244-1AP00	2	3RH2244-2AP00
	62E	6	2	230	>	3RH2262-1AP00	2	3RH2262-2AP00
Latched								
No lateral auxiliary	switch blocks ca	an be m	ounted					
10	40 E	4		24 110 230	5 5 5	3RH2440-1AB00 3RH2440-1AF00 3RH2440-1AP00		- - -
	31 E	3	1	24 110 230	5 5 5	3RH2431-1AB00 3RH2431-1AF00 3RH2431-1AP00		
	22 E	2	2	24 110 230	5 5 5	3RH2422-1AB00 3RH2422-1AF00 3RH2422-1AP00		

Other voltages according to page 3/74 on request.

¹⁾ Coil operating range - at 50 Hz: 0.8 to 1.1 x U_s - at 60 Hz: 0.85 to 1.1 x U_s.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

DC operation

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit = 41A











3BH2122-2B 0

3RH2422-1R 40

3RH2122-1BU	3HH2122-2BU	3RH2244-1BU		3RH2244-2BU		3HTZ4ZZ-1D.4U	
Rated operational current $I_{\rm e}/{\rm AC}$ -15/AC-14 at 230 V	Contacts Ident. No. Version	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	SC.	Spring-type terminals	<u></u>
٨	1 4	VPO	-1	Article No.	Price per PU	Article No.	Price per PU
A	NO NC	V DC	d		d		
For corour fixing and a	non on mounting ont	o TH 25 standard					

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size	500

10	40E	4		24	>	3RH2140-1BB40	>	3RH2140-2BB40
				220	>	3RH2140-1BM40	5	3RH2140-2BM40
	31E	3	1	24	•	3RH2131-1BB40		3RH2131-2BB40
				220	2	3RH2131-1BM40	5	3RH2131-2BM40
	22E	2	2	24	•	3RH2122-1BB40	>	3RH2122-2BB40
				220	▶	3RH2122-1BM40	5	3RH2122-2BM40
With integrated diode)							
10	40E	4		24	>	3RH2140-1FB40	>	3RH2140-2FB40
	31E	3	1	24	>	3RH2131-1FB40		3RH2131-2FB40
	22E	2	2	24	>	3RH2122-1FB40		3RH2122-2FB40
With permanently mo (SUVA-certified safety		ry switc	h block	(
6	44E	4	4	24	>	3RH2244-1BB40	>	3RH2244-2BB40
	62E	6	2	24	>	3RH2262-1BB40		3RH2262-2BB40
Latched								
No lateral auxiliary swi	tch blocks car	be mou	unted					
10	40E	4		24	5	3RH2440-1BB40		
				110	5	3RH2440-1BF40		
				220	5	3RH2440-1BM40		
	31E	3	1	24	5	3RH2431-1BB40		
				110	5	3RH2431-1BF40		
				220	5	3RH2431-1BM40		
	22E	2	2	24	2	3RH2422-1BB40		
				110	5	3RH2422-1BF40		-
				220	5	3RH2422-1BM40		

Other voltages according to page 3/74 on request.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

DC operation for direct control from the PLC

- Coupling contactor relays with adapted power consumption
 Suitable for solid-state PLC outputs
 Cannot be expanded with auxiliary switch blocks

PU (UNIT, SET, M) = 1 = 1 unit = 41A





3RH21..-1.B40

3RH21..-2.B40

Rated operational current $I_{\rm e}$ /AC-15/ AC-14 at 230 V	Auxiliary contacts Ident. No. acc. to EN 50011	Version		SD	Screw terminals	⊕ SD	Spring-type terminals	
		1	 			rice PU	Article No.	Price per PU
Α		NO	NC	d		d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S00										
Diode, varistor or RC	element, attachable	•								
No auxiliary switch blo	cks can be mounted									
Rated control supply v operating range 0.7 to Power consumption of	1.25 x Ü _s									
10	40E	4		5	3RH2140-1HB40	5	3RH2140-2HB40			
	31E	3	1	5	3RH2131-1HB40	5	3RH2131-2HB40			
	22E	2	2	5	3RH2122-1HB40	5	3RH2122-2HB40			
Rated control supply voltage $U_{\rm s}=24$ V DC, operating range 0.85 to 1.85 x $U_{\rm s}$ Power consumption of the solenoid coils 1.6 W at 24 V										
10	40E	4		5	3RH2140-1MB40-0KT0	5	3RH2140-2MB40-0KT0			
	31E	3	1	2	3RH2131-1MB40-0KT0	5	3RH2131-2MB40-0KT0			
	22E	2	2	5	3RH2122-1MB40-0KT0	5	3RH2122-2MB40-0KT0			

Other voltages according to page 3/74 on request.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

DC operation for direct control from the PLC

- Coupling contactor relays with adapted power consumption
 Suitable for solid-state PLC outputs
 Cannot be expanded with auxiliary switch blocks

PU (UNIT, SET, M) = 1 = 1 unit = 41A





3RH21..-1.B40

3RH21..-2.B40

					** :: := : :: : : : : : : : : : : : : :		*	
Rated operational current $I_{\rm e}/{\rm AC}$ -15/ AC-14 at 230 V	Auxiliary contacts Ident. No. acc. to EN 50011	Version		SD	Screw terminals	SD	Spring-type terminals	
		1	7		Article No. Price per PU		Article No.	Price per PU
Α		NO	NC	d		d		

For screw fixing and snap-on mounting onto TH 35 standard

mounting rail							
Size S00							
With integrated coil circu	it (diode)						
No auxiliary switch blocks	can be mounted						
Rated control supply voltage operating range 0.7 to 1.25 Power consumption of the	S x Ŭ _s	24 V					
10	40E	4		2	3RH2140-1JB40	>	3RH2140-2JB40
	31E	3	1	>	3RH2131-1JB40	>	3RH2131-2JB40
	22E	2	2		3RH2122-1JB40	2	3RH2122-2JB40
Rated control supply voltage operating range 0.85 to 1.8 Power consumption of the	35 x <i>U</i> _s	24 V					
10	40E	4		5	3RH2140-1VB40	5	3RH2140-2VB40
	31E	3	1	5	3RH2131-1VB40	5	3RH2131-2VB40
	22E	2	2	5	3RH2122-1VB40	5	3RH2122-2VB40
With integrated coil circuit	it (suppressor diode)						
No auxiliary switch blocks	can be mounted						
Rated control supply voltage operating range 0.7 to 1.25 Power consumption of the	S x Ü _s	24 V					
10	40E	4		5	3RH2140-1KB40	5	3RH2140-2KB40
	31E	3	1		3RH2131-1KB40		3RH2131-2KB40
	22E	2	2		3RH2122-1KB40	>	3RH2122-2KB40
Rated control supply voltage operating range 0.85 to 1.8 Power consumption of the	35 x <i>U</i> _s	24 V					
10	40E	4		5	3RH2140-1SB40	5	3RH2140-2SB40
	31E	3	1	2	3RH2131-1SB40	5	3RH2131-2SB40
	22E	2	2	2	3RH2122-1SB40	5	3RH2122-2SB40

Other voltages according to page 3/74 on request.

3TH4 contactor relays, 8- and 10-pole

Overview

Standards

IEC/EN 60947-1. IEC/EN 60947-5-1

The 3TH42 and 3TH43 contactor relays are suitable for use in any climate. They are finger-safe according to IEC 60529.

Note:

The 3TH42 and 3TH43 contactor relays feature positively-driven operation in accordance with IEC 60947-5-1, Ed. 3.1.

Terminal designations according to EN 50011

In terms of their terminal designations, identification numbers and identification letters, the 3TH42 and 3TH43 contactor relays conform to the standard EN 50011 for Specific Contactor Relays.

Contact reliability

High contact stability at low voltages and currents as a result of double-break contacts, suitable for solid-state circuits with currents \geq 1 mA at a voltage of \geq 17 V.

Surge suppression

The 3TH42 and 3TH43 contactor relays can be equipped with RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) for damping opening surges. The surge suppressors can be mounted directly on the coil (see page 5/23).

Note:

The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

Mounting

Note:

With 3TH4 contactor relays with AC operation, an overvoltage of 1.1 x $U_{\rm s}$, an ambient temperature \geq 45 °C and 100% ON-period of all contactors, a minimum clearance of 5 mm between the contactors shall be observed in the case of side-by-side mounting.

Technical specifications

Contactor relays

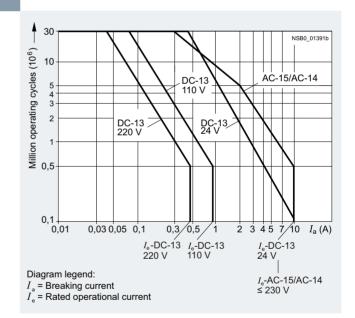
Type 3TH42, 3TH43

Contact endurance for AC-15/AC-14 and DC-13 utilization categories

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

If magnetic circuits other than the contactor coil systems or solenoid valves are present, e.g. magnetic brakes, protective measures for the load circuits are necessary.

RC elements or freewheel diodes are suitable as protective measures for the circuits.



3TH4 contactor relays, 8- and 10-pole

		31111 3311	lactor relays, o- and ro-pole
Contactor relays	Туре	3TH42	3TH43
General data	.,,,,,,		
Dimensions (W x H x D)			
• AC operation	mm	45 x 78 x 97	55 x 78 x 97
• DC operation	, mm	45 x 78 x 130	55 x 78 x 130
<u> </u>	•		
Permissible mounting position			
The contactor relays are designed for operation on a vertical mounting surface.			
AC operation			
• AC operation		360° 22,5° 22,5° 8	
• DC apparation			
DC operation		90° 22,5° 22,5° 8	
		<u> </u>	
Upright mounting position			
AC and DC operation			
		NSB0_00477a Special version required	
Mechanical endurance Basic units	Operat	NSB0_00477a Special version required 30 million	1
Mechanical endurance Basic units	ing	30 million	
	cycles		
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690	
Rated impulse withstand voltage U_{imp}	kV	8	
Protective separation between the coil and the main contacts	V	Up to 500	
acc. to IEC 60947-1, Appendix N			
Permissible ambient temperature			
During operation	°C	-25 +55	
During storage	°C	-55 +80	
Degree of protection acc. to IEC 60529			
• On front		IP20 (with screw terminals)	
Connecting terminal		IP20 (with screw terminals)	
Touch protection acc. to IEC 60529		Finger-safe (for screw terminals)	
Shock resistance			
Rectangular pulse AC operation	<i>g</i> /ms	7.7/5 and 4.4/10	
- AC operation	g/ms	9.3/5 and 5.4/10	
• Sine pulse	O.		
- AC operation	g/ms	12/5 and 6.8/10	
- DC operation	<i>g</i> /ms	14.7/5 and 8.5/10	
Short-circuit protection			
Short-circuit test			
• With fuse links of operational class gG With short-circuit current $I_{\rm k}$ = 1 kA acc. to IEC 60947-5-1			
- LV HRC, type 3NA	Α	16	
- DIAZED, type 5SB	Α	16	
- NEOZED Type 5SE, quick	Α	20	
 With miniature circuit breakers With short-circuit current I_k = 400 A acc. to IEC 60947-5-1 			
- C characteristic	А	16	
- B characteristic	Ä	16	
® and ® rated data			
Basic units			
Rated control supply voltage U _s		Max. 600 V AC, 230 V DC (acc. to	UL 240 V DC)
Rated voltage		600 V AC, 600 V DC	
Switching capacity		A 600, P 600	
Conductor cross-sections			
Auxiliary conductors and coil terminals (1 or 2 conductors can be connected)		Screw terminals	
• Solid or stranded	mm ²	2 x (0.5 1) ¹⁾ ; 2 x (1 2.5) ¹⁾ ; 1 x	4
Finely stranded with end sleeve	mm ²	2 x (0.75 2.5)	
Terminal screw		M3.5	
1) If two different conductor areas postions are connected to one elemning			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

3TH4 contactor relays, 8- and 10-pole

Contactor relays	Type	3TH42, 3TH43
Control	71	
Solenoid coil operating range		
AC operation		0.8 1.1 x U _s ¹⁾
DC operation (except 24 V) At 24 V DC		0.8 1.1 × <i>U</i> _s 0.8 1.2 × <i>U</i> _s
Solenoid coil power consumption (for cold coil and $1.0 \times U_{\rm S}$)		
 AC operation, 50 Hz, standard version Closing Closed 	VA/p.f. VA/p.f.	68/0.82 10/0.29
 AC operation, 50/60 Hz, standard version Closing, 50 Hz Closed, 50 Hz Closing, 60 Hz Closed, 60 Hz 	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	77/0.81 11/0.28 71/0.75 9/0.27
 AC operation, 50 Hz, USA/Canada Closing Closed 	VA/p.f. VA/p.f.	68/0.82 10/0.29
 AC operation, 60 Hz, USA/Canada Closing Closed 	VA/p.f. VA/p.f.	75/0.76 9.4/0.29 0.3
 AC operation, 50 Hz, Japan Closing Closed 	VA/p.f. VA/p.f.	80/0.8 10.7/0.29
AC operation, 60 Hz, JapanClosingClosed	VA/p.f. VA/p.f.	75 90/0.73 8.5 10.7/0.29 0.3
DC operation up to 250 V Closing = Closed	W	6.2
Permissible residual current of the electronics (with 0 signal)		
For AC operationFor DC operation		\leq 8 mA x (220 V/ $U_{\rm s}$) \leq 1.25 mA x (220 V/ $U_{\rm s}$)
Operating times at 1.0 x $U_s^{(2)}$		
AC operation		
ClosingON-delay NOOFF-delay NC	ms ms	10 25 7 20
Opening OFF-delay NO ON-delay NC	ms ms	5 18 7 20
DC operation		
Closing ON-delay NO OFF-delay NC	ms ms	30 70 28 65
Opening OFF-delay NO ON-delay NC	ms ms	10 20 15 25
Arcing time	ms	10

Coils for USA, Canada and Japan: 0.85 to 1.1 x U_s at 60 Hz.
 The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 9x; diode assembly 2x to 6x; varistor +2 to 5 ms).

3TH4 contactor relays, 8- and 10-pole

0 1 1			
Contactor relays	Туре		3TH42, 3TH43
Rated data of the auxiliary contacts			l e
Load rating with AC			
Rated operational currents I _e			
• AC-12		Α	16
\bullet AC-15/AC-14, at rated operational voltage $U_{\rm e}$	20214		
	230 V 400 V	A A	10 6
	500 V	Α	4
	690 V	Α	2
Rated power of three-phase motors Acc. to utilization categories AC-2 and AC-3, 50 Hz			
	230/220 V 400/380 V	kW kW	2.4
	500 V	kW	4
	690/660 V	kW	4
Load rating with DC			
Rated operational currents $I_{\rm e}$			
DC-12, at rated operational voltage $U_{\rm e}$			
1 conducting path			
	Up to 48 V 110 V	A A	10 2.1
	220 V	Ä	0.8
	440 V	Α	0.6
• 2 conducting paths in series			
	Up to 48 V	A	10
	110 V 220 V	A A	10 1.6
	440 V	Α	0.8
• 3 conducting paths in series			
	Up to 48 V	A	10
	110 V 220 V	A A	10 10
	440 V	Α	1.3
DC-13, at rated operational voltage $U_{\rm e}$			
1 conducting path			
	Up to 24 V 48 V	A A	10 5
	110 V	A	1
	220 V	A	0.45
	440 V 600 V	A A	0.25 0.2
• 2 conducting paths in series			
	Up to 24 V	Α	10
	48 V	A	10
	110 V 220 V	A A	2.5 0.75
	440 V	Α	0.5
	600 V	Α	0.4
3 conducting paths in series	1 le t- 04 V	٨	10
	Up to 24 V 48 V	A A	10 10
	110 V	Α	10
	220 V 440 V	A A	2 0.9
	600 V	A	0.8
Switching frequency			
Switching frequency z in operating cycles/hour			
Rated operation for utilization category	AC-12/DC-12	1/h	1 000
Dependence of the switching frequency z' on the	AC-2 AC-3	1/h 1/h	500 1 000
operational current I' and operational voltage U' : $z' = z \cdot (I_e/I) \cdot (U_e/U')^{1.5} \cdot 1/h$	AC-15/AC-14	1/h	3 600
	DC-13	1/h	3 600
No-load switching frequency		1/h	10 000

3TH4 contactor relays, 8- and 10-pole

Selection and ordering data

8-pole contactor relays AC operation or DC operation





						_	1000				200 200				
						3TH	1280-0	AP0			3TH4244-0BB4				
Contacts		operation 15/AC-14		nt	Contacts					SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	230/ 220 V	400/ 380 V	500 V	690/ 660 V	Ident. No. acc. to EN 50011	Vers	on								
						\ \	7	l	}		Article No.	Price per PU			
Number	Α	Α	Α	Α		NO	NC	NO	NC	d					
For screv	w fixing a	and sna	ıp-on m	ountin	g onto TH 35 s	tanda	ard m	ountii	ng rai						
AC opera	ation, rat	ed con	trol sup	ply voi	Itage U _s = 50 F	lz 230	/220	V AC	1)		-				
8	10	6	4	2	80E 71E 62E 53E 44E 44E, U	8 7 6 5 4 3	1 2 3 4 3	 1	 1	X X X X	3TH4280-0AP0 3TH4271-0AP0 3TH4262-0AP0 3TH4253-0AP0 3TH4244-0AP0 3TH4293-0AP0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41A 41A 41A 41A 41A
DC opera	ation, rat	ed con	trol sup	ply vol	Itage U _s = 24 V	/ DC									
8	10	6	4	2	80E 71E 62E 53E	8 7 6 5	1 2 3	 	 	X X X	3TH4280-0BB4 3TH4271-0BB4 3TH4262-0BB4 3TH4253-0BB4		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41A 41A 41A 41A

 $^{^{1)}}$ Operating range at 220 V: 0.85 to 1.1 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Other voltages according to page 5/22 on request. Accessories, see page 5/23.

3TH4244-0BB4

3TH4293-0BB4

Note:

The solenoid coils of the 3TH42 contactor relays are available in various voltages as spare parts (on request).

44E

44Ē, U

- AC operation: 3TY7403-0A..
- DC operation: 3TY4803-0B..

The contacts cannot be replaced on 3TH42 contactor relays.

1 unit

1 unit

41A

41A

1 unit

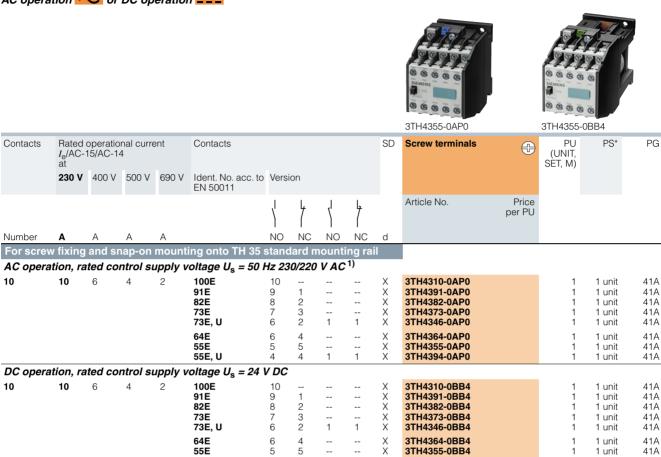
1 unit

41A

41A

3TH4 contactor relays, 8- and 10-pole

10-pole contactor relays AC operation or DC operation



5

5

Other voltages according to page 5/22 on request. Accessories, see page 5/23.

3TH4394-0BB4

The solenoid coils of the 3TH43 contactor relays are available in various voltages as spare parts (on request).

55F

55E. U

- AC operation: 3TY7403-0A.. - DC operation: 3TY4803-0B..

The contacts cannot be replaced on 3TH43 contactor relays.

¹⁾ Operating range at 220 V: 0.85 to 1.1 \times U_c lower operating range limit according to IEC 60947.

Rated control supply voltage $U_{\rm S}$

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

	Contactor type	3TH42/3TH43
Rated control supply voltage $U_{\rm S}$	Control supply voltage at	
AC operation		
Solenoid coils for 50 and	1 60 Hz AC	
50 Hz	60 Hz	
24 V AC 36 V AC 42 V AC	29 V AC 42 V AC 50 V AC	B0 G0 D0
48 V AC 60 V AC 110 V AC	58 V AC 72 V AC 132 V AC	H0 E0 F0
125/127 V AC 230/220 V AC 240 V AC	150/152 V AC 276 V AC 288 V AC	L0 P0 ¹⁾ U0
400/380 V AC 415 V AC 500 V AC	480/460 V AC 500 V AC 600 V AC	V0 ¹⁾ R0 S0
50/60 Hz		
24 V AC 42 V AC 110 V AC		C2 D2 G2
115 V AC 120 V AC 220 V AC		J2 K2 N2
230 V AC 240 V AC 440 V AC		L2 P2 R2
For Japan		
50 Hz	60 Hz	
100 V AC 200 V AC	100 110 V AC 200 220 V AC	G6 ²⁾ N6 ²⁾
For USA and Canada		
50 Hz	60 Hz	0)
110 V AC 220 V AC	120 V AC 240 V AC	K6 ²⁾ P6 ²⁾

DC operation	
12 V DC 24 V DC 30 V DC	A4 B4 C4
36 V DC 42 V DC 48 V DC	V4 D4 W4
60 V DC 110 V DC 125 V DC	E4 F4 G4
220 V DC 230 V DC 240 V DC	M4 P4 Q4
240 V DC	Q4

Contactor type

3TH42/3TH43

 $^{^{1)}}$ Operating range at 220 V or 380 V: 0.85 to 1.1 x $U_{\rm S}.$

²⁾ Operating range at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$.

Contactor Relays 3TH4 Contactor Relays, 8- and 10-Pole

Accessories for 3TH4 contactor relays

Selection and ordering data

	Version	Rated contr voltage U _s	ol supply	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		AC	DC						
		V	V	d					
Surge suppresso	rs ¹⁾ for 3TH4 contactor relays								
	Noise suppression diodes With line spacer, for mounting onto the coil terminal		24 250	2	3TX7402-3A		1	1 unit	41B
3TX7402-3.	Diode assemblies (diode and Zener diode) With line spacer, DC operation, for mounting onto the coil terminal		24 250	2	3TX7402-3D		1	1 unit	41B
	Varistors ²⁾ With line spacer, for mounting onto the coil terminal	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250 	2 2 2 20 20	3TX7402-3G 3TX7402-3H 3TX7402-3J 3TX7402-3K 3TX7402-3L		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	RC elements With line spacer, for mounting onto the coil terminal	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250 	2 2 2 5 20	3TX7402-3R 3TX7402-3S 3TX7402-3T 3TX7402-3U 3TX7402-3V		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	Covers for switch position indicator			Χ	3TX4210-0P		1	1 unit	41B

The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

 $^{^{2)}\,}$ Includes the peak value of the alternating voltage on the DC side.

	For contactors	Version	Rated control supply voltage U _s 50/60 Hz AC	Time setting range (minimum times)	SD	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
	Туре		V	S	d	Article No.	Price per PU			
ON-delay devices										
	3TH42, 3TH43	NTC thermistors Time tolerance +100%, -50%	220 230	0.1	5	3TX4180-0A		1	1 unit	41B
3TX4180-0A										
Coupling links for	control by	PLC for 3TH4 co	ontactor relays							
6 66	3TH42, 3TH43		17 30 V DC on: 0.5 W at 24 V DC ing on the contactor							
000		- Without surge	suppressor		15	3TX4090-0C		1	1 unit	41B
3TX4090 Mounted to contactor		- With surge sup	ppressor		2	3TX4090-0D		1	1 unit	41B

3TH2 miniature contactor relays, 4- and 8-pole

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-5-1

The 3TH2 miniature contactor relays are climate-proof, and the versions with screw terminals are finger-safe according to IEC 60529.

The terminal designations comply with EN 50011.

Connections

The 3TH20 miniature contactor relays with four auxiliary contacts are available with SIGUT screw terminals, $6.3 \text{ mm} \times 0.8 \text{ mm}$ flat connectors, and solder pin connections.

The miniature contactor relays with 6.3 mm x 0.8 mm flat connectors can be used in the plug-in base with solder pin connections for printed circuit boards. The miniature contactor relays are coded, and the plug-in base is codable in order to ensure non-interchangeability.

The 3TH22 miniature contactor relays with eight integrated contacts are available with screw terminals. The terminal designations comply with EN 50011.

Contact reliability

High contact stability at low voltages and currents, particularly suitable for solid-state circuits with currents \geq 1 mA at a voltage of \geq 17 V.

Accessories

Auxiliary switch blocks

The miniature contactor relays with four contacts with screw terminals can be expanded by up to four contacts by adding mountable auxiliary switch blocks (see page 5/30).

A cover (with unit labeling plate) must be removed from the front of the miniature contactor relays for this purpose. The auxiliary switch block is then easy to mount. The auxiliary switch blocks can be removed again by unlocking them with a laterally arranged orange slide.

The miniature contactor relays with screw terminals with four contacts according to EN 50011 with the identification number 40E can be expanded with 80E, 71E, 62E, 53E or 44E auxiliary switch blocks to miniature contactor relays with eight contacts according to EN 50011. The identification numbers 80E, 71E, 62E, 53E or 44E on the coded auxiliary switch blocks apply to the complete contactors. They cannot be combined with miniature contactor relays with identification number 31E and 33E.

All miniature contactor relays with screw terminals with four contacts according to EN 50011, identification number 40E, 31E or 22E, can be expanded with auxiliary switch blocks with identification number 40, 31, 22, 20, 11 or 02 to miniature contactor relays with six or eight contacts according to EN 50005. The identification numbers on the auxiliary switch blocks apply only to the attached auxiliary switch blocks.

Surge suppression

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode for short break times) can be plugged onto all contactors and auxiliary switch blocks with screw terminals from the front in order to dampen opening surges in the coil (see page 5/31).

The unit labeling plate must be removed for this purpose. It can be snapped onto the attached surge suppressor.

Additional load module

The 3TX4490-1J additional load module (see page 5/31) can be used by programmable logic controllers to increase permissible residual current, and to limit residual voltage in semiconductor outputs.

This module ensures the safe shut-down of 3TH2 contactor relays and 3TF2 contactors with direct control via 230 V AC semiconductor outputs. It is accommodated in the same enclosure as the 3TX4490-3. surge suppressors and can be plugged into the contactor.

3TH2 miniature contactor relays, 4- and 8-pole

Technical specifications

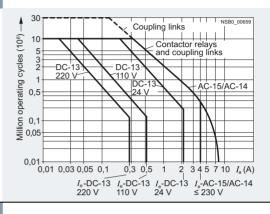
Туре **3TH2** Size 00

Contact endurance for AC-15/AC-14 and DC-13 utilization categories

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

If magnetic circuits other than the contactor coil systems or solenoid valves are present, e.g. magnetic brakes, protective measures for the load circuits are necessary. RC elements or freewheel diodes are suitable as protective measures for the circuits.

Legend for diagram: $I_{\rm e}$ = Rated operational current $I_{\rm a}$ = Breaking current



Positively-driven operation of contacts in miniature contactor relays

3TH20:

Yes, in the basic unit and the auxiliary switch block as well as between the basic unit and the mounted auxiliary switch block (removable)

- ZH1/457
- IEC 60947-5-1, Appendix L

3TH22:

Yes, in the basic unit and the auxiliary switch block as well as between the basic unit and the mounted auxiliary switch block (permanently mounted) acc. to:

- ZH1/457
- IEC 60947-5-1, Appendix L
- SUVA

Explanations:

There is positively-driven operation if it is ensured that the NC and NO contacts cannot be closed at the same time.

ZH1/457

Safety rules for control units on power-operated presses in the metal-working industry.

IEC 60947-5-1, Annex L

Standard for Low-voltage switchgear and controlgear - Control circuit devices and switching elements Special requirements for positively-driven contacts

Accident prevention regulations of the "Schweizer Unfallverhütungsanstalt" (Swiss Institute for Accident Insurance)

			Miniature contactor		Auxiliary switch block
Type			3TH20	3TH22	3TX4
Size			00		
General data					
Dimensions (W x H x D)		mm	45 x 48 x 63	45 x 48 x 91	45 x 33 x 28
With 3TX4490 surge suppressor	T W O	mm	45 x 48 x 88	45 x 48 x 116	
Permissible mounting position	AC and DC operation		Any		
Mechanical endurance	AC operationDC operation	Operat- ing cycles	10 million 30 million		
Rated insulation voltage U_i (pollution de	gree 3)				
 Screw terminals Flat connector 6.3 mm x 0.8 mm 		V V	690 500	500	
Solder pin connections		V	500		
Rated impulse withstand voltage U _{imp} (pollution degree 3)				
Screw terminals		kV	6, control circuit 4		
• Flat connector 6.3 mm x 0.8 mm		kV	6		
Solder pin connections		kV	6		
Protective separation between coil and c (according to IEC 60947-1, Appendix N)	contacts	V	Up to 300		
Permissible ambient temperature ¹⁾	During operationDuring storage	°C °C	-25 +55 -55 +80		
Degree of protection acc. to IEC 60529	• During storage	C	-33 +60		
• On front			IP20 (with screw term	ninals)	
Connecting terminal			IP20 (with screw term		
Touch protection acc. to IEC 60529			Finger-safe (for screw	terminals)	
Shock resistance					
Rectangular pulse	- AC operation	g/ms	7/5 and 4/10		
0:	- DC operation	<i>g</i> /ms	10/5 and 6/10		
Sine pulse	AC operationDC operation	<i>g</i> /ms <i>g</i> /ms	9/5 and 6/10 13/5 and 8/10		

¹⁾ Applies to 50/60 Hz coil: Operating range at 60 Hz: 0.85 to 1.1 x $U_{\rm S}$; at 50 Hz, 1.1 x U_s, with side-by-side mounting and 100% ON period the max. ambient temperature is +40 °C.

3TH2 miniature contactor relays, 4- and 8-pole

Туре			3TH2
Size			00
Short-circuit protection			
Short-circuit test with fuse links, operat LV HRC, type 3NA; DIAZED, type 5SB; With short-circuit current $I_{\rm k}$ = 1 kA acc	NEOZED, type 5SE	Α	6
Conductor cross-sections			
Auxiliary conductors (1 or 2 conductors connectable)			Screw terminals
• Solid		mm^2	2 x (0.5 2.5), 1 x 4
 Finely stranded with end sleeve 		mm^2	2 x (0.5 1.5), 1 x 2.5
 AWG cables, solid or stranded 		AWG	2 x (20 14), 1 x 12
• Pin-end connector (DIN 46231)		mm^2	1 x 1 2.5
Terminal screw			M3
Prescribed tightening torque for term	inal screws	Nm	0.8 1.3
		lb.in	7 11
Auxiliary conductors (1 or 2 conductors connectable)			Flat connectors
 When using a plug-in sleeve 6.3–1 		mm ²	0.5 1
• Solid with 6.3–2.5		mm ²	1 2.5
			Solder pin connections (only for printed circuit boards)
Solder pin cross-section	(does not apply to plug-in bases)	mm ²	0.8 x 1.2
Solder pin cross-section, plug-in bas	e	mm ²	0.32 x 1.0
Control			
Solenoid coil operating range ¹⁾			0.8 1.1 x <i>U</i> _s
Solenoid coil power consumption (for cold coil and $1.0 \times U_{\rm S}$)			
 AC operation, 50 Hz 	Closing	VA	15
	P.f. Closed	VA	0.41 6.8
	P.f.	V/ (0.42
AC operation, 60 Hz	Closing	VA	14.4
	P.f.	١/٨	0.36
	Closed P.f.	VA	6.1 0.46
AC operation, 50/60 Hz ¹⁾	Closing	VA	16.5/13.2
	P.f.		0.43/0.38
	Closed P.f.	VA	8.0/5.4 0.48/0.42
DC operation	Closing = Closed	W	3
Permissible residual current of the e		**	
Tomiconsis rootaaa oarront or the o	AC operation DC operation	mA mA	≤ 3 x (220 V/U _S) ≤ 1 x (220 V/U _S)
Operating times at 1.0 x $U_s^{(2)}$			
AC operation			
- Closing	ON-delay NO	ms	6 17
	OFF-delay NC	ms	512
- Opening	OFF-delay NO ON-delay NC	ms ms	3 24 5 20
DC operation	OIV dolay IVO	1110	5 25
- Closing	ON-delay NO	ms	18 42
g	OFF-delay NC	ms	15 26
- Opening	OFF-delay NO	ms	35
	ON-delay NC	ms	4 10
Arcing time		ms	10
1) Applies to 50/60 Hz coil			2) The OFF-delay times of the NO contacts and the ON-delay times of the

Applies to 50/60 Hz coil Operating range at 60 Hz: 0.85 to 1.1 x U_s; at 50 Hz, 1.1 x U_s, with side-by-side mounting and 100% ON period the max. ambient temperature is +40 °C.

²⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

3TH2 miniature contactor relays, 4- and 8-pole

Туре			3TH2
Size			00
Rated data of the auxiliary contacts			
Load rating with AC			
Utilization category AC-12			
Rated operational current I _e (at 60 °C)		Α	10
Utilization categories AC-15 and AC-14			
Rated operational current $I_{\rm e}$ at rated operational voltage $U_{\rm e}$	230/220 V 400/380 V 500 V	A A A	4 3 2
Rated power of three-phase motors	690/660 V	Α	1
According to utilization categories AC-2 and AC-3	110 V 230/220 V 400/380 V 500 V 690/660 V	kW kW kW kW	0.2 0.55 1.1 1.5 1.5
Load rating with DC			
Utilization category DC-12		Α	10
Rated operational current $I_{\rm e}$ at rated operational voltage $U_{\rm e}$			
• 1 conducting path ¹⁾	Up to 24 V 60 V 110 V 240/220 V	A A A	4 2 1.1 0.5
• 2 conducting paths in series	Up to 24 V 60 V 110 V 240/220 V	A A A	10 10 4 2
• 3 conducting paths in series	Up to 24 V 60 V 110 V	A A A	10 10 6
Hallingting and your PO 40	240/220 V	Α	2.5
Utilization category DC-13 Rated operational current $I_{\rm e}$ at rated operational voltage $U_{\rm e}$			
• 1 conducting path	Up to 24 V 60 V 110 V 240/220 V	A A A	2.1 0.9 0.52 0.27
• 2 conducting paths in series	Up to 24 V 60 V 110 V 240/220 V	A A A	10 3.5 1.3 0.9
• 3 conducting paths in series	Up to 24 V 60 V 110 V 240/220 V	A A A	10 4.7 3 1.2
Switching frequency	-,		
Switching frequency z in operating cycles/hour			
Rated operation for utilization category	AC-12/DC-12	1/h	1 000
Dependence of the switching frequency z' on the operational current I' and operational voltage U' : $z' = z \cdot (I_e II) \cdot (U_e U)^{1.5} \cdot 1/h$	AC-2 AC-3 AC-15/AC-14 DC-13	1/h 1/h 1/h 1/h	500 1 000 1 200 1 200
No-load switching frequency		1/h	10 000
•			

¹⁾ Contact endurance 0.1 x 10⁶ operating cycles.

3TH2 miniature contactor relays, 4- and 8-pole

Selection and ordering data

AC operation or DC operation

- Size 00
- Screw terminals
- For screw fixing and snap-on mounting onto TH 35 standard mounting rail

	Con-			ional cu	rrent	Contacts			SD	Screw terminals	(1)	PU	PS*	PG
	tacts	I _e /AC-	15/AC-	14 at		Ident. No. acc. to EN 50011	Vers	sion				(UNIT, SET, M)		
		230/ 220 V	400/ 380 V	500 V	690/ 660 V		\	<u> </u>		Article No.	Price per PU			
	Number		Α	Α	Α		NO	NC	d					
Miniature contactor re														
	AC op	eratio	n, rate	d con	rol su	pply voltage	U _s =	50 F	Hz 23	30/220 V AC ¹⁾				
00000	4	4	3	2	1	40E 31E 22E	4 3 2	 1 2	2	3TH2040-0AP0 3TH2031-0AP0 3TH2022-0AP0		1 1 1	1 unit 1 unit 1 unit	41A 41A 41A
400	With pe	rmane	ntly mo	ounted	auxiliar	y switch blocks	5							
3TH200A	8	4	3	2		80E 71E 62E	8 7 6	0 1 2	20 20 2	3TH2280-0AP0 3TH2271-0AP0 3TH2262-0AP0		1 1 1	1 unit 1 unit 1 unit	41A 41A 41A
						53E 44E	5 4	3 4	20 2	3TH2253-0AP0 3TH2244-0AP0		1 1	1 unit 1 unit	41A 41A
00000	DC op	eratio	n, rate	d con	rol su	pply voltage	U _s =	<i>24</i> 1	/ DC					
0000	4	4	3	2	1	40E 31E 22E	4 3 2	1 2	 	3TH2040-0BB4 3TH2031-0BB4 3TH2022-0BB4		1 1 1	1 unit 1 unit 1 unit	41A 41A 41A
3TH220A	With pe	rmane	ntly mo	ounted	auxiliar	y switch blocks	3							
5.1. <u>22</u> .1. 5, 11.	8	4	3	2		80E 71E 62E 53E	8 7 6 5	0 1 2 3	20 2 2 20	3TH2280-0BB4 3TH2271-0BB4 3TH2262-0BB4 3TH2253-0BB4		1 1 1	1 unit 1 unit 1 unit 1 unit	41A 41A 41A 41A
						44E	4	4	2	3TH2244-0BB4		1	1 unit	41A

Accessories, see pages 5/30 and 5/31.

Other voltages according to page 5/29 on request.

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S};$ lower operating range limit according to IEC 60947.

1 unit

41A

41A

41A

41A

1 unit

1 unit

1 unit

3TH2 miniature contactor relays, 4- and 8-pole

AC operation or DC operation

- Size 00
- Flat connectors or solder pin connection
- For screw fixing and snap-on mounting onto TH 35 standard mounting rail (diagonal)

Con- tacts		peration 5/AC-14		nt	Contacts Ident. No. acc. to EN 50011	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	230/ 220 V	400/ 380 V	500 V	690/ 660 V		\						
Number	Α	Α	Α	Α		NO NC	d					

Miniature contactor relays with 6.3 mm x 0.8 mm flat connectors

	For s	-	ing and		 oly voltage only onto TH 3	•	
	4	4	3	2	 40E	4	_
10000					31E	3	1
					22F	2	2

2TH20	2

	, rated control supply			1\
AC anaration	rated control cumply	, voltana II	- 50 Hz 220/2	20 V AC 1)
AC Operation,	, rateu corriror suppry	vollage o	. – 30 112 230/2	20 V AC '

	4	4	3	2	 40E	4		20	3TH2040-3AP0	1	1 unit	41A
L					31E	3	1	20	3TH2031-3AP0	1	1 unit	41A
,					22E	2	2	20	3TH2022-3AP0	1	1 unit	41A
	For sci	rew fixin	g (diago	nal)								
	4	4	3	2	 40E	4		20	3TH2040-7AP0	1	1 unit	41A
					31E	3	1	20	3TH2031-7AP0	1	1 unit	41A
					22E	2	2	5	3TH2022-7AP0	1	1 unit	41A



3TH2

DC operatio	n, rated control supply voltage U _s = 24 V DC
For screw fixing mounting rail	ng and snap-on mounting onto TH 35 standard

					22E	2	2	20	3TH2022-3BB4	i	1 unit	41A
1207	For s	crew fix	ing (diag	gonal)								
	4	4	3	2	 40E	4		20	3TH2040-7BB4	1	1 unit	41A
					31E	3	1	5	3TH2031-7BB4	1	1 unit	41A
					22E	2	2	20	3TH2022-7BB4	1	1 unit	41A

Miniature contactor relays with solder pin connections for printed circuit boards

Solder pin	Щ
connections	

Flat connectors

3TH2040-3BB4

3TH2040-6BB4

3TH2031-6BB4

3TH2022-6BB4



3TH20..-6...

AC operation, rated control supply voltage $U_s = 50 \text{ Hz } 230/220 \text{ V AC}^{-1}$ For screw fixing (diagonal)

4	4	3	2		40E	4		, ,	3TH2040-6AP0	1	1 unit	41A
					31E	3	1		3TH2031-6AP0	1	1 unit	41A
					22E	2	2	Χ	3TH2022-6AP0	1	1 unit	41A
D	C operat	ion, rat	ed cont	rol supp	oly voltage L	$J_{\rm s} = 24$	V D	2				

2 20

3

20

20

4

4

For screw fixing (diagonal)

3

40E

31E

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

	<u>'</u>						
Rated control supply voltage $U_{\rm S}$	y Contactor type		3TH203, 3TH206, 3TH207, 3TH22	Rated control supply voltage $U_{\rm S}$	Contactor type	3TH200 3TF28	3TH203, 3TH206, 3TH207, 3TH22
	Size	00			Size	00	
AC operation				DC operation			
Solenoid coils for	50 and 60 Hz AC			24 V DC		B4	B4
50 Hz	60 Hz			110 V DC		F4	
24 V AC	29 V AC	B0		220 V DC		M4	
110 V AC	132 V AC	F0		Diagonia autro alcout	further velteres		
230/220 V AC	276 V AC	P0 ¹⁾	P0 ¹⁾	Please inquire about	lurther voltages.		

¹⁾ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Other voltages on request.

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S};$ Accessories, see pages 5/30 and 5/31. lower operating range limit according to IEC 60947.

3TH2 Miniature Contactor Relays, 4- and 8-Pole

Accessories for 3TH2 miniature contactor relays

	curren	operation t 15/AC-1		Contacts						SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	230/	400/ 380 V		Ident. No.	Vers	ion							,,		
					\ \	7	1	}			Article No.	Price per PU			
	Α	Α	Α			NC	NO			d					
-on auxili											l				
00		-		8 contacts			-		50011						
00	Only to	or 31H20 3	J40-0 2	(with 4 NO, 80E	ident		40E)			2	3TX4440-0A		1	1 unit	41A
0	4	3	2	71E	3	1				2	3TX4440-0A 3TX4431-0A		1	1 unit 1 unit	41A 41A
10-0A				62E	2	2				>	3TX4422-0A		1	1 unit	41A
440 0/1				53E	1	3				2	3TX4413-0A		1	1 unit	41A
				44E		4		 ! 4	- FN 50005	•	3TX4404-0A		1	1 unit	41A
	For e	xpans i 3	1 011 (0 (2	40E	iacis 4	s acc	cora	ing t	o EN 50005	2	3TX4440-2A		1	1 unit	41A
	4	3	2						53 63 73 83 						
				31E	3	1			53 61 73 83 	2	3TX4431-2A		1	1 unit	41A
				22E	2	2			53 61 71 83 \	•	3TX4422-2A		1	1 unit	41A
				22; 2U			2	2	57 67 75 85	2	3TX4422-2G		1	1 unit	41A
	4	3	2	20E	2				53 63 \\ 54 64	2	3TX4420-2A		1	1 unit	41A
				11E	1	1			53 61 54 62	2	3TX4411-2A		1	1 unit	41A
				02E		2			51 61 	20	3TX4402-2A		1	1 unit	41A
				11; U			1	1	57 65 	20	3TX4411-2G		1	1 unit	41A

Contactor Relays 3TH2 Miniature Contactor Relays, 4- and 8-Pole

Accessories for 3TH2 miniature contactor relays

	For contactors	Rated control voltage $U_{\rm S}$	supply	Power consumption of LED at $U_{\rm S}$	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре	V AC	V DC	mW	d					
Surge suppres For plugging o switch blocks		ature contact	or relays with	n and without auxil	iary					
	Version with	out LED				-				
	RC elements									
	3TH20	24 48 48 127	24 70 70 150		5 5	3TX4490-3R 3TX4490-3S		1 1	1 unit 1 unit	41B 41B
		127 240	150 250		5	3TX4490-3T		i	1 unit	41B
		240 400 400 600			5 5	3TX4490-3U 3TX4490-3V		1 1	1 unit 1 unit	41B 41B
	Varistors	400 000				31X4430-3V		'	1 Ullit	410
	3TH20	≤ 48	24 70		>	3TX4490-3G		1	1 unit	41B
		48 127 127 240	70 150 150 250		5 5	3TX4490-3H 3TX4490-3J		1 1	1 unit 1 unit	41B 41B
		240 400			5	3TX4490-3K		1	10 units	41B
		400 600			5	3TX4490-3L		1	10 units	41B
	Noise suppress		40 050							
3	3TH20 Diode assembl	 ies (diode and)	12 250 Zener diode)		•	3TX4490-3A		1	1 unit	41B
STEASON AS IN THE PROPERTY OF	For DC operatio									
3TX4490-3A	3TH20		24 250		5	3TX4490-3B		1	1 unit	41B
	Version with	LED								
	Varistors									
STANDAS ACTO	3TH20	24 48 48 127	12 24 24 70	10 120 20 470	5 5	3TX4490-4G 3TX4490-4H		1 1	1 unit 1 unit	41B 41B
3TX4490-4G		127 240	70 150	50 700	5	3TX4490-4J		1	1 unit	41B
3174430-44	Noise suppres-		150 250	160 950	20	3TX4490-4K		1	1 unit	41B
	sion diodes	-								
	3TH20		24 70	20 470	5	3TX4490-4A		1	1 unit	41B
			70 150 150 250	50 700 160 950	5 5	3TX4490-4B 3TX4490-4C		1 1	1 unit 1 unit	41B 41B
Additional load										-
For plugging o switch blocks	nto 3TH2 minia	ature contact	or relays with	n and without auxil	iary					
SWILON BIOCKS	To increase the	permissible resi	dual current and	d limit the residual						
	voltage of SIMA identical dimens	TIC semiconduc	ctor outputs,							
	3TH20A	230/220, 50 H			20	3TX4490-1J		1	1 unit	41B
		230, 60 Hz						·		
		230, 50/60 Hz Operating rar	<u>r</u> nge 0.8 1.1 x	 U _S						
Plug-in bases v	with solder pin	connections	for printed c	ircuit boards,						
	Rated insulation		V							
BEBB	(for pollution de rated impulse w	ithstand voltage	U _{imp} : 6 kV;							
	rated operations and su rated	al current I _e : 6 A	;							
	3TH203,		ature contactor		20	3TX4491-2A		1	5 units	41A
3TX4491-2A	3TH207	relays with fla	t connectors					·		
Release tools		6.3 mm 0.8	inm							
Helease 10015	For releasing mi	niature contacto	or relays from		20	3TX4491-2K		1	1 unit	41A
	3TX4491-2A plu		y		-					
1)	3TH207									
 The OFF-delay ti 	imes of the NO co	ntacts and the	ON-delay times	of the						

¹⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

SIRIUS 3RQ3 coupling relays, narrow design

Overview



SIRIUS 3RQ3 coupling relays

SIRIUS 3RQ3 coupling relays in narrow design are used for coupling control signals from and to a controller, and they are available in different versions:

- Coupling relays with relay output (not plug-in)
- Coupling relays with plug-in relays
- Coupling relays with semiconductor output (not plug-in)

Coupling relays with relay output (not plug-in)

AC and DC operation

IEC/EN 60947-5-1

The input and output coupling relays differ with regard to the positioning of the terminals and the LEDs.

Coupling relays with plug-in relays

AC and DC operation

IEC 60947-1

The coupling relays are plug-in, so the relay can be replaced quickly at the end of its service life without detaching the wiring.

Coupling relays with semiconductor output (not plug-in) AC and DC operation

IEC 60947-1, EN 60664-1 and EN 50005; coupling relays with semiconductor output: EN 60747-5; programmable controllers: IEC 61131-2

The input and output coupling relays differ with regard to the positioning of the terminals and the LEDs.

The coupling relays with semiconductor output have extremely high contact reliability, so they are especially suitable for electronic systems.

For test purposes, versions are available with manual-0-automatic switches.

SIRIUS 3RQ3 coupling relays, narrow design

Article No. scheme

Product versions		Article number		
Coupling relays with relay of	output (not plug-in)	3RQ30 □ 8 - □ A □ 0 □		
Design and type of output	Output coupler, without manual/automatic switch	1		
	Input coupler	3		
Type of electrical connection	Screw terminals	1		
	Spring-type terminals (push-in)	2		
Control supply voltage	24 V AC/DC	В		
,	115 V AC/DC	E		
	230 V AC/DC	F		
Material of switching	e.g.			
contacts	0 = AgSnO2			
	1 = AgSnO2 hard gold-plated			
Example	<u> </u>	3RQ30 1 8 - 1 A B 0 1		
Product versions		Article number		
Coupling relays with relay of	. , ,	3RQ30 1 8 - 2 A □ 0 8 -	- 0 A A 0	
	d operating range 0.7 1.2 x U _s			
Control supply voltage	24 V DC	M		
	110 V DC	N		
Example		3RQ30 1 8 - 2 A M 0 8	- 0 A A 0	
Product versions		Article number		
Coupling relays with plug-in	n relays	3RQ31 1 8 - □ A □ 0 □		
Type of electrical connection		1		
	Spring-type terminals (push-in)	2		
Control supply voltage	24 V AC/DC	В		
	115 V AC/DC	E		
	230 V AC/DC	F		
	24 V DC	м		
Material of switching	AgSnO2	0		
contacts	AgSnO2 hard gold-plated	1		
Example		3RQ31 1 8 - 1 A B 0 1		
Product versions		Article number		
	onductor output (not plug-in)	3RQ30 □ □ - □ S □ □ 0		
	Current carrying capacity of the semiconductor		Control supply	Switching voltage of
	output		voltage	the semiconductor output
Output coupler				output
·	1 mA 0.5 A	3RQ30 5 0 - 🗆 S M 5 0	11 30 V DC	10 60 V DC
	5 mA 2 A	3RQ30 5 2 - □ S M 3 0	11 30 V DC	10 30 V DC
	1 mA 2 A	3RQ30 5 2 - □ S M 4 0	11 30 V DC	10 60 V DC
	5 mA 2 A	3RQ30 5 2 - □ S M 5 0	11 30 V DC	20 264 V AC
	1 mA 3 A	3RQ30 5 3 - □ S G 3 0	110 230 V AC/DC	10 30 V DC
	5 mA 5 A	3RQ30 5 5 - □ S M 3 0	11 30 V DC	10 30 V DC
With manual/automatic switch	5 mA 5 A	3RQ30 6 5 - □ S M 3 0	11 30 V DC	10 30 V DC
Input coupler	10 mA 0.5 A	3RQ30 7 0 - □ S B 3 0	11 30 V AC/DC	10 30 V DC
		3RQ30 7 0 - □ S G 3 0	110 230 V AC/DC	10 30 V DC
Type of electrical connection	Screw terminals	1		
	Spring-type terminals (push-in)	2		
Example		3RQ30 7 0 - 1 S B 3 0		
N. 1				

Note:

These Article No. schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RQ3 coupling relays, narrow design

Benefits

General

- All versions with screw terminals or spring-type terminals (push-in technology)
- TOP wiring with spring-type terminals (push-in) for quick and reliable wiring
- Low space requirements in the control cabinet thanks to a consistent width of 6.2 mm
- · Reduced inventory due to fewer variants
- Clearly visible functional state of the coupling relay by green LED
- Integrated reverse polarity protection and EMC arc-suppression diode
- Standardized accessories across the entire 3RQ3 series
- Universal bridging option using connecting combs for all terminals
- Galvanic isolation plate for isolating different voltages for neighboring units
- Clip-on labels available as set for individual labeling

Coupling relays with relay output (not plug-in)

- Relays fixed in enclosure for increased contact reliability
- Device variants with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with plug-in relays

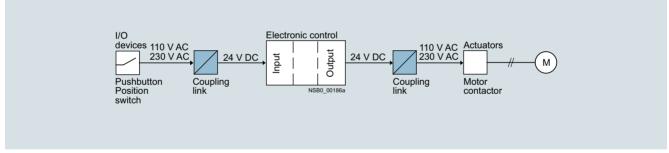
- · Fast replacement of the relays with existing wiring
- Shorter installation times thanks to certified complete units
- Individual relays available as spare parts
- Device variants with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with semiconductor output (not plug-in)

- Long service life since there is no mechanical wear
- High switching frequency thanks to short make-break times
- Vibration-resistant
- No contact bounce
- Extremely high contact reliability
- · Noise-free switching
- Low control power required
- Switching of DC and capacitive loads

Application

- Electrical separation between the input and output circuit
- · Adjustment of different signal levels
- · Signal amplification



Application example motor controller

SIRIUS 3RQ3 coupling relays, narrow design

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16198/td	Operating instructions, see https://support.industry.siemens.com/cs/ww/en/ps/16198/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16198/faq	

Coupling relays with relay output (not plug-in)

Article number		3RQ30.8- .AB00	3RQ30.8- .AB01	3RQ30.8- .AE00	3RQ30.8- .AE01	3RQ30.8- .AF00	3RQ30.8- .AF01	3RQ3018- 2AM08-0AA0	3RQ3018- 2AN08-0AA0
General technical specifications						•			
Width x height x depth	mm	6.2 x 93 x	72.5						
Insulation voltage for overvoltage category III acc. to IEC 60664 for pollution degree 3	V	300							
Max. permissible voltage for protective separation between control circuit and auxiliary circuit	V	300							
Ambient temperature									
During operation	°C	-25 +60)					-40 +70	
During storage	°C	-40 +85	5						
Degree of protection		IP20							
Version of the fuse link required for short-circuit protection of the auxiliary switch		Fuse gG:	4 A						
Operational current of the auxiliary contacts									
• At AC-15									
- At 24 V	Α	3							
- At 250 V	Α	3							
• At DC-13									
- At 24 V	Α	1							
- At 125 V	Α	0.2							
- At 250 V	Α	0.1							
Contact reliability of the auxiliary contacts		17 V,	5 V,	17 V,	5 V,	17 V,	5 V,	17 V,	
(one contact failure per 100 million)		5 mA	1 mA	5 mA	1 mA	5 mA	1 mA	5 mA	
Mechanical endurance (operating cycles) typical		10 000 00	0						
Electrical endurance (operating cycles) for AC-15 at 230 V typical		100 000							
Operating range factor of the control supply voltage, rated value									
• At AC									
- At 50 Hz		0.8 1.25	5	0.8 1.1					
- At 60 Hz		0.8 1.25	5	0.8 1.1					
• At DC		0.8 1.25	5	0.8 1.1				0.7 1.25	
Active power input	W	0.3		0.5		1		0.3	0.6
Thermal current	Α	6							

SIRIUS 3RQ3 coupling relays, narrow design

Coupling relays with plug-in relay

Article number		3RQ3118- .AB00	3RQ3118- .AB01	3RQ3118- .AE00	3RQ3118- .AE01	3RQ3118- .AF00	3RQ3118- .AF01	3RQ3118- .AM00	3RQ3118- .AM01
General technical specifications									
Width x height x depth	mm	6.2 x 93 x 7	76						
Insulation voltage for overvoltage category III acc. to IEC 60664 for pollution degree 3	V	300							
Max. permissible voltage for protective separation between control circuit and auxiliary circuit	V	300							
Ambient temperature									
During operation	°C	-25 +60							
During storage	°C	-40 +85							
Degree of protection		IP20							
Version of the fuse link required for short-circuit protection of the auxiliary switch		Fuse gG: 4	ł A						
Operational current of the auxiliary contacts									
• At AC-15									
- At 24 V	Α	3							
- At 250 V	Α	3							
• At DC-13									
- At 24 V	Α	1							
- At 125 V	Α	0.2							
- At 250 V	Α	0.1							
Contact reliability of the auxiliary contacts		17 V,	5 V,						
(one contact failure per 100 million)		5 mA	1 mA						
Mechanical endurance (operating cycles) typical		10 000 000)						
Electrical endurance (operating cycles) for AC-15 a 230 V typical	t	100 000							
Operating range factor of the control supply voltage, rated value									
• At AC									
- At 50 Hz		0.8 1.25		0.8 1.1					
- At 60 Hz		0.8 1.25		0.8 1.1					
• At DC		0.8 1.25		0.8 1.1				0.8 1.25	
Active power input	W	0.3		0.5		1		0.3	
Thermal current	Α	6							

SIRIUS 3RQ3 coupling relays, narrow design

Coupling relays with semiconductor output (not plug-in)

Article number		3RQ3050- .SM50	3RQ3052- .SM30	3RQ3052- .SM40	3RQ3052- .SM50	3RQ3053- .SG30	3RQ3055- .SM30	3RQ3065- .SM30	3RQ3070- .SB30	3RQ3070- .SG30
General technical specification	ıs									
Width x height x depth	mm	6.2 x 93 x 72.	5					6.2 x 93 x 75	6.2 x 93 x 1	72.5
Insulation voltage for overvoltage category III acc. to IEC 60664 for pollution degree 3	V	50			300		50			
Ambient temperature										
 During operation 	°C	-25 +60								
During storage	°C	-40 +85								
Degree of protection		IP20								
Switching voltage of the semiconductor output										
• At AC	V				20 264					
At DC	V	10 60	10 30	10 60		10 30				
Current carrying capacity of the semiconductor output										
At AC					5 mA 2 A					
At DC		1 mA 0.5 A	5 mA 2 A	A 1 mA 2 A		1 mA 3	A 5 mA 5 A		10 mA 0	.5 A
Operating range factor of the control supply voltage, rated value										
At AC										
- At 50 Hz						1 1			1 1	
- At 60 Hz						1 1			1 1	
• At DC		1 1								
Active power input	W	0.3			0.25	0.3			0.5	
Thermal current	Α	0.5	2			3	5		0.5	
Article number		3RQ31				3RQ3				
Type of electrical connection for auxiliary and control circuits		Screw to	erminals			∞ 5	Spring-type te	rminals (pu	sh-in)	
Type of connectable conductor cross-sections										
• Solid		1x (0.25 2.5	5) mm ²							
Finely stranded										
- Without end sleeves						1x (0.2	25 2.5) mm ²			

1x (0.25 ... 1.5) mm²

1x (20 ... 14)

With end sleevesSolid for AWG cables

SIRIUS 3RQ3 coupling relays, narrow design

Selection	n and o	rdering	data										
	Type of voltage	Control At AC At 50 Hz	supply v At 60 Hz	oltage At DC	Number of CO contacts for auxiliary contacts	Material of switch contacts	ching	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V	V	V				d					
Coupling	g relays	with re	lay out	put (not	plug-in)								
	Output	coupli	ng links	5									
5	AC/DC	24	24	24	1	AgSnO2		2	3RQ3018-□AB00		1	5 units	41H
						AgSnO2 hard g	old-plated	2	3RQ3018-□AB01		1	5 units	41H
		115	115	115	1	AgSnO2		2	3RQ3018-□AE00		1	5 units	41H
		230	230	230	1	AgSnO2		2	3RQ3018-□AF00		1	5 units	41H
	DC			24	1	AgSnO2		2	3RQ3018-2AM08-0AA0		1	5 units	41H
1				110	1	AgSnO2		2	3RQ3018-2AN08-0AA0		1	5 units	41H
3RQ30.8-	Input c												
2	AC/DC	24	24	24	1	AgSnO2		2	3RQ3038-□AB00		1	5 units	41H
						AgSnO2 hard g	old-plated		3RQ3038-□AB01		1	5 units	41H
		115	115	115	1	AgSnO2		2	3RQ3038-□AE00		1	5 units	41H
						AgSnO2 hard g	old-plated		3RQ3038-□AE01		1	5 units	41H
		230	230	230	1	AgSnO2		2	3RQ3038-□AF00		1	5 units	41H
0						AgSnO2 hard g	old-plated	2	3RQ3038-□AF01		1	5 units	41H
Coupling													
6	Output	-	-			A 0 0 0		0	0D00440			F	4411
	AC/DC	24	24	24	1	AgSnO2		2	3RQ3118-□AB00		1	5 units	41H
		115	445	445		AgSnO2 hard g	ola-platea	2	3RQ3118-□AB01		1	5 units	41H
		115	115	115	1	AgSnO2 hard g	ald platad		3RQ3118-□AE00 3RQ3118-□AE01		1	5 units 5 units	41H 41H
		230	230	230	1	AgSnO2 nard gr	oiu-piateu	2	3RQ3118-□AF00		1	5 units	41H
		230	230	230	İ	AgSnO2 hard g	old-plated		3RQ3118-□AF01		' 1	5 units	41H
200	DC			24	1	AgSnO2	ora piatoa	2	3RQ3118-□AM00		1	5 units	41H
3RQ3118- 2					•	AgSnO2 hard g	old-plated		3RQ3118-□AM01		1	5 units	41H
Type of eleScrew teSpring-ty	rminals	nals (pus		oltaga	Current car	rying capacity of	Operat-	SD	1 2	Price	PU	PS*	PG
	voltage	At AC At 50 Hz	At 60 Hz	At DC		At DC	ing mode selectable via switch position		Autore No.	per PU	(UNIT, SET, M)	7 0	1 0
0								d					
Coupling					utput (not	plug- in)			I				
	Output	coupii	ng iinks			1 1 0 5 1		_	ODOGGG COMES			F	4411
	DC			11 30 V		1 mA 0.5 A 5 mA 2 A		2	3RQ3050-□SM50 3RQ3052-□SM30		1	5 units 5 units	41H 41H
						-		2	3RQ3052-□SM40		1	5 units	41H
					5 mA 2 A			2	3RQ3052-□SM50		1	5 units	41H
					J IIIA 27	-		2	3RQ3055-□SM30		1	5 units	41H
							Manual/	2	3RQ3065-□SM30		1	5 units	41H
3RQ3050-							Off/ Automatic						
2SM50	AC/DC	110 230 V	110 230 V	110 230 V		1 mA 3 A		2	3RQ3053-□SG30		1	5 units	41H
	Input c												
	AC/DC	11	11	11		10 mA		2	3RQ3070-□SB30		1	5 units	41H
		30 V	30 V	30 V		0.5 A					·		
-		110 230 V	110 230 V	110 230 V		10 mA 0.5 A		2	3RQ3070-□SG30		1	5 units	41H
Type of eleScrew teSpring-ty	rminals								1 2				

SIRIUS 3RQ3 coupling relays, narrow design

Accessories						
	Version	SD	Article No. Price per PU		PS*	PG
		d		OL1, WI)		
Galvanic isolation	on plates					
1	For electrical separation of different potentials when devices of different types are installed side by side	2	3RQ3900-0A	1	10 units	41H
3RQ3900-0A						
Connecting com	nbs					
	For linking the same potentials,					
4-4-4-	current carrying capacity for infeed max. 6 A • 2-pole	2	3RQ3901-0A	1	10 units	41H
3RQ3901-0B	• 4-pole	2	3RQ3901-0B	1	10 units	41H
	• 8-pole	2	3RQ3901-0C	1	10 units	41H
	• 16-pole	2	3RQ3901-0D		10 units	41H
Clip-on labels ¹⁾		_				
	For terminal and equipment labeling, white					
	• 5 x 5 mm	2	3RQ3902-0A	100	2 000 units	41H
3RQ3902-0A	• 6 x 12 mm	2	3RQ3902-0B	100	1 200 units	41H
Tools for openir	ng spring-type terminals					
3RA2908-1A	Screwdriver For all SIRIUS devices with spring-type terminals; 3.0 mm x 0.5 mm,	2	Spring-type terminals (push-in) 3RA2908-1A	1	1 unit	41B
OHAZOU-TA	length approx. 200 mm, titanium gray/black, partially insulated					

PC labeling system for individual inscription of unit labeling plates available from Conta-Clip Verbindungstechnik GmbH (see page 16/16).

	Coupling relays with plug-in relay	Control supply voltage	Material of switching contacts	Number of CO contacts for auxiliary contacts	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре	V			d					
Replacement mod	lules for 3RQ31	18 coupling	relays with plug-in r	elay						
	3RQ3118AM00	24 DC	AgSnO2	1	2	3TX7014-7BM00		1	15 units	41H
	3RQ3118AM01		AgSnO2 hard gold-plated		2	3TX7014-7BM02		1	15 units	41H
	3RQ3118AB00	24 AC/DC	AgSnO2	1	2	3TX7014-7BM00		1	15 units	41H
	3RQ3118AB01		AgSnO2 hard gold-plated		2	3TX7014-7BM02		1	15 units	41H
	3RQ3118AE00	115 AC/DC	AgSnO2	1	2	3TX7014-7BP00		1	15 units	41H
	3RQ3118AF00	230 AC/DC	AgSnO2							
	3RQ3118AE01	115 AC/DC	AgSnO2 hard gold-plated	1	2	3TX7014-7BP02		1	15 units	41H
	3RQ3118AF01	230 AC/DC	AgSnO2 hard gold-plated							

SIRIUS 3RQ2 coupling relays with industrial enclosure

NEW

Overview



SIRIUS 3RQ2 coupling relays, screw terminals, 3 changeover contacts

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3RQ2 Conversion tool, e.g. from 3RS18 to 3RQ2, see

3RQ2 coupling relays in their 22.5 mm industrial enclosure serve to couple control signals to and from a controller and replace the 3RS18 coupling relays. The 3RQ2 has an impressively high-quality industrial enclosure finished in modern titanium gray so that it fits in visually with the SIRIUS series of relays.

The series consists of devices with up to three changeover contacts with screw or spring-type terminals (push-in) and, with its wide voltage range from 24 to 240 V AC/DC, is a genuine highlight in the coupling relay market.

Thanks to terminal assignment that is identical to the previous version, existing products can easily be converted.

The reduced variety of components simplifies product selection and standardization.

Numerous accessories are available for the 3RQ2 coupling relays, for example replacement terminals, push-in lugs for wall mounting and coding pins.

Article No. scheme

Product versions		Article number
Coupling relays, standard		3RQ2000 - □ □ □ 0 □
Connection methods	Screw terminals	1
	Spring-type terminals (push-in)	2
Outputs	1 CO contact	A
	2 CO contacts	В
	3 CO contacts	C
Rated control supply voltage	24 240 V AC/DC	W
Material of switching contacts	0 = AgSnO2	0
	1 = AgNi + Au	1
Example		3RQ2000 - 1 C W 0 1

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

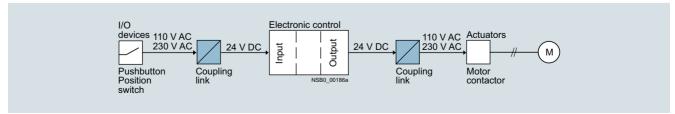
Benefits

- Permanent wiring thanks to removable terminals in screw or spring-type technology (push-in)
- · Replacement of individual terminals minimizes wiring effort
- A product for all voltages from 24 to 240 V AC/DC
- Reduced costs thanks to fewer versions
- Especially high contact reliability even at low currents thanks to versions with hard gold-plated contacts
- International standards and certifications including CE, UL/CSA, EAC and confirmations for rail, and more

Application

- · Electrical separation between the input and output circuit
- Adjustment of different signal levels

- Signal amplification
- Contact multiplication



Application example motor controller

NEW SIRIUS 3RQ2 coupling relays with industrial enclosure

Technical specifications			
More information			
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/25158/td		Operating instructions, see https://support.industry.siemens.com/c	s/ww/en/ps/25158/man
Туре		3RQ2000AW00 3RQ2000BW00 3RQ2000CW00	3RQ2000CW01
General data			
Dimensions (W x H x D)	mm	22.5 x 100 x 90	
Insulation voltage for overvoltage category III acc. to IEC 60664 for pollution degree 3	V	300	
Max. permissible voltage for protective separation between control circuit and auxiliary circuit acc. to IEC 60947-1	V	300	
Ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-40 +80	
Degree of protection		IP20	
Control circuit			
Control supply voltage	V	24 240 AC/DC; 50/60 Hz	
Operating range factor of control supply voltage		0.7 1.1	
Load circuit			
Thermal current of the non-solid-state contact blocks, maximum	А	5	
Current carrying capacity of the output relay			
• At AC-15 at 250 V	Α	3	
• At DC-13 at 24 V	Α	1	
• At DC-13 at 125 V	Α	0.2	
• At DC-13 at 250 V	Α	0.1	
Mechanical endurance (operating cycles) typical		10 000 000	
Electrical endurance (operating cycles) for AC-15 at 230 V, typical	l	100 000	
Material of switching contacts		AgSnO2	AgNi + Au
Article number		3RQ2000-1	3RQ2000-2
Type of electrical connection		Screw terminals	○ Spring-type terminals□ (push-in)
Type of connectable conductor cross-sections			_
• Solid	mm^2	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)	1x (0.5 4 mm²)
Finely stranded with end sleeve	mm^2	1x (0.5 4 mm²), 2x (0.5 1.5 mm²)	1x (0.5 2.5 mm ²)
Solid for AWG cables	AWG	1x (20 12), 2x (20 14)	1x (20 12)
Tightening torque	Nm	0.6 0.8	

SIRIUS 3RQ2 coupling relays with industrial enclosure NEW

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 UNIT PG = 41A

		Control sup at AC at 50 Hz			Material of switching contacts		₩.		SD	Spring-type terminals (push-in)	8
		V	V	W		d	Article No.	Price per PU		Article No.	Price per PU
Coupling re	lays in indus	trial enclo	sure, 22.5	mm							
Acres 1	FIRM	24 240	24 240	1	AgSnO2	2	3RQ2000-1AW00		2	3RQ2000-2AW00	
PROMISE SOLUTION OF THE PROMIS				2	AgSnO2	2	3RQ2000-1BW00		2	3RQ2000-2BW00	
SHOULD	SHUS			3	AgSnO2	2	3RQ2000-1CW00		2	3RQ2000-2CW00	
3RQ2000- 1CW00	3RQ2000- 2CW00			3	AgNi + Au	2	3RQ2000-1CW01		2	3RQ2000-2CW01	

Accessories

More information							
Operating instructions https://support.industr	s, see y.siemens.com/cs/ww/en/ps/25158/man		, e.g. from 3RS18 to 3RC om/sirius/conversion-too				
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Terminals for SIRI enclosure	IUS devices in the industrial standard mounting	ng rail					
	Removable terminals		Screw terminals	+			
	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	2	3ZY1122-1BA00		1	6 units	41L
			Spring-type terminals (push-in)	$\stackrel{\infty}{\mathbb{H}}$			
3ZY1122-1BA00	• 2-pole, up to 1 x 4 mm ² or 2 x 1.5 mm ²	2	3ZY1122-2BA00		1	6 units	41L
Accessories for e							
STOCK	Hinged cover replacement cover, without terminal labeling, titanium gray, 22.5 mm wide	2	3ZY1450-1AB00		1	5 units	41H
3ZY1450-1AB00							
6	Push-in lugs For wall mounting	2	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00							
3ZY1440-1AA00	Coding pins For removable terminals of SIRIUS devices in the industrial standard mounting rail enclosure; they enable the mechanical coding of terminals	2	3ZY1440-1AA00		1	12 units	41L
Tools for opening	spring-type terminals						
	Screwdrivers For all SIRIUS devices with spring-type terminals		Spring-type terminals (push-in)	$\stackrel{\infty}{\square}$			
3RA2908-1A	3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	2	3RA2908-1A		1	1 unit	41B



NEW SIRIUS 3RQ2 coupling relays with industrial enclosure

More information

Code conversion table

SIRIUS 3RS18 co	upling relays			Comparison type SIRIUS 3RQ2 coupling relays					
Screw terminals	Spring-type terminals	Version	Contacts	Screw terminals	Spring-type terminals (push-in)	Version	Contacts		
3RS1800-1AQ00	3RS1800-2AQ00	24 V AC/DC; 110 120 V AC		3RQ2000-1AW00	3RQ2000-2AW00	24 240 V AC/DC			
3RS1800-1AP00	3RS1800-2AP00	24 V AC/DC; 220 240 V AC	contact				contact		
3RS1800-1BW00	3RS1800-2BW00	24 240 V AC/DC	2 CO	3RQ2000-1BW00	3RQ2000-2BW00	24 240 V AC/DC			
3RS1800-1BQ00	3RS1800-2BQ00	24 V AC/DC; 110 120 V AC	contacts				contacts		
3RS1800-1BP00	3RS1800-2BP00	24 V AC/DC; 220 240 V AC	_						
3RS1800-1HW00	3RS1800-2HW00	24 240 V AC/DC	3 CO	3RQ2000-1CW00	3RQ2000-2CW00	24 240 V AC/DC			
3RS1800-1HQ00	3RS1800-2HQ00	24 V AC/DC; 110 120 V AC	contacts				contacts		
3RS1800-1HP00	3RS1800-2HP00	24 V AC/DC; 220 240 V AC	_						
3RS1800-1HW01	3RS1800-2HW01		3 CO	3RQ2000-1CW01	3RQ2000-2CW01	24 240 V AC/DC			
3RS1800-1HQ01	3RS1800-2HQ01	24 V AC/DC; 110 120 V AC	contacts, hard gold-				contacts, hard gold		
3RS1800-1HP01	3RS1800-2HP01	24 V AC/DC; 220 240 V AC	plated				plated		

LZS coupling relays with plug-in relays

Overview

Coupling relays with plug-in relays can be ordered as complete units or as individual modules for customer assembly.

Function

The coupling relays with semiconductor output have low power consumption and are therefore particularly well suited to solid-state systems. In the versions equipped with LEDs, these indicate the switching state. The LZS:PT/MT coupling relays have a test button. This can be used to force the relays into the switching state and to lock it without electrical control. This is indicated by a raised petrol-colored lever.

Control with solid-state output

In the case of solid-state outputs (e.g. proximity switch) with overload and short-circuit protection, you must make allowance during configuration for the temporarily flowing capacitor charging currents! This is possible, for example, by using a suitable LZS coupling relay with plug-in relay.

Surge suppression

The 24 V DC relays LZX:RT and LZX:PT with LEDs can be supplied with, all others without integral surge suppression (free-wheel diode connected in parallel with A1/A2). The positive control supply voltage must be connected to coil terminal A1.

Mounting

The relays are plugged into the base and this is snapped onto a TH 35 standard mounting rail according to IEC 60715.

A fixing bracket can be ordered for the MT series that additionally fixes the relay into a plug-in base (under conditions of increased mechanical stress). For the RT and PT series, a combined fixing and ejection bracket is available which can be used to disassemble the relay where access is difficult, for example, when relays are mounted side-by-side.

They can be mounted as required.

Logical separation

The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for coil. Logical separation is not necessarily protective separation.

Protective separation

For protective separation, transfer of the voltage of one circuit to another circuit is prevented to a suitable degree of safety (requirements and tests are described in IEC 60947-1 in Appendix N).

Notes on the previous LZX series

The complete units and accessory parts of the LZX series are no longer listed in this catalog. The complete units of the LZS series are fully compatible with the corresponding units of the LZX series. Prices for the LZS series are lower than for the previous LZX series.

The LZX plug-in relays are available unchanged and are used accordingly in both the LZS and the LZX series.

Note:

Due to differences in geometry, the LED modules, plug-in bases, fixing brackets and labels can be combined and/or used only in the respective series, LZS or LZX.

The LZS series offers not only service-proven screw connections but also versions with plug-in terminals (push-in).

LZS coupling relays with plug-in relays

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16204/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16204/man

Relay type			.ZX:RT print relay, 8-pole, LZX:PT industrial relay, 8-, 11- and 14-pol 12.7 mm) 1 CO / 2 CO (22.5 mm) 2 CO / 3 CO / 4 CO								
General data											
Dimensions (W x H x D)											
• LZS:RT.A4 / LZS:PT.A5	o mm	15.5 x 78 x 71			28 x 74 x	72					
• LZS:RT.B4 / LZS:PT.B5	mm	15.5 x 77 x 71			28 x 77 x	79					
LZS:RT.D4 / LZS:PT.D5	mm	15.5 x 98 x 71			28 x 98 x	79					
Rated control supply voltage <i>U</i> s ¹⁾	V	24 DC 24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC			
Rated insulation voltage <i>U</i> i	V	250									
(Pollution degree 3)											
Overvoltage category Acc. to IEC 60664-1		III									
Protective separation Between coil and contacts Acc. to IEC 60947-1, Appendix N		Up to 250 V (with plue No (for complete units			No						
Degree of protection											
Relays		IP67			IP50						
• Bases		IP20									
Permissible ambient temperature											
 During operation 	°C	-40 +70									
During storage	°C	-40 +80									
Conductor cross-sections											
Connection type		Screw terminal	s								
Solid	mm^2	2 x 2.5									
Finely stranded with end sleeve	mm^2	2 x 1.5									
Corresponding opening tool		Screwdriver, size 3.0	3.5 mm x 0.	5 mm (3RA2	908-1A)						
Connection type		Plug-in termina	ls (push-in)								
• Solid	mm ²	1 x (0.75 1.5), 2 x (0.75 1.0). 2	x 1.5							
Finely stranded without end sleeve	mm ²	1 x (0.75 1.5), 2 x (**								
Finely stranded with end sleeve	mm ²	1 x (0.75 1.0), 2 x 0	**								

¹⁾ AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.

LZS coupling relays with plug-in relays

Relay type		LZX:RT pri (12.7 mm)				LZX:PT ind (22.5 mm) 2		y, 8-, 11- and 0 / 4 CO	14-pole,
Rated control supply voltage $U_s^{(1)}$	V	24 DC	24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC
Control side									
Operating range factor		0.9 1.4	0.9 1.1			0.9 1.4	0.9 1.1		
Power consumption at U _s									
• AC	VA		0.75				1		
• DC	W	0.4				0.75			
Release voltage	V	2.4	7.2	34.5	69	3.6	7.2	34.5	69
Protection circuit		Freewheel diode for complete unit				Freewheel diode in LED module			
Load side									
Switching voltage AC/DC	V	24 250							
Rated currents ²⁾									
Conventional thermal current I _{th} 1 CO contact 2 CO contacts 3 CO contacts 4 CO contacts	A A A	16 6 				 12 10 6			
Rated operational current $I_{\rm e}$ /AC-15 acc. to utilization categories (IEC 60947-5-1)	Α	RT3 (1 CO RT4 (2 CO		5		PT2 (2 CO o PT3 (3 CO o PT5 (4 CO o	contacts): 5		(AC coils)
 Rated operational current I_e DC-13 with suppressor diode acc. to utilization categories (IEC 60947-5-1) 	Α	2 at 24 V, 0.27 at 230	V			PT2, PT3, P 4 at 24 V, 0.5 at 230 V			
Short-circuit protection									
Short-circuit test with fuse links of operational class gG with short-circuit current $I_{\rm k}$ = 1 kA acc. to IEC 60947-5-1									
DIAZED, type 5SB	Α	10				6			
Min. contact load (reliability: 1 ppm)		Standard 1 st hard gold-p		0.1 mA		Standard 17 hard gold-p		1 mA	
Mechanical endurance	Oper- ating cycles	30 x 10 ⁶	10 x 10 ⁶						
Electrical endurance (resistive load at 250 V AC)	Oper- ating cycles	1 x 10 ⁵							

AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.
 Capacitive loads can result in micro-welding on the contacts.

LZS coupling relays with plug-in relays

Relay type		LZS industri (35.5 mm) 3	al relays: MT, 11-p CO contacts	ole	
General data					
Dimensions (W x H x D)	mm	36 x 69 x 36			
Rated control supply voltage U _s ¹⁾	V	24 DC	24 AC	115 AC	230 AC
Rated insulation voltage <i>U</i> _i (Pollution degree 3)	V	250			
Overvoltage category Acc. to IEC 60664-1		Ш			
Protective separation Between coil and contacts Acc. to IEC 60947-1, Appendix N		No			
Degree of protection of relays/bases					
• Relays		IP50			
• Bases		IP20			
Permissible ambient temperature					
During operation	°C	-40 +60	-45 +50		
During storage	°C	-45 +80			
Conductor cross-sections					
Connection type		Screw t	erminals		
• Solid	mm ²	2 x 2.5			
Finely stranded with or without end sleeve	mm ²	2 x 1.5			
Corresponding opening tool		Screwdriver,	size 1 or Pozidriv 1		
Control side					
Operating range	V	18 38	19.2 38	92 137	184 264
Power consumption					
• AC	VA		2.3		
• DC	W	1.2			
Release voltage	V	2.4	9.6	46	92
Protection circuit					
Load side					
Switching voltage • AC/DC	٧	24 250			
Rated currents ²⁾					
• Conventional thermal current I_{th}	Α	10			
Rated operational current I _e /DC-13 acc. to utilization categories (IEC 60947-5-1)	А	2 at 24 V, 0.27 at 230 V			
 Rated operational current I_e /AC-15 acc. to utilization categories (IEC 60947-5-1) 	Α	5 at 24 V and	230 V		
Short-circuit protection					
Short-circuit test with fuse links of operational class gG with short-circuit current $I_{\rm k}$ = 1 kA acc. to IEC 60947-5-1					
DIAZED, type 5SB	Α	10			
Min. contact load (reliability: 1 ppm)		12 V DC/10 n	nA		
Mechanical endurance	Operat- ing cycles	20 x 10 ⁶			
Electrical endurance (resistive load at 250 V AC)	Operat- ing cycles	4 × 10 ⁵			

¹⁾ AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.

²⁾ Capacitive loads can result in micro-welding on the contacts.

LZS coupling relays with plug-in relays

Selection and ordering data

	Version	Rated control supply voltage $U_{\rm S}$ (at AC: 50/60 Hz)	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm	d					
Complete units	, 11- and 14-pole, P	T series								
0 0	Comprising: Coupling relays wi Standard plug-in b	ng onto TH 35 standard mo th plug-in relays base with screw terminals DC version: LED module	o .	eel diode)		Screw terminals	+			
LZS:PT3A5L24	3 CO contacts	24 DC 24 AC 115 AC 230 AC	3	28	2 2 2 2	LZS:PT3A5L24 LZS:PT3A5R24 LZS:PT3A5S15 LZS:PT3A5T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	4 CO contacts	24 DC 24 AC 115 AC 230 AC	4	28	2 2 2 2	LZS:PT5A5L24 LZS:PT5A5R24 LZS:PT5A5S15 LZS:PT5A5T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	Complete units wit With logical separa For snap-on mountir Comprising: Coupling relays wi Plug-in base with I LED module (24 V Fixing/ejection bra									
	4 CO contacts	24 DC 24 AC 115 AC 230 AC	4	28	2 2 2 2	LZS:PT5B5L24 LZS:PT5B5R24 LZS:PT5B5S15 LZS:PT5B5T30		1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
Complete units	, 8- and 14-pole, PT	series								
	Complete units wit With logical separa		ounting roil			Plug-in terminals (push-in)				



LZS:PT5D5L24

Complete units with plug-in base With logical separation

For snap-on mounting onto TH 35 standard mounting rail

24 DC

Coupling relays with plug-in relays
 Plug-in base with logical separation and plug-in terminals (push-in)
 LED module (24 V DC version: LED module with freewheel diode)

Fixing/ejection brackets
Labels

2 CO contacts

	230 AC		
4 CO contacts	24 DC 24 AC 115 AC 230 AC	4	28

LZS:PT2D5L24

LZS:PT2D5T30

LZS:PT5D5L24

LZS:PT5D5R24

LZS:PT5D5S15

LZS:PT5D5T30

2

2

28

5 units 41H 5 units 41H 5 units 41H 5 units 41H 5 units 41H 41H 5 units

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

LZS coupling relays with plug-in relays

						·				
	Version	Rated control supply voltage $U_{\rm S}$ at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm	d					
Individual modu	les for customer ass	embly, PT series								
	Industrial relays, 8-	, 11-, and 14-pole								
	Mini industrial relays									
	 With test bracket and switch position indica 									
SIEMENS ZX. PT37003		24 DC	2 3	22.5	>	LZX:PT270024 LZX:PT370024		1	1 unit 1 unit	41H 41H
LZX:PT370024			4			LZX:PT570024		1	1 unit	41H
LZX.F 1370024		24 AC	2 3 4	22.5	2	LZX:PT270524 LZX:PT370524 LZX:PT570524		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
		115 AC	2	22.5	5	LZX:PT270615		1	1 unit	41H
		110710	3 4	22.0	2	LZX:PT370615 LZX:PT570615		1 1	1 unit 1 unit	41H 41H
		230 AC	2	22.5	>	LZX:PT270730		1	1 unit	41H
			3 4			LZX:PT370730 LZX:PT570730		1 1	1 unit 1 unit	41H 41H
	With hard gold-plating	n	•			LEXII TOTOTOO		•	1 dine	
	у таки	24 DC 230 AC	4	22.5	>	LZX:PT580024 LZX:PT580730		1 1	1 unit 1 unit	41H 41H
	Without test bracket									
		24 DC 230 AC	4	22.5	5	LZX:PT520024 LZX:PT520730		1 1	1 unit 1 unit	41H 41H
FILTER	Plug-in bases for P	T relays								
0,000	Standard plug-in base For mounting onto TH 3	es 85 standard mounting ra	ail			Screw terminals				
			2	28	>	LZS:PT78720 LZS:PT78730		1 1	1 unit	41H 41H
			3 4			LZS:PT78740		1	1 unit 1 unit	41H
LZS:PT78740										
EFFE	Plug-in bases with log									
	For mounting onto TH 3	35 standard mounting ra								
			2 4	28	>	LZS:PT78722 LZS:PT78742		1	1 unit 1 unit	41H 41H
3000			•			22011 1707 12			1 dine	
-0-										
(C C C										
LZS:PT78722	BL . 1. 1					B1				
2000	Plug-in bases with log For mounting onto TH 3	Jicai separation 35 standard mounting ra	ail			Plug-in terminals (push-in)				
asses	Ŭ		2	28	>	LZS:PT7872P		1	1 unit	41H
e e e e e e e e e e e e e e e e e e e			4		>	LZS:PT7874P		1	1 unit	41H
3000 m										
5 - 5										
LZS:PT7874P										
1)										

¹⁾ The test bracket is designed to be non-latching. If the test bracket is pressed further until 90° has been reached, two small lugs break off and the test bracket can be latched in position.

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

LZS coupling relays with plug-in relays

	Version	Rated control supply voltage $U_{\rm S}$ at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm	d					
Individual mod	ules for customer assen	ıbly, PT series								
	More individual module	es								
	LED modules									
(9)	• Red									
	- With freewheel diode	24 DC		12.5	>	LZS:PTML0024		1	1 unit	41H
LZS:PTML0024	- Without freewheel diode	24 AC/DC			>	LZS:PTML0524		1	1 unit	41H
	Green	110 230 AC/DC				LZS:PTML0730		1	1 unit	41H
	- With freewheel diode	24 DC		12.5	>	LZS:PTMG0024		1	1 unit	41H
	- Without freewheel diode			12.0	>	LZS:PTMG0524		1	1 unit	41H
		110 230 AC/DC			>	LZS:PTMG0730		1	1 unit	41H
LZS:PT17021	Fixing/ejection brackets for with logical separation	or PT base								
# 1	Screw terminals and plug-in			26	>	LZS:PT17021		100	10 units	41H
	terminals (push-in)									
	Fixing/ejection brackets fo without logical separation		se							
LZS:PT17024	Screw terminals			26	>	LZS:PT17024		100	10 units	41H
LZ5:P117024	Labels									
				26		LZS:PT17040		100	10 units	41H
LZS:PT17040	RC elements	0 00 40		00		1.70-DTM110504			4	4411
LZ3.F117040		6 60 AC 110 230 AC		26	>	LZS:PTMU0524 LZS:PTMU0730		1	1 unit 1 unit	41H 41H
	Freewheel diodes with cor					LZ3.FTWO0730		1	1 UIIII	4111
	Troomicor arouco mar co.	6 230 DC		26	>	LZS:PTMT00A0		1	1 unit	41H
	Connecting cables, 24-pole									
LZS:PTMU0730	Current carrying capacity 12	2 A, with supply cable,	blue		2	3TX7004-8BA00		1	1 unit	41H
	Connecting combs for PT									
	6-pole, 10 A current carrying	capacity, natural-colored	d		-	1 70 PT470P0			10 "	4411
	Composting byselvets for D	T much in boss			5	LZS:PT170R6		1	10 units	41H
3TX7004-8BA00	Connecting brackets for P 2-pole, 10 A current carrying	•	4		5	LZS:PT170P1		1	10 units	41H
	2-pole, to A current carrying				J	L23.F1170F1			TO UTILIS	4111
Individual mod	ules for customer assen	nbly. MT series								
	Industrial relays, 11-po					•				
	Industrial relays with test									
	Without LED With LED	24 DC	3	35.5	2	LZX:MT321024 LZX:MT323024		1	1 unit 1 unit	41H 41H
SIEMENS	Without LED	24 AC	3	35.5	2	LZX:MT326024		1	1 unit	41H
C	With LED				15	LZX:MT328024		1	1 unit	41H
LZX:MT326024	Without LED With LED	115 AC	3	35.5	15 15	LZX:MT326115 LZX:MT328115		1 1	1 unit 1 unit	41H 41H
	Without LED With LED	230 AC	3	35.5	2 2	LZX:MT326230 LZX:MT328230		1 1	1 unit 1 unit	41H 41H
POPPER LAND TO SERVICE AND ADDRESS OF THE POPPER ADDRESS OF THE PO	Plug-in bases					Screw terminals	+			
855555	For mounting onto TH 35 sta	andard mounting rail				. = 0 11==0==				
SIEMENS C	Fiving break-t-			38	>	LZS:MT78750		1	1 unit	41H
ACC CONTRACTOR CONTRAC	Fixing brackets			38	•	LZS:MT28800		1	1 unit	41H
LZS:MT78750										
Note:										

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

SITOP DC power supplies such as 6EP1331-5BA00 or 6EP1331-5BA10 can be used for unavailable coil voltages, see page 15/3.

LZS coupling relays with plug-in relays

	Version	Rated control supply voltage $U_{\rm S}$ at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm	d					
Complete units	, 8-pole, 5 mm pinn	ing, RT series								
	For snap-on mounting Comprising: Coupling relays we Standard plug-in the LED module (24 Version) from the English of the Labels	pase with screw terminals 'DC version: LED module vackets	with freewh	,		Screw terminals	+			
LZS:RT4A4T30	1 CO contact	24 DC 24 AC 115 AC 230 AC	1	15.5	2 2 2 2	LZS:RT3A4L24 LZS:RT3A4R24 LZS:RT3A4S15 LZS:RT3A4T30		1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	2 CO contacts	24 DC 24 AC 115 AC 230 AC	2	15.5	2 2 2 2	LZS:RT4A4L24 LZS:RT4A4R24 LZS:RT4A4S15 LZS:RT4A4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	Comprising: Coupling relays w Plug-in base with	ation ng onto TH 35 standard mo ith plug-in relays logical separation and scre DC version: LED module vackets	ew terminals	eel diode)						
LZS:RT4B4T30	1 CO contact	24 DC 24 AC 115 AC 230 AC	1	15.5	2 2 2 2	LZS:RT3B4R24 LZS:RT3B4R24 LZS:RT3B4S15 LZS:RT3B4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	2 CO contacts	24 DC 24 AC 115 AC 230 AC	2	15.5	2 2 2 2	LZS:RT4B4L24 LZS:RT4B4R24 LZS:RT4B4S15 LZS:RT4B4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	Comprising: Coupling relays w Plug-in base with	ation ng onto TH 35 standard mo ith plug-in relays ogical separation and plug DC version: LED module v	j-in terminal)	Plug-in terminals (push-in)				
LZS:RT3D4L24	1 CO contact	24 DC 24 AC 115 AC 230 AC	1	15.5	2 2 2 2	LZS:RT3D4L24 LZS:RT3D4R24 LZS:RT3D4S15 LZS:RT3D4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	2 CO contacts	24 DC 24 AC 115 AC 230 AC	2	15.5	2 2 2 2	LZS:RT4D4L24 LZS:RT4D4R24 LZS:RT4D4S15 LZS:RT4D4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

LZS coupling relays with plug-in relays

	Version	Rated control supply voltage U _s at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm	d					
Individual mode	ules for customer asse	mbly, RT series								
	Print relays, 8-pole,	5 mm pinning				-				
O O	Print relays With hard gold-plating Version with 1 CO contact	et								
LZX:RT314024		24 DC 230 AC	1	12.7	▶ 15	LZX:RT315024 LZX:RT315730		1 1	1 unit 1 unit	41H 41H
and t	Print relays							<u> </u>		
	Version with 1 CO contact	ot								
		24 DC	1	12.7	>	LZX:RT314024		1	1 unit	41H
7		24 AC 115 AC			15 15	LZX:RT314524 LZX:RT314615		1 1	1 unit 1 unit	41H 41H
		230 AC			>	LZX:RT314730		i	1 unit	41H
	Version with 2 CO contact	ots								
LZS:RT78725		12 DC	2	12.7	5	LZX:RT424012		1	1 unit	41H
LZ5:R178725		24 DC				LZX:RT424024		1	1 unit	41H
19 19 4		24 AC 115 AC			>	LZX:RT424524 LZX:RT424615		1 1	1 unit 1 unit	41H 41H
G G		230 AC				LZX:RT424730		i	1 unit	41H
<u>ख्</u> रुख	Standard plug-in bases For mounting onto TH 35		ail			Screw terminals				
33				15.5	>	LZS:RT78725		1	1 unit	41H
	Plug-in bases with logi									
9 9	For mounting onto TH 35	standard mounting r		45.5		1 70 PT70700			a 9	4411
LZS:RT78726	Diversity have a suitable least			15.5	•	LZS:RT78726		1	1 unit	41H
	Plug-in bases with logic For mounting onto TH 35		ail			Plug-in terminals (push-in)				
	150			15.5	•	LZS:RT7872P		1	1 unit	41H
	LED modules • Red									
	With freewheel diode	24 DC		15.5	•	LZS:PTML0024		1	1 unit	41H
	Without freewheel diode					LZS:PTML0524		1	1 unit	41H
LZS:RT7872P	Green	110 230 AC/DC			•	LZS:PTML0730		1	1 unit	41H
	With freewheel diode	24 DC		15.5	•	LZS:PTMG0024		1	1 unit	41H
	Without freewheel diode	24 AC/DC			•	LZS:PTMG0524		1	1 unit	41H
0		110 230 AC/DC			•	LZS:PTMG0730		1	1 unit	41H
LZS:PTML0024	Fixing/ejection bracket									
	for RT base	•								
60				15.5	•	LZS:RT17016		100	10 units	41H
	Labels									
LZS:RT17016				15.5	•	LZS:RT17040		100	10 units	41H
	RC elements									
		6 60 AC 110 230 AC		15.5	>	LZS:PTMU0524 LZS:PTMU0730		1 1	1 unit 1 unit	41H 41H
	Freewheel diodes with					LZ3.F TWO0730		<u>'</u>	T UTIL	4111
LZS:RT17040	i recimicor areace man	6 230 DC		15.5	•	LZS:PTMT00A0		1	1 unit	41H
	Connecting cables, 24-									
	Current carrying capacity 12 A,				2	3TX7004-8BA00		1	1 unit	41H
	with supply cable, blue									
LZS:PTMU0730	Connecting combs for	RT screw base						-		
	8-pole, 10 A current carrying				•	LZS:RT170R8		1	10 units	41H
1	capacity, natural-colored									
	Connecting brackets for	r pusn-in base			E	I 70-DT170D1		100	10 unito	AHLI
3TX7004-8BA00	2-pole, 10 A current carrying capacity, natural-colored	- 			5	LZS:RT170P1		100	10 units	41H

Note:

SITOP DC power supplies such as 6EP1331-5BA00 or 6EP1331-5BA10 can be used for unavailable coil voltages, see page 15/3.

Switching Devices – Soft Starters and Solid-State Switching Devices





Price groups

PG 140, 41B, 41C, 41E, 41L, 41H, 42G, 42H, 42J, 42S

Introduction

SIRIUS 3RW soft starters

General data

High Performance soft starters

3RW55 soft starters **NEW**

- Inline circuit
 - Inside-delta circuit
 - Accessories
 - 3RW44 soft starters
 - Inline circuit
- 6/21 6/23 6/25 6/27 6/36 6/39 - Inside-delta circuit
 - Accessories

General Performance soft starters

3RW52 soft starters NEW

- Inline circuit
 - Inside-delta circuit
 - Accessories

Basic Performance soft starters

- 3RW40 soft starters
- Inline circuit
- Accessories
- 3RW30 soft starters
- Inline circuit
 - Accessories

Spare parts

- for 3RW55 NEW
 - for 3RW44
 - for 3RW52 **NEW**
 - for 3RW40

Software

Simulation Tool for Soft Starters (STS)

SIRIUS Soft Starter ES (TIA Portal) NEW

SIRIUS 3RW44 Soft Starter block library for SIMATIC PCS 7

Solid-state switching devices for resistive/inductive loads

General data

Solid-state relays

General data

SIRIUS 3RF21 solid-state relays,

single-phase, 22.5 mm

SIRIUS 3RF20 solid-state relays,

single-phase, 45 mm

SIRIUS 3RF22 solid-state relays,

three-phase, 45 mm

Solid-state contactors

General data

SIRIUS 3RF23 solid-state contactors,

single-phase

SIRIUS 3RF24 solid-state contactors.

three-phase

Function modules

General data

SIRIUS converters for 3RF2

SIRIUS load monitoring for 3RF2

SIRIUS heating current monitoring

for 3RF2

SIRIUS power controllers for 3RF2

SIRIUS power regulators for 3RF2

Solid-state switching devices for switching motors

Solid-state contactors

General data

SIRIUS 3RF34 solid-state contactors,

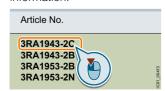
three-phase

SIRIUS 3RF34 solid-state reversing

contactors, three-phase

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/ product?3RA1943-2C

Switching Devices – Soft Starters and Solid-State Switching Devices

Introduction

Overview

More information

Homepage, see www.siemens.com/soft-starter

Industry Mall, see www.siemens.com/product?3RW

TIA Selection Tool Cloud (TST Cloud), see

http://mall.industry.siemens.com/spice/TSTWeb/?kmat=Sirius3rwFolder

Industry Online Support (SIOS), see

https://support.industry.siemens.com/cs/ww/en/view/109747404

Simulation Tool for Soft Starters (STS), see page 6/7 or

https://support.industry.siemens.com/cs/ww/en/view/101494917











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3RW soft starters

High Performance soft starters

_			
3RW55	enft	etartere	

- TIA integration optional
 - Plug-in communication modules for PROFINET, PROFIBUS and Modbus
 - Removable HMI module with color display, local interface and slot for a micro SD memory card
 - Extended protection functions
 - Up to 560 kW at 400 V (can be used in supply systems up to 690 V)
 - Automatic parameterization for simple commissioning and reliability even under changing load conditions
 - Hybrid switching devices and three-phase motor control for minimum power loss and optimum/ symmetrical motor control
 - Pump stop for reduced mechanical stress and optimum pump stop control

3RW44 soft starters

- TIA Integration optional
- PROFIBUS and PROFINET
- Integrated display
- External display/control module optional
- Extended protection functions
- Up to 1200 kW at 400 V (can be used in supply systems up to 690 V)

General Performance soft starters

3RW52 soft starters

- TIA integration optional
- Plug-in communication modules for PROFINET, PROFIBUS and Modbus
- HMI modules optional
- Soft starting and stopping
- Current limiting
- Motor overload protection
- Up to 560 kW at 400 V (can be used in supply systems up to 600 V)
- Hybrid switching devices and three-phase motor control
- Soft Torque for reduced mechanical loading and optimum pump stop control
- Parameterization using potentiometers

Basic Performance soft starters

3RW40 soft starters

- Soft starting and stopping
- Current limiting
- Motor overload protection
- Up to 250 kW at 400 V (can be used in supply systems up to 600 V)

3RW30 soft starters

Soft starting with voltage ramp

• Up to 55 kW at 400 V (can be used in supply systems up to 480 V)

Use of soft starters in conjunction with IE3/IE4 motors

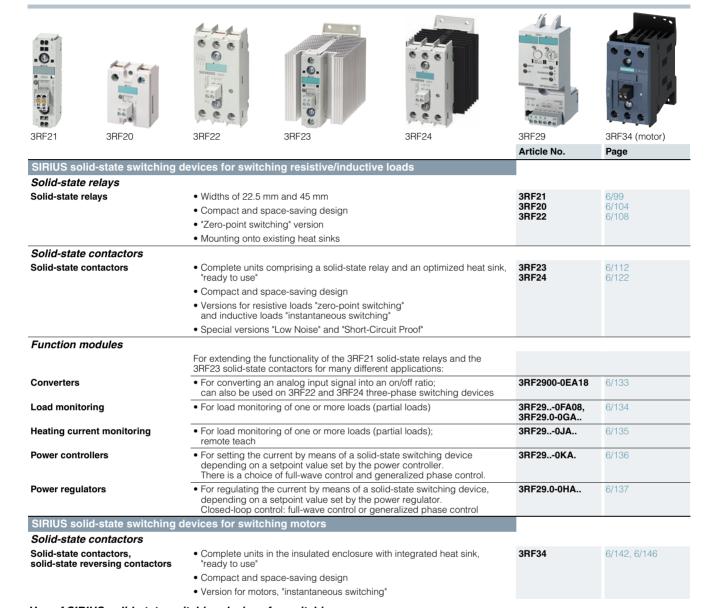
Note:

For the use of SIRIUS 3RW soft starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Switching Devices – Soft Starters and Solid-State Switching Devices

Introduction



Use of SIRIUS solid-state switching devices for switching motors in conjunction with IE3/IE4 motors

Note:

For the use of SIRIUS 3RF solid-state switching devices for switching motors in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

General data

Overview

More information

Homepage, see www.siemens.com/soft-starter

Industry Mall, see www.siemens.com/product?3RW

TIA Selection Tool Cloud (TST Cloud),

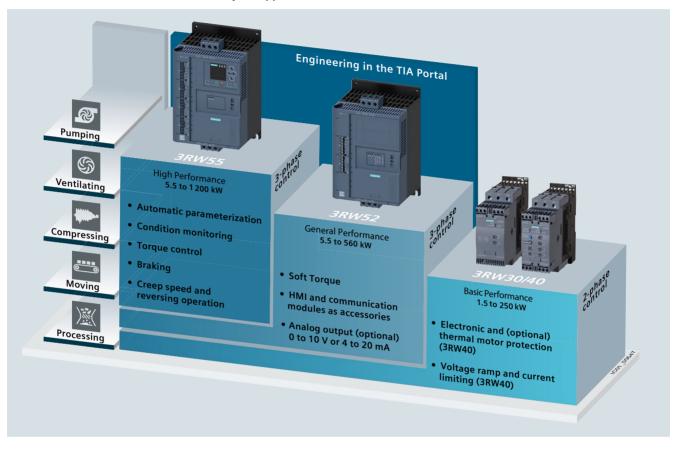
iemens.com/spice/TSTWeb?kmat=Sirius3reFolder

Industry Online Support (SIOS), see

https://support.industry.siemens.com/cs/ww/en/view/109747404

Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917

SIRIUS 3RW soft starters - as versatile as your application



General data











		Brannes !	The second second		***************************************
Applications	High Performance		General Performance	Basic Performance	
	3RW55	3RW44	3RW52	3RW40	3RW30
Selection aid for soft starters					
Normal starting (CLASS 10)					-
Pumps	•	•	•	•	•
Pumps with special pump stop (to prevent water hammer)	•	•	О		
Heat pumps	•	•	•	•	•
Hydraulic pumps	•	•	•	•	О
Presses	•	•	•	•	О
Conveyor belts	•	•	•	•	О
Roller conveyors	•	•	•	•	О
Screw conveyors	•	•	•	•	О
Escalators	•	•	•	•	
Piston compressors	•	•	•	•	
Screw compressors	•	•	•	•	
Small fans ¹⁾	•	•	•	•	
Centrifugal blowers	•	•	•	•	
Bow thrusters	•	•	•	•	
Heavy starting (CLASS 20)					
Stirrers	•	•	О	0	
Extruders	•	•	О	0	
Lathes	•	•	О	0	
Milling machines	•	•	О	0	
Very heavy starting (CLASS 30)					
Large fans ²⁾	•	•			
Circular saws/bandsaws	•	•			
Centrifuges	•	•			
Mills	•	•			

Recommended soft starter

Crushers

O Possible soft starter

 $^{^{1)}}$ The mass inertia of the fan is <10 times the mass inertia of the motor.

²⁾ The mass inertia of the fan is \geq 10 times the mass inertia of the motor.

General data











	High Performan		General Performance	Basic Perform	ance
	3RW55				
	0111100	3RW44	3RW52	3RW40	3RW30
Α	13 987	29 1 214	13 987	12.5 432	3 106
V	200 690 ¹⁾	200 690 ¹⁾	200 600	200 600	200 480
	F.F. 04F	15 710	F.F. 04.F	F.F. 050	4.5.55
					1.5 55
	11000	22 1 200	11 000		
hp	7.5 400	15 950	7.5 400	7.5 300	1.5 75
°C					-25 +60
					√ 3)
					✓
%					40 100
S		0 360	0 20		0 20 ³⁾
		20 100			
%	20 200	20 200			
			✓		
					✓
				•	
		✓	•	√ ⁶⁾	
			•		
				-	
			-		
			/		
	<i>y</i>	-			
	,				
					1
					2
	V	/			
	kW kW hp hp °C	kW 5.5 315 kW 11 560 hp 7.5 400 hp 10 750 °C -25 +60 / % 20 100 s 0 360 / % 10 100 % 20 200	kW 5.5 315 15 710 kW 11 560 22 1 200 hp 7.5 400 15 950 hp 10 750 30 1 700 °C -25 +60 0 +60 % 20 100 20 100 s 0 360 0 360 / 10 100 20 100 % 20 200 20 200 / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / / <td>kW 5.5 315 15 710 5.5 315 kW 11 560 22 1 200 11 560 hp 7.5 400 15 950 7.5 400 hp 10 750 30 1 700 10 750 °C -25 +60 0 +60 -25 +60 V V V % 20 100 20 100 30 100 s 0 360 0 360 0 20 V V V V % 10 100 20 100 % 20 200 20 200 V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V<</td> <td>kW 5.5 315 15 710 5.5 315 5.5 250 hp 7.5 400 15 950 7.5 400 7.5 300 np 7.5 400 15 950 7.5 400 7.5 300 np 7.5 400 10 750 - - np 20 100 30 100 40 100 25 +60 np 20 100 20 100 30 100 40 100 40 100 np 20 200 20 100 - - - - np 10 100 20 100 - - - - - np 10 200 20 200 - - - - - - - - - - - - - - - <td< td=""></td<></td>	kW 5.5 315 15 710 5.5 315 kW 11 560 22 1 200 11 560 hp 7.5 400 15 950 7.5 400 hp 10 750 30 1 700 10 750 °C -25 +60 0 +60 -25 +60 V V V % 20 100 20 100 30 100 s 0 360 0 360 0 20 V V V V % 10 100 20 100 % 20 200 20 200 V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V V<	kW 5.5 315 15 710 5.5 315 5.5 250 hp 7.5 400 15 950 7.5 400 7.5 300 np 7.5 400 15 950 7.5 400 7.5 300 np 7.5 400 10 750 - - np 20 100 30 100 40 100 25 +60 np 20 100 20 100 30 100 40 100 40 100 np 20 200 20 100 - - - - np 10 100 20 100 - - - - - np 10 200 20 200 - - - - - - - - - - - - - - - <td< td=""></td<>

[✓] Function available

⁻⁻ Function not available

 $^{^{\}rm 1)}$ Inside-delta circuit only up to line voltage 600 V.

²⁾ Note derating above 40 °C.

³⁾ Only soft starting available for 3RW30.

⁴⁾ Calculate soft starter and motor with size allowance where required.

⁵⁾ When using the motor overload protection according to ATEX, an upstream contactor is required.

⁶⁾ Special device versions only.

 $[\]overset{.}{\text{7)}}\,$ Not possible in inside-delta circuit.

⁸⁾ With software Soft Starter ES (TIA Portal).

⁹⁾ Only in conjunction with special accessories.

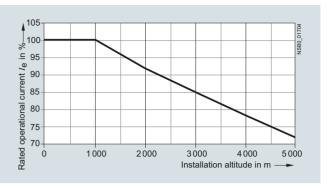
General data

Constraints

The 3RW soft starters should always be designed on the basis of the required rated operational current of the motor. The motor ratings listed in the selection and ordering data are rough guide values and designed for basic starting conditions (CLASS 10). For other starting conditions we recommend the Simulation Tool for Soft Starters (STS).

Motor rating data in kW and hp is based on IEC 60947-4-1.

At an installation altitude above 2 000 m, max. permissible operational voltage is reduced to 480 V.



Installation altitude for SIRIUS 3RW soft starters

The selection and ordering data were determined for the following constraints (stand-alone installation without additional fan)



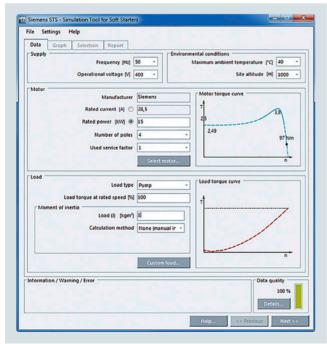
Simulation Tool for Soft Starters (STS)

The Simulation Tool for Soft Starters (STS) provides a convenient means of designing soft starters using a simple, quick and easy-to-use interface.

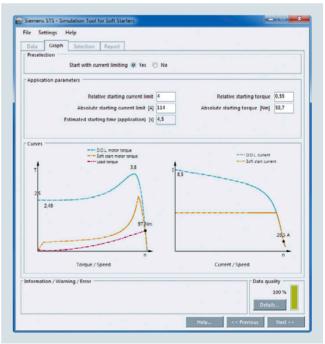
Entering the motor and load data will simulate the application and prompt suggestions for suitable soft starters.

Link to the free download of the Simulation Tool for Soft Starters (STS).

- Simple, quick and user-friendly interface
- Detailed and up-to-date Siemens motor database, including IE3 and IE4 motors.
- Simulation of heavy starting up to CLASS 30
- Update-capable (e.g. motors, load types, functions)
- Fast simulations with minimum input data
- Immediate, graphical curve charts of start operations with limit values
- Table view of suitable soft starters for the application



Easy input of motor and load data



Graphic display of start operations

General data

Circuit concept

Three-phase controlled SIRIUS 3RW soft starters can be operated in two different types of circuit:

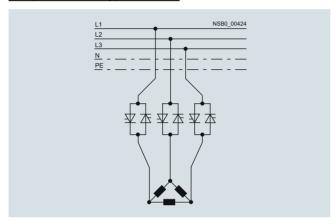
Inline circuit

The controls for isolating and protecting the motor are simply connected in series with the soft starter. The motor is connected to the soft starter with three leads.

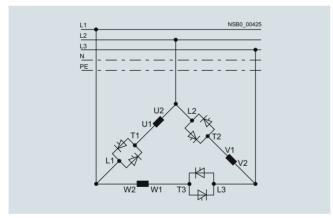
· Inside-delta circuit

The wiring is similar to that of wye-delta starters. The phases of the soft starter are connected in series with the individual motor windings. The soft starter then only has to carry the phase current, amounting to about 58% of the rated motor current (conductor current).

Comparison of the types of circuit



Inline circuit: Rated current $I_{\rm e}$ corresponds to the rated motor current $I_{\rm n}$, three cables to the motor



Inside-delta circuit: Rated current $I_{\rm e}$ corresponds to approx. 58% of the rated motor current $I_{\rm n}$, six cables to the motor (as for wye-delta starters)

Which circuit?

Using the inline circuit involves the lowest wiring outlay. If the soft starter to motor connections are long, this circuit is preferable.

The wiring complexity is twice as high when using the insidedelta circuit, but a smaller device can be used with the same rating. Thanks to the choice of operating mode between the inline circuit and inside-delta circuit, it is always possible to select the most favorable solution.

The braking function is possible only in the inline circuit. The inside-delta circuit cannot be used in 690 V line supplies.

Configuration

The electronic 3RW soft starters are designed for normal starting. In case of heavy starting or increased starting frequency, a larger unit must be selected. The 3RW44 and 3RW52 soft starters may be used in isolated supply networks (IT systems) up to 600 V AC and the 3RW55 soft starter even up to 690 V.

For long starting times it is recommended to have a PTC sensor or temperature switch in the motor. This also applies for the "torque control", "pump stop" and "DC braking" stopping modes, because during the stopping time in these modes, an additional current loading applies in contrast to coasting down.

No capacitive elements are permitted in the motor feeder between the SIRIUS 3RW soft starter and the motor (e.g. no reactive-power compensation equipment). In addition, neither static systems for reactive-power compensation nor dynamic PFC (Power Factor Correction) must be operated in parallel during starting and ramp-down of the soft starter. This is important to prevent faults arising on the compensation equipment and/or the soft starter.

All elements of the main circuit (such as fuses and controls) should be dimensioned for direct-on-line starting, following the load short-circuit conditions. Fuses and switching devices must be ordered separately. The harmonic component load for starting currents must be taken into consideration for the selection of motor starter protectors/circuit breakers (selection of release). Please observe the maximum switching frequencies specified in the technical specifications.

Notes:

When three-phase motors are switched on, voltage drops occur as a rule on starters of all types (direct-on-line starters, wye-delta starters, soft starters). The infeed transformer must always be dimensioned such that the voltage dip when starting the motor remains within the permissible tolerance. If the infeed transformer is dimensioned with only a small margin, it is best for the control voltage to be supplied from a separate circuit (independently of the main voltage) in order to avoid the potential switching off of the soft starter.

For dimensioning soft starters, we recommend our Simulation Tool for Soft Starters (STS), see page 6/7 or our Technical Support:

https://support.industry.siemens.com/My/ww/en/requests

Recommended parameters for the initial commissioning of our SIRIUS 3RW soft starters are listed in every report of our Simulation Tool for Soft Starters (STS). In addition, our High Performance soft starters provide support by means of their commissioning wizards.

General data

Motor feeders with soft starters

The type of coordination according to which the motor feeder with soft starter is mounted depends on the application-specific requirements. Normally, fuseless mounting (combination of motor starter protector and soft starter) is sufficient.

If type of coordination "2" is to be fulfilled, then semiconductor fuses must be fitted in the motor feeder.

Type of coordination "1" according to IEC 60947-4-1:
After a short-circuit incident, the unit is defective and therefore unsuitable for further use (protection of persons and system guaranteed).

Type of coordination "2" according to IEC 60947-4-1:
After a short-circuit incident the unit is suitable for further use (protection of persons and system guaranteed).

The type of coordination refers to soft starters in combination with the stipulated protective device (motor starter protector/fuse), not to any additional components in the feeder.

The types of coordination are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Feeder tests and results

To keep the scope of feeder tests with SIRIUS 3RW soft starters within economically reasonable limits, tests were conducted with feeder components (motor starter protectors/circuit breakers, fuses) that cover the greatest number of use cases (different soft starter versions depending on, for example, line voltage, type of circuit, or necessary overdimensioning). For the combined tests that were conducted, the values for the short-circuit breaking capacity $I_{\rm q}$ in kA were determined and documented.

If the short-circuit breaking capacity is the same, of course, smaller motor starter protectors or fuses can also be used for the selected soft starter provided the dimensioning of the short-circuit components is suitable for the connected three-phase motor and the line protection for the cables used. For type of coordination "2" (with semiconductor protection), it is also necessary to compare the characteristics because the protection function would no longer be completely ensured if too small a fuse were selected. If the soft starter does not have a motor protection function, the motor protection must also be dimensioned appropriately.

Line protection and motor protection

Line protection and motor protection are not ensured in all operating cases, depending on:

- how the motor feeder is constructed (e.g. with fuses or motor starter protectors),
- whether the SIRIUS 3RW soft starters are operated within the specification relevant for the tests (IEC 60947-4-2)
- or whether the documented constraints (see page 6/7) have been observed.

There are operating states of the thyristors (caused, for example, by high starting frequencies or heavy starting) that do not permit an overload to be disconnected by the SIRIUS 3RW soft starter. These cases are very rare but cannot be ruled out in all cases.

In accordance with IEC 60947-4-2, the SIRIUS 3RW soft starters are dimensioned and checked for operation with up to 8 times the rated operational current $I_{\rm e}.$ For currents larger than this, reliable disconnection of an overcurrent by the SIRIUS 3RW soft starter is not ensured. Such large overcurrents have to be disconnected by an upstream switching element (e.g. by a motor starter protector/circuit breaker or a fuse in conjunction with an optional line contactor).

Motor protection by the SIRIUS 3RW soft starter is ensured for currents up to 8 times the rated operational current $I_{\rm e}$ in any case. Line protection is covered by the line-side motor starter protector/circuit breaker or fuse.

These motor feeder components must be dimensioned accordingly and the cable cross-sections must be chosen to match.

Line protection

Line protection in motor feeders with soft starters is always covered by a fuse or a motor starter protector/circuit breaker both in case of an overload and in case of a short-circuit. The motor starter protector/circuit breaker must have an overload release. That is the case for motor starter protectors (e.g. SIRIUS 3RV20).

Circuit breakers without an overload release (e.g. SIRIUS 3RV23 motor starter protectors) must not be used because they do not provide overload protection. The feeder tests for these were therefore not performed. If the motor feeder with SIRIUS 3RW soft starters is configured without a fuse, motor starter protectors must be used that ensure tripping on an overload.

Motor protection

starters

If fuses are used to provide protection against overload and short-circuit of the cables, the motor is protected by the SIRIUS 3RW soft starter. If the constraints (simple starting conditions CLASS 10, listed maximum values for starting current, starting time and number of starts per hour) of page 6/7 are observed, the motor feeders can be configured according to IEC as described in the section about soft starters (an optional line contactor is not required). If these preconditions are met, the SIRIUS 3RW soft starters are able to trip on overloads to protect the motor in any case.

In other starting conditions and on heavy starting, the following must be considered:

- Tested fuseless switchgear assemblies comprising SIRIUS 3RW soft starters and motor starter protectors only comply with CLASS 10.
 To configure motor feeders, for example, for CLASS 20 or CLASS 30, fuses must be used together with SIRIUS 3RW soft
- In applications with high starting frequencies or heavy starting as of CLASS 20, we recommend combining fuses with the use of a line contactor on the line side so that a motor overload is disconnected by the fault signaling contact of the soft starter in any case (that is, even in rare cases in which disconnection by the SIRIUS 3RW soft starter is no possible due to the operating state of the thyristors).

If circuit breakers with an overload release are used (e.g. SIRIUS 3RV20 motor starter protector), we recommend activating the motor protection function of the SIRIUS 3RW soft starter to protect the motor and setting the soft starter to the rated operational current $I_{\rm e}$ of the motor. We recommend setting the circuit breaker in such a way that it provides line protection but does not usually trip before the soft starter when a motor overload occurs.

General data

Article No. scheme

Product versions			Article number								
Device type	High Performance soft starters	3RW55			-						
		3RW44			-						
	General Performance soft starters	3RW52			-						
	Basic Performance soft starters	3RW40			-						
		3RW30			-						
Size/rated operational current I _e	e.g. 15 = 25 A in size S1										
Connection type	e.g. 1 = screw terminal										
Soft starter functionality	e.g. AC = with bypass and analog output, three-phase controlled										
Rated control supply voltage $U_{\rm S}$	e.g. 0 = 24 V AC/DC										
Rated operational voltage $U_{ m e}$	e.g. 4 = 200 480 V AC										
Example		3RW52	1	5	-	1	Α	С	0	4	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

General data

Benefits

Can be flexibly deployed in many applications

Strong portfolio: comprehensive, coordinated soft starter portfolio



- The right hardware for all requirements, soft starters for tasks ranging from simple to demanding starting in Basic, General and High Performance versions
- Extensive portfolio for individual expansion:
 Optional HMIs for installation in the device or mounting on the control cabinet door
 Communication via PROFINET/PROFIBUS and Modbus
- Designer enclosure with removable terminals, space-saving thanks to compact design and rugged thanks to coated printed circuit boards
- Can be used worldwide thanks to numerous certificates and approvals, IEC, UL, CSA, CCC

Intelligent operation: concentrated, application-specific functionality



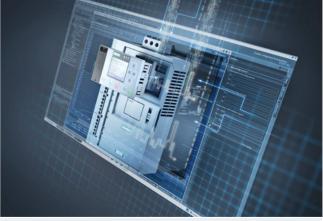
- Can be used in a wide variety of applications: Pumping, ventilating, compressing, moving and processing
- Integrated, self-learning automatic parameterization depending on motor starting conditions
- Application-specific functionality such as pump cleaning and pump stop
- Condition monitoring: Current and energy monitoring with warning and alarm limits, starting time monitoring

Efficient switching: hybrid switching technology on board



- Energy-efficient switching and mechanical protection of the drive train thanks to soft starters with hybrid switching technology
- Low-wear switching extends the service life of the devices
- Soft starting prevents current peaks, thereby increasing the network stability
- Protection against disturbances in the application. Mechanical protection for the drive train

Ready for a digital future: data available whenever and wherever needed



- Support from tools and data during engineering
- Simulation Tool for Soft Starters for support during product selection
- Very simple, standardized commissioning and configuration via Soft Starter ES in TIA Portal
- Integration in the automation system via communication interfaces
- Data availability and analysis: large volumes of data at any time and anywhere, even into MindSphere

General data NEW

Overview

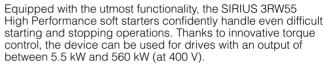
More information

Homepage, see www.siemens.com/soft-starter Industry Mall, see www.siemens.com/product?3RW

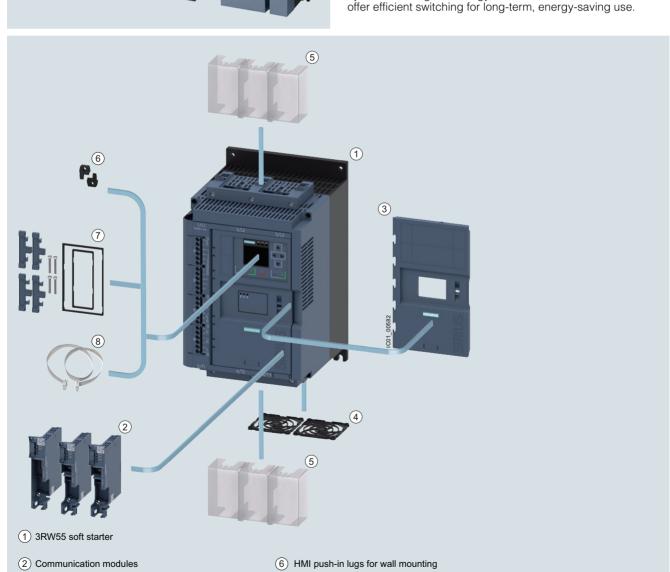
TIA Selection Tool Cloud (TST Cloud), see

https://mall.industry.siemens.com/spice/tstweb/?KMAT=3rw55

Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917 SIRIUS Soft Starter ES (TIA Portal), see page 14/5



The functions have been specially designed to offer maximum user friendliness. By means of the detachable HMI (with color display, local interface and a slot for MicroSD memory card) and plug-in communication modules (PROFINET, PROFIBUS, Modbus), they ensure maximum flexibility. With their modern hybrid switching technology, the SIRIUS 3RW55 soft starters



7 HMI IP65 door mounting kit

(8) HMI soft starter connection cable

3RW55 High Performance soft starter with accessories (see page 6/25)

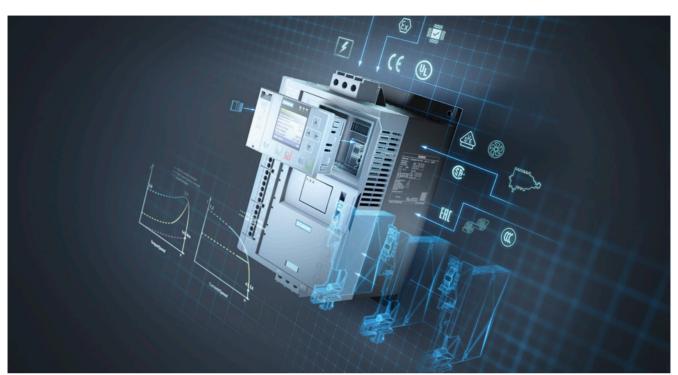
3 Hinged cover

(5) Terminal covers

4 Fan covers



Benefits



Product characteristics / function	Performance features / benefits
Automatic parameterization	Extremely simple commissioning and reliability even under changing load conditions
Hybrid switching devices and three-phase motor control	Minimum power loss and optimum/symmetrical motor control
Integration into TIA Portal – communication modules optional	Efficient configuration and maximum flexibility in automation engineering
HMI with color display, local interface, slot for micro SD card	Maximum flexibility with regard to user interface and intuitive menu guidance
Pump stop and torque control	Reduced mechanical loading and optimum pump stop control

General data **NEW**

Technical specifications

More information

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/25099/td

Manual "SIRIUS 3RW55 Soft Starter", see

https://support.industry.siemens.com/cs/ww/en/view/109753752

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25099/faq

Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917

Туре		3RW551HA.4 3RW551HA.5	3RW552HA.6 3RW553HA.6	3RW552HA.4 3RW553HA.4	3RW554HA.4	3RW554HA.6
Installation/fixing/dimensions						
Width x height x depth	mm	170 × 275 × 152	185 × 306 × 203		210 × 393 × 203	
Type of fixing		Screw fixing				
Mounting position		Vertical (can be ro	tated +/-90° and tilte	ed +/- 22.5° forward	or backward)	
Distance to be maintained with side-by-side mounting						
• Above	mm	100				
At the side	mm	5				
• Below	mm	75				
Maximum installation altitude above sea level ¹⁾	m	5 000	2 000	5 000		2 000
Ambient conditions						
Ambient temperature						
 During operation²⁾ 	°C	-25 +60				
During storage	°C	-40 +80				
Environmental category according to IEC 60721						
During operation			ion, no condensatio at get into the device	n), 3C3 (no salt mist es), 3M6),	
During storage			nal condensation), 1 of enter the devices)			
During transport		2K2, 2C1, 2S1, 2M	12 (max. height of fa	II 0.3 m)		
1) Dorating from 1 000 m, soo Manual or charge	toriotio	011010 00				

¹⁾ Derating from 1 000 m, see Manual or characteristic curve on page 6/7

²⁾ Note derating above 40 °C.

NEW General data

Туре		3RW55HA0.	3RW55HA1.
Control circuit/control			
Control supply voltage			
 At AC/DC, rated value 	V	24/24	/
• At AC	V	/	110 250
 Relative negative tolerance/ relative positive tolerance with DC 	%	-20/20	/
 Relative negative tolerance/ relative positive tolerance with AC 	%	-20/20	-15/10
Frequency of the control supply voltage	Hz	50 60	
 Relative negative tolerance/ relative positive tolerance 	%	-10/10	
Type of overvoltage protection		Varistors	
Type of short-circuit protection for control circuit ¹⁾		Fuse 4 A gG ($I_{\rm Cu}$ = 1 kA), fuse 6 A quick-response (I MCB C1 ($I_{\rm Cu}$ = 600 A), MCB C6 ($I_{\rm Cu}$ = 300 A)	_{cu} =1 kA),

¹⁾ Not included in scope of supply

Туре		3RW55HA.4	3RW55HA.5	3RW55HA.6
Power electronics				
Operational voltage, rated value	V	200 480	200 600	200 690
 Relative negative tolerance/ relative positive tolerance 	%	-15/10		
Operational voltage for inside-delta circuit, rated value	V	200 480	200 600	
 Relative negative tolerance/ relative positive tolerance 	%	-15/10		/
Operating frequency, rated value	Hz	50 60		
 Relative negative tolerance/ relative positive tolerance 	%	-10/10		
Minimum load [% of $I_{\rm M}$] ¹⁾	%	10		
Maximum cable length between soft starter and motor	m	800		

¹⁾ Relative to set $I_{\rm e}$.

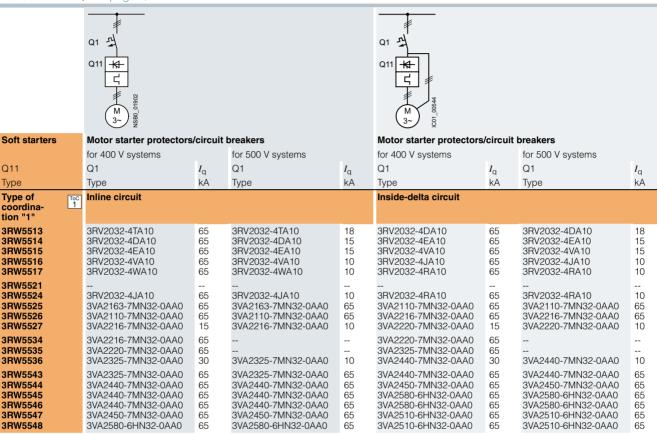
General data NEW

Motor feeders according to IEC with 3RV2/3VA motor starter protectors/circuit breakers (without semiconductor protection)

Type of coordination "1", CLASS 10, short-circuit breaking capacity $I_{\rm q}$ in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



Note:

In 690 V systems, in motor feeder tests with soft starters demonstrable short-circuit breaking capacities can only be achieved with the use of fuses ($I_{\rm Q} > 5$ to 10 kA).



General data

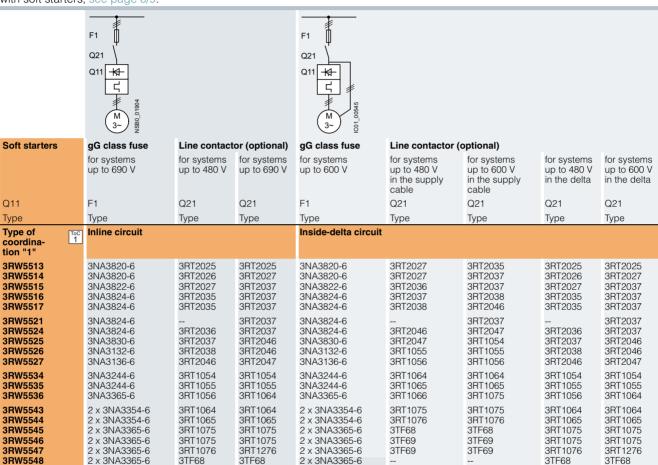
Motor feeders to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity I_{circ} = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



Note:

In inside-delta circuits, motor feeders with soft starters can only be operated in systems with up to $600\ V$.

General data NEW

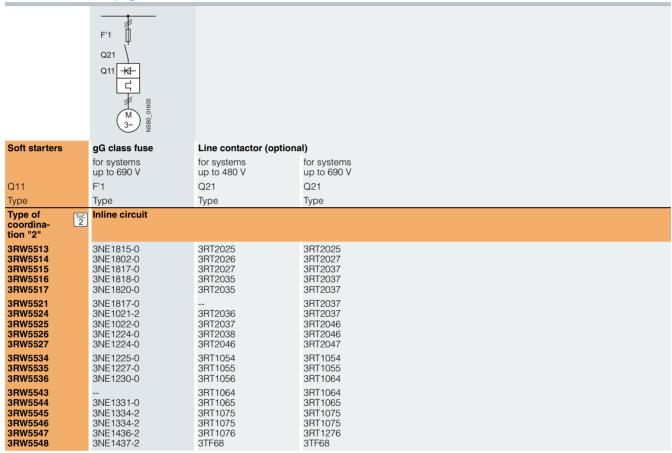
Motor feeders to IEC with 3NE1 SITOR fuses

gR class full-range fuses for semiconductor protection, cable and line protection

Type of coordination "2", short-circuit breaking capacity $I_{color} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



Note:

In inside-delta circuits, a gR class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" (see page 6/19).



General data

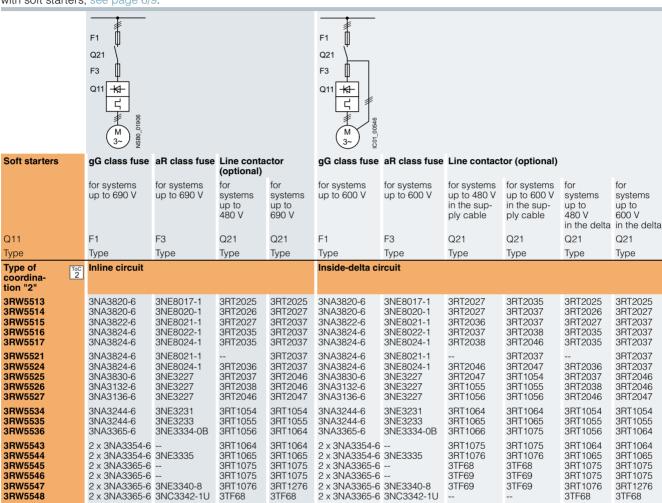
Motor feeders according to IEC with 3NE8 / 3NE3 / 3NC3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



Note:

For CLASS 10 applications, as an alternative to the gG class full-range fuses for cable and line protection 3NA3 (F1), 3RV2/3VA motor starter protectors/circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/16). In these cases, optional line contactors can be dispensed with.

In inside-delta circuits, motor feeders with soft starters can only be operated in systems with up to $600\ V$.

General data **NEW**

Reversing operation with reversing contactors

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.

(for an example circuit, see 3RW55 Manual, Appendix A.3)

Soft starters	Reversing contactor asse	mbly	Reversing contactor	
	for systems up to 480 V	for systems up to 690 V	for systems up to 480 V	for systems up to 690 V
Q11	Q21 / Q22	Q21 / Q22	Q21 / Q22	Q21 / Q22
Туре	Туре	Туре	Type	Туре
3RW5513 3RW5514 3RW5515 3RW5516 3RW5517	3RA2325 3RA2326 3RA2327 3RA2335 3RA2335	3RA2325 3RA2327 3RA2337 3RA2337 3RA2337	3RT2025 3RT2026 3RT2027 3RT2035 3RT2035	3RT2025 3RT2027 3RT2037 3RT2037 3RT2037
3RW5521 3RW5524 3RW5525 3RW5526 3RW5527	 3RA2336 3RA2337 3RA2338 3RA2346	3RA2337 3RA2337 3RA2346 3RA2346 3RA2347	 3RT2036 3RT2037 3RT2038 3RT2046	3RT2037 3RT2037 3RT2046 3RT2046 3RT2047
3RW5534 3RW5535 3RW5536	_ 	 	3RT1054 3RT1055 3RT1056	3RT1054 3RT1055 3RT1064
3RW5543 3RW5544 3RW5545 3RW5546 3RW5547 3RW5548	- - - - -	 	3RT1064 3RT1065 3RT1075 3RT1075 3RT1076 3TF68	3RT1064 3RT1065 3RT1075 3RT1075 3RT1276 3TF68

DC braking with braking contactors

(for an example circuit, see 3RW55 Manual, Appendix A.3)

Soft starters	DC braking contactor	DC braking contactor as	ssembly		
	for systems up to 400 V	for systems up to 480 V		for systems up to 690 V	
	with 2 NC contacts + 2 NO contacts parallel	with 3 NC contacts parallel	with 3 NO contacts parallel	with 3 NC contacts parallel	with 3 NO contacts parallel
Q11	Q93	Q91	Q92	Q91	Q92
Туре	Туре	Туре	Type	Type	Type
3RW5513 3RW5514 3RW5515 3RW5516 3RW5517	3RT2517 3RT2518 3RT2526 3RT2526 3RT2535	3RT2015 3RT2015 3RT2015 3RT2015 3RT2015	3RT2016 3RT2017 3RT2025 3RT2025 3RT2027	3RT2015 3RT2015 3RT2015 3RT2015 3RT2015	3RT2016 3RT2023 3RT2025 3RT2027 3RT2027
3RW5521 3RW5524 3RW5525 3RW5526 3RW5527	 3RT2535 	 3RT2016 3RT2024 3RT2025 3RT2027	 3RT2027 3RT2027 3RT2035 3RT2036	3RT2015 3RT2016 3RT2024 3RT2025 3RT2027	3RT2025 3RT2035 3RT2037 3RT2037 3RT2037
3RW5534 3RW5535 3RW5536	 	3RT2035 3RT2036 3RT2037	3RT2037 3RT2038 3RT2046	3RT2035 3RT2036 3RT2037	3RT2038 3RT2046 3RT2047
3RW5543 3RW5544 3RW5545 3RW5546 3RW5547 3RW5548	 	3RT2045 3RT2045 3RT2446 3RT1055 3RT1456 3RT1456	3RT2047 3RT1055 3RT1056 3RT1056 3RT1065 3RT1066	3RT2045 3RT2045 3RT2446 3RT1055 3RT1456 3RT1456	3RT1054 3RT1055 3RT1056 3RT1064 3RT1065 3RT1075

IE3/IE4 ready Inline circuit

Selection and ordering data

For normal starting (CLASS 10E)









3RW551.

3RW553

At 40 °C					At 50 °C					SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional	ional three-phase motors tional					Rating [hp] for three-phase motors						per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	At 690 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	ional v	oltag	e 200	480	V										
13	3	5.5			11.5	3	3	7.5		5	3RW5513-□HA□4		1	1 unit	42S
18	4	7.5			15.9	3	3	10		5	3RW5514-□HA□4		1	1 unit	42S
25	5.5	11			22.3	5	5	15		5	3RW5515-□HA□4		1	1 unit	42S
32	7.5	15			28.4	7.5	7.5	15		5	3RW5516-□HA□4		1	1 unit	42S
38	11	18.5			33.5	10	10	20		5	3RW5517-□HA□4		1	1 unit	42S
47	11	22			41.6	10	15	30		5	3RW5524-□HA□4		1	1 unit	42S
63	18.5	30			55.5	15	20	40		5	3RW5525-□HA□4		1	1 unit	42S
77	22	37			68	20	20	50		5	3RW5526-□HA□4		1	1 unit	42S
93	22	45			82.5	25	25	60		5	3RW5527-□HA□4		1	1 unit	42S
					•										

Type of electrical connection for the control circuit

Screw terminals Spring-type terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see

									page 6/	/ .					
At 40 °C		_4:		_	At 50 °C	Dating Use	1 f = 0 Aloue = 0	-		SD ¹⁾	Article No.	Price per PU	PU (UNIT,	PS*	PG
Opera- tional			ower fo motors		Opera- tional	011] for three-		ors			po o	SET, M)		
current	At 230 V	At 400 V	At 500 V	At 690 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operat	ional v	voltag	je 200	480	V										
113	30	55			101	30	30	75		5	3RW5534-□HA□4		1	1 unit	42S
143 171	37 45	75 90			128 153	30	40	75 100		5	3RW5535-□HA□4 3RW5536-□HA□4		1	1 unit	42S
						40	50	100		5			<u> </u>	1 unit	42S
210 250	55 75	110 132			186 220	50 60	60 75	125 150		5 5	3RW5543-□HA□4 3RW5544-□HA□4		1	1 unit 1 unit	42S 42S
315	90	160			279	75	100	200		5	3RW5545-□HA□4		1	1 unit	42S
370	110	200			328	100	125	250		5	3RW5546-□HA□4		1	1 unit	42S
470	132	250			416	125	150	300		5	3RW5547-□HA□4		1	1 unit	42S
570	160	315			504	150	200	400		5	3RW5548-□HA□4		1	1 unit	42S
Type of a Spring-ty Screw te	pe terr	minals	inectio	n for th	ne control	circuit					2 6				
Control	vlaaus	voltac	ıe												

24 V AC/DC

110 ... 250 V AC

Note:

 ³RW55 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).

 $^{^{\}rm 1)}$ 3RW55 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).

High Performance Soft Starters 3RW55 Soft Starters

Inline circuit IE3/IE4 ready NEW

For normal starting (CLASS 10E)







3RW552



3RW553



3RW554.

Оре	Opera- Operating power for tional three-phase motors tional					At 50 °C Opera- tional	Rating [hp] for three-phase motors					Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
curi		At 230 V	At	At 500 V	At	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α		kW	kW	kW	kW	Α	hp	hp	hp	hp	d					
Ор	erati	onal	voltaç	ge 200	60	0 V										
13		3	5.5	7.5		11.5	3	3	7.5	10	5	3RW5513-□HA□5		1	1 unit	42S
18		4	7.5	11 15		15.9	3 5	3 5	10 15	15	5	3RW5514-□HA□5 3RW5515-□HA□5		1	1 unit	42S 42S
25		5.5	11			22.3				20	5				1 unit	_
32		7.5	15	18.5		28.4	7.5	7.5	15	25	5	3RW5516-□HA□5		1	1 unit	42S
38		11	18.5	22		33.5	10	10	20	30	5	3RW5517-□HA□5		1	1 unit	42S
Op	erati	onal	voltag	je 200	69	0 V										
25		5.5	11	15	22	22.3	5	5	15	20	5	3RW5521-□HA□6		1	1 unit	42S
47		11	22	30	45	41.6	10	15	30	40	5	3RW5524-□HA□6		1	1 unit	42S
63		18.5	30	37	55	55.5	15	20	40	50	5	3RW5525-□HA□6		1	1 unit	42S
77		22	37	45	75	68	20	20	50	60	5	3RW5526-□HA□6		1	1 unit	42S
93		22	45	55	90	82.5	25	25	60	75	5	3RW5527-□HA□6		1	1 unit	42S

Type of electrical connection for the control circuit

Screw terminals Spring-type terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see

	page 6/7.														
At 40 °C					At 50 °C					SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional	tional three-phase motors tional				Opera- tional							per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	At 690 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	ional	voltag	e 200	69	0 V										,
113	30	55	75	110	101	30	30	75	75	5	3RW5534-□HA□6		1	1 unit	42S
143 171	37 45	75 90	90 110	132 160	128 153	30 40	40 50	75 100	100 125	5 5	3RW5535-□HA□6 3RW5536-□HA□6		1	1 unit	42S 42S
													- 1	1 unit	
210 250	55 75	110 132	132 160	200 250	186 220	50 60	60 75	125 150	150 200	5 5	3RW5543-□HA□6 3RW5544-□HA□6		1	1 unit 1 unit	42S 42S
315	90	160	200	315	279	75	100	200	250	5	3RW5545-□HA□6		1	1 unit	42S
370	110	200	250	355	328	100	125	250	300	5	3RW5546-□HA□6		1	1 unit	42S
470	132	250	315	400	416	125	150	300	400	5	3RW5547-□HA□6		1	1 unit	42S
570	160	315	355	560	504	150	200	400	500	5	3RW5548-□HA□6		1	1 unit	42S
Type of electrical connection for the control circuit Spring-type terminals Screw terminals 6															

Control supply voltage 24 V AC/DC 110 ... 250 V AC

Note:

 ³RW55 soft starter with screw terminals for operational voltage up to 690 V: Standard delivery time SD = 2 days (d).

^{1) 3}RW55 soft starter with screw terminals for operational voltage up to 690 V: Standard delivery time SD = 2 days (d).

IE3/IE4 ready Inside-delta circuit

Selection and ordering data

For normal starting (CLASS 10E)









3RW551.

3RW552 3RW553

At 40 °C	for inside	e-delta ci	rcuit	At 50 °C	for inside-d	elta circuit			SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		Operating power for three-phase motors tional Δt						ors			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	ltage fo	or insid	e-delta c	ircuit 200	480 V								,
22.5	5.5	11		19.9	5	5	15		5	3RW5513-□HA□4		1	1 unit	42S
31.2	7.5	15		28	5	5	15		5	3RW5514-□HA□4		1	1 unit	42S
43.3	11	18.5		39	7.5	7.5	20		5	3RW5515-□HA□4		1	1 unit	42S
55.4	15	22		49	10	10	30		5	3RW5516-□HA□4		1	1 unit	42S
65.8	18.5	30		58	15	15	40		5	3RW5517-□HA□4		1	1 unit	42S
81.4	22	45		72	20	25	50		5	3RW5524-□HA□4		1	1 unit	42S
109	30	55		96	25	30	60		5	3RW5525-□HA□4		1	1 unit	42S
133	37	75		118	30	40	75		5	3RW5526-□HA□4		1	1 unit	42S
161	45	90		143	40	50	100		5	3RW5527-□HA□4		1	1 unit	42S
133 161	37 45	75 90			30 40	40 50			5 5			1 1		

Type of electrical connection for the control circuit

Screw terminals Spring-type terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see

								page 6/	7.					
At 40 °C	for inside	e-delta ci	rcuit	At 50 °C	for inside-d	elta circuit			SD ¹⁾	Article No.	Price		PS*	PG
Opera- tional	three-p	ing powe hase mo	tors	Opera- tional							per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	ional vo	ltage fo	or insid	e-delta c	ircuit 200	480 V								
195 247	55 75	110 132		175 222	50 60	60 75	125 150		5 5	3RW5534-□HA□4 3RW5535-□HA□4		1	1 unit 1 unit	42S 42S
296	90	160		265	75	100	200		5	3RW5536-□HA□4		1	1 unit	42S
363	110	200		322	100	125	250		5	3RW5543-□HA□4		1	1 unit	42S
433 545	132 160	250 315		381 483	125 150	150 200	300 400		5 5	3RW5544-□HA□4 3RW5545-□HA□4		1	1 unit 1 unit	42S 42S
640	200	355		568	150	200	450		5	3RW5546-□HA□4		1	1 unit	42S
814 987	250 315	400 560		721 873	200 300	250 350	600 750		5 5	3RW5547-□HA□4 3RW5548-□HA□4		1	1 unit 1 unit	42S 42S
Type of e Spring-ty Screw te	electrica pe termin	l connec	tion for	the contro						2 6				

Control supply voltage 24 V AC/DC

110 ... 250 V AC

Note:

³RW55 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).

^{1) 3}RW55 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).

High Performance Soft Starters 3RW55 Soft Starters

Inside-delta circuit IE3/IE4 ready NEW

For normal starting (CLASS 10E)







3RW552



3RW553



At 40 °C					for inside-de				SD ¹⁾	Article No.	Price per PU	PU (UNIT,	PS*	PG
Opera- tional		ing powe hase mo		Opera- tional	Rating [np	j for three-	phase moto	ors			po o	SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	ional vo	oltage f	or insid	e-delta c	ircuit 200	600 V								
22.5	5.5	11	15	19.9	5	5	15	20	5	3RW5513-□HA□5		1	1 unit	42S
31.2	7.5	15	18.5	28	5	5	15	25	5	3RW5514-□HA□5		1	1 unit	42S
43.3	11	18.5	22	39	7.5	7.5	20	30	5	3RW5515-□HA□5		1	1 unit	42S
55.4	15	22	30	49	10	10	30	40	5	3RW5516-□HA□5		1	1 unit	42S
65.8	18.5	30	37	58	15	15	40	50	5	3RW5517-□HA□5		1	1 unit	42S
43.3	11	18.5	22	39	7.5	7.5	20	30	5	3RW5521-□HA□6		1	1 unit	42S
81.4	22	45	45	72	20	25	50	60	5	3RW5524-□HA□6		1	1 unit	42S
109	30	55	55	96	25	30	60	75	5	3RW5525-□HA□6		1	1 unit	42S
133	37	75	90	118	30	40	75	100	5	3RW5526-□HA□6		1	1 unit	42S
161	45	90	110	143	40	50	100	125	5	3RW5527-□HA□6		1	1 unit	42S

Type of electrical connection for the control circuit

Screw terminals Spring-type terminals

Control supply voltage 24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see page 6/7.

At 40 °C	for inside	e-delta c	ircuit	At 50 °C	for inside-de	elta circuit			SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing powe hase mo		Opera- tional	Rating [hp] for three-p	hase moto	rs			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	ional vo	oltage f	or insid	le-delta d	circuit 200	600 V		_						
195 247 296	55 75 90	110 132 160	132 160 200	175 222 265	50 60 75	60 75 100	125 150 200	150 200 250	5 5 5	3RW5534-□HA□6 3RW5535-□HA□6 3RW5536-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
363 433 545	110 132 160	200 250 315	250 315 355	322 381 483	100 125 150	125 150 200	250 300 400	300 350 500	5 5 5	3RW5543-□HA□6 3RW5544-□HA□6 3RW5545-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
640 814 987	200 250 315	355 400 560	450 500 630	568 721 873	150 200 300	200 250 350	450 600 750	600 750 950	5 5 5	3RW5546-□HA□6 3RW5547-□HA□6 3RW5548-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
Type of e			ction for	the contr	ol circuit					11				

Spring-type terminals Screw terminals

Control supply voltage 24 V AC/DC

110 ... 250 V AC

^{1) 3}RW55 soft starter with screw terminals for operational voltage up to 600 V: Standard delivery time SD = 2 days (d).

 $^{^{1)}}$ 3RW55 soft starter with screw terminals for operational voltage up to 600 V: Standard delivery time SD = 2 days (d).

NEW Accessories

Selection and ordering	ıg data									
	Product designation	Manufacturer's Article No. of the soft starter	Type of product	Application	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fan covers					d					
Tall covers	Fan cover	3RW551(1x), 3RW552, 3RW553 (2x)			1	3RW5983-0FC00		1	1 unit	42S
		3RW554			1	3RW5984-0FC00		1	1 unit	42S
3RW5983-0FC00										
Terminal covers	T	ODWEEO				ADWESS ATOM			4 0	400
Size fred fred	Terminal cover	3RW552, 3RW553 (2x)	-	-	1	3RW5983-0TC20		1	1 unit	42S
3RW5983-0TC20										
LAL-M-1		3RW554 (2x)			1	3RW5984-0TC20		1	1 unit	42S
3RW5984-0TC20										
Enclosure componen	ts									
3RW5950-0GL20	Hinged cover	3RW55	Without cutout		1	3RW5950-0GL20		1	1 unit	42S
Communication modu	ıles									
	Communica- tion module	3RW55	PROFINET Standard		1	3RW5980-0CS00		1	1 unit	42S
			PROFIBUS		1	3RW5980-0CP00		1	1 unit	42S
3RW5980-0CS00			Modbus TCP		1	3RW5980-0CT00		1	1 unit	42S

High Performance Soft Starters 3RW55 Soft Starters

Accessories NEW



	Product designation	Manufacturer's Article No. of the soft starter	Type of product	Application	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
HMI modules										
3RW5980-0HD00	Door mounting kit	3RW55	IP65	For HMI modules	1	3RW5980-0HD00		1	1 unit	42S
Connection cables										
Connection capies	HMI connec-	3RW55	5 m, round	For door mounting	1	3RW5980-0HC60		1	1 unit	42S
			2.5 m, round	_		3UF7933-0BA00-0		1	1 unit	42J
			1.0 m, round	-	>	3UF7937-0BA00-0		1	1 unit	42J
3UF793			0.5 m, round	-	•	3UF7932-0BA00-0		1	1 unit	42J
Further accessories										
3ZY1311-0AA00	Push-in lugs for wall mounting		Two lugs are required per device		2	3ZY1311-0AA00		1	10 units	41L
0211011-0AA00										

General data

Overview

More information

Homepage, see www.siemens.com/soft-starter

Industry Mall, see www.siemens.com/product?3RW

TIA Selection Tool Cloud (TST Cloud), see

https://mall.industry.siemens.com/spice/tstweb/?KMAT=3rw44



Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917 SIRIUS Soft Starter ES (TIA Portal), see page 14/5 SIRIUS 3RW44 Soft Starter block library for SIMATIC PCS 7, see page 14/8

The SIRIUS 3RW44 High Performance soft starters are suitable for the torque-controlled soft starting and stopping as well as braking of three-phase asynchronous motors.

In addition to soft starting and stopping, the SIRIUS 3RW44 soft starters provide numerous functions for higher-level requirements. Soft starters are available in a performance range up to 710 kW (at 400 V) in the inline circuit and up to 1 200 kW (at 400 V) in the inside-delta circuit.

Combinations of various starting, operating and stopping possibilities ensure optimum adaptation to the application-specific requirements.

Benefits











3RW442 3RW443.

3RW444.

3RW445

3RW446.

Product characteristics / function	Performance features / benefits
Soft starting with breakaway pulse, torque control or adjustable current limiting	Optimum adaptation to the requirements of the application
Keypad with a menu-prompted, multi-line graphic display with background lighting	Simple and fast commissioning and maintenance
Various setting options for the starting parameters such as starting torque, starting voltage, starting and stopping time, and much more in three separate parameter sets	Efficient configuration and maximum flexibility in automation engineering
Integral bypass contact system	Reduction of power loss during operation
Communication interface to the PC	More accurate setting of the parameters as well as control and monitoring
Connection to PROFIBUS and PROFINET with optional PROFIBUS DP or PROFINET module	Fast integration into higher-level controls

High Performance Soft Starters 3RW44 Soft Starters

General data

Technical specifications

More information	
Manual "SIRIUS 3RW44 Soft Starters", see https://support.industry.siemens.com/cs/ww/en/view/21772518	Catalog LV 10, see www.siemens.com/lowvoltage/lv10
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16214/faq	

Туре		3RW442.	3RW443.	3RW444.	3RW445.	3RW446.
Mechanics and environment						
Mounting dimensions (W x H x D) • Screw terminals • Spring-type terminals	mm				510 x 638.5 x 290 510 x 638.5 x 290	
Permissible ambient temperature During operation During storage	°C °C	0 +60; (derat -25 +80	ing from +40)			
Weight	kg	6.5	7.9	11.5	50	78
Permissible mounting position		90° +++++ 90°	2,5°,22,5° 864 900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
Installation type		Stand-alone installation		① ≥ 5 mm (≥ 0.2 in ② ≥ 75 mm (≥ 3 in ③ ≥ 100 mm (≥ 4 ir		
Permissible installation altitude	m	5000 (derating t	from 1 000, see cl	naracteristic curve	e on page 6/7)	
Degree of protection		IP00				

Туре	Terminal		3RW44BC3.	3RW44BC4.
Control electronics				
Rated values Rated control supply voltage • Tolerance	A1/A2/PE	V %	115 AC -15/+10	230 AC
Rated frequency Tolerance		Hz %	50 60 ± 10	

Туре		3RW44BC.4	3RW44BC.5	3RW44BC.6
Power electronics				
Rated operational voltage for inline circuit ¹⁾ Tolerance	V AC %	200 460 -15/+10	400 600	400 690
Maximum blocking voltage (thyristor)	V AC	1 400	1 800	
Rated operational voltage for inside-delta circuit Tolerance	V AC %	200 460 -15/+10	400 600	
Rated frequency Tolerance	Hz %	50 60 ± 10		
Uninterrupted duty at 40 °C (% of $I_{\rm e}$)	%	115		
Minimum load (% of set motor current I _M)	%	8		
Maximum cable length between soft starter and motor	m	500 ²⁾		

 $^{^{\}rm 1)}$ 3RW44 soft starters may be used in isolated supply networks (IT systems) up to 600 V AC.

²⁾ At the project configuration stage, it is important to make allowance for the voltage drop on the motor cable up to the motor connection.

General data

Туре		3RW4422	3RW4423	3RW4424	3RW4425	3RW4426	3RW4427
Power electronics							
Rated operational current I_e	Α	29	36	47	57	77	93
Load rating with rated operational current I_e • According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53a - At 40 / 50 / 60 °C	a A	29/26/23	36/32/29	47/42/37	57/51/45	77/68/59	93/82/72
Smallest adjustable rated motor current I_{M} For the motor overload protection	А	5	7	9	11	15	18
Power loss ■ In operation after completed starting with uninterrupted rated operational current (40/50/60 °C) approx. ■ During starting with current limit set to 350% I _M (40 / 50 / 60 °C)	W	8/7.5/7 400/345/290	10/9/8.5 470/410/355	32/31/29 600/515/440	36/34/31 725/630/525	45/41/37 940/790/660	55/51/47 1160/980/830
Permissible rated motor current and starts per hour at 40 / 50 / 60 $^{\circ}\text{C}$							
 For normal starting (CLASS 10) Rated motor current I_M², start-up time 10 s Starts per hour³) 	A 1/h	29/26/23 20	36/32.5/29 15	47/42/37 20	57/51/45 20	77/68/59 20	93/82/72 20
- Rated motor current $I_{\rm M}^{2)}$, start-up time 20 s - Starts per hour $^{3)}$	A 1/h	29/26/23 10	36/32.5/29 6	47/42/37 10	57/51/45 10	77/68/59 8	93/82/72 8

¹⁾ Measurement at 60 °C according to UL/CSA not required.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 70%, $T_{\rm u}$ = 40 / 50 / 60 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

Туре		3RW4434	3RW4435	3RW4436
Power electronics				
Rated operational current I _e	Α	113	134	162
Load rating with rated operational current $I_{\rm e}$ • According to IEC and UL/CSA $^{1)}$, for individual mounting, AC-53 - At 40 / 50 / 60 °C	a A	113/100/88	134/117/100	162/145/125
Smallest adjustable rated motor current $I_{ m M}$ For the motor overload protection	А	22	26	32
Power loss				
 In operation after completed starting with uninterrupted rated operational current (40/50/60 °C) approx. 	W	64/58/53	76/67/58	95/83/71
 During starting with current limit set to 350% I_M (40 / 50 / 60 °C) 	W	1 350/1 140/970	1 700/1 400/1 140	2 460/1 980/1 620
Permissible rated motor current and starts per hour at 40 / 50 / 60 °C				
For normal starting (CLASS 10)				
 Rated motor current I_M²⁾, start-up time 10 s Starts per hour³⁾ 	A 1/h	113/100/88 20	134/117/100 15	162/145/125 20
- Rated motor current $I_{\rm M}^{2)}$, start-up time 20 s - Starts per hour $^{3)}$	A 1/h	113/100/88 9	134/117/100 6	162/145/125 7

¹⁾ Measurement at 60 °C according to UL/CSA not required.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 70%, $T_{\rm u}$ = 40 / 50 / 60 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

Туре		3RW4443	3RW4444	3RW4445	3RW4446	3RW4447
Power electronics						
Rated operational current I _e	Α	203	250	313	356	432
Load rating with rated operational current I _e ■ According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53a - At 40 / 50 / 60 °C	Α	203/180/156	250/215/185	313/280/250	356/315/280	432/385/335
Smallest adjustable rated motor current $I_{ m M}$ For the motor overload protection	А	40	50	62	71	86
Power loss						
 In operation after completed starting with uninterrupted rated operational current (40/50/60 °C) approx. 	W	89/81/73	110/94/83	145/126/110	174/147/126	232/194/159
 During starting with current limit set to 350% I_M (40 / 50 / 60 °C) 	W	3 350/2 600/2 150	4 000/2 900/2 350	4 470/4 000/3 400	5 350/4 050/3 500	5 860/5 020/4 20
Permissible rated motor current and starts per hour at 40 / 50 / 60 $^{\circ}\text{C}$						
For normal starting (CLASS 10)						
 Rated motor current I_M²⁾, start-up time 10 s Starts per hour³⁾ 	A 1/h	203/180/156 20	250/215/185 20	313/280/250 19	356/315/280 17	432/385/335 16
- Rated motor current $I_{\rm M}^{2)}$, start-up time 20 s - Starts per hour ³⁾	A 1/h	203/180/156 9	250/215/185 10	313/280/250 6	356/315/280 4	432/385/335 5

¹⁾ Measurement at 60 °C according to UL/CSA not required.

²⁾ Current limit on soft starter set to 350% I_M, ON period = 70%. Maximum adjustable rated motor current I_M dependent on CLASS setting.

²⁾ Current limit on soft starter set to 350% $I_{\rm M}$, ON period = 70%. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

²⁾ Current limit on soft starter set to 350% $I_{\rm M}$, ON period = 70%. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 70%, $T_{\rm u}$ = 40 / 50 / 60 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

General data

Type		3RW4453	3RW4454	3RW4455	3RW4456	3RW4457	3RW4458
Type		3NVV4453	3NVV4434	3NW4433	3NVV4430	3NW4437	3NVV4430
Power electronics							
Rated operational current I _e	Α	551	615	693	780	880	970
Load rating with rated operational current <i>I</i> _e • According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53	a						
- At 40 / 50 / 60 °C	Α	551/494/438	615/551/489	693/615/551	780/693/615	880/780/693	970/850/760
Smallest adjustable rated motor current I_{M} For the motor overload protection	Α	110	123	138	156	176	194
Power loss In operation after completed starting with uninterrupted rated operational current (40/50/60 °C) approx.	W	159/135/113	186/156/130	220/181/152	214/176/146	250/204/168	270/215/179
 During starting with current limit set to 350% I_M At 40 °C At 50 °C At 60 °C 	W W W	7 020 6 111 5 263	8 100 7 020 5 996	9 500 8 100 7 020	11 100 9 500 8 100	13 100 11 000 8 100	15 000 12 500 10 700
Permissible rated motor current and starts per hour at 40 / 50 / 60 °C							
 For normal starting (CLASS 10) Rated motor current I_M², start-up time 10 s Starts per hour³) 	A 1/h	551/494/438 20	615/551/489 20	693/615/551 16	780/693/615 13	880/780/693 8	970/850/760 5
- Rated motor current I_{M}^{2} , start-up time 20 s	A	551/494/438	615/551/489	693/615/551	780/693/615	880/780/693	970/850/760
- Starts per hour ³⁾	1/h	10	9	6	4	0.3	0.3

¹⁾ Measurement at 60 °C according to UL/CSA not required.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 70%, $T_{\rm u}$ = 40 / 50 / 60 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

Туре		3RW4465	3RW4466
Power electronics			
Rated operational current I _e	Α	1 076	1 214
Load rating with rated operational current I _e ■ According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53 - At 40 / 50 / 60 °C	a A	1 076/970/880	1 214/1 076/970
Smallest adjustable rated motor current I_{M} For the motor overload protection	Α	215	242
Power loss In operation after completed starting with uninterrupted rated operational current (40/50/60 °C) approx. During starting with current limit set to 350% I _M At 40 °C	W	510/420/360 15 000	630/510/420 17 500
- At 50 °C - At 60 °C	W	13 000 11 500	15 000 13 000
Permissible rated motor current and starts per hour at 40 / 50 / 60 °C			
 For normal starting (CLASS 10) Rated motor current I_M²), start-up time 10 s Starts per hour³) 	A 1/h	1 076/970/880 11	1 214/1 076/970 6
- Rated motor current $I_{\rm M}^{(2)}$, start-up time 20 s	A	1 076/970/880	1 214/1 076/970
- Starts per hour ³⁾	1/h	3	0.5

 $^{^{\}rm 1)}$ Measurement at 60 °C according to UL/CSA not required.

²⁾ Current limit on soft starter set to 350% $I_{\rm M}$, ON period = 70%. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

²⁾ Current limit on soft starter set to 350% $I_{\rm M}$, ON period = 70%. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 70%, $T_{\rm u}$ = 40 / 50 / 60 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

General data

Motor feeders with soft starters

The type of coordination according to which the motor feeder with soft starter is mounted depends on the application-specific requirements. Normally, fuseless mounting (combination of motor starter protector and soft starter) is sufficient.

If type of coordination "2" is to be fulfilled, then semiconductor fuses must be fitted in the motor feeder.

- Type of coordination "1" according to IEC 60947-4-1: After a short-circuit incident, the unit is defective and therefore unsuitable for further use (protection of persons and system guaranteed).
- Type of coordination "2" according to IEC 60947-4-1:
 After a short-circuit incident the unit is suitable for further use (protection of persons and system guaranteed).

The type of coordination refers to soft starters in combination with the stipulated protective device (motor starter protector/fuse), not to any additional components in the feeder.

The types of coordination are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Inline circuit fuseless version



Soft starters	ToC 1	Motor starter prot	ectors/circ	uit breakers ¹⁾
	Rated current	400 V + 10%		Rated current
Q11		Q1	I_{q}	
Туре	A	Туре	kA	A
Type of coordina	ation "1"			
3RW4422	29	3RV2021-4EA10	42	32
3RW4423	36	3RV2021-4FA10	42	40
3RW4424	47	3RV2031-4WA10	32	52
3RW4425	57	3RV2031-4JA10	32	65
3RW4426	77	3RV2031-4RA10	32	80
3RW4427	93	3RV2042-4MA10	32	100
3RW4434	113	3VA2216-5MN32	55	160
3RW4435	134	3VA2216-5MN32	55	160
3RW4436	162	3VA2220-7MN32	55	200
3RW4443	203	3VA2325-7MN32	110	250
3RW4444	250	3VA2325-7MN32	110	250
3RW4445	313	3VA2440-7MN32	110	400
3RW4446	356	3VA2450-7MN32	110	500
3RW4447	432	3VA2450-7MN32	110	500
3RW4453	551	3VL6780-3SB36	65	800
3RW4454	615	3VL6780-3SB36	65	800
3RW4455	693	3VL6780-3SB36	65	800
3RW4456	780	3VL7710-3SB36	65	1 000
3RW4457	880	3VL7710-3SB36	65	1 000
3RW4458	970	3VL7712-3SB36	65	1 250
3RW4465	1 076	3VL7712-3SB36	65	1 250
3RW4466	1 214	3VL7712-3SB36	65	1 250

¹⁾ The rated motor current must be considered when selecting the devices.

General data

Inline circuit fused version (line protection only)



Soft starters	ToC 1	Line protection, n	naximum		Line contactors up to 400 V	Braking contactors ¹⁾	2)
	Rated current	690 V + 5%	Rated current	Size	(optional)	(example circuit, see I	Manual 3RW44)
Q11 Type	A	F1 Type	A		Q21 Type	Q91 Type	Q92 Type
Type of coor	dination "1" $^{3)}$: $I_{q} = 0$	65 kA					
3RW4422 3RW4423 3RW4424	29 36 47	3NA3820-6 3NA3822-6 3NA3824-6	50 63 80	00 00 00	3RT2027 3RT2035 3RT2036	3RT2526 3RT2526 3RT2535	
3RW4425 3RW4426 3RW4427	57 77 93	3NA3830-6 3NA3132-6 3NA3136-6	100 125 160	00 1 1	3RT2037 3RT2038 3RT2046	3RT2535 3RT2024 3RT2025	3RT2035 3RT2036
3RW4434 3RW4435 3RW4436	113 134 162	3NA3244-6 3NA3244-6 3NA3365-6	250 250 500	2 2 3	3RT1054 3RT1055 3RT1056	3RT2027 3RT2036 3RT2037	3RT2037 3RT2038 3RT2038
3RW4443 3RW4444 3RW4445	203 250 313	2 x 3NA3354-6 2 x 3NA3354-6 2 x 3NA3365-6	2 x 355 2 x 355 2 x 500	3 3 3	3RT1064 3RT1065 3RT1075	3RT2037 3RT2037 3RT1054	3RT1054 3RT1055 3RT1056
3RW4446 3RW4447	356 432	2 x 3NA3365-6 2 x 3NA3365-6	2 x 500 2 x 500	3 3	3RT1075 3RT1076	3RT1054 3RT1055	3RT1056 3RT1064
3RW4453 3RW4454 3RW4455	551 615 693	2 x 3NA3365-6 2 x 3NA3365-6 2 x 3NA3365-6	2 x 500 2 x 500 2 x 500	3 3 3	3TF68 3TF68 3TF69	3RT1064 3RT1064 3RT1065	3RT1066 3RT1075 3RT1075
3RW4456 3RW4457 3RW4458	780 880 970	2 x 3NA3365-6 2 x 3NA3365-6 3 x 3NA3365-6	2 x 500 2 x 500 3 x 500	3 3 3	3TF69 	3RT1065 3RT1075 3RT1075	3RT1075 3RT1076 3RT1076
3RW4465 3RW4466	1 076 1 214	3 x 3NA3365-6 3 x 3NA3365-6	3 x 500 3 x 500	3		3RT1075 3RT1076	3TF68 3TF68

If the ramp-down function "Combined braking" is selected, no braking contactor is required.

to that of stequined. If the ramp-down function "DC braking" is selected, a braking contactor must be used in addition (type, see table). For applications with large centrifugal masses ($J_{Load} > J_{Motor}$) the function "DC braking" is recommended.

LZS:RT4A4T30

(3RW44 soft starter with rated control supply voltage 230 V AC), LZS:RT4A4S15

(3RW44 soft starter with rated control supply voltage 115 V AC).

²⁾ Additional auxiliary relay K4:

³⁾ The type of coordination "1" refers to soft starters in combination with the stipulated protective device (motor starter protector/fuse), not to any additional components in the feeder.

General data

Inline circuit fused version with 3NE1 SITOR all-range fuse (semiconductor and line protection)

F'1 Q11 H For matching fuse bases, see Catalog LV 10:

- \bullet "Fuse systems" \rightarrow "SITOR Semiconductor Fuses" or www.siemens.com/sitor
 • "Switch disconnectors"

Soft starters	ToC 2	All-range fuses				Line contactors up to 480 V	Braking con	tactors ¹⁾²⁾
	Rated current		Rated current	Voltage	Size	(optional)	(example circ Manual 3RW	
Q11 Type	A	F'1 Type	A	V		Q21 Type	Q91 Type	Q92 Type
Type of coo	rdination "2" $^{(3)}$: $I_q = 0$	65 kA						
3RW4422	29	3NE1020-2	80	690 + 5%	00	3RT2027	3RT2526	
3RW4423	36	3NE1020-2	80	690 + 5%	00	3RT2035	3RT2526	
3RW4424	47	3NE1021-2	100	690 + 5%	00	3RT2036	3RT2535	
3RW4425	57	3NE1022-2	125	690 + 5%	00	3RT2037	3RT2535	
3RW4426	77	3NE1022-2	125	690 + 5%	00	3RT2038	3RT2024	3RT2035
3RW4427	93	3NE1224-2	160	690 + 5%	1	3RT2046	3RT2025	3RT2036
3RW4434	113	3NE1225-2	200	690 + 5%	1	3RT1054	3RT2027	3RT2037
3RW4435	134	3NE1227-2	250	690 + 5%	1	3RT1055	3RT2036	3RT2038
3RW4436	162	3NE1227-2	250	690 + 5%	1	3RT1056	3RT2037	3RT2038
3RW4443	203	3NE1230-2	315	600 + 10%	1	3RT1064	3RT2037	3RT1054
3RW4444	250	3NE1331-2	350	460 + 10%	2	3RT1065	3RT2037	3RT1055
3RW4445	313	3NE1333-2	450	690 + 5%	2	3RT1075	3RT1054	3RT1056
3RW4446	356	3NE1334-2	500	690 + 5%	2	3RT1075	3RT1054	3RT1056
3RW4447	432	3NE1435-2	560	690 + 5%	3	3RT1076	3RT1055	3RT1064
3RW4453	551	2 x 3NE1334-2	500	690 + 10%	2	3TF68	3RT1064	3RT1066
3RW4454	615	2 x 3NE1334-2	500	690 + 10%	2	3TF68	3RT1064	3RT1075
3RW4455	693	2 x 3NE1334-2	500	690 + 10%	2	3TF69	3RT1065	3RT1075
3RW4456	780	2 x 3NE1435-2	560	690 + 10%	3	3TF69	3RT1065	3RT1075
3RW4457	880	2 x 3NE1435-2	560	690 + 10%	3		3RT1075	3RT1076
3RW4458	970	2 x 3NE1435-2	560	690 + 10%	3		3RT1075	3RT1076
3RW4465 3RW4466	1 076 1 214	3 x 3NE1334-2 3 x 3NE1435-2	500 560	690 + 10% 690 + 10%	2 3		3RT1075 3RT1076	3TF68 3TF68

¹⁾ If the ramp-down function "Combined braking" is selected, no braking contactor is required.

LZS:RT4A4T30

(3RW44 soft starter with rated control supply voltage 230 V AC), LZS:RT4A4S15

(3RW44 soft starter with rated control supply voltage 115 V AC).

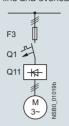
contactor is required. If the ramp-down function "DC braking" is selected, a braking contactor must be used in addition (type, see table). For applications with large centrifugal masses ($J_{Load} > J_{Motor}$) the function "DC braking" is recommended.

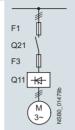
²⁾ Additional auxiliary relay K4:

³⁾ The type of coordination "2" refers to soft starters in combination with the stipulated protective device (motor starter protector/fuse), not to any additional components in the feeder.

General data

Inline circuit fused version with 3NE or 3NC SITOR semiconductor fuse (semiconductor protection by fuse, line and overload protection by circuit breaker)





For matching fuse bases, see Catalog LV 10:

- "Fuse systems" →
 "SITOR Semiconductor Fuses" or www.siemens.com/sitor
- "Switch disconnectors"

Soft starters	ToC 2	Semiconductor	fuses, minimum		Semiconductor	fuses (cylinder)	
044	Rated current	690 V + 10%	Rated current	Size	F0.	Rated current	Size
Q11 Type	A	F3 Type	Α		F3 Type	А	
Type of coor	dination "2" $^{1)}$: $I_q = 0$	65 kA					
3RW4422	29	3NE4120	80	0	3NC2280	80	22 x 58
3RW4423	36	3NE4121	100	0	3NC2200	100	22 x 58
3RW4424	47	3NE4121	100	0	3NC2200	100	22 x 58
3RW4425	57	3NE4122	125	0			
3RW4426	77	3NE4124	160	0			
3RW4427	93	3NE3224	160	1			
3RW4434 3RW4435 3RW4436	113 134 162	3NE3225 3NE3225 3NE3227	200 200 250	1 1 1	 	 	
3RW4443	203	3NE3230-0B	315	1			
3RW4444	250	3NE3230-0B	315	1			
3RW4445	313	3NE3233	450	1			
3RW4446	356	3NE3333	450	2 2			
3RW4447	432	3NE3335	560				
3RW4453	551	2 x 3NE3335	560	2			
3RW4454	615	2 x 3NE3335	560	2			
3RW4455	693	2 x 3NE3335	560	2			
3RW4456	780	2 x 3NE3336	630	2			
3RW4457	880	2 x 3NE3336	630	2			
3RW4458	970	2 x 3NE3336	630	2			
3RW4465 3RW4466	1 076 1 214	2 x 3NE3340-8 2 x 3NE3340-8	900 900	2			

Soft starters	ToC 2	Line contactors up to 480 V	Braking conta		Motor starter pro circuit breakers	tectors/	Line protection,	maximum	
Q11	Rated current	(optional) Q21	Manual 3RW4 Q91		400 V + 10% Q1	Rated current	690 V + 5% F1	Rated current	Size
Type	Α	Туре	Туре	Туре	Туре	Α	Туре	Α	
Type of coord	dination "2" ¹⁾ :	I _q = 65 kA							
3RW4422 3RW4423 3RW4424	29 36 47	3RT2027 3RT2035 3RT2036	3RT2526 3RT2526 3RT2535	 	3RV2021-4EA10 3RV2021-4FA10 3RV2031-4WA10	32 40 52	3NA3820-6 3NA3822-6 3NA3824-6	50 63 80	00 00 00
3RW4425 3RW4426 3RW4427	57 77 93	3RT2037 3RT2038 3RT2046	3RT2535 3RT2024 3RT2025	3RT2035 3RT2036	3RV2031-4JA10 3RV2031-4RA10 3RV2042-4MA10	65 80 100	3NA3830-6 3NA3132-6 3NA3136-6	100 125 160	00 1 1
3RW4434 3RW4435 3RW4436	113 134 162	3RT1054 3RT1055 3RT1056	3RT2027 3RT2036 3RT2037	3RT2037 3RT2038 3RT2038	3VA2216-5MN32 3VA2216-5MN32 3VA2220-7MN32	160 160 200	3NA3244-6 3NA3244-6 3NA3365-6	250 250 500	2 2 3
3RW4443 3RW4444 3RW4445	203 250 313	3RT1064 3RT1065 3RT1075	3RT2037 3RT2037 3RT1054	3RT1054 3RT1055 3RT1056	3VA2325-7MN32 3VA2325-7MN32 3VA2440-7MN32	250 250 400	2 x 3NA3354-6 2 x 3NA3354-6 2 x 3NA3365-6	2 x 355 2 x 355 2 x 500	3 3 3
3RW4446 3RW4447	356 432	3RT1075 3RT1076	3RT1054 3RT1055	3RT1056 3RT1064	3VA2450-7MN32 3VA2450-7MN32	500 500	2 x 3NA3365-6 2 x 3NA3365-6	2 x 500 2 x 500	3
3RW4453 3RW4454 3RW4455	551 615 693	3TF68 3TF68 3TF69	3RT1064 3RT1064 3RT1065	3RT1066 3RT1075 3RT1075	3VL6780 3VL6780 3VL6780	800 800 800	2 x 3NA3365-6 2 x 3NA3365-6 2 x 3NA3365-6	2 x 500 2 x 500 2 x 500	3 3 3
3RW4456 3RW4457 3RW4458	780 880 970	3TF69 	3RT1065 3RT1075 3RT1075	3RT1075 3RT1076 3RT1076	3VL7710 3VL7710 3VL7712	1 000 1 000 1 250	2 x 3NA3365-6 2 x 3NA3365-6 3 x 3NA3365-6	2 x 500 2 x 500 3 x 500	3 3 3
3RW4465 3RW4466	1 076 1 214		3RT1075 3RT1076	3TF68 3TF68	3VL7712 3VL7712	1 250 1 250	3 x 3NA3365-6 3 x 3NA3365-6	3 x 500 3 x 500	3

¹⁾ The type of coordination "2" refers to soft starters in combination with the stipulated protective device (motor starter protector/fuse), not to any additional components in the feeder.

Additional advisinary relay R4. LZS:RT4A4T30 (3RW44 soft starter with rated control supply voltage 230 V AC), LZS:RT4A4S15 (3RW44 soft starter with rated control supply voltage 115 V AC).

²⁾ If the ramp-down function "Combined braking" is selected, no braking contactor is required. If the ramp-down function "DC braking" is selected, a braking contactor must be used in addition (type, see table).

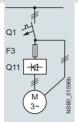
For applications with large centrifugal masses ($J_{\rm Load} > J_{\rm Motor}$) the function "DC braking" is recommended.

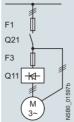
³⁾ Additional auxiliary relay K4:

General data

Inside-delta circuit fused version with 3NE or 3NC SITOR fuses

(semiconductor protection by fuse, line and overload protection by motor starter protector/circuit breaker)





For matching fuse bases, see Catalog LV 10:

- "Fuse systems" →
 "SITOR Semiconductor
 Fuses"
- or www.siemens.com/sitor
 "Switch disconnectors"

Soft starters	ToC 2	Semiconductor	fuses, minimum		Semiconductor f	uses (cylinder)	
Q11 Type	Rated current A	690 V + 10% F3 Type	Rated current A	Size	F3 Type	Rated current A	Size
Type of coor	dination "2"1)						
3RW4422 3RW4423 3RW4424	50 62 81	3NE4120 3NE4121 3NE4121	80 100 100	0 0 0	3NC2280 3NC2200 3NC2200	80 100 100	22 x 58 22 x 58 22 x 58
3RW4425 3RW4426 3RW4427	99 133 161	3NE4122 3NE4124 3NE3224	125 160 160	0 0 1	 	 	
3RW4434 3RW4435 3RW4436	196 232 281	3NE3225 3NE3225 3NE3227	200 200 250	1 1 1	 	 	
3RW4443 3RW4444 3RW4445	352 433 542	3NE3230-0B 3NE3230-0B 3NE3233	315 315 450	1 1 1	 	 	
3RW4446 3RW4447	617 748	3NE3333 3NE3335	450 560	2 2	 	 	
3RW4453 3RW4454 3RW4455	954 1 065 1 200	2 x 3NE3335 2 x 3NE3335 2 x 3NE3335	560 560 560	2 2 2	 	 	
3RW4456 3RW4457 3RW4458	1 351 1 524 1 680	2 x 3NE3336 2 x 3NE3336 2 x 3NE3336	630 630 630	2 2 2	 	 	
3RW4465 3RW4466	1 864 2 103	2 x 3NE3340-8 2 x 3NE3340-8	900 900	2		 	

Soft starters	ToC 2	Line contactors up to 480 V	Motor starter protector	s/circuit breakers	Line protection, ma	aximum	
Q11 Type	Rated current A	(optional) Q21 Type	400 V +10% Q1 Type	Rated current A	690 V + 5% F1 Type	Rated current A	Size
Type of coor	dination "2" ¹⁾						
3RW4422	50	3RT2036	3RV2032-4VA10	45	3NA3824-6	80	00
3RW4423	62	3RT2037	3RV2032-4JA10	65	3NA3830-6	100	00
3RW4424	81	3RT2046	3RV2042-4YA10	93	3NA3132-6	125	1
3RW4425	99	3RT2047	3RV2042-4MA10	100	3NA3136-6	160	1
3RW4426	133	3RT1055	3VA2216MS32-0AA0	160	3NA3240-6	200	2
3RW4427	161	3RT1056	3VA2220MS32-0AA0	200	3NA3244-6	250	2
3RW4434	196	3RT1064	3VA2325MS32-0AA0	250	3NA3360-6	400	3
3RW4435	232	3RT1065	3VA2325MS32-0AA0	250	3NA3360-6	400	3
3RW4436	281	3RT1066	3VA2440MS32-0AA0	400	2 x 3NA3360-6	2 x 400	3
3RW4443	352	3RT1075	3VA2440MS32-0AA0	400	2 x 3NA3365-6	2 x 500	3
3RW4444	433	3RT1076	3VA2450MS32-0AA0	500	2 x 3NA3365-6	2 x 500	3
3RW4445	542	3TF6844	3VL5763	630	3 x 3NA3365-6	3 x 500	3
3RW4446	617	3TF6844	3VL6780	800	3 x 3NA3365-6	3 x 500	3
3RW4447	748	3TF69	3VL6780	800	3 x 3NA3365-6	3 x 500	3
3RW4453	954		3VL7710	1 000	3 x 3NA3365-6	3 x 500	3
3RW4454	1 065		3VL7712	1 250	3 x 3NA3365-6	3 x 500	3
3RW4455	1 200		3VL8716	1 600	3 x 3NA3365-6	3 x 500	3
3RW4456	1 351		3VL8716	1 600	3 x 3NA3372	3 x 630	3
3RW4457	1 524		3VL8716	1 600	3 x 3NA3372	3 x 630	3
3RW4458	1 680		3WL1220	2 000	2 x 3NA3480	2 x 1000	4
3RW4465 3RW4466	1 864 2 103		3WL1225 3WL1225	2 500 2 500	2 x 3NA3482 2 x 3NA3482	2 x 1250 2 x 1250	4 4

¹⁾ The type of coordination "2" refers to soft starters in combination with the stipulated protective device (circuit breaker/fuse), not to any additional

components in the feeder.

If the F3 semiconductor fuse is not used, the type of coordination "2" is reduced to type of coordination "1" for soft starters in combination with the stipulated protective device.

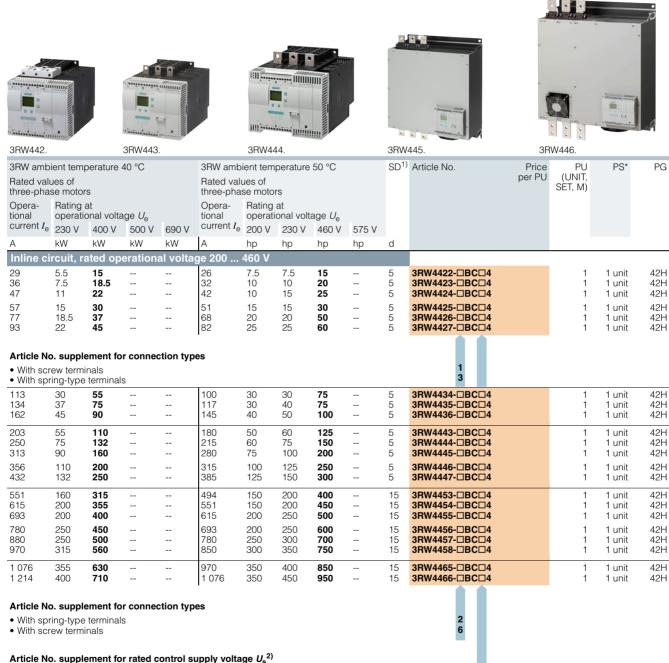
SIRIUS 3RW Soft StartersHigh Performance Soft Starters

3RW44 Soft Starters

Inline circuit IE3/IE4 ready

Selection and ordering data

For normal starting (CLASS 10)



- 115 V AC
- 230 V AC

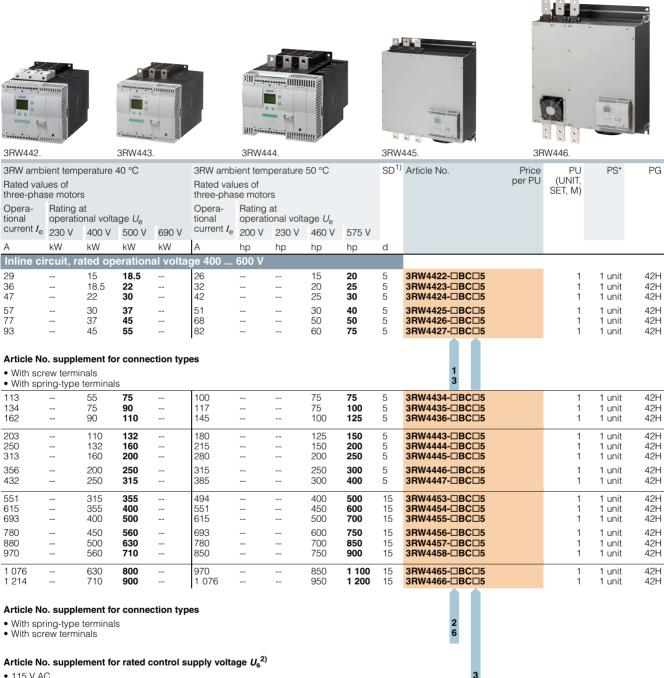
Note:

 ³RW442. to 3RW444. soft starters with screw terminals: Standard delivery time SD = 1 day (d).

²⁾ Control by way of the internal 24 V DC supply and direct control via PLC possible.

IE3/IE4 ready Inline circuit

For normal starting (CLASS 10)



- 115 V AC
- 230 V AC

Note:

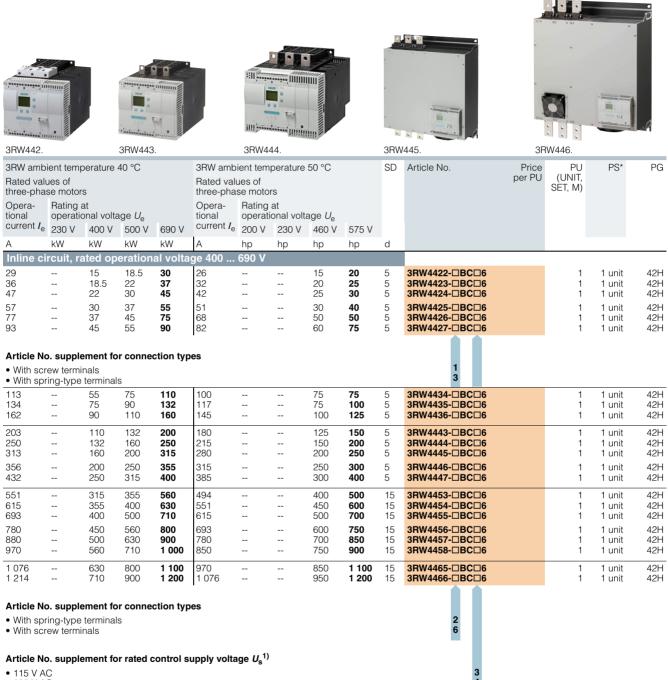
¹⁾ Soft starter with screw terminals: 3RW442. to 3RW444. Standard delivery time SD = 2 days (d), 3RW445. to 3RW446. Standard delivery time SD = 5 days (d).

²⁾ Control by way of the internal 24 V DC supply and direct control via PLC possible.

High Performance Soft Starters 3RW44 Soft Starters

Inline circuit IE3/IE4 ready

For normal starting (CLASS 10)



• 230 V AC

Note:

¹⁾ Control by way of the internal 24 V DC supply and direct control via PLC possible.

IE3/IE4 ready

Inside-delta circuit

Selection and ordering data

For normal starting (CLASS 10)



- 115 V AC
- 230 V AC

Note:

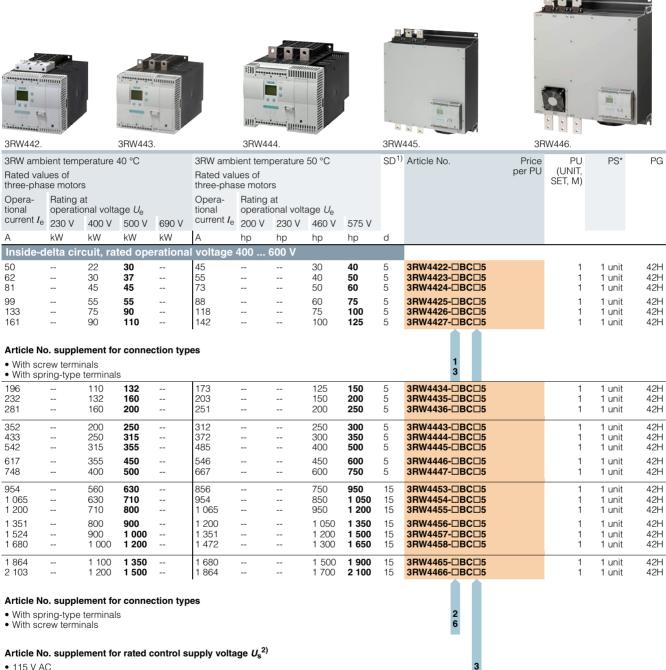
³RW442. to 3RW444. soft starters with screw terminals: Standard delivery time SD = 1 day (d).

²⁾ Control by way of the internal 24 V DC supply and direct control via PLC possible.

High Performance Soft Starters 3RW44 Soft Starters

Inside-delta circuit IE3/IE4 ready

For normal starting (CLASS 10)



- 115 V AC
- 230 V AC

Note:

Soft starter with screw terminals: 3RW442. to 3RW444. Standard delivery time SD = 2 days (d), 3RW445. to 3RW446. Standard delivery time SD = 5 days (d).

Control by way of the internal 24 V DC supply and direct control via PLC possible.

Accessories

Selection and ordering data

Selection and orderi	ng data							
More information								
Manual "SIRIUS 3RW44 S		0.17705.10						
https://support.industry.si	emens.com/cs/ww/en/view/	21772518						
	Version		SD	Article No.	Price	PU	PS*	PG
	VOISION		OD	7 II II OIO TVO.	per PU	(UNIT,	10	1 0
			d			SET, M)		
USB PC cables			u					
00D1000	For PC/PG communicati	on with SIRIUS 3RW44 soft		3UF7941-0AA00-0		1	1 unit	42J
	starters							
	Through the system interf the USB interface of the F							
3UF7941-0AA00-0		O/I G						
Communication mod								
	PROFIBUS communicat			3RW4900-0KC00		1	1 unit	42H
	For 3RW44 soft starter int PROFIBUS network with [
		and higher (or date of manufac- of the module, DPV1 operation						
	of the soft starter on a Y-li	nk is also possible (only DPV0						
	operation possible with <	E04).						
3RW4900-0KC00								
3RW4900-0NC00	PROFINET communicat	ion module	>	3RW4900-0NC00		1	1 unit	42H
-0-	For 3RW44 soft starter int			011114300 011000		'	1 dilit	7211
SPECIAL PRINT	PROFINET network, suita	ble for devices with firmware						
	version E12 or higher							
APIMAGO ANGOS								
3RW4900-0NC00 External display and	anaratar madula							
External display and	•	ing the functions provided by		3RW4900-0AC00		1	1 unit	42H
BOWN SPUS SWA	the soft starter using an e	xternally mounted display and		01111 1000 071000		'	i dilit	1211
	operator module in degre (e.g. in the control cabine							
	Connection cables	,						
		(serial) of the 3RW44 soft starter						
3RW4900-0AC00	to the external display an • Length 0.5 m, flat	d operator module	•	3UF7932-0AA00-0		1	1 unit	42J
	 Length 0.5 m, round 		>	3UF7932-0BA00-0		1	1 unit	42J
	 Length 1.0 m, round Length 2.5 m, round 		>	3UF7937-0BA00-0 3UF7933-0BA00-0		1 1	1 unit 1 unit	42J 42J
Box terminal blocks								
	Box terminal block							
	(2 units are required for e							
1	3RW442. 3RW443.	 Included in the scope of supply Up to 70 mm² 	•	3RT1955-4G		1	1 unit	41B
	3110/443.	• Up to 120 mm ²		3RT1956-4G		1	1 unit	41B
3RT1956-4G		Auxiliary conductor	5	3TX7500-0A		1	1 unit	41B
	3RW444.	 connection for box terminals Up to 240 mm² (with auxiliary 		3RT1966-4G		1	1 unit	41B
	31100444.	conductor connection)		3H11900-4G		'	i uiiit	410
Covers for soft starte	ers							
	Terminal covers for box							
	Additional touch protection (2 units required per devi	on to be fitted at the box terminals ce)						
	3RW442. and 3RW443.	55)	>	3RT1956-4EA2		1	1 unit	41B
	3RW444.		2	3RT1966-4EA2		1	1 unit	41B
N as -	Terminal covers for cab	e lugs and busbar connections						
27 Charles of	3RW442. and 3RW443.	For complying with the voltage		3RT1956-4EA1		1	1 unit	41B
	3RW444.	clearances and as touch protection	2	3RT1966-4EA1		1	1 unit	41B
SIEMENS		(2 units required per contactor)						
3HT1956-46A1		Also fits on mounted box terminals.						
0 1 1		tomiaio.						
	•							
3RT1956-4EA1								

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

General Performance Soft Starters 3RW52 Soft Starters

General data NEW

Overview

More information

Homepage, see www.siemens.com/soft-starter Industry Mall, see www.siemens.com/product?3RW

TIA Selection Tool Cloud (TST Cloud), see

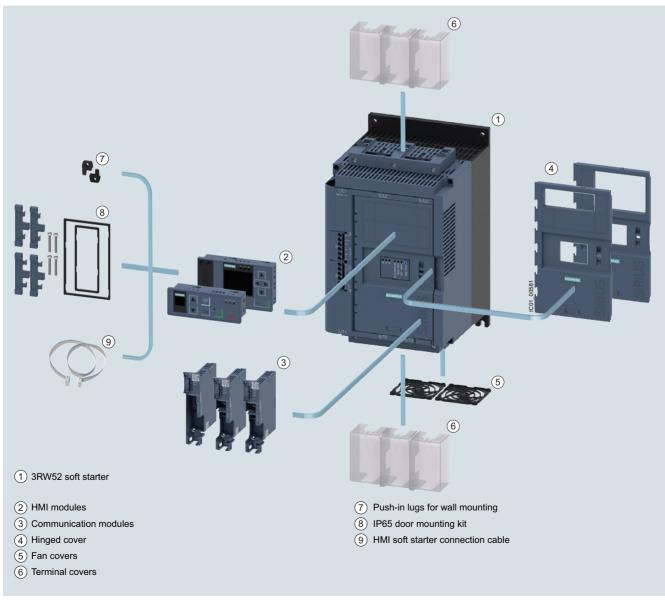
https://mall.industry.siemens.com/spice/tstweb/?KMAT=3rw52

Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917 SIRIUS Soft Starter ES (TIA Portal) for diagnostics, see page 14/5



SIRIUS 3RW52 General Performance soft starters are the ideal solution for standard applications. With ideal 3-phase motor control, they cover the performance range from 5.5 to 560 kW (at 400 V).

With optional HMI modules, plug-in communication modules (PROFINET, PROFIBUS, Modbus) and either an analog output or thermistor motor protection, they ensure maximum flexibility. With their modern hybrid switching technology, the SIRIUS 3RW52 soft starters offer efficient switching for long-term, energy-saving use.



General Performance soft starters with accessories (see page 6/54), for expansion with HMI module or communication modules.



Benefits



Product characteristics / function	Performance features / benefits
Hybrid switching devices and three-phase motor control	Minimum power loss and optimum/symmetrical motor control
TIA-Integration – communication modules and HMI modules optional	Efficient configuration and maximum flexibility in automation engineering
Soft Torque	Reduced mechanical loading and optimum pump stop
Parameterization using potentiometers	Simple and fast commissioning
Wide range for control supply and main voltage	Low variance, high system availability even with weak supply networks

General Performance Soft Starters 3RW52 Soft Starters

General data **NEW**

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/25100/td

Manual "SIRIUS 3RW52 Soft Starter", see

https://support.industry.siemens.com/cs/ww/en/view/109753751

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25100/faq

Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917

3RW5216 3RW5224 3RW5226 Type 3RW5213 3RW5243

	3RW5214 3RW5215	3RW5217	3RW5225	3RW5227 3RW5234 3RW5235 3RW5236	3RW5244 3RW5245 3RW5246 3RW5247 3RW5248
Installation/fixing/dimensions	•	•			

			ľ

Width x height x depth



mm 170 × 275 × 152

 $185 \times 306 \times 203$

210 × 393 × 203

Type of fixing	Screw fixing			
Mounting position	For vertical mounting surface can be rotated +/-10° and tilted forward or backward	For vertical mounting surface can be rotated +/-90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward	ing surface can be rotated +/-10° and tilted forward or backward	For vertical mounting surface can be rotated +/-90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward

with side-by-side mounting
 Above

100 mm • At the side 5 mm • Below mm 75

5 000 Maximum installation m altitude above sea level¹⁾

Ambient conditions **Ambient temperature**

 During operation²⁾ °C -25 ... +60 • During storage °С -40 ... +80

Environmental category according to IEC 60721

• During operation

3K6 (no ice formation, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6

· During storage

1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not enter the devices), 1M4

2K2, 2C1, 2S1, 2M2 (max. height of fall 0.3 m)

• During transport

1) Derating above 1 000 m, see Manual or characteristic curve on page 6/7.

²⁾ Note derating above 40 °C.

NEW General data

Туре		3RW521C0.	3RW521C1.	3RW522C0. 3RW523C0.	3RW522C1. 3RW523C1.	3RW524C0.	3RW524C1.
Control circuit/control							
Control supply voltage							
 At AC/DC, rated value 	V	24/24	/	24/24	/	24/24	/
• At AC	V		110 250		110 250		110 250
 Relative negative tolerance/ relative positive tolerance with AC 	%	-20/20	-15/10	-20/20	-15/10	-20/20	-15/10
 Relative negative tolerance/ relative positive tolerance with DC 	%	-20/20	/	-20/20	/	-20/20	/
Frequency of the control supply voltage	Hz	50 60					
Relative negative tolerance/relative positive tolerance	%	-10/10					
Control supply current in standby mode, rated value	mA	160	30	160	30	160	30
Holding current in bypass mode, rated value	mA	360	75	380	75	470	100
Maximum locked-rotor current on closing the bypass contacts	А	0.75	0.17	7.6	2.5	7.6	2.2
Maximum inrush current peak on applying the control supply voltage	А	3.3	12.2	3.3	12.2	3.3	12.2
Duration of inrush current peak on applying the control supply voltage	ms	12.1	2.2	12.1	2.2	12.1	2.2
Type of overvoltage protection		Varistors					
Type of short-circuit protection for control circuit ¹⁾		Fuse 4 A gG (I_{CU} =1 kA), fuse 6 A quick-response (I_{CU} =1 kA), MCB C1 (I_{CU} =600 A), MCB C6 (I_{CU} =300 A)					

¹⁾ Not included in scope of supply

Туре		3RW52C.4	3RW52C.5
Power electronics			
Operational voltage, rated value	V	200 480	200 600
 Relative negative tolerance/ relative positive tolerance 	%	-15/10	
Operational voltage for inside-delta circuit, rated value	V	200 480	200 600
 Relative negative tolerance/ relative positive tolerance 	%	-15/10	
Operating frequency	Hz	50 60	
 Relative negative tolerance/ relative positive tolerance 	%	-10/10	
Minimum load [% of $I_{\rm M}$] ¹⁾	%	15	
Maximum cable length between soft starter and motor	m	800	

 $^{^{1)}}$ Relative to set $I_{\rm e}$.

SIRIUS 3RW Soft Starters General Performance Soft Str

General Performance Soft Starters 3RW52 Soft Starters

General data NEW

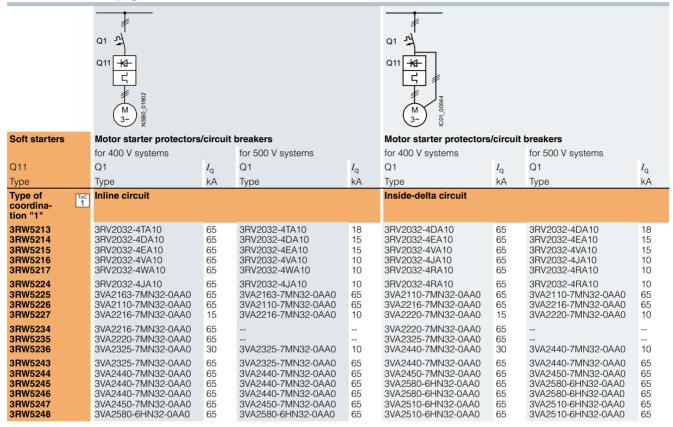
Motor feeders according to IEC with 3RV2/3VA motor starter protectors/circuit breakers

Without semiconductor protection

Type of coordination "1", CLASS 10, short-circuit breaking capacity $I_{\rm q}$ in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.





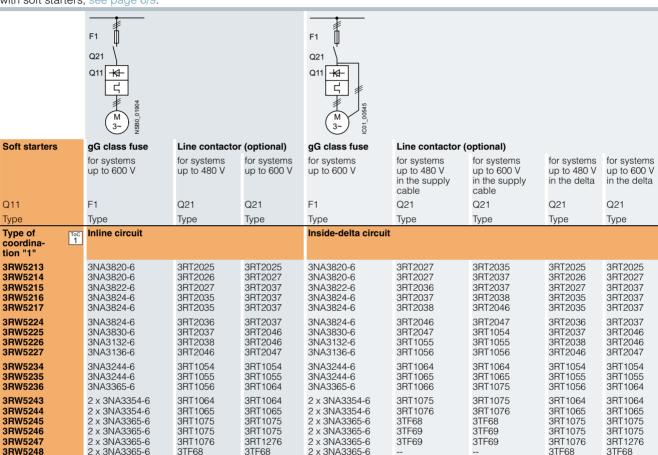
General data

Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity I_{circ} = 65 kA

Note:



General Performance Soft Starters 3RW52 Soft Starters

General data NEW

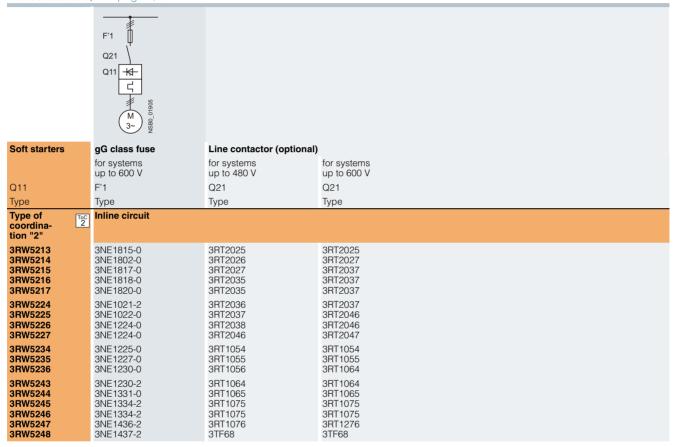
Motor feeders according to IEC with 3NE1 SITOR fuses

gR class full-range fuses for semiconductor protection, cable and line protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



Note:

In inside-delta circuits, a gR class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" (see page 6/49).



General data

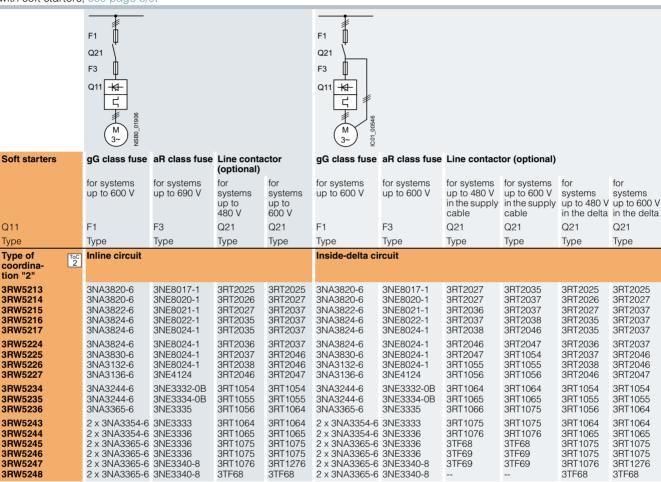
Motor feeders according to IEC with 3NE8 / 3NE4 / 3NE3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



Note:

For CLASS 10 applications, as an alternative to the gG class full-range fuses for cable and line protection 3NA3 (F1), 3RV2/3VA motor starter protectors/circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/46). In these cases, optional line contactors can be dispensed with.

General Performance Soft Starters 3RW52 Soft Starters

Inline circuit IE3/IE4 ready NEW

Selection and ordering data

For normal starting (CLASS 10A)







3RW522



3RW523.



3RW524.

At 40 °C				At 50 °C					SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing pow hase m		Opera- tional	Rating [hp] for three-p	hase motor	'S			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	oltage 2	200 4	480 V										
13	3	5.5		11.5	2	3	7.5		5	3RW5213-□□C□4		1	1 unit	42S
18	4	7.5		15.9	3	5	10		5	3RW5214-□□C□4		1	1 unit	42S
25	5.5	11		22.3	5	7.5	15		5	3RW5215-□□C□4		1	1 unit	42S
32	7.5	15		28.4	7.5	10	20		5	3RW5216-□□C□4		1	1 unit	42S
38	11	18.5		33.5	10	10	20		5	3RW5217-□□C□4		1	1 unit	42S
47	11	22		41.6	10	10	30		5	3RW5224-□□C□4		1	1 unit	42S
63	18.5	30		55.5	15	20	40		5	3RW5225-□□C□4		1	1 unit	42S
77	22	37		68	20	25	50		5	3RW5226-□□C□4		1	1 unit	42S
93	22	45		82.5	25	30	60		5	3RW5227-□□C□4		1	1 unit	42S

Type of electrical connection for the control circuit

Screw terminals Spring-type terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC 110 ... 250 V AC

 $^{^{\}rm 1)}$ 3RW52 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).



For the constraints for the motor outputs specified here, see

								page 6	/7.					
At 40 °C				At 50 °C					SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing pow		Opera- tional	Rating [hp] for three-p	hase motor	S			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	oltage 2	200 4	480 V										
113 143	30 37	55 75		101 128	30 40	30 40	75 100		5 5	3RW5234-□□C□4 3RW5235-□□C□4		1 1	1 unit 1 unit	42S 42S
171	45	90		153	50	50	100		5	3RW5236-□□C□4		1	1 unit	42S
210 250	55 75	110 132		186 220	60 60	60 75	150 150		5 5	3RW5243-□□C□4 3RW5244-□□C□4		1	1 unit 1 unit	42S 42S
315	90	160		279	75	100	200		5	3RW5245-□□C□4		i	1 unit	42S
370	110	200		328	100	125	250		5	3RW5246-□□C□4		1	1 unit	42S
470	132	250		416	150	150	350		5	3RW5247-□□C□4		1	1 unit	42S
Type of e Spring-ty Screw ter	pe termi		 ction fo	504	150 rol circuit	200	400		5	3RW5248-□□C□4 2 6		1	1 unit	42S

Product function

Analog output Thermistor motor protection

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

 $^{^{\}rm 1)}$ 3RW52 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).

IE3/IE4 ready Inline circuit

For normal starting (CLASS 10A)









3RW5213.

3RW522

3RW523

3RW524.

At 40 °C				At 50 °C					SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ting pow		Opera- tional	Rating [hp] for three-p	hase motor	rs			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	oltage 2	200 6	600 V										
13	3	5.5	7.5	11.5	2	3	7.5	10	5	3RW5213-□□C□5		1	1 unit	42S
18	4	7.5	11	15.9	3	5	10	10	5	3RW5214-□□C□5		1	1 unit	42S
25	5.5	11	15	22.3	5	7.5	15	20	5	3RW5215-□□C□5		1	1 unit	42S
32	7.5	15	18.5	28.4	7.5	10	20	25	5	3RW5216-□□C□5		1	1 unit	42S
38	11	18.5	22	33.5	10	10	20	30	5	3RW5217-□□C□5		1	1 unit	42S
47	11	22	30	41.6	10	10	30	40	5	3RW5224-□□C□5		1	1 unit	42S
63	18.5	30	37	55.5	15	20	40	50	5	3RW5225-□□C□5		1	1 unit	42S
77	22	37	45	68	20	25	50	60	5	3RW5226-□□C□5		1	1 unit	42S
93	22	45	55	82.5	25	30	60	75	5	3RW5227-□□C□5		1	1 unit	42S

Type of electrical connection for the control circuit

Standard delivery time SD = 2 days (d).

1) 3RW52 soft starter with screw terminals for operational voltage up to 600 V:

Screw terminals Spring-type terminals

Product function

Analog output
Thermistor motor protection

Control supply voltage

24 V AC/DC

For the constraints for the motor outputs specified here, see page 6/7.

								1 0						
At 40 °C				At 50 °C					SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing pow		Opera- tional	Rating [hp] for three-p	hase motor	S			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	oltage 2	200 6	600 V										
113 143 171	30 37 45	55 75 90	75 90 110	101 128 153	30 40 50	30 40 50	75 100 100	100 125 150	5 5 5	3RW5234-□□C□5 3RW5235-□□C□5 3RW5236-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
210 250 315	55 75 90	110 132 160	132 160 200	186 220 279	60 60 75	60 75 100	150 150 200	150 200 250	5 5 5	3RW5243-□□C□5 3RW5244-□□C□5 3RW5245-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
370 470 570	110 132 160	200 250 315	250 315 355	328 416 504	100 150 150	125 150 200	250 350 400	300 450 500	5 5 5	3RW5246-□□C□5 3RW5247-□□C□5 3RW5248-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S

Type of electrical connection for the control circuit

Spring-type terminals Screw terminals

Product function

Analog output Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC

 $^{^{\}rm 1)}$ 3RW52 soft starter with screw terminals for operational voltage up to 600 V: Standard delivery time SD = 2 days (d).



^{110 ... 250} V AC

Note:

General Performance Soft Starters 3RW52 Soft Starters

Inside-delta circuit IE3/IE4 ready NEW

Selection and ordering data

For normal starting (CLASS 10A)









3RW521

3RW522

3RW523.

3RW524

At 40 °C f	for inside	e-delta d	circuit	At 50 °C t	for inside-de	elta circuit			SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing pow hase m		Opera- tional	Rating [hp] for three-p	hase motor	'S			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	oltage 2	200 4	180 V										
22.5	5.5	11		19.9	5	5	10		5	3RW5213-□□C□4		1	1 unit	42S
31.5	7.5	15		28	7.5	7.5	20		5	3RW5214-□□C□4		1	1 unit	42S
43.3	11	18.5		39	10	10	25		5	3RW5215-□□C□4		1	1 unit	42S
55.4	15	22		49	15	15	30		5	3RW5216-□□C□4		1	1 unit	42S
65.8	18.5	30		58	15	20	40		5	3RW5217-□□C□4		1	1 unit	42S
81.4	22	45		72	20	25	50		5	3RW5224-□□C□4		1	1 unit	42S
109	30	55		96	30	30	75		5	3RW5225-□□C□4		1	1 unit	42S
133	37	75		118	30	40	75		5	3RW5226-□□C□4		1	1 unit	42S
161	45	90		143	40	50	100		5	3RW5227-□□C□4		1	1 unit	42S

Type of electrical connection for the control circuit

Screw terminals Spring-type terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage 24 V AC/DC

For the constraints for the motor outputs specified here, see

At 40 °C f	for inside	e-delta d	circuit	At 50 °C	for inside-de	elta circuit			SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing pow hase m		Opera- tional	Rating [hp] for three-p	hase motor	'S			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	oltage :	200 4	480 V										
196	55	110		175	50	60	125		5	3RW5234-□□C□4		1	1 unit	42S
248	75	132		222	75	75	150		5	3RW5235-□□C□4		1	1 unit	42S
296	90	160		265	75	100	200		5	3RW5236-□□C□4		1	1 unit	42S
364	110	200		322	100	125	250		5	3RW5243-□□C□4		1	1 unit	42S
433	132	250		381	125	150	300		5	3RW5244-□□C□4		1	1 unit	42S
546	160	315		483	150	200	400		5	3RW5245-□□C□4		1	1 unit	42S
641	200	355		568	200	200	450		5	3RW5246-□□C□4		1	1 unit	42S
814	250	400		721	250	250	600		5	3RW5247-□□C□4		1	1 unit	42S
987	315	560		873	300	350	750		5	3RW5248-□□C□4		1	1 unit	42S

Type of electrical connection for the control circuit

Spring-type terminals Screw terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC 110 ... 250 V AC

^{1) 3}RW52 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).



^{110 ... 250} V AC 3RW52 soft starter with screw terminals for operational voltage up to 480 V: Standard delivery time SD = 1 day (d).

IE3/IE4 ready

Inside-delta circuit

For normal starting (CLASS 10A)







3RW522



3RW523



3RW524

01111021.					OHWOLL.				0	020.		01	11102 1.	
At 40 °C f	for inside	e-delta d	ircuit	At 50 °C	for inside-de	elta circuit			SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing pow hase m		Opera- tional	Rating [hp] for three-p	hase motor	rs			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	oltage 2	200 6	600 V										
22.5 31.5 43.3	5.5 7.5 11	11 15 18.5	15 18.5 22	19.9 28 39	5 7.5 10	5 7.5 10	10 20 25	15 25 30	5 5 5	3RW5213-□□C□5 3RW5214-□□C□5 3RW5215-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
55.4 65.8	15 18.5	22 30	30 37	49 58	15 15	15 20	30 40	40 50	5 5	3RW5216-□□C□5 3RW5217-□□C□5		1 1	1 unit 1 unit	42S 42S
81.4 109 133 161	22 30 37 45	45 55 75 90	45 55 90 110	72 96 118 143	20 30 30 40	25 30 40 50	50 75 75 100	60 75 100 125	5 5 5 5	3RW5224-□□C□5 3RW5225-□□C□5 3RW5226-□□C□5 3RW5227-□□C□5		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42S 42S 42S 42S

Type of electrical connection for the control circuit

Standard delivery time SD = 2 days (d).

Screw terminals Spring-type terminals

Product function

Analog output
Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC $^{\rm 1)}$ 3RW52 soft starter with screw terminals for operational voltage up to 600 V:

For the constraints for the motor outputs specified here, see page 6/7.

								pago						
At 40 °C f	for inside	e-delta c	ircuit	At 50 °C f	for inside-de	elta circuit			SD ¹⁾	Article No.	Price	PU	PS*	PG
Opera- tional		ing pow hase mo		Opera- tional	Rating [hp] for three-p	hase motor	S			per PU	(UNIT, SET, M)		
current	At 230 V	At 400 V	At 500 V	current	At 200/208 V	At 220/230 V	At 460/480 V	At 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp	d					
Operati	onal vo	ltage 2	200 6	600 V										
196	55	110	132	175	50	60	125	150	5	3RW5234-□□C□5		1	1 unit	42S
248	75	132	160	222	75	75	150	200	5	3RW5235-□□C□5		1	1 unit	42S
296	90	160	200	265	75	100	200	250	5	3RW5236-□□C□5		1	1 unit	42S
364	110	200	250	322	100	125	250	300	5	3RW5243-□□C□5		1	1 unit	42S
433	132	250	315	381	125	150	300	350	5	3RW5244-□□C□5		1	1 unit	42S
546	160	315	355	483	150	200	400	500	5	3RW5245-□□C□5		1	1 unit	42S
641	200	355	450	568	200	200	450	600	5	3RW5246-□□C□5		1	1 unit	42S
814	250	400	500	721	250	250	600	800	5	3RW5247-□□C□5		1	1 unit	42S
987	315	560	630	873	300	350	750	950	5	3RW5248-□□C□5		1	1 unit	42S

Type of electrical connection for the control circuit

Spring-type terminals

Screw terminals

Product function

Analog output Thermistor motor protection

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

 $^{^{1)}\,}$ 3RW52 soft starter with screw terminals for operational voltage up to 600 V: Standard delivery time SD = 2 days (d).

General Performance Soft Starters 3RW52 Soft Starters

Accessories NEW

Selection and ordering	ng data									
	Product designation	Manufacturer's Article No. of the soft starter	Type of product	Application	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fan covers										
	Fan cover	3RW5216/17 (1x), 3RW5226/27, 3RW523 (2x)			1	3RW5983-0FC00		1	1 unit	42S
3RW5983-0FC00		3RW524			1	3RW5984-0FC00		1	1 unit	42S
Terminal covers										
South and the said	Terminal cover	3RW522, 3RW523 (2x)			1	3RW5983-0TC20		1	1 unit	42S
3RW5983-0TC20										
Common of the second		3RW524 (2x)			1	3RW5984-0TC20		1	1 unit	42\$
3RW5984-0TC20										
Enclosure componen	its									
3RW5950-0GL30	Hinged cover	3RW52	With cutout for HMI module High Feature		1	3RW5950-0GL30		1	1 unit	42S
SAWSSSO-UGLSU			With cutout for HMI module Standard		1	3RW5950-0GL40		1	1 unit	42\$
3RW5950-0GL40										
Communication mode	ules									
	Communica- tion module	3RW52	PROFINET Standard		1	3RW5980-0CS00		1	1 unit	42S
			PROFIBUS		1	3RW5980-0CP00		1	1 unit	42S
			Modbus TCP		1	3RW5980-0CT00		1	1 unit	42S
3RW5980-0CS00										

							N	EW	Access	ories
	Product designation	Manufacturer's Article No. of the soft starter	Type of product	Application	SD		Price er PU	PU (UNIT, SET, M)	PS*	PG
HMI modules					u					
3RW5980-0HF00	HMI module	3RW52	High Feature		1	3RW5980-0HF00		1	1 unit	42S
OTTWOSOO OTTT OO			Standard		1	3RW5980-0HS00		1	1 unit	42S
3RW5980-0HS00										
3RW3980-0H300	Door	3RW52	IP65	For	1	3RW5980-0HD00		1	1 unit	42S
3RW5980-0HD00	mounting kit	J		HMI modules						.20
Connection cables										
	HMI connection cable	3RW52	5 m, round	For door mounting	1	3RW5980-0HC60		1	1 unit	42S
-1			2.5 m, round	=		3UF7933-0BA00-0		1	1 unit	42J
			1.0 m, round 0.5 m, round	-	<u> </u>	3UF7937-0BA00-0		1	1 unit 1 unit	42J 42J
3UF7930BA00-0			0.5 m, round		-	3UF7932-0BA00-0			i unit	420
3UF7931-0AA00-0			0.1 m, flat	For mounting in the device	•	3UF7931-0AA00-0		1	1 unit	42J
Further accessories										
3ZY1311-0AA00	Push-in lugs for wall mounting		Two lugs are required per device		2	3ZY1311-0AA00		1	10 units	41L

General data

Overview

More information

Homepage, see www.siemens.com/soft-starter Industry Mall, see www.siemens.com/product?3RW

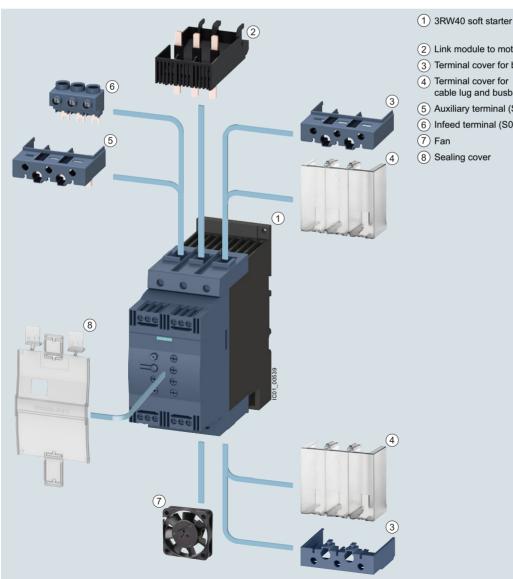


TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/tstweb/?KMAT=3rw40 Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917

The SIRIUS 3RW40 Basic Performance soft starters are suitable for soft starting and stopping of three-phase asynchronous

Due to two-phase control, the current is kept at minimum values in all three phases throughout the entire start-up time and disturbing direct current components are eliminated in addition. This not only enables the two-phase starting of motors up to 250 kW (at 400 V) but also avoids the current and torque peaks which occur e.g. with wye-delta starters.

The SIRIUS 3RW40 soft starters are suitable for the starting of explosion-proof motors with "increased safety" type of protection EEx e according to ATEX Directive 94/9/EC.



- (2) Link module to motor starter protector
- (3) Terminal cover for box terminals (S2, S3)
- (4) Terminal cover for cable lug and busbar connections (S3)
- (5) Auxiliary terminal (S3)
- (6) Infeed terminal (S0)

3RW40 Basic Performance soft starter with accessories (see page 6/68)

General data

Benefits











Product characteristics / function	Performance features / benefits
Small and compact design	Space-saving, clearly arranged control panel layout
Motor overload and intrinsic device protection without additional wiring	Adjustable trip classes, integrated diagnostics functions
Integrated bypass contact system	Reduction of power loss during operation
Certified according to ATEX Directive 94/9/EC	Suitable for the starting of explosion-proof motors with "increased safety" type of protection EEx e.
Optional thermistor motor protection up to a rating of 55 kW	Full motor protection

General data

Technical specifications

More information	
Manual "SIRIUS 3RW30/3RW40 Soft Starters", see https://support.industry.siemens.com/cs/ww/en/view/38752095 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25251/faq	Catalog LV 10, see www.siemens.com/lowvoltage/lv10

Туре			3RW402.	3RW403.	3RW404.	3RW405.	3RW407.	
Mechanics and environment								
Mounting dimensions (W x H x D) • Screw terminals • Spring-type terminals	T O	mm mm				120 x 198 x 250 120 x 198 x 250		
Permissible ambient temperature During operation During storage		°C °C	-25 +60; (de -40 +80	rating from +40)				
Weight		kg	0.77	1.35	1.9	4.9 (3RW4055) 6.9 (3RW4056)	8.9	
Permissible mounting position ¹⁾								
With auxiliary fan (for 3RW402 3RW404.)			90° ++++	12,5°,22,5°				
Without auxiliary fan (for 3RW402 3RW404.)			10°	10° 10° 10° 10° 10° 10° 10° 10° 10° 10°		 (fan integrated soft starter)	in the	
Installation type ¹⁾	Stand-alone installation		3RW402.			3RW405., 3RW	407.	
			NSB0_02213	① ≥ 15 mm (≥ ② ≥ 40 mm (≥ ③ ≥ 60 mm (≥	≥ 1.56 in)	① ≥ 5 mm (≥ 0 ② ≥ 75 mm (≥ ③ ≥ 100 mm (a	: 3 in)	
				3RW403., 3RW	404.			
				3 1 \(\) 3 \(\) 1 \(\) 3 \(\) 1	① ≥ 30 mm (≥ 1 ② ≥ 40 mm (≥ 2 ③ ≥ 60 mm (≥ 2	1.56 in)		
Permissible installation altitude		m	5000 (Derating from 1 000, see characteristic curve on page 6/7)					
Degree of protection			IP20 for 3RW402.; all others IP00					

¹⁾ In the case of deviations, please observe derating, see Manual in the chapter "Configuring".

Туре	Terminal		3RW402., 3RW403., 3RW404.		3RW405., 3RW407.
Control electronics					_
Rated values Rated control supply voltage • Tolerance	A1/A2	V %	24 AC/DC ± 20	110 230 AC/DC -15/+10	115 AC 230 AC
Rated frequency Tolerance		Hz %	50/60 ± 10		

General data

Туре		3RW402B.4, 3RW403B.4, 3RW404B.4	3RW402B.5, 3RW403B.5, 3RW404B.5	3RW405BB.4, 3RW407BB.4	3RW405BB.5, 3RW407BB.5
Power electronics					
Rated operational voltage Tolerance	V AC %	200 480 -15/+10	400 600	200 460	400 600
Maximum blocking voltage (thyristor)	VAC	1 600		1 400	1 800
Rated frequency Tolerance	Hz %	50/60 ± 10			
Uninterrupted duty at 40 °C (% of I _e)	%	115			
Minimum load (% of smallest adjustable rated motor current I_{M})	%	20 (at least 2 A)			
Maximum cable length between soft starter and motor	m	300			

Туре		3RW4024	3RW4026	3RW4027	3RW4028
Power electronics					
Load rating with rated operational current I _e • According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53a - At 40 °C - At 50 °C - At 60 °C	a A A	12.5 11 10	25.3 23 21	32.2 29 26	38 34 31
Smallest adjustable rated motor current I_{M} For the motor overload protection	А	5	10	17	23
Power loss • In operation after completed starting with uninterrupted rated operational current (40 °C) approx. • During starting with current limit set to 300% I _M (40 °C)	W	2 68	8 188	13 220	19 256
Permissible rated motor current and starts per hour at 40 / 50	°C				
 For normal starting (CLASS 10) Rated motor current I_M²), start-up time 3 s Starts per hour³) Rated motor current I_M²), start-up time 4 s Starts per hour³) 	A 1/h A	12.5/11 50/50 12.5/11	25/23 23/23 25/23	32/29 23/23 32/29	38/34 19/19 38/34

 $^{^{\}rm 1)}$ Measurement at 60 °C according to UL/CSA not required.

 $^{^{2)}}$ Current limit on soft starter set to 300% $I_{\rm M},~T_{\rm u}$ = 40 / 50 °C. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 30%, $T_{\rm u}$ = 40 / 50 °C, standalone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency in other mounting position, direct mounting, side-by-side mounting, and implementation of optional auxiliary fan, see Manual in the chapter "Configuring".

General data

Туре		3RW4036	3RW4037	3RW4038	3RW4046	3RW4047
Power electronics						
Load rating with rated operational current I _e • According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53a - At 40 °C - At 50 °C - At 60 °C	A A A	45 42 39	63 58 53	72 62.1 60	80 73 66	106 98 90
Smallest adjustable rated motor current $I_{\mathbf{M}}$ For the motor overload protection	Α	23	26	35	43	46
Power loss In operation after completed starting with uninterrupted rated operational current (40 °C) approx. During starting with current limit set to 300% I _M (40 °C)	W	6 316	12 444	15 500	12 576	21 768
Permissible rated motor current and starts per hour at 40 / 50 °C						
 For normal starting (CLASS 10) Rated motor current I_M², start-up time 3 s Starts per hour³ Rated motor current I_M², start-up time 4 s Starts per hour³ 	A 1/h A 1/h	45/42 38/38 45/42 26/26	63/58 23/23 63/58 15/15	72/62 22/22 72/62 15/15	80/73 22/22 80/73 15/15	106/98 15/15 106/98 10/10

 $^{^{\}rm 1)}$ Measurement at 60 °C according to UL/CSA not required.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 30%, $T_{\rm u}$ = 40 / 50 °C, standalone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency in other mounting position, direct mounting, side-by-side mounting, and implementation of optional auxiliary fan, see Manual in the chapter "Configuring".

Туре		3RW4055	3RW4056	3RW4073	3RW4074	3RW4075	3RW4076
Power electronics							
Load rating with rated operational current I _e • According to IEC and UL/CSA ¹), for individual mounting, AC-53a - At 40 °C - At 50 °C - At 60 °C	A A A	134 117 100	162 145 125	230 205 180	280 248 215	356 315 280	432 385 335
Smallest adjustable rated motor current I_{M} For the motor overload protection	Α	59	87	80	130	131	207
Power loss In operation after completed starting with uninterrupted rated operational current (40 °C) approx. During starting with current limit set to 350% I _M (40 °C)	W W	60 1 043	75 1 355	2 448	90 3 257	125 3 277	165 3 600
Permissible rated motor current and starts per hour at 40 / 50 °C							
 For normal starting (CLASS 10) Rated motor current I_M²⁾, start-up time 10 s Starts per hour³⁾ 	A 1/h	134/117 20/20	162/145 8/8	230/205 14/14	280/248 20/20	356/315 16/16	432/385 17/17
- Rated motor current $I_{\rm M}^{(2)}$, start-up time 20 s - Starts per hour ³⁾	A 1/h	134/117 7/7	162/145 1.4/1.4	230/205 3/3	280/248 8/8	356/315 5/5	432/385 5/5

 $^{^{\}rm 1)}$ Measurement at 60 °C according to UL/CSA not required.

 $^{^{2)}}$ Current limit on soft starter set to 300% $I_{\rm M},~T_{\rm u}$ = 40 / 50 °C. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

²⁾ Current limit on soft starter set to 350% $I_{\rm M}$, $T_{\rm u}$ = 40 / 50 °C. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 70%, $T_{\rm u}$ = 40 / 50 °C, standalone installation vertical. The quoted switching frequencies do not apply for automatic mode.

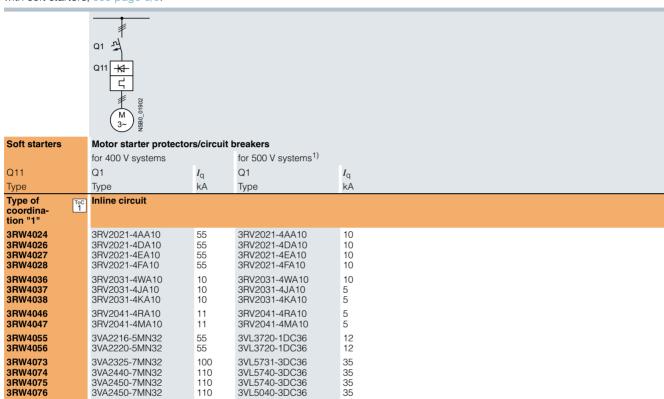
General data

Motor feeders according to IEC with 3RV2/3VA motor starter protectors/circuit breakers

Without semiconductor protection

Type of coordination "1", CLASS 10, short-circuit breaking capacity $I_{\rm q}$ in kA, see table

Note:



¹⁾ For 3RW405 and 3RW407 for systems up to 600 V.

SIRIUS 3RW Soft Starters Basic Performance Soft Start

Basic Performance Soft Starters 3RW40 Soft Starters

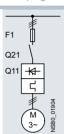
General data

Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection $\,$

Type of coordination "1", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:



Soft starters	gG class fuse	Line contactor (opt	ional)	
	for systems up to 600 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V
Q11	F1	Q21	Q21	Q21
Туре	Туре	Туре	Туре	Type
Type of coordination "1"	Inline circuit			
3RW4024	3NA3820-6	3RT2025	3RT2025/ 3RT2018 (in size S00)	3RT2025
3RW4026 3RW4027 3RW4028	3NA3822-6 3NA3824-6 3NA3824-6	3RT2026 3RT2027 3RT2028	3RT2027 3RT2028 3RT2035	3RT2037 3RT2037 3RT2037
3RW4036 3RW4037 3RW4038	3NA3130-6 3NA3132-6 3NA3132-6	3RT2036 3RT2037 3RT2038	3RT2036 3RT2037 3RT2038	3RT2038 3RT2046 3RT2046
3RW4046 3RW4047	3NA3136-6 3NA3136-6	3RT2045 3RT2047	3RT2045 3RT2047	3RT2047 3RT1054
3RW4055 3RW4056	3NA3244-6 3NA3244-6	3RT1055 3RT1056	3RT1055 3RT1056	3RT1055 3RT1056
3RW4073 3RW4074 3RW4075 3RW4076	2 x 3NA3354-6 2 x 3NA3354-6 2 x 3NA3365-6 2 x 3NA3365-6	3RT1065 3RT1066 3RT1075 3RT1076	3RT1065 3RT1066 3RT1075 3RT1076	3RT1065 3RT1066 3RT1075 3RT1076

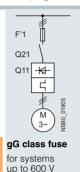
General data

Motor feeders to IEC with 3NE1 SITOR fuses

gR class full-range fuses for semiconductor protection, cable and line protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:



Soft starters	gG class fuse	Line contactor (or	otional)	
	for systems up to 600 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V
Q11	F'1	Q21	Q21	Q21
Туре	Туре	Туре	Туре	Туре
Type of coordination "2"	Inline circuit			
3RW4024	3NE1814-0	3RT2025	3RT2025/ 3RT2018 (in size S00)	3RT2025
3RW4026 3RW4027 3RW4028	3NE1803-0 3NE1020-2 3NE1020-2	3RT2026 3RT2027 3RT2028	3RT2027 3RT2028 3RT2035	3RT2037 3RT2037 3RT2037
3RW4036 3RW4037 3RW4038	3NE1020-2 3NE1820-0 3NE1820-0	3RT2036 3RT2037 3RT2038	3RT2036 3RT2037 3RT2038	3RT2038 3RT2046 3RT2046
3RW4046 3RW4047	3NE1021-0 3NE1022-0	3RT2045 3RT2047	3RT2045 3RT2047	3RT2047 3RT1054
3RW4055 3RW4056	3NE1227-2 3NE1227-2	3RT1055 3RT1056	3RT1055 3RT1056	3RT1055 3RT1056
3RW4073 3RW4074 3RW4075 3RW4076	3NE1331-2 3NE1333-2 3NE1334-2 3NE1435-2	3RT1065 3RT1066 3RT1075 3RT1076	3RT1065 3RT1066 3RT1075 3RT1076	3RT1065 3RT1066 3RT1075 3RT1076

General data

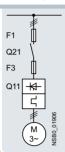
Motor feeders according to IEC with 3NE8 / 3NE4 / 3NE3 / 3NC fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



	Soft starters	gG class fuse	aR class fuse			Cylindrical fuses	Line contactor (optional)		
		for systems up to 600 V	for systems up to 600 V	for systems up to 600 V	for systems up to 600 V	for systems up to 480 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V
(Q11	F1	F3	F3	F3	F3	Q21	Q21	Q21
-	Гуре	Туре	Туре	Туре	Туре	Туре	Туре	Туре	Туре
	Type of coordina-cion "2"	Inline circuit							
	3RW4024	3NA3820-6		3NE4101	3NE8015-1	3NC2240	3RT2025	3RT2025/ 3RT2018 (in size S00)	3RT2025
	BRW4026 BRW4027 BRW4028	3NA3822-6 3NA3824-6 3NA3824-6	 	3NE4102 3NE4118 3NE4118	3NE8017-1 3NE8018-1 3NE8020-1	3NC2263 3NC2280 3NC2280	3RT2026 3RT2027 3RT2028	3RT2027 3RT2028 3RT2035	3RT2037 3RT2037 3RT2037
	BRW4036 BRW4037 BRW4038	3NA3130-6 3NA3132-6 3NA3132-6	 3NE3221	3NE4120 3NE4121	3NE8020-1 3NE8021-1 3NE8022-1	3NC2280 	3RT2036 3RT2037 3RT2038	3RT2036 3RT2037 3RT2038	3RT2038 3RT2046 3RT2046
	3RW4046 3RW4047	3NA3136-6 3NA3136-6	3NE3222 3NE3224	 	3NE8022-1 3NE8024-1	 	3RT2045 3RT2047	3RT2045 3RT2047	3RT2047 3RT1054
	3RW4055 3RW4056	3NA3244-6 3NA3244-6	3NE3227 3NE3227			 	3RT1055 3RT1056	3RT1055 3RT1056	3RT1055 3RT1056
	BRW4073 BRW4074 BRW4075 BRW4076	2 x 3NA3354-6 2 x 3NA3354-6 2 x 3NA3365-6 2 x 3NA3365-6	3NE3233 3NE3335	 	 	 	3RT1065 3RT1066 3RT1075 3RT1076	3RT1065 3RT1066 3RT1075 3RT1076	3RT1065 3RT1066 3RT1075 3RT1076

Note:

For CLASS 10 applications, as an alternative to the gG class full-range fuses for cable and line protection 3NA3 (F1), 3RV2/3VA motor starter protectors/circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/61). In these cases, optional line contactors can be dispensed with.

IE3/IE4 ready Inline circuit

Selection and ordering data

For normal starting (CLASS 10)







3RW amb	ient tem	perature	40 °C	3RW amb	ient tem	perature	e 50 °C		Size	SD ¹⁾	Article No.	Price	PU	PS*	PG
Rated value three-pha		rs			ated values of ree-phase motors					per PU	(UNIT, SET, M)				
Opera- tional		at ional volta	age <i>U</i> e	Opera- tional		ional vo									
current I _e	230 V	400 V	500 V	current I _e	200 V	230 V	460 V	575 V							
Α	kW	kW	kW	А	hp	hp	hp	hp		d					
Rated o	peratio	nal voli	age <i>U</i> e	200 48	0 V										
12.5 25 32 38	3 5.5 7.5 11	5.5 11 15 18.5	 	11 23 29 34	3 5 7.5 10	3 5 7.5 10	7.5 15 20 25	 	S0 S0 S0 S0	2 2 2 2	3RW4024-□BB□4 3RW4026-□BB□4 3RW4027-□BB□4 3RW4028-□BB□4		1 1 1	1 unit 1 unit 1 unit 1 unit	42G 42G 42G 42G
45 63 72	11 18.5 22	22 30 37		42 58 62	10 15 20	15 20 20	30 40 40	 	S2 S2 S2	2 2 2	3RW4036-□BB□4 3RW4037-□BB□4 3RW4038-□BB□4		1 1 1	1 unit 1 unit 1 unit	42G 42G 42G
80 106	22 30	45 55		73 98	20 30	25 30	50 75		S3 S3	2 2	3RW4046-□BB□4 3RW4047-□BB□4		1 1	1 unit 1 unit	42G 42G
Rated o	peratio	nal volt	age <i>U</i> e	400 60	0 V										
12.5 25 32 38 45 63 72 80 106		5.5 11 15 18.5 22 30 37 45 55	7.5 15 18.5 22 30 37 45 55 75	11 23 29 34 42 58 62 73 98	 	 	7.5 15 20 25 30 40 40 50 75	10 20 25 30 40 50 60 75	\$0 \$0 \$0 \$0 \$2 \$2 \$2 \$2 \$3 \$3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3RW4024-□BB□5 3RW4026-□BB□5 3RW4027-□BB□5 3RW4028-□BB□5 3RW4036-□BB□5 3RW4037-□BB□5 3RW4038-□BB□5 3RW4046-□BB□5 3RW4047-□BB□5		1 1 1 1 1 1 1 1	1 unit	42G 42G 42G 42G 42G 42G 42G 42G 42G

Article No. supplement for connection types

- With screw terminals
- With spring-type terminals²⁾

Article No. supplement for rated control supply voltage $U_{\rm s}$

- 24 V AC/DC 110 ... 230 V AC/DC
- $^{1)}$ Soft starter $U_{\rm e}$ 200 to 480 V with screw terminals: Standard delivery time SD = 1 day (d).
- 2) Main connection from size S2: screw terminals.

Basic Performance Soft Starters 3RW40 Soft Starters

Inline circuit IE3/IE4 ready

For normal starting (CLASS 10)







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		3RW

3RW ambi	ent tempe	erature 40	O °C	3RW ambi	ent tem	oerature	50 °C		Size	SD ¹⁾	Article No.	Price	PU	PS*	PG
Rated value three-phase				Rated value three-phase		s						per PU	(UNIT, SET, M)		
Opera- tional current <i>I</i> _e		nt nal voltaç 400 V	ge <i>U</i> e 500 V	Operational current $I_{\rm e}$	Rating operat 200 V	ional vol	0 0	575 V							
А	kW	kW	kW	А	hp	hp	hp	hp		d					
with the	rmistor	motor p	rotectio	0 480 V n, 24 V AC/I											
12.5 25	3 5.5	5.5 11		11 23	3 5	3 5	7.5 15		S0 S0	5 5	3RW4024-□TB04 3RW4026-□TB04		1 1	1 unit 1 unit	42G 42G
32	7.5	15		29	7.5	7.5	20		S0	5	3RW4027-□TB04		1	1 unit	42G
38	11	18.5		34	10	10	25		S0	5	3RW4028-□TB04		1	1 unit	42G
45 63	11 18.5	22 30		42 58	10 15	15 20	30 40		S2 S2	5 5	3RW4036-□TB04 3RW4037-□TB04		1	1 unit 1 unit	42G 42G
72	22	37		62	20	20	40		S2	5	3RW4038-□TB04		i	1 unit	42G
80 106	22 30	45 55		73 98	20 30	25 30	50 75		S3 S3	5 5	3RW4046-□TB04 3RW4047-□TB04		1 1	1 unit 1 unit	42G 42G
with the	rmistor	motor p	rotectio	0 600 V n, 24 V AC/I											
12.5 25		5.5 11	7.5 15	11 23			7.5 15	10 20	S0 S0	5 5	3RW4024-□TB05 3RW4026-□TB05		1	1 unit 1 unit	42G 42G
32		15	18.5	29			20	25	S0	5	3RW4027-□TB05		i	1 unit	42G
38		18.5	22	34			25	30	S0	5	3RW4028-□TB05		1	1 unit	42G
45 63		22 30	30 37	42 58			30 40	40 50	S2 S2	5 5	3RW4036-□TB05 3RW4037-□TB05		1 1	1 unit 1 unit	42G 42G
72		37	45	62			40	60	S2	5	3RW4038-□TB05		i	1 unit	42G
80 106		45 55	55 75	73 98			50 75	60 75	S3 S3	5 5	3RW4046-□TB05 3RW4047-□TB05		1 1	1 unit 1 unit	42G 42G
				•											

Article No. supplement for connection types

- With screw terminals
- With spring-type terminals²⁾

Note:

Soft starter U_e 200 to 480 V with screw terminals: Standard delivery time SD = 1 day (d).
 Main connection from size S2: screw terminals.

IE3/IE4 ready Inline circuit

For normal starting (CLASS 10)





3RW407

3RW ambi	ent tempe	erature 40) °C	3RW ambi	ent temi	oerature	50 °C		Size	SD ¹⁾	Article No.	Price	PU	PS*	PG
Rated valu				Rated valu		'S						per PU	(UNIT, SET, M)		
Operational current I _e		nal voltag		Operational current I_e		ional vol	0 0	· ·							
	230 V	400 V	500 V		200 V		460 V								
Α	kW	kW	kW	А	hp	hp	hp	hp		d					
Rated or	peration	al volta	ge <i>U_e 20</i>	0 460 V											
134 162	37 45	75 90		117 145	30 40	40 50	75 100		S6	5 5	3RW4055-□BB□4 3RW4056-□BB□4		1 1	1 unit 1 unit	42G 42G
230 280	75 90	132 160		205 248	60 75	75 100	150 200		S12	5 5	3RW4073-□BB□4 3RW4074-□BB□4		1 1	1 unit 1 unit	42G 42G
356 432	110 132	200 250		315 385	100 125	125 150	250 300			5 5	3RW4075-□BB□4 3RW4076-□BB□4		1 1	1 unit 1 unit	42G 42G
Rated op	peration	al volta	ge <i>U</i> _e 40	0 600 V	/										
134 162		75 90	90 110	117 145			75 100	100 150	S6	5 5	3RW4055-□BB□5 3RW4056-□BB□5		1 1	1 unit 1 unit	42G 42G
230 280		132 160	160 200	205 248			150 200	200 250	S12	5 5	3RW4073-□BB□5 3RW4074-□BB□5		1 1	1 unit 1 unit	42G 42G
356 432	 	200 250	250 315	315 385			250 300	300 400		5 5	3RW4075-□BB□5 3RW4076-□BB□5		1 1	1 unit 1 unit	42G 42G

Article No. supplement for connection types²⁾

- With spring-type terminals
- With screw terminals

Article No. supplement for rated control supply voltage $U_s^{(3)}$

- 115 V AC
- 230 V AC
- Soft starter U_e 200 to 460 V with screw terminals: Standard delivery time SD = 1 day (d), soft starter U_e 400 to 600 V with screw terminals: Standard delivery time SD = 2 days (d).
- ²⁾ Main circuit connection: busbar connection.
- $^{\rm 3)}$ Control by way of the internal 24 V DC supply and direct control via PLC possible.

Note:

Accessories

Accessories										
Selection and ordering	ng data									
	Solid or stranded	cross-section Finely stranded with end sleeve	AWG cables, solid or stranded	Tighten- ing torque	For soft starters size	SD	Article No. Pric		PS*	PG
	mm ²	mm ²	AWG	Nm		d				
Three-phase infeed to										
3RV2925-5AB	2.5 25	2.5 16	10 4	3 4	S0 (3RW402.)	•	3RV2925-5AB	1	1 unit	41E
	For soft sta	rtoro	Version			SD	Article No. Prid	e PU	PS*	PG
	Type	Size	VEISION			30	per F		го	FG
	туре	SIZE						SET, M)		
	4					d				
Box terminal blocks f										
11/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1		and ribbon guired for ea								
	3RW405.	S6	• Up to 70	mm ²			3RT1955-4G	1	1 unit	41B
•	0		• Up to 12	0 mm ²		>	3RT1956-4G	1	1 unit	41B
3RT1956-4G			Auxiliary of for box ter		connection	5	3TX7500-0A	1	1 unit	41B
	3RW407.	S12	Up to 240 (with aux connection)	iliary cond	uctor	•	3RT1966-4G	1	1 unit	41B
Auxiliary terminals										
4	Auxiliary t	erminals, 3	-pole							
10.0	3RW404.	S3				5	3RT2946-4F	1	1 unit	41B
3RT2946-4F										
Covers for soft starte										
		overs for b								
-1-1-		touch protec quired per de		tted at the	box terminals					
	3RW403. 3RW404.	S2 S3				>	3RT2936-4EA2 3RT2946-4EA2	1 1	1 unit 1 unit	41B 41B
3RT2936-4EA2	3RW405. 3RW407.	S6 S12				2	3RT1956-4EA2 3RT1966-4EA2	1	1 unit 1 unit	41B 41B
	-		able lugs ar	nd hushar	connections		31111300-4EA2	<u>'</u>	1 Ullit	410
	3RW404.	S3	For comply			5	3RT1946-4EA1	1	1 unit	41B
	3RW405.	S6	clearances	s and as tou	ch protection	>	3RT1956-4EA1	1	1 unit	41B
	3RW407.	S12	(2 units rec			2	3RT1966-4EA1	1	1 unit	41B
	Also fits in	case of S6 a	,		ox terminals					
3RT1946-4EA1										
F 6	Sealing co									
	3RW402. to 3RW404.	S2,				5	3RW4900-0PB10	1	1 unit	42G
2001 100 100 100	3RW405. a					5	3RW4900-0PB00	1	1 unit	42G
	3RW407.	S12								
3RW4900-0PB10										

								Acces	sories
	For motor starter protectors	For soft starters	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size		d					
Standard mounting ra	ail adapters								
	S2	S2	For mechanical fixing of motor starter protector and soft starter; for snapping onto standard mounting rail or for screw fixing Single-unit packaging	2	3RA2932-1CA00		1	1 unit	41B
3RA2932-1CA00									
	For soft start Type	ers Size		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d			,,		
Fans (to increase swi in positions different	tching frequency	uency and f	for device mounting on)						
	3RW402.	S0			3RW4928-8VB00		1	1 unit	42G
3RW4928-8VB00,	3RW403., 3RW404.	S2, S3		•	3RW4947-8VB00		1	1 unit	42G
3RW4947-8VB00									
	C		Matauatauautau	CD	Auticle Nie	Dellara	DIII	DC*	DO
	For soft start Type	ers Size	Motor starter protectors Size	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	, i			d			SET, M)		
Link modules to moto	or starter or	otectors ¹⁾		u					
Muldi	or ottarior pr	01001010			Screw terminals				
	3RW402.	S0	S00/S0	2	3RA2921-1BA00		1	1 unit	41B
	3RW4036.	S2	S2	>	3RA2931-1AA00		1	1 unit	41B
	3RW4046., 3RW4047.	S3	S3	•	3RA1941-1AA00		1	1 unit	41B
3RA2921-1BA00									
OTIVESET TEXTS					Spring-type terminals	$\stackrel{\circ}{\square}$			
	3RW402.	S0	S0	2	3RA2921-2GA00		1	1 unit	41B
111									
3RA2921-2GA00									

Can be used in size S0 up to maximum 32 A.
 Can be used in size S2 up to maximum 65 A in combination with 3RA2932-1CA00 standard mounting rail adapter (specially for soft starters).
 Can be used in size S3 only with mounting plate.

Accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Tools for opening spin sizes S00 and S0	pring-type terminals						
			Spring-type terminals	$\stackrel{\circ}{\square}$			
A STATE OF THE PARTY OF THE PAR	Screwdrivers For all SIRIUS devices with spring-type terminals Length approx. 200 mm, 3.0 mm x 0.5 mm,	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A	titanium gray/black, partially insulated						
Blank labels							
	Unit labeling plates ¹⁾ For SIRIUS devices						
3RT2900-1SB20	• 20 mm x 7 mm, titanium gray	20	3RT2900-1SB20		100 34	40 units	41B
3RT1900-1SB20	• 20 mm x 7 mm, pastel turquoise	20	3RT1900-1SB20		100 3	40 units	41B

PC labeling systems for individual inscription of unit labeling plates are available from: murrplastik Systemtechnik GmbH, see page 16/16.

General data

Overview

More information

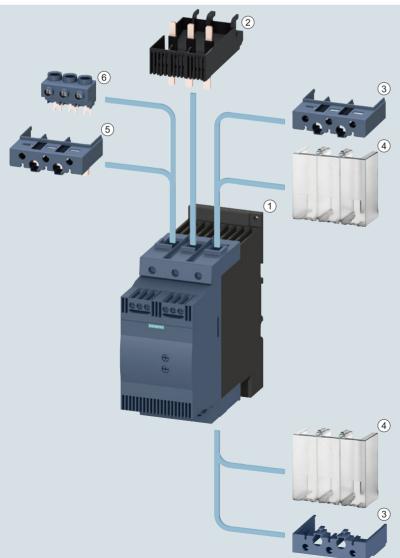
Homepage, see www.siemens.com/soft-starter Industry Mall, see www.siemens.com/product?3RW



TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/tstweb/?KMAT=3rw30 Simulation Tool for Soft Starters (STS), see page 6/7 or https://support.industry.siemens.com/cs/ww/en/view/101494917

The SIRIUS 3RW30 Basic Performance soft starters are suitable for soft starting of three-phase asynchronous motors.

Due to two-phase control, the current is kept at minimum values in all three phases throughout the entire start-up time and disturbing direct current components are eliminated in addition. This not only enables the two-phase starting of motors up to 55 kW (at 400 V) but also avoids the current and torque peaks which occur e.g. with wye-delta starters.



- 1) 3RW30 soft starter
- (2) Link module to motor starter protector
- (3) Terminal cover for box terminals (S2, S3)
- 4 Terminal cover for cable lugs and busbar connections (S3)
- (5) Auxiliary terminal (S3)
- 6 Infeed terminal (S00, S0)

3RW30 Basic Performance soft starter with accessories (see page 6/81)

General data

Benefits











Product characteristics / function	Performance features / benefits
Small and compact design	Space-saving, clearly arranged control panel layout
Parameterization using potentiometers	Simple and fast commissioning
Integrated bypass contact system	Reduction of power loss during operation
"Polarity Balancing" control method	Avoidance of direct current components in two-phase controlled soft starters.

General data

Technical specifications

More information Manual "SIRIUS 3RW30/3RW40 Soft Starters", see https://support.industry.siemens.com/cs/ww/en/view/38752095 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16213/faq

Туре			3RW301.	3RW302.	3RW303.	3RW304.
Mechanics and environment						
Mounting dimensions (W x H x D) • Screw terminals • Spring-type terminals	T W W	mm mm	45 x 95 x 151 45 x 117 x 151	45 x 125 x 151 45 x 150 x 151	55 x 144 x 168 55 x 144 x 168	70 x 160 x 186 70 x 160 x 186
Permissible ambient temperature During operation During storage		°C °C	-25 +60; (derat	ing from +40)		
Weight		kg	0.58	0.69	1.20	1.71
Permissible mounting position ¹⁾ (auxiliary fan not available)			10° 10° 10°	10° Loss to Code N		
Installation type ¹⁾	Stand-alone installation		0 2	≥ 15 mm (≥ 0.59 in) ≥ 40 mm (≥ 1.56 in) ≥ 60 mm (≥ 2.36 in)	0 0 2	≥ 30 mm (≥ 1.18 in) ≥ 40 mm (≥ 1.56 in) ≥ 60 mm (≥ 2.36 in)
Permissible installation altitude		m	5 000 (Derating from 1 0	000, see characteris	tic curve on page 6	/7)
Degree of protection			IP20 for 3RW301. IP00 for 3RW303.			

¹⁾ In the case of deviations, please observe derating, see Manual in the chapter "Configuring".

Туре	Terminal		3RW301., 3RW302.		3RW303.,	3RW304.
Control electronics						
Rated values Rated control supply voltage • Tolerance	A1/A2	V %	24 ± 20	110 230 -15/+10	24 ± 20	110 230 -15/+10
Rated frequency Tolerance		Hz %	50/60 ± 10			

Туре		3RW301.	3RW302.	3RW303.	3RW304.
Power electronics					
Rated operational voltage Tolerance	V AC %	200 480 -15/+10			
Rated frequency Tolerance	Hz %	50/60 ± 10			
Uninterrupted duty at 40 °C (% of I _e)	%	115			
Minimum load (% of $I_{\rm e}$)	%	10 (at least 1 A)			
Maximum cable length between soft starter and motor	m	300			

General data

Туре		3RW3013	3RW3014	3RW3016	3RW3017	3RW3018
Power electronics		311473013	311113014	311113010	3111/3017	311113010
Load rating with rated operational current I _e • According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53a - At 40 °C - At 50 °C - At 60 °C	A A A	3.6 3.3 3	6.5 6 5.5	9 8 7	12.5 12 11	17.6 17 14
Power loss In operation after completed starting with uninterrupted rated operational current (40 °C) approx. During starting with 300% I _M (40 °C)	W	0.25	0.5 52	1	2	4 116
Permissible rated motor current and starts per hour • For normal starting (CLASS 10) at 40 / 50 °C						
- Rated motor current $I_{\rm M}^{2)}$, start-up time 3 s - Starts per hour $^{3)}$	A 1/h	3.6/3.3 200/150	6.5/6.0 87/60	9/8 50/50	12.5/12.0 85/70	17.6/17.0 62/46
- Rated motor current $I_{\rm M}^{2)}$, start-up time 4 s - Starts per hour $^{3)}$	A 1/h	3.6/3.3 150/100	6.5/6.0 64/46	9/8 35/35	12.5/12.0 62/47	17.6/17.0 45/32

¹⁾ Measurement at 60 °C according to UL/CSA not required.

³⁾ For intermittent duty S4 with ON period = 30%, T_u = 40 / 50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

Туре		3RW3026	3RW3027	3RW3028
Power electronics				
Load rating with rated operational current I _e • According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53a - At 40 °C - At 50 °C - At 60 °C	A	25.3	32.2	38
	A	23	29	34
	A	21	26	31
 Power loss In operation after completed starting with uninterrupted rated operational current (40 °C) approx. During starting with 300% I_M (40 °C) 	W W	8	13 220	19 256
Permissible rated motor current and starts per hour • For normal starting (CLASS 10) at 40 / 50 °C - Rated motor current I _M ²⁾ , start-up time 3 s - Starts per hour ³⁾	A	25/23	32/29	38/34
	1/h	23/23	23/23	19/19
- Rated motor current $I_{\rm M}^{2)}$, start-up time 4 s - Starts per hour $^{3)}$	A	25/23	32/29	38/34
	1/h	15/15	16/16	12/12

¹⁾ Measurement at 60 °C according to UL/CSA not required.

³⁾ For intermittent duty S4 with ON period = 30%, T_u = 40 / 50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency with deviating mounting position, direct mounting, side-by-side mounting, see Manual in the chapter "Configuring".

Туре		3RW3036	3RW3037	3RW3038	3RW3046	3RW3047
Power electronics						
Load rating with rated operational current I _e • According to IEC and UL/CSA ¹⁾ , for individual mounting, AC-53a - At 40 °C - At 50 °C - At 60 °C	A A A	45 42 39	65 58 53	72 62.1 60	80 73 66	106 98 90
Power loss In operation after completed starting with uninterrupted rated operational current (40 °C) approx. During starting with 300% I _M (40 °C)	W	6 316	12 444	15 500	12 576	21 768
Permissible rated motor current and starts per hour • For normal starting (CLASS 10) at 40 / 50 °C						
- Rated motor current $I_{\rm M}{}^2$, start-up time 3 s - Starts per hour 3	A 1/h	45/42 38/38	63/58 23/23	72/62 22/22	80/73 22/22	106/108 15/15
- Rated motor current $I_{\rm M}^{\ 2}$, start-up time 4 s - Starts per hour $^{3)}$	A 1/h	45/42 26/26	63/58 15/15	72/62 15/15	80/73 15/15	106/98 10/10

¹⁾ Measurement at 60 °C according to UL/CSA not required.

²⁾ At 300% $I_{\rm M}$, $T_{\rm u} = 40 / 50 \, ^{\circ}{\rm C}$.

²⁾ At 300% $I_{\rm M}$, $T_{\rm u} = 40 / 50 \, ^{\circ}{\rm C}$.

²⁾ At 300% $I_{\rm M}$, $T_{\rm u} = 40 / 50$ °C.

³⁾ For intermittent duty S4 with ON period = 30%, T_u = 40 / 50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

General data

Туре		3RW3003-1CB54	3RW3003-2CB54
Mechanics and environment			
Mounting dimensions (W x H x D) • Screw terminals • Spring-type terminals	mm mm	22.5 x 100 x 120	 22.5 x 101.6 x 120
Permissible ambient temperature During operation During storage	°C	-25 +60; (derating from +40) -40 +80	
Weight	kg	0.207	0.188
Permissible mounting position		10° 10° 10° 10° 10° 10° 10° 10° 10° 10°	
Permissible installation altitude	m	5 000 (Derating from 1 000, see characterist	tic curve on page 6/7)
Degree of protection acc. to IEC 60529		IP20 (IP00 terminal compartment)	
Control electronics			
Rated values Rated control supply voltage • Tolerance	V %	24 230 AC/DC ± 10	
Rated frequency at AC • Tolerance	Hz %	50/60 ± 10	
Power electronics			
Rated operational voltage Tolerance	V AC %	200 400 ± 10	
Rated frequency Tolerance	Hz %	50/60 ± 10	
Uninterrupted duty (% of I _e)	%	100	
Minimum load ¹⁾ (% of I_{Θ}); at 40 °C	%	9	
Maximum conductor length between soft starter and motor	m	100 ²⁾	
Load rating with rated operational current I _e ■ According to IEC and UL/CSA for individual mounting at 40/50/60 °C, AC-53a	Α	3/2.6/2.2	
 According to IEC and UL/CSA for side-by-side-mounting at 40/50/60 °C, AC-53a 	Α	2.6/2.2 /1.8	
Power loss In operation after completed starting with uninterrupted rated operational current (40 °C) approx. With utilization of maximum switching frequency	W	6.5	
Permissible starts per hour (cannot be increased by using a fan) For intermittent duty S4 $T_{\rm u}$ = 40 °C, stand-alone installation vertical ON period = 70% for 300% $I_{\rm e}$	1/h 1/s	1 500 0.2	
Dead time after uninterrupted duty with $I_{\rm e}$ before restart	s	0	
1)			

¹⁾ The rated motor current (specified on the motor's name plate) should at least amount to the specified percentage of the SIRIUS soft starter unit's rated operational current $I_{\rm e}$.

²⁾ If this value is exceeded, problems with line capacities may arise, which can result in false firing.

Basic Performance Soft Starters 3RW30 Soft Starters

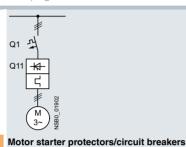
General data

Motor feeders according to IEC with 3RV2 motor starter protectors

Without semiconductor protection

Type of coordination "1", CLASS 10, short-circuit breaking capacity $I_{\rm q}$ in kA, see table

Note



•••••	meter clairter protectorer	
	for 400 V systems	
Q11	Q1	I_{q}
Type	Туре	kA
Type of coordination "1"		
3RW3003	3RV2011-1EA10	50
3RW3013 3RW3014	3RV2011-1FA10 3RV2011-1HA10	5 5
3RW3016 3RW3017 3RW3018	3RV2011-1JA10 3RV2011-1KA10 3RV2021-4BA10	5 5 5
3RW3026 3RW3027 3RW3028	3RV2021-4DA10 3RV2021-4EA10 3RV2021-4FA10	55 55 55
3RW3036 3RW3037 3RW3038	3RV2031-4WA10 3RV2031-4JA10 3RV2031-4KA10	10 10 10
3RW3046 3RW3047	3RV2041-4RA10 3RV2041-4MA10	11 11

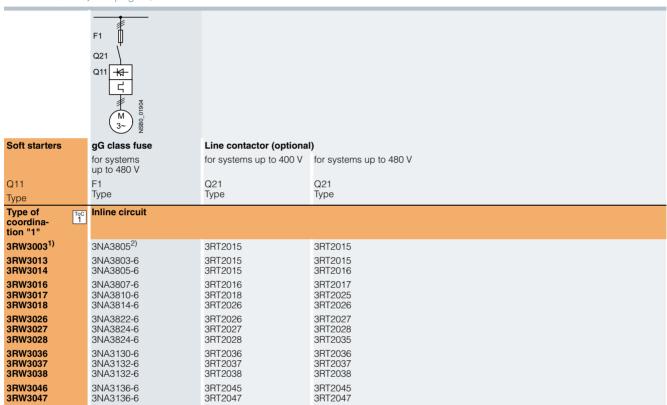
General data

Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity $I_{\rm Q}$ = 65 kA

Note:



¹⁾ $I_{\rm q} = 50 \; {\rm kA} \; {\rm at} \; 400 \; {\rm V}.$

²⁾ 3NA3805-1 (NH00), 5SB261 (DIAZED), 5SE2201-6 (NEOZED).

Basic Performance Soft Starters 3RW30 Soft Starters

General data

Motor feeders according to IEC with 3NE1 SITOR fuses

gR class full-range fuses for semiconductor protection, cable and line protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



 $^{^{1)}~}I_{\rm q}$ = 50 kA at 400 V.

Alternatively: 3NA3803 (NH00), 5SB221 (DIAZED), 5SE2206 (NEOZED).

²⁾ No SITOR fuse required!

General data

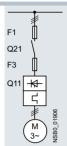
Motor feeders according to IEC with 3NE8 / 3NE4 / 3NE3 / 3NC fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/9.



Soft starters	gG class fuse	aR class fuse			Cylindrical fuses	Line contactor (optional)			
	for systems up to 480 V	for systems up to 480 V	for systems up to 480 V	for systems up to 480 V	for systems up to 480 V	for systems up to 400 V	for systems up to 480 V		
Q11	F1	F3	F3	F3	F3	Q21	Q21		
Туре	Туре	Туре	Туре	Туре	Type	Туре	Type		
Type of coordination "2"	Inline circuit								
3RW3003 ¹⁾	3NA3805 ²⁾			3NE8015-1	3NC1010	3RT2015	3RT2015		
3RW3013 3RW3014	3NA3803-6 3NA3805-6		3NE4101 3NE4101	3NE8015-1 3NE8015-1	3NC2220 3NC2220	3RT2015 3RT2015	3RT2015 3RT2016		
3RW3016 3RW3017 3RW3018	3NA3807-6 3NA3810-6 3NA3814-6	 	3NE4101 3NE4101 3NE4101	3NE8015-1 3NE8015-1 3NE8003-1	3NC2220 3NC2250 3NC2263	3RT2016 3RT2018 3RT2026	3RT2017 3RT2025 3RT2026		
3RW3026 3RW3027 3RW3028	3NA3822-6 3NA3824-6 3NA3824-6	 	3NE4102 3NE4118 3NE4118	3NE8017-1 3NE8018-1 3NE8020-1	3NC2263 3NC2280 3NC2280	3RT2026 3RT2027 3RT2028	3RT2027 3RT2028 3RT2035		
3RW3036 3RW3037 3RW3038	3NA3130-6 3NA3132-6 3NA3132-6	 3NE3221	3NE4120 3NE4121	3NE8020-1 3NE8021-1 3NE8022-1	3NC2280 	3RT2036 3RT2037 3RT2038	3RT2036 3RT2037 3RT2038		
3RW3046 3RW3047	3NA3136-6 3NA3136-6	3NE3222 3NE3224		3NE8022-1 3NE8024-1		3RT2045 3RT2047	3RT2045 3RT2047		

 $^{^{1)}~}I_{\rm q}$ = 50 kA at 400 V.

Note:

For CLASS 10 applications, as an alternative to the gG class full-range fuses for cable and line protection 3NA3 (F1), 3RV2/3VA motor starter protectors/circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/76). In these cases, optional line contactors can be dispensed with.

²⁾ 3NA3805-1 (NH00), 5SB261 (DIAZED).

Basic Performance Soft Starters 3RW30 Soft Starters

Inline circuit IE3/IE4 ready

Selection and ordering data

3RW ambient temperature 40 °C

For simple starting conditions





3RW ambient temperature 50 °C







PS*

PG

Rated val three-pha		'S		Rated val three-pha		ors						per PU	SET, M)		
Opera- tional		at onal volta	ge U _e	Opera- tional		ional vol									
current I _e	230 V	400 V	500 V	current I _e	200 V	230 V	460 V	575 V							
Α	kW	kW	kW	А	hp	hp	hp	hp		d					
Rated o	peratio	nal volt	age <i>U_e 2</i>	200 480	V										
3.6 6.5	0.75 1.5	1.5 3		3 6	0.5 1	0.5 1	1.5 3		S00 S00	2 2	3RW3013-□BB□4 3RW3014-□BB□4		1 1	1 unit 1 unit	42G 42G
9	2.2	4		8	2	2	5		S00	2	3RW3016-□BB□4		1	1 unit	42G
12.5 17.6	3 4	5.5 7.5		12 17	3	3	7.5 10		S00 S00	2 2	3RW3017-□BB□4 3RW3018-□BB□4		1 1	1 unit 1 unit	42G 42G
25 32 38	5.5 7.5 11	11 15 18.5	 	23 29 34	5 7.5 10	5 7.5 10	15 20 25	 	S0 S0 S0	2 2 2	3RW3026-□BB□4 3RW3027-□BB□4 3RW3028-□BB□4		1 1 1	1 unit 1 unit 1 unit	42G 42G 42G
45 63 72	11 18.5 22	22 30 37	 	42 58 62	10 15 20	15 20 20	30 40 40	 	S2 S2 S2	2 2 2	3RW3036-□BB□4 3RW3037-□BB□4 3RW3038-□BB□4		1 1 1	1 unit 1 unit 1 unit	42G 42G 42G
80 106	22 30	45 55		73 98	20 30	25 30	50 75		S3 S3	2	3RW3046-□BB□4 3RW3047-□BB□4		1 1	1 unit 1 unit	42G 42G

Article No. supplement for connection types

- With screw terminals
- With spring-type terminals²⁾

Article No. supplement for rated control supply voltage $U_{\rm s}$

- 24 V AC/DC 110 ... 230 V AC/DC

Soft starters for simple starting conditions and high switching frequency,
rated operational voltage U_e 200 400 V,
rated control supply voltage <i>U</i> _s 24 230 V AC/DC

0.5

Α 0.5 3 0.55 1.1

• With screw terminals • With spring-type terminals

 $^{1)}$ Soft starter $U_{\rm e}$ 200 to 480 V with screw terminals: Standard delivery time SD = 1 day (d).

²⁾ Main connection from size S2: screw terminals.

22.5 mm 3RW3003-1CB54 3RW3003-2CB54

42G 1 unit 42G 1 unit

Note:

Accessories

Accessories

Accessories											
More information											
Manual "SIRIUS 3RW30/3 https://support.industry.si			w/38752005								
Titips://support.iridustry.si	lemens.com/	CS/WW/EII/VIE	:W/30732093								
	Conductor	cross-section	on	Tighten-		SD	Article No.	Price	PU	PS*	PG
	Solid or stranded	Finely stranded	AWG cables, solid or	ing torque	starters size			per PU	(UNIT, SET, M)		
	on an aca	with end sleeve	stranded								
	mm²	mm ²	AWG	Nm		d					
Three-phase infeed t	terminals										
	2.5 25	2.5 16	10 4	3 4	S00 (3RW301.),	•	3RV2925-5AB		1	1 unit	41E
(B) (B) (B)					\$0 (3RW302.)						
Highiah					(31111002.)						
3RV2925-5AB											
	For soft sta	arters				SD	Article No.	Price	PU	PS*	PG
	Туре	Size						per PU	(UNIT, SET, M)		
						d			02.,,		
Auxiliary terminals											
71-71-0	Auxiliary t 3RW304.	terminals, 3	pole			5	3RT2946-4F		1	1 unit	41B
.000	31100304.	33				J	3H12940-4F		'	i uiiit	410
3RT2946-4F											
Covers for soft starte	ers										
			ox terminals								
000		toucn protec quired per de	ction to be fitted evice)	at the box	x terminais						
	3RW303. 3RW304.					>	3RT2936-4EA2 3RT2946-4EA2		1	1 unit 1 unit	41B 41B
3RT2936-4EA2			able lugs and b	ousbar co	nnections		OTTIZOTO TEAE			1 dilit	
4//	For comply	ying with the	voltage clearar al is removed								
	(2 units red	quired per de									
0000	3RW304.	S3				5	3RT1946-4EA1		1	1 unit	41B
3RT1946-4EA1											
	_	_				0.0	A .: 1 A1	Б.	DU	D0*	500
	For motor	For soft	Version			SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	starter protectors	starters							SET, M)		
	Size	Size				d					
Mounting rails for me 3RA21 load feeders	ounting co with busba	ntactors for adapters	or the custor for 60 mm s	ner asse systems	mbly of						
			For the discre	ete configu							
10 0			direct-on-line mounting rail								
			contactor in a mounting rail								
			for the motor	starter pro	tector.					40 %	
8US1998-7CB45		S0	For pushing of including fixing		evice adapter,	2	8US1998-7CB45		1	10 units	140
Standard mounting i	rail adaptei	rs									
					f motor starter						
				onto stand	ard mounting						
,	S2	S2	rail or for scre Single-unit p	•		2	3RA2932-1CA00		1	1 unit	41B
	-	5 2	Jangio unit p	onaging		_	C.IALUUL TOAUU		'	· arm	710
3											
3RA2932-1CA00											

Accessories

	For soft starters Type Size		Motor starter protectors Size	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Link modules to moto	or starter prote	ctors ¹⁾							
Maria					Screw terminals				
	3RW301.	S00	S00	2	3RA2921-1BA00		1	1 unit	41B
	3RW302.	S0	S00/S0	2	3RA2921-1BA00		1	1 unit	41B
	3RW3036.	S2	S2	>	3RA2931-1AA00		1	1 unit	41B
	3RW3046., 3RW3047.	S3	S3	•	3RA1941-1AA00		1	1 unit	41B
3RA2921-1BA00	311113047.								
					Spring-type terminals	$\stackrel{\infty}{\square}$			
177	3RW301.	S00	S00	2	3RA2911-2GA00		1	1 unit	41B
	3RW302.	S0	S0	2	3RA2921-2GA00		1	1 unit	41B
3RA2921-2GA00									

¹⁾ Can be used in size S0 up to maximum 32 A. Can be used in size S2 up to maximum 65 A in combination with 3RA2932-1CA00 standard mounting rail adapter (specially for soft starters). Can be used in size S3 only on mounting plate.

	Version	Functionality Functions	Use	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Covers and push-in I	ugs (only for 3R	W3003)							
	Sealable covers	For securing against unauthorized adjustment of setting knobs	For devices with 1 or 2 CO contacts	5	3RP1902		1	5 units	41H
3RP1902 3RP1903	Push-in lugs for screw fixing		For devices with 1 or 2 CO contacts	5	3RP1903		1	10 units	41H
	Version			SD	Article No.	Price per PU		PS*	PG
				d					
Tools for opening sp	ring-type termin	als in sizes S00 and S0)						
					Spring-type terminals	$\stackrel{\circ}{\square}$			
	Screwdrivers			0	3RA2908-1A	ш	4	4 . mit	41D
		vices with spring-type termin	nals	2	3HA2900-1A		1	1 unit	41B
3RA2908-1A	Length approx. 20	00 mm, 3.0 mm x 0.5 mm, k, partially insulated							
Blank labels	<u> </u>								
	Unit labeling plate For SIRIUS device	es							
3RT2900-1SB20	• 20 mm x 7 mm,	titanium gray		20	3RT2900-1SB20		100	340 units	41B
3RT1900-1SB20	• 20 mm x 7 mm,	pastel turquoise		20	3RT1900-1SB20		100	340 units	41B

PC labeling systems for individual inscription of unit labeling plates are available from: murrplastik Systemtechnik GmbH, see page 16/16.



Overview

More information	
	Industry Online Support (SIOS), see https://support.industry.siemens.com/cs/ww/en/view/109747404

Selection and ordering data

	J								
	Product designation	Manufacturer's Article No. of the soft starter	Type of product	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Power semiconducto	or modules								
	Power semicon-	3RW5524HA.4 (3x)	480 V, 47 A	1	3RW5952-0SF04		1	1 unit	42S
	ductor module	3RW5525HA.4, 3RW5526HA.4 (3x)	480 V, 77 A	1	3RW5952-0SH04		1	1 unit	42S
		3RW5527HA.4 (3x)	480 V, 93 A	1	3RW5952-0SJ04		1	1 unit	42S
D		3RW5534HA.4, 3RW5535HA.4 (3x)	480 V, 143 A	1	3RW5953-0SL04		1	1 unit	42S
		3RW5536HA.4 (3x)	480 V, 171 A	1	3RW5953-0SM04		1	1 unit	42S
10.00		3RW5543HA.4 (3x)	480 V, 210 A	1	3RW5954-0SN04		1	1 unit	42S
3RW5952-0SF04		3RW5544HA.4 (3x)	480 V, 250 A	1	3RW5954-0SP04		1	1 unit	42S
3110/3932-031 04		3RW5545HA.4, 3RW5546HA.4 (3x)	480 V, 370 A	1	3RW5954-0SR04		1	1 unit	42S
		3RW5547HA.4, 3RW5548HA.4 (3x)	480 V, 570 A	1	3RW5954-0ST04		1	1 unit	42S
		3RW5521HA.6, 3RW5524HA.6 (3x)	690 V, 47 A	1	3RW5952-0SF06		1	1 unit	42S
		3RW5525HA.6, 3RW5526HA.6 (3x)	690 V, 77 A	1	3RW5952-0SH06		1	1 unit	42S
		3RW5527HA.6 (3x)	690 V, 93 A	1	3RW5952-0SJ06		1	1 unit	42S
3RW5953-0SM06		3RW5534HA.6, 3RW5535HA.6 (3x)	690 V, 143 A	1	3RW5953-0SL06		1	1 unit	42S
		3RW5536HA.6 (3x)	690 V, 171 A	1	3RW5953-0SM06		1	1 unit	42S
111111		3RW5543HA.6 (3x)	690 V, 210 A	1	3RW5954-0SN06		1	1 unit	42S
Auris		3RW5544HA.6 (3x)	690 V, 250 A	1	3RW5954-0SP06		1	1 unit	42S
		3RW5545HA.6, 3RW5546HA.6 (3x)	690 V, 370 A	1	3RW5954-0SR06		1	1 unit	42S
		3RW5547HA.6, 3RW5548HA.6 (3x)	690 V, 570 A	1	3RW5954-0ST06		1	1 unit	42S
3RW5954-0ST06									
Bypass units									
	Bypass unit	3RW552, 3RW553		1	3RW5953-0BY00		1	1 unit	42S
	}	3RW5543, 3RW5544, 3RW5545	210 A to 315 A	1	3RW5954-0BP00		1	1 unit	42S
		3RW5546, 3RW5547,	370 A to 570 A	1	3RW5954-0BT00		1	1 unit	42S
3RW5953-0BY00		3RW5548							
Control units									
Control units	Control unit	3RW55HA0.	24 V	1	3RW5950-1UY00		1	1 unit	42S
	Control unit	3RW55HA1.	24 V 110 - 250 V	1	3RW5950-1UY10		1	1 unit 1 unit	42S 42S
3RW5950-1UY00									

SIRIUS 3RW Soft Starters

Spare Parts

for 3RW55 **NEW**

TO STATES	Product designation	Manufacturer's Article No. of the soft starter	Type of product	SD	Article No. Price per PU		PS*	PG
Printed circuit boards				u				
T Time a off oat boards	Printed circuit	3RW5513HA.4	480 V, 13 A	1	3RW5951-0PA04	1	1 unit	42S
A. A.	board	3RW5514HA.4	480 V, 18 A	1	3RW5951-0PB04	1	1 unit	42S
100		3RW5515HA.4	480 V, 25 A	1	3RW5951-0PC04	1	1 unit	42S
		3RW5516HA.4	480 V, 32 A	1	3RW5951-0PD04	1	1 unit	42S
		3RW5517HA.4	480 V, 38 A	1	3RW5951-0PE04	1	1 unit	42S
		3RW552HA.4,	480 V	1	3RW5953-0PY04	1	1 unit	42S
		3RW553HA.4						
military (3RW554HA.4	480 V	1	3RW5954-0PY04	1	1 unit	42S
3RW5951-0PA04		3RW5513HA.5	600 V, 13 A	1	3RW5951-0PA05	1	1 unit	42S
. Att. 0 200		3RW5514HA.5	600 V, 18 A	1	3RW5951-0PB05	1	1 unit	42S
		3RW5515HA.5	600 V, 25 A	1	3RW5951-0PC05	1	1 unit	42S
		3RW5516HA.5	600 V, 32 A	1	3RW5951-0PD05	1	1 unit	42S
		3RW5517HA.5 3RW552HA.6,	600 V, 38 A 690 V	1	3RW5951-0PE05 3RW5953-0PY06	1	1 unit	42S 42S
		3RW553HA.6					1 unit	
3RW5954-0PY06		3RW554HA.6	690 V	1	3RW5954-0PY06	1	1 unit	42S
Fans								
	Fan	3RW551 (1x), 3RW552,		1	3RW5983-0FF00	1	1 unit	42S
		3RW553 (2x) 3RW554		1	3RW5984-0FF00	1	1 unit	42S
3RW5983-0FF00								
Terminals								
	Box terminal	3RW552 (2x)		1	3RW5982-0TB00	1	1 unit	42S
	block							
3RW5982-0TB00					Screw terminals			
	Removable	3RW5511HA,	contains	1	3RW5980-1TR00	1	1 unit	42S
6-11	control terminals	3RW5521HA, 3RW5536HA,	2 blocks each with 6 terminals			,	r driit	120
6/6/		3RW5546HA (2x)			Spring-type terminals			
6					Spring-type terminals			
e		3RW5513HA, 3RW5523HA, 3RW5532HA, 3RW5542HA (2x)	contains 2 blocks each with 6 terminals	1	3RW5980-2TR00	1	1 unit	42S
3RW5980-1TR00								
Enclosure componen								
	Enclosure base	3RW552, 3RW553 3RW554		1	3RW5953-0GB00 3RW5954-0GB00	1	1 unit 1 unit	42S 42S
3RW5953-0GB00								
	Cover for control cable duct	3RW55	Titanium gray	1	3RW5950-0GD20	1	1 unit	42S
3RW5950-0GD20								

							NEW	for 3	RW55
	Product designation	Manufacturer's Article No. of the soft starter	Type of product		Article No.	Price per PU		PS*	PG
Enclosure componen	ts (continued)			d					
	Front cover	3RW554	-	1	3RW5954-0GF00		1	1 unit	42S
3RW5954-0GF00	Hinged cover	3RW55	With cutout for	1	3RW5950-0GL30		1	1 unit	42S
3RW5950-0GL30	, migaz coro	cimo	HMI module High Feature		0.110000		·	, Giii	.20
HMI modules	1184	ODINE	11:15		OBWESSE SUESS		. ا		400
2DMEONO OFFICE	HMI module	3RW55	High Feature	1	3RW5980-0HF00		1	1 unit	42S
3RW5980-0HF00	Interface cover	3RW55		1	3RW5980-0HL00		1	1 unit	42S
3RW5980-0HL00									
Connection cables fo	r HMI Connection		0.1 m, flat		3UF7931-0AA00-0		1	1 unit	42J
3UF7931-0AA00-0	cables		5 , net		The state of the s		·	· Gill	720
Transport packaging									
3RW5953-0VY00	Transport packaging	3RW551 3RW552, 3RW553 3RW554	 	1 1 1	3RW5951-0VY00 3RW5953-0VY00 3RW5954-0VY00		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S

	For	Version	SD	Article No.	Price	PU	PS*	PG
	soft starters				per PU	(UNIT, SET, M)		
	Туре		d					
Power semiconducto	or modules							
	3RW4443	690 V, 203 A (2 units required per device)	1	3RW4743-0LC00		1	1 unit	42H
	3RW4444, 3RW4445	690 V, 313 A (2 units required per device)	1	3RW4745-0LC00		1	1 unit	42H
	3RW4446	690 V, 356 A (2 units required per device)	1	3RW4746-0LC00		1	1 unit	42H
	3RW4447	690 V, 432 A (2 units required per device)	1	3RW4747-0LC00		1	1 unit	42H
3RW4743-0LC00	3RW4453, 3RW4454, 3RW4455	690 V, 693 A (2 units required per device)	3	3RW4755-0LC00		1	1 unit	42H
	3RW4456, 3RW4457, 3RW4458	690 V, 970 A (2 units required per device)	3	3RW4758-0LC00		1	1 unit	42H
	3RW4465, 3RW4466	690 V, 1 214 A (2 units required per device)	3	3RW4766-0LC00		1	1 unit	42H
NTC power semicone	ductor modules							
9-	3RW4443	690 V, 203 A	1	3RW4743-0NC00		1	1 unit	42H
	3RW4444, 3RW4445	690 V, 313 A	1	3RW4745-0NC00		1	1 unit	42H
	3RW4446	690 V, 356 A	1	3RW4746-0NC00		1	1 unit	42H
3	3RW4447	690 V, 432 A	1	3RW4747-0NC00		1	1 unit	42H
	3RW4453, 3RW4454, 3RW4455	690 V, 693 A	3	3RW4755-0NC00		1	1 unit	42H
3RW4743-0NC00	3RW4456, 3RW4457, 3RW4458	690 V, 970 A	3	3RW4758-0NC00		1	1 unit	42H
	3RW4465, 3RW4466	690 V, 1 214 A	3	3RW4766-0NC00		1	1 unit	42H
Bypass units								
	3RW4453, 3RW4454, 3RW4455		2	3RW4755-0KC00		1	1 unit	42H
190 Je	3RW4456, 3RW4457		2	3RW4766-0KC00		1	1 unit	42H
3RW4755-0KC00	3RW4458, 3RW4465, 3RW4466	-	2	3RW4766-0KC01		1	1 unit	42H
Control units with so	rew terminals							
1 200000 2000000	3RW4422BC4. 3RW4423BC4. 3RW4424BC4.	230 V 230 V 230 V	1 1 1	3RW4722-1SC44 3RW4723-1SC44 3RW4724-1SC44		1 1 1	1 unit 1 unit 1 unit	42H 42H 42H
	3RW4425BC4.	230 V	1	3RW4725-1SC44		1	1 unit	42H
	3RW4426BC4. 3RW4427BC4.	230 V 230 V	1 1	3RW4726-1SC44 3RW4727-1SC44		1 1	1 unit 1 unit	42H 42H
	3RW4434BC4.	230 V	1	3RW4734-6SC44		1	1 unit	42H
11 000000 000000 12:2222212	3RW4435BC4. 3RW4436BC4.	230 V 230 V	1 1	3RW4735-6SC44 3RW4736-6SC44		1 1	1 unit 1 unit	42H 42H
3RW4722-1SC44	3RW4443BC4.	230 V	1	3RW4743-6SC44		1	1 unit	42H
	3RW4444BC4. 3RW4445BC4.	230 V 230 V	1 1	3RW4744-6SC44 3RW4745-6SC44		1 1	1 unit 1 unit	42H 42H
	3RW4446BC4. 3RW4447BC4.	230 V 230 V	1 1	3RW4746-6SC44 3RW4747-6SC44		1 1	1 unit 1 unit	42H 42H
	3RW4453BC4.	230 V	1	3RW4753-6SC44 3RW4754-6SC44		1	1 unit	42H
	3RW4454BC4. 3RW4455BC4.	230 V 230 V	1 1	3RW4754-6SC44 3RW4755-6SC44		1 1	1 unit 1 unit	42H 42H
	3RW4456BC4.	230 V	1	3RW4756-6SC44		1	1 unit	42H
	3RW4457BC4. 3RW4458BC4.	230 V 230 V	1 1	3RW4757-6SC44 3RW4758-6SC44		1 1	1 unit 1 unit	42H 42H
	3RW4465BC4.	230 V	1	3RW4765-6SC44		1	1 unit	42H
	3RW4466BC4.	230 V	1	3RW4766-6SC44		1	1 unit	42h

						lor 3	3HW44
	For soft starters	Version	SD		Price PU r PU (UNIT, SET, M)	PS*	PG
	Туре		d				
TSE printed circuit be	oards						
	3RW4453BC.4, 3RW4454BC.4, 3RW4455BC.4, 3RW4456BC.4	460 V	2	3RW4756-0WC70	1	1 unit	42H
3RW4756-0WC70	3RW4457BC.4, 3RW4458BC.4, 3RW4465BC.4, 3RW4466BC.4	460 V	2	3RW4766-0WC70	1	1 unit	42H
	3RW4453BC.5, 3RW4453BC.6, 3RW4454BC.5, 3RW4454BC.6, 3RW4455BC.6, 3RW4455BC.6, 3RW4456BC.5, 3RW4456BC.5,	690 V	2	3RW4756-0WC50	1	1 unit	42H
	3RW4457-BC.5, 3RW4457-BC.6, 3RW4458-BC.5, 3RW4458-BC.6, 3RW4465-BC.5, 3RW4466-BC.6, 3RW4466-BC.5, 3RW4466-BC.6	690 V	2	3RW4766-0WC50	1	1 unit	42H
Firing printed circuit	boards						
	3RW442BC.4	460 V	2	3RW4727-0VC70	1	1 unit	42H
	3RW443BC.4, 3RW4443BC.4	460 V	2	3RW4743-0VC70	1	1 unit	42H
	3RW4444BC.4, 3RW4445BC.4	460 V	2	3RW4745-0VC70	1	1 unit	42H
3RW4727-0VC70	3RW4446BC.4, 3RW4447BC.4	460 V	2	3RW4747-0VC70	1	1 unit	42H
	3RW445BC.4, 3RW446BC.4	460 V	2	3RW4766-0VC70	1	1 unit	42H
	3RW442BC.5	600 V	2	3RW4727-0VC80	1	1 unit	42H
	3RW443BC.5, 3RW4443BC.5	600 V	2	3RW4743-0VC80	1	1 unit	42H
	3RW442BC.6	690 V	2	3RW4727-0VC50	1	1 unit	42H
	3RW443BC.6, 3RW4444BC.5, 3RW4445BC.5	690 V	2	3RW4745-0VC50	1	1 unit	42H
	3RW4443BC.6, 3RW4446BC.5, 3RW4447BC.5, 3RW4447BC.6	690 V	2	3RW4746-0VC50	1	1 unit	42H
	3RW4444BC.6, 3RW4445BC.6, 3RW4446BC.6	690 V	2	3RW4747-0VC50	1	1 unit	42H
	3RW445BC.5, 3RW445BC.6, 3RW446BC.5, 3RW446BC.6	690 V	2	3RW4766-0VC50	1	1 unit	42H
Fans					_		
	3RW442BC3. ¹⁾ , 3RW443BC3.	115 V	>	3RW4936-8VX30	1	1 unit	42G
	3RW442BC4. ¹⁾ , 3RW443BC4.	230 V	>	3RW4936-8VX40	1	1 unit	42G
	3RW444BC3.	115 V	>	3RW4947-8VX30	1	1 unit	42G
3RW4957-8VX.0,	3RW444BC4.	230 V	>	3RW4947-8VX40	1	1 unit	42G
3RW4966-8VX.0	3RW445BC3., 3RW446BC3. ²⁾	115 V	>	3RW4957-8VX30	1	1 unit	42H
	3RW445BC4., 3RW446BC4. ²⁾	230 V	•	3RW4957-8VX40	1	1 unit	42H
	3RW446BC3. ³⁾	115 V	>	3RW4966-8VX30	1	1 unit	42H
	3RW446BC4. ³⁾	230 V	>	3RW4966-8VX40	1	1 unit	42H
1) The 3RW4422 and 3RW	/4423 soft starters do	not need fans					

¹⁾ The 3RW4422 and 3RW4423 soft starters do not need fans. These devices are adequately designed for natural convection.

^{2) 3}RW446. mounting on output side.

³⁾ For mounting on front side.

SIRIUS 3RW Soft Starters

Spare Parts

	For soft starters	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре		d					
Removable control te	rminals							
				Screw terminals	1			
Water and	3RW44	4 blocks each with 6 terminals	1	3RW4766-6HC00		1	1 unit	42H
				Spring-type terminals	$\overset{\infty}{\square}$			
20000	3RW44	4 blocks each with 6 terminals	1	3RW4766-2HC00		1	1 unit	42H
3RW4766-6HC00								
Box terminal block								
	3RW442.		5	3RW4727-0RC00		1	10 units	42H
3RW4727-0RC00								
Enclosure base								
3RW4747-0UC00	3RW444.		2	3RW4747-0UC00		1	1 unit	42H



Overview

More information	
Homepage, see www.siemens.com/soft-starter Industry Mall, see www.siemens.com/product?3RW	Industry Online Support (SIOS), see https://support.industry.siemens.com/cs/ww/en/view/109747404

Selection and ordering data

Selection and order	ing data								
	Product designation	Manufacturer's Article No. of the soft starter	Type of product	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Power semiconducto									
	Power semicon- ductor module	3RW5224C.4 (3x) 3RW5225C.4, 3RW5226C.4 (3x)	480 V, 47 A 480 V, 77 A	1	3RW5952-0SF04 3RW5952-0SH04		1	1 unit 1 unit	42S 42S
D		3RW5227C.4 (3x)	480 V, 93 A	1	3RW5952-0SJ04		1	1 unit	42S
D		3RW5234C.4, 3RW5235C.4 (3x)	480 V, 143 A	1	3RW5953-0SL04		1	1 unit	42S
		3RW5236C.4 (3x)	480 V, 171 A	1	3RW5953-0SM04		1	1 unit	42S
No. of the last		3RW5224C.5 (3x)	600 V, 47 A	1	3RW5952-0SF05		1	1 unit	42S
3RW5952-0SF04		3RW5225C.5, 3RW5226C.5 (3x)	600 V, 77 A	1	3RW5952-0SH05		1	1 unit	42S
		3RW5227C.5 (3x)	600 V, 93 A	1	3RW5952-0SJ05		1	1 unit	42S
		3RW5234C.5, 3RW5235C.5 (3x)	600 V, 143 A	1	3RW5953-0SL05		1	1 unit	42S
		3RW5236C.5 (3x)	600 V, 171 A	1	3RW5953-0SM05		1	1 unit	42S
		3RW5243 (3x)	600 V, 210 A	1	3RW5924-0SN05		1	1 unit	42S
		3RW5244, 3RW5245 (3x)	600 V, 315 A	1	3RW5924-0SQ05		1	1 unit	42S
		3RW5246, 3RW5247 (3x)	600 V, 470 A	1	3RW5924-0SS05		1	1 unit	42S
THE STATE OF THE S		3RW5248 (3x)	600 V, 570 A	1	3RW5924-0ST05		1	1 unit	42S
3RW5953-0SM05									
Bypass units									
	Bypass unit	3RW522, 3RW523 3RW5243, 3RW5244, 3RW5245	 210 A to 315 A	1	3RW5953-0BY00 3RW5954-0BP00		1 1	1 unit 1 unit	42S 42S
		3RW5246, 3RW5247,	370 A to	1	3RW5954-0BT00		1	1 unit	42S
3RW5953-0BY00		3RW5248	570 A						
Control units									
	Control unit	3RW52AC0.	24 V analog output	1	3RW5920-1UA00		1	1 unit	42S
		3RW52AC1.	110 - 250 V analog output	1	3RW5920-1UA10		1	1 unit	42S
		3RW52TC0.	24 V thermistor input	1	3RW5920-1UT00		1	1 unit	42S
3RW5920-1UA00		3RW52TC1.	110 - 250 V thermistor input	1	3RW5920-1UT10		1	1 unit	42S

SIRIUS 3RW Soft Starters

Spare Parts

for 3RW52 **NEW**

	D 1 1	M ()	T (0.0	A .: 1 A1	D :	DU	DO+	500
	Product designation	Manufacturer's Article No. of the	Type of product	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
		soft starter					SET, M)		
Printed circuit boards				d					
Filited Circuit Doalds	Printed circuit	3RW5213C.4	480 V, 13 A	1	3RW5921-0PA04		1	1 unit	42S
	board	3RW5214C.4	480 V, 18 A	1	3RW5921-0PB04		1	1 unit	42S
		3RW5215C.4	480 V, 25 A	1	3RW5921-0PC04		1	1 unit	42S
		3RW5216C.4	480 V, 32 A	1	3RW5921-0PD04		1	1 unit	42S
ALL MINI TELL		3RW5217C.4	480 V, 38 A	1	3RW5921-0PE04		1	1 unit	42S
		3RW522C.4,	480 V	1	3RW5923-0PY04		1	1 unit	42S
		3RW523C.4							
3RW5923-0PY04		3RW524C.4	480 V	1	3RW5924-0PY04		1	1 unit	42S
10.		3RW5213C.5	600 V, 13 A	1	3RW5921-0PA05		1	1 unit	42S
12000 0 0 0		3RW5214C.5	600 V, 18 A	1	3RW5921-0PB05		1	1 unit	42S
8 - 1 - 1		3RW5215C.5	600 V, 25 A	1	3RW5921-0PC05		1	1 unit	42S
		3RW5216C.5 3RW5217C.5	600 V, 32 A	1	3RW5921-0PD05 3RW5921-0PE05		1 1	1 unit	42S 42S
		3RW5217C.5	600 V, 38 A 600 V	1	3RW5923-0PY05		1	1 unit 1 unit	42S 42S
		3RW523C.5	600 V	'	3HW5923-0F105		ı	i uiiit	423
0014/5004 001405		3RW524C.5	600 V	1	3RW5924-0PY05		1	1 unit	42S
3RW5924-0PY05 Fans									
raiis	Fans	3RW5216/17 (1x),		1	3RW5983-0FF00		1	1 unit	42S
	Tuns	3RW5526/27,			011110300 01 1 00			1 Gint	720
		3RW553 (2x)							
		3RW524		1	3RW5984-0FF00		1	1 unit	42S
3RW5983-0FF00									
Terminals									
7/3/31/2/2000	Box terminal block	3RW522 (2x)		1	3RW5982-0TB00		1	1 unit	42S
0									
3RW5982-0TB00					0				
					Screw terminals	+			
	Removable control		contains	1	3RW5980-1TR00		1	1 unit	42S
17/1	terminals	3RW5221.C, 3RW5236.C,	2 blocks each with						
616		3RW5246.C	6 terminals						
					Spring-type terminals	$\stackrel{\circ}{\square}$			
6		3RW5213.C,	contains	1	3RW5980-2TR00		1	1 unit	42S
E 1/2		3RW5223.C,	2 blocks						.20
6		3RW5232.C, 3RW5242.C	each with 6 terminals						
3RW5980-1TR00									
Enclosure componen	ts								
•	Enclosure base	3RW552, 3RW553		1	3RW5953-0GB00		1	1 unit	42S
		3RW554		1	3RW5954-0GB00		1	1 unit	42S
3RW5953-0GB00									
fer .	Cover for control	3RW52	Titanium gray	1	3RW5950-0GD20		1	1 unit	42S
	cable duct								
_									
3RW5950-0GD20									
									

designation	Manufacturer's Article No. of the	Type of	00					
	soft starter	product			rice PU (U SET	PU NIT, , M)	PS*	PG
5								
Front cover	3RW524	-	1	3RW5954-0GF00		1	1 unit	42\$
linged cover	3RW52	Without cutout	1	3RW5950-0GL20		1	1 unit	42S
packaging	3RW521 3RW522, 3RW523 3RW524	 	1	3RW5951-0VY00 3RW5953-0VY00 3RW5954-0VY00		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
= H	linged cover	ransport 3RW521 ackaging 3RW522, 3RW523	ransport 3RW521 3RW522, 3RW523	Transport 3RW521 1	ransport 3RW521 1 3RW5953-0VY00 3RW522, 3RW523 1 3RW5953-0VY00	Transport 3RW521 1 3RW5951-0VY00 3RW522, 3RW523 1 3RW5953-0VY00 3RW5950-0VY00 3R	Front cover 3RW524 1 3RW5954-0GF00 1 linged cover 3RW52 Without 1 cutout 1 3RW5950-0GL20 1 ransport 3RW521 1 3RW5951-0VY00 1 1 3RW5953-0VY00 1 1	Index

SIRIUS 3RW Soft Starters

Spare Parts

Selection and orderi	ng data								
	For soft starters Type	Size	Version	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power semiconducto				Ť					
2 2 -	3RW4073	S12	600 V, 230 A	1	3RW4773-0LB00		1	1 unit	42G
	3RW4074 3RW4075	S12 S12	600 V, 280 A 600 V, 356 A	1	3RW4774-0LB00 3RW4775-0LB00		1	1 unit 1 unit	42G 42G
	3RW4076	S12	600 V, 432 A	1	3RW4776-0LB00		1	1 unit	42G
3RW4773-0LB00				_					
NTC power semicono	3RW4073	S12	600 V 220 A	1	3RW4773-0NB00		1	1 unit	42G
1 3 - 1	3RW4074	S12	600 V, 230 A 600 V, 280 A	1	3RW4774-0NB00		1	1 unit 1 unit	42G 42G
	3RW4075	S12	600 V, 356 A	1	3RW4775-0NB00		1	1 unit	42G
	3RW4076	S12	600 V, 432 A	1	3RW4776-0NB00		1	1 unit	42G
3RW4773-0NB00 Control units with sc	rew terminals								
man	3RW4055BB3.	S6	115 V	1	3RW4755-6SB30		1	1 unit	42G
222222 22222	3RW4055BB4. 3RW4056BB3.	S6 S6	230 V 115 V	1	3RW4755-6SB40 3RW4756-6SB30		1	1 unit	42G 42G
: =	3RW4056BB4.	S6	230 V	1	3RW4756-6SB40		1	1 unit 1 unit	42G 42G
	3RW4073BB3. 3RW4073BB4.	S12 S12	115 V 230 V	1	3RW4773-6SB30 3RW4773-6SB40		1 1	1 unit 1 unit	42G 42G
h 8 n8 8	3RW4074BB3.	S12	115 V	1	3RW4774-6SB30		1	1 unit	42G
	3RW4074BB4.	S12	230 V	1	3RW4774-6SB40		1	1 unit	42G
3RW4755-6SB40	3RW4075BB3. 3RW4075BB4.	S12 S12	115 V 230 V	1 1	3RW4775-6SB30 3RW4775-6SB40		1 1	1 unit 1 unit	42G 42G
	3RW4076BB3. 3RW4076BB4.	S12 S12	115 V 230 V	1 1	3RW4776-6SB30 3RW4776-6SB40		1 1	1 unit 1 unit	42G 42G
Firing printed circuit		312	230 V	<u> </u>	3RW4770-03B40		'	1 unit	420
	3RW405BB.4 3RW405BB.5	S6 S6	460 V 600 V	2 2	3RW4756-0VB70 3RW4756-0VB80		1 1	1 unit 1 unit	42G 42G
	3RW407BB.4	S12	460 V	2	3RW4736-0VB70		'	1 unit	42G
	3RW407BB.5	S12	600 V	2	3RW4776-0VB80		1	1 unit	42G
3RW4756-0VB70									
Fans	ODWAGE DDG	00	445.\/	Į	ODWASSE SVIVOS		l a	4	400
	3RW405BB3. 3RW405BB4.	S6 S6	115 V 230 V	>	3RW4936-8VX30 3RW4936-8VX40		1 1	1 unit 1 unit	42G 42G
	3RW407BB3. 3RW407BB4.	S12	115 V	>	3RW4947-8VX30		1 1	1 unit	42G
	3NW407664.	S12	230 V		3RW4947-8VX40		'	1 unit	42G
3RW4936-8VX.0, 3RW4947-8VX.0									
Removable control to	erminals								
1/1/1/1/1/1/10					Spring-type termina	ls 🚃			
	3RW40	S6/S12	2 blocks each with 6 terminals	1	3RW4776-2HB00		1	1 unit	42G
20000					Screw terminals	(1)			
3RW4776-6HB00	3RW40	S6/S12	2 blocks each with 6 terminals	1	3RW4776-6HB00		1	1 unit	42G
Enclosure base	3RW407.	S12		3	3RW4776-0UB00		1	1 unit	42G
3RW4776-0UB00		0.2					·	. 2	3

General data

Overview

More information

Homepage, see www.siemens.com/solid-state-switching-devices Industry Mall, see www.siemens.com/product?3RF

Online configurator, see www.siemens.com/sirius/configurators

SIRIUS 3RF solid-state switching devices



Three-phase solid-state contactor and single-phase solid-state relay

The SIRIUS 3RF2 solid-state switching devices reliably switch a wide range of different loads with alternating voltages in 50 and 60 Hz systems.

SIRIUS 3RF2 solid-state switching devices for resistive/inductive loads:

- Solid-state relays
- Solid-state contactors
- Function modules

SIRIUS 3RF2 - for almost unending activity

Conventional electromechanical switching devices are often overtaxed by the rise in the number of switching operations. A high switching frequency results in frequent failure and short replacement cycles. However, this does not have to be the case, because with the latest generation of our SIRIUS 3RF2 solid-state switching devices we provide you with solid-state relays and contactors with a particularly long endurance – for almost unending activity even under the toughest conditions and under high mechanical load, but also in noise-sensitive areas.

Proven time and again in service

SIRIUS 3RF2 solid-state switching devices have firmly established themselves in industrial applications. They are used above all in applications where loads are switched frequently – mainly with resistive load controllers, with the control of electrical heat or the control of valves and motors in conveyor systems. In addition to its use in areas with high switching frequencies, their silent switching means that SIRIUS is also ideally suited for use in noise-sensitive areas, such as offices or hospitals.

The most reliable solution for any application

Compared to mechanical switching devices, our SIRIUS 3RF2 solid-state switching devices stand out due to their considerably longer service life. Thanks to the high product quality, their switching is extremely precise, reliable and, above all, insusceptible to faults. With its variable connection methods and a wide spread of control voltages, the SIRIUS 3RF2 family is universally applicable. Depending on the individual requirements of the application, our modular switching devices can also be quite easily expanded by the addition of standardized function modules.

Always on the sunny side with SIRIUS

Because SIRIUS 3RF2 offers even more:

- The space-saving and compact side-by-side mounting ensures reliable operation up to an ambient temperature of +60 °C.
- Thanks to fast configuration and the ease of mounting and commissioning, you save not only time but also expenses.

Also for switching motors

(see page 6/138)

In order to achieve higher productivity, the switching frequency is continuously increased. It is no problem for our SIRIUS solid-state contactors for switching motors. With induction motors up to 7.5 kW, they can reliably withstand even the highest switching frequencies. Even a continuous change in the direction of rotation is possible with the solid-state reversing contactors. Both versions can be perfectly combined with components from the SIRIUS modular system. Connecting with SIRIUS motor starter protectors or SIRIUS overload relays can be implemented without any further steps.

SIRIUS 3RF3 solid-state switching devices for switching motors:

- Solid-state contactors
- Solid-state reversing contactors

Connection methods

The solid-state switching devices are available with screw terminals (box terminals), spring-type terminals or ring terminal lugs.

- Screw terminals
- Spring-type terminals
- Ring terminal lug connection

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

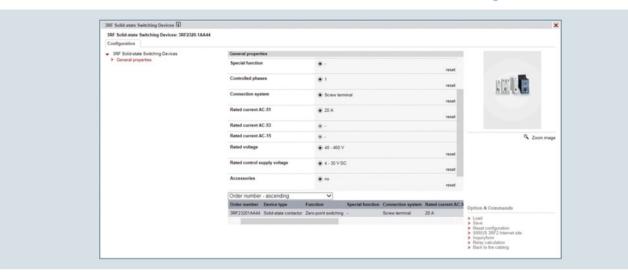
General data

Online Configurator

- Simple selection of individual solid-state switching devices by means of technical characteristics (e.g. zero-point switching, spring-type terminal and rated current)
- Once configuration is complete, you receive the article numbers corresponding to the products.

see

www.siemens.com/sirius/configurators



Article No. scheme

Product versions		Article	numbe	r				
Device type	Solid-state relays	3RF20		- 🗆				Single-phase, 45-mm width
								Single-phase, 22.5-mm width
		3RF22		- 🗆				Three-phase, 45-mm width
	Solid-state contactors	3RF23		- 🗆				Single-phase
		3RF24		- 🗆				Three-phase
Type current	e.g. 20 = 20 A							
Connection type	Screw terminals			1				
	Spring-type terminals			2				
	Ring terminal lug connection			3				
Switching function	Zero-point switching				Α			
	Instantaneous switching				В			
	Zero-point switching				С			Low Noise
	Zero-point switching				D			Short-circuit-proof with B MCB
Single-phase or number of	Single-phase					Α		
controlled phases	Two-phase					В		
	Three-phase					С		
	Reversing contactor					D		
Rated control supply voltage Us	24 V DC					0		
	24 V AC/DC					1		
	110 230 V AC					2		
	110 V AC					3		
	4 30 V DC					4		
	230 V AC					5		
Rated operational voltage U _e	24 230 V AC						2	
	48 460 V AC						4	
	48 600 V AC						5	
	48 600 V AC						6	Blocking voltage 1 600 V
Example		3RF21	2 0 -	- 1	Α	A 0	6	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

General data

Overview of the SIRIUS 3RF2 solid-state switching devices

Туре	Solid-state	e relays		Solid-state	contactors	Function m	Function modules						
	Single-pha	ase	Three- phase	Single- phase	Three- phase	Converters	Load monit	toring	Heating current	Power controllers	Power regulators		
	22.5 mm	45 mm	45 mm	ľ	,		Basic	Extended	monitoring		ŭ		
Usage													
Simple use of exist- ing solid-state relays		1											
Complete unit "Ready to use"				✓	1								
Space-saving	✓		1	✓	✓	✓	1						
Can be extended with modular function modules	✓		1)	1	1)								
Frequent switching and monitoring of loads and solid-state relays/solid-state contactors							1	/	/	1	1		
Monitoring of up to 6 partial loads							1		✓	1			
Monitoring of more than 6 partial loads								✓					
Control of the heat- ing power through an analog input						1				1	✓		
Power control											✓		
Commissioning													
Easy setting of setpoint values with "Teach" button							✓	✓		✓	1		
"Remote Teach" input for setting setpoints							-		1				
Mounting													
Mounting onto mounting rails or mounting plates				1	✓								
Can be snapped directly onto a solid-state relay or contactor						√	✓	✓	✓	✓	✓		
For use with "Coolplate" heat sink	1	1	1										
Cable routing													
Connection of load circuit as for controlgear	✓		1	1	✓		✓	1	1	✓	✓		
Connection of load circuit from above		1											

- ✓ Function available
- ☐ Function possible
- -- Function not possible

¹⁾ The converter can also be used with three-phase devices.

General data

Benefits

Features

- Considerable space savings thanks to a width of only 22.5 mm
- Variety of connection methods: Screw terminal, spring-type terminal or ring terminal lug, there is no problem – they are all finger-safe
- Flexible for all applications with function modules for retrofitting
- · Possibility of fuseless short-circuit proof design

Benefits

- Saves time and costs with fast mounting and commissioning, short start-up times and easy wiring
- Extremely long life, low maintenance, rugged and reliable
- Space-saving and safe thanks to side-by-side mounting up to an ambient temperature of +60 °C
- Modular design: Standardized function modules and heat sinks can be used in conjunction with solid-state relays to satisfy individual requirements
- Safety due to life-long, vibration-resistant and shock-resistant spring-type terminal connection method even under tough conditions

Application

Application areas

Example: Plastics processing industry

Thanks to their high switching endurance SIRIUS 3RF2 solidstate switching devices are ideal for controlling electrical heat. This is because the more precise the temperature regulation process has to be, the higher the switching frequency. The accurate regulation of electrical heat is used for example in many processes in the plastics processing industry:

- Band heaters heat the extrudate to the correct temperature in plastic extruders
- Heat emitters heat plastic blanks to the correct temperature
- Heat drums dry plastic granules
- Heating channels keep molds at the correct temperature in order to manufacture different plastic parts without defects

The powerful SIRIUS 3RF2 solid-state relays and contactors can be used for the simultaneous control of several heating loads. By using a load monitoring module the individual partial loads can easily be monitored, and in the event of a failure a signal is generated to be sent to the controller.

Use in fuseless load feeders

Compared with the fused configuration of load feeders, short circuit and line protection using miniature circuit breakers is easy to achieve with SIRIUS 3RF2 solid-state relays and contactors.

A special version of the solid-state contactors can be protected against damage in the case of a short circuit with a miniature circuit breaker with type B tripping characteristic. This allows the low-cost and simple design of fuseless load feeders with full protection of the switchgear.

Selection and ordering data

Inscription labels for 3RF2 series

	Designation	Labeling area (W x H)	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm x mm		d					
Blank labels									
	Unit labeling plates for "SIRIUS" ¹⁾	10 x 7	Pastel turquoise	15	3RT1900-1SB10		100	816 units	41B
		20 x 7	Pastel turquoise	20	3RT1900-1SB20		100	340 units	41B
01429	Adhesive labels for SIRIUS	19 x 6	Pastel turquoise	15	3RT1900-1SB60		100	3 060 units	41B
Se S		19 x 6	Zinc yellow	15	3RT1900-1SD60		100	3 060 units	41B
3RT1900-1SB20 (1 frame = 20 units)									

PC labeling systems for individual inscription of unit labeling plates are available from: murrplastik Systemtechnik GmbH, see page 16/16.

General data

More information

Notes on integration in the load feeders

The SIRIUS solid-state switching devices are very easy to integrate into the load feeders thanks to their industrial connection method and design.

Particular attention must however be paid to the circumstances of the installation and ambient conditions, as the performance of the solid-state switching devices is largely dependent on these. Depending on the version, certain restrictions must be observed. Detailed information in relation to solid-state contactors, e.g. on minimum spacing, and in relation to solid-state relays on the choice of heat sink can be found in the technical specifications and in the product data sheets, see https://support.industry.siemens.com/cs/ww/en/ps/16222.

Short-circuit and overload protection

Despite the rugged power semiconductors that are used, solid-state switching devices respond more sensitively to short circuits in the load feeder. Consequently, special precautions have to be taken against destruction, depending on the type of design.

Siemens generally recommends using SITOR semiconductor protection fuses. These fuses also provide protection against destruction in the event of a short circuit even when the solid-state contactors and solid-state relays are fully utilized.

Alternatively, if there is lower loading, protection can also be provided by standard fuses or miniature circuit breakers. This protection is achieved by overdimensioning the solid-state switching devices accordingly. The technical specifications and the product data sheets contain details both about the solid-state fuse protection itself and about use of the devices with conventional protection equipment.

Electromagnetic compatibility (EMC)

The solid-state switching devices are suitable for interferencefree operation in industrial networks without further measures. If they are used in public networks, it may be necessary for conducted interference to be reduced by means of filters.

This does not include the solid-state contactors for resistive loads of the special type 3RF23..-.CA.. "Low Noise". These comply with the class B limit values up to a rated current of 16 A. If other versions are used, and at currents of over 16 A, standard filters can be used in order to comply with the limit values. The decisive factors when it comes to selecting the filters are essentially the current loading and the other parameters (operational voltage, design type, etc.) in the load feeder.

Suitable filters can be ordered from EPCOS AG, see page 16/16.

Product information and technical specifications

For product data sheets with detailed technical specifications, dimensional drawings and characteristic curves, see https://support.industry.siemens.com/cs/ww/en/ps/16222.

For additional information, please enter the article number of the required device under the tab "Product List".

General data

Overview

Solid-state relays (without heat sink)

SIRIUS solid-state relays are suitable for surface mounting on existing cooling surfaces. Mounting is quick and easy, involving just two screws. The special technology of the power semiconductor ensures there is excellent thermal contact with the heat sink. Depending on the nature of the heat sink, the capacity reaches up to 88 A on resistive loads.

The solid-state relays are available in three different versions:

- 3RF21 single-phase solid-state relay with a width of 22.5 mm
- 3RF20 single-phase solid-state relay with a width of 45 mm
- 3RF22 three-phase solid-state relay with a width of 45 mm

The 3RF21 and 3RF22 solid-state relays can be expanded with various function modules to adapt them to individual applications

Version for resistive loads "zero-point switching"

This standard version is often used for switching space heaters on and off.

Version for inductive loads "instantaneous switching"

In this version the solid-state relay is specifically matched to inductive loads. Whether it is a matter of frequent actuation of the valves in a filling plant or starting and stopping small operating mechanisms in packet distribution systems, operation is carried out safely and noiselessly.

Special "Low Noise" version

Thanks to a special control circuit, this special version can be used in public networks up to 16 A without any additional measures such as interference suppressor filters. As a result, in terms of emitted interference, it conforms to limit value curve class B according to IEC 60947-4-3.

Single-phase solid-state relays with a width of 22.5 mm

With its compact design and a width of just 22.5 mm, which stays the same even at currents of up to 88 A, the 3RF21 solid-state relay offers an ultra small footprint. The logical connection method, with the power infeed from above and load connection from below, ensures tidy installation in the control cabinet.

Single-phase solid-state relays with a width of 45 mm

The solid-state relays with a width of 45 mm provide for connection of the power supply lead and the load from above. This makes it easy to replace existing solid-state relays in existing arrangements. The connection of the control cable is as space-saving as the 22.5 mm design, as it is simply plugged on.

Three-phase solid-state relays with a width of 45 mm

With its compact design and a width of just 45 mm, which stays the same even at currents of up to 55 A, the 3RF22 solid-state relay offers an ultra small footprint. The logical connection method, with the power infeed from above and load connection from below, ensures tidy installation in the control cabinet.

The three-phase solid-state relays are available with

- Two-phase control (suitable in particular for circuits without connection to the neutral conductor) and
- Three-phase control (suitable for star circuits with connection to the neutral conductor or for applications in which the system requires all phases to be switched)

Selection notes

When selecting solid-state relays, in addition to information about the network, the load and the ambient conditions it is also necessary to know details of the planned design. The solid-state relays can only conform to their specific technical specifications if they are mounted with appropriate care on an adequately dimensioned heat sink.

Mounting solid-state relays directly on a mounting plate made of sheet steel is inadequate in terms of heat dissipation.

The following procedure is recommended:

- Determine the rated current of the load and the mains voltage
- Select the relay design and choose a solid-state relay with higher rated current than the load
- Determine the thermal resistance of the proposed heat sink
- Check the correct relay size with the aid of the diagrams
- In systems that have high voltage peaks or at voltages of 575 V and higher, use of versions with a blocking voltage of 1600 V is recommended

SIRIUS 3RF21 solid-state relays, single-phase, 22.5 mm

Overview

Single-phase solid-state relays (without heat sink) with a width of 22.5 mm

With its compact design and a width of just 22.5 mm, which stays the same even at currents of up to 88 A, the 3RF21 solid-state relay offers an ultra small footprint. The logical connection

method, with the power infeed from above and load connection from below, ensures tidy installation in the control cabinet.

Technical specifications

Technical specifications				
More information				
System Manual "SIRIUS Modular System – System https://support.industry.siemens.com/cs/ww/en/vie			tps://support.industry.siemens.c	om/cs/ww/en/ps/16224/faq
Type Dimensions (W x H x D)	mm	3RF211 22.5 x 85 x 48 mm	3RF212 22.5 × 85 × 48 mm	3RF213 22.5 x 85 x 48 mm
General data				
Ambient temperature				
 During operation, derating from 40 °C 	°C	-25 + 60		
During storage	°C	-55 + 80		
Installation altitude	m	0 1 000; derating from 1 000		
Shock resistance acc. to IEC 60068-2-27	g/ms	15/11		
Vibration resistance acc. to IEC 60068-2-6	g	2		
Degree of protection		IP20		IP00 (IP20 when using the terminal cover 3RA2900-3PA88)
Electromagnetic compatibility (EMC) Emitted interference Conducted interference voltage acc. to IEC 60947-4-3 Emitted, high-frequency interference voltage acc. to IEC 60947-4-3		Class A for industrial application		
 Interference immunity Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3) Induced RF fields according to IEC 61000-4-6 Burst acc. to IEC 61000-4-4 Surge acc. to IEC 61000-4-5 	kV MHz kV kV	Contact discharge 4; air discharge 4; air discharge 4; air discharge 4. 2. 5.0 kHz; behavior criterion 2. Conductor - ground 2; cond		on 2
Mounting • Screws (not included in the scope of supply) • Tightening torque	Nm	2 x M4 1.5	, , , , , , , , , , , , , , , , , , , ,	•
Connection type		Screw terminals	Spring-type terminals	Ring terminal lug
Connection, main contacts		<u> </u>		Connection
Conductor cross-sections Solid Finely stranded with end sleeve Finely stranded without end sleeve	mm² mm² mm²	2 x (1.5 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 2 x (1 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 1 x 10	2 x (0.5 2.5) 2 x (0.5 1.5) 2 x (0.5 2.5)	
- Solid or stranded, AWG cables	AWG	2 x (14 10)	2 x (18 14)	
Terminal screws Tightening torque	Nm	M4 2 2.5		M5 2.5 2
2 · · · · · · · · · · · · · · · · · · ·	lb.in	7 10.3		10.3 7
 Cable lugs According to DIN 46234 According to JIS C 2805 Width, maximum 	mm	 	 	5-2,5, 5-6, 5-10, 5-16, 5-25 R 2-5, R 5.5-5, R 8-5, R 14-5 12
Connection, auxiliary/control contacts				
Conductor cross-sections	mm AWG	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12	0.5 2.5 20 12	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12
Stripped length	mm	7	10	7
Terminal screw		M3		M3
Tightening torque	Nm lb.in	0.5 0.6 4.5 5.3		0.5 0.6 4.5 5.3
1)				

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RF21 solid-state relays, single-phase, 22.5 mm

Туре	I _{max} ¹⁾ at R _{thha}	/T _u = 40 °C		to IEC 60947-4-3 /T _u = 40 °C		to UL/CSA A/T _u = 50 °C	Power loss at I_{max}	Minimum load current	Off-state current
	Α	K/W	А	K/W	Α	K/W	W	A	mA
Main circuit									
3RF2120	20	2.0	20	1.7	20	1.3	28.6	0.1	10
3RF2130-1	30	1.1	30	0.79	30	0.56	44.2	0.5	10
3RF2150-1 3RF2150-2 3RF2150-3	50 50 50	0.68 0.68 0.68	50 20 50	0.48 2.6 0.48	50 20 50	0.33 2.9 0.33	66 66 66	0.5 0.5 0.5	10 10 10
3RF2170-1	70	0.40	50	0.77	50	0.6	94	0.5	10
3RF2190-1 3RF2190-2 3RF2190-3	88 88 88	0.33 0.33 0.33	50 20 88	0.94 2.8 0.22	50 20 83	0.85 3.5 0.19	118 118 118	0.5 0.5 0.5	10 10 10

 $^{^{1)}}$ The current $I_{\rm max}$ provides information about the performance of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Note:

The required heat sinks for the corresponding load currents can be determined from the characteristic curves (see page 6/97, "More Information"). The minimum thickness values for the mounting surface must be observed.

Туре	Rated peak withstand current I_{tsm}	<i>I</i> ² <i>t</i> value	
	A	A^2s	
Main circuit			
3RF2120	200	200	
3RF2130A.2 3RF2130A.4 3RF2130A.5 3RF2130A.6	300 300 300 400	450 450 450 800	
3RF2150	600	1 800	
3RF2170A.2 3RF2170A.4 3RF2170A.5 3RF2170A.6	1 200 1 200 1 200 1 150	7 200 7 200 7 200 7 200 6 600	
3RF2190	1 150	6 600	

Туре	_	3RF212	3RF214	3RF215	3RF216
Main circuit					
Rated operational voltage U _e	V AC	24 230	48 460		
Operating range	V AC	20 253	40 506	40 660	
Rated frequency	Hz	$50/60 \pm 10\%$			
Rated insulation voltage <i>U</i> _i	V	600			
Blocking voltage	V	800	1 200		1 600
Rate of voltage rise	V/µs	1 000			

Type		3RF210.	3RF21	1.	3RF212.	3RF214.
Control circuit						
Method of operation		DC operation	AC/DC ope	eration	AC operation	DC operation
Rated control supply voltage U _s	V	24	24 AC	24 DC	110 230	4 30
Rated frequency of the control supply voltage	Hz		50/60 ± 10%		50/60 ± 10%	
Control supply voltage, max.	V	30	26.5 AC	30 DC	253	30
Typical actuating current	mA	20 / Low Power: 6.5 ¹⁾	20		15	20
Response voltage	V	15	14 AC	15 DC	90	4
Drop-out voltage	V	5	5 AC	5 DC	40	1
Operating times						
ON-delay	ms	1 + max. one half-wave ²⁾	10 + max. half-wave ²		40 + max. one half-wave ²⁾	1 + max. one half-wave ²⁾
OFF-delay	ms	1 + max. one half-wave	15 + max. half-wave	one	40 + max. one half-wave	1 + max. one half-wave

¹⁾ Applies to the "Low Power" version 3RF21..-.AA..-0KN0.

²⁾ Only for zero-point switching devices.

SIRIUS 3RF21 solid-state relays, single-phase, 22.5 mm

Selection and ordering data

Single-phase solid-state relays (without heat sink) with a width of 22.5 mm

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals ²⁾	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No. Price per PU			
Zero-point switching, rated operational volt	tage <i>U</i> _e 24 230 V AC						
	20 30 50 70 90	24 DC	2 2 2 2 5	3RF2120-1AA02 3RF2130-1AA02 3RF2150-1AA02 3RF2170-1AA02 3RF2190-1AA02	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	20 30 50 70 90	110 230 AC	2 2 5 5 5	3RF2120-1AA22 3RF2130-1AA22 3RF2150-1AA22 3RF2170-1AA22 3RF2190-1AA22	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
3RF2120-1AA02	20 30	4 30 DC	2	3RF2120-1AA42 3RF2130-1AA42	1 1	1 unit 1 unit	41C 41C
Zero-point switching, rated operational volt	tage <i>U_e</i> 48 460 V AC						
	20 30 50 70 90	24 DC	2 2 2 2 2	3RF2120-1AA04 3RF2130-1AA04 3RF2150-1AA04 3RF2170-1AA04 3RF2190-1AA04	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	20	24 AC/DC	5	3RF2150-1AA14	1	1 unit	41C
	20 30 50 70 90	110 230 AC	2 5 2 5	3RF2120-1AA24 3RF2130-1AA24 3RF2150-1AA24 3RF2170-1AA24 3RF2190-1AA24	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
Zero-point switching, rated operational volt	tage <i>U_e</i> 48 600 V AC						
	70	24 DC Low Power	5	3RF2170-1AA05-0KN0	1	1 unit	41C
	20 30 50 70 90	4 30 DC	5 5 5 2 5	3RF2120-1AA45 3RF2130-1AA45 3RF2150-1AA45 3RF2170-1AA45 3RF2190-1AA45	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
Zero-point switching rated operational volt	· Blocking voltage 1 600 tage <i>U</i> _e 48 600 V AC	V,					
	30 50 70 90	24 DC	2 2 5 5	3RF2130-1AA06 3RF2150-1AA06 3RF2170-1AA06 3RF2190-1AA06	1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
	30 50 70 90	110 230 AC	5 5 5 5	3RF2130-1AA26 3RF2150-1AA26 3RF2170-1AA26 3RF2190-1AA26	1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $l_{\rm g}$ can be smaller depending on the connection method and cooling conditions.

Please note that this version can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 mm².

Other rated control supply voltages on request.

SIRIUS 3RF21 solid-state relays, single-phase, 22.5 mm

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals ²⁾	+	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
Instantaneous switch rated operational volt	ning, tage <i>U_e 24 230 V AC</i>							
	50	110 230 AC	5	3RF2150-1BA22		1	1 unit	41C
Instantaneous switch rated operational volt	ning, tage <i>U_e</i> 48 460 V AC							
	20 30 50 70 90	24 DC	5 5 5 5 5	3RF2120-1BA04 3RF2130-1BA04 3RF2150-1BA04 3RF2170-1BA04 3RF2190-1BA04		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	ning · Blocking voltage 1 tage <i>U</i> _e 48 600 V AC	600 V,						
	50	24 DC	5	3RF2150-1BA06		1	1 unit	41C
Low Noise ³⁾ · Zero-porated operational volt	oint switching, tage <i>U</i> _e 48 460 V AC							
	70	24 DC	5	3RF2170-1CA04		1	1 unit	41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Other rated control supply voltages on request.

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Spring-type terminals ²⁾	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No. Price per PU			
Zero-point switching, rated operational volt	tage <i>U_e 24 230 V AC</i>						
.0.	20 50 90	24 DC	2 5 5	3RF2120-2AA02 3RF2150-2AA02 3RF2190-2AA02	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
OFFICE S	20 50 90	110 230 AC	5 5 5	3RF2120-2AA22 3RF2150-2AA22 3RF2190-2AA22	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	20	4 30 DC	5	3RF2120-2AA42	1	1 unit	41C
3RF2120-2AA02 Zero-point switching, rated operational volt	tage <i>U_e 48 460</i> V AC						
	20 50 90	24 DC	2 5 5	3RF2120-2AA04 3RF2150-2AA04 3RF2190-2AA04	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	50	24 AC/DC 110 230 AC	5	3RF2150-2AA14 3RF2120-2AA24	1	1 unit 1 unit	41C 41C
	50 90	1.0 2007.0	5 5	3RF2150-2AA24 3RF2190-2AA24	1 1	1 unit 1 unit	41C 41C
Zero-point switching, rated operational volt	tage <i>U_e 48 600 V AC</i>						
	20	4 30 DC	5	3RF2120-2AA45	1	1 unit	41C
	· Blocking voltage 1 600 tage <i>U</i> _e 48 600 V AC	ν,					
	50 90	24 DC	5 5	3RF2150-2AA06 3RF2190-2AA06	1 1	1 unit 1 unit	41C 41C
	50 90	110 230 AC	5 5	3RF2150-2AA26 3RF2190-2AA26	1 1	1 unit 1 unit	41C 41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Please note that this version can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 mm².

³⁾ See page 6/98.

²⁾ Please note that the version with spring-type terminals can only be used for a rated current of up to approx. 20 A and a conductor cross-section of 2.5 mm². Higher currents can be achieved by connecting two conductors per terminal.

Other rated control supply voltages on request.

SIRIUS 3RF21 solid-state relays, single-phase, 22.5 mm

		S	IRIUS	3RF21 solid-state	relays, s	single-p	hase, 22	.5 mm
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	e SD	Ring terminal lug connection		PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU	. ,		
Zero-point switching,	rated operational voltag	je <i>U</i> _e 24 230 V AC			· · · · · · · · · · · · · · · · · · ·			
	20 50	24 DC	5 5	3RF2120-3AA02 3RF2150-3AA02		1 1	1 unit 1 unit	41C 41C
• ③ •	90		5	3RF2190-3AA02		i	1 unit	41C 41C
	20 50	110 230 AC	5 5	3RF2120-3AA22 3RF2150-3AA22		1 1	1 unit 1 unit	41C 41C
MANAGE CE	90		5	3RF2190-3AA22		i	1 unit	41C
3RF2120-3AA02	rated operational voltage	IE II. 48 460 V AC						
Zero-point switching,	20	24 DC	5	3RF2120-3AA04		1	1 unit	41C
	50 90		5 5	3RF2150-3AA04 3RF2190-3AA04		1 1	1 unit 1 unit	41C 41C
	20	110 230 AC	5	3RF2120-3AA24		1	1 unit	41C
	50 90		5 5	3RF2150-3AA24 3RF2190-3AA24		1 1	1 unit 1 unit	41C 41C
	90	4 30 DC	5	3RF2190-3AA44		1	1 unit	41C
	· Blocking voltage 1 600 tage <i>U</i> _e 48 600 V AC	V,						
	50 90	24 DC	5 5	3RF2150-3AA06 3RF2190-3AA06		1 1	1 unit 1 unit	41C 41C
	50 90	110 230 AC	5 5	3RF2150-3AA26 3RF2190-3AA26		1	1 unit 1 unit	41C 41C
the solid-state relay. The	es information about the perfo e actual permitted rated opera n the connection method and	tional current I _e can	ner ra	ted control supply volt	ages on	request.		
Accessories								
	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Optional accessories				Spring-type terminals	<u> </u>			
	Screwdrivers		2	3RA2908-1A		1	1 unit	41B
3RA2908-1A	For all SIRIUS devices with s Length approx. 200 mm, siz titanium gray/black, partially	e 3.0 mm x 0.5 mm,						
				Ring terminal lug connection	+			
3RF2900-3PA88	(With this terminal cover, deg			3RF2900-3PA88		1	10 units	41C
-	Control connectors							
				Screw terminals	+			
	Replacement control conn For 3RF20/21/22	ectors	5	3RF2900-1TA88		1	50 units	41C
	Screw terminals			Spring-type terminals	<u> </u>			
	Replacement control conn	ectors	5	3RF2900-2TA88		1	50 units	41C
	For 3RF20/21/22 Spring-type terminals		Ü			'		0
	Control connectors For 3RF20/21/22 Spring-type terminals with tv contact	vo clamping points per	5	3RF2900-2TB88		1	10 units	41C

SIRIUS 3RF20 solid-state relays, single-phase, 45 mm

Overview

Single-phase solid-state relays (without heat sink) with a width of 45 mm

The solid-state relays with a width of 45 mm provide for connection of the power supply lead and the load from above. This makes it easy to replace existing solid-state relays in existing arrangements.

The connection of the control cable is as space-saving as the 22.5 mm design, as it is simply plugged on.

Technical specifications

recriffical specifications					
More information					
System Manual "SIRIUS Modular System – System Ov https://support.industry.siemens.com/cs/ww/en/view/6		FAQs, see https://support.industry	siemens.com/cs/ww/en/ps/16225/faq		
Type Dimensions (W x H x D)	mm	3RF201 45 x 58 x 48	3RF204 45 x 58 x 48		
General data					
Ambient temperature					
 During operation, derating from 40 °C 	°C	-25 +60			
During storage	°C	-55 +80			
Installation altitude	m	0 1 000; derating from 1 000			
Shock resistance acc. to IEC 60068-2-27	<i>g</i> /ms	15 /11			
Vibration resistance acc. to IEC 60068-2-6	g	2			
Degree of protection		IP20			
Electromagnetic compatibility (EMC)					
 Emitted interference Conducted interference voltage acc. to IEC 60947-4-3 Emitted, high-frequency interference voltage acc. to IEC 60947-4-3 		Class A for industrial applications Class B for residential, business and commercial applications			
 Interference immunity Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3) 	kV	Contact discharge 4; air discharge 8; behavior criterion 2			
- Induced RF fields according to IEC 61000-4-6 - Burst acc. to IEC 61000-4-4	MHz kV	0.15 80; 140 dBµV; behavior criterion 1 2/5.0 kHz; behavior criterion 2			
- Surge acc. to IEC 61000-4-5	kV	Conductor - ground 2; conductor - conduct	tor 1; behavior criterion 2		
Mounting Screws (not included in the scope of supply) Tightening torque	Nm	2 x M4 1.5			
Connection type		Screw terminals	Spring-type terminals		
Connection, main contacts					
 Conductor cross-sections Solid Finely stranded with end sleeve Solid or stranded, AWG cables 	mm ² mm ² AWG	2 × (1.5 2.5) ¹⁾ , 2 × (2.5 6) ¹⁾ 2 × (1 2.5) ¹⁾ , 2 × (2.5 6) ¹⁾ , 1 × 10 2 × (14 10)	 		
Terminal screw		M4			
Tightening torque	Nm lb.in	2 2.5 7 10.3	 		
Connection, auxiliary/control contacts					
Conductor cross-sections	mm ² AWG	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12	0.5 2.5 20 12		
Stripped length	mm	7	10		
Terminal screw		M3			
Tightening torque	Nm lb.in	0.5 0.6 4.5 5.3	-		
N.					

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RF20 solid-state relays, single-phase, 45 mm

Туре	$I_{\text{max}}^{1)}$ at R_{thha}	/T _u = 40 °C	$I_{\rm e}$ acc. to $I_{\rm e}$ acc. to UL/CSA Power loss at $I_{\rm max}$ 40 °C at $R_{\rm thhal}/T_{\rm u}$ = 40 °C at $R_{\rm thhal}/T_{\rm u}$ = 50 °C			Minimum load current	Off-state current		
	Α	K/W	Α	K/W	Α	K/W	W	Α	mA
Main circuit									
3RF2020-1.A	20	2.0	20	1.7	20	1.3	28.6	0.1	10
3RF2030-1.A	30	1.1	30	0.79	30	0.56	44.2	0.5	10
3RF2050-1.A	50	0.68	50	0.48	50	0.33	66	0.5	10
3RF2070-1.A	70	0.40	50	0.77	50	0.6	94	0.5	10
3RF2090-1.A	88	0.33	50	0.94	50	0.85	118	0.5	10

 $^{^{1)}}$ The current $I_{\rm max}$ provides information about the performance of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Note:

The required heat sinks for the corresponding load currents can be determined from the characteristic curves (see page 6/97, "More information"). The minimum thickness values for the mounting surface must be observed.

Туре	Rated peak withstand current I_{tsm}	<i>I</i> ² t value
	A	A ² s
Main circuit		
3RF2020-1.A	200	200
3RF2030-1.A.2 3RF2030-1.A.4 3RF2030-1.A.6	300 300 400	450 450 800
3RF2050-1.A	600	1 800
3RF2070-1.A.2 3RF2070-1.A.4 3RF2070-1.A.5 3RF2070-1.A.6	1 200 1 200 1 200 1 150	7 200 7 200 7 200 6 600
3RF2090-1.A	1 150	6 600

Туре		3RF20.0-1.A.2	3RF20.0-1.A.4	3RF20.0-1.A.5	3RF20.0-1.A.6
Main circuit					
Rated operational voltage U _e	V AC	24 230	48 460	48 600	
Operating range	V AC	20 253	40 506	40 660	
Rated frequency	Hz	50/60 ± 10%			
Rated insulation voltage U _i	V	600			
Blocking voltage	V	800	1 200		1 600
Rate of voltage rise	V/µs	1 000			

_				
Туре		3RF20.0-1.A0.	3RF20.0-1.A2.	3RF20.0-1.A4.
Control circuit				
Method of operation		DC operation	AC operation	DC operation
Rated control supply voltage U _s	V	24	110 230	4 30
Rated frequency of the control supply voltage	Hz		50/60 ± 10%	
Control supply voltage, max.	V	30	253	30
Typical actuating current	mA	20	15	20
Response voltage	V	15	90	4
Drop-out voltage	V	5	40	1
Operating times				
ON-delay	ms	1 + max. one half-wave ¹⁾	40 + max. one half-wave ¹⁾	1 + max. one half-wave ¹⁾
OFF-delay	ms	1 + max. one half-wave	40 + max. one half-wave	1 + max. one half-wave

¹⁾ Only for zero-point switching devices.

SIRIUS 3RF20 solid-state relays, single-phase, 45 mm

Selection and ordering data

Single-phase solid-state relays (without heat sink) with a width of 45 mm

		,						
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals ²⁾	+	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
Zero-point switching,	, tage <i>U_e</i> 24 230 V AC				·			
1	20	24 DC	2	3RF2020-1AA02		1	1 unit	41C
for the last	30	24 DC	2	3RF2020-1AA02		1	1 unit	41C
1 1 2 7	50		2	3RF2050-1AA02		i	1 unit	41C
SMUS SC	70		2	3RF2070-1AA02		1	1 unit	41C
	90		2	3RF2090-1AA02		1	1 unit	41C
1755230V	20	110 230 AC	2	3RF2020-1AA22		1	1 unit	41C
1 2	30 50		2 5	3RF2030-1AA22 3RF2050-1AA22		1 1	1 unit 1 unit	41C 41C
66	70		5	3RF2070-1AA22		1	1 unit	41C
15	90		5	3RF2090-1AA22		1	1 unit	41C
3RF2020-1AA02	20	4 30 DC	5	3RF2020-1AA42		1	1 unit	41C
0111 2020 17 0102	30		5	3RF2030-1AA42		1	1 unit	41C
Zero-point switching, rated operational vol	, tage <i>U_e 48 460 V AC</i>							
	20	24 DC	2	3RF2020-1AA04		1	1 unit	41C
	30		2	3RF2030-1AA04		1	1 unit	41C
	50		2	3RF2050-1AA04		1	1 unit	41C
	70 90		2	3RF2070-1AA04 3RF2090-1AA04		1 1	1 unit	41C 41C
		110 000 10				1	1 unit	
	20 30	110 230 AC	5 5	3RF2020-1AA24 3RF2030-1AA24		1	1 unit 1 unit	41C 41C
	50		5	3RF2050-1AA24		1	1 unit	41C
	70		5	3RF2070-1AA24		1	1 unit	41C
	90		5	3RF2090-1AA24		1	1 unit	41C
	50	4 30 DC	2	3RF2050-1AA44		1	1 unit	41C
Zero-point switching rated operational vol	, tage <i>U_e 48 600</i> V AC							
	20	4 30 DC	5	3RF2020-1AA45		1	1 unit	41C
	50		5	3RF2050-1AA45		1	1 unit	41C
	70 90		2 5	3RF2070-1AA45 3RF2090-1AA45		1	1 unit 1 unit	41C 41C
Zava najet svitabion		V	5	3NF2090-1AA43		ı	1 UIIIL	410
	· Blocking voltage 1 600 tage <i>U</i> _e 48 600 V AC							
	30	24 DC	5	3RF2030-1AA06		1	1 unit	41C
	50 70		5	3RF2050-1AA06		1	1 unit	41C
	90		5 5	3RF2070-1AA06 3RF2090-1AA06		1 1	1 unit 1 unit	41C 41C
	30	110 230 AC	5	3RF2030-1AA26		1	1 unit	41C
	50	110 230 AC	5	3RF2050-1AA26		1	1 unit	41C
	70		5	3RF2070-1AA26		i	1 unit	41C
	90		5	3RF2090-1AA26		1	1 unit	41C
Instantaneous switch rated operational vol	ning, tage <i>U_e 48 460 V AC</i>							_
	30	24 DC	5	3RF2030-1BA04		1	1 unit	41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

 $^{^{2)}}$ Please note that this version can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 $\rm mm^2.$

SIRIUS 3RF20 solid-state relays, single-phase, 45 mm

						<i>'</i>		
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals + spring-type terminals (control current side)	# #	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
Zero-point switching, rated operational volt	tage <i>U_e</i> 24 230 V AC							
3RF2050-4AA02	50	24 DC	5	3RF2050-4AA02		1	1 unit	41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

For accessories, see page 6/103.

SIRIUS 3RF22 solid-state relays, three-phase, 45 mm

Overview

Three-phase solid-state relays (without heat sink) with a width of 45 mm

With its compact design and a width of just 45 mm, which stays the same even at currents of up to 55 Å, the 3RF22 solid-state relay offers an ultra small footprint. The logical connection method, with the power infeed from above and load connection from below, ensures tidy installation in the control cabinet.

Important features:

- LED display
- Variety of connection methods
- Plug-in control connection
- Degree of protection IP20 (with ring terminal lug connection IP00)
- Zero-point switching, two- or three-phase controlled

Technical specifications

More information System Manual "SIRIUS Modular System – System Overview", see https://support.industry.siemens.com/cs/ww/en/ps/16226/faq https://support.industry.siemens.com/cs/ww/en/view/60311318

Type
Dimensions (W x H x D)

Type
mm

Type
45 x 95 x 47

Type
45 x 95 x 47

Type
Mm

°C	-25 +60 -55 +80			
m	0 1 000; > 1 000 ask Technical Support			
g/ms	15/11			
g	2			
	IP20	IP00		
V rms	4 000			
	Class A for industrial applications ¹⁾			
kV MHz kV	Contact discharge 4; air discharge 8; behavior criterion 2 0.15 80; 140 dBµV; behavior criterion 1 2/5.0 kHz; behavior criterion 2 Conductor conductor conductor conductor is behavior criterion 2			
10.0	Goridadio Grand E, Conductor Goridadio 1, Bonavio Cittori	011 2		
Nm	2 x M4 1.5			
	°C m g/ms g V rms	°C -55 +80 m 0 1 000; > 1 000 ask Technical Support g/ms 15/11 g 2 IP20 V rms 4 000 Class A for industrial applications 1) kV Contact discharge 4; air discharge 8; behavior criterion 2 MHz 0.15 80; 140 dBμV; behavior criterion 1 kV 2/5.0 kHz; behavior criterion 2 kV Conductor - ground 2; conductor - conductor 1; behavior criterion 2 x M4		

Connection type		Screw terminals	Spring-type terminals	Ring terminal lug connection
Connection, main contacts				
Conductor cross-sections Solid Finely stranded with end sleeve	mm ² mm ²	2 x (1.5 2.5) ²⁾ , 2 x (2.5 6) ²⁾ , 2 x (1 2.5) ²⁾ , 2 x (2.5 6) ²⁾ , 1 x 10		
 Finely stranded without end sleeve Solid or stranded, AWG cables Stripped length Terminal screws Tightening torque, 	mm ² AWG mm	 2 x (14 10) 10 M4 2 2.5	2 x (0.5 2.5) 2 x (18 14) 10	 M5 2.5 2
 S 6 mm, PZ 2 Cable lugs According to DIN 46234 According to JIS C 2805 Width, maximum 	lb.in	18 22 	- -	18 22 5-2.5 5-25 R 2-5 R 14-5 12
Connection, auxiliary/control contacts				
Conductor cross-sections, with or without end sleeve Stripped length Terminal screw Tightening torque, Ø 3.5, PZ 1	mm AWG mm Nm Ib.in	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12 7 M3 0.5 0.6 4.5 5.3	0.5 2.5 20 12 10	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12 7 M3 0.5 0.6 4.5 5.3

¹⁾ These products were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case the user may be required to introduce additional interference suppression measures.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RF22 solid-state relays, three-phase, 45 mm

Туре	I _{max} ¹⁾ at R _{thha} /	T _u = 40 °C		to IEC 60947-4-3 /T _u = 40 °C		to UL/CSA a/T _u = 50 °C	Power loss at I_{max}	Minimum load current	Max. off-state current
	А	K/W	А	K/W	А	K/W	W	A	mA
Main circuit									
3RF2230-1AB 3RF2230-2AB 3RF2230-3AB	30	0.57	30 20 30	0.57 1.36 0.57	30 20 30	0.44 1.15 0.44	81	0.5	10
3RF2255-1AB 3RF2255-2AB 3RF2255-3AB	55	0.18	50 20 50	0.27 1.83 0.27	50 20 50	0.19 1.58 0.19	151	0.5	10
3RF2230-1AC 3RF2230-2AC 3RF2230-3AC	30	0.33	30 20 30	0.33 0.86 0.33	30 20 30	0.25 0.72 0.25	122	0.5	10
3RF2255-1AC 3RF2255-2AC 3RF2255-3AC	55	0.09	50 20 50	0.15 1.19 0.15	50 20 50	0.1 1.02 0.1	226	0.5	10

 $^{^{1)}}$ The current $I_{\rm max}$ provides information about the performance of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Note:

The required heat sinks for the corresponding load currents can be determined from the characteristic curves (see page 6/97, "More information"). The minimum thickness values for the mounting surface must be observed.

Туре	Rated peak withstand current I_{tsm}	<i>I</i> ² t value
	A	A^2s
Main circuit		
3RF22305	300	450
3RF22555	600	1 800

Туре		3RF22AB.5	3RF22AC.5
Main circuit			
Controlled phases		Two-phase	Three-phase
Rated operational voltage U _e	V AC	48 600	
Operating range	V AC	40 660	
Rated frequency	Hz	50/60 ± 10%	
Rated insulation voltage U _i	V	600	
Rated impulse withstand voltage U _{imp}	kV	6	
Blocking voltage	V	1 200	
Rate of voltage rise	V/µs	1 000	

Туре		3RF22A.3.	3RF22A.4.
Control circuit			
Method of operation		AC operation	DC operation
Rated control supply voltage U _s	V	110	4 30
Rated frequency of the control supply voltage	Hz	50/60 ± 10%	
Control supply voltage, max.	V	121	30
Typical actuating current	mA	15	30
Response voltage	V	90	4
Drop-out voltage	V	< 40	1
Operating times			
ON-delay	ms	40 + max. one half-wave	1 + max. one half-wave
OFF-delay	ms	40 + max. one half-wave	1 + max. one half-wave

SIRIUS 3RF22 solid-state relays, three-phase, 45 mm

Selection and ordering data

Selection and order	ing data							
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals ²⁾		PU (UNIT, SET, M)	PS*	PG
	A	٧	d	Article No.	Price per PU			
Zero-point switching rated operational vo	y, Itage <i>U_e 48 600 V AC</i>							
444	Two-phase controlled			-				
666	30	110 AC	5	3RF2230-1AB35		1	1 unit	41C
AIA @	55		5	3RF2255-1AB35		1	1 unit	41C
SILMENS DAY	30	4 30 DC	5	3RF2230-1AB45		1	1 unit	41C
SHAMES INC.	55		5	3RF2255-1AB45		1	1 unit	41C
66	Three-phase controlled	d						
eeel	30	110 AC	5	3RF2230-1AC35		1	1 unit	41C
3RF2230-1AB45	55		5	3RF2255-1AC35		1	1 unit	41C
0111 2200 17040		4 00 00	_					

4 ... 30 DC

41C

41C

1 unit

1 unit

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$		Spring-type terminals ²⁾		PU (UNIT, SET, M)	PS*	PG
,	A	V	d	Article No.	Price per PU			
ritching, onal volta	age <i>U_e</i> 48 600 V AC							
	T It							

2

5

3RF2230-1AC45

3RF2255-1AC45

Zero-point sw rated operation

30

55



age de 40 dog v Ad						
Two-phase controlle	d					
30	4 30 DC	5	3RF2230-2AB45	1	1 unit	41C
55		5	3RF2255-2AB45	1	1 unit	41C
Three-phase controll	ed					
30	4 30 DC	5	3RF2230-2AC45	1	1 unit	41C
55		5	3RF2255-2AC45	1	1 unit	41C

³RF2230-2AB45

Please note that the version with spring-type terminals can only be used for a rated current of up to approx. 20 A and a conductor cross-section of 2.5 mm². Higher currents can be achieved by connecting two conductors

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Ring terminal lug connection	(1)	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
Zero-point switching, rated operational volt	age <i>U</i> _e 48 600 V AC							
444	Two-phase controlled							
8 8 6	30	4 30 DC	5	3RF2230-3AB45		1	1 unit	41C
010 C 30	55		5	3RF2255-3AB45		1	1 unit	41C
SIEMENS SIGN	Three-phase controlled	1						
MINING STATE OF THE PARTY OF TH	30	4 30 DC	5	3RF2230-3AC45		1	1 unit	41C
PFP	55		5	3RF2255-3AC45		1	1 unit	41C
3RF2230-3AB45								

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

For accessories, see page 6/103.

¹⁾ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

 $^{^{2)}}$ Please note that the version with an M4 screw connection can only be used for a rated current of up to approx. 50 A and a conductor cross-section of

The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

General data

Overview

Solid-state contactors (with integrated heat sink)

The complete units consist of a solid-state relay plus optimized heat sink, and are therefore ready to use. They offer defined rated currents to make selection as easy as possible. Depending on the version, current strengths of up to 70 A are achieved. Like all of our solid-state switching devices, one of their particular advantages is their compact and space-saving design.

With their insulated mounting foot they can easily be snapped onto a standard mounting rail, or they can be mounted on support plates with fixing screws. The heat sink can be grounded through a screw terminal.

The solid-state contactors are available in 2 different versions:

- 3RF23 single-phase solid-state contactors
- 3RF24 three-phase solid-state contactors

Single-phase versions

The 3RF23 solid-state contactors can be expanded with various function modules to adapt them to individual applications.

Version for resistive loads "zero-point switching"

This standard version is often used for switching space heaters on and off.

Version for inductive loads "instantaneous switching"

In this version the solid-state contactor is specifically matched to inductive loads. Whether it is a matter of frequent actuation of the valves in a filling plant or starting and stopping small operating mechanisms in packet distribution systems, operation is carried out safely and noiselessly.

Special "low noise" version

Thanks to a special control circuit, this special version can be used in public networks up to 16 A without any additional measures such as interference suppressor filters. As a result, in terms of emitted interference, it conforms to limit value curve class B according to IEC 60947-4-3.

Special "short-circuit proof" version

Skillful matching of the power semiconductor with the performance capacity of the solid-state contactor means that "short-circuit strength" can be achieved with a standard miniature circuit breaker. In combination with a B-type MCB or a conventional line protection fuse, the result is a short-circuit proof feeder.

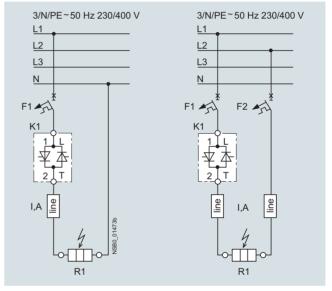
In order to achieve problem-free short-circuit protection by means of miniature circuit breakers, however, certain constraints must be observed. As the magnitude and duration of the short-circuit current are determined not only by the short-circuit breaking response of the miniature circuit breaker but also the properties of the wiring system, such as the internal resistance of the input to the network and damping by controls and cables, particular attention must also be paid to these parameters. The necessary cable lengths are therefore shown for the main factor, the line resistance, in the table below.

In systems that have high voltage peaks or at voltages of 575 V and higher, use of versions with a blocking voltage of 1 600 V is recommended

The following miniature circuit breakers with a B characteristic and 10 kA or 6 kA breaking capacity protect the 3RF23..-.DA.. solid-state contactors in the event of short-circuits on the load and the specified conductor cross-sections and lengths:

Rated current of the miniature circuit breaker	Example of type ¹⁾	Max. conductor cross-section	Minimum cable length from contactor to load
6 A	5SY4106-6	1 mm ²	5 m
10 A	5SY4110-6	1.5 mm ²	8 m
16 A	5SY4116-6	1.5 mm ²	12 m
		2.5 mm ²	20 m
20 A	5SY4120-6	2.5 mm ²	20 m
25 A	5SY4125-6	2.5 mm ²	26 m

1) The miniature circuit breakers can be used up to a maximum rated voltage of 480 V!



Solid-state contactor protection

The setup and installation above can also be used for the solid-state relays with an I^2t value of at least 6 600 A^2s .

Three-phase versions

The three-phase solid-state contactors for resistive loads up to 50 A are available with

- Two-phase control (suitable in particular for circuits without connection to the neutral conductor) and
- Three-phase control (suitable for star circuits with connection to the neutral conductor or for applications in which the system requires all phases to be switched)

The converter function module can be snapped onto both versions for the simple power control of AC loads by means of analog signals.

 Check the correct contactor size with the aid of the rated current diagram, taking account of the installation conditions

SIRIUS 3RF23 solid-state contactors, single-phase

Overview

Single-phase solid-state contactors with heat sink

Their compact design with optimized heat sink enables small complete units with currents up to 70 A. They also offer all the

special features of the solid-state relay in terms of time and space savings.

Technical specifications

More information	
System Manual "SIRIUS – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16228/faq

Type		3RF23A	3RF23B	3RF23C	3RF23D	
Dimensions (W x H x D)		See page 6/113	0111 Z0D	0111 20 10	OTII 20 ID	
General data		See page 0/113				
Ambient temperature						
During operation, derating from 40 °CDuring storage	°C °C	-25 +60 -55 +80				
Installation altitude	m	0 1 000; derating from	n 1 000			
Shock resistance acc. to IEC 60068-2-27	g/ms	15/11				
Vibration resistance acc. to IEC 60068-2-6	g	2				
Degree of protection		IP20 (for ring terminal lu	g connection when using	the terminal cover 3RA290	0-3PA88, otherwise IP00)	
Electromagnetic compatibility (EMC)						
Emitted interference according to IEC 60947-4-3 Conducted interference voltage		Class A for industrial ap	plications	Class A for industrial applications; Class B for residential, business and commercial applications up to 16 A, AC-51 I ow Noise	Class A for industrial applications	
 Emitted, high-frequency interference voltage 		Class B for residential, b	ousiness and commercial a			
Interference immunity Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	Contact discharge 4; air discharge 8; behavior criterion 2				
- Induced RF fields according to IEC 61000-4-6	MHz	0.15 80; 140 dBµV; be	ehavior criterion 1			
- Burst acc. to IEC 61000-4-4 - Surge acc. to IEC 61000-4-5	kV kV	2/5.0 kHz; behavior crite Conductor - ground 2; c	erion 2 onductor - conductor 1; b	ehavior criterion 2		

Туре		3RF231	3RF232	3RF233
General data				
Connection type		Screw terminals	Spring-type terminals	Ring terminal lug connection
Connection, main contacts				
Conductor cross-section Solid Finely stranded with end sleeve	mm ² mm ²	2 x (1.5 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ 2 x (1 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 1 x 10	2 x (0.5 2.5) 2 x (0.5 1.5)	=
Finely stranded without end sleeveSolid or stranded, AWG cables	mm ² AWG	2 x (14 10)	2 x (0.5 2.5) 2 x (18 14)	
Terminal screws		M4		M5
Tightening torque	Nm lb.in	2 2.5 7 10.3	 	2 2.5 7 10.3
 Cable lugs According to DIN 46234 According to JIS C 2805 Width, maximum 	mm	- - -	 	5-2.5, 5-6, 5-10, 5-16, 5-25 R 2-5, R 5.5-5, R 8-5, R 14-5 12
Connection, auxiliary/control contacts				
Conductor cross-section	mm AWG	1 x (0.5 2.5) ¹⁾ , 2 x (0.5 1.0) 20 12	0.5 2.5 20 12	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12
 Stripped length 	mm	7	10	7
Terminal screw		M3		M3
Tightening torque	Nm lb.in	0.5 0.6 4.5 5.3	 	0.5 0.6 4.5 5.3

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RF23 solid-state contactors, single-phase

Туре	3RF231	3RF232	3RF233
General data			
Connection type	Screw terminals	Spring-type terminals	Ring terminal lug connection
Grounding screw (not included in the scope of supply)			
Size (standard screw)	M5		
Permissible mounting position	±10° ±10° × × × × × × × × × × × × × × × × × × ×		

Туре		3RF232	3RF234	3RF235	3RF236
Main circuit					
Rated operational voltage U _e	V AC	24 230	48 460	48 600	
Operating range	V AC	20 253	40 506	40 660	
Rated frequency	Hz	50/60 ± 10%			
Rated insulation voltage U _i	V	600			
Blocking voltage	V	800	1 200		1 600
Rate of voltage rise	V/µs	1 000			

Туре		3RF230.	3RF23	1.	3RF232.	3RF234.
Control circuit						
Method of operation		DC operation	AC/DC op	eration	AC operation	DC operation
Rated control supply voltage U _s	V	24 DC	24 AC	24 DC	110 230 AC	4 30 DC
Rated frequency of the control supply voltage	Hz		50/60 ± 10%		50/60 ± 10%	
Actuating voltage, max.	V	30	26.5 AC	30 DC	253	30
Typical actuating current	mA	20 / Low Power: <10 ¹⁾	20	20	15	20
Response voltage	V	15	14 AC	15 DC	90	4
Drop-out voltage	V	5	5 AC	5 DC	40	1
Operating times						
ON-delay	ms	1 + max. one half-wave ²⁾	10 + max. half-wave ²		40 + max. one half-wave ²⁾	1 + max. one half-wave ²⁾
OFF-delay	ms	1 + max. one half-wave	15 + max. one half-wave		40 + max. one half-wave	1 + max. one half-wave

 $^{^{1)}\,}$ Applies to the "Low Power" version 3RF23..-.AA..-0KN0.

3RF2370-.AA..

Туре	Type current/performance capacity ¹⁾ <i>I</i> _{AC-51}	Dimensions (W x H x D) incl. heat sink Product version E06 and later
		T W W
	A	mm
Main circuit		
3RF2310AA	10.5	22.5 x 100 x 86
3RF2320AA 3RF2320CA 3RF2320DA	20	22.5 x 100 x 118.5
3RF2330AA 3RF2330CA	30	45 x 100 x 133.5
3RF2330DA		22.5 x 100 x 118.5
3RF2340AA	40	67.5 x 100 x 137
3RF2350AA	50	67.5 x 100 x 137

 $^{^{1)}}$ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current $\it I_{\rm e}$ can be smaller depending on the connection method and installation conditions.

70

80 x 100 x 149.5

²⁾ Only for zero-point switching devices.

SIRIUS 3RF23 solid-state contactors, single-phase

Туре	Type current AC-51/performance capacity ¹⁾		Power loss	Minimum load	Off-state	Rated peak	I ² t value	
	at I _{max}	Acc. to IEC 60947-4-3	Acc. to UL/CSA	at I _{max}	current	current	withstand current I _{tsm}	
	at 40 °C	at 40 °C	at 50 °C					
	Α	Α	Α	W	Α	mA	А	A ² s
Main circuit								
BRF2310AA.2 BRF2310AA.4 BRF2310AA.5	10.5	7.5	9.6	11	0.1	10	200	200
3RF2310AA.6							400	800
3RF2320AA.2 3RF2320AA.4 3RF2320AA.5 3RF2320AA.6	20	13.2	17.6	20	0.5	10	600	1 800
BRF2320CA.2 BRF2320CA.4						25	600	1 800
3RF2320DA.2 3RF2320DA.4						10	1 150	6 600
BRF2330AA.2 BRF2330AA.4 BRF2330AA.5 BRF2330AA.6	30	22	27	33	0.5	10	600	1 800
RF2330CA.2						25	600	1 800
RF2330DA.4		18.5	26	33	0.5	10	1 150	6 600
BRF2340AA.2 BRF2340AA.4 BRF2340AA.5	40	33	36	44	0.5	10	1 200	7 200
3RF2340AA.6							1 150	6 600
3RF2350AA.2 3RF2350AA.4 3RF2350AA.5 3RF2350AA.6	50	36	45	54	0.5	10	1 150	6 600
3RF2370AA.2 3RF2370AA.4 3RF2370AA.5 3RF2370AA.6	70	70	62	83	0.5	10	1 150	6 600

 $^{^{1)}}$ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and installation conditions.

Туре	Type current AC-51/ performance capacity 1) Type current A performance capacity 1)		ance	Power loss at $I_{\rm max}$	Minimum load current	Off-state current	Rated peak withstand current	<i>I</i> ² <i>t</i> value		
	at I_{max} at 40 °C	Acc. to IEC 60947-4-3 at 40 °C	Acc. to UL/CSA at 50 °C	10 x I _e for 60 ms	Parameters				I _{tsm}	
	А	А	А	А		W	А	mA	А	A ² s
Main circuit										
3RF2310BA.2 3RF2310BA.4	10.5	7.5	9.6	6	1 200 1/h 50% ON	11	0.1	10	200	200
3RF2310BA.6					period				400	800
3RF2320BA.2 3RF2320BA.4 3RF2320BA.6	20	13.2	17.6	12	1 200 1/h 50% ON period	20	0.5	10	600	1 800
3RF2330BA.2 3RF2330BA.4 3RF2330BA.6	30	22	27	15	1 200 1/h 50% ON period	33	0.5	10	600	1 800
3RF2340BA.2 3RF2340BA.4	40	33	36	20	1 200 1/h 50% ON	44	0.5	10	1 200	7 200
3RF2340BA.6					period				1 150	6 600
3RF2350BA.2 3RF2350BA.4 3RF2350BA.6	50	36	45	25	1 200 1/h 50% ON period	54	0.5	10	1 150	6 600
3RF2370BA.2 3RF2370BA.4 3RF2370BA.6	70	70	62	27.5	1 200 1/h 50% ON period	83	0.5	10	1 150	6 600

 $^{^{1)}}$ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current $I_{\rm 0}$ can be smaller depending on the connection method and installation conditions.

SIRIUS 3RF23 solid-state contactors, single-phase

Selection and ordering data

Selection notes

The solid-state contactors are selected on the basis of details of the network, the load and the ambient conditions. As the solid-state contactors are already equipped with an optimally matched heat sink, the selection process is considerably simpler than that for solid-state relays.

The following procedure is recommended:

- Determine the rated current of the load and the mains voltage
- Select a solid-state contactor with the same or higher rated current than the load

	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	PU (UNIT, SET, M)	PS*	PG
. <u> </u>	A	V	d	Article No. Pric			
	· Integrated heat sink, tage <i>U</i> _e 24 230 V AC						
	10.5 20 30 40 50	24 DC	2 2 2 2 2	3RF2310-1AA02 3RF2320-1AA02 3RF2330-1AA02 3RF2340-1AA02 3RF2350-1AA02	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
True I	20	24 DC Low Power	2	3RF2320-1AA02-0KN0	1	1 unit	41C
	10.5	24 AC/DC	2	3RF2310-1AA12	1	1 unit	41C
3RF2310-1	10.5 20 30 40 50	110 230 AC	2 2 2 5 2	3RF2310-1AA22 3RF2320-1AA22 3RF2330-1AA22 3RF2340-1AA22 3RF2350-1AA22	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	· Integrated heat sink, tage <i>U</i> _e 48 460 V AC						
. <u>.</u>	10.5 20 30 40 50	24 DC	2 2 2 2 2	3RF2310-1AA04 3RF2320-1AA04 3RF2330-1AA04 3RF2340-1AA04 3RF2350-1AA04	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
And the second s	10.5	24 DC Low Power	2	3RF2310-1AA04-0KN0	1	1 unit	41C
3RF2320-1	10.5 20 30 40 50	24 AC/DC	2 5 2 5 5	3RF2310-1AA14 3RF2320-1AA14 3RF2330-1AA14 3RF2340-1AA14 3RF2350-1AA14	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	10.5 20 30 40 50	110 230 AC	2 2 2 2 2	3RF2310-1AA24 3RF2320-1AA24 3RF2330-1AA24 3RF2340-1AA24 3RF2350-1AA24	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	10.5 20 30	4 30 DC	2 2 2	3RF2310-1AA44 3RF2320-1AA44 3RF2330-1AA44	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C

¹⁾ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

Other rated control supply voltages on request.

SIRIUS 3RF23 solid-state contactors, single-phase

	T //		05	2		511	P0+	500
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT,	PS*	PG
	I_{max}					SET, M)		
	A	V	d	Article No.	Price per PU			
Zero-point switching rated operational vo	g · Integrated heat sink, litage <i>U</i> _e 48 600 V AC							
	30	110 230 AC	5	3RF2330-1AA25		1	1 unit	41C
	10.5 20	4 30 DC	5 2	3RF2310-1AA45 3RF2320-1AA45		1 1	1 unit 1 unit	41C 41C
	30		2	3RF2330-1AA45		i	1 unit	41C
	40 50		2	3RF2340-1AA45 3RF2350-1AA45		1 1	1 unit 1 unit	41C 41C
blocking voltage 1 6	g · Integrated heat sink,			OH 2000 MAIN		'	Tant	- 110
rated operational vo	10.5	24 DC	5	3RF2310-1AA06		1	1 unit	41C
and the same of th	20	24 DC	2	3RF2320-1AA06		1	1 unit	41C
	30 40		2 5	3RF2330-1AA06 3RF2340-1AA06		1 1	1 unit 1 unit	41C 41C
• T	50		5	3RF2350-1AA06		i	1 unit	41C
	10.5	110 230 AC	5	3RF2310-1AA26		1	1 unit	41C
O COLOR	20 30		5 5	3RF2320-1AA26 3RF2330-1AA26		1 1	1 unit 1 unit	41C 41C
6	40		5	3RF2340-1AA26		1	1 unit	41C
00500404	50		5	3RF2350-1AA26		1	1 unit	41C
3RF2340-1 Low Noise ²⁾ ,								
zero-point switching	g · Integrated heat sink, litage <i>U_e</i> 24 230 V AC							
	20	24 DC	5	3RF2320-1CA02		1	1 unit	41C
	30 20	110 230 AC	5	3RF2330-1CA02 3RF2320-1CA22		1	1 unit 1 unit	41C 41C
3RF2320-1 Low Noise ²⁾ ,			_					
zero-point switching	g · Integrated heat sink, litage <i>U</i> _e 48 460 V AC							
	20	24 DC	5	3RF2320-1CA04		1	1 unit	41C
	20	110 230 AC	5	3RF2320-1CA24		1	1 unit	41C
01	20	4 30 DC	2	3RF2320-1CA44		1	1 unit	41C
Short-circuit-proof v zero-point switching rated operational vo	y Integrated heat sink, Iltage <i>U_e 24 230</i> V AC							
	20	24 DC	2	3RF2320-1DA02		1	1 unit	41C
	20	110 230 AC	5	3RF2320-1DA22		1	1 unit	41C
Short-circuit-proof v zero-point switching rated operational vo	with B MCB · g · Integrated heat sink, litage <i>U</i> _e 48 460 V AC							
	20	24 DC	2	3RF2320-1DA04		1	1 unit	41C
	20	110 230 AC	5	3RF2320-1DA24		1	1 unit	41C
	20 30	4 30 DC	2 2	3RF2320-1DA44 3RF2330-1DA44		1 1	1 unit 1 unit	41C 41C
3RF2320-1								
1) The type current provid	des information about the perf	ormance of the solid-	≏r rat	ted control supply vo	ltages on	request		

¹⁾ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

Other rated control supply voltages on request.

²⁾ See page 6/111.

SIRIUS 3RF23 solid-state contactors, single-phase

					11105 5111 25 5011u-3	tate oo.	itaotoro	, single	pridace
	Type current/ performance capacity ¹⁾ I_{max}		Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Α	Α	V	d	Article No.	Price per PU			
Instantaneous switch rated operational vol	ning · Integra	ted heat sink,	•	u		регто			
• •	10.5 20 30 40 50	6 12 15 20 25 27.5	24 DC	2 2 5 5 5 5	3RF2310-1BA02 3RF2320-1BA02 3RF2330-1BA02 3RF2340-1BA02 3RF2350-1BA02 3RF2370-1BA02		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C 41C
3RF2310-1	10.5 20 30 40 50	6 12 15 20 25 27.5	110 230 AC	5 5 5 5 5 5	3RF2310-1BA22 3RF2320-1BA22 3RF2330-1BA22 3RF2340-1BA22 3RF2350-1BA22 3RF2370-1BA22		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
Instantaneous switch rated operational vol									
	10.5 20 30 40 50	6 12 15 20 25 27.5	24 DC	2 2 5 5 5	3RF2310-1BA04 3RF2320-1BA04 3RF2330-1BA04 3RF2340-1BA04 3RF2350-1BA04 3RF2370-1BA04		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
3RF2320-1	10.5 20 30 40 50	6 12 15 20 25 27.5	110 230 AC	5 5 5 5 5 5	3RF2310-1BA24 3RF2320-1BA24 3RF2330-1BA24 3RF2340-1BA24 3RF2350-1BA24 3RF2370-1BA24		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
	20 30 50	12 15 25	4 30 DC	5 5 5	3RF2320-1BA44 3RF2330-1BA44 3RF2350-1BA44		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
Instantaneous switch blocking voltage 1 60 rated operational vol	00 V,								
	10.5 20 30 40 50	6 12 15 20 25 27.5	24 DC	5 2 5 5 5 5	3RF2310-1BA06 3RF2320-1BA06 3RF2330-1BA06 3RF2340-1BA06 3RF2350-1BA06 3RF2370-1BA06		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
3RF2340-1	10.5 20 30 40 50	6 12 15 20 25 27.5	110 230 AC	5 5 5 5 5 5	3RF2310-1BA26 3RF2320-1BA26 3RF2330-1BA26 3RF2340-1BA26 3RF2350-1BA26 3RF2370-1BA26		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C

The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

Other rated control supply voltages on request.

²⁾ Utilization category AC-15: Electromagnetic loads, e.g. valves according to IEC 60947-5-1. Parameters: max. 1 200 1/h, 50% ON period, 10-times inrush current for

SIRIUS 3RF23 solid-state contactors, single-phase

	Type current/ performance capacity ¹⁾ I _{max}	Rated control supply voltage $U_{\rm S}$	SD	Spring-type terminals	<u></u>	PU (UNIT, SET, M)	PS*	PG
		V	_	Article No.	Price			
Zero-noint switchin	A ng · Integrated heat sink,	V	d		per PU			
rated operational ve	oltage <i>U_e</i> 24 230 V AC							
ALC:U	10.5	24 DC	5	3RF2310-2AA02		1	1 unit	41C
	20 10.5	110 230 AC	5	3RF2320-2AA02 3RF2310-2AA22		1	1 unit 1 unit	41C 41C
	10.5 20	110 230 AC	5	3RF2320-2AA22		1	1 unit	41C 41C
3RF2320-2								
	ig ⋅ Integrated heat sink, oltage <i>U</i> _e 48 460 V AC							
	10.5 20	24 DC	2	3RF2310-2AA04 3RF2320-2AA04		1 1	1 unit 1 unit	41C 41C
	10.5 20	110 230 AC	5 5	3RF2310-2AA24 3RF2320-2AA24		1 1	1 unit 1 unit	41C 41C
blocking voltage 16	ng · Integrated heat sink, 600 V, oltage <i>U_e</i> 48 600 V AC							
	10.5 20	24 DC	5 2	3RF2310-2AA06 3RF2320-2AA06		1 1	1 unit 1 unit	41C 41C
	10.5 20	110 230 AC	5 5	3RF2310-2AA26 3RF2320-2AA26		1 1	1 unit 1 unit	41C 41C
	g · Integrated heat sink, oltage <i>U</i> _e 24 230 V AC							
	20	24 DC	5	3RF2320-2CA02		1	1 unit	41C
2)	20	110 230 AC	5	3RF2320-2CA22		1	1 unit	41C
Low Noise ²⁾ , zero-point switchin rated operational vo	g · Integrated heat sink, oltage <i>U</i> _e 48 460 V AC							
	20	24 DC	5	3RF2320-2CA04		1	1 unit	41C
	20	110 230 AC	5	3RF2320-2CA24		1	1 unit	41C
Short-circuit-proof zero-point switchin rated operational vo	with B MCB, g · Integrated heat sink, oltage <i>U</i> _e 24 230 V AC							
	20	110 230 AC	5	3RF2320-2DA22		1	1 unit	41C
Short-circuit-proof zero-point switchin rated operational vo	with B MCB, g · Integrated heat sink, oltage <i>U_e</i> 48 460 V AC							
	20	24 DC	5	3RF2320-2DA04		1	1 unit	41C
	20	110 230 AC	5	3RF2320-2DA24		1	1 unit	41C

¹⁾ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current f_e can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

Other rated control supply voltages on request.

²⁾ See page 6/111.

SIRIUS 3RF23 solid-state contactors, single-phase

	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	SD	Ring terminal lug connection	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No. Price			
	· Integrated heat sink, age <i>U_e</i> 24 230 V AC						
	10.5 20 30 40	24 DC	5 5 5 5	3RF2310-3AA02 3RF2320-3AA02 3RF2330-3AA02 3RF2340-3AA02	1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
<u> </u>	50 70		5 2	3RF2350-3AA02 3RF2370-3AA02	1 1	1 unit 1 unit	41C 41C
	10.5 20 30 40 50	110 230 AC	5 5 5 5 5	3RF2310-3AA22 3RF2320-3AA22 3RF2330-3AA22 3RF2340-3AA22 3RF2350-3AA22	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
3RF2350-3	70 Integrated heat sink,		5	3RF2370-3AA22	1	1 unit	41C
	age <i>U_e</i> 48 460 V AC						
	10.5 20 30 40 50 70	24 DC	5 5 2 5 2 2	3RF2310-3AA04 3RF2320-3AA04 3RF2330-3AA04 3RF2340-3AA04 3RF2350-3AA04 3RF2370-3AA04	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
	10.5 20 30 40 50 70	110 230 AC	5 5 5 5 5 5	3RF2310-3AA24 3RF2320-3AA24 3RF2330-3AA24 3RF2340-3AA24 3RF2350-3AA24 3RF2370-3AA24	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C 41C
3RF2330-3, Covers optional	20 30 50	4 30 DC	5 5 5	3RF2320-3AA44 3RF2330-3AA44 3RF2350-3AA44	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	· Integrated heat sink, age <i>U</i> _e 48 600 V AC						
	40 70	4 30 DC	5 2	3RF2340-3AA45 3RF2370-3AA45	1 1	1 unit 1 unit	41C 41C
blocking voltage 160	· Integrated heat sink, 0 V, age <i>U</i> _e 48 600 V AC						
	10.5 20 30 40 50 70	24 DC	5 5 5 5 5 5	3RF2310-3AA06 3RF2320-3AA06 3RF2330-3AA06 3RF2340-3AA06 3RF2350-3AA06 3RF2370-3AA06	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
	10.5 20 30 40 50 70	110 230 AC	5 5 5 5 5 5	3RF2310-3AA26 3RF2320-3AA26 3RF2330-3AA26 3RF2340-3AA26 3RF2350-3AA26 3RF2370-3AA26	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C

 $^{^{1)}}$ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

Other rated control supply voltages on request.

SIRIUS 3RF23 solid-state contactors, single-phase

	Type current/ performance capacity ¹⁾ I _{max}	Operational current $I_{\rm e}/{\rm AC-15}^2$	Rated control supply voltage $U_{\rm S}$	SD	Ring terminal lug connection		PU (UNIT, SET, M)	PS*	PG
	А	А	V	d	Article No.	Price per PU			
Instantaneous switch rated operational volume	hing · Integ Itage <i>U_e</i> 24	rated heat sink 230 V AC	ζ,						
	70	27.5	24 DC	5	3RF2370-3BA02		1	1 unit	41C
	70	27.5	110 230 AC	5	3RF2370-3BA22		1	1 unit	41C
Instantaneous switch rated operational volume			ς,						
	70	27.5	24 DC	5	3RF2370-3BA04		1	1 unit	41C
	70	27.5	110 230 AC	5	3RF2370-3BA24		1	1 unit	41C
Instantaneous switch blocking voltage 1 60 rated operational vol	00 V,		Ç						
	70	27.5	24 DC	5	3RF2370-3BA06		1	1 unit	41C
	70	27.5	110 230 AC	5	3RF2370-3BA26		1	1 unit	41C
Short-circuit-proof w zero-point switching rated operational vo	· Integrated								
	20		24 DC	5	3RF2320-3DA02		1	1 unit	41C
-	20		110 230 AC	5	3RF2320-3DA22		1	1 unit	41C
Short-circuit-proof w zero-point switching rated operational vo	· Integrated	d heat sink,							
	20		24 DC	5	3RF2320-3DA04		1	1 unit	41C
	20		110 230 AC	5	3RF2320-3DA24		1	1 unit	41C

¹⁾ The type current provides information about the performance of the solidstate contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

Other rated control supply voltages on request.

Utilization category AC-15: Electromagnetic loads, e.g. valves according to IEC 60947-5-1. Parameters: max. 1 200 1/h, 50% ON period, 10-times inrush current for

SIRIUS 3RF23 solid-state contactors, single-phase

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			SEI, IVI)		
Optional accessories							
			Spring-type terminals	<u> </u>			
	Screwdrivers For all SIRIUS devices with spring-type terminals	2	3RA2908-1A		1	1 unit	41B
	Length approx. 200 mm, size 3.0 mm x 0.5 mm, titanium gray/black, partially insulated						
3RA2908-1A							
			Ring terminal lug connection	(1)			
	Terminal covers For 3RF23 solid-state contactors with ring terminal lug connection	2	3RF2900-3PA88		1	10 units	41C
3RF2900-3PA88	(With this terminal cover, degree of protection IP20 can be achieved in the terminal compartment in the case of ring terminal lug connections. It can also be used for screw terminals after simple adaptation)						
	Control connectors						
			Screw terminals				
	Replacement control connectors For 3RF23/24 Screw terminals	5	3RF2900-1TA88		1	50 units	41C
			Spring-type terminals	$\stackrel{\circ}{\mathbb{H}}$			
	Replacement control connectors For 3RF23/24 Spring-type terminals	5	3RF2900-2TA88		1	50 units	41C
	Control connector For 3RF23/24 Spring-type terminals with two clamping points per contact	5	3RF2900-2TB88		1	10 units	41C

SIRIUS 3RF24 solid-state contactors, three-phase

Overview

Three-phase solid-state contactors with heat sink

Their compact design with optimized heat sink enables small complete units with currents up to 50 A. They also offer all the

special features of the solid-state relay in terms of time and space savings.

Technical specifications

More information System Manual "SIRIUS Modular System – System Overview", see https://support.industry.siemens.com/cs/ww/en/ps/16230/faq https://support.industry.siemens.com/cs/ww/en/view/60311318

Туре		3RF241	3RF242	3RF243		
Dimensions (W x H x D)		See page 6/123				
General data						
Ambient temperature						
During operation, derating from 40 °CDuring storage	°C	-25 +60 -55 +80				
Installation altitude	m	0 1 000; derating from 1 000				
Shock resistance acc. to IEC 60068-2-27	g/ms	15/11				
Vibration resistance acc. to IEC 60068-2-6	g	2				
Degree of protection		IP20		IP00		
Insulation strength at 50/60 Hz (main/control circuit to floor)	V rms	4 000				
Electromagnetic compatibility (EMC)						
Emitted interference according to IEC 60947-4-3 Conducted interference voltage Interference immunity Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	Class A for industrial applications Contact discharge 4; air discharge	ge 8; behavior criterion 2			
- Induced RF fields according to IEC 61000-4-6	MHz	0.15 80; 140 dBµV; behavior c	riterion 1			
- Burst acc. to IEC 61000-4-4 - Surge acc. to IEC 61000-4-5	kV kV	2/5.0 kHz; behavior criterion 2 Conductor - ground 2; conductor	i.0 kHz; behavior criterion 2 nductor - ground 2; conductor - conductor 1; behavior criterion 2			
Connection type		Screw terminals	Spring-type terminals	Ring terminal lug connection		
Connection, main contacts						
Conductor cross-section Solid Finely stranded with end sleeve	mm ² mm ²	2 x (1.5 2.5) ²⁾ , 2 x (2.5 6) ²⁾ 2 x (1 2.5) ²⁾ , 2 x (2.5 6) ²⁾ , 1 x 10	2 x (0.5 2.5) 2 x (0.5 1.5)	 		
Finely stranded without end sleeveSolid or stranded, AWG cables	mm ² AWG	2 x (14 10)	2 x (0.5 2.5) 2 x (18 14)			
Stripped length	mm	10	10			
Terminal screws Tightening torque	Nm lb.in	M4 2 2.5 18 22		M5 2 2.5 18 22		
 Cable lugs According to DIN 46234 According to JIS C 2805 Width, maximum 	mm	 	 	5-2.5 5-25 R 2-5 R 14-5 12		
Connection, auxiliary/control contacts						
Conductor cross-section	mm AWG	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12	0.5 2.5 20 12	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12		
Stripped length	mm	7	10	7		
 Terminal screw Tightening torque, Ø 3.5, PZ 1 	Nm lb.in	M3 0.5 0.6 4.5 5.3	 	M3 0.5 0.6 4.5 5.3		
Grounding screw		Not included in the scope of supp	ply			
Size (standard screw)		M5				
Permissible mounting position		±10° ±10°				

Permissible mounting position



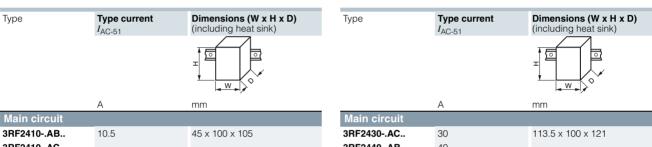
¹⁾ These products were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case the user may be required to introduce additional interference suppression measures. The versions 3RF24.-1AC55 comply with Class B for residential, business and commercial applications.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RF24 solid-state contactors, three-phase

Туре	Type current/ performance capacity ¹⁾	Rated operation	Rated operational current $I_{ m e}$		Minimum load current	Max. off-state current	Rated peak withstand current I_{tsm}	<i>I</i> ² <i>t</i> value
	I _{AC-51} at 40 °C	Acc. to IEC 60947-4-3 at 40 °C	Acc. to UL/CSA at 50 °C					
	А	Α	Α	W	Α	mA	А	A ² s
Main circuit	ain circuit							
3RF2410AB.5 3RF2420AB.5 3RF2430AB.5 3RF2440AB.5 3RF2450AB.5	10.5 22 30 40 50	7 15 22 30 38		23 44 61 80 107	0.1 0.5 0.5 0.5 0.5	10 10 10 10 10	200 600 1 200 1 150 1 150	200 1 800 7 200 6 600 6 600
3RF2410AC.5 3RF2420AC.5 3RF2430AC.5 3RF2440AC.5 3RF2450AC.5	10.5 22 30 40 50	7 15 22 30 38		31 66 91 121 160	0.5 0.5 0.5 0.5 0.5	10 10 10 10 10	300 600 1 200 1 150 1 150	450 1 800 7 200 6 600 6 600

 $^{^{1)}}$ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current $I_{\rm B}$ can be smaller depending on the connection method and installation conditions.



	, ,	1111111		, ,
Main circuit			Main circuit	
3RF2410AB	10.5	45 x 100 x 105	3RF2430AC	30
3RF2410AC			3RF2440AB	40
3RF2420AB	22	67 x 100 x 112.5	3RF2440AC	40
3RF2420AC	22	89.5 x 100 x 112.5	3RF2450AB	50
3RF2430AB	30		3RF2450AC	50

	A	111111
Main circuit		
3RF2430AC	30	113.5 x 100 x 121
3RF2440AB	40	
3RF2440AC	40	157.5 x 100 x 121
3RF2450AB	50	
3RF2450AC	50	157.5 x 180 x 121

Туре		3RF24AB.5	3RF24AC.5
Main circuit			
Controlled phases		Two-phase	Three-phase
Rated operational voltage U _e	V AC	48 600	
Operating range	V AC	40 660	
Rated frequency	Hz	50/60 ± 10%	
Rated insulation voltage U _i	V	600	
Rated impulse withstand voltage U _{imp}	kV	6	
Blocking voltage	V	1 200	
Rate of voltage rise	V/µs	1 000	

	3RF243.	3RF244.	3RF245.
	AC operation	DC operation	AC operation
V	110	4 30	190 230
Hz	50/60 ± 10%		50/60 ± 10%
V	121	30	253
mA	15	30	15
V	90	4	180
V	< 40	< 1	< 40
ms	40 + max. one half-wave	1 + max. one half-wave	40 + max. one half-wave
ms	40 + max. one half-wave	1 + max. one half-wave	40 + max. one half-wave
	V mA V V ms	AC operation V 110 Hz 50/60 ± 10% V 121 mA 15 V 90 V < 40 ms 40 + max. one half-wave	AC operation DC operation V 110 4 30 Hz 50/60 ± 10% V 121 30 mA 15 30 V 90 4 V < 40 < 1 ms 40 + max. one half-wave 1 + max. one half-wave

SIRIUS 3RF24 solid-state contactors, three-phase

Selection and ordering data

Article No. Price Pu d	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.				

Zero-point switching \cdot Integrated heat sink, rated operational voltage $U_{\rm e}$ 48 ... 600 V AC



3RF2420-1AB45

itage de 40 ou	VIAO					
Two-phase co	ntrolled		-			
10.5	4 30 DC	2	3RF2410-1AB45	1	1 unit	41C
20		2	3RF2420-1AB45	1	1 unit	41C
30		2	3RF2430-1AB45	1	1 unit	41C
40		5	3RF2440-1AB45	1	1 unit	41C
50		2	3RF2450-1AB45	1	1 unit	41C
10.5	110 AC	5	3RF2410-1AB35	1	1 unit	41C
20		5	3RF2420-1AB35	1	1 unit	41C
30		5	3RF2430-1AB35	1	1 unit	41C
40		5	3RF2440-1AB35	1	1 unit	41C
50		5	3RF2450-1AB35	1	1 unit	41C
10.5	230 AC	5	3RF2410-1AB55	1	1 unit	41C
20		5	3RF2420-1AB55	1	1 unit	41C
30		2	3RF2430-1AB55	1	1 unit	41C
40		5	3RF2440-1AB55	1	1 unit	41C
50		5	3RF2450-1AB55	1	1 unit	41C
Three-phase c	ontrolled					



3RF2410-1AC45

10.5	230 AC	5	3RF2410-1AB55	1	1 unit	41C
20		5	3RF2420-1AB55	1	1 unit	41C
30		2	3RF2430-1AB55	1	1 unit	41C
40		5	3RF2440-1AB55	1	1 unit	41C
50		5	3RF2450-1AB55	1	1 unit	41C
Three-phase c	ontrolled					
10.5	4 30 DC	2	3RF2410-1AC45	1	1 unit	41C
20		2	3RF2420-1AC45	1	1 unit	41C
30		2	3RF2430-1AC45	1	1 unit	41C
40		2	3RF2440-1AC45	1	1 unit	41C
50		2	3RF2450-1AC45	1	1 unit	41C
10.5	110 AC	5	3RF2410-1AC35	1	1 unit	41C
20		5	3RF2420-1AC35	1	1 unit	41C
30		5	3RF2430-1AC35	1	1 unit	41C
40		5	3RF2440-1AC35	1	1 unit	41C
50		5	3RF2450-1AC35	1	1 unit	41C
10.5	230 AC	5	3RF2410-1AC55	1	1 unit	41C
20		5	3RF2420-1AC55	1	1 unit	41C
30		5	3RF2430-1AC55	1	1 unit	41C
40		5	3RF2440-1AC55	1	1 unit	41C
50		5	3RF2450-1AC55	1	1 unit	41C

The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

SIRIUS 3RF24 solid-state contactors, three-phase

	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	SD	Spring-type terminals	<u> </u>	PU (UNIT, SET, M)	PS*	PG
	А	V	d	Article No.	Price per PU			
Zero-point switching rated operational volt	· Integrated heat sink, tage <i>U_e 48 600</i> V AC							
[.	Two-phase controlled							
	10 20	4 30 DC	5 5	3RF2410-2AB45 3RF2420-2AB45		1 1	1 unit 1 unit	41C 41C
44 6	10 20	230 AC	5 5	3RF2410-2AB55 3RF2420-2AB55		1 1	1 unit 1 unit	41C 41C
SICHENS THAT	Three-phase controlled							
**************************************	10 20	4 30 DC	5 5	3RF2410-2AC45 3RF2420-2AC45		1 1	1 unit 1 unit	41C 41C
3RF2410-2AB45	10 20	230 AC	5 5	3RF2410-2AC55 3RF2420-2AC55		1 1	1 unit 1 unit	41C 41C
	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	SD	Ring terminal lug connection		PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
	· Integrated heat sink, tage <i>U</i> _e 48 600 V AC							
	Two-phase controlled							
	50	4 30 DC	5	3RF2450-3AB45		1	1 unit	41C
	50	230 AC	5	3RF2450-3AB55		1	1 unit	41C
	Three-phase controlled	1						
	50	4 30 DC	5	3RF2450-3AC45		1	1 unit	41C
	50	230 AC	5	3RF2450-3AC55		1	1 unit	41C

¹⁾ The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current fe can be smaller depending on the connection method and installation conditions. For derating characteristic curves, see page 6/97, "More information".

For accessories, see page 6/121.

General data

Overview

Function modules for SIRIUS 3RF2 solid-state switching devices

A great variety of applications demand an expanded range of functionality. With our function modules, these requirements can be met really easily. The modules are mounted simply by clicking them into place; straight away the necessary connections are made with the solid-state relay or contactor.

The plug-in connection to control the solid-state switching devices can simply remain in use. The external connections have screw terminals.

The following function modules are available:

- Converters
- Load monitoring
- Heating current monitoring
- Power controllers
- Power regulators

With the exception of the converter, the function modules can be used only with single-phase solid-state switching devices.

Recommended assignment of the function modules to the 3RF21 single-phase solid-state relays

Гуре	Accessories				4.	1)
	Converters	Load monitoring Basic	Extended ¹⁾	Heating current monitoring ¹⁾	Power controllers ¹⁾	Power regulators ¹
ype current =	: 20 A	Basis	Exteriaca			
RF2120-1A.02 RF2120-1A.04	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16	 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16
RF2120-1A.22 RF2120-1A.24			3RF2920-0GA33 3RF2920-0GA36			
RF2120-1A.42 RF2120-1A.45	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16	 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16
RF2120-1B.04	3RF2900-0EA18	3RF2920-0FA08	3RF2920-0GA16	3RF2932-0JA16	3RF2920-0KA16	3RF2920-0HA16
RF2120-2A.02 RF2120-2A.04	3RF2900-0EA18 3RF2900-0EA18				 	
RF2120-2A.22 RF2120-2A.24			 	 	 	
RF2120-2A.42 RF2120-2A.45	3RF2900-0EA18 3RF2900-0EA18			 	 	
RF2120-3A.02 RF2120-3A.04	3RF2900-0EA18 3RF2900-0EA18	 	3RF2920-0GA13 3RF2920-0GA16	 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16
RF2120-3A.22 RF2120-3A.24			3RF2920-0GA33 3RF2920-0GA36		3RF2920-0KA13 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16
ype current =	: 30 A					
RF2130-1A.02 RF2130-1A.04 RF2130-1A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16
RF2130-1A.22 RF2130-1A.24 RF2130-1A.26	 		3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36		 	3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36
RF2130-1A.42 RF2130-1A.45	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2950-0GA13 3RF2950-0GA16	 3RF2932-0JA16	3RF2950-0KA13 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16
RF2130-1B.04	3RF2900-0EA18	3RF2920-0FA08	3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
ype current =	50 A					
RF2150-1A.02 RF2150-1A.04 RF2150-1A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16
RF2150-1A.22 RF2150-1A.24 RF2150-1A.26	 		3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36	 	 	3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36
RF2150-1A.45	3RF2900-0EA18	3RF2920-0FA08	3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
RF2150-1B.04 RF2150-1B.06	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2950-0GA16 3RF2950-0GA16	3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA16 3RF2950-0HA16
RF2150-1B.22			3RF2950-0GA33			3RF2950-0HA33
RF2150-2A.02 RF2150-2A.04 RF2150-2A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	 	 	 	
RF2150-2A.14	3RF2900-0EA18					
RF2150-2A.22 RF2150-2A.24 RF2150-2A.26		 	 	 	 	
RF2150-2A.20 RF2150-3A.02 RF2150-3A.04 RF2150-3A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16
RF2150-3A.22 RF2150-3A.24 RF2150-3A.26	 		3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36	 	 	3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36

¹⁾ For line voltages in the range from 110 to 230 V, the versions of the 3RF29..-0.A13 function modules can also be combined with more voltageresistant versions of the solid-state relays (3RF21..-...4, -....5 or -....6).

General data

Туре	Accessories					4)
	Converters	Load monitoring		Heating current	Power controllers ¹⁾	Power regulators ¹⁾
		Basic	Extended ¹⁾	monitoring ¹⁾		
Type current =	: 70 A					
3RF2170-1A.02 3RF2170-1A.04 3RF2170-1A.05 3RF2170-1A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16 3RF2950-0GA16	 3RF2932-0JA16 3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16 3RF2950-0HA16
3RF2170-1A.22 3RF2170-1A.24 3RF2170-1A.26	 		3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36	 	 	3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36
3RF2170-1A.45	3RF2900-0EA18	3RF2920-0FA08	3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2170-1B.04	3RF2900-0EA18	3RF2920-0FA08	3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2170-1C.04	3RF2900-0EA18	3RF2920-0FA08	3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
Type current =	90 A					
3RF2190-1A.02 3RF2190-1A.04 3RF2190-1A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16
3RF2190-1A.22 3RF2190-1A.24 3RF2190-1A.26	 	 	3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36	 	 	3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36
3RF2190-1A.45	3RF2900-0EA18	3RF2920-0FA08	3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2190-1B.04	3RF2900-0EA18	3RF2920-0FA08	3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2190-2A.02 3RF2190-2A.04 3RF2190-2A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	 	 	 	
3RF2190-2A.22 3RF2190-2A.24 3RF2190-2A.26	 		 	=	 	
3RF2190-3A.02 3RF2190-3A.04 3RF2190-3A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	3RF2990-0GA13 3RF2990-0GA16 3RF2990-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2990-0KA13 3RF2990-0KA16 3RF2990-0KA16	3RF2990-0HA13 3RF2990-0HA16 3RF2990-0HA16
3RF2190-3A.22 3RF2190-3A.24 3RF2190-3A.26	 		3RF2990-0GA33 3RF2990-0GA36 3RF2990-0GA36	 	 	3RF2990-0HA33 3RF2990-0HA36 3RF2990-0HA36
3RF2190-3A.44	3RF2900-0EA18		3RF2990-0GA16	3RF2932-0JA16	3RF2990-0KA16	3RF2990-0HA16

¹⁾ For line voltages in the range from 110 to 230 V, the versions of the 3RF29..-0.A13 function modules can also be combined with more voltageresistant versions of the solid-state relays (3RF21..-...4, -....5 or -....6).

Recommended assignment of the function modules to the 3RF22 three-phase solid-state relays

Туре	Accessories						
	Converters	Load monitoring		Heating current	Power controllers	Power regulators	
		Basic	Extended	monitoring			
Type current	up to 55 A						
3RF221A	3RF2900-0EA18						
3RF222A	3RF2900-0EA18						
3RF223A	3RF2900-0EA18						

Recommended assignment of the function modules to the 3RF23 single-phase solid-state contactors

Туре	Accessories					
	Converters	Load monitoring		Heating current	Power controllers ¹⁾	Power regulators ¹⁾
		Basic	Extended ¹⁾	monitoring ¹⁾		
Type current =	: 10.5 A					
3RF2310-1A.02 3RF2310-1A.04 3RF2310-1A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16 3RF2920-0GA16	3RF2916-0JA13 3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16 3RF2920-0HA16
3RF2310-1A.12 3RF2310-1A.14	3RF2900-0EA18 3RF2900-0EA18		3RF2920-0GA13 3RF2920-0GA16	3RF2916-0JA13 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16
3RF2310-1A.22 3RF2310-1A.24 3RF2310-1A.26	 	 	3RF2920-0GA33 3RF2920-0GA36 3RF2920-0GA36	 	 	3RF2920-0HA33 3RF2920-0HA36 3RF2920-0HA36
3RF2310-1A.44 3RF2310-1A.45	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA16 3RF2920-0GA16	3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA16 3RF2920-0HA16

¹⁾ For line voltages in the range from 110 to 230 V, the versions of the 3RF29..-0.A13 function modules can also be combined with more voltageresistant versions of the solid-state contactors (3RF23..-...4, -....5 or -....6).

General data

T	•					
Type	Accessories Converters	Load monitoring		Heating current	Power controllers ¹⁾	Power regulators ¹⁾
		Basic	Extended ¹⁾	monitoring ¹⁾	. Gwel cominence	r errer regulatore
Type current =	10.5 A					
3RF2310-1B.02 3RF2310-1B.04 3RF2310-1B.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16 3RF2920-0GA16	3RF2916-0JA13 3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16 3RF2920-0HA16
3RF2310-1B.22 3RF2310-1B.24 3RF2310-1B.26			3RF2920-0GA33 3RF2920-0GA36 3RF2920-0GA36	 	 	3RF2920-0HA33 3RF2920-0HA36 3RF2920-0HA36
3RF2310-2A.02 3RF2310-2A.04 3RF2310-2A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	 	 	 	
3RF2310-2A.22 3RF2310-2A.24 3RF2310-2A.26	 	 	 	 	 	
3RF2310-3A.02 3RF2310-3A.04 3RF2310-3A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	-	3RF2920-0GA13 3RF2920-0GA16 3RF2920-0GA16	3RF2916-0JA13 3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16 3RF2920-0HA16
3RF2310-3A.22 3RF2310-3A.24 3RF2310-3A.26		=	3RF2920-0GA33 3RF2920-0GA36 3RF2920-0GA36		 	3RF2920-0HA33 3RF2920-0HA36 3RF2920-0HA36
Type current =	20 A					
3RF2320-1A.02 3RF2320-1A.04 3RF2320-1A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16 3RF2920-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16 3RF2920-0HA16
3RF2320-1A.14	3RF2900-0EA18		3RF2920-0GA16		3RF2920-0KA16	3RF2920-0HA16
3RF2320-1A.22 3RF2320-1A.24 3RF2320-1A.26	 	 	3RF2920-0GA33 3RF2920-0GA36 3RF2920-0GA36	 	 	3RF2920-0HA33 3RF2920-0HA36 3RF2920-0HA36
3RF2320-1A.44 3RF2320-1A.45	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA16 3RF2920-0GA16	3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA16 3RF2920-0HA16
3RF2320-1B.02 3RF2320-1B.04 3RF2320-1B.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16 3RF2920-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16 3RF2920-0HA16
3RF2320-1B.22 3RF2320-1B.24 3RF2320-1B.26	 	-	3RF2920-0GA33 3RF2920-0GA36 3RF2920-0GA36	 	 	3RF2920-0HA33 3RF2920-0HA36 3RF2920-0HA36
3RF2320-1B.44	3RF2900-0EA18	3RF2920-0FA08	3RF2920-0GA16	3RF2932-0JA16	3RF2920-0KA16	3RF2920-0HA16
3RF2320-1C.02 3RF2320-1C.04	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16	 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16
3RF2320-1C.22 3RF2320-1C.24			3RF2920-0GA33 3RF2920-0GA36			3RF2920-0HA33 3RF2920-0HA36
3RF2320-1C.44	3RF2900-0EA18	3RF2920-0FA08	3RF2920-0GA16	3RF2932-0JA16	3RF2920-0KA16	3RF2920-0HA16
3RF2320-1D.02 3RF2320-1D.04	3RF2900-0EA18 3RF2900-0EA18	3RF2920-0FA08 3RF2920-0FA08	3RF2920-0GA13 3RF2920-0GA16	 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16
3RF2320-1D.22 3RF2320-1D.24			3RF2920-0GA33 3RF2920-0GA36		 	3RF2920-0HA33 3RF2920-0HA36
3RF2320-1D.44	3RF2900-0EA18	3RF2920-0FA08	3RF2920-0GA16	3RF2932-0JA16	3RF2920-0KA16	3RF2920-0HA16
3RF2320-2A.02 3RF2320-2A.04 3RF2320-2A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	 	 	 	
3RF2320-2A.22 3RF2320-2A.24 3RF2320-2A.26	 	 	 	 	 	
3RF2320-2C.02 3RF2320-2C.04	3RF2900-0EA18 3RF2900-0EA18					
3RF2320-2C.22 3RF2320-2C.24						
3RF2320-2D.22 3RF2320-2D.24						
3RF2320-3A.02 3RF2320-3A.04 3RF2320-3A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	=	3RF2920-0GA13 3RF2920-0GA16 3RF2920-0GA16	 3RF2932-0JA16 3RF2932-0JA16	3RF2920-0KA13 3RF2920-0KA16 3RF2920-0KA16	3RF2920-0HA13 3RF2920-0HA16 3RF2920-0HA16
3RF2320-3A.22 3RF2320-3A.24 3RF2320-3A.26	 	 	3RF2920-0GA33 3RF2920-0GA36 3RF2920-0GA36	 	 	3RF2920-0HA33 3RF2920-0HA36 3RF2920-0HA36
3RF2320-3A.44	3RF2900-0EA18		3RF2920-0GA16	3RF2932-0JA16	3RF2920-0KA16	3RF2920-0HA16

¹⁾ For line voltages in the range from 110 to 230 V, the versions of the 3RF29..-0.A13 function modules can also be combined with more voltageresistant versions of the solid-state contactors (3RF23..-...4, -....5 or -....6).

General data

Туре	Accessories					
,,	Converters	Load monitoring		Heating current	Power controllers ²⁾	Power regulators ²⁾
		Basic ¹⁾	Extended ²⁾	monitoring ²⁾		ŭ
Type current =	= 20 A					
3RF2320-3D.02	3RF2900-0EA18		3RF2920-0GA13		3RF2920-0KA13	3RF2920-0HA13
3RF2320-3D.04	3RF2900-0EA18		3RF2920-0GA16	3RF2932-0JA16	3RF2920-0KA16	3RF2920-0HA16
3RF2320-3D.22 3RF2320-3D.24			3RF2920-0GA33 3RF2920-0GA36			3RF2920-0HA33 3RF2920-0HA36
Type current =			3111 2320-0GA30			3111 2320-01 1A30
3RF2330-1A.02	3RF2900-0EA18		3RF2950-0GA13		3RF2950-0KA13	3RF2950-0HA13
3RF2330-1A.04	3RF2900-0EA18		3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2330-1A.06	3RF2900-0EA18		3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2330-1A.14	3RF2900-0EA18		3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2330-1A.22 3RF2330-1A.24			3RF2950-0GA33 3RF2950-0GA36			3RF2950-0HA33 3RF2950-0HA36
3RF2330-1A.25			3RF2950-0GA36			3RF2950-0HA36
3RF2330-1A.26	 2DE2000 0EA10		3RF2950-0GA36	 ODE2022 0 IA 16	 2DE2050 OK 446	3RF2950-0HA36
3RF2330-1A.44 3RF2330-1A.45	3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA16 3RF2950-0GA16	3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA16 3RF2950-0HA16
3RF2330-1B.02	3RF2900-0EA18		3RF2950-0GA13		3RF2950-0KA13	3RF2950-0HA13
3RF2330-1B.04 3RF2330-1B.06	3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA16 3RF2950-0GA16	3RF2932-0JA16 3RF2932-0JA16	3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA16 3RF2950-0HA16
3RF2330-1B.22			3RF2950-0GA33			3RF2950-0HA33
3RF2330-1B.24			3RF2950-0GA36			3RF2950-0HA36
3RF2330-1B.26			3RF2950-0GA36	 ODE0000 0 IA 10	 0DE0050 0KA10	3RF2950-0HA36
3RF2330-1B.44	3RF2900-0EA18		3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2330-1C.02 3RF2330-1D.44	3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA13 3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16
3RF2330-3A.02	3RF2900-0EA18		3RF2950-0GA13		3RF2950-0KA13	3RF2950-0HA13
3RF2330-3A.04	3RF2900-0EA18		3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2330-3A.06	3RF2900-0EA18		3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
3RF2330-3A.22 3RF2330-3A.24			3RF2950-0GA33 3RF2950-0GA36			3RF2950-0HA33 3RF2950-0HA36
3RF2330-3A.26			3RF2950-0GA36			3RF2950-0HA36
3RF2330-3A.44	3RF2900-0EA18		3RF2950-0GA16	3RF2932-0JA16	3RF2950-0KA16	3RF2950-0HA16
Type current =	= 40 A					
3RF2340-1A.02 3RF2340-1A.04	3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA13 3RF2950-0GA16		3RF2950-0KA13 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16
3RF2340-1A.06	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16
3RF2340-1A.14	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16
3RF2340-1A.22			3RF2950-0GA33			3RF2950-0HA33
3RF2340-1A.24 3RF2340-1A.26			3RF2950-0GA36 3RF2950-0GA36			3RF2950-0HA36 3RF2950-0HA36
3RF2340-1A.45	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16
3RF2340-1B.02	3RF2900-0EA18		3RF2950-0GA13		3RF2950-0KA13	3RF2950-0HA13
3RF2340-1B.04 3RF2340-1B.06	3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA13 3RF2950-0GA13		3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA16 3RF2950-0HA16
3RF2340-1B.00 3RF2340-1B.22	3NF2900-0EA16		3RF2950-0GA33			3RF2950-0HA33
3RF2340-1B.24			3RF2950-0GA36			3RF2950-0HA36
3RF2340-1B.26			3RF2950-0GA36			3RF2950-0HA36
3RF2340-3A.02 3RF2340-3A.04	3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA13 3RF2950-0GA16		3RF2950-0KA13 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16
3RF2340-3A.06	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16
3RF2340-3A.22			3RF2950-0GA33			3RF2950-0HA33
3RF2340-3A.24 3RF2340-3A.26			3RF2950-0GA36 3RF2950-0GA36			3RF2950-0HA36 3RF2950-0HA36
3RF2340-3A.45	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16
Type current =	= 50 A					
3RF2350-1A.02	3RF2900-0EA18		3RF2950-0GA13		3RF2950-0KA13	3RF2950-0HA13
3RF2350-1A.04 3RF2350-1A.06	3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA16 3RF2950-0GA16		3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA16 3RF2950-0HA16
3RF2350-1A.06 3RF2350-1A.14	3RF2900-0EA18		3RF2950-0GA16 3RF2950-0GA16		3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA16
3RF2350-1A.14 3RF2350-1A.22			3RF2950-0GA33			3RF2950-0HA33
3RF2350-1A.24			3RF2950-0GA36			3RF2950-0HA36
3RF2350-1A.26			3RF2950-0GA36			3RF2950-0HA36
3RF2350-1A.45	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16

¹⁾ The technical specifications must be taken into account when selecting the function modules. More combinations may be possible if the solid-state relays and contactors are not fully loaded, e.g. a load monitor for 20 A can also be operated with a solid-state contactor for 30 A if the load current during operation does not exceed 20 A.

²⁾ For line voltages in the range from 110 to 230 V, the versions of the 3RF29..-0.A13 function modules can also be combined with more voltageresistant versions of the solid-state contactors (3RF23..-...4, -...5 or -...6).

General data

Туре	Accessories					
	Converters	Load monitoring Basic	Extended ¹⁾	Heating current monitoring ¹⁾	Power controllers ¹⁾	Power regulators ¹⁾
Гуре current =	= 50 A	_				
BRF2350-1B.02 BRF2350-1B.04 BRF2350-1B.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16	 	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16
RF2350-1B.22 RF2350-1B.24 RF2350-1B.26	 		3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36	 		3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36
RF2350-1B.44	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16
3RF2350-3A.02 3RF2350-3A.04 3RF2350-3A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16	 	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16
3RF2350-3A.22 3RF2350-3A.24 3RF2350-3A.26	 	 	3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36	 	 	3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36
3RF2350-3A.44	3RF2900-0EA18		3RF2950-0GA16		3RF2950-0KA16	3RF2950-0HA16
Type current =	= 70 A					
3RF2370-1B.02 3RF2370-1B.04 3RF2370-1B.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18		3RF2950-0GA13 3RF2950-0GA16 3RF2950-0GA16	 	3RF2950-0KA13 3RF2950-0KA16 3RF2950-0KA16	3RF2950-0HA13 3RF2950-0HA16 3RF2950-0HA16
3RF2370-1B.22 3RF2370-1B.24 3RF2370-1B.26	 	 	3RF2950-0GA33 3RF2950-0GA36 3RF2950-0GA36			3RF2950-0HA33 3RF2950-0HA36 3RF2950-0HA36
3RF2370-3A.02 3RF2370-3A.04 3RF2370-3A.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18		3RF2990-0GA13 3RF2990-0GA16 3RF2990-0GA16	 	3RF2990-0KA13 3RF2990-0KA16 3RF2990-0KA16	3RF2990-0HA13 3RF2990-0HA16 3RF2990-0HA16
BRF2370-3A.22 BRF2370-3A.24 BRF2370-3A.26		=	3RF2990-0GA33 3RF2990-0GA36 3RF2990-0GA36	 	 	3RF2990-0HA33 3RF2990-0HA36 3RF2990-0HA36
BRF2370-3A.45	3RF2900-0EA18		3RF2990-0GA16		3RF2990-0KA16	3RF2990-0HA16
BRF2370-3B.02 BRF2370-3B.04 BRF2370-3B.06	3RF2900-0EA18 3RF2900-0EA18 3RF2900-0EA18	 	3RF2990-0GA13 3RF2990-0GA16 3RF2990-0GA16	 	3RF2990-0KA13 3RF2990-0KA16 3RF2990-0KA16	3RF2990-0HA13 3RF2990-0HA16 3RF2990-0HA16
3RF2370-3B.22 3RF2370-3B.24 3RF2370-3B.26	 		3RF2990-0GA33 3RF2990-0GA36 3RF2990-0GA36	 		3RF2990-0HA33 3RF2990-0HA36 3RF2990-0HA36

¹⁾ For line voltages in the range from 110 to 230 V, the versions of the 3RF29..-0.A13 function modules can also be combined with more voltageresistant versions of the solid-state contactors (3RF23..-...4, -....5 or -....6).

Recommended assignment of the function modules to the 3RF24 three-phase solid-state contactors

Туре	Accessories									
	Converters	Load monitoring Basic	Extended	Heating current monitoring	Power controllers	Power regulators				
Type current u	up to 50 A	-								
3RF2414.	3RF2900-0EA18									
3RF2424.										
3RF2434.	3RF2900-0EA18									
3RF245.										

General data

Technical specifications

More information							
System Manual *SIRIUS Modular System – Sy https://support.industry.siemens.com/cs/ww/e			FAQs, se	e https://support	.industry.siemens	.com/cs/ww/en/p	s/16231/faq
Туре		3RF290EA	3RF290FA	3RF290GA	3RF290HA	3RF290JA	3RF290KA
Dimensions (W x H x D)	mm	22.5 x 84 x 38	22.5 x 102 x 39	45 x 112 x 44	45 x 112 x 44	45 x 112 x 44	45 x 112 x 44
General data							
Ambient temperature							
 During operation, derating from 40 °C During storage 	°C	-25 +60 -55 +80					
Installation altitude	m	0 1 000; dera	ating from 1 000				
Shock resistance acc. to IEC 60068-2-27	<i>g</i> /ms	15/11					
Vibration resistance acc. to IEC 60068-2-6	g	2					
Degree of protection		IP20					
Electromagnetic compatibility (EMC)							
Emitted interference							
 Conducted interference voltage acc. to IEC 60947-4-3 		Class A for indu	ustrial applications	s ¹⁾			
 Emitted, high-frequency interference voltage acc. to IEC 60947-4-3 		Class B for resid	dential, business	and commercial	applications		
Interference immunity							
- Electrostatic discharge acc. to IEC 61000-4-2	kV	Contact discha	rge 4; air discharç	ge 8; behavior cri	terion 2		
(corresponds to degree of severity 3) - Induced RF fields according to IEC 61000-4-6	MHz	0.15 80; 140	dBμV; behavior c	riterion 1			
- Burst acc. to IEC 61000-4-4		2 kV/5.0 kHz; b	ehavior criterion 2				
- Surge acc. to IEC 61000-4-5	kV	Conductor - gro	ound 2; conductor	- conductor 1; b	ehavior criterion 2	2	
Connection type Auxiliary/control contacts		Screw ter	minals				
Conductor cross-section	mm^2		2 x (0.5 1.0), 1	x (AWG 20 12)		
Stripped length Terminal screw	mm	7 M3					
Terminal screw Tightening torque	Nm lb.in	0.5 0.6 4.5 5.3					
Connection type Converters			hrough transform	ners			

Note limitations for power controller and power regulator function modules. These modules were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case the user may be required to introduce additional interference suppression measures.

mm

Туре		3RF290EA18	3RF290FA08	3RF290GA.3	3RF290GA.6
Main circuit					
Rated operational voltage U _e • Operating range • Rated frequency	V AC V AC Hz			110 230 93.5 253 50/60	400 600 340 660
Rated insulation voltage <i>U</i> _i	V			600	
Voltage measuring • Measuring range	٧			93.5 253	340 660
Mains voltage, fluctuation compensation	%			20	

¹⁾ Versions are independent of the main circuit.

Diameter

Туре		3RF290HA.3 3RF290KA.3	3RF290HA.6 3RF290KA.6	3RF290JA.3	3RF290JA.6
Main circuit					
Rated operational voltage U _e • Operating range • Rated frequency		110 230 93.5 253 50/60	400 600 340 660	110 230 93.5 253	400 600 340 660
Rated insulation voltage U _i	V	600			
Voltage measuring • Measuring range	V	93.5 253	340 660	93.5 253	340 660
Mains voltage, fluctuation compensation	%	20			

General data

Туре		3RF290.	3RF291.	3RF293.
Control circuit				
Method of operation		DC operation	AC/DC operation	AC operation
Rated control supply voltage U _s Rated actuating current	V mA	24 15		110
Rated frequency of the control supply vo	Itage Hz		50/60	
Actuating voltage, max.	V	30		121
Rated actuating current At maximum voltage	mA	15		
Response voltage • For operating current	V mA	15 2		90
Drop-out voltage	V	5		15

Туре		3RF2906-0FA08	3RF2920-0FA08	3RF2920-0GA	3RF2950-0GA	3RF2990-0GA
Current measurement						
Rated operational current I _e	Α	6	20		50	90
Current measurement Teach range Measuring range Minimum partial load current	A A A	0.25 6 0 6.6 0.25	0.65 20 0 22 0.65	0.56 20	1.62 50 0 55 1.6	2.93 90 0 99 2.9
Number of partial loads		1 6		1 12		

Туре		3RF2920-0HA	3RF2950-0HA	3RF2990-0HA	3RF2916-0JA	3RF2932-0JA
Current measurement						
Rated operational current I _e	А	20	50	90	16	32
Current measurement Teach range Measuring range Minimum partial load current	A A A	4 20 0 22	10 50 0 55	18 90 4 99	0.42 16 0 16 0.42	0.8 32 0 32 0.8
Number of partial loads					1 6	

Туре		3RF2904-0KA	3RF2920-0KA	3RF2950-0KA	3RF2990-0KA
Current measurement					
Rated operational current I _e	Α	4	20	50	90
Current measurement Teach range Measuring range Minimum partial load current	A A A	0.15 4 0 4	0.65 20 0 22 0.65	1.6 50 0 55 1.6	2.9 90 0 99 2.9
Number of partial loads			1 6		

SIRIUS converters for 3RF2

Overview

Converters for 3RF2 solid-state switching devices

These modules are used to convert analog control signals, such as those output from many temperature controllers for example, into a pulse-width-modulated digital signal. The connected solid-state contactors and relays can therefore regulate the output of a load as a percentage.

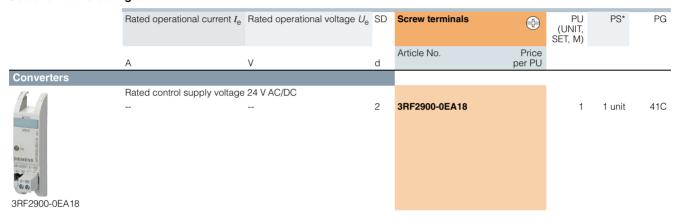
Application

This function module is used for conversions from an analog input signal to an on/off ratio with time basis 1 s. The module can only be used in conjunction with 3RF21 and 3RF23 single-phase solid-state switching devices or 3RF22 and 3RF24 three-phase devices. It can be used on versions with 24 V DC and 24 V AC/DC control supply voltage.

Note:

The use of single-pole solid-state switching devices with converters, power controllers or power regulators on AC loads in full-wave control mode is not recommended. Since the function modules do not synchronize with each other, this may lead to fluctuations in the heating power; optimum compensation can no longer be ensured, especially for setpoints < 50%.

Selection and ordering data



SIRIUS load monitoring for 3RF2

Overview

Load monitoring for 3RF2 single-phase solid-state switching devices

Many faults can be quickly detected by monitoring a load circuit connected to the solid-state switching device, as made possible with this module. Examples include the failure of load elements (up to 6 in the basic version or up to 12 in the extended version), alloyed power semiconductors, a lack of voltage or a break in a load circuit. A fault is indicated by one or more LEDs and reported to the controller by way of a PLC-compatible output.

The principle of operation is based on permanent monitoring of the current intensity. This figure is continuously compared with the reference value stored once during commissioning by the simple press of a button. In order to detect the failure of one of several loads, the current difference must be 1/6 (in the basic version) or 1/12 (in the extended version) of the reference value. In the event of a fault, an output is actuated and one or more LEDs indicate the fault.

Application

The device is used for monitoring one or more loads (partial loads). The function module can only be used in conjunction with a 3RF21 solid-state relay or a 3RF23 solid-state contactor. The devices with spring-type terminals in the load circuit are not suitable.

Selection and ordering data

20 2 3RF2920-0FA08 1 1 unit • With mounted 3RF2900-0RA88 cover 6 2 3RF2906-0FA08-0KH0 1 1 unit 20 2 3RF2920-0FA08-0KH0 1 1 unit 20 20 20 20 3RF2920-0GA13 1 1 unit 20 400 600 2 3RF2920-0GA13 1 1 unit 50 400 600 2 3RF2950-0GA13 1 1 unit 50 400 600 2 3RF2950-0GA13 1 1 unit 90 400 600 2 3RF2990-0GA13 1 1 unit 90 400 600 2 3RF2990-0GA13 1 1 unit 3RF2920-0GA13 1 1 unit 20 400 600 2 3RF2990-0GA16 1 1 unit 3RF2920-0GA13 1 1 unit 20 400 600 2 3RF2920-0GA36 1 1 unit 3RF2920-0GA13 1 1 unit 90 400 600 2 3RF2920-0GA36 1 1 unit 90 400 600 2 3RF2950-0GA36 1 1 unit 90 400 600 2 3RF2950-0GA36 1 1 unit									
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8	-6.	20		2	3RF2920-0FA08		1	1 unit	41C
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Rated control supply voltage 110 V AC 20	SIEMENS MESSAGE						1		41C
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20 400 600 2 3RF2920-0GA36 1 1 unit 5 3RF2920-0GA13 5 1 1 unit 5 5 5 400 600 2 3RF2950-0GA33 1 1 unit 5 5 5 5 400 600 2 3RF2950-0GA36 1 1 unit 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	A A R ROLL AN	,,,		0	000000000000000000000000000000000000000			4	410
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30 400 300 2 311 230-00A30 1 1 1 unit		90	400 600	2	3RF2990-0GA36		1	1 unit	41C

Accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Optional accessories							
	Sealable covers for function modules (not for converters)	5	3RF2900-0RA88		1	10 units	41C

3RF2900-0RA88

SIRIUS heating current monitoring for 3RF2

Overview

Heating current monitoring for 3RF2 single-phase solid-state switching devices

Many faults can be quickly detected by monitoring a load circuit connected to the solid-state switching device, as made possible with this module. Examples include the failure of up to six load elements, alloyed power semiconductors, a lack of voltage, or a break in the load circuit. A fault is indicated by LEDs and reported to the controller via relay output (NC).

The principle of operation is based on permanent monitoring of the current intensity. This figure is continuously compared with the reference value stored once during commissioning. In order to detect the failure of one of several loads, the current difference must be 1/6 of the reference value. In the event of a fault, an output is actuated and the LEDs indicate the fault.

The heating current monitoring has a teach input and therefore differs from the load monitoring. This remote teaching function enables simple adjustment to changing loads without manual intervention.

Special version: Deviations from the standard version

3RF29..-0JA1.-1KK0

If the current is below 50% of the lower teach current during the teach routine, the device will go into "Standby" mode; the LOAD LED will flicker. The device thus detects a non-connected load, e.g. channels not required for tool heaters, and does not signal a fault. This mode can be reset by re-teaching.

Application

The device is used for monitoring one or more loads (partial loads). The function module can only be used in conjunction with a 3RF21 solid-state relay or a 3RF23 solid-state contactor. The devices with spring-type terminals in the load circuit are not suitable.

Selection and ordering data

	Rated operational current I_{e}	Rated operational voltage $U_{\rm e}$	SD	Screw terminals	①	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
Heating current mon	itoring ¹⁾							
6 A	Rated control supply voltage	24 V AC/DC						
0.3	16 16 16	110 230 110 230 400 600	2 5 2	3RF2916-0JA13 3RF2916-0JA13-1KK0 3RF2916-0JA16-1KK0		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
MINESS MANAGEMENT	32 32 32	110 230 400 600 400 600	2 2 2	3RF2932-0JA13-1KK0 3RF2932-0JA16 3RF2932-0JA16-1KK0		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
3RF2932-0JA13								

Supplied without control connector. The control connector can be purchased from Wieland by quoting Article No. 8213 B/6VR (PCB connector), see page 16/16.

Accessories

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Optional accessories							
	Sealable covers for function modules (not for converters)	5	3RF2900-0RA88		1	10 units	41C

³RF2900-0RA88

SIRIUS power controllers for 3RF2

Overview

Power controllers for 3RF2 single-phase solid-state switching devices

The power controller is a function module for the autonomous power control of complex heating systems and inductive loads. The following functions have been integrated:

Power controller

For adjusting the power of the connected load. The setpoint value is selected via a rotary knob on the module as a percentage of the 100% power value stored.

Inrush current limitation

With the aid of an adjustable voltage ramp, the inrush current is limited by means of phase control. This is useful above all with loads such as lamps or infrared lamps which have an inrush transient current.

· Load circuit monitoring

For detecting load failure, partial load faults, alloyed power semiconductors, lack of voltage or a break in the load circuit.

Note:

With the phase control operating mode, a partial load fault is detected by cyclic "scanning" of the load; the exact mode of operation is described in the data sheets!

Special version: Deviations from the standard version

3RF2904-0KA13-0KC0

During the teach routine, the connected solid-state relay or contactor is not activated; i.e. no current will flow. No current reference value is stored. No partial-load monitoring!

3RF29..-0KA1.-0KT0

No partial-load monitoring!

Application

The power controller can be used for:

- Complex heating systems
- Inductive loads
- Loads with temperature-dependent resistor
- Loads with ageing after long-time service
- Simple indirect control of temperature

Power control

The power controller adjusts the power in the connected load by means of a solid-state switching device depending on the setpoint selection. It does not compensate for changes in the mains voltage or load resistance. The setpoint value can be predefined externally as a 0 to 10 V signal or internally by means of a potentiometer. Depending on the setting of the potentiometer (t_R), the control is carried out according to the principle of full-wave control or generalized phase control.

Note:

In the case of ohmic loads, the power is set linear to the setpoint value. During operation of inductive loads, the power control is no longer proportional and linear due to the phase shift between current and voltage.

Full-wave control

In this operating mode the output is adjusted to the required setpoint value by changing the on-to-off period. The period duration is predefined at 1 s.

See note about AC loads on page 6/133.

Generalized phase control

In this operating mode the output is adjusted to the required setpoint value by changing the current flow angle. In order to observe the limit values of the conducted interference voltage for industrial networks, at loads up to 20 kVA, the load circuit must include an additional filter, and for loads above 20 kVA, a reactor with a rating of at least 200 μH must be used. You will find details about the filters in the FAQ "Filters for 3RF29 power regulators and power controllers to comply with the limits for electromagnetic emitted interference":

https://support.industry.siemens.com/cs/ww/en/view/109751887.

Selection and ordering data

ocicetion and orden								
	Rated operational current $I_{\rm e}$	Rated operational voltage $U_{\rm e}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
Power controllers								
1.1	Rated control supply voltage	24 V AC/DC						
	4 4 20	110 230	2 2 2	3RF2904-0KA13-0KC0 3RF2904-0KA13-0KT0 3RF2920-0KA13		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
HE WILLIAM STATES OF THE STATE	50 90		2	3RF2950-0KA13 3RF2990-0KA13		1 1	1 unit 1 unit	41C 41C
A STATE OF THE STA	20 50 50	400 600	2 2 2	3RF2920-0KA16 3RF2950-0KA16 3RF2950-0KA16-0KT0		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
3RF2920-0KA13	90		2	3RF2990-0KA16		1	1 unit	41C
	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Optional accessories	\$							
	Sealable covers for function modules (not for	or converters)	5	3RF2900-0RA88		1	10 units	41C
3RF2900-0RA88								

SIRIUS power regulators for 3RF2

Overview

Power regulators for 3RF2 single-phase solid-state switching devices

The power regulator is a function module for the autonomous power control of complex heating systems.

The following functions have been integrated:

Power controller with proportional-action control
 For adjusting the power of the connected load. The setpoint value is selected via a rotary knob on the module as a percentage of the 100% power value stored. Changes in the mains voltage or in the load resistance are compensated in this case.

• Inrush current limitation

With the aid of an adjustable voltage ramp, the inrush current is limited by means of phase control. This is useful above all with loads such as lamps which have an inrush transient current.

• Load circuit monitoring

For detecting load failure, alloyed power semiconductors, lack of voltage or a break in the load circuit. Partial load monitoring is not possible. Load fluctuations are compensated.

Application

The power regulator can be used for:

- · Complex heating systems
- Heating elements with temperature-dependent resistor
- Heating elements with ageing after long-time service
- Simple indirect control of temperature

Power control

The power regulator adjusts the power in the connected load by means of a solid-state switching device depending on the taught power and the selected setpoint. Changes in the mains voltage or in the load resistance are thus compensated by the power regulator. The setpoint value can be predefined externally as a 0 to 10 V signal or internally by means of a potentiometer. Depending on the setting of the potentiometer ($t_{\rm R}$), the adjustment is carried out according to the principle of full-wave control or generalized phase control.

Note:

In the case of ohmic loads, the power is set linear to the setpoint value. During operation of inductive loads, the power control is no longer proportional and linear due to the phase shift between current and voltage.

Full-wave control

In this operating mode the output is adjusted to the required setpoint value by changing the on-to-off period. The period duration is predefined at 1 s.

See note about AC loads on page 6/133.

Generalized phase control

In this operating mode the output is adjusted to the required setpoint value by changing the current flow angle. In order to observe the limit values of the conducted interference voltage for industrial networks, at loads up to 20 kVA, the load circuit must include an additional filter, and for loads above 20 kVA, a reactor with a rating of at least 200 μH must be used. You will find details about the filters in the FAQ "Filters for 3RF29 power regulators and power controllers to comply with the limits for electromagnetic emitted interference":

https://support.industry.siemens.com/cs/ww/en/view/109751887.

Selection and ordering data

	Rated operational current $I_{\rm e}$	Rated operational voltage $U_{\rm e}$	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	A	V	d	Article No.	Price per PU			
Power regulators								
a.K.	Rated control supply voltage	24 V AC/DC						
	20 20	110 230 400 600	2	3RF2920-0HA13 3RF2920-0HA16		1 1	1 unit 1 unit	41C 41C
	50 50	110 230 400 600	2	3RF2950-0HA13 3RF2950-0HA16		1 1	1 unit 1 unit	41C 41C
HMMNS STREET	90 90	110 230 400 600	2 2	3RF2990-0HA13 3RF2990-0HA16		1 1	1 unit 1 unit	41C 41C
A A May Co	Rated control supply voltage	110 V AC						
3RF2920-0HA13	20 20	110 230 400 600	2	3RF2920-0HA33 3RF2920-0HA36		1 1	1 unit 1 unit	41C 41C
	50 50	110 230 400 600	2	3RF2950-0HA33 3RF2950-0HA36		1 1	1 unit 1 unit	41C 41C
	90 90	110 230 400 600	2	3RF2990-0HA33 3RF2990-0HA36		1 1	1 unit 1 unit	41C 41C
	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Optional accessories								
3RF2900-0RA88	Sealable covers for function modules (not for	or converters)	5	3RF2900-0RA88		1	10 units	41C

General data

Overview

More information

Homepage, see www.siemens.com/solid-state-switching-devices Industry Mall, see www.siemens.com/product?3RF

Online configurator, see www.siemens.com/sirius/configurators

Solid-state contactors for switching motors



Solid-state contactor for direct-on-line starting

The solid-state contactors for switching motors are intended for frequently switching on and off three-phase current operating mechanisms up to 7.5 kW and reversing up to 3.0 kW. The devices are constructed with complete insulation and can be mounted directly on SIRIUS motor starter protectors, overload relays and current monitoring relays, resulting in a very simple integration into motor feeders.

These three-phase solid-state contactors are equipped with a three-phase control which is particularly suitable for typical motor current circuits without connecting to the neutral conductor.

Important features:

- Insulated enclosure with integrated heat sink
- Degree of protection IP20
- Integrated mounting foot to snap on a standard mounting rail or for assembly onto a support plate
- Variety of connection methods
- Plug-in control connection
- Display via LEDs
- Wide voltage range for AC control supply voltage

Switching functions

The solid-state contactors for switching motors are "Instantaneous switching", because this method is particularly suited for inductive loads. By distributing the ON point over the entire sine curve of the mains voltage, disturbances are reduced to a minimum.

Connection methods

You can choose between the following connection methods for the solid-state contactors for switching motors:

Screw terminals

The screw connection system is the standard among industrial controls. Open terminals and a plus-minus screw are just two features of this technology. Two conductors of up to 6 mm² can be connected in just one terminal.

Spring-type terminals

This innovative technology manages without any screw connection. This means that very high vibration resistance is achieved. Two conductors of up to 2.5 mm² can be connected to each terminal.

Motor feeders

The devices can use a link module to directly connect to a motor starter protector. Also possible is the mounting of a 3RB30/3RB31 electronic overload relay (see page 7/98) or a 3RR2 current monitoring relay (see pages 10/62 and 10/70) using a link adapter. The simultaneous mounting of a motor starter protector and an overload or current monitoring relay is not recommended for space and heat development reasons.

Rapid-switching fuseless and fused motor feeders can thereby be implemented in a time-saving manner.

Selecting solid-state contactors

The solid-state contactors are selected on the basis of details of the network, the load and the ambient conditions.

The following procedure is recommended:

- Determine the rated current of the load and the mains voltage
- Select a solid-state contactor with the same or higher rated current than the load
- Testing of the maximum permissible switching frequency based on the characteristic curves (see "More Information" → "Product Information"). To do this, the starting current, the starting time and the motor loaded in in the operating phase must be known.
- If the permissible switching frequency is under the desired frequency, it is possible to achieve an increase only by overdimensioning the motor and the solid-state contactor!

Alternatively, the tool for "Selection of solid-state contactors for switching motors" can be used. The correct device size can be determined by entering the network and motor data along with the application and ambient conditions, see www.siemens.com/solid-state-switching-devices.

Short-circuit protection

Despite the rugged power semiconductors that are used, solid-state switching devices respond more sensitively to short circuits in the load feeder. Consequently, special precautions have to be taken against destruction, depending on the type of design.

Siemens generally recommends using SITOR semiconductor fuses. These fuses also provide protection against destruction in the event of a short circuit even when the solid-state contactors and solid-state relays are fully utilized.

Alternatively, if there is lower loading, protection can also be provided by standard fuses or miniature circuit breakers. This protection is achieved by overdimensioning the solid-state switching devices accordingly.

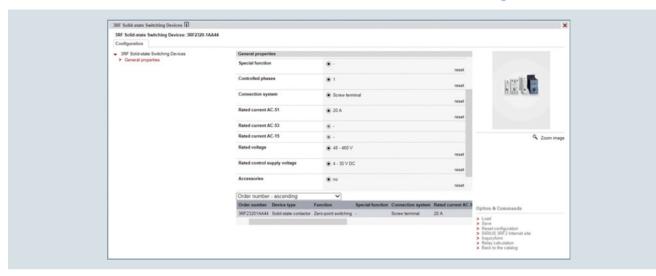
General data

Online Configurator

- Simple selection of individual solid-state switching devices by means of technical characteristics (e.g. zero-point switching, spring-type terminal and rated current)
- Once configuration is complete, you receive the article numbers corresponding to the products.

see

www.siemens.com/sirius/configurators



Article No. scheme

Product versions		Article	num	bei					
Solid-state contactors		3RF34		<u> </u>					Three-phase
Rated operational current	3.8 A		0 :	3					Only for reversing contactor
	5.2 A (5.4 A for reversing contactor)		0 :	5					
	9.2 A (7.4 A for reversing contactor)		1 ()					
	12.5 A		1 :	2					Only for solid-state contactor
	16 A		1 (6					Only for solid-state contactor
Connection type	Screw terminals				1				
	Spring-type terminals				2				
Switching function	Instantaneous switching					В			
Number of controlled phases	Three-phase						В		
	Reversing contactor					- 1	D		
Rated control supply voltage U	/ _s 24 V DC						0		
	110 230 V AC						2		
Rated operational voltage U _e	48 460 V AC							4	
	48 600 V AC							6	Blocking voltage 1 600 V, solid-state contactor only
Example		3RF34	1 () –	1	В	B 0	4	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

General data

Benefits

- Units with integrated heat sink, "ready to use"
- Compact and space-saving design

• Reversing contactors with integrated interlocking

Application

Use in load feeders

There is no typical design of a load feeder with solid-state relays or solid-state contactors; instead, the great variety of connection methods and control voltages offers universal application opportunities.

SIRIUS solid-state relays and solid-state contactors can be installed in fuseless or fused feeders, as required.

See Configuration Manual "Load Feeders – Configuring the SIRIUS Modular System – Selection Data for Fuseless and Fused Load Feeders",

https://support.industry.siemens.com/cs/ww/en/view/39714188.

Standards and approvals

- IEC 60947-4-2
- UL 508, CSA for North America¹⁾
- CE marking for Europe
- C-Tick approval for Australia
- CCC approval for China
- Please note: Use overvoltage protection device; max. cut-off-voltage 6 000 V; min. energy handling capability 100 J.

3RF3405-2BB.

General data

3RF3410-2BB..

Technical specifications

Туре

<u></u>		3RF3403-1BD, 3RF3405-1BD	3RF3412-1BB, 3RF3416-1BB 3RF3410-1BD		3RF3412-2BB, 3RF3416-2BB
Dimensions (W x H x D) • 3RF341BB • 3RF341BD	mm mm	45 x 95 x 96.5 45 x 95 x 108.5	90 x 95 x 96.5 90 x 95 x 108.5	45 x 95 x 96.5	90 x 95 x 96.5
General technical specifications					
Ambient temperature					
 During operation, derating from 40 °C 	°C	-25 +60			
During storage	°C	-55 +80			
Installation altitude	m	0 1 000; derating	over 1 000 m on reque	est	
Shock resistance acc. to IEC 60068-2-27	<i>g</i> /ms	15/11			
Vibration resistance acc. to IEC 60068-2-6	g	2			
Degree of protection		IP20			

V rms 4 000

k۷

k۷

kV

3RF3405-1BB..

Electromagnetic compatibility (EMC)

Insulation strength at 50/60 Hz

(main/control circuit to floor)

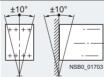
- Emitted interference according to IEC 60947-4-2
- Conducted interference voltage
- Emitted, high-frequency interference voltage
- Interference immunity
- Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3)
- Induced RF fields according to IEC 61000-4-6
- Burst acc. to IEC 61000-4-4
- Surge acc. to IEC 61000-4-5²⁾

- Class A for industrial applications 1) Class A for industrial applications
- Contact discharge: 4; air discharge: 8; Behavior criterion 2
- MHz 0.15 ... 80;
 - 140 dBµV; behavior criterion 1 2; at 5 kHz; behavior criterion 2
 - Conductor ground: 2; conductor conductor: 1; behavior criterion 2

3RF3410-1BB..,

Connection type		Screw terminals	Spring-type terminals
Operating devices		Standard screwdriver size 2 and Pozidriv 2	3.0 x 0.5 and 3.5 x 0.5
Conductor cross-sections, main contacts			
• Solid		2 x (1.5 2.5) ³⁾ , 2 x (2.5 6) ³⁾	2 x (0.5 2.5)
 Finely stranded with end sleeve 	mm ²	2 x (1 2.5) ³⁾ , 2 x (2.5 6) ³⁾ , 1 x 10	2 x (0.5 1.5)
 Finely stranded without end sleeve 	mm ²		2 x (0.5 2.5)
 AWG cables, solid or stranded 	AWG	2 x (14 10)	2 x (18 14)
Conductor cross-sections, auxiliary/control contacts			
With/without end sleeve	mm ²	1 x (0.5 2.5), 2 x (0.5 1.0)	0.5 2.5
 AWG cables, solid or stranded 	AWG	20 12	20 12
Permissible mounting position		±10° ±10°	





These products were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case the user may be required to introduce additional interference suppression measures

More information

For more information, see

- System Manual "SIRIUS System Overview", https://support.industry.siemens.com/cs/WW/en/view/60311318
- Manual "SIRIUS 3RF34 Solid-State Switching Devices" https://support.industry.siemens.com/cs/ww/en/view/60298187

Product information and technical specifications

For product data sheets with detailed technical specifications. dimensional drawings and characteristic curves, see https://support.industry.siemens.com/cs/ww/en/ps/16237.

For additional information, please enter the article number of the required device under the tab "Product List".

²⁾ The following applies for reversing contactors: To maintain the values, a 3TX7462-3L surge suppressor should be used between phases L1 and L3 as close as possible to the reversing contactor.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RF34 solid-state contactors, three-phase

Overview

These three-phase controlled, instantaneous switching solid-state contactors in the insulating enclosure are offered in a width of 45 mm up to 5.2 A- and in a width of 90 mm up to 16 A. They allow the operation of motors up to 7.5 kW. $^{1)}$

¹⁾ In accordance with the product standard IEC 60947-4-2, the motor contactors are designed for motors with maximum starting current conditions of $II_L < 8$

 $I/I_{\rm e} \le 8$. For configuring motors with higher starting current conditions (typically $I/I_{\rm e} \ge 8$) the data in the manual "SIRIUS – 3RF34 Solid-State Switching Devices" must be taken into account, see

https://support.industry.siemens.com/cs/ww/en/view/60298187.

Technical specifications

More information

System Manual "SIRIUS Modular System – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual "SIRIUS – 3RF34 Solid-State Switching Devices", see https://support.industry.siemens.com/cs/ww/en/view/60298187

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16239/faq

Туре		3RF3405BB	3RF3410BB	3RF3412BB	3RF3416BB
Fuseless design with 3RV2 motor starter protector,	CLASS 1	0			
Rated operational current I _{AC-53a} ¹⁾ acc. to IEC 60947-4-2					
• At 40 °C	Α	5.2 (4.5)	9.2	12.5	16
 UL/CSA, at 50 °C 	Α	4.6 (4.0)	8.4	11.5	14
• At 60 °C	Α	4.2 (3.5)	7.6	10.5	12.5
Power loss at I _{AC-53a}					
• At 40 °C	W	10 (8)	16	22	28
Short-circuit protection with type of coordination "1" at operational voltage <i>U</i> _e up to 440 V					
Motor starter protector, type		3RV2011-1GA10	3RV2011-1JA10	3RV2011-1KA10	3RV2011-4AA10
• Current I _q	kA	50	5		3

¹⁾ The reduced values in brackets apply to a directly mounted motor starter protector and simultaneous side-by-side mounting.

Туре		3RF3405BB.4	3RF3405BB.6	3RF3410BB	3RF3412BB.4	3RF3412BB.6	3RF3416BB
Fused design with directly connected 3RB3 overload relay							
Rated operational current I _{AC-53a} acc. to IEC 60947-4-2							
• At 40 °C	Α	4		7.8	9.5		11
 UL/CSA, at 50 °C 	Α	3.6		7	8.5		10
• At 60 °C	Α	3.2		6.2	7.6		9
Power loss at I _{AC-53a}							
• At 40 °C	W	7		13	16		18
Minimum load current	Α	0.1	0.5				
Max. off-state current	mΑ	10					
Rated peak withstand current I _{tsm}	Α	200	600		1 200	1 150	
I ² t value	A^2s	200	1 800		7 200	6 600	

SIRIUS 3RF34 solid-state contactors, three-phase

Туре		3RF34BB.4	3RF34BB.6
Main circuit			
Controlled phases		Three-phase	
Rated operational voltage U _e	V AC	48 480	48 600
Operating range	V AC	40 506	40 660
Rated frequency	Hz	50/60 ± 10%	
Rated insulation voltage U _i	V	600	
Rated impulse withstand voltage U _{imp}	kV	6	
Blocking voltage	V	1 200	1 600
Rate of voltage rise	V/µs	1 000	

Туре		3RF34BB0.	3RF34BB2.
Control circuit			
Method of operation		DC operation	AC operation
Rated control supply voltage U _s	V	24	110 230
Rated frequency of the control supply voltage	Hz		50/60 ± 10%
Control supply voltage, max.	V	30	253
Typical actuating current	mA	20	15
Response voltage	V	15	90
Drop-out voltage	V	5	< 40
Operating times			
ON-delay	ms	1	5
OFF-delay	ms	1 + max one half-wave	30 + max one half-wave

Solid-State Switching Devices for Switching Motors

Solid-State Contactors

Selection and ordering data

More information	
System Manual "SIRIUS Modular System – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318	Manual "SIRIUS – 3RF34 Solid-State Switching Devices", see https://support.industry.siemens.com/cs/ww/en/view/60298187

N

Motor contactors			Three-phase controlle		ort.madatry.acmena.com/c	33/ W W/ CI I/ V	10W/002501	01	
	Rated operational current I_e	Rated power at $I_{\rm e}$ and $U_{\rm e}$	Rated control supply voltage $U_{\rm s}$		Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	A	400 V kW	V	d	Article No.	Price per PU	OZ 1, 101)		
Rated operational 48 480 V AC	voltage <i>U</i> _e								
• 9 6	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	24 DC	2 5 5 5	3RF3405-1BB04 3RF3410-1BB04 3RF3412-1BB04 3RF3416-1BB04		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	110 230 AC	5 5 5 5	3RF3405-1BB24 3RF3410-1BB24 3RF3412-1BB24 3RF3416-1BB24		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
3RF3405-1BB Rated operational	voltage U _e								
48 600 V AC, blo		1 600 V 2.2 4.0 5.5 7.5	24 DC	5 5 5 5	3RF3405-1BB06 3RF3410-1BB06 3RF3412-1BB06 3RF3416-1BB06		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	110 230 AC	5 5 5 5	3RF3405-1BB26 3RF3410-1BB26 3RF3412-1BB26 3RF3416-1BB26		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
3RF3410-1BB									
	Rated operational current I_e	Rated power at $I_{\rm e}$ and $U_{\rm e}$	Rated control supply voltage $U_{\rm S}$	SD	Spring-type terminals	8	PU (UNIT, SET, M)	PS*	PG
	A	400 V kW	V	d	Article No.	Price per PU			
Rated operational 48 480 V AC	voltage <i>U</i> _e								
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	24 DC	5 5 5 5	3RF3405-2BB04 3RF3410-2BB04 3RF3412-2BB04 3RF3416-2BB04		1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	110 230 AC	5 5 5 5	3RF3405-2BB24 3RF3410-2BB24 3RF3412-2BB24 3RF3416-2BB24		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
3RF3405-2BB Rated operational	voltage U								
48 600 V AC, blo		1 600 V	04 DO	_	ODEO405 ODDOG			4	440

01 II 0 100 EBB		
Rated operationa	al voltage U _e	
40 00014404		

5.2	2.
9.2	4.
12.5	5.
16	7.
5.2	2.
9.2	4.
40 =	_

3RF3410-2BB

voltage U _e cking volt	age 1 600 V						
5.2	2.2	24 DC	5	3RF3405-2BB06	1	1 unit	41C
9.2	4.0		5	3RF3410-2BB06	1	1 unit	41C
12.5	5.5		5	3RF3412-2BB06	1	1 unit	41C
16	7.5		5	3RF3416-2BB06	1	1 unit	41C
5.2	2.2	110 230 AC	5	3RF3405-2BB26	1	1 unit	41C
9.2	4.0		5	3RF3410-2BB26	1	1 unit	41C
12.5	5.5		5	3RF3412-2BB26	1	1 unit	41C
16	7.5		5	3RF3416-2BB26	1	1 unit	41C

SIRIUS 3RF34 solid-state contactors, three-phase

Accessories							
	Version	SD	Article No. Pric	Ú	PU (UNIT, SET, M)	PS*	PG
		d			, ,		
Link modules between	en solid-state contactor and motor starter						
protector							
	Link modules Between solid-state contactor and motor starter protector with screw terminals		Screw terminals	\ni			
	For 3RV2 motor starter protectors size S00/S0	2	3RA2921-1BA00		1	1 unit	41B
3RA2921-1BA00							
Link adapters between	en solid-state contactor and overload relay						
3RE3900-0QA88	Link adapters For direct mounting of 3RB3 overload relays or 3RR2 current monitoring relays to the solid-state contactor with screw terminals						
0.1. 0000 04. 00	The adapter is snapped onto the enclosure of the 3RF34 contactor and accommodates the fixing hooks of the 3RB3 overload relays or the 3RR2 current monitoring relays for direct mounting.	5	3RF3900-0QA88		1	1 unit	41C
Insulation stop for se on conductors up to	curely holding back the conductor insulation, 1 mm ²						
	Insulation stop strip For all SIRIUS devices with spring-type terminals		Spring-type terminals				
3RT2916-4JA02	Can be inserted in cable entry of the spring-type terminal (no more than 2 strips per contactor required; removable in pairs) For terminals with a conductor cross-section up to 2.5 mm ²		3RT2916-4JA02		1	20 units	41B
Tools for opening sp	ring-type terminals						
	Screwdrivers For all SIRIUS devices with spring-type terminals						
	Length approx. 200 mm, size 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A							
Blank labels							
	Unit labeling plates For SIRIUS devices 1)						
	• 10 mm × 7 mm, titanium gray	20	3RT2900-1SB10		100	816 units	41B
	• 20 mm × 7 mm, titanium gray	20	3RT2900-1SB20		100	340 units	41B
1_00181	Adhesive labels For SIRIUS devices						
<u>■</u> ■ ■ 8 3SB2900-1SB20	• 19 mm × 6 mm, titanium gray	5	3RT2900-1SB60		100	3 060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

SIRIUS 3RF34 solid-state reversing contactors, three-phase

Overview

The integration of four conducting paths to a reverse switch, combined in one enclosure makes this device a particularly compact solution. Compared to conventional systems, for which two contactors are required, it is possible to save up to 50%

1) In accordance with the product standard IEC 60947-4-2, the motor contactors are designed for motors with maximum starting current conditions of I/I_e ≤ 8. For configuring motors with higher starting current conditions (typically I/I_e ≥ 8) the data in the manual "SIRIUS – 3RF34 Solid-State Switching Devices" must be taken into account, see https://support.industry.siemens.com/cs/ww/en/view/60298187.

in width with the three-phase reversing contactors. Devices with a width of 45 mm cover motors up to 2.2 kW – and those with a width of 90 mm cover motors up to 3 kW. $^{1)}$

Technical specifications

More information

System Manual "SIRIUS Modular System – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual "SIRIUS – 3RF34 Solid-State Switching Devices", see https://support.industry.siemens.com/cs/ww/en/view/60298187

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16241/faq

Туре		3RF3403BD.4	3RF3405BD.4	3RF3410BD.4
Fuseless design with 3RV2 motor starter protector, C	LASS 10			
Rated operational current $I_{AC-53a}^{1)}$ acc. to IEC 60947-4-2				
• At 40 °C	Α	3.8 (3.4)	5.4 (4.8)	7.4
 UL/CSA, at 50 °C 	Α	3.5 (3.1)	5 (4.3)	6.8
• At 60 °C	Α	3.2 (2.8)	4.6 (3.8)	6.2
Power loss at I _{AC-53a}				
• At 40 °C	W	7 (6)	9 (8)	13
Short-circuit protection with type of coordination "1" at operational voltage $U_{\rm e}$ up to 440 V				
 Motor starter protector, type 		3RV2011-1FA10	3RV2011-1GA10	3RV2011-1JA10
 Current I_a 	kA	50		10

¹⁾ The reduced values in brackets apply to a directly mounted motor starter protector and simultaneous side-by-side mounting.

Туре		3RF3403BD.4	3RF3405BD.4	3RF3410BD.4
Fused design with directly connected 3RB3 overload relay				_
Rated operational current I _{AC-53a} acc. to IEC 60947-4-2				
• At 40 °C	Α	3.8	5.4	7.4
 UL/CSA, at 50 °C 	Α	3.5	5	6.8
• At 60 °C	Α	3.2	4.6	6.2
Power loss at I _{AC-53a}				
• At 40 °C	W	6	8	16
Minimum load current	А	0.5		
Max. off-state current	mΑ	10		
Rated peak withstand current I _{tsm}	А	200	600	
<i>I</i> ² <i>t</i> value	A ² s	200	1 800	

SIRIUS 3RF34 solid-state reversing contactors, three-phase

Туре		3RF34BD.4
Main circuit		
Controlled phases		Three-phase
Rated operational voltage $U_e^{1)}$	V AC	48 480
Operating range	V AC	40 506
Rated frequency	Hz	50/60 ± 10%
Rated insulation voltage U _i	V	600
Rated impulse withstand voltage U _{imp}	kV	6
Blocking voltage	V	1 200
Rate of voltage rise	V/µs	1 000

To reduce the risk of a phase short circuit due to overvoltage, we recommend using a varistor type 3TX7462-3L between the phases L1 and L3 as close as possible to the switchgear.

We recommend a design with semiconductor protection as short-circuit protection.

Туре		3RF34BD0.	3RF34BD2.
Control circuit			
Method of operation		DC operation	AC operation
Rated control supply voltage U _s	V	24	110 230
Rated frequency of the control supply voltage	Hz		50/60 ± 10%
Control supply voltage, maximum	V	30	253
Typical actuating current	mA	15	10
Response voltage	V	15	90
Drop-out voltage	V	5	< 40
Operating times ¹⁾			
 ON-delay 	ms	5	20
OFF-delay	ms	5 + max. one half-wave	10 + max. one half-wave
 Interlocking time 	ms	60 100	50 100

¹⁾ Notice! Risk of phase short circuit in automatic mode. The control inputs must not be actuated until a delay of 40 ms has expired after the main voltage is applied.

Solid-State Switching Devices for Switching Motors

Solid-State Contactors

SIRIUS 3RF34 solid-state reversing contactors, three-phase IE3/IE4 ready

Selection and ordering data

Reversing contactors · Instantaneous switching · Three-phase controlled

	Rated operational current $I_{\rm e}$	Rated power at $I_{\rm e}$ and $U_{\rm e}$	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	А	400 V kW	V	d	Article No.	Price per PU			
Rated operational	voltage <i>U</i> _e 48	480 V AC							
3RF3403-1BD	3.8 5.4 7.4	1.5 2.2 3.0	24 DC	2 5 5	3RF3403-1BD04 3RF3405-1BD04 3RF3410-1BD04		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
3RF3410-1BD	3.8 5.4 7.4	1.5 2.2 3.0	110 230 AC	5 5 5	3RF3403-1BD24 3RF3405-1BD24 3RF3410-1BD24		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C

Accessories

	Version	SD	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
		d				
Link modules bety protector	ween solid-state contactor and motor starter			_		
	Link modules Between solid-state reversing contactor and motor starter protector with screw terminals		Screw terminals			
3BA2921-1BA00	For 3RV2 motor starter protectors, size S00/S0	2	3RA2921-1BA00	1	1 unit	41B
	ween solid-state contactor and overload relay					
3RF3900-0QA88	Link adapters For direct mounting of 3RB3 overload relays or 3RB2 current monitoring relays to the solid-state contactor with screw terminals The adapter is snapped onto the enclosure of the 3RF34 contactor and accommodates the fixing hooks of the	5	3RF3900-0QA88	1	1 unit	41C
	3RB3 overload relays or the 3RR2 current monitoring relays for direct mounting.					
Blank labels						
	Unit labeling plates For SIRIUS devices ¹⁾					
뭐뭐뭐뭐	• 10 mm × 7 mm, titanium gray	20	3RT2900-1SB10	100	816 units	41B
붜붜붜붜	• 20 mm × 7 mm, titanium gray	20	3RT2900-1SB20	100	340 units	41B
1 00181	Adhesive labels For SIRIUS devices					
3SB2900-1SB20	• 19 mm × 6 mm, titanium gray	5	3RT2900-1SB60	100	3 060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.



Price groups

PG 14O, 41B, 41E, 41F, 41G, 41H, 41J, 42F, 42J

7/2 Introduction

Motor starter protectors/ circuit breakers

SIRIUS 3RV2 motor starter protectors/circuit breakers

7/7 General data

7/28 For motor protection **NEW**

7/35 For motor protection with overload relay function

7/37 For starter combinations
7/39 For transformer protection NEW

For system protection according to UL 489/CSA C22.2 No.5

For transformer protection according to UL 489/CSA C22.2 No.5

Accessories

7/43 - Mountable accessories

7/46 - Busbar accessories

7/50 - Rotary operating mechanisms

7/52 - Mounting accessories **NEW**

- Enclosures and front plates

3RV29 infeed system

SIRIUS 3RV1 motor starter protectors/circuit breakers

7/67 For fuse monitoring

7/68 For distance protection

7/69 For motor protection

SIRIUS 3RV1 molded case motor starter

protectors up to 800 A

7/70 General data

7/75 For motor protection

76 For starter combinations

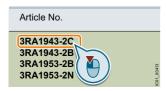
Accessories

/77 - Mountable accessories

- Rotary operating mechanisms, mounting accessories

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Overload relays

7/79 General data

SIRIUS 3RU2 thermal overload relays

7/86 3RU2 for standard applications

7/96 Accessories

SIRIUS 3RB3 electronic overload relays

7/98 3RB30, 3RB31

for standard applications

7/108 Accessories

SIRIUS 3RB2 electronic overload relays

7/110 3RB20, 3RB21

for standard applications

7/120 Accessories for 3RB20, 3RB21

7/122 3RB22, 3RB23

for high-feature applications

7/130 3RB24 for IO-Link

for high-feature applications

7/137 Current measuring modules

for 3RB22, 3RB23, 3RB24

7/141 Accessories for 3RB22, 3RB23, 3RB24

Note:

Conversion tool, e.g. from

- 3RV1 to 3RV2
- 3RU11 to 3RU21
- 3RB20/3RB21 to 3RB30/3RB31

see

www.siemens.com/sirius/conversion-tool

Introduction

Overview

Туре

Size

• Size S0

• Size S2

• Size S3

acc. to IEC Rated frequency

Trip class

Pages

Applications

· System protection • Motor protection

relay function • Starter combinations • Transformer protection

Rated current In • Size S00

• Motor protection with overload

Rated operational voltage $U_{\rm e}$

Thermal overload releases

Electronic releases A multiple of the rated current

Short-circuit breaking capacity $I_{\rm cu}$ at 400 V AC



Accessories																				
For sizes	S00	S0	S2	S3	S00	S0	S2	S3	S00	S0	S2	S3	S00	S0	S2	S00	S0	S3	S00	S0
Auxiliary switches	1	1	1	1	1	1	1	1	1	/	/	1	/	1	1	1	1	√ 5)	1	1
Signaling switches	1	1	1	1	1	1	1	1	1	/	1	1	/	1	1					
Undervoltage releases	1	/	1	1					1	/	/	1	/	/	1	/	/	/	1	/
Shunt releases	1	/	/	1					/	/	✓	1	/	/	1	/	/	/	/	/
Isolator modules	1	1	1		1	1	1		1	/	/		/	1	1					
Insulated three-phase busbar system	1	/	1						1	1	1	-	✓	1	1					
Busbar adapters	1	1	1	1	1	1	1	1	1	/	/	1	/	1	1	1	1	1		
Door-coupling rotary operating mechanisms	1	✓	1	1	1	1	1	✓	1	1	1	1	✓	1	1	1	1	1	1	1
Link modules	/	/	1	1	1	/	/	1	1	/	/	/	/	1	1					
Enclosures for surface mounting	1	1	1		/	1	1		1	/	/		/	1	1					
Enclosures for flush mounting	1	1			1	1			1	/			/	1						
Front plates	/	/	1	1	1	1	1	1	1	/	1	1	/	1	1					
Infeed system	/	/							1	/			/	1						
Sealable scale covers for setting knobs	1	✓	1	1	1	✓	1	1					✓	1	1					
Remote motorized operating mechanisms				1				1				1								
Pages	7/43	7/6	66																	

[✓] Has this function or can use this accessory

⁻⁻ Does not have this function or cannot use this accessory

¹⁾ For symmetrical loading of the three phases.

²⁾ With molded-plastic enclosure 500 V AC. For DC applications, see "Technical Specifications" → "DC short-circuit breaking capacity", page 7/19.

³⁾ For overload protection of the motors, appropriate overload relays must be used.

⁴⁾ According to UL 489 at 480 Y/277 V AC: 65 kA or 50 kA.

⁵⁾ Only lateral auxiliary switches can be used

Introduction



7/67, 7/68





Туре	3RV1611-0BD10	3RV1611-1.G14	3RV1011
SIRIUS 3RV1 motor starter protectors/circ	uit breakers		
Applications			
System protection			
Motor protection			✓
 Motor protection with overload relay function 			<u></u>
Starter combinations			
Transformer protection			
Fuse monitoring	✓		
 Voltage transformer circuit breakers for distance protection 		/	
Size	S00	S00	S00
Rated current I _n			
• Size S00	0.2	Up to 3	Up to 12
Rated operational voltage $U_{\rm e}$ acc. to IEC	690 AC ¹⁾	400 AC	690 AC
Rated frequency	50/60	16 ² / ₃ 60	50/60
Trip class			CLASS 10
Thermal overload releases	0.2	1.4 3	0.11 0.16 to 9 12
Electronic releases A multiple of the rated current	6 times	4 7 times	13 times
Short-circuit breaking capacity I _{cu} at 400 V AC	100	50	100/50
Pages	7/67	7/68	7/69
Accessories			
For sizes	S00	S00	S00

[✓] Has this function or can use this accessory

Pages

⁻⁻ Does not have this function or cannot use this accessory

With molded-plastic enclosure 500 V AC. For DC applications, see "Technical Specifications"

"DC short-circuit breaking capacity", page 7/20.

Introduction





Туре	3RV10			3RV13				
SIRIUS 3RV1 molded cas	e motor starte	er protectors						
Applications								
 Motor protection 	✓							
 Starter combinations 				1				
Switching capacity	Standard swite	ching capacity		Standard swite	ching capacity		Increased swi	tching capacity
Туре	3RV1063	3RV1073	3RV1083	3RV1363	3RV1373	3RV1383	3RV1364	3RV1374
Rated current I_n A	100 200	400	630	100 250	400, 630	630, 800	100 250	400
Rated operational voltage \lor U_e acc. to IEC	690 AC			690 AC				
Rated frequency ⊢	z 50/60			50/60				
Trip class	CLASS 10A, 1	0, 20, 30		1)				
Thermal overload releases A				without ¹⁾				
Electronic releases A multiple of the rated current	Adjustable, 6.	13 times		1 10 times				
Short-circuit breaking kapacity I_{cu} at 400 V AC	A 120	120	100	120	120	100	200	200
Trip unit (release)	TU 4			TU 3				
Pages	7/75			7/76				
Accessories								
For molded case motor starter protectors	3RV1063	3RV1073	3RV1083	3RV1363	3RV1373	3RV1383	3RV1364	3RV1374
Auxiliary switches	1	1	1	1	1	1	1	1
Undervoltage releases	✓	✓	✓	1	✓	✓	✓	✓
Shunt releases	1	1	✓	1	✓	✓	✓	✓
Rotary operating mechanisms	✓	✓	✓	✓	✓	✓	✓	✓
Connection methods • Extended terminals on the front	✓	✓		✓	✓		✓	✓
Cable terminals on the frontRear terminals	1	√ √	√ √	√ √	✓ ✓	√ √	√ √	<i>y</i>

Pages	7	/	77	, :	7/	78	3

- ✓ Has this function or can use this accessory
- -- Does not have this function or cannot use this accessory

For overload protection of the motors, appropriate overload relays must be used.

Introduction







Thermal overload relays
for standard applications
201101

Electronic overload relays for standard applications

3RB3

Туре		3RU21	3RB30	3RB31
SIRIUS overload relays				
Applications				
 System protection 		✓ ¹⁾	√ ¹⁾	√ ¹⁾
Motor protection		✓	✓	✓
 Alternating current, three-phase 		✓	✓	/
Alternating current, single-phase		✓		
Direct current		✓		
Size contactor		S00, S0, S2, S3	S00, S0, S2, S3	S00, S0, S2, S3
Rated operational current I_e				
• Size S00	Α	Up to 16	Up to 16	Up to 16
• Size S0	Α	Up to 40	Up to 40	Up to 40
• Size S2	Α	Up to 80	Up to 80	Up to 80
• Size S3	Α	Up to 100	Up to 115	Up to 115
Rated operational voltage $U_{\rm e}$	V	690 AC	690 AC	690 AC
Rated frequency	Hz	50/60	50/60	50/60
Trip class		CLASS 10, 10A	CLASS 10E, 20E	CLASS 5E, 10E, 20E, 30E (adjustable)
Thermal overload releases	A A	0.11 0.16 to 80 100		-
Electronic overload releases	A A		0.1 0.4 to 32 115	0.1 0.4 to 32 115
Pages		7/92 7/95	7/105, 7/106	7/107

Accessories													
For sizes	S00	S0	S2	S3	S00	S0	S2	S3	S00	S0	S2	S3	
erminal supports for stand-alone nstallation	✓	1	1	1	1	1	1	1	1	1	1	1	
echanical RESET	✓	✓	✓	1	1	1	/	1	1	1	/	✓	
Cable releases for RESET	1	/	1	1	1	1	1	1	1	1	1	1	
Electrical remote RESET	1	✓	/	1					Integrated in the unit				
erminal covers													
 For box terminals 			✓	1			✓	1			1	/	
Sealable covers for setting knobs	1	1	1	1	1	1	/	1	1	1	1	/	
Pages	7/96. 7/97				7/108	7/108, 7/109				7/108. 7/109			

[✓] Has this function or can use this accessory

⁻⁻ Does not have this function or cannot use this accessory

The units are responsible in the main circuit for overload protection of the assigned electrical loads (e.g. motors), feeder cable, and other switching and protection devices in the respective load feeder.

Introduction



- ✓ Has this function or can use this accessory
- -- Does not have this function or cannot use this accessory
- 1) The units are responsible in the main circuit for overload protection of the assigned electrical loads (e.g. motors), feeder cable, and other switching and protection devices in the respective load feeder.
- 2) With reference to the 3RB29.6 current measuring modules.

³⁾ Stand-alone installation without accessories is possible.

General data

Overview

More information

Homepage, see www.siemens.com/sirius-circuit-breaker Industry Mall, see www.siemens.com/product?3RV2

TIA Selection Tool Cloud (TST Cloud), see

https://mall.industry.siemens.com/spice/TSTWeb?kmat=MotorStarterProtector

Conversion tool, e.g. from 3RV1 to 3RV2, see www.siemens.com/sirius/conversion-tool

The following illustration shows 3RV2 motor starter protectors/ circuit breakers with the accessories which can be mounted for the sizes S00 to S3, see also "Introduction" → "Overview", page 7/2.

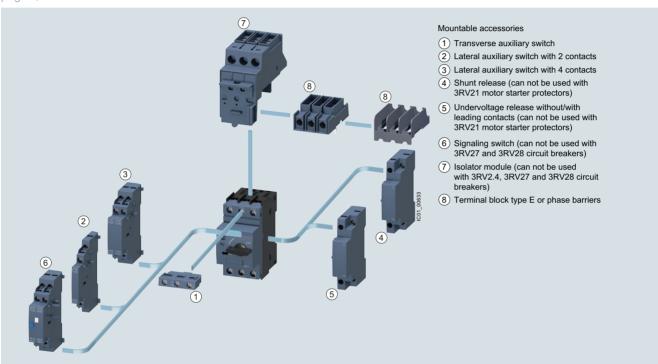
Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

System Manual "SIRIUS - System Overview", see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60279172
Certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16245/cert

Accessories, see page 7/43 onwards.



Mountable accessories for SIRIUS 3RV2 motor starter protectors/circuit breakers



SIRIUS motor starter protector with spring-type terminals, size S0 (left) and SIRIUS motor starter protector with screw terminals, size S00 (right)

The SIRIUS 3RV2 motor starter protectors/circuit breakers are compact, current limiting motor starter protectors/circuit breakers which are optimized for load feeders. The motor starter protectors/circuit breakers are used for switching and protecting three-phase motors of up to 55/45 kW at 400 V AC and for other loads with rated currents of up to 100 A.

The new 3RV2 motor starter protectors/circuit breakers are usually approved according to IEC and UL/CSA. According to UL 508/UL 60947-4-1, the 3RV2 motor starter protectors/circuit breakers in sizes S00 to S3 are approved as:

- "Manual Motor Controllers"
- "Manual Motor Controllers" for "Group Installations"
- "Manual Motor Controllers Suitable for Tab Conductor Protection in Group Installations"
- "Self-Protected Combination Motor Controllers (Type E)"
 Please note that for this approval the 3RV20 motor starter
 protectors must be equipped with additional infeed terminals
 or phase barriers. For more information, see "Accessories" on
 page 7/52.

Corresponding short-circuit values, see pages 7/10 to 7/18.

The 3RV27 and 3RV28 are approved as circuit breakers according to UL 489; they are a special version of the 3RV2 motor starter protectors.

Thanks to their dimensions, the 3RV1011 motor starter protectors are suitable for installation in enclosures or under cramped installation conditions.

General data

Type of construction

The 3RV2 motor starter protectors are available in four sizes:

- Size S00 width 45 mm, max. rated current 16 A, at 400 V AC suitable for three-phase motors up to 7.5 kW
- Size S0 width 45 mm, max. rated current 40 A, at 400 V AC suitable for three-phase motors up to 18.5 kW
- Size S2 width 55 mm, max. rated current 80 A, at 400 V AC suitable for three-phase motors up to 37 kW
- Size S3 width 70 mm, max. rated current 100 A, at 400 V AC suitable for three-phase motors up to 45/55 kW

Circuit breakers acc. to UL 489

The 3RV27 and 3RV28 circuit breakers are available in two or three sizes:

- Size S00 width 45 mm, max. rated current 15 A, for 480 Y/277 V AC
- Size S0 width 45 mm, max. rated current 22 A, for 480 Y/277 V AC
- Size S3 width 70 mm, max. rated current 70 A, for 480 Y/277 V AC

Connection methods

The 3RV2 motor starter protectors/circuit breakers can be supplied with screw terminals and spring-type terminals.



Spring-type terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Use in hazardous areas

The 3RV20 motor starter protectors for motor protection in sizes S00, S0, S2 and S3 have certification in accordance with both the European explosion protection directive ATEX and the international explosion protection standard (IECEx).

In accordance with the European directive (ATEX), the 3RV20 are able to switch and protect explosion-proof motors of type of protection "Increased Safety EEx e".

In accordance with the international guideline (IECEx), the 3RV20 are able to switch and protect motors of the types "Increased Safety Ex e" or "Flameproof enclosure Ex d".

Article No. scheme

Product versions		Article number		
Motor starter protectors/circuit	breakers	3RV2]	- 0 0 0 0
Type of motor starter protector/circuit breaker	e.g. 0 = for motor protection/system protection			
Size	e.g. 1 = 16 A (7.5 kW) for size S00			
Breaking capacity	e.g. 1 = standard switching capacity			
Setting range for overload releas	e e.g. 1A = 1.1 1.6 A			
Trip class (CLASS)	e.g. A = a (adjustable CLASS 10) / n (13 or 20 x I_n)			
Connection methods	e.g. 1 = screw terminals]	
With or without auxiliary switch	e.g. 0 = without			
Special versions				
Example		3RV2 0 1 1 - 1 A A 1	0	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

General data

Application

Operating conditions

3RV2 motor starter protectors/circuit breakers are suitable for use in any climate. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. When installed in dusty and damp areas, suitable enclosures must be provided.

3RV2 motor starter protectors/circuit breakers can optionally be fed from the top or from below.

The permissible ambient temperatures, the maximum switching capacities, the tripping currents and other boundary conditions can be found in the technical specifications and tripping characteristics.

3RV2 motor starter protectors/circuit breakers are suitable for operation in IT systems (IT networks). In this case, the different short-circuit breaking capacity in the IT system must be taken into account, see page 7/12.

Since operational currents, starting currents and current peaks are different even for motors with identical power ratings due to the inrush current, the motor ratings in the selection tables are only guide values. The specific rated and startup data of the motor to be protected is always paramount to the choice of the most suitable motor starter protector/circuit breaker. This also applies to motor starter protectors for transformer protection.

Possible uses

The 3RV motor starter protectors/circuit breakers can be used:

- For short-circuit protection
- For motor protection (also with overload relay function)
- For system protection
- For short-circuit protection for starter combinations
- For transformer protection
- As main and EMERGENCY STOP switches
- For operation in IT systems (IT networks)
- · For switching of DC currents
- In areas subject to explosion hazard (ATEX)
- As circuit breakers according to UL 489 (3RV27 and 3RV28)
- For fuse monitoring
- For distance protection

Special versions of 3RV2 motor starter protectors/circuit breakers can be used for low ambient temperatures down to -50 °C or also for system protection. More detailed information is available on request.

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note

For the use of 3RV2 motor starter protectors/circuit breakers in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

General data

Technical specifications

More information

System Manual "SIRIUS - System Overview", see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Configuration Manual "Load Feeders – SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60279172 Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16245/td

UL reports of the individual devices, see www.siemens.com/sirius/manuals

Short-circuit breaking capacity I_{cu} , I_{cs} according to IEC 60947-2

The table shows the rated ultimate short-circuit breaking capacity $I_{\rm cu}$ and the rated service short-circuit breaking capacity $I_{\rm cs}$ of the 3RV motor starter protectors/circuit breakers with different operating voltages dependent on the rated current $I_{\rm n}$ of the motor starter protectors/circuit breakers.

Power can be supplied to the motor starter protectors/circuit breakers via the terminals at the top or at the bottom without restricting the rated data. If the short-circuit current at the place of installation exceeds the motor starter protector/circuit breaker's specified rated short-circuit breaking capacity, you will need to use a back-up fuse. It is also possible to install an

upstream motor starter protector/circuit breaker with a limiter function.

The maximum rated current of this back-up fuse is indicated in the tables. The rated ultimate short-circuit breaking capacity then applies as specified on the fuse.

Fuseless design

Motor starter protector/contactor assemblies for short-circuit currents up to 150 kA can be ordered as 3RA2 fuseless load feeders, see page 8/4 onwards.

Motor starter protectors/	Rated current I_n	Up to	240 \	/ AC ¹⁾	Up to	400 \ / AC ²⁾	/ AC ¹⁾ /		440 V / AC ²⁾	/ AC ¹⁾ /	Up to 525 V	500 V AC ²⁾	/ AC ¹⁾ /	Up to	690 \	/ AC ¹⁾
circuit breakers		$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG)	$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG) ³⁾	I_{CU}	I_{CS}	Max. fuse (gG) ³⁾	$I_{ extsf{CU}}$	$I_{ t CS}$	Max. fuse (gG) ³⁾	$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG) ³⁾⁴⁾
Туре	Α	kA	kA	Α	kA	kA	Α	kA	kA	Α	kA	kA	Α	kA	kA	А
Size S00																
3RV1011	0.16 1 1.25, 1.6 2; 2.5	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 10	100 100 10	 35	100 2 2	100 2 2	 20 35
	3.2; 4 5; 6.3 8	100 100 100	100 100 100	 	100 100 50	100 100 12.5	 80	50 50 50	12.5 12.5 12.5	40 50 63	3 3 3	3 3 3	40 50 63	2 2 2	2 2 2	40 40 50
	10 12	100 100	100 100		50 50	12.5 12.5	80 80	10 10	10 10	63 80	3	3 3	63 80	2	2	50 50
3RV2.11	0.16 1.6 2; 2.5 3.2	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 10 10	100 10 10	 25 32
	4; 5 6.3 8	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 50	100 100 50	 63	100 100 42	100 100 42	 63	6 6 6	4 4 4	32 50 50
	10 12.5 16	100 100 100	100 100 100	 	100 100 55	100 100 30	 100	50 50 50	50 50 12.5	80 80 80	42 42 10	42 42 5	63 80 80	6 6 4	4 4 4	50 63 63
3RV1611-0BD10	0.2	100	100		100	100		100	100		100	100		100	100	
Size S0																
3RV2.21	0.16 1.6 2; 2.5 3.2	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 10 10	100 10 10	 25 32
	4; 5 6.3 8	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 50	100 100 50	 63	100 100 42	100 100 42	 63	6 6 6	4 4 4	32 50 50
	10 12.5 16	100 100 100	100 100 100	 	100 100 55	100 100 25	 100	50 50 50	50 50 12.5	80 80 80	42 42 10	42 42 5	63 80 80	6 6 4	4 4 2	50 63 63
	20 22; 25 28; 32 36; 40	100 100 100 100	100 100 100 100	 	55 55 55 20	25 25 25 10	125 125 125 125	50 50 30 12	10 10 10 8	80 100 125 125	10 10 10 6	5 5 5 3	80 80 100 100	4 4 4 3	2 2 2 2	63 63 100 100

⁻⁻ No back-up fuse required, since short-circuit resistant up to 100 kA

^{1) 10%} overvoltage.

²⁾ 5% overvoltage.

 $^{^{3)}}$ Back-up fuse only required if short-circuit current at the place of installation is $>I_{\rm cu}.$

⁴⁾ Alternatively, fuseless limiter combinations for 690 V AC can also be used.

General data

Motor starter protectors/	Rated current I_n	Up to	240 \	/ AC ¹⁾	Up to 415 \	400 \ AC ²⁾		460	o 440 \ V AC ²⁾		525 \	500 \ / AC ²⁾	/ AC ¹⁾ /	Up to	690	V AC ¹⁾
circuit breakers		I_{CU}	I_{CS}	Max. fuse (gG)	$I_{ m CU}$	$I_{\rm CS}$	Max. fuse (gG) ³⁾	I_{CU}	$I_{\rm CS}$	Max. fuse (gG) ³⁾	$I_{ m CU}$	I_{CS}	Max. fuse (gG) ³⁾	$I_{ m CU}$	$I_{\rm CS}$	Max. fuse (gG) ³⁾⁴⁾
Туре	Α	kA	kA	Α	kA	kA	Α	kA	kA	А	kA	kA	Α	kA	kA	Α
Size S2																
3RV2.31	14; 17 20 25	100 100 100	100 100 100	 	65 65 65	30 30 30	100 100 100	50 50 50	25 25 15	100 100 100	12 12 12	6 6 6	63 80 80	5 5 5	3 3 3	63 80 80
	32; 36 40; 45 52	100 100 100	100 100 100	 	65 65 65	30 30 30	125 160 160	50 50 50	15 15 15	125 125 125	10 10 10	5 5 5	100 100 125	4 4 4	2 2 2	100 100 125
	59; 65 73; 80	100 100	100 100		65 65	30 30	160 200	50 50	15 15	160 200	8	4	125 160	4 4	2	125 125
Size S2, with inc switching capac																
3RV2.32	14; 17 20; 25 32 45 52	100 100 100 100	100 100 100 100	 	100 100 100 100	50 50 50 50	 	65 65 65	30 30 30 30	100 100 125 125	18 18 15 15	10 10 8 8	63 80 100 125	8 8 6 6	5 5 4 4	63 80 100 125
	59; 65 73; 80	100 100	100 100		100 100	50 50		50 50	15 15	160 200	10 10	5 5	125 160	6	4	125 125
Size S3																
3RV2.41	40 50 63 75	100 100 100 100	100 100 100 100	 	65 65 65 65	30 30 30 30	125 125 160 160	65 65 65 65	30 30 30 30	125 125 160 160	12 12 12 8	6 6 6 4	100 100 100 125	6 6 6 5	3 3 3	63 80 80 100
	84 100	100	100		65	30	160	65	30	160	8	4	125	5	3	125
Size S3, with inc switching capac																
3RV2.42	40 50 63 75 84 100	100 100 100 100	100 100 100 100	 	100 100 100 100	50 50 50 50 50	 	100 100 70 70 70	50 50 50 50 50	 200 200 200	18 15 15 10	9 7.5 7.5 5	160 160 160 160	12 10 7.5 6	6 5 4 3	80 100 100 125 160
3RV2742 ⁵⁾	up to 70 A	100	100		100	50			equest			_		-		

⁻⁻ No back-up fuse required, since short-circuit resistant up to 100 kA

^{1) 10%} overvoltage.

²⁾ 5% overvoltage.

³⁾ Back-up fuse only required if short-circuit current at the place of installation is $> I_{\rm cu}$.

 $^{^{\}rm 4)}$ Alternatively, fuseless limiter combinations for 690 V AC can also be used.

⁵⁾ The values for the 3RV2742 circuit breakers have been tested only up to 400 V/415 V AC.

General data

Short-circuit breaking capacity I_{culT} in the IT system (IT network) according to IEC 60947-2

3RV motor starter protectors/circuit breakers are suitable for use in IT systems. The values of $I_{\rm Cu}$ and $I_{\rm CS}$ apply for the three-pole short circuit. In the case of a double ground fault in different phases at the input and output side of a motor starter protector/circuit breaker, the special short-circuit breaking capacity $I_{\rm culT}$ applies. The specifications in the table below apply to 3RV motor starter protectors/circuit breakers.

If the short-circuit current at the place of installation exceeds the motor starter protector/circuit breaker's specified rated short-circuit breaking capacity, you will need to use a back-up fuse. The maximum rated current of this back-up fuse is indicated in the tables. The rated short-circuit breaking capacity then applies as specified on the fuse.

Motor starter protectors/	Rated current I_n	Up to 2	40 V AC ¹⁾	Up to 400 415 V AC ²	V AC ¹⁾ /	Up to 440 V 460 V AC ²⁾	V AC ¹⁾ /	Up to 500 525 V AC	V AC ¹⁾ /	Up to 69	90 V AC ¹⁾⁵⁾ Max. fuse
circuit breakers		I_{CuIT}	Max. fuse (gG) ³⁾	I_{CuIT}	Max. fuse (gG) ³⁾⁴⁾	I_{CUIT}	Max. fuse (gG) ³⁾	I_{CuIT}	Max. fuse (gG) ³⁾	-curi	Max. fuse (gG) ³⁾
Туре	Α	kA	А	kA	Α	kA	Α	kA	Α	kA	Α
Size S00											
3RV1011	0.16 0.4 0.5 0.63	100 100 100	 	100 100 100	 	100 100 6	 6	100 100 6	 6	100 0.5 0.5	 4 6
	0.8 1 1.25	100 100 100	 	100 4 2	 10 20	5 2 2	6 10 16	5 2 2	6 10 16	0.5 0.5 0.5	6 10 16
	1.6 2 2.5	100 100 100	 	2 2 2	20 35 35	2 2 2	20 25 25	2 2 2	20 25 25	1 1 1	16 20 25
	3.2 4 5	100 100 100	 	2 2 2	40 40 50	2 2 2	35 35 35	2 2 2	35 35 35	1 1 1	25 35 35
	6.3 8 10 12	100 50 50 50	 80 80 80	2 2 2 2	50 63 63 80	2 2 2 2	40 40 50 50	2 2 2 2	40 40 50 50	1 1 1	40 40 50 50
3RV2.11	0.16 0.4 0.5 0.63; 0.8	100 100 100	 	100 100 100	 	100 100 100	 	100 100 100	 	100 0.5 0.5	 4 6
	1 1.25 1.6	100 100 100		100 100 100	 	2 2 2	10 16 20	2 2 2	10 16 20	1.5 1.5 1.5	10 16 16
	2; 2.5 3.2 4; 5	100 100 100		8 8 4	25 32 32	2 2 1.5	25 32 32	2 2 1.5	25 32 32	1.5 1.5 1.5	20 25 25
	6.3; 8 10 12.5 16	100 100 100 55	 80	4 4 4 4	50 50 63 63	1 1 1	40 40 50 50	1 1 1	40 40 50 50	1 1 1 1	35 40 40 40
Size S0											
3RV2.21	0.16 0.4 0.5 0.63; 0.8 1 1.25 1.6	100 100 100 100 100 100	 	100 100 100 100 100 100	 	100 100 100 2 2 2	 10 16 20	100 100 100 2 2 2	 10 16 20	100 0.5 0.5 1.5 1.5	 4 6 10 16
	2; 2.5 3.2 4; 5	100 100 100	 	8 8 4	25 32 32	2 2 1.5	25 32 32	2 2 1.5	25 32 32	1.5 1.5 1.5	20 25 25
	6.3; 8 10 12.5 16	100 100 100 55	 80	4 4 4	50 50 63 63	1 1 1	40 40 50	1 1 1	40 40 50	1 1 1	35 40 40 40
	20 25 28; 32 36; 40	55 55 55 20	80 80 80	4 4 2 2	63 63 63	1 1 1	50 50 63 63	1 1 1	50 50 63 63	1 1 1	50 63 63

⁻⁻ No back-up fuse required, since short-circuit resistant up to 100 kA

^{1) 5%} overvoltage.

²⁾ Without overvoltage.

 $^{^{3)}}$ Back-up fuse only required if short-circuit current at installation location is $>\!I_{\rm culT}\!.$

⁴⁾ Alternatively, fuseless limiter combinations for 690 V AC can also be used.

⁵⁾ Overvoltage category II applies for applications in IT systems > 600 V.

General data

Motor starter protectors/	Rated current I _n	Up to 24	40 V AC ¹⁾	Up to 400 415 V AC ²	V AC ¹⁾ /	Up to 440 460 V AC ²	V AC ¹⁾ /	Up to 500 525 V AC ²	V AC ¹⁾ /	Up to (690 V AC ¹⁾⁵⁾ Max. fuse
circuit breakers		I_{CuIT}	Max. fuse (gG) ³⁾	I_{culT}	Max. fuse (gG) ³⁾⁴⁾	I_{culT}	Max. fuse (gG) ³⁾	I_{culT}	Max. fuse (gG) ³⁾	*CUII	(gG) ³⁾
Туре	Α	kA	Α	kA	Α	kA	А	kA	Α	kA	Α
Size S2											
3RV2031, 3RV2131, 3RV2331	14 25 32 45 52 80	100 100 100	 	8 6 4	100 125 160	6 4 3	80 100 125	6 4 3	80 100 125	4 3 2	63 80 100
Size S2, with incre switching capacity											
3RV2032, 3RV2332	14 25 32 45 52 59 80	100 100 100 100	 	8 6 6	100 125 160 160	6 6 6 4	80 100 125 125	6 6 6 4	80 100 125 125	4 4 4 4	63 80 100 100
Size S3											
3RV2.41	40 50 63 75 84; 100	65 65 65 65 65	125 125 160 160 160	10 8 6 5 5	63 80 80 100 125	5 3 3 2 2	50 63 63 80 100	5 3 3 2 2	50 63 63 80 100	5 3 3 2 2	50 63 63 80 100
Size S3, with incre switching capacity											
3RV2.42	40 50 63 75 84; 100	100 100 100 100	 	12 10 7.5 6 6	80 100 100 125 160	6 4 4 3 3	63 80 80 100 125	6 4 4 3 3	63 80 80 100 125	6 4 4 3 3	63 80 80 100 125

⁻⁻ No back-up fuse required, since short-circuit resistant up to 100 kA

^{1) 10%} overvoltage.

²⁾ 5% overvoltage.

 $^{^{\}rm 3)}$ Back-up fuse only required if short-circuit current at installation location is > $I_{\rm culT}$

⁴⁾ Alternatively, fuseless limiter combinations for 690 V AC can also be used.

 $^{^{5)}}$ Overvoltage category II applies for applications in IT systems > 600 V.

General data

Limiter function with standard devices for 500 V AC and 690 V AC according to IEC 60947-2

The table shows the rated ultimate short-circuit breaking capacity $I_{\rm Cu}$ and the rated service short-circuit breaking capacity $I_{\rm CS}$ with an upstream standard motor starter protector/circuit breaker that fulfills the limiter function at voltages 500 V AC and 690 V AC.

The short-circuit breaking capacity can be increased significantly with an upstream standard motor starter protector/circuit breaker with limiter function. The motor starter protector/circuit breaker which is connected downstream must be set to the rated current of the load.

With motor starter protector/circuit breaker assemblies, note the clearance to grounded parts and between the motor starter protectors/circuit breaker. Short-circuit proof wiring between the motor starter protectors/circuit breakers must be ensured. The motor starter protectors/circuit breakers can be mounted side by side in a modular arrangement.

Standard motor starte With limiter	r protectors/circuit breakers	Rated current I _n	Up to 500 V AC ¹⁾ /52	25 V AC ²⁾	Up to 690 V AC ¹⁾⁵⁾	
Rated current In			I_{CU}	$I_{ t CS}$	I_{CU}	$I_{\mathtt{CS}}$
Туре	Туре	A	kA	kA	kA	kA
Size S00						
Size S0: 3RV2321-4EC10	3RV2011	2 6.3 8	100	 50	50 20	25 10
$I_{\rm n} = 32 {\rm A}$		10 16	100	50	20 ³⁾	10 ³⁾
Size S2: 3RV2331-4WC10	3RV2011	10 16			50	25
$I_{\rm n} = 52 {\rm A}$						
Size S0						
Size S0: 3RV2321-4EC10	3RV2021	16 32	100	50	20 ³⁾	10 ³⁾
$I_{\rm n} = 32 {\rm A}$						
Size S2: 3RV2331-4WC10	3RV2021	16 32			50	20
$I_{\rm n} = 52 {\rm A}$						
Size S2, with increa	ased switching capacity					
Size S2: 3RV2332-4RC10	3RV2032	14 80	100	50	70	35
$I_{\rm n} = 80 \text{ A}$						
Size S3, with increa	ased switching capacity					
Size S3 ⁴⁾ : 3RV2342-4MC10	3RV2042	40 100	100	50	50	25
$I_{\rm n} = 100 \text{ A}$						
A 1 11 11 11 11 11 11 11			3) , , , , , ,			

⁻⁻ No limiter required

^{1) 10%} overvoltage.

²⁾ 5% overvoltage.

³⁾ Infeed to the limiter is always on the side 1L1/3L2/5L3.

⁴⁾ Infeed to the limiter only on the side 2T1/4T2/6T3. At the infeed side phase barriers have to be used.

 $^{^{5)}}$ Use phase barriers on the infeed side

General data

Permissible rated data of devices approved for North America (UL/CSA)

Motor starter protectors of the 3RV2 series are approved for UL/CSA, and according to UL 508/UL 60947-4-1 and CSA C22.2 No. 14/CSA C22.2 No. 60947-4-1 they can be used on their own or as load feeders in combination with a contactor.

These motor starter protectors/circuit breakers can be used as "Manual Motor Controllers" for "Group Installations", as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" and as "Self-Protected Combination Motor Controllers (Type E)".

3RV motor starter protectors as "Manual Motor Controllers"

If used as a "Manual Motor Controller", the motor starter protector is always operated in combination with an upstream short-circuit protection device. Approved fuses or a circuit breaker according to UL 489/CSA C22.2 No. 5 may be used for this purpose. These devices must be dimensioned according to the National Electrical Code (UL) or Canadian Electrical Code (CSA).

The file numbers for the approval of the 3RV as a manual motor controller are as follows:

- UL File No. 47705, CCN: NLRV
- CSA Master Contract 165071, Product Class: 3211

Motor starter		hp rating ¹⁾ fo	or FLA ²⁾	Rated	240 V AC		480 V AC		600 V AC	
protectors/ circuit breakers		max.		current I _n	UL	CSA	UL	CSA	UL	CSA
Circuit breakers					$I_{\rm bc}^{(3)}$	$I_{\rm bc}^{(3)}$	$I_{\rm bc}^{3)}$	$I_{bc}^{3)}$	$I_{bc}^{(3)}$	$I_{\rm bc}^{(3)}$
Туре	V	Single-phase	Three-phase	Α	kA	kA	kA	kA	kA	kA
Size S00										
3RV1011				0.16 2	65	65	65	65	10	10
FLA ²⁾ max. 12 A,	115	1/2		2.5 3.2	65 65	65 65	65 65	65 65	10 10	10 10
600 V	200	1 1/2	3	4	65	65	65	65	10	10
	230 460	2	3 7 1/2	5	65	65	65	65	10	10
	575/600		10	6.3	65	65	65	65	10	10
				8	65 65	65 65	65 65	65 65	10 10	10 10
				12	65	65	65	65	10	10
3RV2011, 3RV2111	I, 3RV2311, 3	RV2411		0.16 12.5	65	65	65	65	30	30
FLA ²⁾ max.	115/120	1	2	16	65	65	65	65		
16 A, 480 V	200/208	1 2	2 3 5							
12.5 A, 600 V	230/240	2								
	460/480 575/600		10 10							
3RV1611-0BD10	3.0,000		. 5	0.2	65	65	65	65	10	10
Size S0										
3RV2021, 3RV2121	I, 3RV2321, 3	RV2421		0.16 12.5 16 25	65 65	65 65	65 65	65 65	30 /(30) ⁴⁾	30 /(30) ⁴
FLA ²⁾ max.	115/120	3	5	28, 32	65	65	50	50		
40 A, 480 V 12.5 A, 600 V	200/208 230/240	5 7 1/2	10 10	36, 40	65	65	12	12		
12.071, 000 1	460/480		30							
	575/600									
Size S2				44 00	0.5	0.5	0.5	05	05	05
3RV2031, 3RV2331	l			14 36 40 52	65 65	65 65	65 65	65 65	25 22	25 22
FLA ²⁾ max.	115/120	7 1/2	10	59 65	65	65	65 ⁵⁾	65 ⁵⁾	20 ⁵⁾	20 ⁵⁾
80 A, 600 V	200/208 230/240	15 15	25 30	73 80	65	65	65 ⁵⁾	65 ⁵⁾	20 ⁵⁾	20 ⁵⁾
	460/480		60							
	575/600		75							
Size S2, with in		itching capa	city							
3RV2032, 3RV2332	2			14 36 40 52	100 100	100 100	100 100	100 100	25 22	25 22
FLA ²⁾ max.	115/120	7 1/2	10	40 52 59 65	100	100	100 ⁵⁾	100 100 ⁵⁾	25 ⁵⁾ 25 ⁵⁾	25 ⁵⁾ 25 ⁵⁾
80 A, 600 V	200/208	15	25	73 80	100	100	100 ⁵⁾	100 ⁵⁾	25 ⁵⁾	25 ⁵⁾
	230/240 460/480	15 	30 60							
	575/600		75							
Size S3										
3RV2.41, 3RV2.42				40 75 84 100	65 65	65 65	65 65	65 65	30 10/30 ⁶⁾	30 10/30 ⁶⁾
FLA ²⁾ max.	115/120	7 1/2	15	5 T 100	30	30	00	00	10,00	10,00
100 A, 600 V	200/208 230/240	15 20	30 40							
	460/480		75							
	575/600		100							

⁻⁻ No approval

¹⁾ hp rating = Power rating in horse power (maximum motor rating).

²⁾ FLA = Full Load Amps/motor full load current.

³⁾ Corresponds to "short-circuit breaking capacity" according to UL/CSA.

⁴⁾ Values in brackets only apply to 3RV2.23 motor starter protectors.

⁵⁾ With Class J fuse.

⁶⁾ With Class J fuse 300 A.

General data

3RV20 motor starter protectors (up to 100 A) as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations"

The application as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" is only available for UL. CSA does not recognize this approval! When the motor starter protector is used as a "Manual Motor Controller Suitable for Tap Conductor Protection in Group Installations", it must always be combined with upstream short-circuit protection. Approved fuses or a circuit breaker according to UL 489 may be used for this purpose. These devices must be dimensioned according to the National Electrical Code.

The 3RV20 motor starter protectors are approved as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" under the following file number:

• UL File No. 47705, CCN: NLRV

Motor starter protectors/ circuit breakers		hp rating ¹⁾ for max.	or FLA ²⁾	Rated current I _n	240 V AC UL <i>I</i> _{bc} ³⁾	480 Y/277 V AC UL $I_{ m bc}{}^{3)}$	600 Y/347 V AC UL I _{bc} ³⁾
Type	V	Single phase	Three-phase	A	kA	hbc '	kA
Size S00	V	Sirigle-priase	Trilee-priase	A	KA	KA	KA
3RV1011				0.16 0.8	65	65	10
				1	65	65	10
FLA ²⁾ max. 8 A,	115 200	1/3 3/4		1.25	65	65	10
480 V	230	1	2 2 5	2 2.5	65 65	65 65	10 10
	460			3.2	65	65	10
	575/600			4	65	65	10
				5	65	65	10
				6.3 8	65 65	65 65	10 10
3RV2011				0.16 12.5	65	65	30
	4451105	_		16	65	65	
FLA ²⁾ max. 16 A, 480 V	115/120 200/208	1 2	2 3 5				
12.5 A, 600 V	230/240	2					
	460/480 575/600		10 10				
Size S0	373/000		10				
3RV2021				0.16 12.5	65	65	30
				16 25	65	65	
FLA ²⁾ max. 32 A, 480 V	115/120 200/208	2 3	5 10	28; 32	50	50	
12.5 A, 600 V	230/240	5	10				
,	460/480		20				
Size S2	575/600						
3RV2031				14 36	65	65	25
				40 52	65	65	22
FLA ²⁾ max.	115/120	7 1/2	10	59 65	65	30	
80 A, 480 V 52 A, 600 V	200/208 230/240	15 15	25 30	73 80	65 65	20	
0271, 000 V	460/480		60	00	00	10	
2: 22	575/600		75				
Size S2, with inc	reased swit	ching capac	ity	14 00	100	100	OF.
3RV2032				14 36 40 52	100 100	100 100	25 22
FLA ²⁾ max.	115/120	7 1/2	10	59 65	100	42	
80 A, 480 V 52 A, 600 V	200/208 230/240	15 15	25 30	73 80	100 100	30 10	
U∠ A, 0UU V	460/480	15	30 60	80	100	10	
	575/600		75				
Size S3							
3RV204.				40 75	65	65	30
FLA ²⁾ max.	115/120	7 1/2	15	84 100	65	65	
100 A, 480 V	200/208	15	30				
75 A, 600 V	230/240	20	40				
	460/480 575/600		75 75				

⁻⁻ No approval

¹⁾ hp rating = Power rating in horse power (maximum motor rating).

²⁾ FLA = Full Load Amps/motor full load current.

³⁾ Corresponds to "short-circuit breaking capacity" according to UL.

General data

3RV20 motor starter protectors (up to 100 A) as "Self-Protected Combination Motor Controllers (Type E)"

UL 508/UL 60947-4-1 approval demands 1-inch through air spacing and 2-inch over surface spacing at line side for "Self-Protected Combination Motor Controllers".

Therefore, 3RV20 motor starter protectors of sizes S00 to S3 are approved according to UL 508/UL 60947-4-1 in combination with the terminal blocks listed below.

CSA does not require these extended clearances. According to CSA, these terminal blocks can be omitted when the device is used as a "Self-Protected Combination Motor Controller".

The 3RV20 motor starter protectors are approved as "Self-Protected Combination Motor Controllers" under the following file numbers:

- UL File No. E156943, CCN: NKJH
- CSA Master Contract 165071, Product Class: 3211 08

Motor starter		hp rating ¹⁾ fo	or FLA ²⁾	Rated	Up to 240 \	/ AC	Up to 480	Y/277 V AC	Up to 600	Y/347 V AC
protectors/ circuit breakers		max.		current I _n	UL I _{bc} ³⁾	CSA $I_{ m bc}^{(3)}$	UL I _{bc} ³⁾	CSA $I_{ m bc}^{(3)}$	UL I _{bc} ³⁾	CSA I _{bc} ³⁾
Туре	V	Single-phase	Three-phase	А	kA	kA	kA	kA	kA	kA
Size S00										
3RV2011 + 3RV292	8-1H ⁴⁾⁵⁾			0.16 12.5	65	65	65	65	30	30
FLA ²⁾ max. 16 A, 480 V; 12.5 A, 600 V	115/120 200/208 230/240 460/480 575/600	1 2 2 	2 3 5 10	16	65	65	65	65		
Size S0										
3RV2021 + 3RV292	8-1H ⁴⁾⁵⁾			0.16 12.5 16 25	65 65	65 65	65 65	65 65	30	30
FLA ²⁾ max. 32 A, 480 V 12.5 A, 600 V	115/120 200/208 230/240 460/480 575/600	2 3 5 	5 10 10 20	28; 32	50	50	50	50		
Size S2										
3RV2031+ 3RV293	8-1K ⁴⁾			14 36	65	65	65	65	25	25 22
FLA ²⁾ max. 73 A, 480 V 52 A, 600 V	115/120 200/208 230/240 460/480 575/600	7 1/2 15 15 	10 25 30 60 75	40 52 59 73	65 65	65 65	65 20	65 20	22 	
Size S2, with inc		itching capac	ity							
3RV2032 + 3RV293 FLA ²⁾ max. 73 A, 480 V 52 A, 600 V	115/120 200/208 230/240 460/480 575/600	7 1/2 15 15 	10 25 30 60 75	14 36 40 52 59 73	100 100 100	100 100 100	100 100 30	100 100 30	25 22 	25 22
Size S3										
3RV2041/2042 + 3F FLA ²⁾ max. 100 A, 480 V 75 A, 600 V	115/120 200/208 230/240	7 1/2 15 20	15 30 40	40 75 84 100	65 65	65 65	65 65	65 65	30	30
- No approval	460/480 575/600		75 75		3) Correspond		alian da l			LII. (CC A

⁻⁻ No approval

¹⁾ hp rating = Power rating in horse power (maximum motor rating).

²⁾ FLA = Full Load Amps/motor full load current.

³⁾ Corresponds to "short-circuit breaking capacity" according to UL/CSA.

⁴⁾ Not required for CSA.

⁵⁾ Alternatively phase barrier 3RV2928-1K can be used.

General data

3RV27 and 3RV28 motor starter protectors as "circuit breakers"

These motor starter protectors are approved as circuit breakers according to UL 489 and CSA C22.2 No. 5. They can be used therefore as upstream short-circuit protective devices for "Manual Motor Controllers" and "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations".

3RV27 and 3RV28 motor starter protectors are approved as "circuit breakers" under the following file numbers:

- UL File No. E235044, CCN: DIVQ
- CSA Master Contract 165071, Product Class: 1432 01

Motor starter	Rated current I _n	240 V A	;	480 Y/27	7 V AC	480 V AC	;	600 Y/34	7 V AC	600 V AC	;
protectors/ circuit breakers		$I_{\rm bc}^{-1}$	CSA $I_{bc}^{1)}$	$I_{bc}^{1)}$	CSA I _{bc} ¹⁾	$I_{bc}^{1)}$	CSA I _{bc} ¹⁾	$I_{\rm bc}^{-1}$	CSA $I_{\rm bc}^{-1)}$	$I_{bc}^{1)}$	CSA $I_{bc}^{1)}$
Туре	A	kA	kA	kA	kA	kA	kA	kA	kA	kA	kA
Size S00											
3RV2711	0.16 12.5 15	65 65	65 65	65 65	65 65			10	10		
3RV2811	0.16 12.5 15	65 65	65 65	65 65	65 65			10	10		
Size S0											
3RV2721	20; 22	50	50	50	50						
3RV2821	20; 22	50	50	50	50						
Size S3											
3RV2742	10; 15 20 30 35 60 70	65 65 65 65	65 65 65	65 65 65 65	65 65 65 65	65 65 	65 65 	20 20 20 10	20 20 20 10	20 	20

⁻⁻ No approval

¹⁾ Corresponds to "short-circuit breaking capacity" according to UL.

General data

General data							
			3RV2.1.	3RV2.2.	3RV2.3.	3RV2.4.	2DV27 2DV29
Type Size	TET IN		S00	S0	S2	S3	3RV27, 3RV28 S00, S0
3			300	30	32	33	300, 30
Dimensions (W x H x D) • Screw terminals		mm	45 x 97 x 92	45 x 97 x 92	55 x 140 x 149	70 x 165 x 169	45 x 144 x 92
 Spring-type terminals 	₩ N	mm	45 x 106 x 92	45 x 119 x 92			
Standards							
 IEC/EN 60947-1 (VDE 0660 Part 10 IEC/EN 60947-2 (VDE 0660 Part 10 			Yes Yes				
 IEC/EN 60947-2 (VDE 0660 Part 10 IEC/EN 60947-4-1 (VDE 0660 Part 10 			Yes				
• UL 508/UL 60947-4-1,	,		Yes				
CSA C22.2 No. 14/CSA C22.2 No.	60947-4-1						Voo
• UL 489, CSA C22.2 No. 5			3				Yes
Number of poles		Α	16	40	80	100	00
Max. rated current $I_{n \text{ max}}$ (= max. rated operational current I	(e)	А	10	40	80	100	22
Permissible ambient temperature							
Storage/transport Operation	.016 20 4	°C	-50 +80				
• Operation I	_n : 0.16 32 A	°C	-20 +70 (current reduction	above +60 °C)	-		
I_{l}	ո: 36 40 A	°C		-20 +40			
				(the devices must not be mounted			
				side-by-side and			
				they must not be			
				assembled with link modules with			
				contactors.			
				A lateral clearance			
				of 9 mm is required.			
I_{t}	_n : 14 80 A	°C		. q= = =	-20 +70		
					(current		
					reduction above +60 °C)		
I_{t}	_n : 40 100 A	°C				-20 +70	
·						(current	
						reduction above +60 °C)	
Permissible rated current at inside	temperature of					,	
control cabinet							
• +60 °C • +70 °C		% %	100 87				
Permissible rated current at ambie	ent tomporature of	/0	01				
enclosure (applies to motor starte							
breaker inside enclosure: S00/S0 ≤							
• +35 °C • +60 °C		% %	100 87		100		
Rated operational voltage $U_{\rm p}$		70	O1				
• Acc. to IEC		V AC	690 (when a mole	led-plastic enclosure	e is used only 500	V)	
Acc. to UL/CSA		VAC					
Rated frequency	·	Hz	50/60				
Rated insulation voltage <i>U</i> _i		V	690			1 000	690
Rated impulse withstand voltage L	J _{imp}	kV	6			8	6
Utilization category	•						
• IEC 60947-2 (motor starter protected	or/circuit breaker)		A				
• IEC 60947-4-1 (motor starter)	+- IEO 000 17 / :		AC-3		10/00		
•	Acc. to IEC 60947-4-1		10		10/20		
DC short-circuit breaking capacity (time constant $t = 5 \text{ ms}$)							
• 1 conducting path 150 V DC		kA	10		On		10
• 2 conducting paths in series 300 V		kΑ	10		request		10
3 conducting paths in series 450 V		kA	10				10
Power loss P_{v} per motor starter I_{t} protector I_{t}	_n : 0.16 0.63 A _n : 0.8 6.3 A	W	5 6				5 6
dependent upon $I_{\rm f}$	_n : 8 16 A	W	7				7
rated current I_n	n: 14 16 A	W		7	10		7
(upper setting range)	_n : 17 25 A	W		8	12		8
$R_{-} = \frac{P}{I_1}$: 28 32 A	W		11	14		
per conducting path $I^2 \times 3$: 36 40 A	W		14	15		
	: 45 52 A	W			17		
$I_{!}$	_n : 59 65 A	W			19		
I_{l}		V V			21		
I_{t}	1: 73 80 A					0.1	
$rac{I_1}{I_1}$	n: 40 50 A	W				21 21	
I ₁ <u>I₁</u> I ₁		W W W	 			21 32	
I, <u>I,</u> I, I,	ո: 40 50 A ո: 63 75 A	W W				21	

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

General data

General data (continued)							
Туре			3RV2.1.	3RV2.2.	3RV2.3.	3RV2.4.	3RV27, 3RV28
Size			S00	S0	S2	S3	S00, S0
Dimensions (W x H x D) • Screw terminals • Spring-type terminals	W	mm mm	45 x 97 x 92 45 x 106 x 92	45 x 97 x 92 45 x 119 x 92	55 x 140 x 149	70 x 165 x 169	45 x 144 x 92
Degree of protection	Acc. to IEC 60529		IP20			de)) (use additional te e of protection)	rminal covers for
Touch protection	Acc. to IEC 60529		Finger-safe		Finger-safe, for	vertical contact fro	m the front
Temperature compensation	Acc. to IEC 60947-4-1	°C	-20 +60				
Phase failure sensitivity	Acc. to IEC 60947-4-1		Yes (not for 3RV	'23 motor starter p	rotectors)		No
 Protection of motors in hazardo EC type-examination certificate European Directive 2014/34/EU 	number according to			V20 motor starter 001 🐼 II (2) GD	protectors)		No No
 according to international standa 			IECEx BVS14.0	102 [Ex]			No
Isolating function Main and EMERGENCY STOP switch characteristics (with corresponding accessories)	Acc. to IEC 60947-2 Acc. to EN 60204-1 VDE 0113		Yes Yes				
Protective separation between main and auxiliary circuits required for PELV-applications	Acc. to IEC 60947-1						
 Up to 400 V + 10% Up to 415 V + 5% (higher voltage) 	es on request)		Yes Yes				
Permissible mounting position			Any, acc. to IEC	60447 start comn	nand "I" right-hand	side or top	
Mechanical endurance (operating	ig cycles)		100 000		52 A: 50 000, 80 A: 20 000	25 000	100 000
Electrical endurance (operating	cycles)		100 000		52 A: 50 000, 80 A: 20 000	25 000	100 000
Max. switching frequency per ho	our (motor starts)	1/h	15				

General data						
Type Size Dimensions (W x H x D)	mm	3RV2742 S3 70 x 168 x 169	3RV1611-0BD10¹⁾ S00 45 x 90 x 70	3RV1011 S00 45 x 90 x 70		
Standards • IEC/EN 60947-1 (VDE 0660 Part 100) • IEC/EN 60947-2 (VDE 0660 Part 101) • UL 508/UL 60947-4-1, CSA C22.2 No.14/CSA 60947-4-1 • UL 489, CSA C22.2 No.5		Yes Yes No Yes	Yes No			
Number of poles		3				
Max. rated current $I_{\text{n max}}$ (= max. rated operational current I_{e})	Α	70	0.2	12		
Permissible ambient temperature • Storage/transport • Operation	°C °C	-50 +80 -20 +70 (current reduction	on above +60 °C)			
Permissible rated current at inside temperature of concabinet • +60 °C • +70 °C	trol % %	100 87				
Permissible rated current at ambient temperature of enclosure (applies to motor starter protector/circuit breaker inside enclosure) • +35 $^{\circ}$ C • +60 $^{\circ}$ C	%	 		100		
Rated operational voltage U _e • Acc. to IEC • Acc. to UL/CSA	V AC V AC	690 (with molded-plastic e	nclosure 500 V)			
Rated frequency	Hz	50/60				
Rated insulation voltage <i>U</i> _i	V	1 000	690			
Rated impulse withstand voltage $U_{\rm imp}$	kV	8	6			
Utilization category • IEC 60947-2 (motor starter protector/circuit breaker) • IEC 60947-4-1 (motor starter)		A AC-3				
DC short-circuit breaking capacity (time constant t = 5 ms) • 1 conducting path 150 V DC • 2 conducting paths in series 300 V DC • 3 conducting paths in series 450 V DC	kA kA kA	On request				

 [&]quot;Technical Specifications" for 3RV1611 voltage transformer circuit breakers, see page 7/25.

General data

0					
General data (continued)					
Type Size Dimensions (W x H x D)	T W O	mm	3RV2742 S3 70 x 168 x 169	3RV1611-0BD10¹⁾ S00 45 x 90 x 70	3RV1011 S00 45 x 90 x 70
Power loss P _v per motor starter	<i>I</i> _n : 0.2 A	W		5	
protector dependent upon rated current I_n (upper setting range)	I _n : 10 A I _n : 15 35 A I _n : 40 70 A	W W W	8 12 20	 	
$R_{\text{per conducting path}} = \frac{P}{I^2 \times 3}$	I _n : 1.25 A I _n : 1.65 6.3 A I _n : 8 12 A	W W W		 	5 6 7
Shock resistance	Acc. to IEC 60068-2-27	<i>g</i> /ms	25/11 (square and sine pulse	e)	
Degree of protection	Acc. to IEC 60529		IP20 (front side)Connecting terminal IP00	IP20	
Touch protection	Acc. to IEC 60529		Finger-safe, for vertical contact from the front	Finger-safe	
Temperature compensation	Acc. to IEC 60947-4-1	°C	–20 +60		
Phase failure sensitivity	Acc. to IEC 60947-4-1		No	Yes	
Explosion protection – Safe ope "increased safety" type of prote EC type-examination certificate nu according to directive 2014/34/EU	ction ımber		No		Yes
Isolating function Main and EMERGENCY STOP switch characteristics (with corresponding accessories)	Acc. to IEC 60947-2 Acc. to EN 60204-1		Yes Yes		
Protective separation between main and auxiliary circuits, required for PELV applications • Up to 400 V + 10% • Up to 415 V + 5% (higher voltage)	Acc. to IEC 60947-1 es on request)		Yes Yes		
Permissible mounting position			Any, acc. to IEC 60447 start of	command "I" right-hand	side or top
Mechanical endurance	Operatir	ng cycles	25 000	100 000	
Electrical endurance	Operatir	ng cycles	25 000	100 000	
Max. switching frequency per ho	our (motor starts)	1/h	15		

 ^{*}Technical Specifications" for 3RV1611 voltage transformer circuit breakers, see page 7/25.

Rated data of the auxiliary switches and signaling switches

		Lateral auxiliary switch with 1 NO + 1 NC, 2 NO,	Signaling switch	Transverse auxiliary switch with 1 CO	1 NO + 1 NC, 2 NO	
		2 NC, 2 NO + 2 NC		1 00	1 NO + 1 NO, 2 NO	
Max. rated voltage • Acc. to NEMA (UL) • Acc. to NEMA (CSA)	V AC V AC	600 600		250 250		
Uninterrupted current	А	10		5	2.5	
Switching capacity		1 NO + 1 NC, 2 NO, 2 NC: A600, Q300; 2 NO + 2 NC: A300, Q300	A600, Q300	B600, R300	C300, R300	

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

General data

Front transverse auxiliary switches			
		Switching capacity for	different voltages
		1 CO	1 NO + 1 NC, 2 NO
Rated operational current I _e			
 At AC-15, alternating voltage 24 V 230 V 	A A	4 3	2 0.5
 At AC-12 = I_{th}, alternating voltage 24 V 230 V 	A A	10 10	2.5 2.5
 At DC-13, direct voltage L/R 200 ms 24 V 48 V 60 V 110 V 220 V 	A A A A	1 0.22 0.1	1 0.3 0.15
Minimum load capacity	V mA	17 1	

Front transverse solid-state com	patible auxiliary switches		
			Switching capacity for different voltages
			1 00
Rated operational voltage U _e	Alternating voltage	V	125
Rated operational current I _e /AC-14	At $U_{e} = 125 \text{ V}$	Α	0.1
Rated operational voltage U _e	Direct voltage L/R 200 ms	V	60
Rated operational current I _e /DC-13	At $U_e = 60 \text{ V}$	Α	0.3
Minimum load capacity		V	5
		mΑ	1

Lateral auxiliary switches with signaling switch		
		Switching capacity for different voltages: Lateral auxiliary switch with 1 NO + 1 NC, 2 NO, 2 NC, 2 NO + 2 NC, Signaling switch
Rated operational current I _e		
 At AC-15, alternating voltage 24 V 230 V 400 V 690 V 	A A A	6 4 3 1
 At AC-12 = I_{th}, alternating voltage 24 V 230 V 400 V 690 V 	A A A	10 10 10 10
 At DC-13, direct voltage L/R 200 ms 24 V 110 V 220 V 440 V 	A A A	2 0.5 0.25 0.1
Minimum load capacity	V mA	17 1

Auxiliary releases			
		Undervoltage releases	Shunt releases
Power consumption			
During pick-upAC voltagesDC voltages	VA/W W	20.2/13 20	13 80
During uninterrupted dutyAC voltagesDC voltages	VA/W W	7.2/2.4 2.1	
Response voltage			
Tripping	V	0.35 0.7 x U _s	0.7 1.1 x <i>U</i> _s
• Pick-up	V	0.85 1.1 x U _s	
Opening time maximum	ms	20	

Short-circuit protection for auxiliary and control circuits		
Melting fuses operational class gG	А	10
Miniature circuit breakers C characteristic	Α	6 (prospective short-circuit current < 0.4 kA)

General data

_						
Туре		3RV2.11	3RV2.21	3RV2.31-4B.1., 3RV2.31-4D.1., 3RV2.31-4E.1., 3RV2.31-4F.1., 3RV2.31-4S.1., 3RV2.31-4T.1., 3RV2.31-4U.1., 3RV2.31-4V.1.	3RV2.31-4R.1., 3RV2.31-4W.1.,	3RV27, 3RV28
Size		S00	S0	S2		S00, S0
Connection type		Screw termi	nals			
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2		M4, Pozidriv size 2
Operating devices	mm	Ø 5 6	Ø 5 6	Ø 5 6		Ø 5 6
Prescribed tightening torque	Nm	0.8 1.2	2 2.5	3.0 4.5		2.5 3
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
Solid or stranded	mm ²	2 x (0.75 2.5) ¹⁾ , 2 x 4	2 x (1 2.5) ¹⁾ 2 x (2.5 10) ¹⁾	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (1 35) ¹⁾ , 1 x (1 50) ¹⁾	2 x (1 10) ¹⁾ , max. 1 x 25
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 1.5) ¹⁾ 2 x (0.75 2.5) ¹⁾	2 x (1 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 1 x 10	2 x (1 16) ¹⁾ , 1 x (1 25) ¹⁾	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	1 x (1 16), max. 6 + 16
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ , 2 x (18 12) ¹⁾	2 x (18 12) ¹⁾ , 2 x (14 8) ¹⁾	2 x (18 3) ¹⁾ , 1 x (18 2) ¹⁾	2 x (18 2) ¹⁾ , 1 x (18 1) ¹⁾	2 x (14 10)
Connection type		Spring-type	terminals			
Operating devices	mm	3.0 x 0.5				
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
Solid or stranded	mm^2	2 x (0.5 4)	2 x (1 10)			
Finely stranded without end sleeve	mm^2	2 x (0.5 2.5)	2 x (1 6)			
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 2.5)	2 x (1 6)			
AWG cables, solid or stranded	AWG	2 x (20 12)	2 x (18 8)			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

General data

Туре	-	3RV2.4./ 3RV2742	3RV1611-0BD10 ¹⁾ / 3RV1011
Size		S3	S00
Connection type		Screw terminals with box terminal	Screw terminals
Terminal screw		M6	Pozidriv size 2
Prescribed tightening torque	Nm	4.5 6	0.8 1.2
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected			
Solid or stranded	mm ²	2 x (2.5 16) ²⁾ , 2 x (10 50) ²⁾ , 1 x (10 70) ²⁾	2 x (0.5 1.5) ²⁾ 2 x (0.75 2.5) ²⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (2.5 35) ²⁾ , 1 x (2.5 50) ²⁾	2 x (0.5 1.5) ²⁾ 2 x (0.75 2.5) ²⁾
AWG cables, solid or stranded	AWG	2 x (10 1/0) ²⁾ , 1 x (10 2/0) ²⁾	2 x (18 14)
Ribbon cable conductors (number x width x thickness)	mm	2 x (6 x 9 x 0.8)	
Removable box terminals ³⁾			
With copper bars ⁴⁾	mm	2 x 12 x 4	
With cable lugs ⁵⁾			
- Terminal screw		M6	
- Prescribed tightening torque	Nm	4.5 6	
- Usable ring terminal lugs	mm mm	$d_2 = min. 6.3$ $d_3 = max. 19$	

 [&]quot;Technical Specifications" for 3RV16 voltage transformer circuit breakers, see page 7/25.

point, both cross-sections must be in the range specified.

Conductor cross-sections for auxiliary and control circuits							
Туре		3RV2.11	3RV1011/ 3RV1611- 0BD10 ¹⁾	3RV2.21	3RV2.3	3RV2.4	3RV27, 3RV28
Size		S00		S0	S2	S3	S00, S0, S3
Connection type		⊕ Scre	ew terminals				
Terminal screw		M3, Pozidi	riv size 2				
Operating devices	mm	Ø 5 6					
Prescribed tightening torque	Nm	0.8 1.2					
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected							
Solid or stranded	mm^2	2 x (0.5	1.5) ²⁾ , 2 x (0.75	5 2.5) ²⁾			
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5	1.5) ²⁾ , 2 x (0.75	5 2.5) ²⁾			
AWG cables, solid or stranded	AWG	2 x (18	14) ²⁾ , 2 x (20	16) ²⁾			
Connection type		Spri	ng-type termin	als			
Operating devices	mm	3.0 x 0.5					
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected							
Solid or stranded	mm^2	2 x (0.5	2.5)				
Finely stranded without end sleeve	mm^2	2 x (0.5	2.5)				
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5	1.5)				
AWG cables, solid or stranded	AWG	2 x (20	14)				
Max. external diameter of the conductor insulation	mm	3.6					
1) "Technical Specifications" for 3RV16 voltage transformer circuit breake	ers,		fferent conducto				ne clamping

see page 7/25.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

³⁾ Cable lug and busbar connection possible after removing the box terminals. This does not apply for 3RV2742.

 $^{^{4)}}$ If bars larger than 12 mm x 10 mm are connected, a 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/54.

⁵⁾ When conductors larger than 25 mm² are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/54.

General data

Voltage transformer circuit breakers

General data						
Type Size		3RV1611-1AG14 S00	3RV1611-1CG14 S00	3RV1611-1DG14 S00		
Dimensions (W x H x D)	mm o	45 x 90 x 70	45 x 90 x 70	45 x 90 x 70		
Rated current I _n	А	1.4	2.5	3		
Ambient temperature						
During storage/transport	°C	-50 +80				
During operation	°C	-20 +60 (up to +70	°C possible with curren	t reduction)		
Rated operational voltage U _e	V	400				
Rated frequency	Hz	16.66 60				
Rated insulation voltage $U_{\rm i}$	V	690				
Short-circuit breaking capacity I _{cu} at 400 V AC	kA	50				
Set value of the thermal overload release	А	1.4	2.5	3		
Response value of the instantaneous electronic release	А	6 ± 20%	10.5 ± 20%	20 ± 20 %		
Tripping time of the instantaneous electronic release	ms	Approx. 6 at 12 A	Approx. 6 at 20 A	Approx. 6 at 40 A		
Internal resistance						
In cold state	Ω	$> 0.25 \pm 6.5\%$				
In heated state	Ω	$> 0.30 \pm 6.5\%$				
Shock resistance acc. to IEC 60068-2-27	g/ms	15				
Degree of protection acc. to IEC 60529		IP20				
Touch protection acc. to IEC 60529		Finger-safe for vertical	al contact from the front			
Endurance						
Mechanical	Operating cycles	10 000				
Electrical	Operating cycles	10 000				
Permissible mounting position		Any				

Туре			3RV1611-1AG14	3RV1611-1CG14	3RV1611-1DG14
Conductor cross-sections, main	circuit, 1 or 2 conductors				
Connection type			Screw termina	ls	
Terminal screw			Pozidriv size 2		
Conductor cross-sections (min./max.) 1 or 2 conductors can be connected	,				
Solid or stranded		$\rm mm^2$	2 x (0.5 1.5) ¹⁾ , 2 x	(0.75 2.5) ¹⁾ , 2 x (1 4)
• Finely stranded with end sleeve (DIN 4	16228-1)	$\rm mm^2$	2 x (0.5 1.5) ¹⁾ , 2 x	(0.75 2.5) ¹⁾	
Auxiliary switches for blocking the	ne distance protection				
With defined lateral assignment for blocking distance protection			1 CO (for use as 1 NO	O or 1 NC)	
Rated operational voltage U _e	Alternating voltage	V	125		
Rated operational current I _e /AC-14	At $U_{\rm e} = 125 \text{ V}$	Α	0.1		
Rated operational voltage U _e	Direct voltage L/R 200 ms	V	60		
Rated operational current I _e /DC-13	At $U_e = 60 \text{ V}$	Α	0.3		
Minimum load capacity		V mA	5 1		
Short-circuit protection for auxili	ary circuit				
Melting fuse		А	250 V type FF 2A (pro	ospective short-circuit cu	rrent < 1.1 kA)

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

General data

Terminals for "Self-Protected Combination Motor Controllers (Type E) according to UL 508/UL 60947-4-1"

according	10 UL 506/UL 60947-4-1	_	
Туре			3RV2928-1H
Prescribed t	ightening torque	Nm	2.5 3
Conductor of	cross-sections		
• Front clamp	oing point connected - Solid - Finely stranded with end sleeve - Stranded - AWG cables, solid or stranded - Terminal screw	mm ²	1 10 1 16 2.5 25 14 3
• Rear clamp	oing point connected - Solid - Finely stranded with end sleeve - Stranded - AWG cables, solid or stranded - Terminal screw	mm ² mm ² mm ² AWG	1 10 1 16 1.5 25 14 6 M4
Both clamp	ping points connected		
NSB0_00481	 Front clamping point: Solid Finely stranded with end sleeve Stranded AWG cables, solid or stranded Terminal screw 		1 10 1 10 ¹), 1 6 ¹⁾ 2.5 10 14 6 M4
	 Rear clamping point: Solid Finely stranded with end sleeve Stranded AWG cables, solid or stranded Terminal screw 	mm ² mm ² mm ² AWG	1 10 1 10 ¹), 1 16 ¹⁾ 2.5 10 16 3 M4

¹⁾ The following connections are possible when both clamping points are connected:
- front 1 ... 10 mm² and rear 1 ... 10 mm²,
- front 1 ... 6 mm² and rear 1 ... 16 mm².

General data

	-		
Version	Туре	3RT1900-4RE01 Motor feeder connector S0	3RT1926-4RD01 Adapter S0
General data		Motor leeder conflector 50	Adapter 50
Rated insulation voltage <i>U</i> _i	V	690	
(pollution degree 3)			
Rated impulse withstand voltage <i>U</i> _{imp} (pollution degree 3)	kV	6	
Rated operational voltage $\emph{U}_{ m e}$	V	440	
Rated frequency f For AC operation	Hz	50/60	
Rated operational current $I_{\mathbf{e}}$ AC-3 at 400 V	А	25	
Mechanical endurance	Operating cycle	es 10 million	
Electrical endurance at I _e	Operating cycle	es 1 million	
Protective separation according to IEC 60947-1 (pollution degree 3)	V	400	
Permissible ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-50 +80	
Degree of protection acc. to IEC 60529		IP20 (front side)	
Conductor cross-sections			
Connection type		Screw terminals	
• Solid	mm ²	1 x (0.5 6)	
Finely stranded without/with end sleeve	mm ²	1 x (0.5 6)	
• Stranded	mm ²	1 x (0.5 6)	
 AWG cables, solid or stranded 	AWG	1 x (20 10)	
Tightening torque	Nm	0.6 0.8	
Corresponding opening tool		Cross-tip screwdriver PZ2	
Rated operational voltage $U_{\rm e}$	V	480	
Rated insulation voltage $U_{\rm i}$	V	600	
Uninterrupted current, at 40 °C	А	25	
Short-circuit protection ¹⁾			
• At 600 V	kA	5	
CLASS RK5 fuse	Α	100	
 Circuit breakers with overload protection acc. to UL 489 	А	100	
Combination motor controllers type E according to UI	- 508		
	At 480 V Type	3RV202	
	А	22	
	kA	65	
	At 600 V Type	3RV202	
	At 600 V Type	22	

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¹⁾ For more information about short-circuit values, e.g. for protection against high short-circuit currents, see the UL reports of the individual devices, www.siemens.com/sirius/manuals.

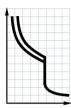
SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

For motor protection IE3/IE4 ready

Selection and ordering data

CLASS 10, without auxiliary switches

PU (UNIT, SET, M) = 1 = 1 unit = 41E







3RV2011-0AA10

3RV2011-0EA20

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	+	SD	Spring-type terminals	<u></u>
I_{n}		4	<i>I</i> >	I_{CU}		Article No.	Price per PU		Article No.	Price per PU
Α	kW	Α	Α	kA	d			d		
Size S0	00									
0.16	0.04	0.11 0.16	2.1	100		3RV2011-0AA10			3RV2011-0AA20	
0.2	0.06	0.14 0.2	2.6	100		3RV2011-0BA10			3RV2011-0BA20	
0.25	0.06	0.18 0.25	3.3	100	>	3RV2011-0CA10		▶	3RV2011-0CA20	
0.32	0.09	0.22 0.32	4.2	100	>	3RV2011-0DA10		▶	3RV2011-0DA20	
0.4	0.09	0.28 0.4	5.2	100	•	3RV2011-0EA10		▶	3RV2011-0EA20	
0.5	0.12	0.35 0.5	6.5	100		3RV2011-0FA10		▶	3RV2011-0FA20	
0.63	0.18	0.45 0.63	8.2	100	>	3RV2011-0GA10		▶	3RV2011-0GA20	
0.8	0.18	0.55 0.8	10	100	>	3RV2011-0HA10		▶	3RV2011-0HA20	
1	0.25	0.7 1	13	100		3RV2011-0JA10		▶	3RV2011-0JA20	
1.25	0.37	0.9 1.25	16	100	>	3RV2011-0KA10		▶	3RV2011-0KA20	
1.6	0.55	1.1 1.6	21	100	>	3RV2011-1AA10		▶	3RV2011-1AA20	
2	0.75	1.4 2	26	100	>	3RV2011-1BA10		▶	3RV2011-1BA20	
2.5	0.75	1.8 2.5	33	100		3RV2011-1CA10		▶	3RV2011-1CA20	
3.2	1.1	2.2 3.2	42	100	>	3RV2011-1DA10		▶	3RV2011-1DA20	
4	1.5	2.8 4	52	100	>	3RV2011-1EA10		▶	3RV2011-1EA20	
5	1.5	3.5 5	65	100	>	3RV2011-1FA10		▶	3RV2011-1FA20	
6.3	2.2	4.5 6.3	82	100		3RV2011-1GA10		▶	3RV2011-1GA20	
8	3	5.5 8	104	100	>	3RV2011-1HA10		▶	3RV2011-1HA20	
10	4	7 10	130	100	>	3RV2011-1JA10		▶	3RV2011-1JA20	
12.5	5.5	9 12.5	163	100	>	3RV2011-1KA10		▶	3RV2011-1KA20	
16	7.5	10 ²⁾ 16	208	55		3RV2011-4AA10		>	3RV2011-4AA20	

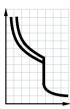
¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ The setting range of the thermal overload releases has been extended.

IE3/IE4 ready For motor protection

CLASS 10, without auxiliary switches

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41E







3RV2021-4AA10

3RV2021-4AA20

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	4	SD	Spring-type terminals	<u></u>
I_{n}		4	<i>I</i> >	I_{CU}		Article No.	Price per PU		Article No.	Price per PU
Α	kW	Α	Α	kA	d		C	b		
Size S0)									
0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	2.1 2.6 3.3 4.2	100 NEV 100 NEV 100 NEV 100 NEV	V ► V ►	3RV2021-0AA10 3RV2021-0BA10 3RV2021-0CA10 3RV2021-0DA10			 	
0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 NEV 100 NEV 100 100		3RV2021-0EA10 3RV2021-0FA10 3RV2021-0GA10 3RV2021-0HA10	2 2 2		 3RV2021-0GA20 3RV2021-0HA20	
1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100	2 2 2 2	3RV2021-0JA10 3RV2021-0KA10 3RV2021-1AA10 3RV2021-1BA10	2 2 2 2	2	3RV2021-0JA20 3RV2021-0KA20 3RV2021-1AA20 3RV2021-1BA20	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	2 2 2 2	3RV2021-1CA10 3RV2021-1DA10 3RV2021-1EA10 3RV2021-1FA10	2 2 2 2 2 2	2	3RV2021-1CA20 3RV2021-1DA20 3RV2021-1EA20 3RV2021-1FA20	
6.3 8 10 12.5	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12.5	82 104 130 163	100 100 100 100	2 2 2 2	3RV2021-1GA10 3RV2021-1HA10 3RV2021-1JA10 3RV2021-1KA10	2 2 2 2	2	3RV2021-1GA20 3RV2021-1HA20 3RV2021-1JA20 3RV2021-1KA20	
16 20 22 25	7.5 7.5 11 11	10 ²⁾ 16 13 ²⁾ 20 16 ²⁾ 22 18 ²⁾ 25	208 260 286 325	55 55 55 55	* * * *	3RV2021-4AA10 3RV2021-4BA10 3RV2021-4CA10 3RV2021-4DA10		>	3RV2021-4AA20 3RV2021-4BA20 3RV2021-4CA20 3RV2021-4DA20	
28 32 ³⁾ 36 ⁴⁾	15 15 18.5	23 28 27 32 30 36	364 400 432	55 55 20	* * *	3RV2021-4NA10 3RV2021-4EA10 3RV2021-4PA10	,		3RV2021-4NA20 3RV2021-4EA20	
40 ⁴⁾	18.5	34 40	480	20		3RV2021-4FA10				

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

 $^{^{2)}\,}$ The setting range of the thermal overload releases has been extended.

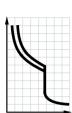
³⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

⁴⁾ The devices must not be mounted side-by-side and they must not be assembled with link modules with contactors. A lateral clearance of 9 mm is required. For use with IE3/IE4 motors we recommend using 3RV2 motor starter protectors size S2.

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

For motor protection IE3/IE4 ready

CLASS 10, without auxiliary switches









3RV2031-4SA10

3RV2032-4RA10

3RV2042-4MA10

		3RV2031-4SA10	3RV203	32-4RA10		3RV2042-4MA10				
Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
I_{n}		4	<i>I</i> >	I_{CU}		Article No.	Price per PU			
Α	kW	Α	Α	kA	d					
Size S2										<u>.</u>
14	5.5	9.5 14	208	65		3RV2031-4SA10		1	1 unit	41E
17 20	7.5 7.5	12 17 14 20	260 260	65 65	>	3RV2031-4TA10 3RV2031-4BA10		1 1	1 unit	41E 41E
20 25	7.5 11	14 20 18 25	325	65		3RV2031-4DA10		1	1 unit 1 unit	41E 41E
32	15	22 32	416	65		3RV2031-4EA10		1	1 unit	41E
36	18.5	28 36	520	65		3RV2031-4PA10		1	1 unit	41E
40 45	18.5 22	32 40 35 45	585 650	65 65	>	3RV2031-4UA10 3RV2031-4VA10		1 1	1 unit 1 unit	41E 41E
52	22	42 52	741	65	<u> </u>	3RV2031-4WA10		1	1 unit	41E
59	30	49 59	845	65	>	3RV2031-4XA10		1	1 unit	41E
65	30	54 65	845	65		3RV2031-4JA10		1	1 unit	41E
73 80 ²⁾	37 37	62 73 70 80	949 1 040	65 65	>	3RV2031-4KA10 3RV2031-4RA10		1	1 unit 1 unit	41E 41E
Size S2	. with increase	d switching capacity	/							
14	5.5	9.5 14	208	100		3RV2032-4SA10		1	1 unit	41E
17	7.5	12 17	260	100	>	3RV2032-4TA10		1	1 unit	41E
20	7.5	14 20	260 325	100		3RV2032-4BA10		1	1 unit	41E
25 32	11 15	18 25 22 32	416	100	<u> </u>	3RV2032-4DA10		1	1 unit	41E 41E
32 36	18.5	28 36	520	100		3RV2032-4EA10 3RV2032-4PA10		1	1 unit 1 unit	41E 41E
40	18.5	32 40	585	100	>	3RV2032-4UA10		1	1 unit	41E
45	22	35 45	650	100		3RV2032-4VA10		1	1 unit	41E
52 59	22 30	42 52 49 59	741 845	100 100	>	3RV2032-4WA10 3RV2032-4XA10		1 1	1 unit 1 unit	41E 41E
65	30	54 65	845	100		3RV2032-4XA10		1	1 unit	41E
73	37	62 73	949	100	>	3RV2032-4KA10		1	1 unit	41E
80 ²⁾	37	70 80	1 040	100		3RV2032-4RA10		1	1 unit	41E
Size S3		20 40	500	25						
40 50	18.5 22	28 40 36 50	520 650	65 65	1	3RV2041-4FA10 3RV2041-4HA10		1 1	1 unit 1 unit	41E 41E
63	30	45 63	819	65	i	3RV2041-4JA10		i	1 unit	41E
75	37	57 75	975	65	1	3RV2041-4KA10		1	1 unit	41E
84 93	45 45	65 84 75 93	1 170 1 300	65 65	1	3RV2041-4RA10		1 1	1 unit	41E
93 100 ³⁾	45 45, 55	75 93 80 100	1 300	65	1	3RV2041-4YA10 3RV2041-4MA10		1	1 unit 1 unit	41E 41E
Size S3		d switching capacity								
40	18.5	28 40	520	100	1	3RV2042-4FA10		1	1 unit	41E
50	22	36 50	650	100	1	3RV2042-4HA10		1	1 unit	41E
63	30	45 63	819	100	1	3RV2042-4JA10		1	1 unit	41E
75 84	37 45	57 75 65 84	975 1 170	100 100	1	3RV2042-4KA10 3RV2042-4RA10		1 1	1 unit 1 unit	41E 41E
93	45	75 93	1 300	100	1	3RV2042-4YA10		1	1 unit	41E
100 ³⁾	45, 55	80 100	1 300	100	1	3RV2042-4MA10		1	1 unit	41E

 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Suitable for use with IE3/IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3.

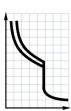
Suitable for use with IE3/IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

Auxiliary switches and other accessories can be ordered separately (see "Accessories" from page 7/44 onwards).

IE3/IE4 ready For motor protection

CLASS 10, with transverse auxiliary switch (1 NO + 1 NC)

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41E \end{array}$





3RV2011-4AA15 with integrated transverse auxiliary switch



3RV2011-0EA25 with integrated transverse auxiliary switch



3RV2021-4AA15 with integrated transverse auxiliary switch



3RV2021-4AA25 with integrated transverse auxiliary switch

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	S		pring-type erminals	8
I_{n}		4	<i>I</i> >	I_{CU}		Article No.	Price per PU	Aı	rticle No.	Price per PU
Α	kW	Α	Α	kA	d		d	ŀ		
Size S0	0									
0.16 0.2 0.25	0.04 0.06 0.06	0.11 0.16 0.14 0.2 0.18 0.25	2.1 2.6 3.3	100 100 100	*	3RV2011-0AA15 3RV2011-0BA15 3RV2011-0CA15		3F	RV2011-0AA25 RV2011-0BA25 RV2011-0CA25	
0.32	0.09	0.22 0.32	4.2	100	>	3RV2011-0DA15	•	3F	RV2011-0DA25	
0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 100 100 100	* * *	3RV2011-0EA15 3RV2011-0FA15 3RV2011-0GA15 3RV2011-0HA15		3F	RV2011-0EA25 RV2011-0FA25 RV2011-0GA25 RV2011-0HA25	
1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100	* * *	3RV2011-0JA15 3RV2011-0KA15 3RV2011-1AA15 3RV2011-1BA15		3F	RV2011-0JA25 RV2011-0KA25 RV2011-1AA25 RV2011-1BA25	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	* * *	3RV2011-1CA15 3RV2011-1DA15 3RV2011-1EA15 3RV2011-1FA15		3F	RV2011-1CA25 RV2011-1DA25 RV2011-1EA25 RV2011-1FA25	
6.3 8 10 12.5 16	2.2 3 4 5.5 7.5	4.5 6.3 5.5 8 7 10 9 12.5 10 ²⁾ 16	82 104 130 163 208	100 100 100 100 55	* * * *	3RV2011-1GA15 3RV2011-1HA15 3RV2011-1JA15 3RV2011-1KA15 3RV2011-4AA15		3F 3F	RV2011-1GA25 RV2011-1HA25 RV2011-1JA25 RV2011-1KA25 RV2011-4AA25	
Size S0										
16 20 22 25	7.5 7.5 11 11	10 ²⁾ 16 13 ²⁾ 20 16 ²⁾ 22 18 ²⁾ 25	208 260 286 325	55 55 55 55	* * *	3RV2021-4AA15 3RV2021-4BA15 3RV2021-4CA15 3RV2021-4DA15		3F	RV2021-4AA25 RV2021-4BA25 RV2021-4CA25 RV2021-4DA25	
28 32 ³⁾ 36 ⁴⁾ 40 ⁴⁾	15 15 18.5 18.5	23 28 27 32 30 36 34 40	364 400 432 480	55 55 20 20	* * *	3RV2021-4NA15 3RV2021-4EA15 3RV2021-4PA15 3RV2021-4FA15			RV2021-4NA25 RV2021-4EA25	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

 $^{^{2)}\,}$ The setting range of the thermal overload releases has been extended.

³⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

⁴⁾ The devices must not be mounted side-by-side and they must not be assembled with link modules with contactors. A lateral clearance of 9 mm is required. For use with IE3/IE4 motors we recommend using 3RV2 motor starter protectors size S2.

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

For motor protection IE3/IE4 ready

CLASS 10, with integrated auxiliary switch (1 NO + 1 NC)





3RV2031-4SA15 With integrated auxiliary switch



3RV2032-4SA15 With integrated auxiliary switch



3RV2041-4FA15 With integrated auxiliary switch

Rated current	Suitable for three-phase motors 1) with P	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
I_{n}		G	[>	I_{CU}		Article No.	Price per PU			
Α	kW	Α	Α	kA	d					
Size S2										
14	5.5	9.5 14	208	65	5	3RV2031-4SA15		1	1 unit	41E
17 20	7.5 7.5	12 17 14 20	260 260	65 65	5 5	3RV2031-4TA15 3RV2031-4BA15		1	1 unit 1 unit	41E 41E
25	11	18 25	325	65	5	3RV2031-4DA15		i	1 unit	41E
32	15	22 32	416	65	>	3RV2031-4EA15		1	1 unit	41E
36 40	18.5	28 36 32 40	520 585	65 65	>	3RV2031-4PA15		1 1	1 unit	41E 41E
45	18.5 22	32 40 35 45	650	65		3RV2031-4UA15 3RV2031-4VA15		1	1 unit 1 unit	41E 41E
52	22	42 52	741	65		3RV2031-4WA15		1	1 unit	41E
59	30	49 59	845	65	>	3RV2031-4XA15		1	1 unit	41E
65 73	30 37	54 65 62 73	845 949	65 65	>	3RV2031-4JA15 3RV2031-4KA15		1 1	1 unit 1 unit	41E 41E
80 ²⁾	37	70 80	1 040	65	•	3RV2031-4RA15		i	1 unit	41E
Size S2	, with increas	ed switching capac	city							
14	5.5	9.5 14	208	10	5	3RV2032-4SA15		1	1 unit	41E
17 20	7.5 7.5	12 17 14 20	260 260	100 100	5 5	3RV2032-4TA15 3RV2032-4BA15		1 1	1 unit 1 unit	41E 41E
25	11	18 25	325	100	5	3RV2032-4DA15		i	1 unit	41E
32	15	22 32	416	100	5	3RV2032-4EA15		1	1 unit	41E
36	18.5	28 36	520	100	5	3RV2032-4PA15		1 1	1 unit	41E
40 45	18.5 22	32 40 35 45	585 650	100 100	5 5	3RV2032-4UA15 3RV2032-4VA15		1	1 unit 1 unit	41E 41E
52	22	42 52	741	100	5	3RV2032-4WA15		1	1 unit	41E
59	30	49 59	845	100	5	3RV2032-4XA15		1	1 unit	41E
65 73	30 37	54 65 62 73	845 949	100 100	5 5	3RV2032-4JA15 3RV2032-4KA15		1 1	1 unit 1 unit	41E 41E
80 ²⁾	37	70 80	1 040	100	5	3RV2032-4RA15		i	1 unit	41E
Size S3										
40	18.5	28 40	520	65	5	3RV2041-4FA15		1	1 unit	41E
50 63	22 30	36 50 45 63	650 819	65 65	5 2	3RV2041-4HA15 3RV2041-4JA15		1 1	1 unit 1 unit	41E 41E
75	37	45 63 57 75	975	65	5	3RV2041-4JA15 3RV2041-4KA15		1	1 unit	41E
84	45	65 84	1 170	65	X	3RV2041-4RA15		1	1 unit	41E
93	45	75 93	1 300	65	X	3RV2041-4YA15		1	1 unit	41E
100 ³⁾	45, 55	80 100	1 300	65	5	3RV2041-4MA15		1	1 unit	41E

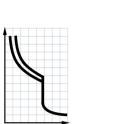
 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Suitable for use with IE3/IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3.

Suitable for use with IE3/IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers

IE3/IE4 ready For motor protection

CLASS 20, without auxiliary switches











2031-4SB10	3RV2031-4WB10

3RV2042-4FB10

3RV2042-4KB10

		01172001 40010	01172001	40010	OITV	2042 41 0 10	01112	072 411010		
Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG
I_{n}		G	<i>I</i> >	$I_{ m CU}$		Article No.	Price per PU			
Α	kW	Α	Α	kA	d					
Size S2										
14 17 20 25 32 36 40 45 52 59 65	5.5 7.5 7.5 11 15 18.5 18.5 22 22 22 30 30	9.5 14 12 17 14 20 18 25 22 32 28 36 32 40 35 45 42 52 49 59 54 65	208 260 260 325 416 520 585 650 741 845	65 65 65 65 65 65 65 65 65 65	2 2	3RV2031-4SB10 3RV2031-4TB10 3RV2031-4BB10 3RV2031-4DB10 3RV2031-4FB10 3RV2031-4VB10 3RV2031-4VB10 3RV2031-4WB10 3RV2031-4WB10 3RV2031-4WB10 3RV2031-4WB10 3RV2031-4WB10		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 unit	41E 41E 41E 41E 41E 41E 41E 41E 41E 41E
		d switching capacit				0.112001 10210		· ·		
40 50 63 75 84 93 100 ²⁾	18.5 22 30 37 45 45 45, 55	28 40 36 50 45 63 57 75 65 84 75 93 80 100	520 650 819 975 1 170 1 300 1 300	100 100 100 100 100 100 100	2 2 2 2 2 2 2	3RV2042-4FB10 3RV2042-4HB10 3RV2042-4JB10 3RV2042-4KB10 3RV2042-4RB10 3RV2042-4YB10 3RV2042-4MB10		1 1 1 1 1 1	1 unit	41E 41E 41E 41E 41E 41E 41E

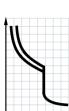
 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Suitable for use with IE3/IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

For motor protection IE3/IE4 ready

CLASS 20, with integrated auxiliary switch (1 NO + 1 NC)







3RV2031-4SB15

3RV2031-4WB15

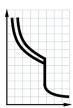
Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
I_{n}		4	[>	I_{CU}		Article No.	Price per PU			
Α	kW	Α	Α	kA	d					
Size S2										
14	5.5	9.5 14	208	65	5	3RV2031-4SB15		1	1 unit	41E
17	7.5	12 17	260	65	5	3RV2031-4TB15		1	1 unit	41E
20	7.5	14 20	260	65	5	3RV2031-4BB15		1	1 unit	41E
25	11	18 25	325	65	5	3RV2031-4DB15		1	1 unit	41E
32	15	22 32	416	65	5	3RV2031-4EB15		1	1 unit	41E
36	18.5	28 36	520	65	5	3RV2031-4PB15		1	1 unit	41E
40	18.5	32 40	585	65	5	3RV2031-4UB15		1	1 unit	41E
45	22	35 45	650	65	5	3RV2031-4VB15		1	1 unit	41E
52	22	42 52	741	65	5	3RV2031-4WB15		1	1 unit	41E
59	30	49 59	845	65	5	3RV2031-4XB15		1	1 unit	41E
65	30	54 65	845	65	>	3RV2031-4JB15		1	1 unit	41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

IE3/IE4 ready For motor protection with overload relay function

Selection and ordering data

CLASS 10, with overload relay function (automatic RESET), without auxiliary switches







3RV2111-4FA10

3RV2111-0BA10

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
I_{n}		4	<i>I</i> >	I_{CU}		Article No.	Price per PU			
Α	kW	Α	Α	kA	d					
Size S0	0 ²⁾									
0.16	0.04	0.11 0.16	2.1	100	2	3RV2111-0AA10		1	1 unit	41E
0.2	0.06	0.14 0.2	2.6	100	2	3RV2111-0BA10		1	1 unit	41E
0.25	0.06	0.18 0.25	3.3	100	2	3RV2111-0CA10		1	1 unit	41E
0.32	0.09	0.22 0.32	4.2	100	2	3RV2111-0DA10		1	1 unit	41E
0.4	0.09	0.28 0.4	5.2	100	2	3RV2111-0EA10		1	1 unit	41E
0.5	0.12	0.35 0.5	6.5	100	2	3RV2111-0FA10		1	1 unit	41E
0.63	0.18	0.45 0.63	8.2	100	2	3RV2111-0GA10		1	1 unit	41E
0.8	0.18	0.55 0.8	10	100	2	3RV2111-0HA10		1	1 unit	41E
1	0.25	0.7 1	13	100	2	3RV2111-0JA10		1	1 unit	41E
1.25	0.37	0.9 1.25	16	100	2	3RV2111-0KA10		1	1 unit	41E
1.6	0.55	1.1 1.6	21	100	2	3RV2111-1AA10		1	1 unit	41E
2	0.75	1.4 2	26	100	2	3RV2111-1BA10		1	1 unit	41E
2.5	0.75	1.8 2.5	33	100	2	3RV2111-1CA10		1	1 unit	41E
3.2	1.1	2.2 3.2	42	100	2	3RV2111-1DA10		1	1 unit	41E
4	1.5	2.8 4	52	100	2	3RV2111-1EA10		1	1 unit	41E
5	1.5	3.5 5	65	100	2	3RV2111-1FA10		1	1 unit	41E
6.3 8 10 12.5 16	2.2 3 4 5.5 7.5	4.5 6.3 5.5 8 7 10 9 12.5 10 ³⁾ 16	82 104 130 163 208	100 100 100 100 100 55	2 2 2 2 2	3RV2111-1GA10 3RV2111-1HA10 3RV2111-1JA10 3RV2111-1KA10 3RV2111-4AA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E
Size S0	2)									,
16	7.5	10 ³⁾ 16	208	55	2	3RV2121-4AA10		1	1 unit	41E
20	7.5	13 ³⁾ 20	260	55	2	3RV2121-4BA10		1	1 unit	41E
22	11	16 ³⁾ 22	286	55	2	3RV2121-4CA10		1	1 unit	41E
25	11	18 ³⁾ 25	325	55	2	3RV2121-4DA10		1	1 unit	41E
28	15	23 28	364	55	2	3RV2121-4NA10		1	1 unit	41E
32 ⁴⁾	15	27 32	400	55	2	3RV2121-4EA10		1	1 unit	41E

 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

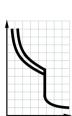
²⁾ Accessories for mounting on the right and 3RV2915 three-phase busbars cannot be used.

³⁾ The setting range of the thermal overload releases has been extended.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

For motor protection with overload relay function

CLASS 10, with overload relay function (automatic RESET), without auxiliary switches







3RV2131-4WB10

3RV2142-4FA10

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG
I_{n}		4	[>	I_{CU}		Article No.	Price per PU			
Α	kW	Α	Α	kA	d					
Size S2	2)									
14	5.5	9.5 14	208	65	2	3RV2131-4SA10		1	1 unit	41E
17	7.5	12 17	260	65	2	3RV2131-4TA10		1	1 unit	41E
20	7.5	14 20	260	65	2	3RV2131-4BA10		1	1 unit	41E
25	11	18 25	325	65	2	3RV2131-4DA10		1	1 unit	41E
32	15	22 32	416	65	2	3RV2131-4EA10		1	1 unit	41E
36	18.5	28 36	520	65	2	3RV2131-4PA10		1	1 unit	41E
40	18.5	32 40	585	65	2	3RV2131-4UA10		1	1 unit	41E
45	22	35 45	650	65	2	3RV2131-4VA10		1	1 unit	41E
52	32	42 52	741	65	2	3RV2131-4WA10		1	1 unit	41E
59	30	49 59	845	65	2	3RV2131-4XA10		1	1 unit	41E
65	30	54 65	845	65	2	3RV2131-4JA10		1	1 unit	41E
73	37	62 73	949	65	2	3RV2131-4KA10		1	1 unit	41E
80 ³⁾	37	70 80	1 040	65	2	3RV2131-4RA10		1	1 unit	41E
Size S3	, with increased	d switching capacit	(y ²)							
40	18.5	28 40	520	100	2	3RV2142-4FA10		1	1 unit	41E
50	22	36 50	650	100	2	3RV2142-4HA10		1	1 unit	41E
63	30	45 63	819	100	2	3RV2142-4JA10		1	1 unit	41E
75	37	57 75	975	100	2	3RV2142-4KA10		1	1 unit	41E
84	45	65 84	1 170	100	2	3RV2142-4RA10		1	1 unit	41E
93	45	75 93	1 300	100	2	3RV2142-4YA10		1	1 unit	41E
100 ⁴⁾	45, 55	80 100	1 300	100	2	3RV2142-4MA10		1	1 unit	41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Accessories for mounting on the right and 3RV2915 three-phase busbars cannot be used.

³⁾ Suitable for use with IE3/IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3.

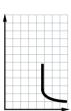
⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

IE3/IE4 ready For starter combinations

Selection and ordering data

Without auxiliary switches

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41E











3RV2311-4AC10

3BV2311-0.IC20

3RV2321-4AC10

3RV2321-4AC20

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Thermal overload release ²⁾	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	S	D	Spring-type terminals	
I_{n}		5	<i>I</i> >	$I_{ m CU}$		Article No.	Price per PU		Article No.	Price per PU
Α	kW	Α	Α	kA	d		d	l		
Size S0	0									
0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	Without Without Without Without	2.1 2.6 3.3 4.2	100 100 100 100	5 5 5 5	3RV2311-0AC10 3RV2311-0BC10 3RV2311-0CC10 3RV2311-0DC10	5 5 5 5		3RV2311-0AC20 3RV2311-0BC20 3RV2311-0CC20 3RV2311-0DC20	
0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	Without Without Without Without	5.2 6.5 8.2 10	100 100 100 100	5 5 5 5	3RV2311-0EC10 3RV2311-0FC10 3RV2311-0GC10 3RV2311-0HC10	5 5 5 5		3RV2311-0EC20 3RV2311-0FC20 3RV2311-0GC20 3RV2311-0HC20	
1 1.25 1.6 2	0.25 0.37 0.55 0.75	Without Without Without Without	13 16 21 26	100 100 100 100	2 2 2 2	3RV2311-0JC10 3RV2311-0KC10 3RV2311-1AC10 3RV2311-1BC10	5 5 5 5		3RV2311-0JC20 3RV2311-0KC20 3RV2311-1AC20 3RV2311-1BC20	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	Without Without Without Without	33 42 52 65	100 100 100 100	2 2 2 2	3RV2311-1CC10 3RV2311-1DC10 3RV2311-1EC10 3RV2311-1FC10	5 5 5 5		3RV2311-1CC20 3RV2311-1DC20 3RV2311-1EC20 3RV2311-1FC20	
6.3 8 10 12.5 16	2.2 3 4 5.5 7.5	Without Without Without Without Without	82 104 130 163 208	100 100 100 100 55	2 2 2 2	3RV2311-1GC10 3RV2311-1HC10 3RV2311-1JC10 3RV2311-1KC10 3RV2311-4AC10	5 2 2 2 2		3RV2311-1GC20 3RV2311-1HC20 3RV2311-1JC20 3RV2311-1KC20 3RV2311-4AC20	
Size S0		Without	200			01112011414010			01172011 474020	
1.6 2	0.55 0.75	Without Without	21 26	100 100	5 5	3RV2321-1AC10 3RV2321-1BC10	5 5		3RV2321-1AC20 3RV2321-1BC20	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	Without Without Without Without	33 42 52 65	100 100 100 100	5 5 5 5	3RV2321-1CC10 3RV2321-1DC10 3RV2321-1EC10 3RV2321-1FC10	5 5 5 5		3RV2321-1CC20 3RV2321-1DC20 3RV2321-1EC20 3RV2321-1FC20	
6.3 8 10 12.5	2.2 3 4 5.5	Without Without Without Without	82 104 130 163	100 100 100 100	2 2 2 2	3RV2321-1GC10 3RV2321-1HC10 3RV2321-1JC10 3RV2321-1KC10	5 5 5 5		3RV2321-1GC20 3RV2321-1HC20 3RV2321-1JC20 3RV2321-1KC20	
16 20 22 25	7.5 7.5 11 11	Without Without Without Without	208 260 286 325	55 55 55 55	2 2 2 2	3RV2321-4AC10 3RV2321-4BC10 3RV2321-4CC10 3RV2321-4DC10	2 2 5 2		3RV2321-4AC20 3RV2321-4BC20 3RV2321-4CC20 3RV2321-4DC20	
28 32 ³⁾	15 15	Without Without	364 400	55 55	5 2	3RV2321-4NC10 3RV2321-4EC10	5 2		3RV2321-4NC20 3RV2321-4EC20	
36 ⁴⁾ 40 ⁴⁾	18.5 18.5	Without Without	432 480	20 20	2	3RV2321-4PC10 3RV2321-4FC10				

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ For overload protection of the motors, appropriate overload relays must be used.

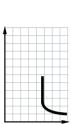
Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

⁴⁾ The devices must not be mounted side-by-side and they must not be assembled with link modules with contactors. A lateral clearance of 9 mm is required. For use with IE3/IE4 motors we recommend using 3RV2 motor starter protectors size S2.

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

For starter combinations IE3/IE4 ready

Without auxiliary switches













3RV2331	4001	- /
3H V / 33 I	-4001	ı

3RV2331-4WC10

3RV2341-4FC10

	01172001 40010		31172331-477010 31172332-43010		31172332-477010		311723			
Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Thermal overload release ²⁾	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
I_{n}		4	[>	$I_{ m CU}$		Article No.	Price per PU			
Α	kW	Α	Α	kA	d		J			
Size S2										
14	5.5	Without	208	65	2	3RV2331-4SC10		1	1 unit	41E
17 20	7.5 7.5	Without Without	260 260	65 65	2	3RV2331-4TC10		1	1 unit	41E
20 25	7.5 11	Without	325	65	2	3RV2331-4BC10 3RV2331-4DC10		1	1 unit 1 unit	41E 41E
32	15	Without	416	65		3RV2331-4EC10		1	1 unit	41E
36 40	18.5 18.5	Without	520	65	2	3RV2331-4PC10		1	1 unit	41E
40 45	18.5	Without Without	585 650	65 65	>	3RV2331-4UC10 3RV2331-4VC10		1 1	1 unit 1 unit	41E 41E
52	22	Without	741	65		3RV2331-4WC10		1	1 unit	41E
59	30	Without	845	65	2	3RV2331-4XC10		1	1 unit	41E
65 73	30 37	Without Without	845 949	65 65	2	3RV2331-4JC10 3RV2331-4KC10		1	1 unit 1 unit	41E 41E
80 ³⁾	37	Without	1 040	65	2	3RV2331-4RC10		i	1 unit	41E
Size S2, v	with increased	switching capacit	у							
14	5.5	Without	208	100	2	3RV2332-4SC10		1	1 unit	41E
17 20	7.5 7.5	Without Without	260 260	100 100	2	3RV2332-4TC10 3RV2332-4BC10		1 1	1 unit 1 unit	41E 41E
25	11	Without	325	100	2	3RV2332-4DC10		i	1 unit	41E
32	15	Without	416	100	2	3RV2332-4EC10		1	1 unit	41E
36 40	18.5 18.5	Without	520 585	100	2	3RV2332-4PC10 3RV2332-4UC10		1 1	1 unit	41E 41E
45	22	Without Without	650	100 100	2	3RV2332-4VC10		1	1 unit 1 unit	41E
52	22	Without	741	100	2	3RV2332-4WC10		1	1 unit	41E
59 65	30 30	Without	845 845	100	2	3RV2332-4XC10 3RV2332-4JC10		1 1	1 unit	41E 41E
	37	Without Without	949	100 100	2	3RV2332-4JC10 3RV2332-4KC10		1	1 unit 1 unit	41E 41E
73 80 ³⁾	37	Without	1 040	100	2	3RV2332-4RC10		1	1 unit	41E
Size S3										
40	18.5	Without	520	65	2	3RV2341-4FC10		1	1 unit	41E
50 63	22 30	Without Without	650 819	65 65	2	3RV2341-4HC10 3RV2341-4JC10		1 1	1 unit 1 unit	41E 41E
75	37	Without	975	65	2	3RV2341-4KC10		1	1 unit	41E
84	45	Without	1 170	65	2	3RV2341-4RC10		1	1 unit	41E
93 100 ⁴⁾	45 45, 55	Without Without	1 300 1 300	65 65	2	3RV2341-4YC10 3RV2341-4MC10		1 1	1 unit 1 unit	41E 41E
		switching capacit		00		3HV2341-4WIC10		- 1	1 UIIII	41L
40	18.5	Without	520	100	2	3RV2342-4FC10		1	1 unit	41E
50	22	Without	650	100	2	3RV2342-4HC10		1	1 unit	41E
63	30	Without	819	100	2	3RV2342-4JC10		1	1 unit	41E
75 84	37 45	Without	975	100 100	2	3RV2342-4KC10 3RV2342-4RC10		1 1	1 unit	41E 41E
93	45 45	Without Without	1 170 1 300	100	2	3RV2342-4RC10 3RV2342-4YC10		1	1 unit 1 unit	41E 41E
1004)	45, 55	Without	1 300	100	2	3RV2342-4MC10		1	1 unit	41E

 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ For overload protection of the motors, appropriate overload relays must be

³⁾ Suitable for use with IE3/IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

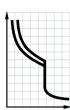
For transformer protection

Selection and ordering data

CLASS 10, without auxiliary switches

Motor starter protectors for the protection of transformers with high inrush current

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41E \end{array}$











3RV2411-0AA10

3RV2411-0AA20

3RV2421-4AA10

3RV2421-4AA2

Rated current	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals		SD	Spring-type terminals	<u> </u>
I_{n}	<u> </u>	<i>I</i> >	I_{CU}		Article No.	Price per PU		Article No.	Price per PU
Α	Α	Α	kA	d			d		
Size S00									
0.16	0.11 0.16	3.3	100		3RV2411-0AA10		2	3RV2411-0AA20	
0.2	0.14 0.2	4.2	100	2	3RV2411-0BA10		2	3RV2411-0BA20	
0.25	0.18 0.25	5.2	100	2	3RV2411-0CA10		2	3RV2411-0CA20	
0.32	0.22 0.32	6.5	100	•	3RV2411-0DA10		2	3RV2411-0DA20	
0.4 0.5	0.28 0.4 0.35 0.5	8.2 10	100 100	>	3RV2411-0EA10 3RV2411-0FA10		2	3RV2411-0EA20 3RV2411-0FA20	
0.63	0.45 0.63	13	100		3RV2411-0FA10		2	3RV2411-0GA20	
0.8	0.55 0.8	16	100	•	3RV2411-0HA10		2	3RV2411-0HA20	
1	0.7 1	21	100		3RV2411-0JA10		2	3RV2411-0JA20	
1.25	0.9 1.25	26	100	>	3RV2411-0KA10		2	3RV2411-0KA20	
1.6	1.1 1.6	33	100	>	3RV2411-1AA10		2	3RV2411-1AA20	
2	1.4 2	42	100		3RV2411-1BA10		2	3RV2411-1BA20	
2.5 3.2	1.8 2.5	52 65	100 100	>	3RV2411-1CA10		2	3RV2411-1CA20	
3.2 4	2.2 3.2 2.8 4	82	100		3RV2411-1DA10 3RV2411-1EA10		2	3RV2411-1DA20 3RV2411-1EA20	
5	3.5 5	104	100	•	3RV2411-1FA10		2	3RV2411-1FA20	
6.3	4.5 6.3	130	100		3RV2411-1GA10		2	3RV2411-1GA20	
8	5.5 8	163	100	>	3RV2411-1HA10		2	3RV2411-1HA20	
10	7 10	208	100		3RV2411-1JA10		2	3RV2411-1JA20	
12.5 16	9 12.5 10 ¹⁾ 16	260 286	100 55		3RV2411-1KA10 3RV2411-4AA10		2	3RV2411-1KA20 3RV2411-4AA20	
Size S0	10 ' 10	200	33		3RV2411-4AA10		_	3HV2411-4AA20	
	0.44		400						
0.16 0.2	0.11 0.16 0.14 0.2	3.3 4.2	100 NEV		3RV2421-0AA10 3RV2421-0BA10			-	
0.25	0.14 0.25	5.2	100 NEV		3RV2421-0DA10				
0.32	0.22 0.32	6.5	100 NEV		3RV2421-0DA10			-	
0.4	0.28 0.4	8.2	100 NEV	V ▶	3RV2421-0EA10			-	
0.5	0.35 0.5	10	100 NEV		3RV2421-0FA10			-	
0.63 0.8	0.45 0.63 0.55 0.8	13 16	100 NEV		3RV2421-0GA10			-	
		-			3RV2421-0HA10			-	
1 1.25	0.7 1 0.9 1.25	21 26	100 NEV		3RV2421-0JA10 3RV2421-0KA10			_	
1.6	1.1 1.6	33	100 NEV		3RV2421-1AA10				
2	1.4 2	42	100 NEV		3RV2421-1BA10			-	
2.5	1.8 2.5	52	100 NE V	V ▶	3RV2421-1CA10			-	
3.2	2.2 3.2	65	100 NEV		3RV2421-1DA10			-	
4	2.8 4	82	100 NEV		3RV2421-1EA10			-	
5	3.5 5	104	100 NEV		3RV2421-1FA10			-	
6.3 8	4.5 6.3 5.5 8	130 163	100 NEV 100 NEV		3RV2421-1GA10 3RV2421-1HA10				
10	5.5 8 7 10	208	100 NEV		3RV2421-1HA10			_	
12.5	9 12.5	260	100 NEV		3RV2421-1KA10			-	
16	10 ¹⁾ 16	286	55	>	3RV2421-4AA10		2	3RV2421-4AA20	
20	13 ¹⁾ 20	325	55		3RV2421-4BA10		>	3RV2421-4BA20	
22 25	16 ¹⁾ 22 18 ¹⁾ 25	364 400	55 55	>	3RV2421-4CA10 3RV2421-4DA10		2	3RV2421-4CA20 3RV2421-4DA20	
1) =	١٠ ٢٥	400	00		UITVETE I-HUMIU		-	UNIVERE 1 TOMEU	

¹⁾ The setting range of the thermal overload releases has been extended.

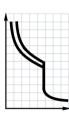
SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

For transformer protection

CLASS 10, without auxiliary switches

Motor starter protectors for the protection of transformers with high inrush current

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41E \end{array}$





3RV2431-4WA10

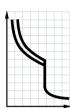
Rated current	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals		SD	Spring-type terminals	8
I_{n}	4	<i>I</i> >	I_{CU}		Article No.	Price per PU		Article No.	Price per PU
Α	A	Α	kA	d			d		
Size S2									
14	9.5 14	328	65	2	3RV2431-4SA10			-	
17	12 17	410	65	2	3RV2431-4TA10			-	
20	14 20	410	65	2	3RV2431-4BA10				
25	18 25	512	65	2	3RV2431-4DA10				
32	22 32	656	65	•	3RV2431-4EA10				
36	28 36	820	65	2	3RV2431-4PA10				
40	32 40	820	65	2	3RV2431-4UA10				
45	35 45	922	65	2	3RV2431-4VA10				
52	42 52	1 025	65	2	3RV2431-4WA10				
59	49 59	1 040	65	2	3RV2431-4XA10				
65	54 65	1 040	65	2	3RV2431-4JA10				

For system protection according to UL 489/CSA C22.2 No. 5

Selection and ordering data

Without auxiliary switches

Circuit breakers for system protection and non-motor loads according to UL/CSA







3RV2711-0AD10

3RV2742-5FD10

Rated current ¹⁾	Thermal overload release (non-adjustable)	Instantaneous electronic release	Short-circuit brea at 480 Y/277 V AC ²		SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
$I_n^{1)}$	G	<i>I</i> >	I_{bc}			Article No.	Price per PU			
Α	Α	Α	kA		d		P - 1 - 2			
Size S00										
0.16	0.16	2.1	65		5	3RV2711-0AD10		1	1 unit	41E
0.2	0.2	2.6	65		5	3RV2711-0BD10		1	1 unit	41E
0.25	0.25	3.3	65		5	3RV2711-0CD10		1	1 unit	41E
0.32	0.32	4.2	65		5	3RV2711-0DD10		1	1 unit	41E
0.4 0.5	0.4 0.5	5.2 6.5	65 65		5 5	3RV2711-0ED10 3RV2711-0FD10		1 1	1 unit 1 unit	41E 41E
0.63	0.63	8.2	65		5	3RV2711-0FD10		1	1 unit	41E
0.8	0.8	10	65		5	3RV2711-0HD10		1	1 unit	41E
1	1	13	65		2	3RV2711-0JD10		1	1 unit	41E
1.25	1.25	16	65		5	3RV2711-0KD10		1	1 unit	41E
1.6	1.6	21	65		2	3RV2711-1AD10		1	1 unit	41E
2	2	26	65		2	3RV2711-1BD10		1	1 unit	41E
2.5 3.2	2.5 3.2	33 42	65 65		2	3RV2711-1CD10 3RV2711-1DD10		1	1 unit 1 unit	41E 41E
3.2 4	3.2 4	42 52	65		2	3RV2711-1DD10 3RV2711-1ED10		1	1 unit	41E 41E
5	5	65	65		2	3RV2711-1FD10		1	1 unit	41E
6.3	6.3	82	65		2	3RV2711-1GD10		1	1 unit	41E
8	8	104	65		2	3RV2711-1HD10		1	1 unit	41E
10	10	130	65		2	3RV2711-1JD10		1	1 unit	41E
12.5 15	12.5 15	163 208	65 65		2	3RV2711-1KD10 3RV2711-4AD10		1	1 unit 1 unit	41E 41E
Size S0	10	200				OHVETTI TADIO		<u> </u>	1 dilli	712
	20	000	FO		2	3RV2721-4BD10		4	1 . mit	415
20 22	20 22	260 286	50 50		2	3RV2721-4BD10 3RV2721-4CD10		1 1	1 unit 1 unit	41E 41E
Size S3 ³⁾	22	200			_	01172121 10210			1 dille	
10	10	150	65	65	5	3RV2742-5AD10		1	1 unit	41E
15	15	225	65	65	5	3RV2742-5BD10		1	1 unit	41E
20	20	260	65	65	5	3RV2742-5CD10		1	1 unit	41E
25	25	325	65	65	5	3RV2742-5DD10		i	1 unit	41E
30	30	390	65	65	5	3RV2742-5ED10		1	1 unit	41E
35	35	455	65		5	3RV2742-5FD10		1	1 unit	41E
40	40	520	65		5	3RV2742-5GD10		1	1 unit	41E
45 50	45 50	585 650	65 65		5 5	3RV2742-5HD10 3RV2742-5JD10		1	1 unit 1 unit	41E 41E
			65		5					
60 70	60 70	780 910	65		5 5	3RV2742-5LD10 3RV2742-5QD10		1	1 unit 1 unit	41E 41E
. •	. •	0.0			_	J 12 UGD 10			1 01111	

Rated value 100% according to UL 489 and IEC 60947-2 ("100% rated breaker").

Lateral and transverse auxiliary switches can be ordered separately (see "Accessories" page 7/44 onwards).

 $^{^{2)}}$ Values for 600 Y/347 V AC, see page 7/18.

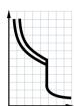
³⁾ Transverse auxiliary switches cannot be used for 3RV2742.

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers
For transformer protection according to UL 489/CSA C22.2 No.5

Selection and ordering data

Without auxiliary switches

Circuit breakers for system and transformer protection according to UL/CSA, specially designed for transformers with high inrush current





3RV2811-0AD10

Rated current ¹⁾	Thermal overload release (non-adjustable)	Instantaneous electronic release	Short-circuit breaking capacity at 480 Y/277 V AC ²⁾	SD	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
$I_n^{1)}$	4	<i>I</i> >	$I_{ t bc}$		Article No.	Price per PU			
Α	Α	Α	kA	d					
Size S00									
0.16 0.2 0.25 0.32	0.16 0.2 0.25 0.32	3.3 4.2 5.2 6.5	65 65 65 65	5 5 5 5	3RV2811-0AD10 3RV2811-0BD10 3RV2811-0CD10 3RV2811-0DD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
0.4 0.5 0.63 0.8	0.4 0.5 0.63 0.8	8.2 10 13 16	65 65 65 65	5 5 5 5	3RV2811-0ED10 3RV2811-0FD10 3RV2811-0GD10 3RV2811-0HD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
1 1.25 1.6 2	1 1.25 1.6 2	21 26 33 42	65 65 65 65	2 2 2 2	3RV2811-0JD10 3RV2811-0KD10 3RV2811-1AD10 3RV2811-1BD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
2.5 3.2 4 5	2.5 3.2 4 5	52 65 82 104	65 65 65 65	2 2 2 2	3RV2811-1CD10 3RV2811-1DD10 3RV2811-1ED10 3RV2811-1FD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
6.3 8 10 12.5 15	6.3 8 10 12.5 15	130 163 208 260 286	65 65 65 65 65	2 2 2 2 2	3RV2811-1GD10 3RV2811-1HD10 3RV2811-1JD10 3RV2811-1KD10 3RV2811-4AD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E
Size S0 20 22	20 22	325 364	50 50	2 5	3RV2821-4BD10 3RV2821-4CD10		1 1	1 unit 1 unit	41E 41E

Rated value 100% according to UL 489 and IEC 60947-2 ("100% rated breaker").

Lateral and transverse auxiliary switches can be ordered separately (see "Accessories" page 7/44 onwards).

²⁾ Values for 600 Y/347 V AC, see page 7/18.

Mountable accessories

Overview

Mounting location and function

The 3RV2 motor starter protectors/circuit breakers have three main contact elements. In order to achieve maximum flexibility, auxiliary switches, signaling switches, auxiliary releases and isolator modules can be supplied separately.

These components are easily fitted to the switches without the use of any tools according to requirements.

Overview graphic, see page 7/7.

Front side Notes: A maximum of four auxiliary contacts with auxiliary switches can be mounted on each motor starter protector/circuit breaker Transverse auxiliary switches cannot be used for circuit breaker 3RV2742 (size S3).	Transverse auxiliary switches, solid-state compatible transverse auxiliary switches 1 NO + 1 NC or 2 NO or 1 CO	An auxiliary switch block can be inserted transversely on the front. The overall width of the motor starter protectors/circuit breakers remains unchanged.
Left-hand side Notes: A maximum of four auxiliary contacts with auxiliary switches can be mounted on each motor starter protector/circuit breaker Lateral auxiliary switches (two contacts) and signaling switches can be mounted separately or together Signaling switches cannot be used for 3RV1011, 3RV27 and 3RV28 circuit breakers Only lateral auxiliary switches can be used for 3RV2742 (size S3)	Lateral auxiliary switches (2 contacts) 1 NO + 1 NC or 2 NO or 2 NC Lateral auxiliary switches (4 contacts) 2 NO + 2 NC	One of the three lateral auxiliary switches can be mounted on the left side per motor starter protector/circuit breaker. The contacts of the auxiliary switch close and open together with the main contacts of the motor starter protector/circuit breaker. The width of the lateral auxiliary switch with two contacts is 9 mm. One lateral auxiliary switch with four contacts can be mounted on the left side per motor starter protector/circuit breaker. The contacts of the auxiliar switch close and open together with the main contacts of the motor starter protector/circuit breaker. The width of the lateral auxiliary switch with four contacts is 18 mm.
	Signaling switches Tripping 1 NO + 1 NC Short circuit 1 NO + 1 NC	One signaling switch can be mounted on the left side of each motor starte protector. The signaling switch has two contact systems. One contact system always signals tripping irrespective of whether this was caused by a short circuit, an overload or an auxiliary release. The other contact system only switches in the event of a short circuit. There is no signaling as a result of switching off with the actuator. In order to be able to switch on the motor starter protector again after a short circuit, the signaling switch must be reset manually after the error cause has been eliminated. The width of the signaling switch is 18 mm.
Right-hand side	Auxiliary releases	
Notes: One auxiliary release can be mounted per motor starter protector/circuit breaker	Shunt releases	For remote-controlled tripping of the motor starter protector/circuit breake The release coil should only be energized for short periods (see circuit diagrams).
 Accessories cannot be mounted on the right-hand side of the 3RV21 motor starter protectors for motor protection with overload relay function 	or Undervoltage releases	Trips the motor starter protector/circuit breaker when the voltage is interrupted and prevents the motor from being restarted accidentally whe the voltage is restored. Used for remote-controlled tripping of the motor starter protector/circuit breaker. Particularly suitable for EMERGENCY STOP disconnection by way of corresponding EMERGENCY STOP pushbuttons according to EN 60204-
	or	conceptually and real control particular according to an occur
	Undervoltage releases with leading auxiliary contacts 2 NO Own version for 3RV1011	Function and use as for the undervoltage release without leading auxiliary contacts, but with the following additional function: the auxiliary contacts will open in switch position OFF to deenergize the coil of the undervoltage release, thus interrupting energy consumption. In the "tripped" position, these auxiliary contacts are not guaranteed to open. The leading contacts permit the motor starter protector/circuit breaker to reclose. The width of the auxiliary release is 18 mm.
Тор	Isolator modules	Isolator modules can be mounted to the upper connection side of the motor
Notes: Isolator modules cannot be used for 3RV1011, 3RV27 and 3RV28 circuit breakers Isolator module for size S2: Only with 3RV2 motor starter protectors/circuit breakers up to max. 65 A not with the transverse auxiliary switch Terminal screws of the transverse auxiliary switch are covered by the isolator module; Recommendation: Lateral auxiliary switches should be used in combination with the isolator module, or the isolator module should not be mounted until the auxiliary switch has been		starter protectors. The supply cable is connected to the motor starter protector through the isolator module. The plug can only be unplugged when the motor starter protector is open and isolates all 3 poles of the motor starter protector from the network. The shock-protected isolation point is clearly visible and secured with a padlock to prevent reinsertion of the plug.

For a complete overview of which accessories can be used for the various motor starter protectors/circuit breakers, see page 7/2.

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

Accessories

Mountable accessories

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unit (unless otherwise specified)

-								
	Version	For motor starter protectors/ circuit breakers	SD	Screw terminals	(SD	Spring-type terminals	
		Size	d	Article No.	Price per PU	d	Article No.	Price per PU
Auxiliary switches ¹⁾		0.20						
Adminity Switchies	Transverse auxiliary							
***	switches For front mounting							
3RV2901-1E	1 CO 1 NO + 1 NC	S00 S3	>	3RV2901-1D 3RV2901-1E		>	 3RV2901-2E	
2020 0000	2 NO Solid-state compatible		>	3RV2901-1F)		3RV2901-2F	
0.0004.05	transverse auxiliary switches							
3RV2901-2E	For mounting on the front,							
1.6 14.6 (4)	for operation in dusty atmosphere and in							
3RV2901-1G	solid-state circuits with low operating currents							
511V2561 TG	1 CO	S00 S3	2	3RV2901-1G				
	Covers for transverse auxiliary switches	S00 S3	2	3RV2901-0H				
	(PS* = 10 units)							
3RV2901-0H								
	Lateral auxiliary switches For mounting on the left							
	1 NO + 1 NC 2 NO	S00 S3	>	3RV2901-1A 3RV2901-1B		>	3RV2901-2A 3RV2901-2B	
	2 NC 2 NO + 2 NC		2	3RV2901-1C 3RV2901-1J	1		3RV2901-2C 	
3RV2901-1A 3RV2901	-2A							
Signaling switches ²⁾		0004) 00		000004 484			0.DV.0004 0.H	
TO THE RESIDENCE OF THE PARTY O	Signaling switches One signaling switch can be mounted on the left per motor starter protector. Separate tripped and short-circuit alarms,		•	3RV2921-1M	,		3RV2921-2M	
	1 NO + 1 NC each							
3RV2921-1M 3RV2921	-2M							
Isolator modules ²⁾	Isolator modules	200 20		2DV2029-1 A			_	
3RV2928-1A 3RV2938	Visible isolating distance for isolating individual motor starter protectors from the network, lockable in disconnected position	\$00, \$0 \$2 ³⁾⁴⁾	•	3RV2928-1A 3RV2938-1A			+	
011V2320-1A 011V2300	- IA							

¹⁾ Each motor starter protector/circuit breaker can be fitted with one transverse and one lateral auxiliary switch. The lateral auxiliary switch with 2 NO + 2 NC is used without a transverse auxiliary switch.

²⁾ This accessory cannot be used for the 3RV27 and 3RV28 circuit breakers (sizes S00, S0, S3).

³⁾ The isolator module for size S2 can be used only with 3RV2 motor starter protectors/circuit breakers up to max. 65 A. Similarly, it cannot be used with the transverse auxiliary switch.

⁴⁾ Not for 3RV1011.

Mountable accessories

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41E









3RV2902-1AV0

3RV2902-2AV0

3RV2922-1CP0

3RV2902-2DB0

Rated co	ontrol supp	oly voltage $U_{\rm s}$			For motor	SD	Screw terminals	(1)	SD	Spring-type	$_{\square}^{\infty}$
AC 50 Hz	AC 60 Hz	AC 50/60 Hz 100% ON period ¹⁾	AC/DC 50/60 Hz, DC 5 s ON period ²⁾	DC	starter protectors/ circuit breakers					terminals	
							Article No.	Price		Article No.	Price
V	V	V	V	V	Size	d		per PU	d		per PU
Auxilia	ry releas	ses ³⁾									
Undervo	oltage rele	eases									
				24	S00 S3	2	3RV2902-1AB4			_	
24	24				S00 S3	2	3RV2902-1AB0				
110	120				S00 S3	2	3RV2902-1AF0				
	208				S00 S3	2	3RV2902-1AM1			-	
230	240				S00 S3	>	3RV2902-1AP0		>	3RV2902-2AP0	
400	440				S00 S3		3RV2902-1AV0		•	3RV2902-2AV0	
415 500	480 600				S00 S3 S00 S3	2	3RV2902-1AV1 3RV2902-1AS0			-	
		eases with leading a	 iliam: aantaata (300 33		3HV29U2-1A3U			-	
	-	_	iuxiliary contacts 2	NO	04) 0-	_					
24	24				S00 ⁴⁾ S3 S00 ⁴⁾ S3	5	3RV2922-1CB0		0	 0DV0000 00D0	
230 400	240 440				S00 ⁴⁾ S3 S00 ⁴⁾ S3	2	3RV2922-1CP0 3RV2922-1CV0		2	3RV2922-2CP0 3RV2922-2CV0	
415	480				S00 ⁴) S3	2	3RV2922-1CV0		2	3RV2922-2CV1	
Shunt re	eleases										
		20 24	20 70		S00 S3	>	3RV2902-1DB0		•	3RV2902-2DB0	
		90 110	70 190		S00 S3	2	3RV2902-1DE0		2	3RV2902-2DE0	
		210 240	190 330		S00 S3		3RV2902-1DP0		-	3RV2902-2DP0	
		350 415	330 500		S00 S3	2	3RV2902-1DV0			-	
		500	500		S00 S3	2	3RV2902-1DS0			-	

¹⁾ The voltage range is valid for 100% (infinite) ON period. The response voltage lies at 0.9 of the lower limit of the voltage range.

²⁾ The voltage range is valid for 5 s ON period at AC 50/60 Hz and DC. The response voltage lies at 0.85 of the lower limit of the voltage range.

³⁾ One auxiliary release can be mounted on the right per motor starter protector/circuit breaker (does not apply to 3RV21 motor starter protectors with overload relay function).

⁴⁾ Not for 3RV1011.

Busbar accessories

Overview

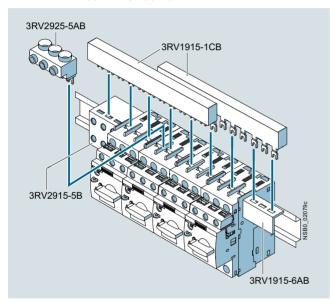
Insulated three-phase busbar system

Three-phase busbar systems provide an easy, time-saving and clearly arranged means of feeding 3RV2 motor starter protectors/circuit breakers with screw terminals. Different versions are available for sizes S00 to S2 and can be used for the various different types of motor starter protectors/circuit breakers (size S0 up to 32 A).

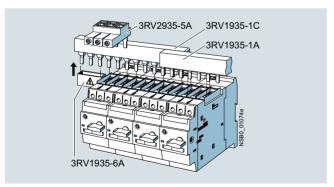
The 3RV1915 and 3RV1935 three-phase busbar systems are generally unsuitable for the 3RV21 motor starter protectors for motor protection with overload relay function and 3RV27 and 3RV28 circuit breakers according to UL 489/CSA C22.2 No. 5.

The busbars are suitable for between two and five motor starter protectors/circuit breakers. However, any kind of extension is possible by clamping the tags of an additional busbar (rotated by 180°) underneath the terminals of the respective last motor starter protector/circuit breaker.

A combination of motor starter protectors/circuit breakers of size S00 and S0 is possible. The motor starter protectors/circuit breakers are supplied by appropriate infeed terminals.



SIRIUS three-phase busbar system size S00/S0



SIRIUS three-phase busbar system size S2

The three-phase busbar systems are finger-safe. They are designed for any short-circuit stress which can occur at the output side of connected motor starter protectors/circuit breakers.

The three-phase busbar systems can also be used to construct "Type E Starters" according to UL/CSA. Special infeed terminals must be used for this purpose, however (see "Selection and ordering data", page 7/48).

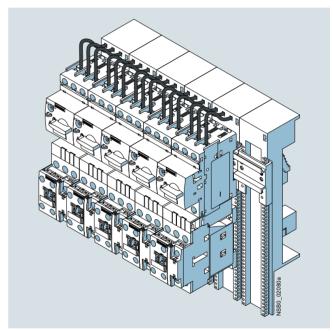
8US busbar adapters for 60 mm systems

The motor starter protectors/circuit breakers are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs.

Busbar adapters for busbar systems with 60 mm center-tocenter clearance are suitable for copper busbars with a width of 12 mm to 30 mm. The busbars can be 5 mm or 10 mm thick.

The motor starter protectors/circuit breakers are snapped onto the adapter and connected on the line side. This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

For further busbar adapters for snap-mounting direct-on-line starters and reversing starters as well as additional accessories such as line terminals and outgoing terminals, flat copper profile, etc., see Catalog LV 10.



SIRIUS load feeders with busbar adapters snapped onto busbars

Busbar accessories

Selection and ordering data

	Modular spacing		of motor starte s that can be d	er	Rated current In at 690 V	current I _n starter at 690 V protectors/		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		Without lateral accessories	With lateral auxiliary switch	Incl. auxiliary release		circuit breakers						
	mm				Α	Size	d					
Three-phase bus	sbars ¹⁾											
nhi nha		side by sid	motor starter de on standar				ouch					
3RV1915-1AB	45 ³⁾	2 3 4 5	 	 	63 63 63 63	S00, S0 ²⁾ S00, S0 ²⁾ S00, S0 ²⁾ S00, S0 ²⁾	* * *	3RV1915-1AB 3RV1915-1BB 3RV1915-1CB 3RV1915-1DB		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
3RV1915-1BB	55 ⁴⁾	 	2 3 4 5	 	63 63 63 63	S00, S0 ²⁾ S00, S0 ²⁾ S00, S0 ²⁾ S00, S0 ²⁾	* * * *	3RV1915-2AB 3RV1915-2BB 3RV1915-2CB 3RV1915-2DB		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
3RV1915-1CB		2 3 4	 	 	108 108 108	S2 S2 S2	* * *	3RV1935-1A 3RV1935-1B 3RV1935-1C		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	63 ⁵⁾			2 4	63 63	S00, S0 ²⁾ S00, S0 ²⁾	>	3RV1915-3AB 3RV1915-3CB		1	1 unit 1 unit	41E 41E
3RV1915-1DB	75 ⁵⁾	 	2 3 4	2 3 4	108 108 108	S2 S2 S2	* *	3RV1935-3A 3RV1935-3B 3RV1935-3C		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E

Not suitable for 3RV21 motor starter protectors for motor protection with overload relay function and for 3RV27 and 3RV28 circuit breakers according to UL 489/CSA C22.2 No. 5.

⁵⁾ For 3RV2 motor starter protectors with mounted accessories (18 mm wide). Auxiliary switches with 2 NO + 2 NC or signaling switch (mounted on the left) or with auxiliary release (mounted on the right).

	Version			acing		otor starter ctors/circuit ers	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			mr	n	Size		d					
Connecting piece	es for three-	phase busb	ars									
3RV1915-5DB	busbars for				45 S00, S0 >			3RV1915-5DB		1	1 unit	41E
	Conductor of	cross-section		Tighte	ening	For motor	SD	Article No.	Price	PU	PS*	PG
	Solid or stranded	Finely stranded with end sleeve	AWG cable solid or stranded	+0.000.00		starter protectors/ circuit breakers			per PU	(UNIT, SET, M)		
	mm²	mm²	AWG	Nm		Size	d					
Three-phase infe	eed terminals	;										
	Connection	n from top										
6 6 6	2.5 25	4 16	10 4	4		S00 ²⁾	>	3RV1915-5A		1	1 unit	41E
Thinking.	2.5 25	2.5 16	10 4	3 4		S00, S0	>	3RV2925-5AB		1	1 unit	41E
3RV2925-5AB	1 x	2 x (2.5 35) ¹⁾ , 1 x	1 x			S2	•	3RV2935-5A		1	1 unit	41E
000	(2.5 70) ¹⁾	(2.5 50) ¹⁾	(10 2/0) ¹)								
3RV2935-5A												
000	Terminal is	n from below connected in p t into account	lace of a swi	tch, take :	space)						
3RV2915-5B	2.5 25	2.5 16	10 4	Input: 4, outpu 2 2	t:	S00, S0	•	3RV2915-5B		1	1 unit	41E

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

²⁾ Approved for motor starter protectors size S0 with $I_{\rm n} \leq$ 32 A.

³⁾ For 3RV2 motor starter protectors without accessories mounted on the

⁴⁾ For 3RV2 motor starter protectors with auxiliary switches with 1 NO + 1 NC, 2 NO and 2 NC mounted on the left (9 mm wide).

²⁾ For 3RV1011.

Busbar accessories

	Conductor c Solid or stranded	ross-section Finely stranded with end sleeve	AWG cables, solid or stranded	Tightening torque	For motor starter protectors/ circuit breakers	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm ²	mm²	AWG	Nm	Size	d					
Three-phase infeed	d terminals	for constru	cting "Type	E Starters'	1						
	Connection	from top									
	2.5 25	2.5 16	10 4	3 4	S00, S0	2	3RV2925-5EB		1	1 unit	41E
	2 x (2.5 50) ¹⁾ ,	2 x (2.5 35) ¹⁾ ,	2 x (10 1/0) ¹⁾ ,	4 6	S2	>	3RV2935-5E		1	1 unit	41E
3RV2925-5EB	1 x (2.5 70) ¹)	1 x (2.5 50) ¹⁾	1 x (10 2/0) ¹)								
3RV2935-5E	(2.3 10)	(2.5 50)	(10 2/0)								

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

	Version	For motor starter protectors/ circuit breakers	SD	article No. Price per PU		PU (UNIT, SET, M)	PS*	PG
		Size	d					
Covers for connec	tion tags							
	Touch protection for empty positions	S00, S0	>	3RV1915-6AB		1	10 units	41E
AAAAAAAA		S2	>	3RV1935-6A		1	5 units	41E
3RV1915-6AB								

Busbar accessories

Busbar adapters











- Control of the Cont					V	400					
8US1251-5DS10	8US12	51-5DT11		8US1211-4	1TR00	8US	1250-5AS10	8US12	50-5AT10		
For motor starter protectors/ circuit breakers	Rated current	Connecting cable	Adapter length	Adapter width	Rated voltage	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Α	AWG	mm	mm	V	d					
Busbar adapters f	or 60 mm sys	stems									
For copper busbars at Width: 12 mm and 30 Thickness: 5 mm and and for T and double-	mm 10 mm										
For motor starter pro	tectors/circuit b	reakers with	screw tern	ninals			Screw terminals				
S00, S0 ²⁾	25	12	200	45	690	2	8US1251-5DS10		1	1 unit	140
S00, S0	25	12	260	45	690	2	8US1251-5DT10		1	1 unit	140
S0	32	10	200	45	690	3	8US1251-5NS10		1	1 unit	140
S0 ²⁾	32	10	260	45	690	2	8US1251-5NT10		1	1 unit	140
S2	80	4	200	55	690	5	8US1261-5MS13		1	1 unit	140
S2	80	4	260	55	690	5	8US1261-6MT10		1	1 unit	140
S2 ¹⁾	80	4	260	118	690	5	8US1211-6MT10		1	1 unit	140
S3	100/70 ³⁾	4	215	72	690/600 ³⁾	2	8US1211-4TR00		1	1 unit	140
For motor starter pro	tectors/circuit b	reakers with	spring-typ	e terminals	3		Spring-type terminals	$\stackrel{\circ}{\square}$			
S00, S0 ²⁾	25	12	200	45	690	2	8US1251-5DS11		1	1 unit	140
S00, S0 ²⁾	25	12	260	45	690	2	8US1251-5DT11		1	1 unit	140
S0	32	10	200	45	690	5	8US1251-5NS11		1	1 unit	140
S0 ²⁾	32	10	260	45	690	2	8US1251-5NT11		1	1 unit	140
Accessories											
Device holders			200	45		2	8US1250-5AS10		1	1 unit	140
For lateral mounting to busbar adapters			260	45		2	8US1250-5AT10		1	1 unit	140
Side modules For widening of busbar adapters			200	9		2	8US1998-2BJ10		1	10 units	140
Vibration and shock kits For high vibration and shock loads											
S00, S0						2	8US1998-1CA10		1	2 units	140
S2						5	8US1998-1DA10		1	1 unit	140

¹⁾ For the assembly of feeders for reversing starters comprising a motor starter protector and two contactors.

²⁾ Also approved for 3RV27, 3RV28 according to UL.

Also approved for 3HV27, 3HV28 ac
 Values according to UL/CSA:

 Rated current: 70 A at 600 V AC
 Short-circuit breaking capacity: 480 V AC: 65 kA, up to I_n = 30 A, 480 Y/277 V AC: 65 kA
 600 Y/347 V AC: 20 kA.

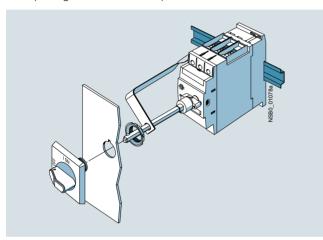
For additional busbar adapters and accessories, see Catalog LV 10.

Rotary operating mechanisms

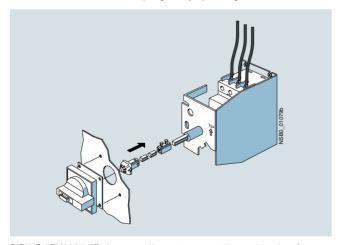
Overview

Door-coupling rotary operating mechanisms

Motor starter protectors/circuit breakers with a rotary operating mechanism can be mounted in a control cabinet and operated externally by means of a door-coupling rotary operating mechanism. When the cabinet door with motor starter protector/circuit breaker is closed, the operating mechanism is coupled. When the motor starter protector/circuit breaker closes, the coupling is locked which prevents the door from being opened unintentionally. This interlock can be defeated by the maintenance personnel. In the OPEN position, the rotary operating mechanism can be secured against reclosing with up to three padlocks. Inadvertent opening of the door is not possible in this case either.



SIRIUS 3RV2926-0K door-coupling rotary operating mechanism



SIRIUS 3RV2926-2B door-coupling rotary operating mechanism for arduous conditions

Remote motorized operating mechanism

3RV motor starter protectors are manually operated switching devices. They automatically trip in case of an overload or short circuit. Intentional remote-controlled tripping is possible by means of a shunt release or an undervoltage release. Reclosing is only possible directly at the motor starter protector/circuit breaker.

The remote motorized operating mechanism allows the motor starter protectors/circuit breakers to be opened and closed by electrical commands. This enables a load or an installation to be isolated from the network or reconnected to it from an operator panel.

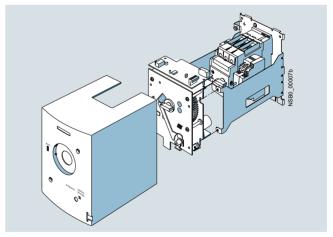
If the motor starter protector/circuit breaker is tripped as a result of overload or short circuit, it will be in the tripped position. For reclosing, the remote motorized operating mechanism must first be set manually or electrically to the 0 position (electrically by means of the Open command). Then it can be reclosed.

The remote motorized operating mechanism is available for motor starter protectors/circuit breakers in size S3 for the control voltages of 230 V AC. The motor starter protector/circuit breaker is fitted into the remote motorized operating mechanism as shown in the drawing.

In the "MANUAL" position, the motor starter protector/circuit breaker in the remote motorized operating mechanism can continue to be switched manually on site. In the "AUTOMATIC" position, the motor starter protector/circuit breaker is switched by means of electrical commands. The switching command must be applied for a minimum of 100 ms. The remote motorized operating mechanism closes the motor starter protector after a maximum of 1 s. On voltage failure during the switching operation it is ensured that the motor starter protector/circuit breaker remains in the "OPEN" or "CLOSED" position. In the "MANUAL" and "OFF" position, the remote motorized operating mechanism can be locked with a padlock.

RESET function

The RESET button on the motorized operating mechanism serves to reset any 3RV2921-1M signaling switch that might be installed.



SIRIUS 3RV1946-3AP0 remote motorized operating mechanism

Rotary operating mechanisms

Technical specifications

Remote motorized operating mechanisms		
Туре		3RV1946-3AP0
Max. power consumption • At U _S = 230 V AC	VA	170
Operating range		0.85 1.1 x U _s
Minimum command duration at U_s	S	0.1
Max. command duration		Unlimited (uninterrupted operation)
Max. total make/break time, remote-controlled	S	2
Ready to reclose after approx.	S	2.5
Switching frequency	1/h	25
Internal back-up fuse • 230 V AC	А	0.8
Connection type of control cables		Plug-in connectors with screw terminals
Shock resistance acc. to IEC 60068-2-27	<i>g</i> /ms	25/11 (square and sine pulse)

Selection and ordering data

Version	Color of actuator	Version of extension shaft	For motor starter protectors/ circuit breakers	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm	Size	d					

Door-coupling rotary operating mechanisms



Door-coupling rotary operating mechanisms consisting of an actuator, a coupling driver and a 130/330 mm long extension shaft (6 mm x 6 mm)

Designed for degree of protection IP64; the door locking device prevents accidental opening of the control cabinet door when the switch is set to ON. The OFF position can be locked with up to three padlocks.

S00¹⁾ ... S3 S00¹⁾ ... S3 Door-coupling Black 3RV2926-0B 1 unit rotary operating 330 3RV2926-0K 1 unit 41E mechanisms S00¹⁾ ... S3 S00¹⁾ ... S3 **EMERGENCY** 41F Red/yellow 130 3RV2926-0C 1 unit STOP 3RV2926-0L 41E 330 1 unit door-coupling rotary operating mechanisms

Door-coupling rotary operating mechanisms for arduous conditions

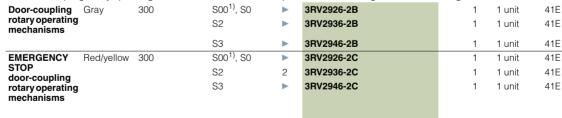


The door-coupling rotary operating mechanisms consist of an actuator, a coupling driver, an extension shaft of 300 mm in length (8 mm x 8 mm), a spacer and two metal brackets into which the motor starter protector/circuit breaker is inserted.

The door-coupling rotary operating mechanisms are designed to degree of protection IP65. The door interlocking reliably prevents opening of the control cabinet door in the ON position of the motor starter protector/circuit breaker. The OFF position can be locked with up to three padlocks.

Laterally mountable auxiliary releases and two-pole auxiliary switches can be used.

The door-coupling rotary operating mechanisms thus meet the requirements for isolating functions according to IEC 60947-2.





3RV2936-2C

¹⁾ Not for 3RV1011.

	Version	Rated control supply voltage $U_{\rm S}$	For motor starter protectors/ circuit breakers Size	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
ΟI	perating mecha	anisms							

3RV1946-3AP0

Remote motorized of



Remote motorized operating mechanisms

50/60 Hz, 230 V AC

3RV1946-3AP0

1 unit

41E

Mounting accessories

Overview

More information

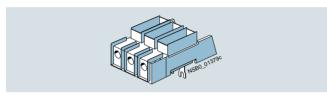
System Manual "SIRIUS – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60279172

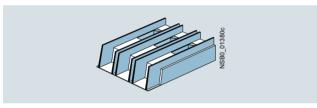
Accessories for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1

The 3RV20 motor starter protectors with screw terminals are approved according to UL 508/UL 60947-4-1 as "Self-Protected Combination Motor Controllers (Type E)".

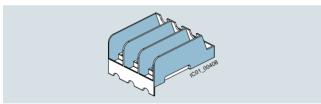
This requires increased through air and over surface spacing (1 inch and 2 inches respectively) at the input side of the device, which are achieved by mounting a terminal block or a phase barrier.



SIRIUS 3RV2928-1H terminal block



SIRIUS 3RT2946-4GA07 terminal block (type E)



SIRIUS 3RV2928-1K phase barrier

Motor starter protectors/ circuit breakers	Size	Essential accessories for "Self-Protected Combination Motor Controllers (Type E)" acc. to UL 508/UL 60947-4-1
3RV201., 3RV202.	S00/S0	3RV2928-1H terminal block or 3RV2928-1K phase barrier
3RV2031-4B.1., 3RV2031-4D.1., 3RV2031-4E.1., 3RV2031-4P.1., 3RV2031-4S.1., 3RV2031-4U.1., 3RV2031-4U.1., 3RV2031-4U.1.	S2	-
3RV2031-4J.1., 3RV2031-4K.1., 3RV2031-4R.1., 3RV2031-4W.1., 3RV2031-4X.1., 3RV2032	S2	3RV2938-1K phase barrier
3RV204.	S3	3RT2946-4GA07 terminal block

-- No accessories needed

Special three-phase infeed terminals are required for constructing "Type E Starters" with an insulated three-phase busbar system (see "Busbar accessories", page 7/48).

The 3RV29 infeed system also enables the assembly of "Type E Starters", see page 7/62 onwards.

Note:

According to CSA, these terminal blocks and the phase barriers can be omitted when the device is used as a "Self-Protected Combination Motor Controller (Type E)".

Mounting accessories

Link modules

Feeders can be easily assembled from single devices with the help of the link modules. The following table shows the different combination options for devices with screw or spring-type terminals.

Combination devices	3RV2 motor starter	3RT2 contactors;	Link modules		
	protectors/ circuit breakers	3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	Screw terminals	Spring-type terminals	
	Size	Size			
Link modules for connecting switching devices to	3RV2 motor starter prote	ectors/circuit breakers ¹⁾			
3RT2 contactors with AC or DC coil	S00	S00	3RA1921-1DA00	3RA2911-2AA00	
	S0	S00	_		
	S2	S2	3RA2931-1AA00		
	S3 ²⁾	S3 ²⁾	3RA1941-1AA00		
3RT2 contactors with AC coil	S00	S0	3RA2921-1AA00		
	S0	S0	_	3RA2921-2AA00 ³⁾	
3RT2 contactors with DC coil	S00	S0	3RA2921-1BA00		
	S0	S0	_	3RA2921-2AA00	
3RW30 soft starters	S00	S00	3RA2921-1BA00	3RA2911-2GA00	
	S0	S00	_		
3RW30/3RW40 soft starters	S00	S0	3RA2921-1BA00		
	S0	S0	_	3RA2921-2GA00	
	S2 ⁴⁾	S2 ⁴⁾	3RA2931-1AA00		
	S3 ⁵⁾	S3 ⁵⁾	3RA1941-1AA00		
3RF34 solid-state contactors	S00/S0	S00	3RA2921-1BA00		
Hybrid link modules for connecting contactors with spri	ng-type terminals to 3RV2	2 motor starter protectors/circuit l	oreakers with screw te	rminals ⁶⁾	
3RT2 contactors with AC or DC coil	S00	S00	3RA2911-2FA00		
	S0	S0	3RA2921-2FA00		

- -- Version not possible
- The link modules cannot be used for 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27, 3RV28 and 3RV1011 motor starter protectors/circuit breakers.
- 2) To assemble the feeder between a motor starter protector and a contactor in size S3, the 3RA2942-1AA00 standard mounting rail adapter must be used
- 3) A spacer for height compensation on AC contactors, size S0, is optionally available, see page 7/56.
- 4) To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1CA00 standard mounting rail adapter must be
- 5) It is only permissible to assemble the feeder between the motor starter protector and the soft starter in size S3 on a mounting plate.
- 6) The hybrid link modules for motor starter protector to contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are suitable only for constructing direct-on-line starters.

Notes:

- Link modules can be used in
 - Size S00: up to max. 16 A
 - Size S0: up to max. 32 A
 - Size S2: up to max. 65 A
- Hybrid link modules can be used in
 - Size S00: up to max. 16 A
 - Size S0: up to max. 32 A

7/53

Mounting accessories

Selection and ordering data

Accessories

	Version	For motor star protectors/ circuit breake	ers	Article No. Pri		PS*	PG
Cavava		Size	d				
3RV2 (size S3) with 3RT1946-4EA1 (left)	Terminal covers For cable lug and busbar connection for maintaining the required voltage clearances and as touch protection if box terminal is removed (2 units can be mounted per motor starter protector/circuit breaker)	S3	5	3RT1946-4EA1	1	1 unit	41B
3RV2908-0P	Scale covers Sealable, for covering the set current scale	3RV20, 3RV2 3RV24: S00 S3	1, ▶	3RV2908-0P	100	10 units	41E
3RT2936-4EA2	Covers for devices with screw terminals (box terminals) Additional touch protection to be fitted at the box terminals (2 units required per device)						
3N12930-4EA2	Main current level	S2	>	3RT2936-4EA2	1	1 unit	41B
Fixing accessories		S3	<u> </u>	3RT2946-4EA2	1	1 unit	41B
3RV2928-0B	Push-in lugs For screwing the motor starter protector/ circuit breaker onto mounting plates Two units are required for each motor starter protector.	S00, S0	2	3RV2928-0B	100	10 units	41E
Tools for opening	spring-type terminals						
3RA2908-1A	Screwdrivers For all SIRIUS devices with spring-type term Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	inals S00 S3	2	Spring-type terminals 3RA2908-1A	1	1 unit	41B
Terminal covers for block 3RT2946-4G	Additional touch protection to be fitted at the						
3RV2948-1LAA00	box terminals 3RV2742 (2 units required per device) and at Type E terminal block 3RT2946-4GA07 • Main current level	S3 N	EW X	3RV2948-1LA00	1	1 unit	41B

Mounting accessories

Version	For motor starter protectors/ circuit breakers	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	d					

Terminal blocks and phase barriers for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1

Terminal blocks Type E

For extended clearance and creepage

For extended clearance and creepage



distances (1 and 2 inch) Phase barriers

distances (1 and 2 inch)

UL 508/UL 60947-4-1 approval demands 1-inch through air spacing and 2-inch over surface spacing for "Self-Protected Combination Motor Controllers (Type E)". The following terminal blocks or phase barriers must be used for the 3RV20 motor starter protectors with screw terminals. 3RV20 motor starter protectors with spring-type terminals must be assembled with the 3RV29 infeed system for approval as "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1.

5

1

5

3RV2928-1H

3RV2928-1K

3RV2938-1K

3RT2946-4GA07

The terminal block or phase barriers cannot be used in combination with the 3RV19.5 three-phase busbars.

S00, S0

S00, S0

S3

S2

S3

For construction with three-phase busbars, see "Busbar accessories", page 7/46 onwards



3RT2946-4GA07



3RV2928-1K



Auxiliary terminals, 3-pole



For connection of auxiliary and control cables to the main conductor connections (for one side)

3RT2946-4F

1 unit

41B

41E

41B

41E

41F

1 unit

1 unit

1 unit

1 unit

1

Mounting accessories

Link modules								
	Actuating voltage of contactor	Size 3RT2 contactors	3RV2 motor starter protectors/ circuit breakers	SD	Article No. Pri per F		PS*	PG
			1)	d				
Link modules for m	otor starter protector							
Marie	For mechanical and el motor starter protector				Screw terminals			
	Single-unit packaging	g						
3RA2921-1AA00	AC/DC AC DC AC/DC AC/DC	\$00 \$0 \$0 \$2 \$3	S00/S0 S00/S0 S00/S0 S2 S3	2 2 •	3RA1921-1DA00 3RA2921-1AA00 3RA2921-1BA00 3RA2931-1AA00 3RA1941-1AA00	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	Multi-unit packaging							
	AC/DC AC DC AC/DC AC/DC	\$00 \$0 \$0 \$2 \$3	S00/S0 S00/S0 S00/S0 S2 S3	2 2	3RA1921-1D 3RA2921-1A 3RA2921-1B 3RA2931-1A 3RA1941-1A	1 1 1 1 1	10 units 10 units 10 units 5 units 5 units	41B 41B 41B 41B 41B
3RA2931-1AA00								
of Albert	For mechanical and el starter protector and c				Spring-type terminals			
000	Single-unit packaging	-						
	AC/DC AC ²⁾ DC	S00 S0 S0	S00 S0 S0	>	3RA2911-2AA00 3RA2921-2AA00 3RA2921-2AA00	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RA2911-2AA00	Multi-unit packaging							
	AC/DC AC ²⁾ DC	S00 S0 S0	\$00 \$0 \$0	>	3RA2911-2A 3RA2921-2A 3RA2921-2A	1 1 1	10 units 10 units 10 units	41B 41B 41B
	Spacers ²⁾ For compensating the	height on AC	contactors					
3	Single-unit packaging Multi-unit packaging	S0 S0	S0 S0	2	3RA2911-1CA00 3RA2911-1C	1 1	1 unit 5 units	41B 41B



3RA2911-1CA00

Note:

Link modules can be used in

- Size S00: up to max. 16 A
- Size S0: up to max. 32 A
- Size S2: up to max. 65 A

The link modules for motor starter protector to contactor cannot be used for 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27, 3RV28 and 3RV1011 motor starter protectors/circuit breakers.

²⁾ A spacer for height compensation on AC contactors size S0 is optionally

Mounting accessories

	Size 3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	3RV2 motor starter protectors/circuit breakers	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Link modules for a protector to solid-	motor starter protector to sof state contactor ¹⁾	t starter ¹⁾ and motor sta	rter					
	Connection between motor starter solid-state contactor with screw te			Screw terminals				
	Single-unit packaging							
	S00	S00/S0	2	3RA2921-1BA00		1	1 unit	41B
	S0 S2 ²⁾	S00/S0	2	3RA2921-1BA00 3RA2931-1AA00		1	1 unit 1 unit	41B 41B
3RA2921-1BA00	S2 ⁷ S3 ³⁾	S2 S3 ³⁾		3RA1941-1AA00		1	1 unit	41B 41B
311A2321-1BA00	Multi-unit packaging							
	S00	S00/S0	2	3RA2921-1B		1	10 units	41B
	S0	S00/S0	2	3RA2921-1B		1	10 units	41B
	S2 ²)	S2 S3 ³⁾		3RA2931-1A		1	5 units	41B
	S3 ³⁾	\$307	•	3RA1941-1A		1	5 units	41B
3RA2931-1AA00								
1	Connection between motor starter with spring-type terminals	r protector and soft starter		Spring-type terminals	<u> </u>			
1000	Single-unit packaging							
	S00	S00	2	3RA2911-2GA00		1	1 unit	41B
777	SO	S0	2	3RA2921-2GA00		1	1 unit	41B
3RA2921-2GA00								

- 1) The link modules for motor starter protector to soft starter and motor starter protector to solid-state contactor cannot be used for 3RV2.21-4PA1., 3RV2.31-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27, 3RV28 and 3RV1011 motor starter protectors/circuit breakers.
- To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1CA00 standard mounting rail adapter must be used.
- 3) It is only permissible to assemble the feeder between the motor starter protector and the soft starter in size S3 on a mounting plate.

Note:

Link modules can be used in

- Size S00: up to max. 16 A
- Size S0: up to max. 32 A
- Size S2: up to max. 65 A

Mounting accessories

	Actuating voltage of contactor	Size 3RT2 contactors	3RV2 motor starter protectors/ circuit breakers	SD	Article No. Pr	ce PL PU (UNIT SET, M		PG
				d				
Hybrid link modul	es for motor starter protect	or to conta	ctor ¹⁾					
41	Mechanical and electrical conn protector with screw terminals a terminals							
aa a	Single-unit packaging							
la la la	AC/DC AC ²⁾ /DC	S00 S0	S00 S0	>	3RA2911-2FA00 3RA2921-2FA00		1 unit 1 unit	41B 41B
3RA2911-2FA00	Multi-unit packaging							
Trin	AC/DC AC ² /DC	S00 S0	S00 S0	2	3RA2911-2F 3RA2921-2F		10 units 10 units	41B 41B
3RA2921-2FA00	2)							
	Spacers ²⁾ For compensating the height or	n AC contacto	rs					
	Single-unit packaging Multi-unit packaging	S0 S0	S0 S0	2 2	3RA2911-1CA00 3RA2911-1C		1 unit 5 units	41B 41B
3RA2911-1CA00								

¹⁾ The hybrid link modules for motor starter protector to contactor cannot be used for 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27, 3RV28 and 3RV1011 motor starter protectors/circuit breakers. They are suitable only for constructing direct-on-line starters.

2) A spacer for height compensation on AC contactors size S0 is optionally

Note:

Hybrid link modules in size S00 can be used up to max. 16 A and in size S0 up to max. 32 A.

	For motor starter protectors/ circuit breakers	Version	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Туре		d	Article No.	Price per PU			
Motor feeder conne screw terminals	ectors for mot	or starter protectors/circuit breakers with						
The state of the s	3RV2.2	Adapters for motor starter protectors/ circuit breakers Ambient temperature $T_{\rm u \ max.} = 60 ^{\circ}{\rm C}$ Size S0, rated operational current $I_{\rm e}$ at 400 V 3 AC: 25 A	5	3RT1926-4RD01		1	1 unit	41B
3RT1926-4RD01	3RV2.2	Motor feeder connectors for motor starter protectors/circuit breakers Size S0	5	3RT1900-4RE01		1	1 unit	41B

3RT1900-4RE01

Enclosures and front plates

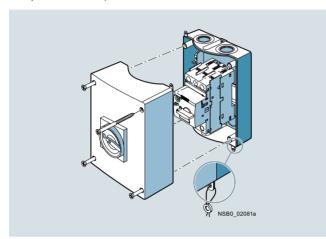
Overview

Enclosures

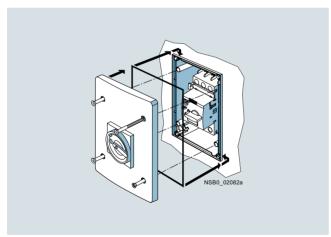
For stand-alone installation of 3RV20 to 3RV24 motor starter protectors size S00 ($I_{\rm n\,max}$ = 16 A), S0 ($I_{\rm n\,max}$ = 32 A) and S2 ($I_{\rm n\,max}$ = 65 A), cast aluminum enclosures for surface mounting and molded-plastic enclosures for flush mounting are available in various dimensions.

When installed in a molded-plastic enclosure the motor starter protectors have a rated operational voltage $U_{\rm e}$ of 500 V.

The enclosures for surface mounting have the degree of protection IP55; the enclosures for flush mounting also comply with the degree of protection IP55 at the front (the flush-mounted section complies with IP20).



Enclosures for surface mounting



Enclosures (only for sizes S00 and S0)

All enclosures are equipped with N and PE terminals. There are two knock-out cable entries for cable glands at the top and two at the bottom; also on the rear corresponding cable entries are scored. There is a knockout on the top of the enclosure for indicator lights that are available as accessories.

The narrow enclosure can accommodate a motor starter protector without accessories, with transverse auxiliary switch and with lateral auxiliary switch. There is no provision for installing a motor starter protector with a signaling switch.

With size S00 to S2 circuit breakers the molded-plastic enclosures are equipped with a rotary operating mechanism.

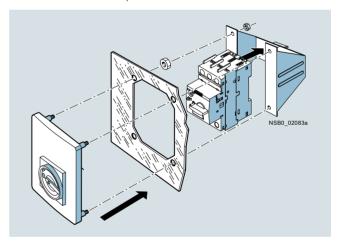
The enclosures can be supplied with either a black rotary operating mechanism or with an EMERGENCY STOP rotary operating mechanism with a red/yellow knob.

In the OFF setting, all rotary operating mechanisms can be locked with up to three padlocks. The enclosures are not suitable for 3RV1011 motor starter protectors.

Front plates

Motor starter protectors are frequently required to be actuated in any enclosure. Front plates equipped with a rotary operating mechanism for 3RV20 to 3RV24 motor starter protectors sizes S00 to S3 are available for this purpose.

A holder for the motor starter protectors sizes S00 and S0, into which the motor starter protectors can be snapped, is available for the front plates. The front plates are not suitable for 3RV1011 motor starter protectors.



Front plate (including holder) for sizes S00 and S0

Enclosures and front plates

Selection and	ordering da	ata								
	Version	Degree of pro- tection	Integrated terminals	Width	For 3RV20 to 3RV24 motor starter protectors	SD	Article No. Price per PU		PS*	PG
				mm	Size	d				
Molded-plastic	enclosures	for sur	rface mou	nting ¹⁾						
	With rotary operating mechanism,	IP55	N and PE/ground	54 (for motor starter protector + lateral auxiliary switch)	S00 ⁵⁾ , S0		3RV1923-1CA00	1	1 unit	41E
3RV1933-1DA00	lockable in 0 position			72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁵⁾ , S0	•	3RV1923-1DA00	1	1 unit	41E
				82 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S2	•	3RV1933-1DA00	1	1 unit	41E
	With EMER- GENCY STOP rotary	IP55	N and PE/ground	54 (for motor starter protector + lateral auxiliary switch)	S00 ⁵⁾ , S0	•	3RV1923-1FA00	1	1 unit	41E
3RV1923-1FA00,	operating mechanism, lockable in 0 position			72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁵⁾ , S0	•	3RV1923-1GA00	1	1 unit	41E
3RV1933-1GA00				82 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S2	2	3RV1933-1GA00	1	1 unit	41E
Cast aluminun	n enclosure:	s for su	rface mou	nting ¹⁾						
	With rotary operating mechanism, lockable in 0 position	IP65	PE ³⁾	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁵⁾ , S0	>	3RV1923-1DA01	1	1 unit	41E
3RV1923-1DA01	With EMER- GENCY STOP rotary operating mechanism, lockable in 0 position	IP65	PE ³⁾	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁵⁾ , S0	>	3RV1923-1GA01	1	1 unit	41E
Molded-plastic		for flus	sh mounti	ng ⁴⁾						
	With rotary operating mechanism, lockable in 0 position	IP55 (front	N and	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁵⁾ , S0	2	3RV1923-2DA00	1	1 unit	41E
3RV1923-2DA00										
	With EMER- GENCY STOP rotary operating mechanism, lockable in 0 position	(front	N and PE/ground	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁵⁾ , S0	2	3RV1923-2GA00	1	1 unit	41E
	With actuator diaphragm	IP55 (front side)	N and PE/ground	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁶⁾	2	3RV1913-2DA00	1	1 unit	41E
3RV1913-2DA00										
Molded-plastic	enclosures	for sur	rface mou	nting					·	
3RV1913-1CA00	With actuator diaphragm	IP55	N and PE/ground	85 105	S00 ⁶⁾	•	3RV1913-1CA00 3RV1913-1DA00	1 1	1 unit 1 unit	41E 41E
1) The rear cable (alanda aannat	ba waad	on 2D\/0.11	2 and 2PV/2 21 2	4) Not quite	blo fe	or 3B\/2 11_ 2 and 3B\/2 21_ 2	daviaga vi	th anxina t	

The rear cable glands cannot be used on 3RV2.11-...2. and 3RV2.21-...2. devices with spring-type terminals.
 Only valid for lateral auxiliary switches with two auxiliary contacts.

³⁾ If required, an additional N terminal can be mounted (e.g. 8WA1011-1BG11).

⁴⁾ Not suitable for 3RV2.11-...2. and 3RV2.21-...2. devices with spring-type terminals.

⁵⁾ Not for 3RV1011.

⁶⁾ Only for 3RV1011.

Enclosures and front plates

							sui cs ai	id il Olit	piatoo
	Version	Degree of protection	For 3RV20 to 3RV24 motor starter protectors Size	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Front plates			GIZO	<u> </u>					
	Molded-plastic front plates with rooperating mechanism, lockable in 0 position	tary IP55 (front side)	S00 ¹⁾ , up to S3	>	3RV1923-4B		1	1 unit	41E
	For actuation of 3RV2 motor starter protectors in any enclosure								
3RV1923-4B +	Molded-plastic front plates with EMERGENCY STOP rotary operati mechanism, red/yellow, lockable in 0 position	IP55 ng (front side)	S00 ¹⁾ , up to S3	•	3RV1923-4E		1	1 unit	41E
3RV1923-4G	EMERGENCY STOP actuation of 3RV2 motor starter protectors in any enclosure								
	Holders for front plates		S00 ¹⁾ , S0		3RV1923-4G		1	1 unit	41E
	Holder is mounted on front plate, mo starter protector with and without accessories is snapped in.	otor							
1) Not for 3RV1011.									
	Version	Rated control supply voltage $U_{\rm S}$	For 3RV20 to 3RV24 motor starter protectors	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V	Size	d					
Indicator lights									
	Indicator lights For all enclosures and front plates • With LED lamp for versions 110 120 V,	110 120 220 240 380 415 480 500	S00 to S3	5 2 2 5	3RV1903-5B 3RV1903-5C 3RV1903-5E 3RV1903-5G		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E



• With LED lamp for versions 110 ... 120 V, with glow lamp for versions 220 ... 500 V

With colored lenses red, green, yellow-orange and clear

3RV29 infeed system

Overview

The 3RV29 infeed system is a convenient means of energy supply and distribution for a group of several motor starter protectors or complete load feeders with screw or spring-type terminals in sizes S00 and S0. Motor starter protectors or load feeders with a rated current of maximum 32 A each can be used. 3RV21, 3RV27 and 3RV28 motor starter protectors/circuit breakers cannot be deployed in this system.

The system is based on a basic module complete with a lateral incoming unit (three-phase busbar with infeed). This infeed with spring-type terminals is mounted on the right or left, depending on the version, and can be supplied with a maximum conductor cross-section of 25 mm² (with end sleeve). A basic module has two sockets onto each of which a motor starter protector can be snapped.

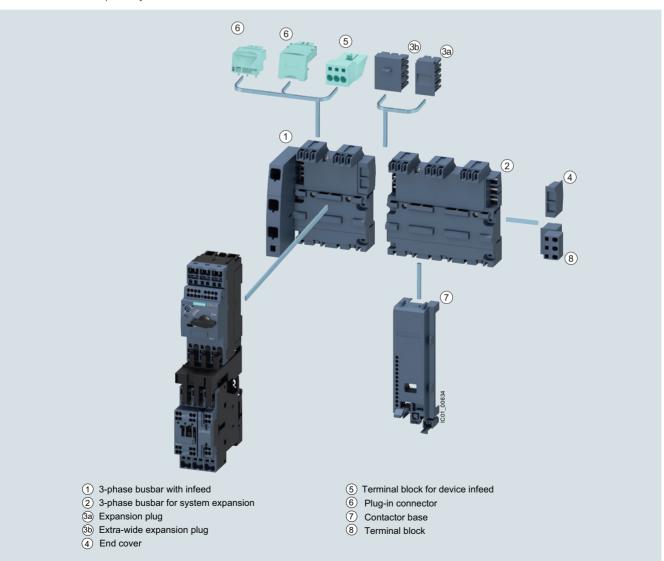
Expansion modules (three-phase busbars for system expansion) are available for extending the system. The individual modules are connected through an expansion plug.

The electrical connection between the three-phase busbars and the motor starter protectors is implemented through plug-in connectors. The complete system can be mounted on a TH 35

standard mounting rail to IEC 60715, and can be expanded as required up to a maximum current carrying capacity of 63 A.

The system is mounted extremely quickly and easily thanks to the simple plug-in technique. Thanks to the lateral infeed, the system also saves space in the control cabinet. The additional height required for the infeed unit is only 30 mm. The alternative infeed possibilities on each side offer a high degree of flexibility for configuring the control cabinet: Infeed on left-hand or right-hand side as well as infeed on one side and outfeed on the other side to supply further loads are all possible. A terminal block with spring-type connections in combination with a standard mounting rail enables the integration of not only SIRIUS motor starter protectors but also single-phase, two-phase and three-phase components such as 5SY miniature circuit breakers or SIRIUS relay components.

The 3RV29 infeed system is approved in accordance with IEC to 500 V. It is also UL-approved and authorized for "Self-Protected Combination Motor Controllers" (Type E starter) as well as for Type F starter (Type E starter + contactor).



SIRIUS 3RV29 infeed system

3RV29 infeed system

1) Three-phase busbars with infeed

A three-phase busbar with infeed unit is required for connecting the incoming supply. These modules comprise one infeed module and two sockets which each accept one motor starter protector. A choice of two versions with infeed on the left or right is available. The infeed is connected to spring-type terminals. They permit an infeed with conductor cross-sections of up to 25 mm² with end sleeve. An end cover is supplied with each module

2) Three-phase busbars for system expansion

The three-phase busbars for system expansion support expansion of the system. There is a choice of modules with two or three sockets. The system can be expanded as required up to a maximum current carrying capacity of 63 A. An expansion plug is supplied with each module.

3 a Expansion plug

The expansion plug is used for electrical connection of adjacent three-phase busbars. The current carrying capacity of this plug equals 63 A. One expansion plug is supplied with each three-phase busbar for system expansion. Additional expansion plugs are therefore only required as spare parts.

(3)b Extra-wide expansion plug

The wide expansion plug makes the electrical connection between two three-phase busbars, thus performing the same function as the 3RV2917-5BA00 expansion plug; the electrical characteristics (e.g. a current carrying capacity of 63 A) are identical.

The 3RV2917-5E expansion plug is 10 mm wider than the 3RV2917-5BA00 expansion plug, hence in the plugged state there is a distance of 10 mm between the connected three-phase busbars. This distance can be used to lay the auxiliary current and control current wiring ("wiring duct"). The motor starter protector and contactor can be wired from underneath, which means that the complete cable duct above the system can be omitted.

(4) End cover

The end cover is used to cover the three-phase busbar at the open end of the system. This cover is therefore only required once for each system. An end cover is supplied with each three-phase busbar system with infeed. Further end covers are therefore only required as spare parts.

(5) Terminal block for device infeed

A new addition to the system is a connector for outfeeding to a device slot within a module. This offers the option not only of connecting three-phase loads to the system, but also of integrating single-phase loads into the infeed system.

6 Plug-in connector

The plug-in connector is used for the electrical connection between the three-phase busbar and the 3RV2 motor starter protector. These plug-in connectors are available for screw or spring-type terminals.

(7) Contactor base

Load feeders can be assembled in the system using the S00 and S0 contactor base. The contactor bases are suitable for contactors sizes S00 and S0 with spring-type and screw terminals and are simply snapped onto the three-phase busbars. Direct-on-line starters and reversing starters are possible. One contactor base is required for direct-on-line starters and two are required for reversing starters.

To assemble load feeders for reversing starters, the contactor bases can be arranged alongside each other (90 mm overall width). In this case the mechanical interlocking of the contactors is possible. The S0 contactor bases are also suitable for soft starters size S00 and S0 with screw terminal.

The infeed system is designed for mounting onto a TH 35 standard mounting rail with 7.5 mm overall depth. This standard mounting rail gives the contactor base a stable mounting surface to sit on. If standard mounting rails with a depth of 15 mm are used, the spacer connected to the bottom of the contactor base must be knocked out and plugged into the standard mounting rail mating piece, which is also located on the underside. Then the contactor base also has a stable mounting surface. When standard mounting rails with a depth of 7.5 mm are used, the spacer has no function and can be removed.

The link modules are used for direct start load feeders, in which case the use of a contactor base is not absolutely necessary. Motor starter protector and contactor assemblies can then be directly snapped onto the sockets of the three-phase busbars. For feeders of sizes S00 and S0, the corresponding 3RA1921-1...., 3RA2911-2...., 3RA2921-1.... or 3RA2921-2.... link modules should generally be used.

(8) Terminal block

The 3RV2917-5D terminal block enables the integration of not only SIRIUS motor starter protectors but also single-phase, two-phase and three-phase components. The three phases can be fed out of the system using the terminal block; which means that single-phase loads can also be integrated in the system. The terminal block is plugged into the slot of the expansion plug and thus enables outfeeding from the middle or end of the infeed system. The terminal block can be rotated through 180° and be locked to the support modules of the infeed system. In addition, the 45 mm wide TH 35 3RV1917-7B standard mounting rail option for screwing onto the support plate facilitates plugging the single-phase, two-phase and three-phase components onto the infeed system.

SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers

3RV29 infeed system

Technical specifications

More information		
Manual, see https://support.industry.siemer	ns.com/cs/ww/en/view/60279172	

General data					
Туре					3RV29.7
Size					S00, S0
Standards					
• IEC 60947-2					✓
• IEC 60947-4-1					✓
• UL 508/UL 6094	7-4-1				✓
Rated current In				Α	63
Permissible rated	l current at i	nside temperature	of control cabinet		
Motor starter protectors	Size	Rated current	Inside temperature of control cabinet		
• 3RV2.11	S00	14 A	60 °C	%	100
		> 14 16 A	40 °C 60 °C	%	100 87
• 3RV2.21	S0	16 A	60 °C	%	100
		> 16 25 A	40 °C 60 °C	%	100 87
		> 25 32 A	40 °C	%	87
Permissible ambi	ient tempera	ture			
 Storage/transport 	rt			°C	-50 +80
 Operation 				°C	-20 +60
Rated operationa	l voltage <i>U</i> e				
 Acc. to IEC 		10% overvoltag	je	V AC	500
		5% overvoltage)	V AC	525
 Acc. to UL/CSA 				V AC	600
Rated frequency				Hz	50/60
Rated impulse wi	thstand volta	age <i>U_{imp}</i>		kV	6
Short-circuit stre	-				corresponds to the mounted motor starter protector or load feeder
Degree of protect	t ion acc. to IE	EC 60529			IP20 (In the terminal compartment of the infeed without connected IP00 conductor)
Touch protection	acc. to IEC 6	60529			Finger-safe

Conductor cross-sections				
Туре		Three-phase busbar with infeed 3RV2917-1A, 3RV2917-1E	Terminal block 3RV2917-5D	Terminal block for device infeed 3RV2917-5FA00
Conductor cross-sections (min./max.)				
Solid or stranded	mm^2	4 25	1.5 6	1 10
Finely stranded with end sleeve	mm^2	4 25	1.5 4	1 6
Finely stranded without end sleeve	mm^2	6 25	1.5 6	
AWG cables	AWG	10 3	15 10	18 8

⁻⁻ No

3RV29 infeed system

ng data								
Туре	Version	3RV23, 3RV24 motor starter protectors		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
and the forter of		Size	d					
with infeed Incl. 3RV2917-6A end cover	protectors with screw or spring-type terminals • With infeed on the left • With infeed on the right	S00, S0 S00, S0	2 2	3RV2917-1A 3RV2917-1E		1	1 unit 1 unit	41E 41E
Inree-phase busbars Incl. 3RV2917-5BA00 expansion plug	For motor starter protectors with screw or spring-type terminals • For 2 motor starter protectors • For 3 motor starter protectors	S00, S0 S00, S0	2	3RV2917-4A 3RV2917-4B		1	1 unit 1 unit	41E 41E
Plug-in connectors To make contact with the motor starter protectors	 For spring-type terminals Single-unit packaging Multi-unit packaging 	\$00 ¹⁾³⁾ \$0 ²⁾ \$00 ¹⁾³⁾ \$0 ²⁾	2 2 2 2	Spring-type terminals 3RV2917-5AA00 3RV2927-5AA00 3RV2917-5A 3RV2927-5A		1 1 1	1 unit 1 unit 10 units 10 units	41E 41E 41E 41E
	For screw terminals			Screw terminals				
		\$00 ¹⁾³⁾ \$0 ²⁾ \$00 ¹⁾³⁾ \$0 ²⁾	2 • 2	3RV2917-5CA00 3RV1927-5AA00 3RV2917-5C 3RV1927-5A	₩.	1 1 1	1 unit 1 unit 10 units 10 units	41E 41E 41E 41E
		3)	0 D) /	1011				
		9) Not fo	r 3RV	1011.				
raing.								
Туре	Version	For contactors Size	SD	Article No.			PS*	PG
Contactor bases For mounting direct-on-line or reversing starters	Single-unit packaging	S00 ¹⁾ S00 ¹⁾ , S0	2 2	3RV2917-7AA00 3RV2927-7AA00		1	1 unit 1 unit	41E 41E
	with infeed Three-phase busbars with infeed Incl. 3RV2917-6A end cover for system expansi Three-phase busbars Incl. 3RV2917-5BA00 expansion plug Plug-in connectors To make contact with the motor starter protectors Type Contactor bases For mounting direct-on-line or	Type Version With infeed Three-phase busbars with infeed on Incl. 3RV2917-6A end cover For system expansion Three-phase busbars Incl. 3RV2917-5BA00 expansion plug For 2 motor starter protectors with screw or spring-type terminals For 2 motor starter protectors with screw or spring-type terminals For 2 motor starter protectors with screw or spring-type terminals For 3 motor starter protectors For 3 motor starter protectors For spring-type terminals For 3 motor starter protectors For 3 motor starter protectors For spring-type terminals For spring-type terminals For spring-type terminals For spring-type terminals Single-unit packaging For screw terminals Single-unit packaging Multi-unit packaging For mounting direct-on-line or Single-unit packaging For mounting direct-on-line or	Type Version For 3RV20, 3RV23, 3RV24 motor starter protectors with infeed Three-phase busbars with infeed Incl. 3RV2917-6A end cover For 2 motor starter protectors with screw or spring-type terminals With infeed on the left with infeed on the right For 2 motor starter protectors with screw or spring-type terminals For 2 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For 3 motor starter protectors For spring-type terminals Single-unit packaging S0013 S02 Wulti-unit packaging S0013 S02 Wulti-unit packaging S0013 S02 Wersion For contactors Size Contactor bases For mounting Single-unit packaging S001 S001, S00	Type Version For 3RV20, 3RV23, 3RV24 motor starter protectors Size d with infeed Three-phase busbars with infeed Incl. 3RV2917-6A end cover **Three-phase busbars Incl. 3RV2917-6A end cover **Three-phase busbars Incl. 3RV2917-5BA00 expansion plug **Protectors with screw or spring-type terminals **Protectors with screw or spring-type terminals **For 2 motor starter protectors with screw or spring-type terminals **For 2 motor starter protectors **For 3 motor starter protectors **For 3 motor starter protectors **Protectors **	Type	Type Version For SRV20, SRV23, SRV24 motor starter protectors with infeed Three-phase busbars for 2 motor starter protectors with screw or spring-type terminals or spring	Type	Type

3RV29 infeed system

onved inicoa cyclor								
	Туре	Version	SD	Article No.	Price per PU		PS*	PG
			d					
Terminal blocks								
3RV2917-5D	Terminal blocks For integration of single-phase, two-phase and three-phase components	Single-unit packaging	2	3RV2917-5D		1	1 unit	41E
	ting rails, width 45 mm							
- Thi do Standard modifi	TH 35 standard mounting	Single-unit packaging	2	3RV1917-7B		1	1 unit	41E
3RV1917-7B	rails Acc. to IEC 60715, width 45 mm For mounting onto three-phase busbars	Olligic driit packaging	۷	GIIV 1311 7 E		·	Turne	712
Extra-wide expansion	กโมสร							
Extra Wide expansion	Extra-wide expansion plugs	Single-unit packaging	2	3RV2917-5E		1	1 unit	41E
	As accessory							
3RV2917-5E								
Expansion plugs								
3RV2917-5BA00	Expansion plugs ¹⁾ As spare part	Single-unit packaging	2	3RV2917-5BA00		1	1 unit	41E
End covers								
	End covers ²) As spare part	Multi-unit packaging	2	3RV2917-6A		100	10 units	41E
3RV2917-6A								
Terminal blocks for de	evice infeed							
3RV2917-5FA00	Terminal blocks for device infeed	Single-unit packaging	2	3RV2917-5FA00		1	1 unit	41E

The expansion plug is included in the scope of supply of the 3RV2917-4. three-phase busbars for system expansion.
 The end cover is included in the scope of supply of the 3RV2917-1. three-phase busbars with infeed system.

Screw terminals

Article No.

For fuse monitoring

PS*

1 unit

PG

41E

PU (UNIT,

SET, M)

Price

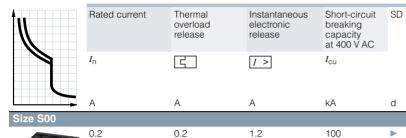
per PU

Technical specifications

See pages 7/10, 7/12, 7/15, 7/20, 7/21 and 7/24

Selection and ordering data

Without auxiliary switches



3RV1611-0BD10

3RV1611-0BD10

Note:

The auxiliary switch required for signaling must be ordered separately.

Accessories

Accessories								
	Version	Contacts	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
			d	Article No.	Price per PU			
Mountable au	xiliary switches (essential accessories)							<u>.</u>
66 66	Transverse auxiliary switches With screw terminals, mountable on the front	1 NO + 1 NC	•	3RV2901-1E		1	1 unit	41E
3RV2901-1E								
	Lateral auxiliary switches With screw terminals, mountable on the left	1 NO + 1 NC	•	3RV2901-1A		1	1 unit	41E
3RV2901-1A								

Additional auxiliary switches and other accessories, see

"Accessories", page 7/43 onwards.

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers

For distance protection

Technical specifications

See page 7/25

Selection and ordering data

Voltage transformer circuit breakers with transverse auxiliary switches (1 CO)

	Rated current	Thermal overload release	Instantaneous electronic release	Auxiliary switch integrated in the motor starter protector, transverse	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	I_{n}	<u> </u>	[] >		$I_{ m CU}$		Article No.	Price per PU			
	Α	Α	Α		kA	d					
Size S00											
3RV1611-1.G14	1.4 2.5 3	1.4 2.5 3	6 10.5 20	1 CO 1 CO 1 CO	50 50 50	5	3RV1611-1AG14 3RV1611-1CG14 3RV1611-1DG14		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E

Accessories

Version	Contacts	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		d	Article No.	Price per PU			
ciliary switches for other signali	ng purposes						

Mountable

Lateral auxiliary switches
With screw terminals, mountable on the left 1 NO + 1 NC 3RV2901-1A

41E 1 unit



Additional auxiliary switches and other accessories, see "Accessories", page 7/43 onwards.

* You can order this quantity or a multiple thereof. Illustrations are approximate

For motor protection

Selection and ordering data

CLASS 10, without auxiliary switches

	Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	4	PU (UNIT, SET, M)	PS*	PG
	I_{n}		G	[>	$I_{ m CU}$		Article No.	Price per PU			
	А	kW	Α		kA	d					
Size S00											
000	0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	2.1 2.6 3.3 4.2	100 100 100 100	5 5 5 5	3RV1011-0AA10 3RV1011-0BA10 3RV1011-0CA10 3RV1011-0DA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
Satura Control	0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 100 100 100	5 5 5 5	3RV1011-0EA10 3RV1011-0FA10 3RV1011-0GA10 3RV1011-0HA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
3RV1011-0JA10	1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100	5 5 5 5	3RV1011-0JA10 3RV1011-0KA10 3RV1011-1AA10 3RV1011-1BA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
	2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	5 5 5 5	3RV1011-1CA10 3RV1011-1DA10 3RV1011-1EA10 3RV1011-1FA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
	6.3 8 10 12	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12	82 104 130 156	100 50 50 50	5 5 5 5	3RV1011-1GA10 3RV1011-1HA10 3RV1011-1JA10 3RV1011-1KA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

The accessories of 3RV2 can be used with exceptions, see "Accessories" from page 7/43 onwards.

CLASS 10, with transverse auxiliary switch (1 NO + 1 NC)

	Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	SD	Screw terminals	①	PU (UNIT, SET, M)	PS*	PG
	I_{n}		G	<i>I</i> >	$I_{ m CU}$		Article No.	Price per PU			
	Α	kW	Α		kA	d					
Size S00											
	0.16 0.2 0.25	0.04 0.06 0.06	0.11 0.16 0.14 0.2 0.18 0.25	2.1 2.6 3.3	100 100 100	5 5 5	3RV1011-0AA15 3RV1011-0BA15 3RV1011-0CA15		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
(No. 1)	0.32	0.09	0.22 0.32	4.2	100	5	3RV1011-0DA15		1	1 unit	41E
COLUMN CO	0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 100 100 100	5 5 5 5	3RV1011-0EA15 3RV1011-0FA15 3RV1011-0GA15 3RV1011-0HA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
3RV1011-0KA15 with integrated	1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100	5 5 5 5	3RV1011-0JA15 3RV1011-0KA15 3RV1011-1AA15 3RV1011-1BA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
transverse auxiliary switch	2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	5 5 5 5	3RV1011-1CA15 3RV1011-1DA15 3RV1011-1EA15 3RV1011-1FA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
	6.3 8 10 12	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12	82 104 130 156	100 50 50 50	5 5 5 5	3RV1011-1GA15 3RV1011-1HA15 3RV1011-1JA15 3RV1011-1KA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

The accessories of 3RV2 can be used with exceptions, see "Accessories" from page 7/43 onwards.

SIRIUS 3RV1 Molded Case Motor Starter Protectors up to 800 A

General data

Overview

More information

Homepage, see www.siemens.com/sirius-circuit-breaker



SIRIUS 3RV1063-7AL10 molded case motor starter protector

The 3RV10 and 3RV13 molded case motor starter protectors for up to 800 A are compact, current-limiting motor starter protectors which can be used above all in motor feeders for special voltages of 440 V, 480 V and 690 V. They are used for switching and protecting three-phase motors and other loads with rated currents up to 800 A.

Note:

For motor feeders above 100 A and at 400 V and 500 V, the 3VL molded case motor starter protectors must be used, see Catalog LV 10.

Type of construction

The molded case motor starter protectors are available in three widths:

- 3RV1.6. width 105 mm, max. rated current 250 A, at 690 V AC suitable for three-phase motors up to 160 kW
- 3RV1.7. width 140 mm, max. rated current 630 A, at 690 V AC suitable for three-phase motors up to 315 kW
- 3RV1.83 width 210 mm, max. rated current 800 A, at 690 V AC suitable for three-phase motors up to 500 kW

The 3RV1 molded case motor starter protectors for up to 800 A can be mounted in horizontal, vertical or lying arrangement directly on a mounting plate or mounting rail. Their rated data are adversely affected as the result.

The phase barriers for better insulation between the phases are included in the scope of supply, and it is essential to use them.

The motor starter protectors can be supplied through top and bottom terminals without impairing their function, enabling them to be installed in any type of switchgear without any further steps.

Connection methods

The 3RV1 molded case motor starter protectors up to 800 A are suitable solely for screw connection.



Screw terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Article No. scheme

Product versions		Article number		
Molded case motor starter	protectors	3RV1 -	1-0000	
Type of motor starter protecte circuit breaker	or/ e.g. 0 = for motor protection			
Rated current	e.g. 6 = 100 A			
Breaking capacity	e.g. 3 = standard switching capacity			
Setting range for overload release	e.g. 7A = 40 100 A			
Trip class (CLASS)	e.g. L = CLASS 10A, 10, 20, 30			
Connection methods	e.g. 1 = screw terminals			
With or without auxiliary swite	ch e.g. 0 = without]	
Special versions				
Example		3RV1 0 6 3 - 7 A L 1 0		

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

Motor Starter Protectors/Circuit Breakers SIRIUS 3RV1 Molded Case Motor Starter Protectors up to 800 A

General data

Benefits

- High short-circuit breaking capacity in the feeder
- Optimum usability in motor feeders for the special voltages 440 V, 480 V and 690 V
- · Compact design

- The releases are available in electronic versions (100 A to 800 A).
- Available for motor or starter protection (short-circuit protection alone)

Application

Operating conditions

The 3RV1 molded case motor starter protectors for up to 800 A can be operated at ambient temperatures between -25 °C and +70 °C. They can be used according to IEC 60721-2-1 in the most difficult environmental conditions with a hot and damp climate.

Since operational currents, starting currents and current peaks are different even for motors with identical power ratings due to the inrush current, the motor ratings in the selection tables are only guide values. The specific rated and start up data of the motor to be protected is always paramount to the choice of the most suitable molded case motor starter protectors.

The 3RV1 molded case motor starter protectors up to 800 A have not been tested for use with frequency converters. The possibility of premature tripping in such applications cannot therefore be ruled out.

Possible uses

The 3RV1 molded case motor starter protectors for up to 800 A are suitable as switching and protection devices for motors. The following versions are available:

- For motor protection;
 - the overload and short-circuit releases are designed for optimized protection and direct-on-line starting of three-phase AC squirrel-cage motors. The motor starter protectors have an electronic release which not only provides short-circuit and overload protection but is also sensitive to phase failure and phase unbalance and offers protection in the event of rotor blockage.
- For starter combinations;
 - these molded case motor starter protectors are used for short-circuit protection in combinations of circuit breaker, motor contactor and overload relay. They are equipped with an electronic release (100 A to 800 A).

Standards and specifications

The electronic releases for motor protection comply with IEC 60947-4-1. Isolating features are also compliant with IEC 60947-2.

The 3RV1 molded case motor starter protectors comply in addition with IEC 60068-2-6 (shock and vibration strength) and are certified for the specifications of the major marine classification societies:

- RINA
- Det Norske Veritas
- Bureau Veritas
- Lloyds Register of Shipping
- Germanischer Lloyd
- American Bureau of Shipping

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

For the use of 3RV1 motor starter protectors/circuit breakers in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

SIRIUS 3RV1 Molded Case Motor Starter Protectors up to 800 A

General data

Technical specifications

More information

Reference Manual "Protection Equipment - Circuit Breakers · Molded Case

Circuit Breakers', see
https://support.industry.siemens.com/cs/ww/en/view/35681461

General data									
Туре		3RV1063	3RV1073	3RV1083	3RV1363	3RV1364	3RV1373	3RV1374	3RV1383
Dimensions									
•w = 1 []	mm	105	140	210	105	105	140	140	210
• H	mm	205	205	268	205	205	205	205	268
▼ D	mm	139	139	159	139	139	139	139	159
Standard		IEC/EN 609	947-2						
Motor protection		✓							
Starter combinations	•		100	000	✓		100,000		000 000
Rated current I _n	Α	160	400	630	250		400, 630		630, 800
Number of poles		3							
Rated operational voltage U _e 50 60 Hz AC		690							
Rated impulse withstand voltage <i>U</i> _{imp}	V	8							
Rated insulation voltage U _i	V	1 000			1 000				
Test voltage at industrial frequency for 1 min	V	3 500			3 500				
Rated ultimate short-circuit breaking capacity <i>I_{cu}</i>									
• At 220/230 V AC, 50 60 Hz	kA	200			200				
• At 380/415 V AC, 50 60 Hz	kA	120		100	120	200	120	200	100
• At 440 V AC, 50 60 Hz	kA	100		80	100	180	100	180	80
• At 500 V AC, 50 60 Hz	kA	85		65	85	150	85	150	65
• At 690 V AC, 50 60 Hz	kA	70		30	70	80	70	80	30
Rated service short-circuit breaking									
capacity I _{cs} (% of I _{cu})	0/	100		75	100				75
• At 220/230 V AC, 50 60 Hz	%	100		75 75	100				75
• At 380/415 V AC, 50 60 Hz	%	100		75	100				75
• At 440 V AC, 50 60 Hz	%	100		75	100		1) (2)		75
• At 500 V AC, 50 60 Hz	%	100		75	100		100 ¹⁾ /75 ²⁾	100	75
• At 690 V AC, 50 60 Hz	%	100		75	100		100 ¹⁾ /50 ²⁾	100	75
Rated short-circuit making capacity (415 V)	kA	264		220	264	440	264	440	220
Break time (415 V at I _{cu})	ms	5	6	7	5		6		7
Category (IEC 60947-2)		Α	B (400 A), A (630 A)	В	Α		B (400 A), A (630 A)		В
Isolating features		✓							
Trip class CLASS		10A, 10, 20	0, 30						
Releases									
Electronic (motor protection)		✓			3)				
Electronic (starter combinations)					✓				
Permissible ambient temperature									
Operation	°C	-25 +70°	4)						
• Storage	°C	-40 +70							
Mechanical endurance									
Operating cycles		20 000			20 000				
Operating cycles per hour		240	120		240		120		
Electrical endurance									
Operating cycles		8 000	7 000	5 000	8 000		7 000		5 000
Operating cycles per hour (415 V AC)		120	60		120		60		
, 5 - , , ()									

[✓] Has this function

⁻⁻ Does not have this function

¹⁾ Value applies for 3RV1373-7GN10 molded case motor starter protectors.

²⁾ Value applies for 3RV1373-7JN10 molded case motor starter protectors.

³⁾ For overload protection of the motors, appropriate overload relays must be

 $^{^{\}rm 4)}$ From 50 °C, derating applies in some cases.

SIRIUS 3RV1 Molded Case Motor Starter Protectors up to 800 A

General data

Main circuit terminals					
Туре		3RV1.6.	3RV1.7.	3RV1083-7JL10, 3RV1383-7JN10	3RV1383-7KN10
erminal dimensions					
NSBO_01580	1				
Front-accessible standard terminals					
usbars/cable lug					
Number	Unit(s)	11		2	
Dimensions					
W	mm	25	35	40	50
• D • H	mm mm	8 9.5	10 11	5 12	
Lock hasp diameter	mm	8.5	10.5	7	
Front-extended terminals					
Busbars					
lumber	Unit(s)	1	2		
Dimensions					
W D	mm	20	30	40 5	50
Lock hasp diameter	mm mm	10 10	7 11	5	5 14
Cable lug					
Number	Unit(s)	1	2		
Dimensions					
• W	mm	20	30	40	50
Lock hasp diameter	mm	10	11		14
Front-extended cable terminals for copper cable					
Busbars, flexible					
Number	Unit(s)	1			
Dimensions W x D x N					
W	mm	15.5	24		
D N (= number of laminations)	mm mm	0.8 10	1		
Cable lug, flexible					
Number	Unit(s)	1 or 2			
Dimensions	-(-)				
For 1 unit	mm ² mm ²	2.5 120	16 240		
For 2 units	mm ²	2.5 95	16 150		
Cable lug, rigid					
Number	Unit(s)	1	1 or 2		
Dimensions	2	0.5 405	10 000		
For 1 unit For 2 units (for outside mounting)	mm ² mm ²	2.5 185	16 300 120 240	 	
Rear terminals			0		
Busbars					
lumber	Unit(s)	1	2		
Dimensions	-(-)				
W	mm	20	30	40	50
D Lock hasp diameter	mm	10	7	5	
LOCK HASD GIAMETER	mm	8.5	11	14	

SIRIUS 3RV1 Molded Case Motor Starter Protectors up to 800 A

General data

Auxiliary switches		
Туре		3RV1991-1.A0
Rated operational current I _e		
• At 250 V AC/DC		
 At AC-14 (utilization category according to IEC 60947-5-1) Control supply voltage 125 V Control supply voltage 250 V 	A A	6 5
 At DC-13 (utilization category according to IEC 60947-5-1) Control supply voltage 125 V Control supply voltage 250 V 	A A	0.3 0.15
• At 24 V DC		
- Supply voltage 24 V	mA	≥ 0.75
- Supply voltage 5 V	mA	≥1

Auxiliary releases			
		Power consumption	during pick-up
Molded case motor starter protectors		3RV1.6., 3RV1.7., 3R\	/1.83
Version		AC	DC
Undervoltage releases		3RV1982-1A.0	
• 24 30 V AC/DC • 110 127 V AC/110 125 V DC • 220 240 V AC/220 250 V DC		6 VA 6 VA 6 VA	3 W 3 W 3 W
Opening times	ms	≤ 25	≤ 15
Shunt releases		3RV1982-1E.0	
• 24 30 V AC/DC • 110 127 V AC/110 125 V DC • 220 240 V AC/220 250 V DC		150 VA 150 VA 150 VA	150 W 150 W 150 W
Opening times	ms	15	15

SIRIUS 3RV1 Molded Case Motor Starter Protectors up to 800 A

IE3/IE4 ready For motor protection

Selection and ordering data

CLASS 10A, 10, 20, 30; without auxiliary switch

Å	Rated current	inverse-time delayed	Operating current of the instantaneous short-circuit releases " I_i "	breaking	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	I_{n}	<u></u>	<i>I</i> >	I_{CU}		Article No.	Price per PU			
L	Α	A	A	kA	d					

With electronic releases

200

400



Standard switching capacity, adjustable short-circuit and overload release, TU 4									
100	40 100	600 1 300	120	20	3RV1063-7AL10				
160	64 160	960 2 080	120	20	3RV1063-7CL10				

3RV1063-7CL10	20	120	960 2 080
3RV1063-7DL10	20	120	1 200 2 600
3RV1073-7GL10	20	120	2 400 5 200
3RV1083-7JL10	20	100	3 780 8 190

41E 1 unit 1 unit 41E 1 unit 41E 1 unit 41E 1 unit 41E

3RV10.3-7.L10

TU = trip unit (release)

Further accessories can be ordered separately (see "Accessories" page 7/77 onwards).

80 ... 200

160 ... 400

252 ... 630

SIRIUS 3RV1 Molded Case Motor Starter Protectors up to 800 A

For starter combinations IE3/IE4 ready

Selection and ordering data

Without auxiliary switches

	Rated current	Current setting of the inverse-time delayed overload releases "L"	Operating current of the instantaneous short-circuit releases " " I_i	breaking	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	I_{N}	4	[>	$I_{ m CU}$		Article No.	Price per PU			
	Α	A	А	kA	d					
With electronic releases										



ricases				
tandard switching	g capacity, adjustable	short-circui	t release, T	TU 3
00 Without	100 1 000	120	20	3RV1363-7AN10
60 Without	160 1 600	120	20	3RV1363-7CN10
50 Without	250 2 500	120	20	3RV1363-7EN10
00 Without	400 4 000	120	20	3RV1373-7GN10
30 Without	630 6 300	120	20	3RV1373-7JN10
Without Without	630 6 300	100	20	3RV1383-7JN10
	800 8 000	100	20	3RV1383-7KN10
ncreased switchin	ng capacity, adjustable	short-circu	it release,	TU 3
00 Without	100 1 000	200	20	3RV1364-7AN10
60 Without	160 1 600	200	20	3RV1364-7CN10
50 Without	250 2 500	200	20	3RV1364-7EN10
00 Without	400 4 000	200	20	3RV1374-7GN10

TU = trip unit (release)

Further accessories can be ordered separately (see "Accessories" page 7/77 onwards).

SIRIUS 3RV1 Molded Case Motor Starter Protectors/Circuit Breakers Accessories

Mountable accessories

Selection and ord	lering data									
	Туре	Version	Version F		SD	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG
						Article No.	Price per PU			
Auxiliary switches					d		per FO			
	Auxiliary switches For front mounting	1 signaling sv + 1 tripped s (250 V AC/DC	ignal	3RV1.6. 3RV1.83	20	3RV1991-1AA0		1	1 unit	41E
		3 signaling switches Off-On + 1 tripped signal (250 V AC/DC)			20	3RV1991-1BA0		1	1 unit	41E
		3 signaling sv + 1 tripped s (24 V DC)	witches Off-On ignal		20	3RV1991-1CA0		1	1 unit	41E
06060	Connection cables for auxiliary switches	Length 2 m, 6	6-pole	3RV1.6.	20	3RV1991-1FA0		1	1 unit	41E
3RV1991-1AA0	auxiliary switches			3RV1.83						
	Туре	Rated control voltage $U_{\rm s}$ AC 50/60 Hz	l supply DC	For molded case motor starter protectors	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		V	V		d	Article No.	Price per PU			
Auxiliary releases		·	•							
	Undervoltage releases For front mounting	24 30 110 127 220 240	24 30 110 125 220 250	3RV1.6. 3RV1.83	20 20 20	3RV1982-1AA0 3RV1982-1AD0 3RV1982-1AF0		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
3RV1982-1AA0										
3RV1982-1EA0	Shunt releases For front mounting	24 30 110 127 220 240	24 30 110 125 220 250	3RV1.6. 3RV1.83	20 20 20	3RV1982-1EA0 3RV1982-1ED0 3RV1982-1EF0		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E

3RV1.6.

3RV1.83

3RV1992-1FA0

Connection cables for Length 2 m, undervoltage and shunt 6-pole

releases

1 unit

41E

SIRIUS 3RV1 Molded Case Motor Starter Protectors/Circuit Breakers

Accessories

Rotary operating mechanisms, mounting accessories

Selection and orde	ring data								
	Version		For molded case motor starter protectors	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Rotary operating m	echanisms			d					
and desired	Lever-type rotary operating mechanisms	With adjustable distance, with lock/door interlocking (padlocks are not included in scope of supply)	3RV1.6., 3RV1.7. 3RV1.83	20 20	3RV1976-0BA0 3RV1986-0BA0		1	1 unit 1 unit	41E 41E
3RV19.6-0BA0									
Tag.	Motorized operating mechanisms	With stored energy mechanism, 220 250 V AC/DC	3RV1.6., 3RV1.7. 3RV1.83	20 20	3RV1976-3AP3 3RV1986-3AP3		1	1 unit 1 unit	41E 41E
3RV19.6-3AP3									
Connections	Connections	Front-extended (1 set = 6 units)	3RV1.6. 3RV1.7. 3RV1.83-7J.10 3RV1.83-7KN10	20 20 20 20 20	3RV1965-1BA0 3RV1975-1CA0 3RV1985-1DA0 3RV1985-1EA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
3RV1975-1CA0									
		Rear (1 set = 3 units)	3RV1.6. 3RV1.7. 3RV1.83	20 20 20	3RV1965-3AA0 3RV1975-3AA0 3RV1985-3AA0		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
3RV1965-3AA0									
3RV1975-2CA0	Cable terminals	Front-extended (1 set = 6 units)	3RV1.6. 3RV1.77G.10 3RV1.73-7JN10	20 20 20	3RV1965-2BA0 3RV1975-2CA0 3RV1975-2DA0		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E

General data

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays Industry Mall, see

- www.siemens.com/product?3RU2
- www.siemens.com/product?3RB3
- www.siemens.com/product?3RB2

TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/TSTWeb?kmat=ElectronicOverloadRelay

Configuration Manual "Load Feeders - SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188











			-			
Features	3RU21	3RB30/3RB31	3RB20/3RB21	3RB22/3RB23	3RB24	Benefits
General data						
Sizes	S00 S3	S00 S3	S6 S12	S00 S12	S00 S12	Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, etc.) Permit the mounting of slim and compact
						load feeders in widths of 45 mm (S00, S0), 55 mm (S2), 70 mm (S3), 120 mm (S6) and 145 mm (S10/S12); this does not include the current measuring modules for the 3RB22 to 3RB24 evaluation modules sizes S00 to S3
						Simplify configuration
Seamless current range	0.11 100 A	0.1 115 A	50 630 A	0.3 630 A (up to 820 A) ¹⁾	0.3 630 A (up to 820 A) ¹⁾	 Allows easy and consistent configuration with one series of overload relays (for small to large loads)
Protection functio	ns					
Tripping due to overload	✓	✓	✓	✓	✓	Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload
Tripping due to phase unbalance	✓	✓	✓	✓	✓	Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to phase unbalance
Tripping due to phase failure	✓	✓	✓	✓	✓	Minimizes heating of three-phase motors during phase failure
Protection of single-phase loads	✓			✓	✓	 Enables the protection of single-phase loads
Tripping in the event of overheating	2)	2)	2)	✓	/	Provides optimum temperature-dependent protection of loads against excessive temperature rises, e.g. for stator-critical motors or in the event of insufficient coolant flow, contamination of the motor surface or
Integrated thermistor motor protection function						long starting or braking operations • Eliminates the need for additional special
.						equipment
						Saves space in the control cabinet Reduces wiring outlay and costs
Tripping in the event		/	✓	/	/	Reduces wiring outlay and costsProvides optimum protection of loads
of a ground fault	-	(only 3RB31)	(only 3RB21)	•	v	against high-resistance short circuits or ground faults due to moisture, condensed
by						water, damage to the insulation material, etc.
Internal ground-fault detection (activatable)						Eliminates the need for additional special equipment
(activatable)						Saves space in the control cabinetReduces wiring outlay and costs
. A : I - I - I -				1) 14-4		b

- ✓ Available
- -- Not available

- Motor currents up to 820 A can be recorded and evaluated by a current measuring module, e.g. 3RB2906-2BG1 (0.3 to 3 A), in combination with a 3UF1868-3GA00 (820 A/1 A) series transformer. For 3UF18 transformers, see page 10/25.
- $^{\rm 2)}$ The SIRIUS 3RN thermistor motor protection devices can be used to provide additional temperature-dependent protection.











Features	3RU21	3RB30/3RB31	3RB20/3RB21	3RB22/3RB23	3RB24	Benefits
Features						
RESET function	✓	✓	✓	✓	✓	Allows manual or automatic resetting of the device
Remote RESET function	(by means of separate module)	and external	(only with 3RB21 and external auxiliary voltage 24 V DC)	(electrically via external button)	(electrically with button or via IO-Link)	Allows the remote resetting of the device
TEST function for auxiliary contacts	✓	✓	✓	✓	✓	 Allows easy checking of the function and wiring
TEST function for electronics		✓	✓	✓	✓	Allows checking of the electronics
Status display	✓	✓	✓	✓	✓	Displays the current operating state
Large current adjustment button	✓	✓	✓	✓	✓	Makes it easier to set the relay exactly to the correct current value
Integrated auxiliary contacts	✓	✓	✓	✓ (2 ×)		 Allows the load to be switched off if necessary
(1 NO + 1 NC)				,		 Can be used to output signals
Integrated auxiliary contacts (1 CO and 1 NO in series)					✓	Enables the controlling of contactors directly from the higher-level control system through IO-Link
IO-Link connection					✓	Reduction of wiring in the control cabinetEnables communication
Connection of optional hand-held device					✓	Enables local operation
Communication c	apability throu	gh IO-Link				
Full starter functionality through IO-Link					1	Enables in combination with the SIRIUS 3RT contactors the assembly of communication- capable motor starters (direct-on-line, reversing and star-delta (wye-delta) starting)
Readout of diagnostics functions					✓	Enables the readout of diagnostics information such as overload, open circuit, ground fault, etc.
Readout of current values					✓	Enables the readout of current values and their direct processing in the higher-level control system
Readout of all set parameters					✓	Enables the readout of all set parameters, e.g. for plant documentation

[✓] Available

⁻⁻ Not available











			_			
Features	3RU21	3RB30/3RB31	3RB20/3RB21	3RB22/3RB23	3RB24	Benefits
Design of load fee	eders					
Short-circuit strength up to 100 kA at 690 V (in conjunction with the corresponding fuses or the corre- sponding motor starter protector)	•	,	,	,	,	 Provides optimum protection of the loads and operating personnel in the event of short circuits due to insulation faults or faulty switching operations
Electrical and	✓	1	✓	✓ ¹⁾	✓ ¹⁾	 Simplifies configuration
mechanical matching to						 Reduces wiring outlay and costs
3RT contactors						 Enables stand-alone installation as well as space-saving direct mounting
Straight-through transformers for		✓ (S2, S3)	✓ (S6)	✓ (S00 S6)	√ (S00 S6)	Reduces the contact resistance (only one
main circuit ²⁾		(32, 33)	(56)	(500 56)	(500 56)	point of contact)Saves wiring costs (easy, no need for tools,
(in this case the cables are routed						and fast)
through the feed-						 Saves material costs
through openings of the overload relay and connected directly to the box terminals of the contactor)						Reduces installation costs
Spring-type	/	/				 Enables fast connections
connection system for main circuit ²⁾	(S00, S0)	(S00, S0)				 Permits vibration-resistant connections
						Enables maintenance-free connections
Spring-type connection system	✓	1	✓	1	✓	Enables fast connections
for auxiliary circuits ²⁾						Permits vibration-resistant connections
circuits ²⁾						Enables maintenance-free connections
Full starter functionality through IO-Link					√	 Enables in combination with the SIRIUS 3RT contactors the assembly of communication- capable motor starters (direct-on-line, reversing and star-delta (wye-delta) starting)
Starter function					✓	 Integration of feeders via IO-Link in the control system up to 630 A or 820 A

[✓] Available

⁻⁻ Not available

 ¹⁾ Exception: up to size S3, only stand-alone installation is possible.
 2) Available as an alternative to screw terminals.











Features	3RU21	3RB30/3RB31	3RB20/3RB21	3RB22/3RB23	3RB24	Benefits
Other features						
Temperature compensation	✓	✓	✓	✓	✓	 Allows the use of the relays at high temperatures without derating
						 Prevents premature tripping
						Allows compact installation of the control cabinet without distance between the devices/load feeders
						 Simplifies configuration
						 Enables space to be saved in the control cabinet
Very high long-term stability	✓	✓	✓	✓	√	 Provides safe protection for the loads even after years of use in severe operating conditions
Wide setting ranges		√	√	√	✓	 Minimize the configuration outlay and costs
		(1:4)	(1:4)	(1:10)	(1:10)	 Minimize storage overheads, storage costs, tied-up capital
Fixed trip class	CLASS 10, CLASS 10A	3RB30: CLASS 10E or CLASS 20E	3RB20: CLASS 10E or CLASS 20E			Optimum motor protection for standard starts
Trip classes adjustable on the device CLASS 5E, 10E, 20E, 30E		3RB31: ✓	3RB21: ✓	✓	✓	 Enables solutions for very fast starting motors requiring special protection (e.g. Ex motors)
102, 202, 302						 Enables heavy starting solutions
						 Reduces the number of variants
						Minimizes the configuring outlay and costs
						 Minimizes storage overhead, storage costs, and tied-up capital
Low power loss		✓	✓	√	/	 Reduces power consumption and energy costs (up to 98% less power is used than for thermal overload relays)
						 Minimizes temperature rises of the contactor and control cabinet – in some cases this may eliminate the need for control cabinet cooling.
						Direct mounting to contactor saves space, even for high motor currents (i.e. no heat decoupling is required)
Internal power supply	1)	✓	✓			Eliminates the need for configuration and connecting an additional control circuit
Supplied from an external source via IO-Link					1	Eliminates the need for configuration and connecting an additional control circuit

[✓] Available

⁻⁻ Not available

SIRIUS 3RU11 and 3RU21 thermal overload relays use a bimetal contactor and therefore do not require a control supply voltage.











	2711 4712 6713	000000	Time.	555555	555555	
Features	3RU21	3RB30/3RB31	3RB20/3RB21	3RB22/3RB23	3RB24	Benefits
Other features (co	ontinued)					
Overload warning	-			✓	✓	 Indicates imminent tripping of the relay directly on the device due to overload, phase unbalance or phase failure through flickering of the LEDs or in the case of the 3RB24 as a signal through IO-Link
						 Allows the imminent tripping of the relay to be signaled
				event of invers		 Allows measures to be taken in time in the event of inverse-time delayed overloading of the load for an extended period over the current limit
						• Eliminates the need for an additional device
						Saves space in the control cabinet
						 Reduces wiring outlay and costs
Analog output				,	,	Allows the output of an analog output signal for actuating moving-coil instruments, feeding programmable logic controllers or transfer to bus systems Eliminates the need for an additional measuring transducer and signal converter
						Saves space in the control cabinetReduces wiring outlay and costs
						Treduces willing outlay and costs

- ✓ Available
- -- Not available

General data

Overview of overload relays - matching contactors

Overview or or	ciioaa ie	nayo III	atoming CC								
	Overload relays	Current measure- ment	Current range	Contactors 3RT201.	s (type, size, rating 3RT202.	in kW) 3RT203.	3RT204.	3RT105.	3RT106.	3RT107.	3TF68/3TF69
		mone		S00	SO	S2	S3	S6	S10	S12	14
	Туре		А		5.5/7.5/11/15/18.5	-		55/75/90	110/132/160		375/450
SIRIUS 3RU21	thermal o	verload re	elays								
tullat	3RU211	Integrated	0.11 16	✓							
	3RU212	Integrated	1.8 40		✓						
	3RU213	Integrated	11 80			✓					
Ø	3RU214	Integrated	28 100				1				
3RU21											
SIRIUS 3RB30	electronic	overload	l relays ¹⁾								
and the last	3RB301	Integrated	0.1 16	✓							
	3RB302	Integrated	0.1 40		✓						
QUI TO THE REAL PROPERTY OF THE PARTY OF THE	3RB303	Integrated	12.5 80			✓					
	3RB304	Integrated	32 115				1				
3RB30											
SIRIUS 3RB31	electronic	overload	l relays ¹⁾								
	3RB311	Integrated	0.1 16	1							
	3RB312	Integrated	0.1 40		1						
	3RB313	Integrated	12.5 80			✓					
	3RB314	Integrated					1				
3RB31											
SIRIUS 3RB20	electronic	overload	l relays ¹⁾								
	3RB205	Integrated						1			
	3RB206	Integrated	55 630						/	1	/
The state of the s	3RB201 + 3UF18	_	630 820								✓
3RB20											
SIRIUS 3RB21	electronic	overload	relays ¹⁾								
	3RB215	Integrated						1			
300	3RB216	Integrated							1	1	/
		_	630 820								1
3RB21											
SIRIUS 3RB22	to 3RB24	electronic	overload	relays ¹⁾							
		3RB2906		√	/						
	0000000	3RB2906		/	/	/	1				
EFFE FIN	3RB2283/ 3RB2383/				/	✓	1	1			
SIEMENS SHOT	3RB2483+	3RB2966	63 630						1	1	/
₩ 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			630 820								,
3RB22, 3RB23, 3RB24											

[✓] Can be used

⁻⁻ Cannot be used

 [&]quot;Technical specifications" for the use of overload relays with trip class

CLASS 20E, see "Short-circuit protection with fuses for motor feeders" in the Configuration Manual.

General data

Connection methods

3RU2 thermal overload relays

- Sizes S00 and S0:
 - Main and auxiliary circuit: Either screw or spring-type terminals
- Sizes S2 and S3:
- Main circuit: Screw terminals with box terminal
- Auxiliary circuit: Either screw or spring-type terminals

3RB3 electronic overload relays

- Sizes S00 and S0:
 - Main and auxiliary circuit: Either screw or spring-type terminals
- Sizes S2 and S3:
 - Main circuit: Screw terminals with box terminal or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-type terminals

3RB2 electronic overload relays

3RB20 and 3RB21 overload relays:

- Size S6:
 - Main circuit: With busbar connection or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-type terminals
- Sizes S10/S12:
- Main circuit: With busbar connection
- Auxiliary circuit: Either screw or spring-type terminals

3RB22 to 3RB24 evaluation modules:

• Screw or spring-type terminals

3RB29 current measuring modules:

- Up to size S3: Straight-through transformers
- As from size S6:
 - Main circuit: With busbar connection
 - Auxiliary circuit: Either screw or spring-type terminals

- Screw terminals (1)
- Spring-type terminals
- Busbar connections
- 00 Straight-through transformers

The various terminals and straight-through transformers are indicated in the corresponding tables by the symbols shown on orange backgrounds.

3RU2 for standard applications

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays

Industry Mall, see www.siemens.com/product?3RU2

TIA Selection Tool Cloud (TST Cloud), see

https://mall.industry.siemens.com/spice/TSTWeb?kmat=ElectronicOverloadRelay

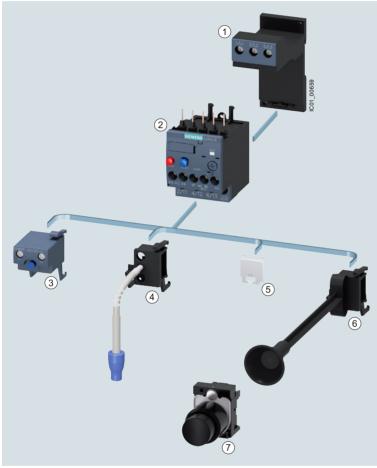
Conversion tool, e.g. from 3RU11 to 3RU21, see

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164

Characteristics and certificates, see

https://support.industry.siemens.com/cs/ww/en/ps/16271



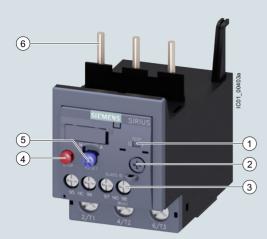
- 1 Stand-alone assembly support for 3RU2 and 3RB3
- 3RU21 thermal overload relay Sizes S00 to S3

Mountable accessories

- (3) Module for remote RESET
- (4) Cable release with holder for RESET
- 5 Sealable cover
- 6 Mechanical RESET
- 7 Pushbutton

Mountable accessories for 3RU thermal overload relay

3RU2 for standard applications



- Switch position indicator and TEST function of the wiring: Indicates a trip and enables the wiring test.
- Motor current setting:
 Setting the device to the rated motor current is easy with the large rotary knob.
- Connecting terminals:
 Depending on the device version, the connecting terminals are screw terminals or spring-type terminals for the main and auxiliary circuits.
- 4 STOP button: If the STOP button is pressed, the NC contact is opened. This switches off the contactor downstream. The NC contact is closed again when the button is released.
- (5) Selector switch for manual/automatic RESET and RESET button: With this switch you can choose between manual and automatic RESET. A device set to manual RESET can be reset locally by pressing the RESET button. A remote RESET is possible using the RESET modules (accessories), which are independent of size.
- 6 Connection for mounting onto contactors:
 Optimally adapted in electrical, mechanical and design terms to the contactors. The overload relay can be connected directly to the contactor using these pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal bracket for stand-alone installation)

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

3RU21 thermal overload relays up to 100 A have been designed to provide current-dependent protection for loads with normal starting against impermissibly high temperature rises due to overload or phase failure.

An overload or phase failure results in an increase of the motor current beyond the set rated motor current. Via heating elements, this current rise heats up the bimetal strips inside the device which then bend and as a result trigger the auxiliary contacts by means of a tripping mechanism. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting $I_{\rm e}$ and is stored in the form of a long-term stable tripping characteristic curve, see Characteristics.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after a recovery time has elapsed.

The 3RU2 thermal overload relays are suitable for operation with frequency converters.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

Use in hazardous areas

The 3RU2 overload relays are certified in accordance with both the European

explosion protection directive (ATEX) and the international explosion protection standard (IECEx), see Certificates.

SIRIUS 3RU2136-4.B0 thermal overload relay

Article No. scheme

Product versions		Article number
Thermal overload relays		3RU2 🗆 🗆 🗕 🗆 🗆 🗆
Device type	e.g. 1 = CLASS 10, 1 NO + 1 NC	
Size, rated operational current and power	e.g. 16 = 16 A (7.5 kW) for size S00	
Setting range for overload release	e.g. 0A = 0.11 0.16 A	
Connection methods	e.g. B = screw terminals	
Installation type	e.g. 0 = mounting on contactor	
Example		3RU2 1 1 6 - 0 A B 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

3RU2 for standard applications

Benefits

The most important features and benefits of the 3RU21 thermal overload relays are listed in the overview table (see "General data", page 7/79 onwards).

Application

Industries

The 3RU21 thermal overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal starting conditions (CLASS 10, 10A).

Application

The 3RU21 thermal overload relays have been designed for the protection of three-phase and single-phase AC and DC motors.

If single-phase AC or DC loads are to be protected by the 3RU21 thermal overload relays, all three bimetal strips must be heated. For this purpose, all main current paths of the relay must be connected in series.

Ambient conditions

3RU21 thermal overload relays compensate temperature in the temperature range from -40 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$ according to IEC 60947-4-1. At temperatures from +60 °C to +70 °C, the upper set value of the setting range has to be reduced by a specific factor in accordance with the table below.

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

For the use of 3RU21 thermal overload relays in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Technical specifications

More information

System Manual "SIRIUS - System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318 Configuration Manual "Load Feeders - SIRIUS Modular System", see

Technical specifications, see

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164

https://support.industry.siemens.com/cs/ww/en/ps/16270/td

The following technical information is intended to provide an initial overview of the various types of device and functions.

Туре		3RU2116	3RU2126	3RU2136	3RU2146		
Size	}	S00	S0	S2	S3		
Dimensions (W x H x D) (overload relay with stand-alone installation support)	· •			-	-		
Screw terminals Spring-type terminals	mm mm	45 x 89 x 80 45 x 102 x 79	45 x 97 x 95 45 x 114 x 95	55 x 105 x 117 55 x 105 x 117	70 x 106 x 124 70 x 106 x 124		
General data							
Tripping in the event of		Overload and phas	se failure				
Trip class acc. to IEC 60947-4-1	Class	10		10, 10A			
Phase failure sensitivity		Yes					
Overload warning		No					
Reset and recovery							
Reset options after tripping		Manual, automatic and remote RESET (remote RESET in conjunction with the appropriate accessories)					
 Recovery time For automatic RESET For manual RESET For remote RESET 	min. min. min.	Depends on the str	ength of the tripping	current and characte current and characte current and characte	eristic		
Features							
Display of operating state on device		Yes, by means of TEST function/switch position indicator slide					
TEST function		Yes					
RESET button		Yes					
STOP button		Yes					
Protection of motors in hazardous environments							
 according to European Directive 2014/34/EU (ATEX) 		DMT 98 ATEX G 00	11 😥 II (2) GD				
according to international standard IECEx		IECEx BVS 15.0046 see https://support		m/cs/ww/en/ps/16270	D/cert		

3RU2 for standard applications

Tuno		3RU2116	3RU2126	3RU2136	3RU2146			
Type Size		S00	S0	S2	S3			
		500	50	52	53			
Dimensions (W x H x D) (overload relay with stand-alone installation								
support)								
Screw terminalsSpring-type terminals	mm mm	45 x 89 x 80 45 x 102 x 79	45 x 97 x 95 45 x 114 x 95	55 x 105 x 117 55 x 105 x 117	70 x 106 x 124 70 x 106 x 124			
General data (continued)		10 X 102 X 70	10 X 11 1 X 00	56 X 166 X 111	70 X 100 X 121			
Ambient temperature								
Storage/transport	°C	-55 +80						
Operation	°C	-40 +70						
Temperature compensation	°C	Up to +60						
Permissible rated current at								
- Temperature inside control cabinet 60 °C	%	100 (current reducti	ion is required above	+60 °C)				
- Temperature inside control cabinet 70 °C	%	87						
Repeat terminals								
Coil repeat terminals		Yes	Not required					
Auxiliary contact repeat terminal		Yes	Not required					
Degree of protection acc. to IEC 60529		IP20		- IP20 (front side)				
				- Terminal IP00 (use additional terminal				
					degree of protection)			
Touch protection acc. to IEC 60529		front			tical contact from the			
Shock resistance with sine acc. to IEC 60068-2-27	g/ms	15/11 (auxiliary con	tacts 95/96 and 97/9	8: 8 <i>g</i> /11 ms)				
Electromagnetic compatibility (EMC)								
Interference immunity		Not relevant						
Emitted interference		Not relevant						
Resistance to extreme climates – Air humidity	%	90						
Installation altitude above sea level	m	Up to 2 000						
Mounting position		The diagrams show the permissible mounting positions for mounting onto contactors and stand-alone installation. For mounting position in the hatched area a setting correction of 10% must be implemented.						
		Stand-alone installation:						
			135°					
		Contactor + overload relay: 0° 22,5° 22,5° NSB0_01363a I _e x 1,1						
Type of mounting			contactor or stand-ald mounting onto stand		erminal support,			

3RU2 for standard applications

Туре		3RU2116	3RU2126	3RU2136	3RU2146
Size		S00	S0	S2	S3
Main circuit					
Rated insulation voltage <i>U</i> i	V	690			1000
(pollution degree 3) Rated impulse withstand voltage <i>U</i> _{imp}	kV	6			8
Rated operational voltage <i>U_e</i>	V	690			0
Type of current	V	090			
Direct current		Yes			
Alternating current		Yes, frequency rar	nge up to 400 Hz		
Current setting	Α	0.11 0.16	1.8 2.5	11 16	28 40
g		to	to	to	to
2	Α	11 16	34 40	70 80	80 100
Power loss per unit (max.)	W	4.1 6.3	6.2 7.5	8 14	12 16.5
Short-circuit protection		Coo "Coloction one	d ordering data" no	goo 7/02 7/05	
With fuse without contactor With fuse and contactor			d ordering data", pag	_	ors for Motor Feeders",
With fuse and contactor		see Configuration		otor Starter Protecti	ors for Motor reeders,
Protective separation between main and auxiliary current paths acc. to IEC 60947-1					
Screw terminals or ring terminal lug connections	V	440	690: Setting range ≤ 25 A	690	
Spring-type terminals	V	440	440: Setting range > 25 A	690	
Conductor cross-sections of main circuit			725 A		
Connection type		Screw term	inals		Screw termina
oonnoonen typo		Screw term			with box
Ferminal screw		M3, Pozidriv	M4, Pozidriv	M6, Pozidriv	4 mm Allen screw
Operating devices	mm	size 2 Ø 5 6	size 2 Ø 5 6	size 2 Ø 5 6	4 mm Allen screw
Prescribed tightening torque	Nm	0.8 1.2	2 2.5	3 4.5	4.5 6
Conductor cross-sections (min./max.),	INIII	0.0 1.2	Z Z.O	O 4.0	4.0 0
1 or 2 conductors can be connected					
Solid or stranded	mm ²	$2 \times (0.5 \dots 1.5)^{1)}$, $2 \times (0.75 \dots 2.5)^{1)}$, max. 2×4	2 x (1 2.5) ¹⁾ 2 x (2.5 10) ^{†)}	2 x (2.5 35) ¹⁾ , 1 x (2.5 50) ¹⁾	2 x (2.5 16) ¹⁾ , 2 x (10 50) ¹⁾ , 1 x (10 70) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	$\rm mm^2$	2 x (0.5 1.5) ¹⁾ 2 x (0.75 2.5) ¹⁾	2 x (1 2.5) ¹⁾ ; 2 x (2.5 6) ¹⁾ ,	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (2.5 35) ¹⁾ , 1 x (2.5 50) ¹⁾
		2 X (0.75 2.5) "	2 x (2.5 6) 7, max. 1 x 10	1 X (1 35) "	1 X (2.5 50) 7
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ , 2 x (18 14) ¹⁾ ,	2 x (16 12) ¹⁾ , 2 x (14 8) ¹⁾	2 x (18 2) ¹⁾ , 1 x (18 1) ¹⁾	2 x (10 1/0) ¹⁾ , 1 x (10 2/0) ¹⁾
2		2 x 12			
Removable box terminals ²⁾ • With copper bars ³⁾					0 10 1
With copper bars With cable lugs 4)	mm				2 x 12 x 4
<u> </u>					MC
- Terminal screw	Nino				M6 4.5 6
 Prescribed tightening torque Usable ring terminal lugs 	Nm mm				$d_2 = \min. 6.3$
Oracle Img terminal rugs					d ₃ = max. 19
		Spring-type □	terminals		
Connection type	mm	3.0 x 0.5 and 3.5 x	< 0.5		
Connection type Operating devices Conductor cross-sections (min./max.),	mm		¢ 0.5		
Connection type Operating devices Conductor cross-sections (min./max.), 1 conductor can be connected		3.0 x 0.5 and 3.5 x		l	
Connection type Operating devices Conductor cross-sections (min./max.), 1 conductor can be connected • Solid or stranded	mm mm² mm²	3.0 x 0.5 and 3.5 x 1 x (0.5 4)	1 x (1 10)	 	
Connection type Operating devices Conductor cross-sections (min./max.), 1 conductor can be connected • Solid or stranded • Finely stranded without end sleeve • Finely stranded with end sleeve (DIN 46228-1)	mm ²	3.0 x 0.5 and 3.5 x		 	

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

²⁾ Cable lug and busbar connection possible after removing the box terminals.

 ³⁾ If bars larger than 12 mm x 10 mm are connected, a 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/97.
 4) When conductors larger than 25 mm² are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/97.

3RU2 for standard applications

Туре		3RII2116	3RH2126	3RH2136	3RU2146
Size					S3
Auxiliary circuit			00	OL.	00
Number of NO contacts		1			
Number of NC contacts					
Auxiliary contacts – Assignment	B600, R300 Screw terminals M3, Pozidriv size 2 mm Ø 5 6 Nm 0.8 1.2 mm² 2 x (0.5 1.5)¹¹, 2 x (0.75 2.5)¹¹ mm² 2 x (0.5 1.5)¹¹, 2 x (0.75 2.5)¹¹ AWG 2 x (20 16)¹¹, 2 x (18 14)¹¹ Spring-type terminals mm 3.0 x 0.5 and 3.5 x 0.5				
Auxiliary contacts – Assignment				otor	
Rated insulation voltage <i>U</i>_i (pollution degree 3)	V	690			
Rated impulse withstand voltage <i>U</i> _{imp}	kV	6			
Contact rating of the auxiliary contacts					
• NC, NO contacts with alternating current AC-15, rated operational current $I_{\rm e}$ at $U_{\rm e}$					
- 24 V					
- 120 V - 125 V		3			
- 125 V - 230 V		2			
- 400 V					
- 600 V					
- 690 V					
• NC, NO contacts with direct current DC-13, rated operational current $I_{\rm e}$ at $U_{\rm e}$					
- 24 V	Α	1			
- 110 V	Α	0.22			
- 125 V	Α				
- 220 V	Α	0.11			
 Contact reliability (suitability for PLC control; 17 V, 5 mA) 		Yes			
Short-circuit protection					
With fuse					
- Operational class gG					
- Quick	Α	10			
With miniature circuit breaker (C characteristic)	Α	6 (up to $I_k \le 0$.	5 kA; <i>U</i> ≤ 260 V)		
Reliable operational voltage for protective separation between auxiliary current paths Acc. to IEC 60947-1	V	440			
CSA, UL, UR rated data					
Auxiliary circuit – Switching capacity		B600, R300			
Conductor cross-sections for auxiliary circuit					
Connection type		Screw to	erminals		
Terminal screw		M3, Pozidriv si	ize 2		
Operating devices	mm	Ø 5 6			
Prescribed tightening torque	Nm	0.8 1.2			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
Solid or stranded	mm^2	2 x (0.5 1.5)	¹⁾ , 2 x (0.75 2.5) ¹	1)	
• Finely stranded with end sleeve (DIN 46228-1)	mm^2				
AWG cables, solid or stranded	AWG				
Connection type		Spring-t Spring-t			
Operating devices	mm		3.5 x 0.5		
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
Solid or stranded	mm^2	2 x (0.5 2.5)			
Finely stranded without end sleeve	mm ²	2 x (0.5 2.5)			
•	mm ²	2 x (0.5 1.5)			
• Finely stranded with end sleeve (DIN 46228-1)					
AWG cables, solid or stranded	AWG	2 x (20 14)			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

SIRIUS 3RU2 Thermal Overload Relays

Selection and ordering data

3RU21 thermal overload relays for mounting onto contactor 1), sizes S00 and S0, CLASS 10

Features and technical specifications:

- Connection methods
 Main and auxiliary circuit: Either screw or spring-type terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET

- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)









3RU2116-4AB0

3RU2116-4AC0

3RU2126-4FB0

3RU2126-4AC0

Size con- tactor	Trip class	Rated power for three-phase motors, rated value ²⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ³⁾	SD	Screw terminals	(1)	SD	Spring-type terminals	
	Class	kW	A	A	d	Article No.	Price per PU	d	Article No.	Price per PU
Size S	00									
S00	10 10 10 10	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	0.5 1 1 1.6	2 2 •	3RU2116-0AB0 3RU2116-0BB0 3RU2116-0CB0 3RU2116-0DB0	65	5	3RU2116-0AC0 3RU2116-0BC0 3RU2116-0CC0 3RU2116-0DC0	
	10 10 10 10	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	2 2 2 4	* * *	3RU2116-0EB0 3RU2116-0FB0 3RU2116-0GB0 3RU2116-0HB0	65	5	3RU2116-0EC0 3RU2116-0FC0 3RU2116-0GC0 3RU2116-0HC0	
	10 10 10 10	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	4 4 6 6	* * *	3RU2116-0JB0 3RU2116-0KB0 3RU2116-1AB0 3RU2116-1BB0	5	5	3RU2116-0JC0 3RU2116-0KC0 3RU2116-1AC0 3RU2116-1BC0	
	10 10 10 10	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	10 10 16 20	* * *	3RU2116-1CB0 3RU2116-1DB0 3RU2116-1EB0 3RU2116-1FB0	5	5	3RU2116-1CC0 3RU2116-1DC0 3RU2116-1EC0 3RU2116-1FC0	
	10 10 10 10	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12.5	20 25 35 35	* * *	3RU2116-1GB0 3RU2116-1HB0 3RU2116-1JB0 3RU2116-1KB0	5	5	3RU2116-1GC0 3RU2116-1HC0 3RU2116-1JC0 3RU2116-1KC0	
	10	7.5	11 16	40	>	3RU2116-4AB0	5	5	3RU2116-4AC0	
Size S	0									
S0	10 10 10 10	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	10 10 16 20	* * *	3RU2126-1CB0 3RU2126-1DB0 3RU2126-1EB0 3RU2126-1FB0	65 65	5	3RU2126-1CC0 3RU2126-1DC0 3RU2126-1EC0 3RU2126-1FC0	
	10 10 10 10	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12.5	20 25 35 35	* * *	3RU2126-1GB0 3RU2126-1HB0 3RU2126-1JB0 3RU2126-1KB0			3RU2126-1GC0 3RU2126-1HC0 3RU2126-1JC0 3RU2126-1KC0	
	10 10 10 10	7.5 7.5 11 11	11 16 14 20 17 22 20 25	40 50 63 63	* * *	3RU2126-4AB0 3RU2126-4BB0 3RU2126-4CB0 3RU2126-4DB0	2	2	3RU2126-4AC0 3RU2126-4BC0 3RU2126-4CC0 3RU2126-4DC0	
	10 10 10 10	15 15 18.5 18.5	23 28 27 32 30 36 34 40	63 80 80 80	* * *	3RU2126-4NB0 3RU2126-4EB0 3RU2126-4PB0 3RU2126-4FB0	2	2	3RU2126-4NC0 3RU2126-4EC0 3RU2126-4PC0 3RU2126-4FC0	

With the appropriate terminal supports (see "Accessories", page 7/96), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

²⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

IE3/IE4 ready 3RU2 for standard applications

3RU21 thermal overload relays for mounting onto contactor¹⁾, sizes S2 and S3, CLASS 10 or 10A

Features and technical specifications:

- Connection methods
 - Main circuit: Screw terminals with box terminal
 - Auxiliary circuit: Either screw or spring-type terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator

- TEST function
- STOP button
- Sealable covers (optional accessory)









3RU2136-4.B0

3RU2136-4.D0

3RU2146-4.B0

3RU2146-4.D0

Size con- tactor	Trip class	Rated power for three-phase motors, rated value ²⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ³⁾	SD	Screw terminals	(1)	SD	Spring-type terminals (on auxiliary current side)	<u></u>
	Class	kW	A	A	d	Article No.	Price er PU	d	Article No.	Price per PU
Size S	2									
S2	10 10 10 10 10 10 10 10 10 10 10 10 10 1	3 4 5.5 7.5 7.5 11 15 18.5 22 22 30 30 37 37	5.5 8 7 10 9 12.5 11 16 14 20 18 25 22 32 28 40 36 45 40 50 47 57 54 65 62 73 70 80	25 35 35 40 50 63 80 80 100 100 100 125	5 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6	3RU2136-1HB0 3RU2136-1JB0 3RU2136-1KB0 3RU2136-4AB0 3RU2136-4BB0 3RU2136-4BB0 3RU2136-4EB0 3RU2136-4FB0 3RU2136-4HB0 3RU2136-4HB0 3RU2136-4JB0 3RU2136-4JB0 3RU2136-4KB0 3RU2136-4KB0 3RU2136-4KB0		5 5 5 5 5 5 5 5 5 2 2 2 2 2 2	3RU2136-1HD0 3RU2136-1JD0 3RU2136-1KD0 3RU2136-4AD0 3RU2136-4BD0 3RU2136-4DD0 3RU2136-4ED0 3RU2136-4FD0 3RU2136-4FD0 3RU2136-4HD0 3RU2136-4D0 3RU2136-4D0 3RU2136-4D0 3RU2136-4D0 3RU2136-4KD0 3RU2136-4KD0 3RU2136-4RD0	
Size S	3									
S3	10 10 10 10 10 10	18.5 22 30 37 45	28 40 36 50 45 63 57 75 70 90 80 100 ⁴⁾	80 125 125 160 160 200	2 2 2 2 2 2	3RU2146-4FB0 3RU2146-4HB0 3RU2146-4JB0 3RU2146-4KB0 3RU2146-4LB0 3RU2146-4MB0		5 2 2 2 2	3RU2146-4FD0 3RU2146-4HD0 3RU2146-4JD0 3RU2146-4KD0 3RU2146-4LD0 3RU2146-4MD0	

With the appropriate terminal supports (see "Accessories", page 7/96), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

²⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

⁴⁾ For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/110 onwards.

SIRIUS 3RU2 Thermal Overload Relays

3RU2 for standard applications | IE3/IE4 ready

3RU21 thermal overload relays for stand-alone installation, sizes S00 and S0, CLASS 10

Features and technical specifications:

- Connection methods
 Main and auxiliary circuit: Either screw or spring-type
 terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET

- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)







3RU2116-..C1



3RU2126-..B1



3RU2126-..C1

Size con- tactor	Trip class	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	SD	Screw terminals	+	SD	Spring-type terminals	
	Class	kW	A	A	d	Article No.	Price per PU	d	Article No.	Price per PU
Size S	00				-					
S00	10 10 10 10	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	0.5 1 1 1.6	5 5 5 5	3RU2116-0AB1 3RU2116-0BB1 3RU2116-0CB1 3RU2116-0DB1	!	5 5 5 5	3RU2116-0AC1 3RU2116-0BC1 3RU2116-0CC1 3RU2116-0DC1	
	10 10 10 10	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	2 2 2 4	5 5 5	3RU2116-0EB1 3RU2116-0FB1 3RU2116-0GB1 3RU2116-0HB1	!	5 5 5 5	3RU2116-0EC1 3RU2116-0FC1 3RU2116-0GC1 3RU2116-0HC1	
	10 10 10 10	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	4 4 6 6	* * *	3RU2116-0JB1 3RU2116-0KB1 3RU2116-1AB1 3RU2116-1BB1		5 5 5	3RU2116-0JC1 3RU2116-0KC1 3RU2116-1AC1 3RU2116-1BC1	
	10 10 10 10	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	10 10 16 20	A A A	3RU2116-1CB1 3RU2116-1DB1 3RU2116-1EB1 3RU2116-1FB1		5 > 5 5	3RU2116-1CC1 3RU2116-1DC1 3RU2116-1EC1 3RU2116-1FC1	
	10 10 10 10	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12.5	20 25 35 35	* * *	3RU2116-1GB1 3RU2116-1HB1 3RU2116-1JB1 3RU2116-1KB1		5	3RU2116-1GC1 3RU2116-1HC1 3RU2116-1JC1 3RU2116-1KC1	
	10	7.5	11 16	40		3RU2116-4AB1			3RU2116-4AC1	
Size S	0									
S0	10 10 10	7.5 11 11	14 20 17 22 20 25	50 63 63	5	3RU2126-4BB1 3RU2126-4CB1 3RU2126-4DB1		5 5 5	3RU2126-4BC1 3RU2126-4CC1 3RU2126-4DC1	
	10 10 10 10	15 15 18.5 18.5	23 28 27 32 30 36 34 40	63 80 80 80	5 5 5 5	3RU2126-4NB1 3RU2126-4EB1 3RU2126-4PB1 3RU2126-4FB1	ļ	5 5 5 5	3RU2126-4NC1 3RU2126-4EC1 3RU2126-4PC1 3RU2126-4FC1	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

IE3/IE4 ready 3RU2 for standard applications

3RU21 thermal overload relays for stand-alone installation, sizes S2 and S3, CLASS 10 or 10A

Features and technical specifications:

- Connection methods
- Main circuit: Screw terminals with box terminal
- Auxiliary circuit: Either screw or spring-type terminals
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET
- Switch position indicator

- TEST function
- STOP button
- Sealable covers (optional accessory)









3RU2136-..B1

3RU2136-..D1

3RU2146-..B1

3RU2146-..D1

Size con- tactor	Trip class	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	SD	Screw terminals	SD	Spring-type terminals	<u></u>
	CLASS	kW	A	A	d	Article No. Pric per Pl	d	Article No.	Price per PU
Size S	2								
S2	10 10 10	15 18.5 22	22 32 28 40 36 45	80 80 100	5 5 2	3RU2136-4EB1 3RU2136-4FB1 3RU2136-4GB1	5 5 5	3RU2136-4ED1 3RU2136-4FD1 3RU2136-4GD1	
	10 10 10	22 30 30	40 50 47 57 54 65	100 100 125	2 2 2	3RU2136-4HB1 3RU2136-4QB1 3RU2136-4JB1	5 5 5	3RU2136-4HD1 3RU2136-4QD1 3RU2136-4JD1	
	10A 10A	37 37	62 73 70 80	160 160	2 2	3RU2136-4KB1 3RU2136-4RB1	5 5	3RU2136-4KD1 3RU2136-4RD1	
Size S	3								
S3	10 10 10 10	30 37 45 45	45 63 57 75 70 90 80 100 ³⁾	125 160 160 200	2 2 2 2	3RU2146-4JB1 3RU2146-4KB1 3RU2146-4LB1 3RU2146-4MB1	5 5 5 5	3RU2146-4JD1 3RU2146-4KD1 3RU2146-4LD1 3RU2146-4MD1	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual

³⁾ For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/110 onwards.

Accessories

Overview

The following optional accessories are available for the 3RU21 thermal overload relays:

- Size-specific terminal support for stand-alone installation, in sizes S00 and S0 also with spring-type terminals
- Mechanical RESET (for all sizes)
- Cable release for resetting devices which are difficult to access (for all sizes)
- Electrical remote RESET module in three voltage variants (for all sizes)
- Sealable cover (for all sizes)
- Terminal covers for devices with screw terminals (box terminals) and ring terminal lug connections

	Version	Size	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
					perro	SET, M)		
wasin al accord	anta fan ataual alama inatallatian		d					
rminai suppo	orts for stand-alone installation Terminal supports for overload relays with screw			Screw terminals				
	terminals			Screw terminals	+			
	For separate mounting of the overload relays;	S00	>	3RU2916-3AA01		1	1 unit	41F
	screw and snap-on mounting onto standard mounting rail	30	>	3RU2926-3AA01		1	1 unit	41F
		S2	•	3RU2936-3AA01		1	1 unit	41F
16-3AA01	Terminal supports for overload relays with	S3	2	3RU2946-3AA01 Spring-type terminals		1	1 unit	41F
	spring-type terminals			opinig-type terminals	$\stackrel{\infty}{\amalg}$			
	For separate mounting of the overload relays;	S00	>	3RU2916-3AC01		1	1 unit	41F
	screw and snap-on mounting onto standard mounting rail	S0	>	3RU2926-3AC01		1	1 unit	41F
6-3AA01								
A.								
0.04401								
36-3AA01								
1								
-3AA01								
JAAUI								
2.1								
6-3AC01								
•								
26-3AC01								
nanical RE	SET							
44	Resetting plungers, holders and formers	S00 S3	2	3RU2900-1A		1	1 unit	41F
/ h	Pushbuttons with extended stroke (12 mm), IP65, Ø 22 mm	S00 S3	•	3SU1200-0FB10-0AA0		1	1 unit	41J
8	Extension plungers	S00 S3	>	3SU1900-0KG10-0AA0		1	1 unit	41J
p .	For compensation of the distance between the pushbutton and the unlatching button of the relay							
900-1A	,							

with pushbutton

extension plunger

and

									Access	ories
	Version		Siz			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Cable releases v	with holder for RESET				d					
1	For Ø 6.5 mm holes in the max. control panel thicknowledge. • Length 400 mm • Length 600 mm	control panel;		00 S3 00 S3		3RU2900-1B 3RU2900-1C		1	1 unit 1 unit	41F 41F
3RU2900-1.	note RESET, electrical									
3RU1900-2A.71	Operating range 0.85 Power consumption 80 V/ON time 0.2 4 s, Switching frequency 60/h • 24 30 V AC/DC • 110 127 V AC/DC • 220 250 V AC/DC	1.1 x <i>U</i> _s , A AC, 70 W DC,	SC	00 S3	2	3RU1900-2AB71 3RU1900-2AF71 3RU1900-2AM71		1 1 1	1 unit 1 unit 1 unit	41F 41F 41F
Sealable covers			00	00		0D\/0000 0D		100	10	445
3RV2908-0P	For covering the setting k	nobs	Sc	00 S3	•	3RV2908-0P		100	10 units	41E
Terminal covers										
3RT2936-4EA2 General access	Covers for devices with (box terminals) Additional touch protection to the box terminals • Main current level ories		S2 S3		•	3RT2936-4EA2 3RT2946-4EA2		1	1 unit 1 unit	41B 41B
	Version	Size	Color	For overload relays			Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening	ng spring-type termina	als			d					
3RA2908-1A	Screwdrivers For all SIRIUS devices with spring-type termi- nals	Length approx. 200 mm,	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection 3RU2		Spring-type terminals 3RA2908-1A	<u></u>	1	1 unit	41B
Blank labels	Unit labeling plates ¹⁾	20 mm v 7 mm	Pastel	3RU2	21	0 3RT1900-1SB20		100	340 units	41B
	For SIRIUS devices	20 mm x 7 mm	turquoise Titanium	3RU2	21			100	340 units	41B
	Adhesive inscription	19 mm x 6 mm	gray Pastel	3RU2	1:	5 3RT1900-1SB60		100	3 060 units	41B
3RT1900-1SB20	labels ¹⁾ For SIRIUS devices	19 mm x 6 mm	turquoise Zinc yellow		15				3 060 units	41B
3RT2900-1SB20	m for individual inscription	of								

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

Overload Relays SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays

Industry Mall, see www.siemens.com/product?3RB3

TIA Selection Tool Cloud (TST Cloud), see

https://mall.industry.siemens.com/spice/TSTWeb?kmat=ElectronicOverloadRelay

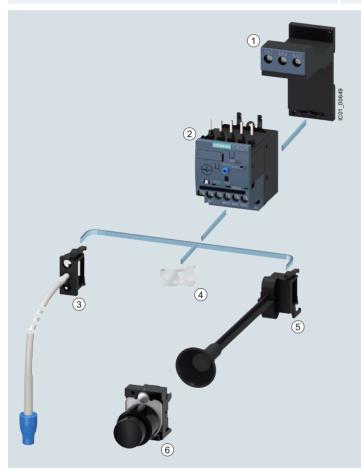
Conversion tool, e.g. from 3RB20/3RB211 to 3RB30/3RB31, see

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164

Characteristics and certificates, see

https://support.industry.siemens.com/cs/ww/en/ps/16276



- (1) Stand-alone assembly support for 3RU2 and 3RB3
- 3RB30, 3RB31 electronic overload relay, sizes S00 to S3 $\,$

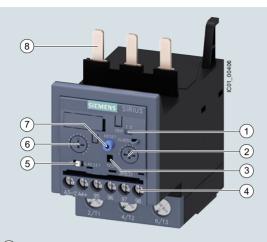
Mountable accessories

- (3) Cable release with holder for RESET
- 4 Sealable cover
- (5) Mechanical RESET
- 6 Pushbutton

Mountable accessories for 3RB30 and 3RB31 electronic overload relays

Overload Relays SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications



- Switch position indicator and TEST function of the wiring: Indicates a trip and enables the wiring test.
- (2) Trip class setting/internal ground-fault detection (only 3RB31): Using the rotary switch you can set the required trip class and activate the internal ground-fault detection dependent on the start-up conditions.
- 3 Solid-state test (device test): Enables a test of all important device components and functions.
- Connecting terminals (removable joint block for auxiliary circuits):
 Depending on the device version, the connecting terminals are screw terminals or spring-type terminals for the main and auxiliary circuits.
- (5) Selector switch for manual/automatic RESET: With the slide switch you can choose between manual and automatic RESET.
- (6) Motor current setting:
 - Setting the device to the rated motor current is easy with the large rotary knob.
- 7 A device set to manual RESET can be reset locally by pressing the RESET button. On 3RB31 overload relays an electrical remote RESET is integrated.
- (8) Connection for mounting onto contactors:
 Optimally adapted in electrical, mechanical and design terms to the contactors 3RT2. The overload relay can be connected directly using these connection pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal support for stand-alone installation).

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

SIRIUS 3RB3133-4.B0 electronic overload relay

The 3RB30/3RB31 electronic overload relays up to 115 A with internal power supply have been designed for current-dependent protection of loads with normal and heavy starting, and to protect against excessive temperature rises due to overload, phase unbalance or phase failure. An overload, phase unbalance or phase failure result in an increase of the motor current beyond the set rated motor current. This current rise is detected by the current transformers integrated into the devices and evaluated by corresponding electronic circuits which then output a pulse to the auxiliary contacts. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting $I_{\rm e}$ and is stored in the form of a long-term stable tripping characteristic curve (see Characteristics).

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase unbalance and phase failure, the 3RB31 electronic overload relays also allow internal ground-fault detection (not possible in conjunction with contactor assemblies for wye-delta starting). This provides protection of loads against high-resistance short circuits due to damage to the insulation material, moisture, condensed water, etc.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after the recovery time has elapsed.

The 3RB3 electronic overload relays are suitable for operation with frequency converters.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

For 3RB20 and 3RB21 overload relays in sizes S6 to S10/S12, see page 7/117 onwards.

Use in hazardous areas

The 3RB30/3RB31 electronic overload relays are suitable for the overload protection of motors with the following types of protection:

- 🐼 II (2) G [Ex e] [Ex d] [Ex px]
- 😥 II (2) D [Ex t] [Ex p]

EC type test certificate for Group II, Category (2) G/D exists. It has the number PTB 09 ATEX 3001.

SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications

Article No. scheme

Product versions		Article numb	er		
Electronic overload relays		3RB3 □ □ □	-		
Device type	e.g. 0 = standard device, with internal supply, for three-phase loads				П
Size, rated operational current and power	e.g. 1 = 16 A (7.5 kW) for size S00				П
Version of the automatic RESET, electrical remote RESET	e.g. 6 = switchable between manual/auto RE- SET		3		
Trip class (CLASS)	e.g. 1 = CLASS 10E				
Setting range of the overload release	e.g. R = 0.1 0.4 A				
Connection methods	e.g. B = screw terminals for main and auxiliary circuits				
Installation type	e.g. 0 = mounting on contactor				
Example		3RB3 0 1 6	i –	1	RB0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

Benefits

The most important features and benefits of the 3RB30/3RB31 electronic overload relays are listed in the overview table (see "General data" page 7/79 onwards).

Application

Industries

The 3RB30/3RB31 electronic overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal and heavy starting conditions (CLASS 5E to 30E), minimize project completion times, inventories and energy consumption, and optimize plant availability and maintenance management.

Application

The 3RB30/3RB31 electronic overload relays have been designed for the protection of three-phase motors in sinusoidal 50/60 Hz voltage networks. The relays are not suitable for the protection of single-phase AC or DC loads.

The 3RU21 thermal overload relay or the 3RB22/3RB23/3RB24 electronic overload relay can be used for single-phase AC loads. For DC loads we recommend the 3RU21 thermal overload relay.

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, ageing and temperature fluctuations.

For the temperature range from -25 °C to +60 °C, the 3RB30/3RB31 electronic overload relays compensate the temperature in accordance with IEC 60947-4-1.

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

For the use of 3RB30/3RB31 electronic overload relays in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Overload Relays SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications

Technical specifications

More information

System Manual "SIRIUS – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318

Configuration Manual "Load Feeders - SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164 Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16276/td

The following technical information is intended to provide an initial overview of the various types of device and functions.

Type			3RB3026, 3RB3123		
Size	P	S00	S0	S2	S3
Dimensions (W x H x D) overload relay with stand-alone installation support)					
Screw terminals	mm	45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124
Spring-type terminals	mm	45 x 102 x 80	45 x 116 x 95	55 x 105 x 117	70 x 106 x 124
General data					
Tripping in the event of		Overload, phase failt + ground fault (for 3F	ure, and phase unbala RB31 only)	ance	
Trip class acc. to IEC 60947-4-1	CLASS	3RB30: 10E, 20E; 3RB31: 5E, 10E, 20E	or 30E adjustable		
Phase failure sensitivity		Yes			
Reset and recovery					
Reset options after tripping		Manual and automat remote RESET (24 V	tic RESET, 3RB31 has DC)	an integrated connec	tion for electrical
Recovery time					
- For automatic RESET		Approx. 3 min			
- For manual RESET		Immediately			
- For remote RESET		Immediately			
Features					
 Display of operating state on device 		Yes, by means of sw	itch position indicator	slide	
TEST function			cs by pressing the TE		
		test of auxiliary conta indicator slide/ self-monitoring	acts and wiring of con	trol circuit by actuating	g the switch position
RESET button		Yes			
• STOP button		No			
Protection and operation of explosion-proof motors					
EC type-examination certificate number		PTB 09 ATEX 3001			
according to directive 2014/34/EU (ATEX)		(≥) II (2) G [Ex e] [Ex	x d] [Ex px]		
		(₹) II (2) G [Ex t] [Ex	[p]		
		see https://support.ir	ndustry.siemens.com/	cs/ww/en/view/405913	327
Ambient temperatures					
Storage/transport	°C	-40 +80			
Operation	°C	-25 +60			
Temperature compensation	°C	+60			
Permissible rated current at					
- Temperature inside control cabinet 60 °C	%	100			
- Temperature inside control cabinet 70 °C	%	On request			
Repeat terminals					
Coil repeat terminals		Yes	Not required		
Auxiliary contact repeat terminal		Yes	Not required		
Degree of protection acc. to IEC 60529					
Screw terminals/spring-type terminals		IP20			e additional terminal degree of protection
Straight-through transformers				IP20	
Touch protection acc. to IEC 60529		Finger-safe		Finger-safe, for vertice front	cal contact from the
Shock resistance with sine acc. to IEC 60068-2-27	<i>g</i> /ms	15/11 (signaling contact 97 "tripped": 9 g/11 ms)		15/11 (signaling contact 97 "tripped": 8 g/11 ms)	

SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications					
Type Size Dimensions (W x H x D) (overload relay with stand-alone installation support)	,	3RB3016, 3RB3113 S00	3RB3026, 3RB3123 S0	3RB3036, 3RB3133 S2	3RB3046, 3RB3143 S3
Screw terminals	mm	45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124
Spring-type terminals	mm	45 x 102 x 80	45 x 116 x 95	55 x 105 x 117	70 x 106 x 124
General data (continued)					
Electromagnetic compatibility (EMC) – Interference immunity					
Conductor-related interference					
- Burst acc. to IEC 61000-4-4 (corresponds to degree of severity 3)	kV	2 (power ports), 1 (si	gnal port)		
 Surge acc. to IEC 61000-4-5 (corresponds to degree of severity 3) 	kV	2 (line to earth), 1 (line	ne to line)		
 Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3) 	kV	8 (air discharge), 6 (contact discharge)		
 Field-related interference acc. to IEC 61000-4-3 (corresponds to degree of severity 3) 	V/m	10			
Electromagnetic compatibility (EMC) – Emitted interference		Degree of severity B	acc. to EN 55011 (CIS	SPR 11) and EN 5502	2 (CISPR 22)
Resistance to extreme climates – Air humidity	%	95			
Installation altitude above sea level	m	Up to 2 000			
Mounting position		Any			
Type of mounting		Direct mounting/stan	d-alone installation wi	th terminal support	
Туре		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046. 3RB3143
Size		S00	S0	S2	S3
Main circuit					
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690		690 1 000 with straight- through transformer	1000
Rated impulse withstand voltage $U_{\rm imp}$	kV	6		6 8 with straight- through transformer	8
Rated operational voltage $U_{\rm e}$	V	690		690 1 000 with straight- through transformer	1000
Type of current					
Direct current		No			
Alternating current		Yes, 50/60 Hz \pm 5%			

Heavy starting Power loss per unit (max.)

Current setting

Short-circuit protection • With fuse without contactor See "Selection and ordering data", pages 7/105 ... 7/107

Α

Α

W

"Short-Circuit Protection with Fuses/Motor Starter Protectors for Motor Feeders", • With fuse and contactor

0.1 ... 0.4

see Manual

0.1 ... 1.1

4 ... 16

0.1 ... 0.4

10 ... 40

0.1 ... 4.5

12.5 ... 50

20 ... 80

0.5 ... 4.6

12.5 ... 50 and 32 ... 115

0.9 ... 4.6

Protective separation between main and auxiliary current paths Acc. to IEC 60947-1 (pollution degree 2)

• For systems with grounded neutral point 690 • For systems with ungrounded neutral point 600

Overload Relays SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications

Size	Туре		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143
Screw terminals Screw Screw terminals Screw Screw terminals Screw Screw terminals Screw Scre	Size		•	·		•
Terminal screw	Conductor cross-sections of main circuit					
A mm Allen screw	Connection type		Screw termin	als		terminals with box
Prescribed tightening torque	Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2		4 mm Allen screw
Conductor cross-sections (min/max.), 1 or 2 conductors can be connected * Solid or stranded * Solid or stranded * Solid or stranded with end sleeve (DIN 46228-1) * Finely stranded with end sleeve (DIN 46228-1) * AWG cables, solid or stranded * AWG 2 x (0.5 1.5) 2 x (1 2.5) 2 x (1 2.5) 2 x (1 2.5) 2 x (1 2.5) 1 x (1 35) 1 x (2.5	Operating devices	mm	Ø 5 6	Ø 5 6		4 mm Allen screw
of the property of the proper	Prescribed tightening torque	Nm	0.8 1.2	2 2.5		4.5 6
Pinely stranded with end sleeve (DIN 46228-1)	Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
2 x (0.75 2.5)	Solid or stranded	mm ²	2 x (0.75 2.5) ¹⁾ , 2 x (0.5 4) ¹⁾	2 x (2.5 10) ¹⁾	2 x (1 35) ¹⁾	2 x (10 50) ¹⁾ , 1 x (10 70) ¹⁾
2 x (18 14) ¹⁾ , 2 x (14 8) ¹⁾ 1 x (18 1) ¹⁾ 1 x (10 2/0) ¹⁾ Removable box terminals ²⁾ • With copper bars ³⁾ • With cable lugs ⁴⁾ - Terminal screw - Prescribed tightening torque - Usable ring terminal lugs Connection type Spring-type terminals Conductor cross-sections (min/max.), 1 conductor can be connected • Finely stranded without end sleeve • Finely stranded without end sleeve Finely stranded with end sleeve (DIN 46228-1) • AWG cables, solid or stranded AWG 1 x (20 12) Straight-through transformers	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 1.5) ¹⁾ 2 x (0.75 2.5) ¹⁾	2 x (2.5 6) ¹⁾ ,	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (2.5 35) ¹⁾ , 1 x (2.5 50) ¹⁾
• With capper bars ³⁾ • With cable lugs ⁴⁾ - Terminal screw - Prescribed tightening torque - Usable ring terminal lugs Connection type Connection type □ Spring-type terminals □ Spring-type ter	AWG cables, solid or stranded	AWG	2 x (18 14) ¹⁾ ,	2 x (16 12) ¹⁾ , 2 x (14 8) ¹⁾	2 x (18 2) ¹⁾ , 1 x (18 1) ¹⁾	2 x (10 1/0) ¹⁾ , 1 x (10 2/0) ¹⁾
• With cable lugs ⁴) - Terminal screw - Prescribed tightening torque - Usable ring terminal lugs Connection type Spring-type terminals Conductor cross-sections (min/max.), 1 conductor can be connected • Solid or stranded • Finely stranded without end sleeve Finely stranded with end sleeve (DIN 46228-1) • AWG cables, solid or stranded AWG 1x (20 12) Straight-through transformers	Removable box terminals ²⁾					
- Terminal screw - Prescribed tightening torque - Usable ring terminal lugs - Usable ring terminal substituting the property of the property	• With copper bars ³⁾	mm				2 x 12 x 4
- Prescribed tightening torque - Usable ring terminal lugs - Usable ring terminal substituting the state of t	• With cable lugs ⁴⁾					
- Usable ring terminal lugs mm	- Terminal screw					M6
Connection type $ \begin{array}{c} $	- Prescribed tightening torque	Nm				4.5 6
Operating devices mm 3.0 x 0.5 and 3.5 x 0.5 Conductor cross-sections (min./max.), 1 conductor can be connected mm² 1 x (0.5 4) 1 x (1 10) • Solid or stranded mm² 1 x (0.5 2.5) 1 x (1 6) • Finely stranded with end sleeve (DIN 46228-1) mm² 1 x (0.5 2.5) 1 x (1 6) • AWG cables, solid or stranded AWG 1 x (20 12) 1 x (18 8) Connection type Straight-through transformers	d ₂		-			_
Conductor cross-sections (min./max.), 1 conductor can be connected • Solid or stranded mm² 1 x (0.5 4) 1 x (1 10) • Finely stranded without end sleeve mm² 1 x (0.5 2.5) 1 x (1 6) • Finely stranded with end sleeve (DIN 46228-1) mm² 1 x (0.5 2.5) 1 x (1 6) • AWG cables, solid or stranded AWG 1 x (20 12) 1 x (18 8) Connection type Straight-through transformers	Connection type		Spring-type to	erminals		
1 conductor can be connected • Solid or stranded	Operating devices	mm	3.0 x 0.5 and 3.5 x 0).5		
• Finely stranded without end sleeve mm² 1 x (0.5 2.5) 1 x (1 6) • Finely stranded with end sleeve (DIN 46228-1) mm² 1 x (0.5 2.5) 1 x (1 6) • AWG cables, solid or stranded AWG 1 x (20 12) 1 x (18 8) Connection type Straight-through transformers	Conductor cross-sections (min./max.), 1 conductor can be connected					
• Finely stranded with end sleeve (DIN 46228-1) mm² 1 x (0.5 2.5) 1 x (1 6) • AWG cables, solid or stranded AWG 1 x (20 12) 1 x (18 8) Connection type Straight-through transformers	Solid or stranded		,	1 x (1 10)		
• AWG cables, solid or stranded AWG 1 x (20 12) 1 x (18 8) Connection type Straight-through transformers	Finely stranded without end sleeve		1 x (0.5 2.5)	1 x (1 6)		
Connection type Straight-through transformers	• Finely stranded with end sleeve (DIN 46228-1)	mm^2	1 x (0.5 2.5)	1 x (1 6)		
	AWG cables, solid or stranded	AWG	1 x (20 12)	1 x (18 8)		
	Connection type		Straight-throu	ugh transformers		
	Diameter of opening	mm	_		15	18

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Cable lug and busbar connection possible after removing the box terminals.

³⁾ If bars larger than 12 mm x 10 mm are connected, a 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/109.

⁴⁾ When conductors larger than 25 mm² are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/109.

SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications

Туре		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143
Size		S00	S0	S2	S3
Auxiliary circuit					
Number of NO contacts		1			
Number of NC contacts		1			
Auxiliary contacts – Assignment		1 NO for the signal *1 NC for disconnect			
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	300			
Rated impulse withstand voltage U _{imp}	kV	4			
Auxiliary contacts – Contact rating					
NC, NO contact with alternating current AC-14/AC-15, rated operational current $I_{\rm e}$ at $U_{\rm e}$ = 24 V = 120 V = 125 V = 250 V NC, NO contacts with direct current DC-13, rated operational current $I_{\rm e}$ at $U_{\rm e}$ = 24 V = 60 V = 110 V = 125 V = 250 V	A A A A A A A A A	4 4 4 3 2 0.55 0.3 0.3			
$ullet$ Conventional thermal current I_{th}	Α	5			
Contact reliability (suitability for PLC control; 17 V, 5 mA)		Yes			
Short-circuit protection					
With fuse, operational class gG	Α	6			
Ground-fault protection (only 3RB31)		The information refer	rs to sinusoidal residu	al currents at 50/60 Hz	<u>.</u> .
$ullet$ Tripping value I_Δ		$> 0.75 \times I_{\mathrm{motor}}$			
Operating range I		Lower current setting	$g < I_{motor} < 3.5 imes upp$	er current setting	
• Response time t _{trip} (in steady-state condition)	S	< 1			
Integrated electrical remote RESET (only 3RB31)					
Connecting terminals A3, A4		24 V DC, max. 200 r	nA for approx. 20 ms,	then < 10 mA	
Protective separation between auxiliary current paths acc. to IEC 60947-1	V	300			

Туре		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143
Size		S00	S0	S2	S3
CSA, UL, UR rated data					
Auxiliary circuit – Switching capacity		B600, R300			
Conductor cross-sections for auxiliary circuit					
Connection type		Screw termina	nls		
Terminal screw		M3, Pozidriv size 2			
Operating devices	mm	Ø 5 6			
Prescribed tightening torque	Nm	0.8 1.2			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
Solid or stranded	mm^2	$1 \times (0.5 \dots 4)^{1)}, 2 \times (0.5 \dots 4)^{1}$	0.5 2.5) ¹⁾		
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	1 × (0.5 2.5) ¹⁾ , 2 ×	: (0.5 1.5) ¹⁾		
AWG cables, solid or stranded	AWG	2 × (20 14)			
Connection type		Spring-type te	rminals		
Operating devices	mm	3.0 x 0.5			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
Solid or stranded	mm^2	2 × (0.25 1.5)			
• Finely stranded without end sleeve	mm^2	2 × (0.25 1.5)			
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 × (0.25 1.5)			
 AWG cables, solid or stranded 	AWG	2 × (24 16)			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Overload Relays SIRIUS 3RB3 Electronic Overload Relays

IE3/IE4 ready 3RB30, 3RB31 for standard applications

Selection and ordering data

3RB30 electronic overload relays, CLASS 10E

Features and technical specifications:

- · Connection methods
 - Sizes S00 and S0:
 - Main and auxiliary circuit: Either screw or spring-type terminals
 - Sizes S2 and S3:
 - Main circuit: Screw terminals with box terminal or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-type terminals
- · Overload protection, phase failure protection and unbalance
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET
- · Switch position indicator
- · TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41G













3RB3016-1.B0

3RB3026-1.B0

3RB3036-1.B0

3RB3036-1.W1

3RB3046-1.B0

3RB3046-1.W1

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	SD	Screw terminals	+	SD	Spring-type terminals	<u>~</u>
	kW	А	A	d	Article No.	Price per PU	d	Article No.	Price per PU
Ci-a Con									

	KVV	A	A	a		a d	
Size S	500						
S00	Devices for r	nounting onto con	tactor ³⁾		_		
	0.04 0.09	0.1 0.4	4	>	3RB3016-1RB0	2	3RE
	0.12 0.37	0.32 1.25	6	▶	3RB3016-1NB0	2	3RE
	0.37 1.5	1 4	20	>	3RB3016-1PB0	2	3RE
	15 55	3 12	25		3PR3016-1SR0	2	200

2.2 ... 7.5

1.5 ... 5.5 3 ... 11 5.5 ... 18.5

S0	Devices for n	nounting onto con	tactor ³⁾		
	0.04 0.09	0.1 0.4	4	>	3RB3026-1RB0
	0.12 0.37	0.32 1.25	6	▶	3RB3026-1NB0
	0.37 1.5	1 4	20	>	3RB3026-1PB0

0.1 0.4	7
0.32 1.25	6
1 4	20
3 12	25
6 25	50
10 40	50

3RB3016-1RB0 3RB3016-1NB0 3RB3016-1PB0	2 2 2	3RB3016-1RE0 3RB3016-1NE0 3RB3016-1PE0
3RB3016-1SB0 3RB3016-1TB0	2	3RB3016-1SE0 3RB3016-1TE0

3RB3026-1RB0	2	3RB3026-1RE0
3RB3026-1NB0	2	3RB3026-1NE0
3RB3026-1PB0	2	3RB3026-1PE0
3RB3026-1SB0	2	3RB3026-1SE0
3RB3026-1QB0	2	3RB3026-1QE0
3RB3026-1VB0	2	3RB3026-1VE0

Size S2

S2

Devices with screw terminals (main current side) and for mounting onto contactor³⁾

4 ... 16

7.5 22	12.5 50	250	>	3RB3036-1UB0	▶	3RB3036-1UD0
11 37	20 80	250		3RB3036-1WB0	>	3RB3036-1WD0

Devices with straight-through transformer for stand-alone installation

7.5 22	12.5 50	250	▶ 3RB3036-1UW1		3RB3036-1UX1
11 37	20 80	250	▶ 3RB3036-1WW1	•	3RB3036-1WX1

Size S3 S3

Devices with screw terminals (main current side) and for mounting onto contactor³⁾

	•					
7.5 22	12.5 50	200	1 3R E	33046-1UB0	2	3RB3046-1UD0
18.5 55	32 115	315	1 3RE	33046-1XB0	2	3RB3046-1XD0

Devices with straight-through transformer for stand-alone

installation				
7.5 22 12 18.5 55 32	2.5 50 200 2 115 315	3RB3046-1UW1 3RB3046-1XW1	2	3RB3046-1UX1 3RB3046-1XX1

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

For fuse values in connection with contactors, see Configuration Manual.

Note:

For reliable operational current, note derating information, see Manual

²⁾ Maximum protection by fuse only for overload relays, type of

³⁾ With the appropriate terminal supports (see "Accessories", page 7/108), these overload relays can also be installed as stand-alone units.

SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 for standard applications IE3/IE4 ready

3RB30 electronic overload relays, CLASS 20E

Features and technical specifications:

- · Connection methods
 - Sizes S00 and S0:
 - Main and auxiliary circuit: Either screw or spring-type terminals
 - Sizes S2 and S3:
 - Main circuit: Screw terminals with box terminal or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-type terminals
- · Overload protection, phase failure protection and unbalance
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET
- · Switch position indicator
- TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 = 1 unit PG = 41G













3RB3016-2.B0

3RB3026-2.B0

3RB3046-2.B0

3RB3046-2.W1

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	SD	Screw terminals	+	SD	Spring-type terminals	
					Article No.	Price		Article No.	Price
	kW	Α	Α	d		per PU	d		per PU
Size S00									
S00	Devices for mod	unting onto contacto	or ³⁾						
	0.04 0.09	0.1 0.4	4	>	3RB3016-2RB0		2	3RB3016-2RE0	
	0.12 0.37	0.32 1.25	6	>	3RB3016-2NB0		2	3RB3016-2NE0	
	0.37 1.5	1 4	20	>	3RB3016-2PB0		2	3RB3016-2PE0	
	1.5 5.5	3 12	25	>	3RB3016-2SB0		2	3RB3016-2SE0	
	2.2 7.5	4 16	25	>	3RB3016-2TB0		2	3RB3016-2TE0	
Size S0									

S0								
	Devices for mounting onto contactor ³⁾							
	0.04 0.09	0.1 0.4	4	>	3RB3026-2RB0	2	3RB3026-2RE0	
	0.12 0.37	0.32 1.25	6	▶	3RB3026-2NB0	2	3RB3026-2NE0	
	0.37 1.5	1 4	20	▶	3RB3026-2PB0	2	3RB3026-2PE0	
	1.5 5.5	3 12	25	▶	3RB3026-2SB0	2	3RB3026-2SE0	
	3 11	6 25	50	▶	3RB3026-2QB0	2	3RB3026-2QE0	
	5.5 18.5	10 40	50	>	3RB3026-2VB0	2	3RB3026-2VE0	

Size S2

S2

Devices with screw terminals (main current side) and for mounting onto contactor³⁾

7.5 22 11 37	12.5 50	250 250		3RB3036-2UB0 3RB3036-2WB0		3RB3036-2UD0 3RB3036-2WD0
11 37 20 80 250 • 3RB3036-2WB0 • 3RB3036-2WD0 Devices with straight-through transformer for stand-alone				01120000 21120		

installation

7.5 22	12.5 50	250	>	3RB3036-2UW1		3RB3036-2UX1
11 37	20 80	250	>	3RB3036-2WW1	▶	3RB3036-2WX1

Size S3

S3

Devices with screw terminals (main current side) and for mounting onto contactor³⁾

7.5 22	12.5 50	200	1	3RB3046-2UB0	2	3RB3046-2UD0
18.5 55	32 115	315	1	3RB3046-2XB0	2	3RB3046-2XD0
Devices with straight-through transformer for stand-alone						

installation						
7.5 22	12.5 50	200	1	3RB3046-2UW1	2	3RB3046-2UX1
18.5 55	32 115	315	1	3RB3046-2XW1	2	3RB3046-2XX1

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

³⁾ With the appropriate terminal supports (see "Accessories", page 7/108), these overload relays can also be installed as stand-alone units.

Overload Relays SIRIUS 3RB3 Electronic Overload Relays

IE3/IE4 ready 3RB30, 3RB31 for standard applications

3RB31 electronic overload relays, CLASS 5E, 10E, 20E or 30E (adjustable)

Features and technical specifications:

- · Connection methods
 - Sizes S00 and S0:
 - Main and auxiliary circuit: Either screw or spring-type terminals
 - Sizes S2 and S3:
 - Main circuit: Screw terminals with box terminal or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-type terminals
- Overload protection, phase failure protection and unbalance protection
- Internal ground-fault detection (activatable)

- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET
- · Electrical remote RESET integrated
- · Switch position indicator
- · TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS' = 1 unit PG = 41G









d





Size

contactor

Rated power for Current setting value three-phase motors, rated value 1)

of the inverse-time delayed overload release

Short-circuit protection SD with fuse, type of coordination "2" operational class gG2)

Screw terminals (F) SD Article No.

Price

Spring-type terminals

kW

3

per PU d

Article No Price per PU

				-		-	
Size S0	0						
S00	Devices for m	ounting onto conta	actor ³⁾		_		
	0.04 0.09	0.1 0.4	4	>	3RB3113-4RB0	2	3RB3113-4RE0
	0.12 0.37	0.32 1.25	6	>	3RB3113-4NB0	2	3RB3113-4NE0
	0.37 1.5	1 4	20	>	3RB3113-4PB0	2	3RB3113-4PE0
	1.5 5.5	3 12	25	>	3RB3113-4SB0	2	3RB3113-4SE0
	2.2 7.5	4 16	25	▶	3RB3113-4TB0	2	3RB3113-4TE0
Size S0							
S0	Devices for m	ounting onto conta	actor ³⁾		_		
	0.04 0.00	0.1	4		0DD0400 4DD0	0	0DD0400 4DE0

50	Devices for mounting onto contactor"					
	0.04 0.09	0.1 0.4	4			
	0.12 0.37	0.32 1.25	6			
	0.37 1.5	1 4	20			
	1.5 5.5	3 12	25			

.37 1.5	1 4
.5 5.5	3 12
11	6 25
.5 18.5	10 40

⁵⁰ 50

250

3RB3123-4RB0 3RB3123-4NB0 3RB3123-4PB0 3RB3123-4SB0 3RB3123-4QB0

3RB3123-4VB0

3RB3123-4RE0 2 3RB3123-4NE0 2 3RB3123-4PE0 2 3RB3123-4SE0 2

3RB3123-4QE0 3RB3123-4VE0

Size S2

S2

Devices with screw terminals (main current side) and

for mounting onto contactor?				
7.5 22	12.5 50			
11 07	20 00			

7.5 22	12.5 50	250
11 27	20 80	250

	3RB3133-4UB0
>	3RB3133-4WB0

	3RB3133-4UD0
>	3RB3133-4WD0

stand-alone installation 7

1 37	20 80	250
.5 22	12.5 50	250

3RB3133-4UW1 3RB3133-4WW1

3RB3143-4UB0

3RB3143-4UW1

1

1

>	3RB3133-4UX1
	2DB2122_/WV1

3RB3143-4UD0

3RB3143-4UX1

Size S3

S3

Devices with screw terminals (main current side) and for mounting onto contactor3

7.5 22	12.5 50	200
18.5 55	32 115	315

Devices with st stand-alone ins	raight-through ti tallation	ransformer for
7.5 22	12.5 50	200

³RB3143-4XB0

1	3RB3143-4XD0

³RB3143-4XW1 3RB3143-4XX1 2) Maximum protection by fuse only for overload relays, type of coordination "2"

1

7.5 ... 22

For fuse values in connection with contactors, see Configuration Manual.

³⁾ With the appropriate terminal supports (see "Accessories", page 7/108), these overload relays can also be installed as stand-alone units.

SIRIUS 3RB3 Electronic Overload Relays

Accessories

Overview

The following optional accessories are available for the 3RB30/3RB31 electronic overload relays:

- Size-specific terminal support for stand-alone installation, in sizes S00 and S0 also with spring-type terminals
- Mechanical RESET (for all sizes)
- Cable release for resetting devices which are difficult to access (for all sizes)
- Sealable cover (for all sizes)

	Version	Size	SD	Article No.	Price	PU	PS*	PG
					per PU	(UNIT, SET, M)		
			d					
ninal supp	orts for stand-alone installation							
•	Terminal supports for overload relays with screw terminals			Screw terminals	+			
	For separate mounting of the overload relays;	S00	>	3RU2916-3AA01		1	1 unit	41F
	screw and snap-on mounting onto standard mounting rail	S0	>	3RU2926-3AA01		1	1 unit	41F
	Tall	S2	>	3RU2936-3AA01		1	1 unit	41F
A01		S3	2	3RU2946-3AA01		1	1 unit	41F
	Terminal supports for overload relays with spring-type terminals			Spring-type terminals				
	For separate mounting of the overload relays;	S00	>	3RU2916-3AC01		1	1 unit	41F
	screw and snap-on mounting onto standard mounting rail	S0	•	3RU2926-3AC01		1	1 unit	41F
A01								
AA01								
\ \01								
AC01								
3AC01								
cal RE	SET							
all .	Resetting plungers, holders and formers	S00 S3	2	3RB3980-0A		1	1 unit	41F
	Pushbuttons with extended stroke (12 mm), IP65, Ø 22 mm	S00 S3	•	3SU1200-0FB10-0AA0		1	1 unit	41J
	Extension plungers For compensation of the distance between a pushbutton and the unlatching button of the relay	S00 S3	•	3SU1900-0KG10-0AA0		1	1 unit	41J
30-0A shbutton	· · · · · · · · · · · · · · · · · · ·							

extension plunger

Overload Relays SIRIUS 3RB3 Electronic Overload Relays

									Access	ories
	Version			Size	SD	Article No.	Price per PU		PS*	PG
Cable releases	with holder for RESI	ET			u					
1	For Ø 6.5 mm holes in the max. control panel thic Length 400 mm • Length 600 mm	the control panel;		S00 S3 S00 S3		3RB3980-0B 3RB3980-0C		1	1 unit 1 unit	41F 41F
₹ 3RB3980-0.										
Sealable covers										
-0-	For covering the setting	g knobs		S00 S3	2	3RB3984-0		1	1 unit	41F
3RB3984-0 Terminal covers										
Terminal covers	Covers for devices wi (box terminals) Additional touch protect to the box terminals		3			Screw terminals	(1)			
3RT2936-4EA2	Main current level			S2 S3	>	3RT2936-4EA2 3RT2946-4EA2		1	1 unit 1 unit	41B 41B
General access	ories									
	Version	Size	Color	For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening	ng spring-type termi	inals			u					
						Spring-type terminals	$\widetilde{\mathbb{H}}$			
3RA2908-1A	Screwdrivers For all SIRIUS devices with spring-type terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit con- nection: 3RB3	2	3RA2908-1A		1	1 unit	41B
Blank labels	Hait Inhalian alata 1	00	Destal	ODDO	00	0DT1000 10D00		100	0.40	440
	Unit labeling plates ¹⁾ For SIRIUS devices	20 mm x 7 mm	Pastel turquoise Titanium	3RB3 3RB3	20	3RT1900-1SB20 3RT2900-1SB20		100	340 units	41B 41B
	Adhesive inscription	19 mm x 6 mm	gray Pastel	3RU2	15	3RT1900-1SB60		100	3 060 units	41B
B0_0142	Adhesive inscription labels ¹⁾ For SIRIUS devices		turquoise							
3RT1900-1SB20 3RT1900-1SB20 3RT2900-1SB20 1) PC labeling syste	em for individual inscripti	19 mm x 6 mm	Zinc yellow	3RU2	15	3RT1900-1SD60		100	3 060 units	41B

PC labeling system for individual inscription o unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

SIRIUS 3RB2 Electronic Overload Relays

3RB20, 3RB21 for standard applications

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays Industry Mall, see www.siemens.com/product?3RB2

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164

Characteristics and certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16278



1 3RB2 overload relay Sizes S6 to S10/S12

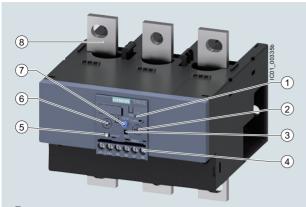
Mountable accessories

- (2) Terminal cover
- (3) Box terminals
- (4) Cable release with holder for RESET
- (5) Sealable cover
- 6 Mechanical RESET
- (7) Pushbutton

Mountable accessories for 3RB2 electronic overload relays (sizes S6 to S10/S12)

Overload Relays SIRIUS 3RB2 Electronic Overload Relays

3RB20, 3RB21 for standard applications



- 1 Switch position indicator and TEST function of the wiring: Indicates a trip and enables the wiring test.
- (2) Trip class setting/internal ground-fault detection (only 3RB21): Using the rotary switch you can set the required trip class and activate the internal ground-fault detection dependent on the start-up conditions.
- Solid-state test (device test): Enables a test of all important device components and functions
- Connecting terminals (removable terminal block for auxiliary circuits): The generously sized terminals permit connection of two conductors with different cross-sections for the main and auxiliary circuits. The auxiliary circuit can be connected with screw terminals and alternatively with spring-type terminals.
- (5) Selector switch for manual/automatic RESET: With the slide switch you can choose between manual and automatic RESET.
- Motor current setting:
 Setting the device to the rated motor current is easy with the large rotary knob.
- 7 A device set to manual RESET can be reset locally by pressing the RESET button. On the 3RB21 overload relay a solid-state remote RESET is integrated.
- (8) Connection for mounting onto contactors: Optimally adapted in electrical, mechanical and design terms to the contactors 3RT1. These connecting pins can be used for direct mounting of the overload relay to the contactor. Stand-alone installation is possible as an alternative (partly in conjunction with a terminal bracket for stand-alone installation).

SIRIUS 3RB2153-4FW2 electronic overload relay

The 3RB20 and 3RB21 electronic overload relays up to 630 A with internal power supply have been designed for current-dependent protection of loads with normal and heavy starting (see Manual) against excessive temperature rises due to overload, phase unbalance or phase failure.

An overload, phase unbalance or phase failure result in an increase of the motor current beyond the set rated motor current. This current rise is detected by the current transformers integrated into the devices and evaluated by corresponding electronic circuits which then output a pulse to the auxiliary contacts. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting $I_{\rm e}$ and is stored in the form of a long-term stable tripping characteristic curve, see

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase unbalance and phase failure, the 3RB21 electronic overload relays also allow internal ground-fault detection (not possible in conjunction with contactor assemblies for star-delta (wye-delta) starting). This provides protection of loads against high-resistance short circuits due to damage to the insulation material, moisture, condensed water, etc.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after the recovery time has elapsed.

The 3RB2 electronic overload relays are suitable for operation with frequency converters, see Manual.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

For 3RB30 and 3RB31 overload relay sizes S00 to S3, see page 7/105 onwards.

Use in hazardous areas

The 3RB20/3RB21 electronic overload relays are suitable for the overload protection of motors with the following types of protection:

- 🐼 II (2) G [Ex e] [Ex d] [Ex px]
- 😥 II (2) D [Ex t] [Ex p]

EC type test certificate for Group II, Category (2) G/D exists. It has the number PTB 06 ATEX 3001.

SIRIUS 3RB2 Electronic Overload Relays

3RB20, 3RB21 for standard applications

Article No. scheme

Product versions		Article number	
Electronic overload relays		3RB2 🗆 🗆 🗕 – 🗆 🗆 🗆	
Device type	e.g. 0 = standard device, with internal supply, for three-phase loads		
Size, rated operational current and power	e.g. 5 = 200 A (90 kW) for size S6		
Version of the automatic RESET, electrical remote RESET	e.g. 6 = switchable between manual/auto RE- SET	•	
Trip class (CLASS)	e.g. 1 = CLASS 10E		
Setting range of the overload release	e.g. F = 5 200 A		
Connection methods	e.g. C = busbar connections main circuit; screw terminals auxiliary circuit	0	
Installation type	e.g. 2 = mounting on contactor and stand-alone installation		
Example		3RB2 0 5 6 - 1 F C 2	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

Benefits

The most important features and benefits of the 3RB20/3RB21 electronic overload relays are listed in the overview table (see "General data", page 7/79 onwards).

Application

Industries

The 3RB20 and 3RB21 electronic overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal and heavy starting conditions (CLASS 5E to 30E), minimize project completion times, inventories and energy consumption, and optimize plant availability and maintenance management.

Application

The 3RB20 and 3RB21 electronic overload relays have been designed for the protection of three-phase motors in sinusoidal 50/60 Hz voltage networks. The relays are not suitable for the protection of single-phase AC or DC loads.

The 3RU21 thermal overload relays or the 3RB22 to 3RB24 electronic overload relays can be used for single-phase AC loads. For DC loads we recommend the 3RU21 thermal overload relay.

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, ageing and temperature fluctuations.

For the temperature range from -25 °C to +60 °C, the 3RB20 and 3RB21 electronic overload relays compensate the temperature in accordance with IEC 60947-4-1.

For the 3RB20 and 3RB21 electronic overload relays with the sizes S6, S10 and S12, the upper set value of the setting range must be reduced for ambient temperatures > 50 °C by a certain factor.

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

For the use of 3RB20 and 3RB21 electronic overload relays in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Overload Relays SIRIUS 3RB2 Electronic Overload Relays

3RB20, 3RB21 for standard applications

Technical specifications

More information					
Configuration Manual "Load Feeders – SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188	Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16278				
Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164					

The following technical information is intended to provide an initial overview of the various types of device and functions.

Туре		3RB2056, 3RB2153	3RB2066, 3RB2163
Size I		\$6	S10/S12
Dimensions (W x H x D) (overload relay with stand-alone installation support)	mm	120 x 119 x 155	145 x 147 x 156
General data			
Tripping in the event of	Overload, phase failure, and phase unbalance + ground fault (for 3RB21 only)		
Trip class acc. to IEC 60947-4-1	3 3RB20: 10E or 20E; 3RB21: 5E, 10E, 20E and 30E adjustable		
Phase failure sensitivity	Yes		
Overload warning	No		
Reset and recovery			
Reset options after tripping		3RB20: Manual and automatic RESET; 3RB21: Manual, automatic and remote RESET	
Recovery time			
- For automatic RESET	Approx. 3 min		
- For manual RESET	Immediately		
- For remote RESET		Immediately	
Features			
Display of operating state on device		Yes, by means of switch position indicator slide	
TEST function		Yes, test of electronics by pressing the test of auxiliary contacts and wiring of position indicator slide/ self-monitoring	
RESET button	Yes		
STOP button	No		
Protection and operation of explosion-proof motors			
EC type-examination certificate number according to directive 2014/34/EU (ATEX)	PTB 06 ATEX 3001 ☐ II (2) G [Ex e] [Ex d] [Ex px] ☐ II (2) G [Ex t] [Ex p]		
		see https://support.industry.siemens.com/	cs/ww/en/view/23814648
Ambient temperatures			
Storage/transport	°C	-40 +80	
• Operation	°C	-25 +60	
Temperature compensation	°C	+60	
Permissible rated current at			
- Temperature inside control cabinet 60 °C, stand-alone installation	%	100	100 or 90 ¹⁾
- Temperature inside control cabinet 60 °C, mounted on contactor	%	70	70
- Temperature inside control cabinet 70 °C	%	On request	
Degree of protection acc. to IEC 60529			
Screw terminals/busbar connections		 IP20 (front side) Terminal IP00 (use additional termin protection) 	nal covers for higher degree of
Straight-through transformers		IP20	
1 222 (

 $^{^{\}rm 1)}$ 90% for relay with current setting range 160 A to 630 A.

SIRIUS 3RB2 Electronic Overload Relays

3RB20, 3RB21 for standard applications

Туре		3RB2056, 3RB2153	3RB2066, 3RB2163
Size		S6	S10/S12
Dimensions (W x H x D) (overload relay with stand-alone installation support)	mm	120 x 119 x 155	145 x 147 x 156
General data (continued)			
Touch protection acc. to IEC 60529			
 Screw terminals/busbar connections 		Finger-safe with terminal covers for vertical contact from the front	
Straight-through transformers		Finger-safe	
Shock resistance with sine acc. to IEC 60068-2-27	<i>g</i> /ms	15/11 (signaling contact 97/98 in positi	on "tripped": 4 g/ 11 ms
Electromagnetic compatibility (EMC) – Interference immunity			
Conductor-related interference			
- Burst acc. to IEC 61000-4-4 (corresponds to degree of severity 3)	kV	2 (power ports), 1 (signal port)	
- Surge acc. to IEC 61000-4-5 (corresponds to degree of severity 3)	kV	2 (line to earth), 1 (line to line)	
Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	8 (air discharge), 6 (contact discharge)
 Field-related interference acc. to IEC 61000-4-3 (corresponds to degree of severity 3) 	V/m	10	
Electromagnetic compatibility (EMC) – Emitted interference		Degree of severity B acc. to EN 55011 (CISPR 11) and EN 55022 (CISPR 22)	
Resistance to extreme climates – Air humidity	%	100	
Installation altitude above sea level	m	Up to 2 000	
Mounting position		Any	
Type of mounting		Direct mounting/stand-alone installation	า

3RB20, 3RB21 for standard applications

Туре		3RB2056, 3RB2153	3RB2066, 3RB2163
Size		S6	S10/S12
Main circuit			
Rated insulation voltage <i>U_i</i> (pollution degree 3)	V	1 000	
Rated impulse withstand voltage <i>U</i> _{imp}	kV	8	
Rated operational voltage <i>U</i> _e	V	1 000	
Type of current			
Direct current		No	
Alternating current		Yes, 50/60 Hz ± 5%	
Current setting	Α	50 200	55 250, 160 630
Power loss per unit (max.)	W	0.05	· · · · · · · · · · · · · · · · · · ·
Short-circuit protection			
With fuse without contactor		See "Selection and ordering data", p	ages 7/117 7/119
With fuse and contactor		"Short-Circuit Protection with Fuses/I	
With rado and domador		Feeders", see Configuration Manual	
Protective separation between main and auxiliary current paths			
Acc. to IEC 60947-1 (pollution degree 2)			
 For systems with grounded neutral point 	V	690	
For systems with ungrounded neutral point	V	600	
Conductor cross-sections of the main circuit			
Connection type		Screw terminals with box ter	minal
		<u> </u>	5 All
Terminal screw	mm	4 mm Allen screw	5 mm Allen screw
Operating devices	mm	4 mm Allen screw	5 mm Allen screw
Prescribed tightening torque	Nm	10 12	20 22
Conductor cross-sections (min./max.), 1 or 2 conductors can be conne			
Solid	mm ²		
Finely stranded without end sleeve	mm^2	With 3RT1955-4G box terminal:	2 × (50 185),
		$2 \times (1 \times \text{max. } 50, 1 \times \text{max. } 70),$ $1 \times (10 \dots 70);$	Front clamping point only: 1 × (70 240);
		With 3RT1956-4G box terminal:	Rear clamping point only:
		$2 \times (1 \times \text{max. } 95, 1 \times \text{max. } 120),$	1 × (120 185)
	0	1 × (10 120)	
 Finely stranded with end sleeve (DIN 46228-1) 	mm ²	With 3RT1955-4G box terminal:	2 × (50 185),
		$2 \times (1 \times \text{max. } 50, 1 \times \text{max. } 70),$ $1 \times (10 \dots 70);$	Front clamping point only: 1 × (70 240);
		With 3RT1956-4G box terminal:	Rear clamping point only:
		$2 \times (1 \times \text{max. } 95, 1 \times \text{max. } 120),$	1 × (120 185)
• Ctrondod	mm ²	1 × (10 120) With 3RT1955 -4G box terminal:	2(70 240)
• Stranded	111111	2 × (max. 70),	2 × (70 240), Front clamping point only:
		1 × (16 70);	1 × (95 300);
		With 3RT1956-4G box terminal:	Rear clamping point only:
		2 × (max. 120), 1 × (16 120)	1 × (120 240)
AWG cables, solid or stranded	AWG	With 3RT1955-4G box terminal:	2 × (2/0 500 kcmil),
		$2 \times (\text{max. } 1/0),$	Front clamping point only:
		1 × (6 2/0);	1 × (3/0 600 kcmil);
		With 3RT1956-4G box terminal: $2 \times (\text{max. } 3/0)$,	Rear clamping point only: 1 × (250 kcmil 500 kcmil)
		1 × (6 250 kcmil)	(200 (10) (11)
Ribbon cables (Number x Width x Thickness)	mm	With 3RT1955-4G box terminal:	$2 \times (20 \times 24 \times 0.5),$
		$2 \times (6 \times 15.5 \times 0.8),$	$1 \times (6 \times 9 \times 0.8 \dots 20 \times 24 \times 0.8)$
		$1 \times (3 \times 9 \times 0.8 \dots 6 \times 15.5 \times 0.8);$ With 3RT1956-4G box terminal:	
		$2 \times (10 \times 15.5 \times 0.8),$	
		$1 \times (3 \times 9 \times 0.8 \dots 10 \times 15.5 \times 0.8)$	
Connection type		Busbar connections	
T		Mo. Of	M10 00
Terminal screw		M8 × 25	M10 × 30
Prescribed tightening torque	Nm	10 14	14 24
Conductor cross-sections (min./max.)	_		2)
Finely stranded with cable lug	mm ²	16 95 ¹⁾	50 240 ²⁾
Stranded with cable lug	mm^2	25 120 ¹⁾	70 240 ²⁾
AWG cables, solid or stranded, with cable lug	AWG	4 250 kcmil	2/0 500 kcmil
With connecting bars (max. width)	mm	15	25
Connection type		Straight-through transforme	rs
		8	
Diameter of opening	mm	24.5	

When connecting cable lugs according to DIN 46235 with conductor cross-sections of 95 mm² and more, the 3RT1956-4EA1 terminal cover must be used to ensure phase clearance, see page 7/120.

When connecting cable lugs according to DIN 46234 for conductor cross-sections from 240 mm², as well as DIN 46235 for cable cross-sections from 185 mm², the 3RT1956-4EA1 terminal cover must be used to ensure phase clearance, see page 7/120.

SIRIUS 3RB2 Electronic Overload Relays

3RB20, 3RB21 for standard applications

Туре		3RB2056, 3RB2153	3RB2066, 3RB2163
Size		S6	S10/S12
Auxiliary circuit			
Number of NO contacts		1	
Number of NC contacts		1	
Auxiliary contacts – Assignment		1 NO for the signal "tripped"; 1 NC for disconnecting the co	ontactor
Rated insulation voltage U _i	V	300	inacioi
(pollution degree 3)			
Rated impulse withstand voltage U_{imp}	kV	4	
Auxiliary contacts – Contact rating			
 NC contact with alternating current AC-14/AC-15, rated operational current I_e at U_e: 24 V 	А	4	
- 24 V - 120 V	A	4	
- 125 V	Α	4	
- 250 V	Α	3	
• NO contact with alternating current AC-14/AC-15, rated operational current I_e at U_e :			
- 24 V	A	4	
- 120 V - 125 V	A A	4	
- 250 V	Ä	3	
 NC, NO contacts with direct current DC-13, rated operational current I_e at U_e: 			
- 24 V	A	2	
- 60 V - 110 V	A A	0.55 0.3	
- 125 V	A	0.3	
- 250 V	Α	0.11	
$ullet$ Conventional thermal current $I_{ m th}$	Α	5	
 Contact reliability (suitability for PLC control; 17 V, 5 mA) 		Yes	
Short-circuit protection			
With fuse, operational class gG	Α	6	
Ground-fault protection (only 3RB21)		The information refers to sinus	soidal residual currents at 50/60 Hz.
$ullet$ Tripping value I_{Δ}		$> 0.75 \times I_{\text{motor}}$	
Operating range I		Lower current setting $< I_{ m motor}$	< 3.5 × upper current setting
• Response time t_{trip} (in steady-state condition)	S	< 1	
Integrated electrical remote RESET (only 3RB21)			
Connecting terminals A3, A4		24 V DC, 100 mA, 2.4 W short	t-term
Protective separation between auxiliary current paths acc. to IEC 60947-1	V	300	
CSA, UL, UR rated data			
Auxiliary circuit – Switching capacity		B300, R300	
Conductor cross-sections of the auxiliary circuit			
Connection type		Screw terminals	
Terminal screw		M3, Pozidriv size 2	
Operating devices	mm	Ø 5 6	
Prescribed tightening torque	Nm	0.8 1.2	
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected			
Solid and stranded	mm ²	1 × (0.5 4) ¹⁾ , 2 × (0.5 2.5	5)1)
Finely stranded without end sleeve	mm ²	(0.5 4) -, 2 × (0.5 2.5	
Finely stranded without end sleeve Finely stranded with end sleeve (DIN 46228-1)		1 × (0.5 2.5) ¹⁾ , 2 × (0.5 1	5)1)
AWG cables, solid or stranded		2 × (20 14)	1.0)
Connection type	AWG	Spring-type terminals	
··			
Operating devices	mm	3.0 x 0.5	
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected			
Solid and stranded	mm^2	2 × (0.25 1.5)	
Finely stranded without end sleeve	mm ²	(0.25 1.5)	
Finely stranded without end sleeve Finely stranded with end sleeve (DIN 46228-1)	_	2 × (0.25 1.5)	
AWG cables, solid or stranded		2 × (24 16)	
If two different conductor cross-sections are connected to one clamping.		= · · (= · · · · · · · · · ·)	

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

IE3/IE4 ready 3RB20, 3RB21 for standard applications

Selection and ordering data

3RB20 electronic overload relays for mounting onto contactors and stand-alone installation, CLASS 10E

Features and technical specifications:

- · Connection methods
- Size S6

Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection)

Auxiliary circuit: Either screw or spring-type terminals

Sizes S10/S12:

Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed)

Auxiliary circuit: Either screw or spring-type terminals

- Overload protection, phase failure protection and unbalance protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET
- · Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1 = 1 unit PG = 41G





3RB2056-1FW2

3RB2066-1MF2

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾		Screw terminals (on auxiliary current side)	+	Spring-type terminals (on auxiliary current side)	
	kW	Α	A	d	Article No.	Price per PU	Article No.	Price per PU

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

50 ... 200

Devices with straight-through transformer, for mounting onto contactor and stand-alone installation

For mounting 30 ... 90 50 ... 200 3RB2056-1FW2 3BB2056-1FX2 315 onto S6 contactors with box terminals

3RB2066-1GC2

3RB2066-1MC2

Size S10/S12

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

S10/S12	30 132	55 250	400
and size 14 (3TF68/ 3TF69) ³⁾	90 355	160 630	800

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

d	Article No.	Price per PU	d	Article No.	Pric per Pl
>	3RB2056-1FC2		2	3RB2056-1FF2	

3RB2066-1GF2

3RB2066-1MF2

 $^{^{2)}\,}$ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

³⁾ For 3TF68/3TF69 contactors, direct mounting is not possible.

SIRIUS 3RB2 Electronic Overload Relays

3RB20, 3RB21 for standard applications | IE3/IE4 ready

3RB20 electronic overload relays for mounting onto contactors and stand-alone installation, CLASS 20E

Features and technical specifications:

- · Connection methods
 - Size S6

Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection)

Auxiliary circuit: Either screw or spring-type terminals

- Sizes S10/S12:

Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed)

Auxiliary circuit: Either screw or spring-type terminals

- Overload protection, phase failure protection and unbalance protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET
- · Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41G





3RB2056-2FW2

3RB2066-2MF2

Size contactor	Rated power for three-phase motors, rated value ¹⁾		Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾		Screw terminals (on auxiliary current side)	+	SD	Spring-type terminals (on auxiliary current side)	
	kW	A	Α	d	Article No.	Price per PU		Article No.	Price per PU

Size S6

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

S6 30 ... 90 50 ... 200 315 **3RB2056-2FC2** 2 **3RB2056-2FF2**

Devices with straight-through transformer, for mounting onto contactor and stand-alone

for mounting onto contactor and stand-alone installation

For mounting 30 ... 90 50 ... 200 315 SRB2056-2FW2 RB2056-2FW2 RB2056-2FW2

3RB2066-2GC2

Size S10/S12²⁾

Devices with busbar connection,

for mounting onto contactor and stand-alone installation S10/S12 30 ... 132 55 ... 250 400

and size 14 (3TF68/ 3TF69) ³⁾	90 355	160 630	800	•	3RB2066-2MC2
1) Guide value	for 4-nole standa	rd motors at 50 Hz 400 \	/ AC. The actual		

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3RB2066-2GF2

3RB2066-2MF2

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

³⁾ For 3TF68/3TF69 contactors, direct mounting is not possible.

 $\frac{\infty}{\square}$

Overload Relays SIRIUS 3RB2 Electronic Overload Relays

IE3/IE4 ready 3RB20, 3RB21 for standard applications

3RB21 electronic overload relays for mounting onto contactors and stand-alone installation, CLASS 5E, 10E, 20E and 30E adjustable

Features and technical specifications:

- · Connection methods
 - Size S6

Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection)

Auxiliary circuit: Either screw or spring-type terminals

Sizes S10/S12:

Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed)

Auxiliary circuit: Either screw or spring-type terminals

- Overload protection, phase failure protection and unbalance protection
- Internal ground-fault detection (activatable)
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and automatic RESET
- · Electrical remote RESET integrated
- · Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1 PS* = 1 unitPG = 41G







3RB2163-4MF2

urrent setting value the inverse-time elayed overload lease	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	;

d

(on auxiliary current side)

Screw terminals

Article No.

3RB2153-4FC2

Price

per PU d

Spring-type terminals (on auxiliary current

Price Article No. per PU

Devices with busbar connection,

kW

Rated power for

three-phase motors, rated value¹⁾

for mounting onto contactor and stand-alone installation

Cu

de

re

S6 30 ... 90 50 ... 200 315

Devices with straight-through transformer, for mounting onto contactor and stand-alone installation

For mounting onto S6 contactors with 3RB2153-4FW2

3RB2153-4FF2

3RB2153-4FX2

box terminals Size S10/S12²⁾

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

S10/S12	30 132	55 250	400
and size 14 (3TF68/ 3TE69) ³⁾	90 355	160 630	800

Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units

3RB2163-4GF2 3RB2163-4MF2

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see

³⁾ For 3TF68/3TF69 contactors, direct mounting is not possible.

³RB2163-4GC2 3RB2163-4MC2

SIRIUS 3RB2 Electronic Overload Relays

Accessories for 3RB20, 3RB21

Overview

Overload relays for standard applications

The following optional accessories are available for the 3RB20 and 3RB21 electronic overload relays:

• Mechanical RESET (for all sizes)

- Cable release for resetting devices which are difficult to access (for all sizes)
- Sealable cover (for all sizes)
- Terminal covers for sizes S6 to S10/S12
- Box terminal blocks for sizes S6 and S10/S12

Selection and ordering data

	Version	Size	SD	Article No. P		PU JNIT, Γ, M)	PS*	PG
			d					
Mechanical RESET								
4	Resetting plungers, holders and formers	S6 S12	2	3RB3980-0A		1	1 unit	41F
7 21	Pushbuttons with extended stroke (12 mm), IP65, Ø 22 mm	S6 S12	•	3SU1200-0FB10-0AA0		1	1 unit	41J
	Extension plungers For compensation of the distance between a pushbutton and the unlatching button of the relay	S6 S12	•	3SU1900-0KG10-0AA0		1	1 unit	41J
3RU3980-0A with pushbutton and extension plunger								
Cable releases wit	h holder for RESET							
	For Ø 6.5 mm holes in the control panel; max. control panel thickness 8 mm							
	• Length 400 mm	S6 S12	2	3RB3980-0B		1	1 unit	41F
	• Length 600 mm	S6 S12	2	3RB3980-0C		1	1 unit	41F
3RU3980-1.								
Sealable covers					_			
- 0 -	For covering the setting knobs	S6 S12	2	3RB3984-0		1	1 unit	41F
3RB3984-0								
Terminal covers								
R. M. M	Covers for cable lugs and busbar connections							
and the form	Length 100 mm	S6	>	3RT1956-4EA1		1	1 unit	41B
	Length 120 mm	S10/S12	2	3RT1966-4EA1		1	1 unit	41B
SIEMENS	Covers for box terminals							
	Length 25 mm	S6	•	3RT1956-4EA2		1	1 unit	41B
3RT1956-4EA1	Length 30 mm	S10/S12	2	3RT1966-4EA2		1	1 unit	41B
3N11930-4EA1	Covers for screw terminals Between contactor and overload relay, without	S6		3RT1956-4EA3		1	1 unit	41B
6 6 6	box terminals (1 unit required per combination)	S10/S12	2	3RT1966-4EA3		1	1 unit	41B
3RT1956-4EA2								
Box terminal block	(S							
	For round and ribbon cables							
	• Up to 70 mm ²	S6 ¹⁾	>	3RT1955-4G		1	1 unit	41B
	• Up to 120 mm ²	S6	>	3RT1956-4G		1	1 unit	41B
3RT1954G	• Up to 240 mm ²	S10/S12	•	3RT1966-4G		1	1 unit	41B

¹⁾ In the scope of supply for 3RT1054-1 contactors (55 kW).

Accessories for 3RB20, 3RB21

General accessories

General accessor	1103									
	Version	Size	Color	For over- load relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Tools for opening	g spring-type termin	als								
						Spring-type terminals	8			
3RA2908-1A	Screwdrivers For all SIRIUS devices with spring-type terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection: 3RB2	2	3RA2908-1A		1	1 unit	41B
Blank labels										
	Unit labeling plates ¹⁾ For SIRIUS devices	20 mm x 7 mm	Pastel turquoise	3RB2	20	3RT1900-1SB20		100	340 units	41B
		20 mm x 7 mm	Titanium gray	3RB2	20	3RT2900-1SB20		100	340 units	41B
	Adhesive inscription labels ¹⁾ For SIRIUS devices	19 mm x 6 mm	Pastel turquoise	3RU2	15	3RT1900-1SB60		100	3 060 units	41B
□□□□□□□□□□□□□	FOI SIRIUS devices	19 mm x 6 mm	Zinc yellow	3RU2	15	3RT1900-1SD60		100	3 060 units	41B
3RT2900-1SB20										

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

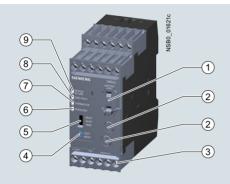
SIRIUS 3RB2 Electronic Overload Relays

3RB22, 3RB23 for high-feature applications

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays Industry Mall, see www.siemens.com/product?3RB2



- 3RB2985 function expansion module: Enables more functions to be added, e.g. internal ground-fault detection and/or an analog output with corresponding signals.
- 2 Motor current and trip class setting: Setting the device to the motor current and to the required trip class dependent on the start-up conditions is easy with the two rotary switches.
- 3 Connecting terminals (removable joint block): The generously sized terminals permit connection of two conductors with different cross-sections for the auxiliary, control and sensor circuits. Connection is possible with screw connection and alternatively with spring-type connection.
- Test/RESET button:
 Enables testing of all important device components and functions, plus resetting of the device after a trip when manual RESET is selected.
- Selector switch for manual/automatic RESET: With this switch you can choose between manual and automatic RESET.
- 6 Red LED "OVERLOAD": A continuous red light signals an active overload trip; a flickering red light signals an imminent trip (overload warning).
- (7) Red LED "THERMISTOR": A continuous red light signals an active thermistor trip.
- 8 Red LED "GND FAULT": A continuous red light signals a ground-fault tripping
- Green LED "READY":
 A continuous green light signals that the device is working correctly.

SIRIUS 3RB22 and 3RB23 evaluation modules

The 3RB22 and 3RB23 electronic overload relays up to 630 A (up to 820 A possible in combination with a series transformer) are from a modular system and comprise an evaluation unit, a current measuring module and a connecting cable. The 3RB22 overload relays (with monostable auxiliary contacts) and the 3RB23 overload relays (with bistable auxiliary contacts) are supplied from an external voltage.

They have been designed for inverse-time delayed protection of loads with normal and heavy starting against excessive temperature rises due to overload, phase unbalance or phase failure. An overload, phase unbalance or phase failure result in an increase of the motor current beyond the set rated motor current.

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Operating Instructions "3RB22, 3RB23 Electronic Overload Relays", see https://support.industry.siemens.com/cs/ww/en/view/21833251

Characteristics and certificates, see

https://support.industry.siemens.com/cs/ww/en/ps/16280

This current rise is detected by means of a current measuring module (see page 7/140) and electronically evaluated by the evaluation module which is connected to it. The evaluation electronics sends a signal to the auxiliary contacts. The auxiliary contacts then switch off the load by means of a contactor.

The break time depends on the ratio between the tripping current and current setting $I_{\rm e}$ and is stored in the form of a long-term stable tripping characteristic curve (see Characteristics). The "tripped" status is signaled by means of a continuous red "OVERLOAD" LED.

The LED indicates imminent tripping of the relay due to overload, phase unbalance or phase failure by flickering when the limit current has been violated. In the case of the 3RB22 and 3RB23 overload relays this warning can also be issued through auxiliary contacts.

In addition to the described inverse-time delayed protection of loads against excessive temperature rises, the 3RB22 and 3RB23 electronic overload relays also allow direct temperature monitoring of the motor windings (full motor protection!) by connection with broken-wire interlock of a PTC sensor circuit. With this temperature-dependent protection, the loads can be protected against overheating caused, for example, indirectly by reduced coolant flow and which cannot be detected by means of the current alone. In the event of overheating, the devices switch off the contactor, and thus the load, by means of the auxiliary contacts. The "tripped" status is signaled by means of a continuously illuminated "THERMISTOR" LED.

To protect the loads against high-resistance short circuits due to damage to the insulation, humidity, condensed water, etc., the 3RB22 and 3RB23 electronic overload relays offer the possibility of internal ground fault monitoring in conjunction with a function expansion module (for details, see Operating Instructions, not possible in conjunction with contactor assemblies for star-delta (wye-delta) starting). In the event of a ground fault the 3RB22 and 3RB23 relays trip instantaneously.

The "tripped" status is signaled by means of a continuous red "Ground Fault" LED. Signaling through auxiliary contacts is also possible.

After tripping due to overload, phase unbalance, phase failure, thermistor or ground-fault tripping, the relay is reset manually or automatically after the recovery time has elapsed.

In conjunction with a function expansion module, the motor current measured by the microprocessor can be output in the form of a DC 4 mA to 20 mA analog signal for operating rotary coil instruments or for feeding into analog inputs of programmable logic controllers.

3RB22, 3RB23 for high-feature applications

With an additional AS-Interface analog module the current values can also be transferred over the AS-i bus system.

The 3RB2 electronic overload relays are suitable for operation with frequency converters.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

Use in hazardous areas

The 3RB22 electronic overload relays (monostable) with the 3RB29 current measuring module are suitable for the overload protection of explosion-proof motors.

EC type test certificate for category (2) G/D exists. It has the number PTB 05 ATEX 3022.

Article No. scheme

Product versions		Article number	r		
Electronic overload relays		3RB2 □ □ □ ·	_ [] [
Device type	e.g. 2 = monostable device for high-feature applications, supplied from external source, for three-phase loads				ı
Size, rated operational current and power	e.g. 8 = irrespective of size and current				П
Version of the automatic RESET, electrical remote RESET	e.g. 3 = switchable between manual/auto RE- SET, with integral electrical remote RESET				П
Trip class (CLASS)	e.g. 4 = CLASS 5E, 10E, 20E, 30E (adjustable)]	ı
Setting range of the overload release	e.g. A = none specified]
Connection methods	e.g. A = screw terminals for auxiliary, control and main circuits				
Installation type	e.g. 1 = stand-alone installation				
Example		3RB2 2 8 3 -	- 4	Α	A 1

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

Benefits

The most important features and benefits of the 3RB22 and 3RB23 electronic overload relays are listed in the overview table, see "General data", page 7/79 onwards.

Application

Industries

The 3RB22 and 3RB23 electronic overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed and temperature-dependent protection of their electrical loads (e.g. motors) under normal and heavy starting conditions (CLASS 5 to CLASS 30), minimize project completion times, inventories and power consumption, and optimize plant availability and maintenance management.

Application

The 3RB22 and 3RB23 devices have been designed for the protection of three-phase asynchronous and single-phase AC motors.

If single-phase AC motors are to be protected by the 3RB22 and 3RB23 electronic overload relays, the main current paths of the current measuring modules must be series-connected. For circuit diagrams, see Operating Instructions.

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, ageing and temperature fluctuations.

For the temperature range from -25 $^{\circ}$ C to +60 $^{\circ}$ C, the 3RB22 and 3RB23 electronic overload relays compensate the temperature in accordance with IEC 60947-4-1.

Configuration notes for use of the devices below -25 °C or above +60 °C on request.

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

For the use of 3RB22 and 3RB23 electronic overload relays in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

SIRIUS 3RB2 Electronic Overload Relays

3RB22, 3RB23 for high-feature applications

Technical specifications

More information

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Configuration Manual "Load Feeders – SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188

Operating Instructions "3RB22, 3RB23 Electronic Overload Relays", see https://support.industry.siemens.com/cs/ww/en/view/21833251

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16280/td

The following technical information is intended to provide an initial overview of the various types of devices and functions.

Type – Overload relay: Evaluation		3RB2283-4A.1	3RB2383-4A.1
modules Size contactor		S00 S10/S12	
Dimensions of evaluation modules	mm	45 x 111 x 95	
(W x H x D)	mm	45 % 111 % 95	
General data			
Tripping in the event of		Overload, phase failure and phase unbalance (> 40%	
		+ ground fault (with corresponding function expansion thermistor motor protection (with closed PTC sensor of	
Trip class acc. to IEC 60947-4-1	CLASS	5E, 10E, 20E and 30E adjustable	
Phase failure sensitivity		Yes	
Overload warning		Yes, from 1.125 \times $I_{\rm e}$ for symmetrical loads	
		and from 0.85 $ imes$ $I_{ m e}$ for unsymmetrical loads	
Reset and recovery			
Reset options after tripping		Manual, automatic and remote RESET	
Recovery time			
- For automatic RESET	min.	 For tripping due to overcurrent: 3 (stored permanent For tripping by thermistor: Time until the motor temp below the response temperature For tripping due to a ground fault: no automatic RES 	erature has fallen 5 K
- For manual RESET	min.	 For tripping due to overcurrent: 3 (stored permanent For tripping by thermistor: Time until the motor temp below the response temperature For tripping due to a ground fault: Immediately 	
- For remote RESET	min.	 For tripping due to overcurrent: 3 (stored permanent For tripping by thermistor: Time until the motor temp below the response temperature For tripping due to a ground fault: Immediately 	
Features		,, ,	
Display of operating state on device		Yes, with four LEDs: - Green LED "Ready" - Red LED "Ground Fault" - Red LED "Thermistor" - Red LED "Overload"	
TEST function		Yes, test of LEDs, electronics, auxiliary contacts and versesing the button TEST/RESET/self-monitoring	viring of control circuit by
RESET button		Yes, with the TEST/RESET button	
STOP button		No	
Protection and operation of explosion-proof motors			
EC type-examination certificate number according to directive 2014/34/EU (ATEX)		PTB 05 ATEX 3022 (II (2) GD see	
according to directive 2014/04/EO (ATEX)		https://support.automation.siemens.com/WW/view/en/23115758	
Ambient temperatures			
Storage/transport	°C	-40 +80	
Operation	°C	-25 +60	
Temperature compensation	°C	+60	
Permissible rated current			
- Temperature inside control cabinet 60 °C	%	100	
- Temperature inside control cabinet 70 °C	%	On request	
Degree of protection acc. to IEC 60529		IP20	
Touch protection acc. to IEC 60529		Finger-safe	
Shock resistance with sine acc. to IEC 60068-2-27	g/ms	15/11	

3RB22, 3RB23 for high-feature applications

Type – Overload relay: Evaluation	_	3RB2283-4A.1 3RB2383-4A.1
modules Size contactor	₫	S00 S10/S12
Dimensions of evaluation modules	✓ mm	45 x 111 x 95
(W x H x D)	111111	43 X 111 X 33
General data (continued)		
Electromagnetic compatibility (EMC) – Interference immun	ity	
Conductor-related interference		
- Burst acc. to IEC 61000-4-4 (corresponds to degree of severity 3)	kV	2 (power ports), 1 (signal port)
- Surge acc. to IEC 61000-4-5 (corresponds to degree of severity 3)	kV	2 (line to earth), 1 (line to line)
 Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3) Field-related interference acc. to IEC 61000-4-3 	kV V/m	8 (air discharge), 6 (contact discharge) 10
(corresponds to degree of severity 3)	V/III	10
Electromagnetic compatibility (EMC) – Emitted interferenc		Degree of severity A according to EN 55011 (CISPR 11) and EN 55022 (CISPR 22
Resistance to extreme climates – Air humidity	%	100
Installation altitude above sea level	m	Up to 2 000
Mounting position		Any
Type of mounting		
Evaluation modules		Stand-alone installation
Current measuring module	Size	S00 to S3: Stand-alone installation, S6 and S10/S12: Stand-alone installation or mounting onto contactors
Type – Overload relay: Evaluation modules		3RB2283-4A.1, 3RB2383-4A.1
Size contactor		S00 S10/S12
Auxiliary circuit		
Number of NO contacts		2
Number of NC contacts		2
Number of CO contacts		
		 1 NO for the signal "tripped by overload and/or thermistor", 1 NC for disconnecting the contactor, 1 NO for the signal "tripped by ground fault", 1 NC for disconnecting the contactor or¹⁾ Alternative 2 1 NO for the signal "tripped by overload and/or thermistor and/or ground fault" 1 NC for disconnecting the contactor, 1 NO for overload warning 1 NC for disconnecting the contactor
Rated insulation voltage U _i (pollution degree 3)	V	300
Rated impulse withstand voltage <i>U</i> _{imp}	kV	4
Auxiliary contacts – Contact rating NC, NO contact with alternating current AC-14/AC-15, rated operational current I_e at U_e 24 V 120 V 125 V 250 V	A A A	6 6 6 3
• NC, NO contacts with direct current DC-13, rated operational current $I_{\rm e}$ at $U_{\rm e}$ - 24 V	А	2
- 60 V	Α	0.55
- 110 V	A	0.3
- 125 V - 250 V	A A	0.3 0.2
$ullet$ Conventional thermal current I_{th}	Α	5
Contact reliability (suitability for PLC control; 17 V, 5 mA)		Yes
Short-circuit protection		
 With fuse, operational class gG 	Α	6
- Mills asia strangering and the second stranger	Α	1.6
With miniature circuit breaker, C characteristic Protective separation between auxiliary current paths	V	300
Protective separation between auxiliary current paths acc. to IEC 60947-1	V	300
Protective separation between auxiliary current paths	V	300

¹⁾ The assignment of auxiliary contacts may be influenced by function expansion modules.

SIRIUS 3RB2 Electronic Overload Relays

3RB22, 3RB23 for high-feature applications

Type – Overload relay: Evaluation modules		3RB2283-4A.1, 3RB2383-4A.1
Size contactor		S00 S10/S12
Control circuit		
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	300
Rated impulse withstand voltage U_{imp}	kV	4
Rated control supply voltage $U_{\rm s}$		
• 50/60 Hz AC	V	24 240
• DC	V	24 240
Operating range		
• 50/60 Hz AC		$0.85 \times U_{\text{s min}} \le U_{\text{s}} \le 1.1 \times U_{\text{s max}}$
• DC		$0.85 \times U_{\text{s min}} \le U_{\text{s}} \le 1.1 \times U_{\text{s max}}$
Rated power		
• 50/60 Hz AC	W	0.5
• DC	W	0.5
Mains buffering time	ms	200
Sensor circuit		
Thermistor motor protection (PTC thermistor sensor)		
Summation cold resistance	kΩ	≤ 1.5
Response value	kΩ	3.4 3.8
Return value	kΩ	1.5 1.65
Ground-fault detection		The information refers to sinusoidal residual currents at 50/60 Hz.
$ullet$ Tripping value $I_\Delta^{\ 1)}$		
- For 0.3 \times $I_{\rm e}$ $<$ $I_{\rm motor}$ $<$ 2.0 \times $I_{\rm e}$		$> 0.3 \times I_{\rm e}$
- For 2.0 $ imes$ $I_{ m e}$ $<$ $I_{ m motor}$ $<$ 8.0 $ imes$ $I_{ m e}$		$> 0.15 \times I_{\text{motor}}$
$ullet$ Response time $t_{ m trip}$	ms	500 1 000
Analog output ¹⁾²⁾		
Rated values		
Output signal	mA	420
Measuring range		0 $1.25 \times I_{\rm e}$ 4 mA corresponds to $0 \times I_{\rm e}$ 16.8 mA corresponds to $1.0 \times I_{\rm e}$ 20 mA corresponds to $1.25 \times I_{\rm e}$
• Load, max.	Ω	100
Conductor cross-sections for the auxiliary, control sensor circuits as well as the analog output	ol and	
Connection type		Screw terminals
Terminal screw		M3, Pozidriv size 2
Operating devices	mm	3.0 x 0.5
Prescribed tightening torque	Nm	0.8 1.2
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected		
Solid or stranded	mm^2	$1 \times (0.5 \dots 4)^{3)}, 2 \times (0.5 \dots 2.5)^{3)}$
• Finely stranded without end sleeve	$\rm mm^2$	
• Finely stranded with end sleeve (DIN 46228-1)	$\rm mm^2$	$1 \times (0.5 \dots 2.5)^{3)}, 2 \times (0.5 \dots 1.5)^{3)}$
AWG cables, solid or stranded	AWG	2 × (20 14)
Connection type		Spring-type terminals
Operating devices	mm	3.0 x 0.5
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected		
Solid or stranded	mm^2	2 × (0.25 1.5)
• Finely stranded without end sleeve	mm^2	
• Finely stranded with end sleeve (DIN 46228-1)	$\rm mm^2$	2 × (0.25 1.5)
 AWG cables, solid or stranded 	AWG	2 × (24 16)
1) For the 3RB22 and 3RB23 overload relays in combination	with a	3) If two different conductor cross-sections are connected to one clamping

¹⁾ For the 3RB22 and 3RB23 overload relays in combination with a corresponding function expansion module.

²⁾ Analog input modules, e.g. SM 331, must be configured for 4-wire measuring transducers. In this case the analog input module must not supply current to the analog output of the 3RB22 and 3RB23 relay.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

3RB22, 3RB23 for high-feature applications

Functions of the 3RB22 and 3RB23 evaluation modules in combination with the 3RB2985 function expansion modules

Evaluation modules	With function	Basic functions	Inputs		
	expansion module		A1/A2	T1/T2	Y1/Y2
3RB2283-4AA1 3RB2283-4AC1 3RB2383-4AA1	-	Inverse-time delayed protection, temperature-dependent protection, electrical remote RESET, overload warning	Power supply 24 240 V AC/DC	Connection for PTC sensor	Electrical remote RESET
3RB2383-4AC1	3RB2985-2CA1	Inverse-time delayed protection, temperature-dependent protection, internal ground-fault detection, electrical remote RESET, overload warning	Power supply 24 240 V AC/DC	Connection for PTC sensor	Electrical remote RESET
	3RB2985-2CB1	Inverse-time delayed protection, temperature-dependent protection, internal ground-fault detection, electrical remote RESET, ground-fault signal	Power supply 24 240 V AC/DC	Connection for PTC sensor	Electrical remote RESET
	3RB2985-2AA0	Inverse-time delayed protection, temperature-dependent protection, electrical remote RESET, overload warning, analog output	Power supply 24 240 V AC/DC	Connection for PTC sensor	Electrical remote RESET
	3RB2985-2AA1	Inverse-time delayed protection, temperature-dependent protection, internal ground-fault detection, electrical remote RESET, overload warning, analog output	Power supply 24 240 V AC/DC	Connection for PTC sensor	Electrical remote RESET
	3RB2985-2AB1	Inverse-time delayed protection, temperature-dependent protection, internal ground-fault detection, electrical remote RESET, ground-fault signal, analog output	Power supply 24 240 V AC/DC	Connection for PTC sensor	Electrical remote RESET

Evaluation modules	With function	Outputs							
	expansion module	I (-) / I (+)	95/96 NC	97/98 NO	05/06 NC	07/08 NO			
3RB2283-4AA1 3RB2283-4AC1 3RB2383-4AA1 3RB2383-4AC1		No	Disconnection of the contactor (inverse-time delayed/temperature-dependent protection)	Signal "tripped"	Overload warning	Overload warning			
	3RB2985-2CA1	No	Disconnection of the contactor (inverse- time delayed/tem- perature-dependent protection + ground fault)	Signal "tripped"	Overload warning	Overload warning			
	3RB2985-2CB1	No	Disconnection of the contactor (inverse- time delayed/tem- perature-dependent protection)	Signal "tripped"	Disconnection of the contactor (ground fault)	Signal "ground-fault tripping"			
3RB29	3RB2985-2AA0	Analog signal	Disconnection of the contactor (inverse-time delayed/temperature-dependent protection)	Signal "tripped"	Overload warning	Overload warning			
	3RB2985-2AA1	Analog signal	Disconnection of the contactor (inverse- time delayed/tem- perature-dependent protection + ground fault)	Signal "tripped"	Overload warning	Overload warning			
	3RB2985-2AB1	Analog signal	Disconnection of the contactor (inverse-time delayed/temperature-dependent protection)	Signal "tripped"	Disconnection of the contactor (ground fault)	Signal "ground-fault tripping"			

SIRIUS 3RB2 Electronic Overload Relays

3RB22, 3RB23 for high-feature applications | IE3/IE4 ready

3RB22 and 3RB23 electronic overload relays (evaluation modules) for full motor protection for stand-alone installation, CLASS 5E, 10E, 20E and 30E (adjustable)

Туре	3RB2283-4A.1, 3RB2383-4A.1
Features and technical specifications	
Overload protection, phase failure protection and unbalance protection	✓
Supplied from an external source	24 240 V AC/DC
Auxiliary contacts	✓ 2 NO + 2 NC
Electrical remote RESET integrated	✓
Four LEDs for operating and status displays	✓
TEST function and self-monitoring	✓
Internal ground-fault detection	√ (with function expansion module)
Screw or spring-type terminals for auxiliary, control and sensor circuits	✓
Input for PTC sensor circuit	✓
Analog output	(with function expansion module)
✓ Available	

Selection and ordering data

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ UNIT} \\ PG & = 41G \end{array}$





3RB2283-4AA1, 3RB2383-4AA1

3RB2283-4AC1, 3RB2383-4AC1

Size contactor	Version	SD	Screw terminals	⊕ SD	Spring-type terminals	<u> </u>
		d	Article No.	Price per PU d	Article No.	Price per PU
Evaluation modules						
S00 S12	Monostable	>	3RB2283-4AA1	>	3RB2283-4AC1	
	Bistable	>	3RB2383-4AA1	>	3RB2383-4AC1	

Note:

Overview of overload relays – matching contactors, see page 7/84.

Current measuring modules and related connecting cables, see page 7/140, general accessories, see page 7/141 onwards.

IE3/IE4 ready 3RB22, 3RB23 for high-feature applications

Function expansion modules for 3RB22 and 3RB23 overload relays (evaluation modules)

	Size contactor	Version	For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Sizes S00 to S12				u					
312es 300 to 312									
		For plugging into evaluation module (1 unit)							
FIL	S00 S12	Analog Basic 1 modules ¹⁾ Analog output DC 4 20 mA, with overload warning	3RB22, 3RB23	•	3RB2985-2AA0		1	1 unit	41F
3RB2985-21		Analog Basic 1 GF modules 1)2) Analog output DC 4 20 mA, with internal ground-fault detection and overload warning	3RB22, 3RB23	•	3RB2985-2AA1		1	1 unit	41F
31102363-21		Analog Basic 2 GF modules 1)2) Analog output DC 4 20 mA, with internal ground-fault detection and ground-fault signaling	3RB22, 3RB23	•	3RB2985-2AB1		1	1 unit	41F
		Basic 1 GF modules ²⁾ with internal ground-fault detection and overload warning	3RB22, 3RB23	•	3RB2985-2CA1		1	1 unit	41F
		Basic 2 GF modules ²⁾ with internal ground-fault detection and ground-fault signaling	3RB22, 3RB23	>	3RB2985-2CB1		1	1 unit	41F

¹⁾ The analog signal 4 mA up to 20 mA DC can be used for operating rotary coil instruments or for feeding into analog inputs of programmable logic

- 2) The following information on ground-fault protection refers to sinusoidal residual currents at 50/60 Hz:
 - With a motor current of between 0.3 and 2 times the current setting $I_{\rm e}$, the unit will trip at a ground-fault current equal to 30% of the current setting.
 - With a motor current of between 2 and 8 times the current setting $I_{\rm e}$ the unit will trip at a ground-fault current equal to 15% of the motor current.
 - The response delay amounts to between 0.5 s and 1 s.

Note:

Analog input modules, e.g. SM 331, must be configured for 4-wire measuring transducers. In this case the analog input module must not supply current to the analog output of the 3RB22/3RB23 relay.

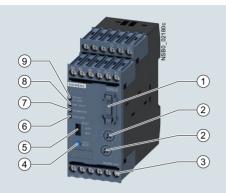
SIRIUS 3RB2 Electronic Overload Relays

3RB24 for IO-Link for high-feature applications

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays Industry Mall, see www.siemens.com/product?3RB2



- 1 Plug-in point for operator panel: enables connection of the 3RA6935-0A operator panel.
- ② Motor current and trip class setting: Setting the device to the motor current and to the required trip class dependent on the start-up conditions is easy with the two rotary switches.
- 3 Connecting terminals (removable terminal block): The generously sized terminals permit connection of two conductors with different cross-sections for the auxiliary, control and sensor circuits. Connection is possible with screw connection and alternatively with spring-type connection.
- (4) Test/RESET button: Enables testing of all important device components and functions, plus resetting of the device after a trip when manual RESET is selected.
- (5) Selector switch for manual/automatic RESET: With this switch you can choose between manual and automatic RESET.
- 6 Red LED "OVERLOAD": A continuous red light signals an active overload trip; a flickering led light signals an imminent trip (overload warning).
- 7 Red LED "THERMISTOR": A continuous red light signals an active thermistor trip.
- (8) Red LED "GND FAULT": A continuous red light signals an active ground-fault trip.
- (9) Green LED "DEVICE/IO-Link: A continuous green light signals that the device is working correctly, a green flickering light signals the communication through IO-Link.

SIRIUS 3RB24 evaluation module

The modular, IO-Link powered 3RB24 electronic overload relays (with monostable auxiliary contacts) up to 630 A (up to 820 A possible with a series transformer) have been designed for current-dependent protection of loads with normal and heavy starting against excessive temperature rises due to overload, phase unbalance or phase failure. It comprises an evaluation unit, a current measuring module and a connecting cable.

The evaluation module 3RB24 also offers an engine starter function: The contactors, which are connected via the auxiliary contacts, can also be actuated for operation via IO-Link. In this way, direct-on-line, reversing and wye-delta starters up to 630 A (or 830 A) can be connected to the controller wirelessly via the IO-Link controller.

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Manual "SIRIUS 3RB24 Electronic Overload Relay for IO-Link", see https://support.industry.siemens.com/cs/ww/en/view/46165627
Certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16281/cert

An overload, phase unbalance or phase failure result in an increase of the motor current beyond the set rated motor current.

This current rise is detected by means of the current measuring module (see page 7/140) and electronically evaluated by the evaluation module which is connected to it. The evaluation electronics sends a signal to the auxiliary contacts. The auxiliary contacts then switch off the load by means of a contactor.

The break time depends on the ratio between the tripping current and current setting $I_{\rm e}$ and is stored in the form of a long-term stable tripping characteristic curve (see Manual). The "tripped" status is signaled by means of a continuously illuminated red "OVERLOAD" LED and also reported as a group fault via IO-Link.

The LED indicates imminent tripping of the relay due to overload, phase unbalance or phase failure by flickering when the limit current has been violated. This warning can also be reported to the higher-level PLC via IO-Link at the 3RB24 overload relays.

In addition to the described inverse-time delayed protection of loads against excessive temperature rises, the 3RB24 electronic overload relays also allow direct temperature monitoring of the motor windings (full motor protection!) by connection with broken-wire interlock of a PTC sensor circuit. With this temperature-dependent protection, the loads can be protected against overheating caused, for example, indirectly by reduced coolant flow and which cannot be detected by means of the current alone. In the event of overheating, the devices switch off the contactor, and thus the load, by means of the auxiliary contacts. The "tripped" status is signaled by means of a continuously illuminated "THERMISTOR" LED and also reported as a group fault via IO-Link.

To protect the loads against incomplete ground faults due to damage to the insulation, humidity, condensation, etc., the 3RB24 electronic overload relays offer the possibility of internal ground-fault detection (for details, see Manual, not possible in conjunction with contactor assemblies for star-delta (wye-delta) starting). In the event of a ground fault, the 3RB24 relays trip instantaneously.

The "tripped" status is signaled by means of a flashing red LED "Ground Fault" and reported at the overload relay 3RB24 as a group fault via IO-Link.

The reset after overload, phase unbalance, phase failure, thermistor or ground-fault tripping is performed manually by key on site, via IO-Link or by electrical remote RESET or automatically after the cooling time (motor model) or for thermistor protection after sufficient cooling. Trips in devices initiated by function monitoring systems (broken wire or short-circuit on the thermistor) can only be reset locally.

A motor current measured by the microprocessor can be output in the form of an analog signal DC 4 mA to 20 mA for operating rotary coil instruments or for feeding into analog inputs of programmable logic controllers.

3RB24 for IO-Link for high-feature applications

The current values can be transmitted to the higher-level controller via IO-Link.

The 3RB24 electronic overload relay for IO-Link is suitable for operation with frequency converters.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

Use in hazardous areas

The 3RB24 electronic overload relays for IO-Link with the 3RB29 current measuring module are suitable for the overload protection of motors with the following types of protection:

- 🐼 II (2) G [Ex e] [Ex d] [Ex px]
- 🐼 II (2) D [Ex t] [Ex p]

EC type test certificate for Group II, Category (2) G/D exists. It has the number PTB 11 ATEX 3014.

Article No. scheme

Product versions		Article number
Electronic overload relays		3RB2 🗆 🗆 🗕 – 🗆 🗆 🗆
Device type	e.g. 4 = monostable device for high-feature applications, supplied from external source (24 V DC), for three-phase loads	
Size, rated operational current and power	e.g. 8 = irrespective of size and current	
Version of the automatic RESET, electrical remote RESET	e.g. 3 = switchable between manual/auto RE- SET, with integral electrical remote RESET	•
Trip class (CLASS)	e.g. 4 = CLASS 5E, 10E, 20E, 30E (adjustable)	
Setting range of the overload release	e.g. A = none specified	
Connection methods	e.g. A = screw terminals for auxiliary, control and main circuits	
Installation type	e.g. 1 = stand-alone installation	
Example		3RB2 4 8 3 - 4 A A 1

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RB2 Electronic Overload Relays

3RB24 for IO-Link for high-feature applications

Application

Industries

The 3RB24 electronic overload relays are suitable for customers from all industries who want to guarantee optimum current and temperature-dependent protection of their electrical loads (e.g. motors) under normal and heavy starting conditions (CLASS 5E to 30E), minimize project completion times, inventories and energy consumption, and optimize plant availability and maintenance management.

Application

The 3RB24 electronic overload relays have been designed for the protection of three-phase asynchronous and single-phase AC motors

In addition to protection function, these devices can be used together with contactors as direct or reversing starters (stardelta (wye-delta) start also possible), which are controlled via IO-Link. This makes it possible to directly control drives via IO-Link from a higher-level controller or on site via the optional hand-held device and also, for example, to return current values directly via IO-Link.

If single-phase AC motors are to be protected by the 3RB24 electronic overload relays, the main current paths of the current measuring modules must be series-connected (circuit diagrams see Manual).

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, ageing and temperature fluctuations

In the temperature range from -25 °C to +60 °C, the 3RB24 electronic overload relays compensate the temperature in accordance with IEC 60947-4-1.

Configuration notes for use of the devices below -25 °C or above +60 °C on request.

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

For the use of 3RB24 electronic overload relavs in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Technical specifications

More information

Application Manual "SIRIUS Controls with IE3/IE4 motors", see

Configuration Manual "Load Feeders - SIRIUS Modular System", see

Manual "SIRIUS 3RB24 Electronic Overload Relay for IO-Link", see

Technical specifications, see

The following technical information is intended to provide an initial overview of the various types of device and functions.

Type – Overload	relay:	Evaluation
modules		

Size contactor

Dimensions of evaluation modules $(W \times H \times D)$



3RB2483-4A.1

S00 ... S10/S12 45 x 111 x 95

General data

Tripping in the event of

Overload, phase failure and phase unbalance (> 40% according to NEMA), + ground fault (connectable and disconnectable) and activation of the thermistor motor protection (with closed PTC sensor circuit)

	motor protection (with desect 1.10 sensor directly)
Trip class acc. to IEC 60947-4-1	CLASS 5E, 10E, 20E and 30E adjustable
Phase failure sensitivity	Yes
Overload warning	Yes, from 1.125 \times $I_{\rm e}$ for symmetrical loads and from 0.85 \times $I_{\rm e}$ for unsymmetrical loads
Reset and recovery	

min

· Reset options after tripping

· Recovery time

- For manual RESET

- For automatic RESET min. Manual and automatic RESET, electrical remote RESET or through IO-Link

- For tripping due to overcurrent: 3 (stored permanently)
- For tripping by thermistor: Time until the motor temperature has fallen 5 $\ensuremath{\mathrm{K}}$ below the response temperature
- For tripping due to a ground fault: no automatic RESET
- For tripping due to overcurrent: 3 (stored permanently) - For tripping by thermistor: Time until the motor temperature has fallen 5 K
- below the response temperature
- For remote RESET min
- For tripping due to a ground fault: Immediately
- For tripping due to overcurrent: 3 (stored permanently) - For tripping by thermistor: Time until the motor temperature has fallen 5 K below the response temperature
- For tripping due to a ground fault: Immediately

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3RB24 for IO-Link for high-feature applications

Type – Overload relay: Evaluation modules		3RB2483-4A.1
Size contactor		S00 S10/S12
Dimensions of evaluation modules	mm	45 x 111 x 95
(W x H x D)	111111	43 X 111 X 33
General data (continued)		
Features		
Display of operating state on device		Yes, with four LEDs: - Green "DEVICE/IO-Link" LED - Red LED "Ground Fault" - Red LED "Thermistor" - Red LED "Overload"
TEST function		Yes, test of LEDs, electronics, auxiliary contacts and wiring of control circuit by pressing the button TEST/RESET/self-monitoring
RESET button		Yes, with the TEST/RESET button
STOP button		No
Protection and operation of explosion-proof motors		
EC type-examination certificate number		PTB 11 ATEX 3014
according to directive 2014/34/EU (ATEX)		(x) II (2) G [Ex e] [Ex d] [Ex px]
Ambient temperatures		see https://support.industry.siemens.com/cs/ww/en/view/oodz4000
Storage/transport	°C	-40 +80
Operation	°C	-25 +60
Temperature compensation	°C	+60
Permissible rated current		
- Temperature inside control cabinet 60 °C	%	100
- Temperature inside control cabinet 70 °C	%	On request
Degree of protection acc. to IEC 60529		IP20
Touch protection acc. to IEC 60529		Finger-safe
Shock resistance with sine acc. to IEC 60068-2-27	g/ms	15/11
Electromagnetic compatibility (EMC) – Interference immunity		
Conductor-related interference		
- Burst acc. to IEC 61000-4-4 (corresponds to degree of severity 3)	kV	2 (power ports), 1 (signal port)
- Surge acc. to IEC 61000-4-5 (corresponds to degree of severity 3)	kV	2 (line to earth), 1 (line to line)
Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	8 (air discharge), 6 (contact discharge)
Field-related interference acc. to IEC 61000-4-3 (corresponds to degree of severity 3)	V/m	10
Electromagnetic compatibility (EMC) – Emitted interference		Degree of severity A according to EN 55011 (CISPR 11) and EN 55022 (CISPR 22)
Resistance to extreme climates – Air humidity	%	100
Installation altitude above sea level	m	Up to 2 000
Mounting position		Any
Type of mounting		
Evaluation modules	0:	Stand-alone installation
Current measuring module	Size	S00 to S3: Stand-alone installation, S6 and S10/S12: Stand-alone installation or mounting onto contactors

SIRIUS 3RB2 Electronic Overload Relays

3RB24 for IO-Link for high-feature applications

Type – Overload relay: Evaluation modules		3RB2483-4A.1
Size contactor		S00 S10/S12
Auxiliary circuit		
Number of auxiliary switches		1 CO contact, 1 NO contact connected in series internally
Auxiliary contacts – Assignment		1 CO contact for selecting the contactor (for reversing starter function), actuated by the control system
		 1 NO contact for normal switching duty, actuated by the control system (opens automatically when tripping occurs)
Rated insulation voltage <i>U_i</i> (pollution degree 3)	V	300
Rated impulse withstand voltage U _{imp}	kV	4
Auxiliary contacts – Contact rating		
 NC, NO contact with alternating current AC-14/AC-15, rated operational current I_e at U_e 24 V 120 V 125 V 250 V 	A A A	6 6 6 3
• NC, NO contacts with direct current DC-13, rated operational current $I_{\rm e}$ at $U_{\rm e}$ - 24 V	А	2
- 60 V - 110 V - 125 V - 250 V	A A A	0.55 0.3 0.3 0.2
$ullet$ Conventional thermal current $I_{ m th}$	Α	5
 Contact reliability (suitability for PLC control; 17 V, 5 mA) 		Yes
Short-circuit protection		
With fuse, operational class gG	Α	6
With miniature circuit breaker, C characteristic	Α	1.6
Protective separation between auxiliary current paths acc. to IEC 60947-1	V	300
CSA, UL, UR rated data		
Auxiliary circuit – Switching capacity		B300, R300
Conductor cross-sections of the auxiliary circuit		
Connection type		Screw terminals
Terminal screw		M3, Pozidriv size 2
Operating devices	mm	3.0 x 0.5
Prescribed tightening torque	Nm	0.8 1.2
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected	2	4)
Solid or stranded	mm ²	$1 \times (0.5 \dots 4)^{1)}, 2 \times (0.5 \dots 2.5)^{1)}$
Finely stranded without end sleeve Finely stranded without end sleeve (DIN 1999 1)	mm ²	(0.5 0.51) 0 (0.5 4.51)
Finely stranded with end sleeve (DIN 46228-1) AWC applies applied as stranded.	mm ²	$1 \times (0.5 \dots 2.5)^{1)}, 2 \times (0.5 \dots 1.5)^{1)}$
AWG cables, solid or stranded Connection type	AWG	2 × (20 14)
Connection type		Spring-type terminals
Operating devices	mm	3.0 x 0.5
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected	2	0/0.05 4.5)
Solid or stranded Finally stranded without and along	mm ² mm ²	2 × (0.25 1.5)
Finely stranded without end sleeve Finely stranded with and sleeve (DIN 46228.1)		- 0/0.0F 1.F\
Finely stranded with end sleeve (DIN 46228-1) AWG cables, solid or stranded	mm ²	2 × (0.25 1.5)
AWG cables, solid or stranded	AWG	2 × (24 16)

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

3RB24 for IO-Link for high-feature applications

To a Control of the C		ODDO400 44 4
Type – Overload relay: Evaluation modules		3RB2483-4A.1
Size contactor		S00 S10/S12
Control circuit		
Rated insulation voltage U_i (pollution degree 3)	V	300
Rated impulse withstand voltage <i>U</i> _{imp}	kV	4
Rated control supply voltage $U_s^{(1)}$		
• DC	V	24 through IO-Link
Operating range		
• DC		$0.85 \times U_{\text{s min}} \le U_{\text{s}} \le 1.1 \times U_{\text{s max}}$
Rated power		
• DC	W	0.5
Mains buffering time	ms	200
Sensor circuit		
Thermistor motor protection (PTC thermistor sensor)		
Summation cold resistance	kΩ	≤ 1.5
Response value	kΩ	3.4 3.8
Return value	kΩ	1.5 1.65
Ground-fault detection		The information refers to sinusoidal residual currents at 50/60 Hz.
$ullet$ Tripping value I_{Δ}		
- For 0.3 $ imes$ $I_{ m e}$ < $I_{ m motor}$ < 2.0 $ imes$ $I_{ m e}$		$> 0.3 \times I_{\rm e}$
- For 2.0 $ imes$ $I_{ m e}$ < $I_{ m motor}$ < 8.0 $ imes$ $I_{ m e}$		$> 0.15 \times I_{\text{motor}}$
Response time t _{trip}	ms	500 1 000
Analog output ¹⁾		
Rated values		
Output signal	mΑ	4 20
Measuring range		0 $1.25 \times I_{\rm e}$ 4 mA corresponds to 0 \times $I_{\rm e}$ 16.8 mA corresponds to $1.0 \times I_{\rm e}$ 20 mA corresponds to $1.25 \times I_{\rm e}$
• Load, max.	Ω	100
Conductor cross-sections for the control and sensor circuit as well as the analog output		
Connection type		Screw terminals
Terminal screw		M3, Pozidriv size 2
Operating devices	mm	3.0 x 0.5
Prescribed tightening torque	Nm	0.8 1.2
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected		
• Solid	mm ²	$1 \times (0.5 \dots 4)^{2}$, $2 \times (0.5 \dots 2.5)^{2}$
Finely stranded without end sleeve	mm ²	
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	$1 \times (0.5 \dots 2.5)^{2)}, 2 \times (0.5 \dots 1.5)^{2)}$
• Stranded	mm ²	
AWG cables, solid or stranded	AWG	2 × (20 14)
Connection type		Spring-type terminals
Operating devices	mm	3.0 x 0.5
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected		
• Solid	mm^2	2 × (0.25 1.5)
Finely stranded without end sleeve	mm ²	-
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 × (0.25 1.5)
• Stranded	mm^2	2 × (0.25 1.5)
AWG cables, solid or stranded	AWG	2 × (24 16)

¹⁾ Analog input modules, e.g. SM 331, must be configured for 4-wire measuring transducers. The analog input module may not supply current to the analog output of the 3RB24 overload relay.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

SIRIUS 3RB2 Electronic Overload Relays

3RB24 electronic overload relays (evaluation modules) for full motor protection for stand-alone installation, CLASS 5E, 10E, 20E and 30E (adjustable)

_	
Туре	3RB2483-4A.1
Features and technical specifications	
Overload protection, phase failure protection and unbalance protection	✓
Supplied from an external source	✓ 24 V DC through IO-Link
Direct-on-line or reversing starters (wye-delta starting also possible) controllable through IO-Link	✓
Auxiliary contacts	1 CO and 1 NO in series
Manual and automatic RESET	✓
Remote RESET	(electrically or via IO-Link)
Four LEDs for operating and status displays	✓
TEST function and self-monitoring	✓
Internal ground-fault detection	✓
Screw or spring-type terminals for auxiliary, control and sensor circuits	✓
Input for thermistor (PTC) sensor circuit	✓
Analog output	✓
IO-Link-specific functions	
• Connection of direct-on-line, reversing and star-delta starters to the controller via IO-Link	✓
On-site controlling of the starter using the hand-held device	✓
• Accessing process data (e.g. current values in all three phases) via IO-Link	✓
• Accessing parameterization and diagnostics data (e.g. tripped signals) via IO-Link	✓
✓ Available	

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 UNIT PG = 41G





3RB2483-4AA1

3RB2483-4AC1

Size contactor	Version	SD	Screw terminals	SD	Spring-type terminals	<u> </u>
		d	Article No. Price per Pl		Article No.	Price per PU
Evaluation modules						
S00 S12	Monostable	>	3RB2483-4AA1	2	3RB2483-4AC1	

Notes:

- Overview of overload relays matching contactors, see page 7/84.
- Analog input modules, e.g. SM 331, must be configured for 4-wire measuring transducers. The analog input module may not supply current to the analog output of the 3RB24 relay.

Current measuring modules and related connecting cables, see page 7/140, "Accessories", see page 7/141 onwards.

Current measuring modules for 3RB22, 3RB23, 3RB24

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays Industry Mall, see www.siemens.com/product?3RB2



SIRIUS 3RB2906 current measuring module

Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820

Other Manuals, see

https://support.industry.siemens.com/cs/ww/en/ps/16282/man

The current measuring modules are designed as system components for connecting to evaluation units 3RB22 to 3RB24. Using these evaluation units the motor current is measured and the measured value sent to the evaluation unit for evaluation.

The current measuring modules in sizes up to S3 are equipped with straight-through transformers and can be snap-fitted under the evaluation units. The larger evaluation units are installed directly on the contactor or as stand-alone units.

Application

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

For the use of current measuring modules for 3RB22, 3RB23, 3RB24 in conjunction with highly energy-efficient IE3/IE4 motors, please read the information on dimensioning and configuration, see Application Manual

For more information, see page 1/7.

SIRIUS 3RB2 Electronic Overload Relays

Current measuring modules for 3RB22, 3RB23, 3RB24

Technical specifications

More information	
Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16282/man	Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16282/td

The following technical information is intended to provide an initial overview of the various types of devices and functions.

2966	RB2956 3R		3RB2906			Type – Overload relays: Current measuring modules
S12	S10	S2/S3	S00/S0		<u> </u>	Size contactor
x 147 x 148	20 x 119 x 145 145	55 x 94 x 72	45 x 84 x 45	v mm	W	Dimensions of current measuring modules $(W \times H \times D)$
						Main circuit
			1 000	V		Rated insulation voltage <i>U</i> _i (pollution degree 3)
			6	kV		Rated impulse withstand voltage U _{imp}
			1 000	V		Rated operational voltage $U_{\rm e}$
						Type of current
			No			Direct current
		z ± 5%	Yes, 50/60 Hz			Alternating current
630	0 200 63	10 100	0.3 3; 2.4 25	А		Current setting
			0.5	W		Power loss per unit (max.)
						Short-circuit protection
	data", page 7/140	n and orderin	See "Selection			With fuse without contactor
		ation Manual	see Configur			With fuse and contactor
						Degree of protection acc. to IEC 60529
	IP20 (front side) Terminal IP00 (use addition for higher degree of prote		IP20			Screw terminals/busbar connections
			IP20			Straight-through transformers
						Touch protection acc. to IEC 60529
s for vertical	inger-safe with terminal cov ontact from the front		Finger-safe			Screw terminals/busbar connections
	inger-safe		Finger-safe			Straight-through transformers
				aths	ary current paths	Protective separation between main and auxilia Acc. to IEC 60947-1 (pollution degree 2)
			690	V		• For systems with grounded neutral point
			600	V		• For systems with ungrounded neutral point
s for	ontact from the front		Finger-safe 690	V	iary current paths	Straight-through transformers Protective separation between main and auxilia Acc. to IEC 60947-1 (pollution degree 2) For systems with grounded neutral point

Current measuring modules for 3RB22, 3RB23, 3RB24

Type – Overload relays: Current measuring		3RB2906	3RB2956	3RB2966
modules				
Size contactor	,	S00/S0 S2/S3	S6	S10/S12
Dimensions of current measuring modules (W x H x D)	w mm	45 x 84 x 45 55 x 94 x 72	2 120 x 119 x 145	145 x 147 x 148
Conductor cross-sections of main circuit				
Connection type		Screw terminals w	ith box terminal	
Terminal screw	mm		4 mm Allen screw	5 mm Allen screw
Operating devices	mm		4 mm Allen screw	5 mm Allen screw
Prescribed tightening torque	Nm		10 12	20 22
Conductor cross-sections (min./max.), 1 or 2 conduct	ors can be connected			
Solid or stranded	mm ²		With 3RT1955-4G box terminal: 2 × (max. 70), 1 × (16 70) With 3RT1956-4G box terminal: 2 × (max. 120), 1 × (16 120)	2 × (70 240), Front clamping point only: 1 × (95 300) Rear clamping point only: 1 × (120 240)
Finely stranded without end sleeve	mm ²		With 3RT1955-4G box terminal: 2 × (1 × max. 50, 1 × max. 70), 1 × (10 70) With 3RT1956-4G	2 × (50 185), Front clamping point only: 1 × (70 240)
			box terminal: 2 × (1 × max. 95, 1 × max. 120), 1 × (10 120)	only: 1 × (120 185)
Finely stranded with end sleeve (DIN 46228-1)	mm ²		With 3RT1955-4G box terminal: 2 × (1 × max. 50, 1 × max. 70), 1 × (10 70)	2 × (50 185), Front clamping point only: 1 × (70 240)
			With 3RT1956-4G box terminal: 2 × (1 × max. 95, 1 × max. 120), 1 × (10 120)	Rear clamping point only: 1 × (120 185)
AWG cables	AWG	-	With 3RT1955-4G box terminal: 2 × (max. 1/0), 1 × (6 2/0) With 3RT1956-4G box terminal: 2 × (max. 3/0), 1 × (6 250 kcmil)	2 × (2/0 500 kcmil), Front clamping point only: 1 × (3/0 600 kcmil) Rear clamping point only: 1 × (250 kcmil 500 kcmil
• Ribbon cables (Number x Width x Thickness)	mm		With 3RT 1955-4G box terminal: $2 \times (6 \times 15.5 \times 0.8)$, $1 \times (3 \times 9 \times 0.8 \dots 6 \times 15.5 \times 0.8)$ With 3RT 1956-4G box terminal: $2 \times (10 \times 15.5 \times 0.8)$, $1 \times (3 \times 9 \times 0.8 \dots 1 \times 15.5 \times 0.8)$, $1 \times (3 \times 9 \times 0.8 \dots 1 \times 15.5 \times 0.8)$	$2 \times (20 \times 24 \times 0.5),$ $1 \times (6 \times 9 \times 0.8$ $20 \times 24 \times 0.5)$
Connection type		Busbar connection	,	
Terminal screw			M9 v 25	M10 × 20
Prescribed tightening torque	Nm		M8 × 25	M10 x 30
Conductor cross-sections (min./max.), 1 or 2 conduct			10 14	17 44
• Solid with cable lug	mm ²		16 95 ¹⁾	50 240 ²⁾
Stranded with cable lug	mm ²		25 120 ¹⁾	70 240 ²⁾
AWG cables, solid or stranded, with cable lug	AWG		4 250 kcmil	2/0 500 kcmil
With connecting bars (max. width)	mm		4 250 KCITIII	25 500 KCITIII
Connection type	111111	Straight-through tr		ZJ
··		o o		
Diameter of opening	mm	7.5	25	
) When connecting coble lugg according to DIN 46225		2) When connecting cold	I DINI	100011

When connecting cable lugs according to DIN 46235 with conductor cross-sections of 95 mm² and more, the 3RT1956-4EA1 terminal cover must be used to ensure phase clearance, see page 7/141.

When connecting cable lugs according to DIN 46234 for conductor cross-sections from 240 mm², as well as DIN 46235 for cable cross-sections from 185 mm², the 3RT1956-4EA1 terminal cover must be used to ensure phase clearance, see page 7/141.

SIRIUS 3RB2 Electronic Overload Relays

Current measuring modules for 3RB22, 3RB23, 3RB24 IE3/IE4 ready

Selection and ordering data

Current measuring modules (essential accessories)







3RB2906-2JG1



3RB2956-2TG2



3RB2966-2WH2

ONBESSO EBAT									
Size contactor	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ¹⁾	For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	A		d					
Sizes S00/S0									
Devices with straight for stand-alone instal									
S00/S0	0.3 3	20	3RB22 to	>	3RB2906-2BG1		1	1 unit	41G
	2.4 25	63	3RB24	>	3RB2906-2DG1		1	1 unit	41G
Sizes S2/S3									
Devices with straightfor stand-alone instal									
S2/S3	10 100	315	3RB22 to 3RB24	•	3RB2906-2JG1		1	1 unit	41G
Size S6									
Devices with busbar of for mounting onto con (an appropriate connespring washers and n	ntactor and stand-alo ection kit with screws								
S6	20 200	315	3RB22 to 3RB24	>	3RB2956-2TH2		1	1 unit	41G
Devices with straightfor mounting onto co.									
For mounting onto S6 contactors with box terminals	- 20 200	315	3RB22 to 3RB24	•	3RB2956-2TG2		1	1 unit	41G
Sizes S10/S12 ²⁾									
Devices with busbar of for mounting onto co. (an appropriate connespring washers and n	<i>ntactor and stand-alo</i> ection kit with screws								
\$10/\$12 and size 14 (3TF68/3TF69) ²⁾	63 630	800	3RB22 to 3RB24	•	3RB2966-2WH2		1	1 unit	41G
1) Maximum protection by	fuse only for overload rola	ave type of	Noto:						

¹⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

The connecting cable between the current measuring module and the evaluation module is not included in the scope of supply; please order separately (see "Accessories").

Accessories

	Size con- tactor	Version	For overload relays	SD	Article No. Pr	rice PU	PU (UNIT, SET, M)	PS*	PG
				d					
Connecting cab	les (essent	ial accessories)							
		For connection between evaluation module and current measuring module							
	S00 S3	 Length 0.1 m (only for mounting of the evaluation module directly onto the current measuring module) 	3RB22 to 3RB24	•	3RB2987-2B		1	1 unit	41F
3RB2987-2.	S00 S12	• Length 0.5 m	3RB22 to 3RB24	•	3RB2987-2D		1	1 unit	41F

Additional general accessories, see page 7/141.

²⁾ For 3TF68/3TF69 contactors, direct mounting is not possible.

Note:

Accessories for 3RB22, 3RB23, 3RB24

Overview

More information

Homepage, see www.siemens.com/sirius-overloadrelays Industry Mall, see www.siemens.com/product?3RB2

Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16283/man

The following optional accessories are available for the 3RB22 to 3RB24 electronic overload relays:

- Operator panel for the evaluation modules 3RB24
- Sealable cover for the evaluation modules 3RB22 to 3RB24
- Terminal covers for the 3RB29 current measuring modules size S6 and S10/S12
- Box terminal blocks for the 3RB29 current measuring modules size S6 and S10/S12
- Push-in lugs for screw fixing for 3RB22 to 3RB24 evaluation modules and 3RB2906 current measuring modules

Selection and ordering data

Accessories for 3RB24 overload relays

710000007100 101 0112	2 / 0 / 0 / 10 / 10 / 10 / 10 / 10 / 10								
	Version		For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			·	d					
Operator panels for e	valuation modules								
the arrange of the boundary of the same	Operator panels (set)		3RB24	10	3RA6935-0A		1	1 unit	42F
3RA6935-0A	One set comprises: • 1 x operator panel • 1 x 3RA6936-0A enabling modul • 1 x 3RA6936-0B interface cover • 1 x fixing terminal	le							
	Note: The connecting cable between the module and the operator panel is in the scope of supply; please ord separately.	not included							
	Connecting cable Length 2.5 m (round), for connecting the evaluation mod operator panel	ule to the	3RB24	•	3UF7933-0BA00-0		1	1 unit	42J
	Enabling modules (replacement))	3RB24	10	3RA6936-0A		1	1 unit	42F
	Interface covers		3RB24	10	3RA6936-0B		1	5 units	42F
General accessories									
	Veneiro	0:	E	CD	At: -1 - N1 -	Delas	DLI	DC*	DO
	Version	Size	For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Sealable covers for e									
	For covering the setting knobs		3RB22 to 3RB24	2	3RB2984-2		1	10 units	41F
3RB2984-2									
Terminal covers for o	current measuring modules								
Budh N. a	Covers for cable lugs and busbar connections								
	• Length 100 mm	S6	3RB2956	>	3RT1956-4EA1		1	1 unit	41B
SIEMENS	• Length 120 mm	S10/S12	3RB2966	2	3RT1966-4EA1		1	1 unit	41B
	Covers for box terminals								
1 1 1 1	 Length 25 mm 	S6	3RB2956	>	3RT1956-4EA2		1	1 unit	41B
3RT1956-4EA1	Length 30 mm	S10/S12	3RB2966	2	3RT1966-4EA2		1	1 unit	41B
4444	Covers for screw terminals Between contactor and overload	S6	3RB2956	>	3RT1956-4EA3		1	1 unit	41B
3RT1956-4EA2	relay, without box terminals (1 unit required per combination)	S10/S12	3RB2966	2	3RT1966-4EA3		1	1 unit	41B
Box terminal blocks	or current measuring module	s							
	For round and ribbon cables								
	• Up to 70 mm ²	S6 ¹⁾	3RB2956	>	3RT1955-4G		1	1 unit	41B
	• Up to 120 mm ²	S6	3RB2956	>	3RT1956-4G		1	1 unit	41B
3RT1954G	• Up to 240 mm ²	S10/S12	3RB2966	•	3RT1966-4G		1	1 unit	41B

¹⁾ In the scope of supply for 3RT1054-1 contactors (55 kW).

Accessories for 3RB22, 3RB23, 3RB24

Accessories for	3nd22, 3nd23,	JND24								
	Version		Size	For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d			J=1,,		
Push-in lugs for e	evaluation module	s and current m	easuring	modules						
	For screw fixing the	evaluation modules		3RB22 to	5	3RP1903		1	10 units	41H
3RP1903	3 · ·			3RB24						
3RB1900-0B	For screw fixing the modules (2 units per module)	· ·	S00 S3	3RB2906	2	3RB1900-0B		100	10 units	41F
				_						
	Version	Size	Color	For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Tools for opening	ງ spring-type term	inals								
						Spring-type terminals				
3RA2908-1A	Screwdrivers For all SIRIUS devices with spring-type terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit con- nection: 3RB2		3RA2908-1A		1	1 unit	41B
Blank labels										
	Unit labeling plates ¹⁾	20 mm x 7 mm	Pastel turquoise	3RB2	20	3RT1900-1SB20		100	340 units	41B
	For SIRIUS devices	20 mm x 7 mm	Titanium gray	3RB2	20	3RT2900-1SB20		100	340 units	41B
	Adhesive inscription labels ¹⁾	19 mm x 6 mm	Pastel turquoise	3RU2	15	3RT1900-1SB60		100	3 060 units	41B
∭∭∭ 3RT1900-1SB20	For SIRIUS devices	19 mm x 6 mm	Zinc yellow	3RU2	15	3RT1900-1SD60		100	3 060 units	41B
3RT2900-1SB20										

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

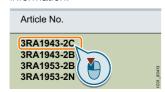
Load Feeders and Motor Starters for Use in the Control Cabinet





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Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Price groups PG 140, 41B, 41D, 41E, 41H, 41L, 42C, 42D, 42F, 42G, 255 Introduction SIRIUS 3RA2 load feeders General data 3RA21 direct-on-line starters - For standard mounting rails or for screw fixing - For 60 mm busbars 3RA22 reversing starters - For standard mounting rails or for screw fixing - For 60 mm busbars Accessories 3RV29 infeed system for load feeders **SIRIUS 3RA6 compact starters** General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters 3RA64, 3RA65 compact starters for IO-Link - 3RA64 direct-on-line starters - 3RA65 reversing starters Accessories Add-on modules for AS-Interface Infeed system for 3RA6 SIRIUS 3RM1 motor starters Overview Benefits Technical specifications Accessories Selection and ordering data NEW ET 200SP motor starters Overview Benefits Application Technical specifications Selection and ordering data NEW

Note:

Conversion tool, see

www.siemens.com/sirius/conversion-tool

Load Feeders and Motor Starters for Use in the Control Cabinet

Introduction

Overview

Central and compact starter solutions

Our range offers you many different possibilities for simple and practical starter solutions in the control cabinet. Features common to all our load feeders, compact starters and motor starters: Like all SIRIUS devices they are optimally coordinated with each

other, have a very compact design and are particularly easy and quick to install and wire up.

In addition there is a seamless range of SIRIUS 3RW soft starters available for soft starting in the control cabinet (see page 6/2).



		Туре	Page
SIRIUS 3RA2 load feeders			
	The 3RA2 fuseless load feeders consist of the 3RV2 motor starter protector and the 3RT2 contactor. The motor starter protector and contactor are prewired and mechanically and electrically connected in preassembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters). 4 sizes (S00, S0, S2, S3) Can be supplied for direct-on-line start or reversing duty as a complete unit or single devices for self-assembly Can be supplied with screw or spring-type terminals		
3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/21
3RA21 direct-on-line starters for 60 mm busbars	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/29
3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing	• Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA22	8/33
3RA22 reversing starters for 60 mm busbars	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA22	8/39
Accessories for 3RA2 direct-on-line and reversing starters			8/44
Infeed system	 The infeed system is a convenient means of energy supply and distribution for a group of several motor starter protectors or complete load feeders with a screw or spring-type terminal up to size S0. 	3RV29	8/55, 7/62

Load Feeders and Motor Starters for Use in the Control Cabinet

Introduction

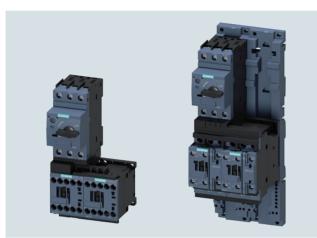


Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

General data

Overview

3RA2 load feeders



3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing with screw terminals

The 3RA2 fuseless load feeders consist of the 3RV2 motor starter protector and the 3RT2 electromechanical contactor. The devices are electrically and mechanically connected using preassembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters).

Around 500 preassembled 3RA2 combinations can be ordered for direct-on-line and reversing starting of standard three-phase motors up to 65 A (approx. 37 kW/400 V). Preassembled assembly kits are available as accessories for the power range up to 45 kW. The desired fuseless load feeder can thus be assembled quickly and economically by the customer. A time saving is also achieved in connection with switchgear acceptances, as — unlike with conventional wiring systems — there is no need to rectify possible wiring errors.

In the 3RA2 load feeder, the 3RV2 motor starter protector is responsible for overload and short-circuit protection. Back-up protective devices, such as melting fuses or limiters, are superfluous here, as the motor starter protector is short-circuit proof up to 150 kA at 400 V.

The 3RT2 contactor is particularly suitable for extremely complex switching tasks requiring the greatest endurance.

The 3RA2 load feeders are available with setting ranges from 0.14 to 65 A in sizes S00, S0 and S2. Load feeders in size S3 up to 100 A are available for self-assembly.

Size	Width Direct-on-line starters/ reversing starters	Max. rated current $I_{\text{n max}}$	For three- phase motors up to
	mm	А	kW
S00	45/90	16	7.5
S0	45/90	32	15
S2	55/120	65	37
S3	70/150	100	45

The size of the 3RA2 load feeders is based on the size of the contactor:

Size 3RA2	S00	S0	S2	S3
Size of 3RV2 motor starter protector	S00	S00 ¹⁾ , S0	S2	S3
Size of 3RT2 contactor	S00	S0	S2	S3

¹⁾ The combination of an S00 motor starter protector with an S0 contactor is possible only for screw terminal versions.

More information

Homepage, see www.siemens.com/sirius-starting

Industry Mall, see www.siemens.com/product?3RA2

Online configurator, see www.siemens.com/sirius/configurators

TIA Selection Tool Cloud (TST Cloud), see

https://mall.industry.siemens.com/spice/TSTWeb/?kmat=LoadFeeder

Operating conditions

3RA2 load feeders are climate-proof. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. Suitable covers must be provided for installation in dusty and damp locations.

Behavior in the event of short circuit

EN 60947-4-1 (VDE 0660 Part 102) and IEC 60947-4-1 make a distinction between two different types of coordination, which are referred to as type of coordination "1" and type of coordination "2". Any short circuits that occur are cleared safely by both types of coordination. The only differences concern the extent of the damage caused to the device by a short circuit.

ToC 1 Type of coordination "1"

The load feeder may be non-operational after a short circuit has been cleared. Damage to the contactor or to the overload release is permissible.



Type of coordination "2"

There must be no damage to the overload release or to any other component after a short circuit has been cleared. The load feeder can resume operation without needing to be renewed. At most, welding of the contactor contacts is permissible if they can be disconnected easily without any significant deformation.

The types of coordination are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Tripping times

All 3RA2 load feeders described here are designed for normal starting, in other words for overload tripping times of less than 10 s (CLASS 10). At rated-load operating temperature the tripping times are shorter, depending on the particular equipment and the setting range. The exact values can be derived from the tripping characteristics of the motor starter protectors.

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

General data

Connection methods

For all 3RA2 feeders up to 32 A, spring-type terminals are available as well as screw terminals. To connect two devices with spring-type terminals, there are plug-in connection modules for sizes S00 and S0 which enable very quick mounting of the feeders and a vibration-resistant assembly.

To connect a motor starter protector with screw terminals to a contactor with spring-type terminals there are special hybrid connection modules for the sizes S00 and S0.



Screw terminals



Spring-type terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Use of load feeders in conjunction with IE3/IE4 motors

Note

For the use of SIRIUS 3RA2 load feeders in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual

For more information, see page 1/7.

3RA2 complete units

The 3RA2 fuseless load feeders can be ordered as preassembled complete units for direct-on-line starting (3RA21) or for reversing duty (3RA22) with screw or spring-type terminals. From size S2, complete units for direct-on-line starting (3RA21) are only available with screw-type terminals.

There are control supply voltages available of 50 Hz 230 V AC and 24 V DC.

A distinction is also drawn between whether the feeder is mounted onto a 35 mm standard mounting rail, on a flat surface using screws, or on a 60 mm busbar system.

3RA21 load feeders in the size S0 must be configured on standard mounting rail adapters if high vibration and shock loads (railways, power generation,...) are involved.

A vibration and shock kit is available for mounting on busbar adapters.

Accessories

As the 3RA2 fuseless load feeders are constructed from 3RV2 motor starter protectors and 3RT2 contactors, the same accessories – such as auxiliary switches, undervoltage releases or door-coupling rotary operating mechanisms – can be used for the 3RA2 fuseless load feeders as for these motor starter protectors and contactors.

In particular, certain accessories have been optimized for the fuseless load feeders. These include the top-connected, transverse auxiliary switch on the motor starter protector, which is available in a range of different versions. Special auxiliary switch blocks that can be snapped on from below are available for the contactor. These two accessories enable the fuseless load feeders to be wired simply without having to route cables through the device.

Incoming power supply

In total, four different energy supply options are available (see "3RV29 infeed system for load feeders" on page 8/55).

Customer assembly of fuseless load feeders

Whereas preassembled 3RA2s can be ordered up to 65 A, combinations in size S3 up to 100 A (approx. 45 kW/400 V) can be self-assembled.

The standard devices can be combined optimally – in terms of both technical specifications and dimensions, thanks to the modular system of the SIRIUS series.

The fuseless load feeders can thus be assembled easily by the customer. It is simply necessary to assemble the standard 3RV2 motor starter protector, the 3RT2 contactor and the appropriate assembly kit.

For single devices and assembly kits, see the "Selection and ordering data" for 3RA21 direct-on-line starters and 3RA22 reversing starters, page 8/21 or 8/33 onwards.

For assembly kits for direct-on-line starting or reversing duty for mounting onto standard mounting rails or busbars, see page 8/49.

For size S3 direct-on-line starters and sizes S0, S2 and S3 reversing starters, it is imperative that a standard mounting rail adapter is used to ensure the necessary mechanical strength. If a busbar adapter is used (not possible for size S3) then a standard mounting rail adapter is not necessary.

SENTRON 3VA circuit breakers and SIRIUS 3RT contactors are available for rated currents >100 A.

Special equipment for customer assembly can be ordered if other rated control supply voltages are required. Assembly kits can be used to facilitate assembly.

Customers can also assemble tested combinations of motor starter protectors with solid-state controls (soft starters, solid-state contactors) and load feeders with additional monitoring and control devices (3RR monitoring relays, SIMOCODE 3UF).

For the electrical and mechanical connection of protection equipment and controls there are preassembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters).

The following types of configuration are possible:

- Direct-on-line/reversing starting
- Star-delta (wye-delta) starting
- Solid-state/soft starting

For more information and assignment tables for combinations of the 3RA2 generation for self-assembly, see

- Configuration Manual for load feeders SIRIUS Modular System,
- https://support.industry.siemens.com/cs/ww/en/view/39714188
- Manual, https://support.industry.siemens.com/cs/ww/en/view/60284351

Customer assembly of fused load feeders

The flexible, modular system of SIRIUS also enables the configuration of fused load feeders up to 100 A (approx. 45 kW/400 V). Up to 32 A is also available for 45 mm installation widths.

Compact 3NW7...-1 cylindrical fuse holders for IEC fuses size 10 x 38 mm, or 3NW7...-1HG holders for Class CC UL fuses, can be used for this purpose.

For more information about fuse systems, see Catalog LV 10.

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

General data

Communications integration using IO-Link

Load feeders can also be assembled with IO-Link for connection to the higher-level control system. For each feeder, this requires a contactor with a voltage tap onto which a 3RA2711 function module is plugged (various versions for direct-on-line, reversing and wye-delta starters). The design of the SIRIUS load feeders permits a group of up to four SIRIUS controls to be conveniently connected through the standardized open system IO-Link to a control system, thus reducing wiring considerably compared to the conventional parallel wiring method. The electrical connection is made using only three standard cables.

The function modules perform not only the communication (contactor operation and feedback, ready signal) but also the electrical interlocking (for reversing and wye-delta starters) and the timing relay function (wye-delta reversing time).

Communication information and control supply voltages are passed on through ribbon cables so that the complete control current wiring on the feeder is no longer needed.

The monitoring and maintenance of a plant is made considerably easier by transmitting diverse diagnostics data from the function modules (e.g. missing main and auxiliary voltage, local disconnection...) through IO-Link to the higher-level control system. Also, feeders equipped for IO-Link can be conveniently controlled from the control cabinet door using the optional operator panel.

More information:

- For IO-Link, see page 2/97 onwards
- For 3RA27 function modules, see pages 3/80, 3/87 and 3/107

Communications integration via AS-Interface

Connection of the load feeders to the higher-level control system is possible not only through IO-Link but also through AS-Interface. The AS-Interface connection is recommended wherever load feeders are used in distributed applications. In this case, too, a contactor with a voltage tap is required with a corresponding 3RA2712 function module (various versions for direct-on-line, reversing and wye-delta starters). The devices are implemented in A/B technology, making it easy to connect up to 62 feeders to an AS-i master (regardless of whether they are direct-on-line, reversing or wye-delta starters). This results in a significant reduction of wiring compared to the conventional parallel wiring method. The electrical connection is made using standard cables.

The function modules perform not only the communication (contactor operation and feedback, ready signal) but also the electrical interlocking (for reversing and wye-delta starters) and the timing relay function (wye-delta reversing time).

Communication information and control supply voltages are passed on through ribbon cables so that the complete control current wiring on the starter is no longer needed.

More information:

- For AS-Interface, see page 2/18 onwards
- For 3RA27 function modules, see pages 3/80, 3/87 and 3/107

Contactors with voltage tap

For configuring load feeders with communication interfaces (AS-i/IO-Link), contactors with voltage taps are required. These contactors are not included as standard in the preassembled 3RA2 load feeders. A load feeder with communication interface must be assembled therefore from single devices.

Complete integration in the automation landscape

As the result of the communication connection through IO-Link or AS-i, the SIRIUS load feeders are fully integrated in the automation landscape and can draw on all the advantages of TIA (e.g. integration in the TIA Maintenance Station).

Mounting

3RA2 fuseless load feeders can be supplied:

- For assembly on TH 35 standard mounting rails according to EN 60715 (depth 15 mm)
- For assembly on busbar adapters (busbar center-to-center clearance 60 mm, busbar thickness 5 to 10 mm with beveled edges)

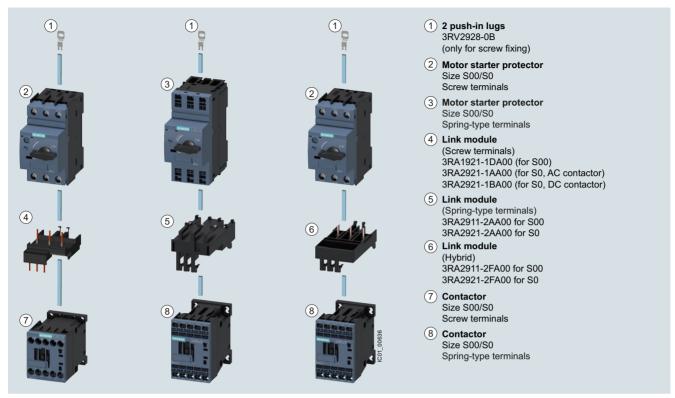
The fuseless load feeders are also suitable for screw fixing using two 3RV2928-0B push-in lugs.

3RA2 fuseless load feeders can also be installed using the 3RV29 infeed system (S0 and S00 only, see page 7/62).

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

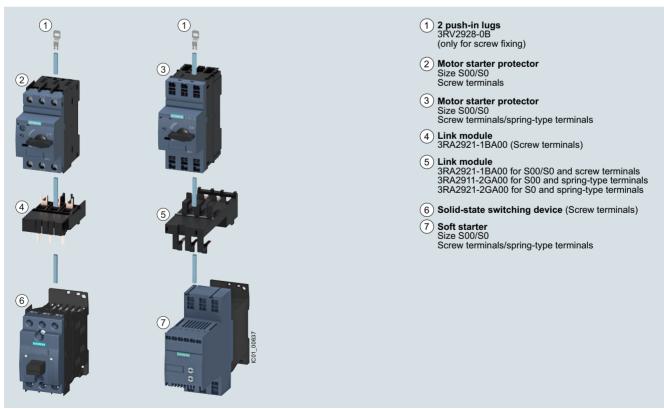
General data

Direct-on-line starting • For standard rail mounting or screw fixing • Sizes S00 and S0



Left: 3RA21 load feeder with screw terminals Center: 3RA21 load feeder with spring-type terminals

Right: Motor starter protector combination with screw terminals, with contactor with spring-type terminals

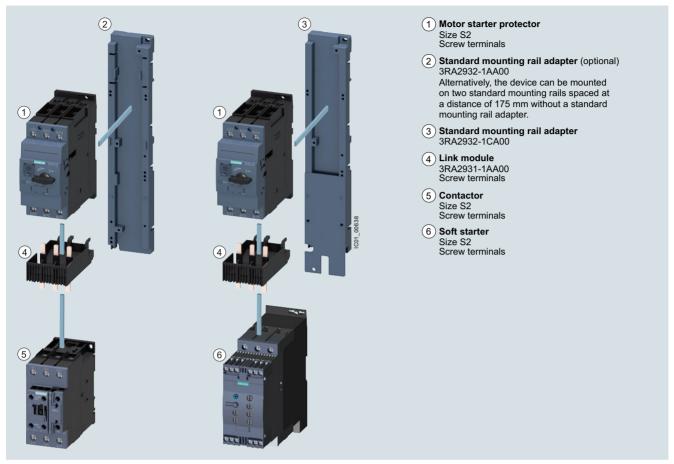


Left: Motor starter protector combination with solid-state switching device with screw terminals Right: Motor starter protector combination with soft starter with spring-type terminals

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

General data

Direct-on-line starting • For standard rail mounting • Size S2

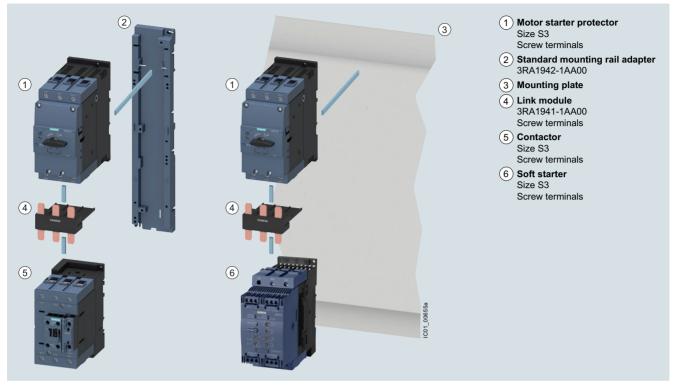


Left: 3RA21 load feeder with screw terminals

Right: Motor starter protector combination with soft starter with screw terminals

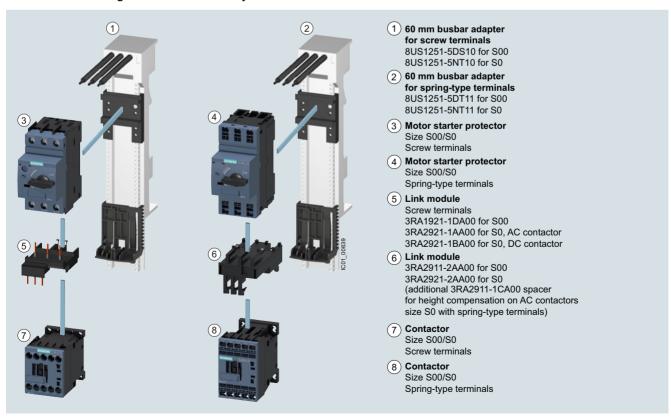
General data

Direct-on-line starting • For standard rail mounting • Size S3



3RA21 load feeder for direct-on-line starting and standard rail mounting in size S3 (the version with screw terminals is shown in the picture)

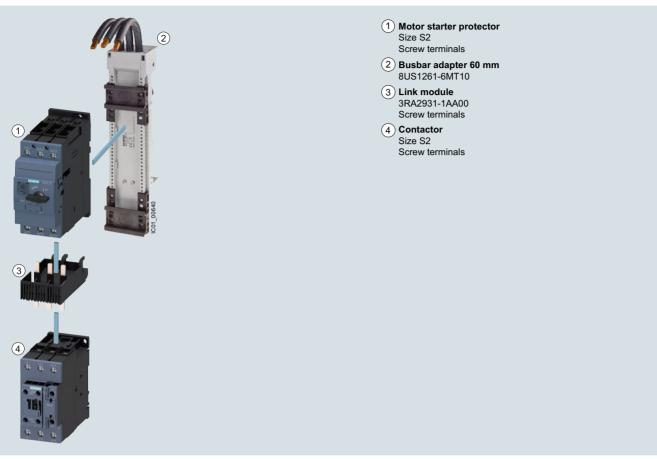
Direct-on-line starting • For 60 mm busbar systems • Sizes S00 and S0



Left: 3RA21 load feeder for direct-on-line starting with busbar adapter with screw terminals Right: 3RA21 load feeder for direct-on-line starting with busbar adapter with spring-type terminals

General data

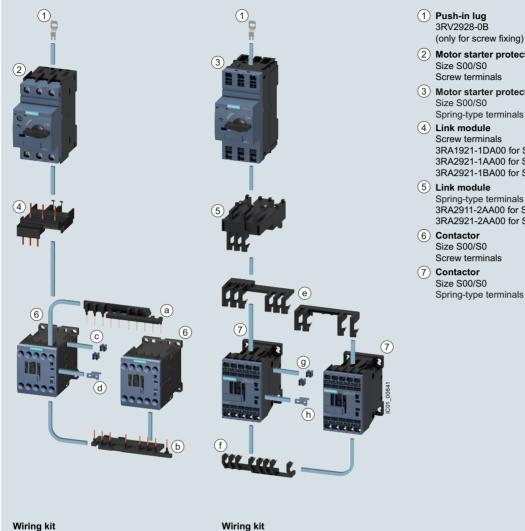
Direct-on-line starting • For 60 mm busbar systems • Size S2



3RA21 load feeder for direct-on-line starting with busbar adapter with screw terminals

General data

Reversing duty • For standard rail mounting or screw fixing • Size S00



- (2) Motor starter protector
- (3) Motor starter protector
- 3RA1921-1DA00 for S00 3RA2921-1AA00 for S0, AC contactor 3RA2921-1BA00 for S0, DC contactor
- Spring-type terminals 3RA2911-2AA00 for S00 3RA2921-2AA00 for S0
- Spring-type terminals

Wiring kit 3RA2913-2AA1

- (a) Upper wiring module
- (b) Lower wiring module
- © Two connecting clips for two contactors
- d Mechanical interlock (can be removed if necessary)

3RA2913-2AA2

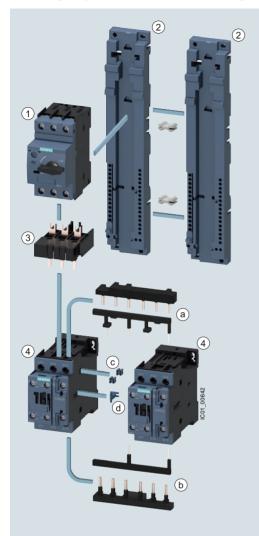
- (e) Upper wiring module
- f Lower wiring module
- (9) Two connecting clips for two contactors
- Mechanical interlock (can be removed if necessary)

Left: 3RA22 load feeder with screw terminals with push-in lugs with two contactors for reversing duty and 3RA2913-2AA1 wiring kit for connection of the contactors (incl. mechanical interlocking and connecting clips)

3RA22 load feeder with spring-type terminals with push-in lugs with two contactors for reversing duty and 3RA2913-2AA2 wiring kit Right: (incl. mechanical interlocking and connecting clips)

General data

Reversing duty • For standard rail mounting • Size S0



RH assembly kit for reversing duty and standard rail mounting in size S0

Screw terminals

3RA2923-1BB1

Spring-type terminals

3RA2923-1BB2

Comprising:

- · Wiring kit for the main and auxiliary circuits
- · Two standard mounting rail adapters
- · Two connecting wedges
- Mechanical interlock
- · Two connecting clips
- · Fixing accessories

1) Motor starter protector

Size S0

Screw terminals/spring-type terminals

2 Standard mounting rail adapters

3RA2922-1AA00

with two connecting wedges 8US1998-1AA00

(3) Link module

Screw terminals 3RA2921-1AA00 for S0, AC contactor 3RA2921-1BA00 for S0, DC contactor Spring-type terminals 3RA2921-2AA00²⁾

(4) Contactor

Size S0

Screw terminals/spring-type terminals

Wiring kit

Screw terminals

3RA2923-2AA1

Spring-type terminals 3RA2923-2AA2

- (a) Upper wiring module
- (b) Lower wiring module
- c Two connecting clips for two contactors
- (d) Mechanical interlock (can be removed if necessary)

3RA22 load feeder for reversing duty and standard rail mounting in size S0 (the version with screw terminals is shown in the picture)

RH assembly kits for reversing duty and standard rail mounting in size S0, see page 8/51.

¹⁾ Contains two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-type terminals.

²⁾ Additionally two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-type terminals.

General data

Reversing duty • For standard rail mounting • Size S2

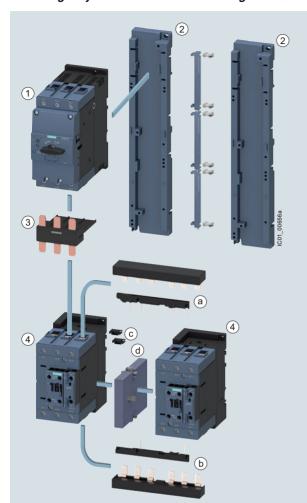


3RA22 load feeder for reversing duty and standard rail mounting in size S2 (the version with screw terminals is shown in the picture)

RH assembly kits for reversing duty and standard rail mounting in size S2, see page 8/51.

General data

Reversing duty • For standard rail mounting • size S3



Assembly kit (RH) for reversing duty and mounting onto standard rails in size \$3

3RA2943-1BB1

Comprising:

- · Wiring kit for the main and auxiliary circuits
- · Two standard mounting rail adapters
- · Three side modules
- Six connecting wedgesMechanical interlock
- · Two connectors for two contactors
- · Fixing accessories
- 1 Motor starter protector size S3
- (2) Standard mounting rail adapter 3RA2942-1AA00 with two side modules

3RA2902-1B

and four connecting wedges 8US1998-1AA00

- (3) Link module 3RA1941-1AA00
- (4) Contactor Size S3

Wiring kit

Screw terminals 3RA2943-2AA1

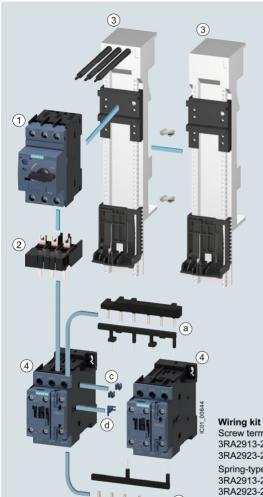
- (a) Upper wiring module
- (b) Lower wiring module
- © Two connectors for two contactors
- d Mechanical interlock 3RA2934-2B (not part of the wiring kit, must be ordered separately)

3RA22 load feeder for reversing duty and standard rail mounting in size S3 (the version with screw terminals is shown in the picture)

RH assembly kits for reversing duty and standard rail mounting in size S3, see page 8/51.

General data

Reversing duty • For 60 mm busbar systems • Sizes S00 and S0



Screw terminals 3RA2913-2AA1 for S00 3RA2923-2AA1 for S0

Spring-type terminals 3RA2913-2AA2 for S00 3RA2923-2AA2 for S0

- (a) Upper wiring module
- (b) Lower wiring module
- (c) Two connecting clips for two contactors
- Mechanical interlock (d) (can be removed if necessary)

RS assembly kit for reversing duty and busbar mounting in size S00/S0

Screw terminals

3RA2913-1DB1 for S00 3RA2923-1DB1 for S0

Spring-type terminals 3RA2913-1DB2 for S00 3RA2923-1DB2 for S0¹⁾

Comprising:

- · Wiring kit for the main and auxiliary circuits
- · Busbar adapter
- Device holder
- · Two connecting wedges
- · Mechanical interlock
- · Two connecting clips for two contactors
- Fixing accessories

(1) Motor starter protector

Size S00/S0

Screw terminals/spring-type terminals

(2) Link module

Screw terminals 3RA1921-1DA00 for S00

3RA2921-1AA00 for S0, AC contactor 3RA2921-1BA00 for S0, DC contactor

Spring-type terminals 3RA2911-2AA00 for S00 3RA2921-2AA00 for S02)

(3) 60 mm busbar adapter

Screw terminals 8US1251-5DS10 for S00/S0 8US1251-5NT10 for S0

Spring-type terminals 8US1251-5DT11 for S00/S0 8US1251-5NT11 for S0

2 connecting wedges 8US1998-1AA00

60 mm device holder

8US1250-5AS10 or 8US1250-5AT10 (according to left adapter)

(4) Contactor

Size S00/S0

Screw terminals/spring-type terminals

1) Contains two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-type terminals.

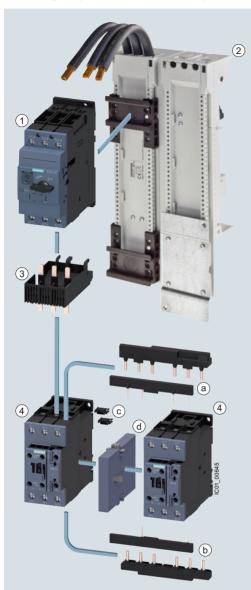
2) Additionally two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-type terminals.

3RA22 load feeder for reversing duty and 60 mm busbar (the version with screw terminals is shown in the picture)

RS assembly kits for reversing duty and busbar mounting in size S00/S0, see page 8/53.

General data

Reversing duty • For 60 mm busbar systems • size S2



RS assembly kit for reversing duty and busbar mounting in size S2

3RA2933-1DB1

Comprising:

- · Wiring kit for the main and auxiliary circuits
- · Busbar adapter
- Mechanical interlock
- Two connectors for two contactors
- · Fixing accessories
- 1 Motor starter protector Size S2

Screw terminals

2 Busbar adapter 60 mm

8US1211-6MT10

- (3) Link module 3RA2931-1AA00 Screw terminals
- (4) Contactor Size S2

Screw terminals

Wiring kit

Screw terminals 3RA2933-2AA1

- (a) Upper wiring module
- (b) Lower wiring module
- © Two connectors for two contactors
- d Mechanical interlock 3RA2934-2B (not part of the wiring kit, must be ordered separately)

3RA22 load feeder for reversing duty and 60 mm busbar in size S2 (the version with screw terminals is shown in the picture)

RS assembly kits for reversing duty and busbar mounting in size S2, see page 8/53.

General data

Article No. scheme

Product versions		Article number						
SIRIUS load feeders		3RA2 □ □ 0 -			- 🗆			
Product function	Direct-on-line starter Reversing starter	1 2						For motor standard output 0.06 45 kW For motor standard output 0.06 45 kW
Size	\$00 \$0 e.g. 3 = \$2 e.g. 5 = \$2	1 2 □						at $I_{\rm q}$ = 100 kA at 400 V at $I_{\rm q}$ = 150 kA at 400 V
Setting range of the overload release	e.g. 0B = 0.14 0.2 A							
Assembly, assembly type, connection method	e.g. A = S00, S0, S2]				Direct mounting, screw terminals
Contactor size, rated power at 400 V AC	e.g. 15 = S00/3 kW							
Version Auxiliary switches on the contactor	e.g. 0 = S0, S2 e.g. 1 = S00 e.g. 2 = S00							1 NO + 1 NC integrated in contactor 1 NO integrated in contactor 1 NC integrated in contactor
Operating range of solenoid coil (contactor)	e.g. A = S00, S0, S2							AC 0.8 x <i>U</i> _{s min} 1.1 x <i>U</i> _{s max} , standard coil without RC circuit
Rated control supply voltage (contactor)	230 V AC 24 V DC						0 4	50/60 Hz AC for S00, 50 Hz AC for S0 S3
Example		3RA2 1 1 0 -	0 B A	1 5	- 1	A P	0	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

The 3RA2 fuseless load feeders offer a number of benefits:

- Minimum planning and assembly work and far less wiring with the preassembled complete units (only one article number 3RA2)
- Plug-in connectors from the motor starter protector to all types of SIRIUS controls, for quicker and error-free assembly of feeders with screw and spring-type terminals
- High planning reliability through consistent combination tests for fuseless and fused configuration in accordance with IEC and UL/CSA
- Comprehensive approvals for use world-wide on request; see page 16/6 onwards.

- High operational reliability through short-circuit breaking capacity of 150 kA with type of coordination "1" and "2"
- Uniform accessories for sizes S00, S0, S2 and S3
- Spring-type terminals possible throughout: Enhanced operational reliability (vibration-resistant wiring) and less wiring work thanks to plug-in connections (S00 and S0 only)
- Power loss 5 to 10% smaller than for comparable devices, hence lower energy consumption
- Connection of feeders to the control system through standardized system connection (IO-Link and AS-i), for fast integration in TIA and less wiring work

General data

Technical specifications

More information	
Industry Mall, see www.siemens.com/product?3RA2	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16289/faq
Manual, see https://support.industry.siemens.com/cs/ww/en/view/60284351	
Configuration Manual, see https://support.industry.siemens.com/cs/ww/en/view/39714188.	

Direct-on-line starters/ reversing starters			Mounting	Control voltage	Width W	Height H	Depth D
					mm	mm	mm
Mounting dimensions							
Direct-on-line starters	S00	Screw terminals	Standard mounting rails	AC/DC	45	167	97
3RA21.	3RA211.		Busbar adapters	AC/DC	45	200	155
(Size S3 or larger is only		Spring-type terminals	Standard mounting rails	AC/DC	45	198	97
available for self-assembly)			Busbar adapters	AC/DC	45	260	155
	S0	Screw terminals	Standard mounting rails	AC	45	193	97
	3RA212.			DC	45	193	107
17 1万			Busbar adapters	AC	45	260	155
↑ W O				DC	45	260	165
 · · · / ·		Spring-type terminals	Standard mounting rails	AC/DC	45	243	107
			Busbar adapters	AC/DC	45	260	165
	S2	Screw terminals	Standard mounting rails	AC/DC	55	274	150
	3RA213./3RA215.		Busbar adapters	AC/DC	55	350	208
	S3 (self-assembly only)	Screw terminals	Standard mounting rail adapters	AC/DC	70	333	198
Reversing starters	S00	Screw terminals	Standard mounting rails	AC/DC	90	170	97
3RA22.	3RA221.		Busbar adapters	AC/DC	90	200	155
(Size S2 or larger is only		Spring-type terminals	Standard mounting rails	AC/DC	90	204	97
available for self-assembly)			Busbar adapters	AC/DC	90	260	155
	S0	Screw terminals	Standard mounting rail	AC	90	265	120.3
	3RA222.		adapters	DC	90	265	130
			Busbar adapters	AC	90	260	155
				DC	90	260	165
		Spring-type terminals	Standard mounting rail adapters	AC/DC	90	270	131
			Busbar adapters	AC/DC	90	260	165
	S2	Screw terminals	Standard mounting rail	AC/DC	120	295	175
	(self-assembly only)		Busbar adapters	AC/DC	120	361	208
	S3 (self-assembly only)	Screw terminals	Standard mounting rail adapters	AC/DC	150	333	198

Туре		3RA2.1	3RA2.2	3RA213, 3RA215	For self-assembly
Size Number of poles		S00 3	S0 3	S2 3	S3 3
Mechanics and environment					
Permissible ambient temperature • During operation • During storage and transport	°C °C	-20 +60 -55 +80			
Weight	kg	0.6 1.5	0.8 2.3	2.2 2.5	4.0 4.2
Permissible mounting position		90° 90°	2,5° 22,5°	mand "I" at the right o	or too
Shock resistance	Acc. to IEC 60068-2-27 g/ms	6/11 (sine pulse)	JIN 43002 Start Com	mand ratthe nght	On request
Degree of protection	Acc. to IEC 60529	IP20		IP20 on front side Connecting termi)
Touch protection	Acc. to IEC 60529	Finger-safe		Finger-safe, for vert from the front	tical contact

General data

Туре			3RA2.1	3RA2.2	3RA213, 3RA215	For self-assembly			
Size Number of poles			S00 3	S0 3	S2 3	S3 3			
Electrical specifications			3	3	3	3			
Standards			• IEC 60947-1, EN	60947-1					
			(VDE 0660 Part 1						
			 IEC 60947-2, EN (VDE 0660 Part 1 						
			 IEC 60947-4-1, E (VDE 0660 Part 1 						
		Α	16	32	65	100			
Rated operational voltage $U_{\rm e}$		V	690						
Rated frequency		Hz	50/60						
Rated insulation voltage <i>U</i> _i (pollution degree 3)		V	690						
Rated impulse withstand voltage U_{imp}		kV	6						
Trip class (CLASS)	Acc. to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)		10						
Rated short-circuit current $I_{\rm q}$ at AC 50/60 Hz 400 V	Acc. to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	kA	150		3RA213: 100 3RA215: 150	With 3RV2041: 100 With 3RV2042: 150			
Types of coordination	Acc. to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)		See "Selection and	ordering data", pag	e 8/21 onwards				
Power loss P _v of all main current paths			See technical spec	cifications of the indiv	vidual devices:				
Dependent on rated current $I_{\rm n}$ (upper setting range)			onwards	es – Contactors and $ ilde{}$ ment" $ o$ "Motor star		es", page 3/23 breakers", page 7/19			
Power consumption of the solenoid coils	with contactors			cifications of the conf	actor, from page 3/2	23 onwards			
Magnetic coil operating range with conta	ctors		See technical specifications of the contactor, from page 3/23 onwards						
Endurance of the motor starter protector									
Mechanical endurance	Operating cycles		100 000		Up to 52 A: 50 000				
Electrical enduranceMax. switching frequency per hour (motor	Operating cycles	1/h	100 000 15		From 59 A: 20 000	25 000			
Endurance of contactor	otario)	.,							
Mechanical endurance Electrical endurance	Operating cycles Operating cycles		30 million See endurance cha	10 million aracteristic curves o	f the contactors, pac	ne 3/23 onwards			
Phase failure sensitivity of the motor starter protector	Acc. to IEC 60947-1, EN 60947-1 (VDE 0660 Part 102)		✓		71.5				
Isolating features of the motor starter protector	Acc. to IEC 60947-2, EN 60947-2 (VDE 0660 Part 101)		1						
Main and EMERGENCY STOP switch characteristics of the motor starter protector and accessories	Acc. to IEC 60204-1, EN 60204-1 (VDE 0113 Part 1)		(with overvoltage runder conditions o	eleases of category f proper use)	11"				
Protective separation between main and auxiliary circuits	Acc. to EN 60947-1, Appendix N	V	Up to 400						
Mirror contacts for contactors Integrated auxiliary switches			✓ acc. to IEC 60947-	4-1, Appendix F					

[✓] Function available

General data

Conductor cross-sections of main circuit						
Туре		3RA2.10	3RA2.20	3RA2130-4E, 3RA2130-4P, 3RA2130-4U, 3RA2130-4V	3RA2130-4W, 3RA2130-4X, 3RA2130-4J, 3RA2130-4K, 3RA2150	For self-assembly
Size		S00	S0	S2		S3
Connection type		Screw term	inals			Screw terminals with box terminal
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2		4 mm Allen screw
Operating devices	mm	Ø 5 6	Ø 5 6	Ø 5 6		Allen screw
Prescribed tightening torque	Nm	0.8 1.2	2 2.5	3.0 4.5		4.5 6
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
Solid or stranded	mm ²	$2 \times (0.75 \dots 2.5)^{1)}$, $2 \times (0.5 \dots 1.5)^{1)}$, only for contactor 2×4	2 x (1 2.5) ¹⁾ 2 x (2.5 10) ¹	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (1 35) ¹⁾ , 1 x (1 50) ¹⁾	2 x (2.5 16) ¹⁾ 2 x (10 50) ¹⁾ 1 x (10 70) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 1.5) ¹⁾ 2 x (0.75 2.5) ¹⁾	2 x (1 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 1 x 10	2 x (1 16) ¹⁾ , 1 x (1 25) ¹⁾	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (2.5 35) ¹⁾ 1x (2.5 50) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ , only for contactor 2 x (18 14) ¹⁾ 2 x 12	2 x (16 12) ¹⁾ , 2 x (14 8) ¹⁾	2 x (18 3) ¹⁾ , 1 x (18 2) ¹⁾	2 x (18 2) ¹⁾ , 1 x (18 1) ¹⁾	2 x (10 1/0) ¹⁾ 1x (10 2/0) ¹⁾
• Ribbon cable conductors (Number x Width x Thickness	ess) mm					2 x (6 x 9 x 0.8)
Connection type		Spring-type □	terminals			
Operating devices	mm	3.0 x 0.5 and 3.5 >	0.5			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
Solid or stranded	$\rm mm^2$	2 x (0.5 4)	2 x (1 10)			
 Finely stranded without end sleeve 	mm^2	2 x (0.5 2.5)	2 x (1 6)			
• Finely stranded with end sleeve (DIN 46228-11)	mm^2	2 x (0.5 2.5)	2 x (1 6)			
 AWG cables, solid or stranded 	AWG	2 x (20 12)	2 x (18 8)			
Max. external diameter of the conductor insulation	mm	3.6	3.6			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Conductor cross-sections for auxiliary and control circuits

Туре		3RA2110 3RA2210	3RA2120 3RA2220	3RA2130 3RA2150	For self-assembly		
Size		S00	S0	S2	S3		
Connection type	Screw termin	nals					
Terminal screw		M3, Pozidriv size 2					
Operating devices	mm	Ø 5 6					
Prescribed tightening torque	Nm	0.8 1.2					
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected							
Solid or stranded	2 x (0.5 1.5) ¹⁾ , 2	2 x (0.5 1.5) ¹⁾ , 2 x (0.75 2.5) ¹⁾					
 Finely stranded with end sleeve (DIN 46228-1) 	mm^2	2 x (0.5 1.5) ¹⁾ , 2	x (0.75 2.5) ¹⁾				
 AWG cables, solid or stranded 	AWG	2 x (18 14) ¹⁾ , 2 x	(20 16) ¹⁾ , 2 x 1	2 for contactor S00 only			
Connection type		Spring-type	terminals				
Operating devices	mm	3.0 x 0.5 and 3.5 x	0.5				
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected							
Solid or stranded	$\rm mm^2$	2 x (0.5 2.5)					
 Finely stranded without end sleeve 	$\rm mm^2$	2 x (0.5 2.5)					
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 x (0.5 1.5)					
 AWG cables, solid or stranded 	AWG	2 x (20 14)					
Max. external diameter of the conductor insulation	3.6						
1) 16 1 166 1 1 1 1 1 1 1 1 1 1 1 1 1 1							

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Direct-on-line start

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

IE3/IE4 ready 3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing

Selection and ordering data

7

3RA2150

Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0, S2 and S3

With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- · Integrated auxiliary switches: Contactor size S00: 1 NO,

Contactor sizes S0, S2 and S3: 1 NO + 1 NC

Size	Standard phase m 4-pole at 400 V AC	otor	Adjustable current response value of the inverse-time delayed	Comprising single devi	g the followir ces	ıg	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current I (guide value)	overload release	Motor starter protector	+ Contactor	+ Link module + Mounting rail adapter		Screw terminals	+			
	kW	A	G A				d	Article No.	Basic price per PU			

Type	of coordination	n "2"	at $I_{\alpha} =$	150 kA	at 400 V
(also	compatible with	type	of coor	dination	"1")

3RA2120

3RA2110

				3RV20	3RT20	3RA		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP01		2 2 2	3RA2110-0BA15-1AP0 3RA2110-0CA15-1AP0 3RA2110-0DA15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			2 2 2	3RA2110-0EA15-1AP0 3RA2110-0FA15-1AP0 3RA2110-0GA15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			2 2 2	3RA2110-0HA15-1AP0 3RA2110-0JA15-1AP0 3RA2110-0KA15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			2 2 2	3RA2110-1AA15-1AP0 3RA2110-1BA15-1AP0 3RA2110-1CA15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			2 2	3RA2110-1DA15-1AP0 3RA2110-1EA15-1AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1AP00		2 2 2 2 2	3RA2120-1FA24-0AP0 3RA2120-1GA24-0AP0 3RA2120-1HA24-0AP0 3RA2120-1JA24-0AP0 3RA2120-1KA24-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15 15	15.5 15.5 22 22 28 29 ⁴⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1AP00 27-1AP00		2 5 2 2 2 2	3RA2120-4AA26-0AP0 3RA2120-4BA27-0AP0 3RA2120-4CA27-0AP0 3RA2120-4DA27-0AP0 3RA2120-4NA27-0AP0 3RA2120-4EA27-0AP0	1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D
S2	15 18.5 18.5	29 35 35	22 32 28 36 32 40	32-4EA10 32-4PA10 32-4UA10	35-1AP00		2 2 2	3RA2150-4EA35-0AP0 3RA2150-4PA35-0AP0 3RA2150-4UA35-0AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	22 22	41 41	35 45 42 50	32-4VA10 32-4WA10	36-1AP00		2 2	3RA2150-4VA36-0AP0 3RA2150-4WA36-0AP0	1 1	1 unit 1 unit	41D 41D
	30 30	55 55	49 59 54 65	32-4XA10 32-4JA10	37-1AP00		2	3RA2150-4XA37-0AP0 3RA2150-4JA37-0AP0	1 1	1 unit 1 unit	41D 41D
	37 ⁵⁾	66	62 75	32-4KA10	38-1AP00		2	3RA2150-4KA38-0AP0	1	1 unit	41D

Size S3 available on request

1) For push-in lugs, see "Accessories" on page 8/51.

Size S3 is only available for self-assembly

²⁾ For auxiliary switches, see "Accessories" on page 8/44. 3) The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing IE3/IE4 ready





Rated control supply voltage 50/60 Hz 230 V AC for S00 With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- Integrated auxiliary switches: Contactor size S00: 1 NO

Size	Standard phase m 4-pole at 400 V AC	otor t	Adjustable current response value of the inverse-time delayed	Comprising single devi	g the followir ces	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current I (guide value)	overload	Motor starter protector	+ Contactor	+ Link module + Mounting rail adapter		Screw terminals	+			
	kW	А	了 A				d	Article No.	Basic price per PU			

Type of coordination "1	" at $I_{\rm cr} = 150$ kA at 400 V
(motor starter protector is	composible with tupe of coore

(motor starter protector is compatible with type of coordination "2")

				3RV20	3RT20	3RA			ToC 1			
S00	For loa	d feeders	s for lower outpu	ts, see this tabl	e at type of c	coordination "2".						
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP01	1921-1DA00 2	2	3RA2110-1FA15-1AP0 3RA2110-1GA15-1AP0 3RA2110-1HA15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP01 17-1AP01 18-1AP01	2	2	3RA2110-1JA16-1AP0 3RA2110-1KA17-1AP0 3RA2110-4AA18-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

IE3/IE4 ready 3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing





Rated control supply voltage 50 Hz 230 V AC for S2 and S3 With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
 Contactor sizes S2 and S3: 1 NO + 1 NC

Size	phase motor 4-pole at 400 V AC ³⁾ current response value of the inverse- time delayed		response value of the inverse-	Comprising single devi	g the followir ces	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P		overload release	Motor starter protector	+ Contactor	+ Link module + Mounting rail adapter		Screw terminals	1			
	kW	А	G A				d	Article No.	Basic price per PU			

Type of coordina	ation "2" at $I_{f lpha}$	_ı = 100 kA at 4	00 V
(motor starter pro	tector is comp	atible with type	of coordination "2

				3RV20	3RT20	3RA	ToC 2			
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	31-4EA10 31-4PA10 31-4UA10 31-4VA10 31-4WA10	35-1AP00 36-1AP00	2931-1AA00 2 2 2 2 2 2	3RA2130-4EA35-0AP0 3RA2130-4PA35-0AP0 3RA2130-4UA35-0AP0 3RA2130-4VA36-0AP0 3RA2130-4WA36-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	30 30 37 ⁴⁾	55 55 66	49 59 54 65 62 73	31-4XA10 31-4JA10 31-4KA10	37-1AP00 38-1AP00	2 2 2	3RA2130-4XA37-0AP0 3RA2130-4JA37-0AP0 3RA2130-4KA38-0AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

S3 Size S3 available on request

Size S3 is only available for self-assembly

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing IE3/IE4 ready



3RA2110





Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-type terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

Size	Standard three- phase motor 4-pole at 400 V AC ³⁾ Adjustable current response value of the inverse- time delayed		Comprising the following single devices				Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG	
		Motor current <i>I</i> (guide value)	overload '	Motor starter protector	+ Contactor	+ Link module		Spring-type terminals				
			<u></u>					Article No.	Basic price			

Type o	of coordi ompatible	nation " e with ty	2" at I_q = 150 pe of coordinati	kA at 400 V on "1")								
				3RV20	3RT20	3RA29			ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP01	11-2AA00	2 2 2	3RA2110-0BE15-1AP0 3RA2110-0CE15-1AP0 3RA2110-0DE15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			2 2 2	3RA2110-0EE15-1AP0 3RA2110-0FE15-1AP0 3RA2110-0GE15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			2 2 2	3RA2110-0HE15-1AP0 3RA2110-0JE15-1AP0 3RA2110-0KE15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			2 2 2	3RA2110-1AE15-1AP0 3RA2110-1BE15-1AP0 3RA2110-1CE15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			2 2	3RA2110-1DE15-1AP0 3RA2110-1EE15-1AP0		1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00	5 5 5 5 5	3RA2120-1FE24-0AP0 3RA2120-1GE24-0AP0 3RA2120-1HE24-0AP0 3RA2120-1JE24-0AP0 3RA2120-1KE24-0AP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28 29 ⁴⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA20 21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	26-2AP00 27-2AP00		2 5 2 2 2 2	3RA2120-4AE26-0AP0 3RA2120-4BE27-0AP0 3RA2120-4CE27-0AP0 3RA2120-4DE27-0AP0 3RA2120-4NE27-0AP0 3RA2120-4EE27-0AP0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D
Type o	f coordi starter p	nation "	1" at $I_{ m q}$ = 150 is compatible w	kA at 400 V	oordination	"2")						-
S00			for lower outputs	* *)".		ToC 1			

11-2AA00

2

3RA2110-1FE15-1AP0

3RA2110-1GE15-1AP0

3RA2110-1HE15-1AP0

3RA2110-1JE16-1AP0 3RA2110-1KE17-1AP0

3RA2110-4AE18-1AP0

11-1JA20 11-1KA20 4 8.5 7 ... 10 11.5 5.5 9 ... 12 15.5

1) For push-in lugs, see "Accessories" on page 8/51.

3.6

4.9

6.5

1.5

2.2

7.5

3

3.5 ... 5

4.5 ... 6.3

5.5 ... 8

10 ... 16

11-1FA20

11-1GA20

11-1HA20

11-4AA20

15-2AP01

16-2AP01

17-2AP01

18-2AP01

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

41D

41D

41D

41D

41D

41D

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

IE3/IE4 ready 3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing









Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular

 Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor sizes S0, S2 and S3: 1 NO + 1 NC

Size	Standard three- phase motor current 4-pole at response value 400 V AC ³⁾ of the inverse- time delayed			Comprising the following single devices Motor + Contactor + Link				Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
			overload release	Motor starter protector	arter module			Screw terminals	+			
	4								Basic			

	kW	Α	Α			d	per PL	
Type	of coordi	nation '	'2" at I _q = 150 pe of coordinati	kA at 400 V				
(also t	Jompatibi	e with ty	pe or coordinati	3RV20	3RT20	3RA	ToC 2	
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB41	1921-1DA00 2 2 2	3RA2110-0BA15-1BB4 3RA2110-0CA15-1BB4 3RA2110-0DA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10		2 2 2	3RA2110-0EA15-1BB4 3RA2110-0FA15-1BB4 3RA2110-0GA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10		2 2 2	3RA2110-0HA15-1BB4 3RA2110-0JA15-1BB4 3RA2110-0KA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10		2 2 2	3RA2110-1AA15-1BB4 3RA2110-1BA15-1BB4 3RA2110-1CA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10		2 2	3RA2110-1DA15-1BB4 3RA2110-1EA15-1BB4	1 1 unit 41D 1 1 unit 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00 2 2 2 2 2 2	3RA2120-1FA24-0BB4 3RA2120-1GA24-0BB4 3RA2120-1HA24-0BB4 3RA2120-1JA24-0BB4 3RA2120-1KA24-0BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	7.5 7.5 11 11 15 15	15.5 15.5 22 22 28 29 ⁴⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1BB40 27-1BB40	2 5 2 2 2 2	3RA2120-4AA26-0BB4 3RA2120-4BA27-0BB4 3RA2120-4CA27-0BB4 3RA2120-4DA27-0BB4 3RA2120-4DA27-0BB4 3RA2120-4BA27-0BB4	1 1 unit 41D 1 1 unit 41D
S2	15 18.5 18.5 22 22 30	29 35 35 41 41 55	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30 37-1NB30	2931-1AA00 2 2 2 2 2 2 2	3RA2150-4EA35-0NB3 3RA2150-4PA35-0NB3 3RA2150-4UA35-0NB3 3RA2150-4VA36-0NB3 3RA2150-4WA36-0NB3 3RA2150-4WA37-0NB3	1 1 unit 41D 1 1 unit 41D
	30 37 ⁵⁾	55 66	54 65 62 73	32-4JA10 32-4KA10	38-1NB30	2 2	3RA2150-4JA37-0NB3 3RA2150-4KA38-0NB3	1 1 unit 41D 1 1 unit 41D

S3 Size S3 available on request Size S3 is only available for self-assembly

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing IE3/IE4 ready





Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible 1)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- Integrated auxiliary switches: Contactor size S00: 1 NO

Size	400 V AC ³⁾ of the inverse- time delayed		current response value of the inverse-	Comprising single devi	g the followir ces	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current I (guide value)	overload '	Motor starter protector	+ Contactor	+ Link module + Mounting rail adapter		Screw terminals	+			
	kW	А	G A				d	Article No.	Basic price per PU			

Type of coordination	"1" at I_{α} = 150 kA at 400 V	
(motor starter protecto	r is compatible with type of coordination "2")	

S00	For loa	ad feeders	for lower outpu	ts, see this table	e at type of c	coordination "2".	ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB41	1921-1DA00 2 2 2	3RA2110-1FA15-1BB4 3RA2110-1GA15-1BB4 3RA2110-1HA15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB41 17-1BB41 18-1BB41	2 2 2	3RA2110-1JA16-1BB4 3RA2110-1KA17-1BB4 3RA2110-4AA18-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

 $^{^{\}rm 1)}$ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

The actual starting and rated data of the motor to be protected must be considered when selecting the units.

IE3/IE4 ready 3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing





ordination "2")

Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
 The motor starter protector and contactor are mechani-
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- Integrated auxiliary switches: Contactor sizes S2 and S3: 1 NO + 1 NC

Size	phase m 4-pole a	Standard three- phase motor 4-pole at response value 400 V AC ³⁾ of the inverse- time delayed		Comprising single devi	g the followir ces	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P		overload release	Motor starter protector	+ Contactor	+ Link module		Screw terminals	1			
	kW	А	5				d	Article No.	Basic price per PU			

ı	Type of	coord	lination	"2"	at I_{α}	= 100) kA	at 40	0 V
ı	(motor s	tarter i	protector	is c	compa	atible	with	type	of co

				3RV20	3RT20	3RA	ToC 2			
S2	15	29	22 32	31-4EA10	35-1NB30	2931-1AA00 2	3RA2130-4EA35-0NB3	1	1 unit	41D
	18.5	35	28 36	31-4PA10		2	3RA2130-4PA35-0NB3	1	1 unit	41D
	18.5	35	32 40	31-4UA10		2	3RA2130-4UA35-0NB3	1	1 unit	41D
	22	41	35 45	31-4VA10	36-1NB30	2	3RA2130-4VA36-0NB3	1	1 unit	41D
	22	41	42 50	31-4WA10		2	3RA2130-4WA36-0NB3	1	1 unit	41D
	30	55	49 59	31-4XA10	37-1NB30	2	3RA2130-4XA37-0NB3	1	1 unit	41D
	30	55	54 65	31-4JA10		2	3RA2130-4JA37-0NB3	1	1 unit	41D
	37 ⁴⁾	66	62 73	31-4KA10	38-1NB30	2	3RA2130-4KA38-0NB3	1	1 unit	41D

Size S3 available on request

Size S3 is only available for self-assembly

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing IE3/IE4 ready







Rated control supply voltage 24 V DC With spring-type terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

3RA2120-4CE27-0BB4

3RA2120-4DE27-0BB4

3RA2120-4NE27-0BB4 3RA2120-4EE27-0BB4

Size		otor (3) Motor current I	Adjustable current response value of the inverse- time delayed overload release	Comprising single deviation Motor starter protector	y the following	SD	Fuseless load feeder Spring-type terminals	○	PU (UNIT, SET, M)	PS*	PG
	L\N/	Δ	<u></u>			d	Article No.	Basic price per PU			

			' 2" at $I_{ m q}$ = 150 pe of coordinat								
				3RV20	3RT20	3RA29		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2BB41	11-2AA00	2 2 2	3RA2110-0BE15-1BB4 3RA2110-0CE15-1BB4 3RA2110-0DE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			2 2 2	3RA2110-0EE15-1BB4 3RA2110-0FE15-1BB4 3RA2110-0GE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			2 2 2	3RA2110-0HE15-1BB4 3RA2110-0JE15-1BB4 3RA2110-0KE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			2 2 2	3RA2110-1AE15-1BB4 3RA2110-1BE15-1BB4 3RA2110-1CE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			2 2	3RA2110-1DE15-1BB4 3RA2110-1EE15-1BB4	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2BB40	21-2AA00	5 5 5 5 5	3RA2120-1FE24-0BB4 3RA2120-1GE24-0BB4 3RA2120-1HE24-0BB4 3RA2120-1JE24-0BB4 3RA2120-1KE24-0BB4	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2BB40		2 5	3RA2120-4AE26-0BB4	1	1 unit	41D
	7.5	15.5	13 20	21-4BA20	27-2BB40		5	3RA2120-4BE27-0BB4	1	1 unit	41D

15	29 ⁴⁾	27 32	21-4EA20	
			60 kA at 400 V	rdination "?")

21-4CA20

21-4DA20

21-4NA20

21-4EA20

16 ... 22

18 ... 25

23 ... 28

(1110101	starter p		13 compatible	With type of co								
S00	For loa	ad feeders	for lower outpu	ts, see this tabl	e at type of c		ToC 1					
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2BB41	11-2AA00	2 2 2	3RA2110-1FE15-1BB4 3RA2110-1GE15-1BB4 3RA2110-1HE15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA20 11-1KA20 11-4AA20	16-2BB41 17-2BB41 18-2BB40		2 2 2	3RA2110-1JE16-1BB4 3RA2110-1KE17-1BB4 3RA2110-4AE18-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

2 2 2

11

15

22

22

28 29⁴⁾

1 unit

1 unit

1 unit

1 unit

41D

41D

41D

41D

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

IE3/IE4 ready 3RA21 direct-on-line starters for 60 mm busbars

Selection and ordering data









Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 and S2 With screw terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
 Auxiliary switches¹⁾ on the motor starter protector and the
- contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO

Contactor sizes S0 and S2: 1 NO + 1 NC

Size Standard three phase motor 4-pole at 400 V AC ²)		Adjustable current response value	Comprising the following single devices			SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- Motor	of the inverse- time delayed overload I release	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Screw terminals	(1)			
		4					Article No.	Basic price			

	kW	Α	Α				d	per PU			
Type (also d	of coordi	ination ' le with ty	" 2" at $I_{ m q}$ = 150 ppe of coordinati	kA at 400 V on "1")							
				3RV20	3RT20	3RA		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP01	1921-1DA00 + 8US1251- 5DS10	2 2 2	3RA2110-0BD15-1AP0 3RA2110-0CD15-1AP0 3RA2110-0DD15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			2 2 2	3RA2110-0ED15-1AP0 3RA2110-0FD15-1AP0 3RA2110-0GD15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			2 2 2	3RA2110-0HD15-1AP0 3RA2110-0JD15-1AP0 3RA2110-0KD15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			2 2 2	3RA2110-1AD15-1AP0 3RA2110-1BD15-1AP0 3RA2110-1CD15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			2	3RA2110-1DD15-1AP0 3RA2110-1ED15-1AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1AP00	2921-1AA00 + 8US1251- 5DT10	2 2 2 2 2	3RA2120-1FD24-0AP0 3RA2120-1GD24-0AP0 3RA2120-1HD24-0AP0 3RA2120-1JD24-0AP0 3RA2120-1KD24-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15 15	15.5 15.5 22 22 28 29 ³⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1AP00 27-1AP00	2921-1AA00 + 8US1251- 5NT10	2 5 2 2 2	3RA2120-4AD26-0AP0 3RA2120-4BD27-0AP0 3RA2120-4CD27-0AP0 3RA2120-4DD27-0AP0 3RA2120-4ND27-0AP0 3RA2120-4DD27-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D
S 2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1AP00 36-1AP00	2931-1AA00 + 8US1261- 6MT10		Size S2 is only available for self-ass	embly.		

Type of coordination "1	" at $I_{\rm cr}$ = 150 kA at 400 V	
(motor starter protector is	compatible with type of coordination "2")	

49 ... 59

54 ... 65 62 ... 73

(1110)	ioi startei p	notector	is companible	with type of cc								
S00		ad feeders nation "2".	s for lower outpu	ts, see this table	e at type of		ToC 1					
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP01	1921-1DA00 + 8US1251- 5DS10	2 2 2	3RA2110-1FD15-1AP0 3RA2110-1GD15-1AP0 3RA2110-1HD15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP01 17-1AP01 18-1AP01		2 2 2	3RA2110-1JD16-1AP0 3RA2110-1KD17-1AP0 3RA2110-4AD18-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

37-1AP00

38-1AP00

32-4XA10

32-4.IA10 32-4KA10

30

30 37⁴⁾

55

55 66

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA21 direct-on-line starters for 60 mm busbars IE3/IE4 ready



3RA2110





Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-type terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

Size	Standard phase m 4-pole a 400 V AC	notor t	Adjustable current response value of the inverse-time delayed		Comprising the following single devices		SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P		overload release	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Spring-type terminals	8			
	kW	Α	了 A				d	Article No.	Basic price per PU			

					_
Type of	f coordination	"2" at $I_{q} =$	150 kA	at 400 \	/
(also co	mnatible with t	vne of coor	dination	"1")	

				3RV20	3RT20	3RA29		ToC 2]		
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP01	11-2AA00 + 8US1251- 5DT11	2 2 2	3RA2110-0BH15-1AP0 3RA2110-0CH15-1AP0 3RA2110-0DH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			2 2 2	3RA2110-0EH15-1AP0 3RA2110-0FH15-1AP0 3RA2110-0GH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			2 2 2	3RA2110-0HH15-1AP0 3RA2110-0JH15-1AP0 3RA2110-0KH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			2 2 2	3RA2110-1AH15-1AP0 3RA2110-1BH15-1AP0 3RA2110-1CH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			2	3RA2110-1DH15-1AP0 3RA2110-1EH15-1AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00 + 8US1251- 5NT11 ³⁾	5 5 5 5	3RA2120-1FH24-0AP0 3RA2120-1GH24-0AP0 3RA2120-1HH24-0AP0 3RA2120-1JH24-0AP0 3RA2120-1KH24-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2AP00		2	3RA2120-4AH26-0AP0	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁴⁾	13 20 16 22 18 25 23 28 27 32	21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	27-2AP00		5 2 2 2 2	3RA2120-4BH27-0AP0 3RA2120-4CH27-0AP0 3RA2120-4DH27-0AP0 3RA2120-4NH27-0AP0 3RA2120-4EH27-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D

Type of coordination "1" at I_{q} = 150 kA at 400 V

(motor s	starter p	rotector	is compatible	with type of co								
S00	For loa	ad feeders	for lower outpu	ts, see this tabl	e at type of c	oordination "2".			T _o C 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2AP01	11-2AA00 + 8US1251- 5DT11	2 2 2	3RA2110-1FH15-1AP0 3RA2110-1GH15-1AP0 3RA2110-1HH15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA20 11-1KA20 11-4AA20	16-2AP01 17-2AP01 18-2AP01		2 2 2	3RA2110-1JH16-1AP0 3RA2110-1KH17-1AP0 3RA2110-4AH18-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

 $^{^{\}rm 3)}$ A 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals is included in the scope of supply.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

IE3/IE4 ready 3RA21 direct-on-line starters for 60 mm busbars









Rated control supply voltage 24 V DC With screw terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO.

Contactor sizes S0 and S2: 1 NO + 1 NC

Size	Standard phase m 4-pole at 400 V AC	otor	Adjustable current response value of the inverse-time delayed	Comprising single devi	g the followir ces	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P		overload release	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Screw terminals	+			
	k\N/	Δ					d	Article No.	Basic price per PU			

Type of coordination "2" at I_q = 150 kA at 400 V (also compatible with type of coordination "1")

		,	•	001/00	ODTOO	004					
				3RV20	3RT20	3RA		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB41	1921-1DA00 + 8US1251- 5DS10	2 2 2	3RA2110-0BD15-1BB4 3RA2110-0CD15-1BB4 3RA2110-0DD15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			2 2 2	3RA2110-0ED15-1BB4 3RA2110-0FD15-1BB4 3RA2110-0GD15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			2 2 2	3RA2110-0HD15-1BB4 3RA2110-0JD15-1BB4 3RA2110-0KD15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			2 2 2	3RA2110-1AD15-1BB4 3RA2110-1BD15-1BB4 3RA2110-1CD15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			2	3RA2110-1DD15-1BB4 3RA2110-1ED15-1BB4	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00 + 8US1251- 5DT10	2 2 2 2 2	3RA2120-1FD24-0BB4 3RA2120-1GD24-0BB4 3RA2120-1HD24-0BB4 3RA2120-1JD24-0BB4 3RA2120-1KD24-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15 15	15.5 15.5 22 22 28 29 ³⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1BB40 27-1BB40	2921-1BA00 + 8US1251- 5NT10	2 5 2 2 2	3RA2120-4AD26-0BB4 3RA2120-4BD27-0BB4 3RA2120-4CD27-0BB4 3RA2120-4DD27-0BB4 3RA2120-4ND27-0BB4 3RA2120-4ED27-0BB4	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D
S 2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30	2931-1AA00 + 8US1261- 6MT10		Size S2 is only available for self-ass	embly.		
	30 30 37 ⁴⁾	55 55 66	49 59 54 65 62 73	32-4XA10 32-4JA10 32-4KA10	37-1NB30 38-1NB30						

Type of coordination "1" at I_q = 150 kA at 400 V (motor starter protector is compatible with type of coordination "2")

S00	For loa	ad feeders	s for lower outpu	ts, see this table	e at type of c	oordination "2".		To 1	С			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB41	1921-1DA00 + 8US1251- 5DS10	2 2 2	3RA2110-1FD15-1BB4 3RA2110-1GD15-1BB4 3RA2110-1HD15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB41 17-1BB41 18-1BB41		2 2 2	3RA2110-1JD16-1BB4 3RA2110-1KD17-1BB4 3RA2110-4AD18-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA21 direct-on-line starters for 60 mm busbars IE3/IE4 ready





Type of coordination "2" at I = 150 kA at 400 V



Rated control supply voltage 24 V DC With spring-type terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

Size	Standard phase m 4-pole at 400 V AC	otor t	Adjustable current response value of the inverse-time delayed	Comprising single device	the followir	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current I (guide value)	overload '	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Spring-type terminals	8			
	kW	A	G A				d	Article No.	Basic price per PU			

			pe of coordinat									
				3RV20	3RT20	3RA29			ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2BB41	11-2AA00 + 8US1251- 5DT11	2 2 2	3RA2110-0BH15-1BB4 3RA2110-0CH15-1BB4 3RA2110-0DH15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			2 2 2	3RA2110-0EH15-1BB4 3RA2110-0FH15-1BB4 3RA2110-0GH15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			2 2 2	3RA2110-0HH15-1BB4 3RA2110-0JH15-1BB4 3RA2110-0KH15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			2 2 2	3RA2110-1AH15-1BB4 3RA2110-1BH15-1BB4 3RA2110-1CH15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			2	3RA2110-1DH15-1BB4 3RA2110-1EH15-1BB4		1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2BB40	21-2AA00 + 8US1251- 5NT11	5 5 5 5 5	3RA2120-1FH24-0BB4 3RA2120-1GH24-0BB4 3RA2120-1HH24-0BB4 3RA2120-1JH24-0BB4 3RA2120-1KH24-0BB4		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15 15	15.5 15.5 22 22 28 29 ³⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA20 21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	26-2BB40 27-2BB40		2 5 2 2 2 2	3RA2120-4AH26-0BB4 3RA2120-4BH27-0BB4 3RA2120-4CH27-0BB4 3RA2120-4DH27-0BB4 3RA2120-4NH27-0BB4 3RA2120-4EH27-0BB4		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D
Type	of coord	ination '	'1" at $I_{q} = 150$	kA at 400 V								

Type of coordination "1" at I_{α} = 150 kA at 400 V	
(motor starter protector is compatible with type of coordination "2")	

S00	For load feeder	s for lower	outputs,	see this	table at	type of co	oordination	"2".

S00	For loa	ad feeders	for lower outpu	ts, see this table	e at type of c	oordination "2".			ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2BB41	11-2AA00 + 8US1251- 5DT11	2 2 2	3RA2110-1FH15-1BB4 3RA2110-1GH15-1BB4 3RA2110-1HH15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA20 11-1KA20 11-4AA20	16-2BB41 17-2BB41 18-2BB40		2 2 2	3RA2110-1JH16-1BB4 3RA2110-1KH17-1BB4 3RA2110-4AH18-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

IE3/IE4 ready 3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing

Selection and ordering data

Reversing duty

Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0, S2 and S3

With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without standard mounting rail adapter for size S00
- With 2 standard mounting rail adapters for size S0 for mechanical reinforcement (included in the scope of (ylqque
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the confactor can be easily fitted thanks to the modular system.
- With contactor sizes S0, S2 and S3, an integrated NO contact is still available for free use.



Size Standard threephase motor 4-pole at 400 V AC³⁾

kW

Stand-Motor current I release ard output P (guide value)

Α

Adjustable current response value of the inversetime delayed overload

single devices Motor starter potectors

Comprising the following

+ 2 contactors

+ Link module + Assembly kit RH⁴⁾/ Wiring kit



price per PU

PS*

PG

Type of coordination "2" at $I_q = 150$ kA at 400 \ (also compatible with type of coordination "1")	Y
2DV20	

【二

Α

				3RV20	3RT20	3RA		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP02	1921-1DA00 2 + 2913-2AA1 2 2	31	RA2210-0BA15-2AP0 RA2210-0CA15-2AP0 RA2210-0DA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10		2 2 2	31	RA2210-0EA15-2AP0 RA2210-0FA15-2AP0 RA2210-0GA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10		2 2 2	31	RA2210-0HA15-2AP0 RA2210-0JA15-2AP0 RA2210-0KA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10		2 2 2	31	RA2210-1AA15-2AP0 RA2210-1BA15-2AP0 RA2210-1CA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10		2 2		RA2210-1DA15-2AP0 RA2210-1EA15-2AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1AP00	2921-1AA00 2 + 2923-1BB1 2 2 2 2 2	31 31	RA2220-1FB24-0AP0 RA2220-1GB24-0AP0 RA2220-1HB24-0AP0 RA2220-1JB24-0AP0 RA2220-1KB24-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA10	26-1AP00	2	31	RA2220-4AB26-0AP0	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁵⁾	13 20 16 22 18 25 23 28 27 32	21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	27-1AP00	5 2 2 2 2	31 31	RA2220-4BB27-0AP0 RA2220-4CB27-0AP0 RA2220-4DB27-0AP0 RA2220-4NB27-0AP0 RA2220-4EB27-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1AP00 36-1AP00	2931-1AA00 + 2933-1BB1	Si	Size S2 is only available for self-ass	embly.		
	30 30	55 55	49 59 54 65	32-4XA10 32-4JA10	37-1AP00						

S3 Size S3 available on request

1) For push-in lugs, see "Accessories" on page 8/51.

62 ... 73

32-4KA10 38-1AP00

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Size S3 is only available for self-assembly

⁴⁾ RH = assembly kit for reversing duty and standard rail mounting in sizes S0 and S2.

⁵⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

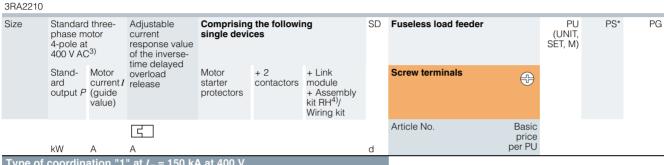
⁶⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing IE3/IE4 ready



Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without standard mounting rail adapter for size S00
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system



				3RV20	3RT20	3RA	ToC 2			
S00	For loa	ad feeders	for lower outpu	ts, see this table	e at type of c	coordination "2".	ToC 1			
S00	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP02	1921-1DA00 2 + 2913-2AA1 2 2	3RA2210-1FA15-2AP0 3RA2210-1GA15-2AP0 3RA2210-1HA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP02 17-1AP02 18-1AP02	2 2 2	3RA2210-1JA16-2AP0 3RA2210-1KA17-2AP0 3RA2210-4AA18-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = assembly kit for reversing duty and standard rail mounting in sizes \$0 and \$2.

IE3/IE4 ready 3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing





Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-type terminals

- Screw fixing with two push-in lugs per load feeder possible 1)
- Without standard mounting rail adapter for size S00
- With two standard mounting rail adapters for size S0 for mechanical reinforcement (included in the scope of
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standar phase r 4-pole a 400 V A	at	Adjustable current response value of the inverse-				SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current <i>I</i> (guide value)	time delayed overload release	Motor starter protector	+ 2 + Link module contactors + Assembly kit RH ⁴⁾ /Wiring kit			Spring-type terminals				
	kW	A	了 A				d	Article No.	Basic price per PU			

Type of coordination "2" at $I_{
m q}$ = 150 kA at 400 V (also compatible with type of coordination "1")

3RA2220

3RA2210

				3RV20	3RT20	3RA29		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP02	11-2AA00 + 2913-2AA2	2 2 2	3RA2210-0BE15-2AP0 3RA2210-0CE15-2AP0 3RA2210-0DE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			2 2 2	3RA2210-0EE15-2AP0 3RA2210-0FE15-2AP0 3RA2210-0GE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			2 2 2	3RA2210-0HE15-2AP0 3RA2210-0JE15-2AP0 3RA2210-0KE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			2 2 2	3RA2210-1AE15-2AP0 3RA2210-1BE15-2AP0 3RA2210-1CE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			2	3RA2210-1DE15-2AP0 3RA2210-1EE15-2AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00 + 2923-1BB2 ⁵	5 5 5 5 5	3RA2220-1FF24-0AP0 3RA2220-1GF24-0AP0 3RA2220-1HF24-0AP0 3RA2220-1JF24-0AP0 3RA2220-1KF24-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2AP00		2	3RA2220-4AF26-0AP0	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁶⁾	13 20 16 22 18 25 23 28 27 32	21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	27-2AP00		5 2 2 2 2	3RA2220-4BF27-0AP0 3RA2220-4CF27-0AP0 3RA2220-4DF27-0AP0 3RA2220-4NF27-0AP0 3RA2220-4EF27-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D

Type of coordination "1" at I_q = 150 kA at 400 V (motor starter protector is compatible with type of coordination "2"

,				7								
S00	For loa	ad feeder	s for lower outp	uts, see this tab	ole at type of		Toc 1	ToC 1				
S00	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2AP02	11-2AA00 + 2913-2AA2	2 2 2	3RA2210-1FE15-2AP0 3RA2210-1GE15-2AP0 3RA2210-1HE15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA20 11-1KA20 11-4AA20	16-2AP02 17-2AP02 18-2AP02		2 2 2	3RA2210-1JE16-2AP0 3RA2210-1KE17-2AP0 3RA2210-4AE18-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = assembly kit for reversing duty and standard rail mounting in size S0.

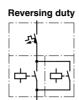
⁵⁾ The RH assembly kit also includes the 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals.

⁶⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing IE3/IE4 ready







Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible 1)
- Without standard mounting rail adapter for size S00
- With two standard mounting rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With contactor sizes S0, S2 and S3, an integrated NO contact is still available for free use.

Size	Size Standard three phase motor 4-pole at 400 V AC ³⁾	notor t	Adjustable current response	single devices			SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand-	Motor current I	value of the inverse-time delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + Assembly kit RH ⁴⁾ /Wiring kit		Screw terminals				
	kW	A	了 A				d	Article No.	Basic price per PU			

Type of coordination "2" at I_{q} = 150 kA at 40	O V
(compatible with type of coordination "1")	

(comp	atible with	ii type oi	Coordination	•							
				3RV20	3RT20	3RA		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB42	1921-1DA00 + 2913-2AA1	2 2 2	3RA2210-0BA15-2BB4 3RA2210-0CA15-2BB4 3RA2210-0DA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			2 2 2	3RA2210-0EA15-2BB4 3RA2210-0FA15-2BB4 3RA2210-0GA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			2 2 2	3RA2210-0HA15-2BB4 3RA2210-0JA15-2BB4 3RA2210-0KA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			2 2 2	3RA2210-1AA15-2BB4 3RA2210-1BA15-2BB4 3RA2210-1CA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			2	3RA2210-1DA15-2BB4 3RA2210-1EA15-2BB4	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00 + 2923-1BB1	2 2 2 2 2	3RA2220-1FB24-0BB4 3RA2220-1GB24-0BB4 3RA2220-1HB24-0BB4 3RA2220-1JB24-0BB4 3RA2220-1KB24-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA10	26-1BB40		2	3RA2220-4AB26-0BB4	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁵⁾	13 20 16 22 18 25 23 28 27 32	21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	27-1BB40		5 2 2 2 2	3RA2220-46B27-0BB4 3RA2220-4CB27-0BB4 3RA2220-4DB27-0BB4 3RA2220-4NB27-0BB4 3RA2220-4EB27-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30	2931-1AA00 + 2933-1BB1		Size S2 is only available for self-ass	embly.		
	30 30 37 ⁶⁾	55 55 66	49 59 54 65 62 73	32-4XA10 32-4JA10 32-4KA10	37-1NB30 38-1NB30						

Size S3 available on request

Size S3 is only available for self-assembly.

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = assembly kit for reversing duty and standard rail mounting in sizes S0 and S2.

⁵⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁶⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

IE3/IE4 ready 3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing



Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
 Without standard mounting rail adapter for size S00
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.

Size	Standard phase mo 4-pole at	otor	Adjustable current response	Comprising single device	the followir ces	ıg	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	400 V AC ³⁾ Stand- ard current <i>I</i> output <i>P</i> (guide value)		value of the inverse-time delayed overload release	inverse-time starter protector		+ Link module +Wiring kit		Screw terminals	+			
	kW	А	G A				d	Article No.	Basic price per PU			

			is compatible									
S00	For loa	ad feeders	for lower outpu	uts, see this tab	ole at type of			ToC 1				
S00	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB42	1921-1DA00 + 2913-2AA1	2 2 2	3RA2210-1FA15-2BB4 3RA2210-1GA15-2BB4 3RA2210-1HA15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB42 17-1BB42 18-1BB42		2 2 2	3RA2210-1JA16-2BB4 3RA2210-1KA17-2BB4 3RA2210-4AA18-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

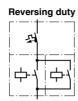
³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing IE3/IE4 ready



3RA2210





Rated control supply voltage 24 V DC With spring-type terminals

- Screw fixing with two push-in lugs per load feeder possible 1)
- Without standard mounting rail adapter for size S00
- With two standard mounting rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standar phase r 4-pole a 400 V A	at _	Adjustable current response value of the	Comprising the following single devices			SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current <i>I</i> (guide value)	inverse-time delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + Assembly kit RS ⁴⁾ /Wiring kit		Spring-type terminals	8			
	LAA	٨					ما	Article No.	Basic price			

	Гуре (of c	oordin	ation	"2"	at 1	a = '	150	kΑ	at 400 V	
(also c	com	patible	with t	type	of c	oorc	linat	ion	"1")	

\$00	
0.12 0.4 0.35 0.5 11-0FA20 2 3RA2210-0FE15-2BB4 0.18 0.6 0.45 0.63 11-0GA20 2 3RA2210-0GE15-2BB4 0.18 0.6 0.55 0.8 11-0HA20 2 3RA2210-0JE15-2BB4 0.25 0.85 0.7 1 11-0JA20 2 3RA2210-0JE15-2BB4 0.37 1.1 0.9 1.25 11-0KA20 2 3RA2210-0KE15-2BB4 0.55 1.5 1.1 1.6 11-1AA20 2 3RA2210-1AE15-2BB4 0.75 1.9 1.4 2 11-1BA20 2 3RA2210-1BE15-2BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
0.25 0.85 0.7 1 11-0JA20 2 3RA2210-0JE15-2BB4 0.37 1.1 0.9 1.25 11-0KA20 2 3RA2210-0KE15-2BB4 0.55 1.5 1.1 1.6 11-1AA20 2 3RA2210-1AE15-2BB4 0.75 1.9 1.4 2 11-1BA20 2 3RA2210-1BE15-2BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
0.75 1.9 1.4 2 11-1BA20 2 3RA2210-1BE15-2BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
1.1 2.7 2.2 3.2 11-1DA20 2 3RA2210-1DE15-2BB4 1.5 3.6 2.8 4 11-1EA20 2 3RA2210-1EE15-2BB4	1 1 unit 41D 1 1 unit 41D
S0 1.5 3.6 3.5 5 21-1FA20 24-2BB40 21-2AA00 5 3RA2220-1FF24-0BB4 2.2 4.9 4.5 6.3 21-1GA20 + 2923-1BB2 5 3RA2220-1GF24-0BB4 3 6.5 5.5 8 21-1HA20 5 3RA2220-1HF24-0BB4 4 8.5 7 10 21-1JA20 5 3RA2220-1JF24-0BB4 5.5 11.5 9 12 21-1KA20 5 3RA2220-1KF24-0BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
7.5 15.5 10 16 21-4AA20 26-2BB40 2 3RA2220-4AF26-0BB4	1 1 unit 41D
7.5 15.5 13 20 21-4BA20 27-2BB40 5 3RA2220-4BF27-0BB4 11 22 16 22 21-4CA20 2 3RA2220-4CF27-0BB4 11 22 18 25 21-4DA20 2 3RA2220-4DF27-0BB4 15 28 23 28 21-4NA20 2 3RA2220-4PF27-0BB4 15 29 ⁵⁾ 27 32 21-4EA20 2 3RA2220-4EF27-0BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D

Type of coordination "1" at I_{ct} = 150 kA at 400 V

(motor starter protector is compatible with type of coordination "2")

S00	For lo	ad feeder	rs for lower outp	outs, see this ta	ble at type of	f coordination "2"			ToC 1			
S00	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2BB42	11-2AA00 + 2913-2AA2	2 2 2	3RA2210-1FE15-2BB4 3RA2210-1GE15-2BB4 3RA2210-1HE15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA20 11-1KA20 11-4AA20	16-2BB42 17-2BB42 18-2BB42		2 2 2	3RA2210-1JE16-2BB4 3RA2210-1KE17-2BB4 3RA2210-4AE18-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For push-in lugs, see "Accessories" on page 8/51.

²⁾ For auxiliary switches, see "Accessories" on page 8/44.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

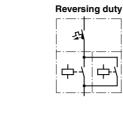
 $^{^{4)}}$ RH = assembly kit for reversing duty and standard rail mounting in size S0.

⁵⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

IE3/IE4 ready 3RA22 reversing starters for 60 mm busbars

Selection and ordering data

3RA2220



Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 and S2 With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With contactor sizes S0 and S2, an integrated NO contact is still available for free use.

Size	Standard phase m 4-pole a 400 V AC	notor	Adjustable current response value of the inverse-time delayed	Comprising single device	the following	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current I (guide value)	overload	Motor starter protector	+ 2 contactors	+ Link module + Assembly kit RS ³⁾ / Wiring kit		Screw terminals	+			
	kW	А	了 A				d	Article No.	Basic price per PU			

Type of	of coordi compatible	i nation ' e with ty	'2" at I_q = 150 pe of coordinat	kA at 400 V ion "1")						
				3RV20	3RT20	3RA	ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP02	1921-1DA00 2 + 2913-1DB1 2 2	3RA2210-0BD15-2AP0 3RA2210-0CD15-2AP0 3RA2210-0DD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10		2 2 2	3RA2210-0ED15-2AP0 3RA2210-0FD15-2AP0 3RA2210-0GD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10		2 2 2	3RA2210-0HD15-2AP0 3RA2210-0JD15-2AP0 3RA2210-0KD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10		2 2 2	3RA2210-1AD15-2AP0 3RA2210-1BD15-2AP0 3RA2210-1CD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10		2 2	3RA2210-1DD15-2AP0 3RA2210-1ED15-2AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5 7.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12 10 16	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10 21-4AA10	24-1AP00 26-1AP00	2921-1AA00 2 + 2923-1DB1 2 2 2 2 2	3RA2220-1FD24-0AP0 3RA2220-1GD24-0AP0 3RA2220-1HD24-0AP0 3RA2220-1JD24-0AP0 3RA2220-1KD24-0AP0 3RA2220-4AD26-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁴⁾	13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	27-1AP00	5 2 2 2 2	3RA2220-4RD27-0AP0 3RA2220-4CD27-0AP0 3RA2220-4DD27-0AP0 3RA2220-4DD27-0AP0 3RA2220-4D27-0AP0 3RA2220-4ED27-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D
S 2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1AP00 36-1AP00	2931-1AA00 + 2933-1DB1	Size S2 is only available for self-ass	sembly.		

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

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 37^{5}

49 ... 59

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62 ... 73

32-4XA10 37-1AP00

32-4KA10 38-1AP00

32-4JA10

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = assembly kit for reversing duty and busbar mounting.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA22 reversing starters for 60 mm busbars IE3/IE4 ready





Rated control supply voltage 50/60 Hz 230 V AC for S00 With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.

Size	Standard phase m 4-pole at 400 V AC	otor	Adjustable current response value of the inverse-time delayed	single devi	the following	ng	SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current I (guide value)	overload	Motor + 2 + Link module + Assembly kit RS³// Wiring kit				Screw terminals	#			
	kW	А	G A				d	Article No.	Basic price per PU			
	Type of coordination "1" at $I_q = 150$ kA at 400 V											

(moto	r starter p	orotector	is compatible	with type of c	oordination	"2")					
S00	For loa	ad feeders	s for lower outpu	ıts, see this tab		ToC 1					
S00	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP02	1921-1DA00 2 + 2913-1DB1 2 2	3RA2210-1FD15-2AP0 3RA2210-1GD15-2AP0 3RA2210-1HD15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP02 17-1AP02 18-1AP02	2 2 2	3RA2210-1JD16-2AP0 3RA2210-1KD17-2AP0 3RA2210-4AD18-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

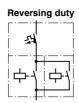
³⁾ RS = assembly kit for reversing duty and busbar mounting.

IE3/IE4 ready 3RA22 reversing starters for 60 mm busbars



3RA2210





Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-type terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular
- With the contactor S0, an integrated NO contact is still available for free use.

Size	phase motor current 4-pole at response v 400 V AC ²) of the inve Stand- Motor time delay overload		Adjustable current response value of the inverse-	-			SD	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
		current	rologoo	Motor starter protectors	+ 2 contactors	+ Link module + Assembly kit RS ³⁾ /Wiring kit		Spring-type terminals				
	kW	A	占 A				d	Article No.	Basic price per PU			
Type (of coordi	nation "2	2" at $I_{ m q}$ = 150 lee of coordinati	kA at 400 \ on "1")	1							
(4.55	, ompatist	<i>y</i>		3RV20	3RT20	3RA29			ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP02	11-2AA00 + 2913-1DB2	2 2 2	3RA2210-0BH15-2AP0 3RA2210-0CH15-2AP0 3RA2210-0DH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			2 2 2	3RA2210-0EH15-2AP0 3RA2210-0FH15-2AP0 3RA2210-0GH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			2 2 2	3RA2210-0HH15-2AP0 3RA2210-0JH15-2AP0 3RA2210-0KH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			2 2 2	3RA2210-1AH15-2AP0 3RA2210-1BH15-2AP0 3RA2210-1CH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			2	3RA2210-1DH15-2AP0 3RA2210-1EH15-2AP0		1 1	1 unit 1 unit	41D 41D
SO	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00 + 2923- 1DB2 ⁴⁾	5 5 5 5 5	3RA2220-1FH24-0AP0 3RA2220-1GH24-0AP0 3RA2220-1HH24-0AP0 3RA2220-1JH24-0AP0 3RA2220-1KH24-0AP0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28 29 ⁵⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA20 21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	26-2AP00 27-2AP00		2 5 2 2 2	3RA2220-4AH26-0AP0 3RA2220-4BH27-0AP0 3RA2220-4CH27-0AP0 3RA2220-4DH27-0AP0 3RA2220-4NH27-0AP0 3RA2220-4EH27-0AP0		1 1 1 1 1	1 unit	41D 41D 41D 41D 41D 41D

- Type of coordination "1" at $I_q = 150$ kA at 400 V (motor starter protector is compatible with type of c
- S00 For load feeders for lower outputs, see this table at type of coordination "2".

								_			
S00	1.5	3.6	3.5 5	11-1FA20	15-2AP02	11-2AA00	2	3RA2210-1FH15-2AP0	1	1 unit	41D
	2.2	4.9	4.5 6.3	11-1GA20		+ 2913-1DB2	2	3RA2210-1GH15-2AP0	1	1 unit	41D
	3	6.5	5.5 8	11-1HA20			2	3RA2210-1HH15-2AP0	1	1 unit	41D
	4	8.5	7 10	11-1JA20	16-2AP02		2	3RA2210-1JH16-2AP0	1	1 unit	41D
	5.5	11.5	9 12	11-1KA20	17-2AP02		2	3RA2210-1KH17-2AP0	1	1 unit	41D
	7.5	15.5	10 16	11-4AA20	18-2AP02		2	3RA2210-4AH18-2AP0	1	1 unit	41D

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

 $^{^{3)}}$ RS = assembly kit for reversing duty and busbar mounting

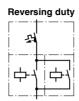
⁴⁾ The RS assembly kit also includes the 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals.

⁵⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2

3RA22 reversing starters for 60 mm busbars IE3/IE4 ready







Rated control supply voltage 24 V DC With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular
- With contactor sizes S0 and S2, an integrated NO contact is still available for free use.

Size	Standard phase m 4-pole at	otor	Adjustable current response value					Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	400 V AC Stand- ard output P	Motor current I	of the inverse- time delayed overload release	Motor starter pro- tectors	+ 2 contactors	+ Link module + Assembly kit RS ³⁾ / Wiring kit		Screw terminals	+			
	اد/۸ <i>۱</i>	Δ	日				d	Article No.	Basic price per PU			

	output F	guide value)	1010400			Wiring kit						
	kW	А	日 A				d	Article No.	Basic price per PU			
			I''' at $I_q = 150 \text{ M}$ e of coordination									
				3RV20	3RT20	3RA			ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	3RV20 11-0BA10 11-0CA10 11-0DA10	3RT20 15-1BB42	3RA 1921-1DA00 + 2913-1DB1	2 2 2	3RA2210-0BD15-2BB4 3RA2210-0CD15-2BB4 3RA2210-0DD15-2BB4	ToC 2	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB42	1921-1DA00 + 2913-1DB1	2 2 2	3RA2210-0BD15-2BB4 3RA2210-0CD15-2BB4 3RA2210-0DD15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			2 2 2	3RA2210-0ED15-2BB4 3RA2210-0FD15-2BB4 3RA2210-0GD15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			2 2 2	3RA2210-0HD15-2BB4 3RA2210-0JD15-2BB4 3RA2210-0KD15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			2 2 2	3RA2210-1AD15-2BB4 3RA2210-1BD15-2BB4 3RA2210-1CD15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			2	3RA2210-1DD15-2BB4 3RA2210-1ED15-2BB4	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00 + 2923-1DB1	2 2 2 2 2	3RA2220-1FD24-0BB4 3RA2220-1GD24-0BB4 3RA2220-1HD24-0BB4 3RA2220-1JD24-0BB4 3RA2220-1KD24-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28	10 16 13 20 16 22 18 25 23 28	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10	26-1BB40 27-1BB40		2 5 2 2	3RA2220-4AD26-0BB4 3RA2220-4BD27-0BB4 3RA2220-4CD27-0BB4 3RA2220-4DD27-0BB4 3RA2220-4ND27-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	15	29 ⁴⁾	27 32	21-4EA10			2	3RA2220-4ED27-0BB4	1	1 unit 1 unit	41D 41D
S2	15 18.5 18.5 22 22 30	29 35 35 41 41 55	22 32 28 36 32 40 35 45 42 50 49 59	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30 37-1NB30	2931-1AA00 + 2933-1DB1		Size S2 is only available for self-ass	sembly.		

	375)	66	62 73	32-4KA10	38-1NB30							
			'1" at I_{q} = 150 is compatible			"2")						
S00	For loa	ad feeders	for lower outpu	its, see this tab	le at type of o	coordination "2".			ToC 1			
S00	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB42	1021 127100	2 2 2	3RA2210-1FD15-2BB4 3RA2210-1GD15-2BB4 3RA2210-1HD15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB42 17-1BB42 18-1BB42		2 2 2	3RA2210-1JD16-2BB4 3RA2210-1KD17-2BB4 3RA2210-4AD18-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

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32-4JA10

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²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = assembly kit for reversing duty and busbar mounting.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

IE3/IE4 ready 3RA22 reversing starters for 60 mm busbars



3RA2210





Rated control supply voltage 24 V DC With spring-type terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- With the contactor S0, an integrated NO contact is still available for free use.

Size	ze Standard three- phase motor 4-pole at 400 V AC ²⁾		nase motor pole at response value of the inverse-		the following th	following		Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Stand- ard output P	Motor current <i>I</i> (guide value)	time delayed overload release	Motor starter protectors	+ 2 contactors	+ Link module + Assembly kit RS ³⁾ /Wiring kit		Spring-type terminals	<u> </u>			
	kW	А	G A				d	Article No.	Basic price per PU			

(also compatible with type of coordination "1" 3RV20 3RT20 3RA29 ToC 2 S00 3RA2210-0BH15-2BB4 11-0BA20 15-2BB42 11-2AA00 41D 0.06 0.2 0.14 ... 0.2 1 unit 0.2 2 0.06 0.18 ... 0.25 11-0CA20 + 2913-1DB2 3RA2210-0CH15-2BB4 41D 1 unit 2 0.09 0.3 0.22 ... 0.32 11-0DA20 3RA2210-0DH15-2BB4 41D 1 unit 0.09 0.3 0.28 ... 0.4 11-0EA20 3RA2210-0EH15-2BB4 1 unit 41D 11-0FA20 3RA2210-0FH15-2BB4 41D 0.12 0.4 0.35 ... 0.5 1 unit 0.18 0.6 0.45 ... 0.63 11-0GA20 2 3RA2210-0GH15-2BB4 1 unit 41D 0.18 0.6 0.55 ... 0.8 11-0HA20 2 3RA2210-0HH15-2BB4 41D 1 unit 0.25 0.85 0.7 ... 1 11-0JA20 2 3RA2210-0JH15-2BB4 41D 1 unit 0.9 ... 1.25 0.37 1.1 11-0KA20 3RA2210-0KH15-2BB4 1 unit 41D 0.55 1.5 1.1 ... 1.6 11-1AA20 2 2 3RA2210-1AH15-2BB4 1 unit 41D 0.75 1.9 1.4 ... 2 11-1BA20 3RA2210-1BH15-2BB4 1 unit 41D 1.8 ... 2.5 11-1CA20 3RA2210-1CH15-2BB4 0.75 1.9 1 unit 41D 1 1 27 2.2 ... 3.2 11-1DA20 2 3RA2210-1DH15-2BB4 1 unit 41D 36 2.8 ... 4 11-1EA20 3RA2210-1EH15-2BB4 41D 1.5 1 unit SO 3.6 3.5 ... 5 21-1FA20 21-2AA00 5 3RA2220-1FH24-0BB4 41D 1.5 24-2BB40 1 unit 2.2 5 3RA2220-1GH24-0BB4 4.9 4.5 ... 6.3 21-1GA20 + 2923-1DB2 41D 1 unit 3 6.5 5.5 ... 8 21-1HA20 3RA2220-1HH24-0BB4 1 unit 41D 8.5 7 ... 10 3RA2220-1JH24-0BB4 21-1JA20 1 unit 41D 5.5 11.5 9 ... 12 21-1KA20 5 3RA2220-1KH24-0BB4 1 unit 41D 7.5 15.5 10 ... 16 21-4AA20 26-2BB40 2 3RA2220-4AH26-0BB4 1 unit 41D 7.5 15.5 13 ... 20 21-4BA20 27-2BB40 5 3RA2220-4BH27-0BB4 1 unit 41D 11 22 16 ... 22 21-4CA20 2 3RA2220-4CH27-0BB4 1 unit 41D ... 25 2 3RA2220-4DH27-0BB4 11 22 18 21-4DA20 1 unit 41D 3RA2220-4NH27-0BB4 3RA2220-4EH27-0BB4 28 29⁴⁾ 23 ... 27 ... 21-4NA20 2 15 28 1 unit 41D 21-4EA20 41D 15 32 1 unit

			" at I _a = 150 kA		
((motor starter	protector is	compatible with	type of co	ordination "2"

S00	For lo	ad feeder	s for lower outp	uts, see this tab	ole at type of	ToC 1					
S00	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2BB42	11-2AA00 + 2913-1DB2	2 2 2	3RA2210-1FH15-2BB4 3RA2210-1GH15-2BB4 3RA2210-1HH15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12 10 16	11-1JA20 11-1KA20 11-4AA20	16-2BB42 17-2BB42 18-2BB42		2 2 2	3RA2210-1JH16-2BB4 3RA2210-1KH17-2BB4 3RA2210-4AH18-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ For auxiliary switches, see "Accessories" on page 8/44.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = assembly kit for reversing duty and busbar mounting.

⁴⁾ Suitable for use with IE3/IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Accessories

Overview

The accessories listed here are parts and add-ons for the 3RA2 direct-on-line and reversing starters as well as components for the customer assembly of fuseless load feeders.

Selection and ordering data

Accessories for motor starter protectors







PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41E

E	3RV2901-2E	3RV2901-1A

Version	For motor starter protectors	SD	Screw terminals		SD	Spring-type terminals	<u> </u>
			Article No.	Price per PU		Article No.	Price per PU
	Size	d					
Auxiliary switches ¹⁾							
Transverse auxiliary switches For mounting on the front							
1 CO 1 NO + 1 NC 2 NO	S00 S3	>	3RV2901-1D 3RV2901-1E 3RV2901-1F		>	 3RV2901-2E 3RV2901-2F	
Lateral auxiliary switches For mounting on the left							
1 NO + 1 NC	S00 S3	>	3RV2901-1A		▶	3RV2901-2A	

¹⁾ Each motor starter protector can be fitted with one transverse and one lateral auxiliary switch. The lateral auxiliary switches 2 NO + 2 NC are used without transverse auxiliary switches.





PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41E

3RV2902-1A..

3RV2902-2A.

Rated control supply voltage $U_{\rm S}$			For motor starter protectors	SD	Screw terminals	(1)	SD	Spring-type terminals	<u></u>	
AC 50 Hz	AC 60 Hz	AC 50/60 Hz 100% ON period ¹⁾	AC/DC 50/60 Hz, DC 5 s ON period ²⁾			Article No.	Price per PU		Article No.	Price per PU
V	V	V	V	Size	d			d		
Auxilia	ary releas	ses for moto	r starter prot	tectors ³⁾						
Underv	oltage rele	ease								
230	240			S00 S3	>	3RV2902-1AP0		▶	3RV2902-2AP0	
Shunt r	elease									
		210 240	190 330	S00 S3	>	3RV2902-1DP0		▶	3RV2902-2DP0	

¹⁾ The voltage range is valid for 100% (infinite) ON period. The response voltage is 0.9 of the lower limit of the voltage range.

For the complete range of accessories for the motor starter protectors see page 7/43 onwards.

²⁾ The voltage range is valid for 5 s ON period at 50/60 Hz AC and DC. The response voltage lies at 0.85 of the lower limit of the voltage range.

³⁾ One auxiliary release can be mounted on the right per motor starter protector (does not apply to 3RV21 motor starter protectors with overload relay function).

Accessories

Accessories for cont	tactors							
	For contactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size		d					
Auxiliary switch bloc	ks for snapping	g onto the front of contactor	S					
				Screw terminals	(1)			
	Cable entry from	below						
P NC S	S00 S3	1-pole						
3RH2911-1BA		- 1 NO - 1 NC	>	3RH2911-1BA10 3RH2911-1BA01		1 1	1 unit 1 unit	41B 41B
444	S00 S3	2-pole						
		- 1 NO + 1 NC - 2 NO	>	3RH2911-1MA11 3RH2911-1MA20		1 1	1 unit 1 unit	41B 41B
3RH2911-1MA								
Auxiliary switch bloc	ks for contacto	ors, for lateral mounting						
5				Screw terminals				
	S00	2 NC	2	3RH2911-1DA02		1	1 unit	41B
	S00 S00	1 NO + 1 NC 2 NO	2 2	3RH2911-1DA11 3RH2911-1DA20		1 1	1 unit 1 unit	41B 41B
81 26 82 16	S0/S3	2 NC	2	3RH2921-1DA02		1	1 unit	41B
A 11	S0/S3	1 NO + 1 NC	2	3RH2921-1DA11		1	1 unit	41B
3RH2911-1DA	S0/S3	2 NO	2	3RH2921-1DA20	la.	1	1 unit	41B
				Spring-type terminal	IS O			
10	S00	2 NC	2	3RH2911-2DA02		1	1 unit	41B
20.20	S00 S00	1 NO + 1 NC 2 NO	2 2	3RH2911-2DA11 3RH2911-2DA20		1 1	1 unit 1 unit	41B 41B
	S0/S3	2 NC	2	3RH2921-2DA02		1	1 unit	41B
	S0/S3	1 NO + 1 NC	2	3RH2921-2DA11		1	1 unit	41B
22 19	S0/S3	2 NO	2	3RH2921-2DA20		1	1 unit	41B
3RH2911-2DA								
Motor feeder connect (can only be used for		tors with screw terminals starters)						
STEMBERS CO. STEEL CO. ST. ST. ST. ST. ST. ST. ST. ST. ST. ST				Screw terminals				
100 HILE TO BE 100 HI	Adapters for co	ntactor ature T _{u max.} = 60 °C						
	S00	Rated operational current $I_{\rm e}$	5	3RT1916-4RD01		1	1 unit	41B
3RT1926-4RD01	SO	at AC-3/400 V: 20 A Rated operational current I _e	5	3RT1926-4RD01		1	1 unit	41B
2000 May 1900		at AC-3/400 V: 25 A					. ann	
8 6 66	Motor feeder co	nnectors for contactors					-	
	S00, S0		5	3RT1900-4RE01		1	1 unit	41B
3RT1900-4RE01								

For the complete range of accessories for the 3RT contactors, see page 3/76 onwards.

Accessories

For contactors	Version	Rated control s $U_s^{(1)}$	upply voltage	SD	Article No. ²⁾	Price per PU	PU (UNIT, SET, M)	PS*	PG
		AC operation	DC operation						
Type		V AC	V DC	d					
	LLED for a subsetting								

Surge suppressors without LED for contactors (also for spring-type terminals)

Size S00



0.20 0								
	gging onto the front side without auxiliary switch		tors					
3RT2.1	Varistors	24 48 127 240	24 70 150 250	>	3RT2916-1BB00 3RT2916-1BD00	1 1	1 unit 1 unit	41B 41B
3RT2.1	RC element	24 48 127 240	24 70 150 250	>	3RT2916-1CB00 3RT2916-1CD00	1 1	1 unit 1 unit	41B 41B
3RT2.1	Noise suppression diode		12 250	•	3RT2916-1DG00	1	1 unit	41B
3RT2.1	Diode assemblies (diode and Zener diode) for DC operation	 1	12 250	•	3RT2916-1EH00	1	1 unit	41B

Size S0



3RT2926-1E.00

	ging onto the front sid		tors					
3RT2.2	Varistors ²⁾	24 48 127 240	24 70 150 250	>	3RT2926-1BB00 3RT2926-1BD00	1 1	1 unit 1 unit	41B 41B
3RT2.2	RC element	24 48 127 240	24 70 150 250	A	3RT2926-1CB00 3RT2926-1CD00	1 1	1 unit 1 unit	41B 41B
3RT2.2	Diode assemblies for DC operation		24 30 250	>	3RT2926-1ER00 3RT2926-1ES00	1 1	1 unit 1 unit	41B 41B



3RT2936-1B.00

Sizes S	2 and S3							
	ging onto the front sidents of the stalling the auxiliary s		tors					
3RT2.3,	Varistors ²⁾³⁾	24 48		>	3RT2936-1BB00	1	1 unit	41B
3RT2.4		127 240		•	3RT2936-1BD00	1	1 unit	41B
3RT2.3	RC element	24 48	24 70		3RT2936-1CB00	1	1 unit	41B
		127 240	150 250		3RT2936-1CD00	1	1 unit	41B
3RT2.4	RC element	24 48	24 70	5	3RT2946-1CB00	1	1 unit	41B
		127 240	150 250	>	3RT2946-1CD00	1	1 unit	41B
3RT2.3,	Diode assemblies ³⁾		24		3RT2936-1ER00	1	1 unit	41B
3RT2.4	for DC operation		30 250	5	3RT2936-1ES00	1	1 unit	41B

 $^{^{\}rm 1)}$ Can be used for AC operation for 50/60 Hz. Other voltages on request.

²⁾ The varistor is already integrated on the AC/DC contactors.

³⁾ Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03.

Accessories

Accessories for the customer assembly of fuseless load feeders

	For motor starter	For contactors	Actuating voltage of contactor	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	protectors Size	Size		d			SET, M)		
Link modules from m			contactor ¹⁾	u					
MLMM		d mechanical li	nk between motor starter		Screw terminals				
	Single-unit	packaging							
OPA0001 14400	\$00/\$0 \$00/\$0 \$00/\$0 \$2 \$3	\$00 \$0 \$0 \$2 \$3	AC and DC AC DC AC and DC AC and DC	2 2	3RA1921-1DA00 3RA2921-1AA00 3RA2921-1BA00 3RA2931-1AA00 3RA1941-1AA00		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3RA2921-1AA00	Multi-unit pa	ackaning							
	S00/S0 S00/S0 S00/S0 S00/S0 S2 S3	\$00 \$0 \$0 \$2 \$3	AC and DC AC DC AC and DC AC and DC	2 2	3RA1921-1D 3RA2921-1A 3RA2921-1B 3RA2931-1A 3RA1941-1A		1 1 1 1	10 units 10 units 10 units 5 units 5 units	41B 41B 41B 41B 41B
3RA2931-1AA00									
	Electrical and protector and	d mechanical li d contactor	nk between motor starter		Spring-type termina	nls 💮			
666	Single-unit								
100	S00 S0	S00 S0	AC and DC AC ²⁾ and DC	>	3RA2911-2AA00 3RA2921-2AA00		1 1	1 unit 1 unit	41B 41B
	Multi-unit pa	ackaging							
3RA2911-2AA00	S00 S0	S00 S0	AC and DC AC ²⁾ and DC	>	3RA2911-2A 3RA2921-2A		1 1	10 units 10 units	41B 41B
Hybrid link modules t	rom motor st	tarter protec	tor to contactor ³⁾						
Alabla	Electrical and	d mechanical li	nk between motor starter als and contactor with sprin	ng-type					
	Single-unit								
RH	S00 S0	S00 S0	AC and DC AC ²⁾ and DC	>	3RA2911-2FA00 3RA2921-2FA00		1	1 unit 1 unit	41B 41B
3RA2911-2FA00									
411	Multi-unit pa S00 S0	S00 S0	AC and DC AC ²⁾ and DC	2	3RA2911-2F 3RA2921-2F		1	10 units 10 units	41B 41B
3RA2921-2FA00									

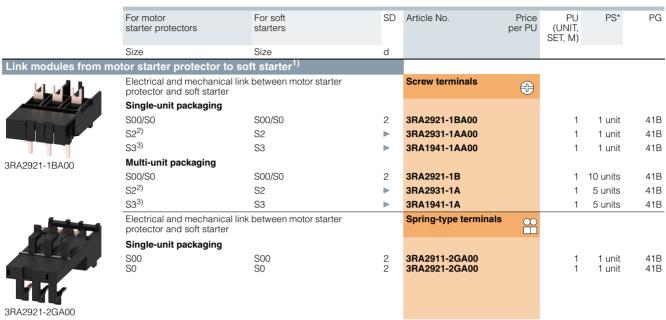
- 1) The link modules from motor starter protector to contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.
- A spacer for height compensation on AC contactors, size S0, is optionally available, see page 8/53.
- 3) The hybrid link modules from motor starter protector to contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are only suitable for constructing direct-on-line starters.

Note:

Link modules can be used in

- Sizes S00 and S0 up to max. 32 A
- Size S2 up to max. 65 A

Accessories



- 1) The link modules from motor starter protector to soft starter and motor starter protector to solid-state contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.
- ²⁾ To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1CA00 standard mounting rail adapter must be used.
- 3) It is only permitted to assemble the feeder between the motor starter protector and the soft starter in size S3 on a mounting plate.

Note:

Link modules can be used in

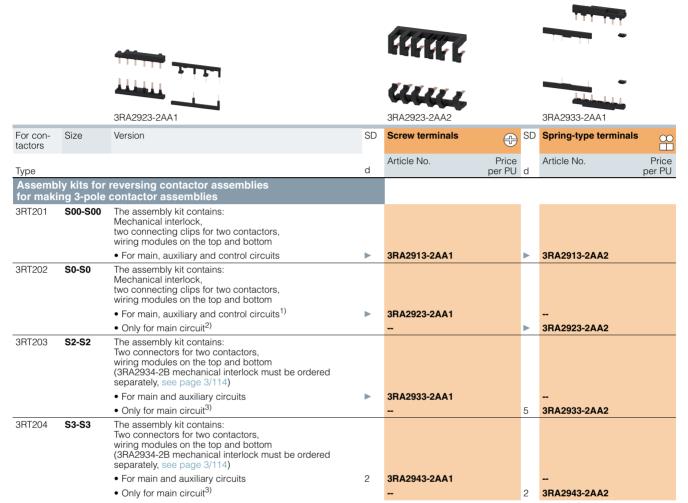
- Sizes S00 and S0 up to max. 32 A
- Size S2 up to max. 65 A

Accessories

PU (UNIT, SET, M) = 1

PS* = 1 unit (unless otherwise specified)

PG = 41B



¹⁾ Use of the 3RA2923-2AA1 assembly kit in conjunction with the 3RT202.-....-3MA0 contactors is limited because the auxiliary switches in the basic unit are not allowed to be used on account of the permanently mounted auxiliary switch block.

²⁾ Version in size S0 with spring-type terminals: Only the wiring modules for the main circuit are included. No connecting clips are included for the auxiliary and control circuit.

³⁾ Version in sizes S2 and S3 with spring-type terminals in the auxiliary and control circuits: Only the wiring modules for the main circuit are included. A cable set is included for the auxiliary circuit.

Accessories

	For	Version	1	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
		513				perro	SET, M)		
Safety main circuit co	Size	for two	contactors	d					
Salety Main Circuit Co	Jimectors		es two contactors in series		Screw terminals				
1044		SWILCITE	es two contactors in series		Screw terminals	+			
III	S00			2	3RA2916-1A		1	1 unit	41B
1.1	S0 S2			2	3RA2926-1A 3RA2936-1A		1	1 unit 1 unit	41B 41B
17	02			_					5
3RA2916-1A									
	-	_							
	For motor starter	For con- tactors	Version	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	protectors			d		po o	SET, M)		
Mounting rails for mo load feeders with bus			for the customer assembly of 3 0 mm systems	RA21					
45			For the discrete configuration of						
			direct-on-line starters a further mounting rail is needed for the						
			contactor in addition to the						
16			mounting rail existing on the busbar adapter.						
		S0	For pushing onto the device	2	8US1998-7CB45		1	10 units	140
0			adapter, including fixing screws						
0									
8US1998-7CB45									
Standard mounting ra	ail adapte	rs							
			For mechanical fixing of motor						
			starter protector and contactor; for snapping onto standard						
			mounting rail or for screw fixing						
	S00, S0	S00, S0	Single-unit packaging	2	3RA2922-1AA00		1	1 unit	41B
	S00, S0	S00, S0	Multi-unit packaging	2	3RA2922-1A		1	5 units	41B
† •	S2	S2	Single-unit packaging	2	3RA2932-1AA00		1	1 unit	41B
	S2 S3	S2 S3	Multi-unit packaging	2	3RA2932-1A		1	5 units	41B 41B
3RA2922-1AA00	S3 S3	S3 S3	Single-unit packaging Multi-unit packaging	2 2	3RA2942-1AA00 3RA2942-1A		1	1 unit 5 units	41B 41B
		33	For mechanical fixing of motor		3NA2342-1A		ı.	J units	410
			starter protector and soft starter;						
:			for snapping onto standard mounting rail or for screw fixing						
ļ	S2	S2	Single-unit packaging	2	3RA2932-1CA00		1	1 unit	41B
ODA 0000 40 400									
3RA2932-1CA00 Side modules for star	ndard mo	unting ra	il adanters						
Glac inlocation state			B For standard mounting rail	2	3RA2902-1B		1	10 units	41B
	000 00	000 00	adapters 10 mm wide, 96 mm	_	011A2002 1B			TO GITTE	110
			long. For widening standard mounting rail adapters when						
1			using lateral auxiliary switches,						
1			2 units required						
J									
3RA2902-1B									

								Access	ories
	For motor starter protectors	tactors		SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
RH assembly kits for		-	l standard rail mounting						
	RH assem	bly kits fo	r screw terminals		Screw terminals				
3RA2923-1BB1	S0	S0	Comprising: • Wiring kit for main and auxiliary circuit • Two standard mounting rail adapters • Two connecting wedges • Mechanical interlocks • Two connecting clips for two contactors • Fixing accessories Link modules must be ordered separately.	2	3RA2923-1BB1	J	1	1 unit	41B
	\$2	\$2	Comprising: • Wiring kit for main and auxiliary circuit • Two standard mounting rail adapters • Two side modules • Four connecting wedges • Mechanical interlocks • Two connectors for two contactors • Fixing accessories Link modules must be ordered separately.	2	3RA2933-1BB1		1	1 unit	41B
	\$3	\$3	Comprising: • Wiring kit for main and auxiliary circuit • Two standard mounting rail adapters • Three side modules • Six connecting wedges • Mechanical interlocks • Two connectors for two contactors • Fixing accessories Link modules must be ordered separately.	2	3RA2943-1BB1		1	1 unit	41B
	RH assem	ıbly kits fo	r spring-type terminals		Spring-type terminals	· <u>@</u>			
	SO	S0	Comprising: • Wiring kit for main and auxiliary circuit • Two standard mounting rail adapters • Two connecting wedges • Mechanical interlocks • Two connecting clips for two contactors • Two spacers • Fixing accessories Link modules must be ordered separately.	2	3RA2923-1BB2		1	1 unit	41B
Push-in lugs for scre									–
3RV2928-0B	S00, S0		For screwing the motor starter protector (of the load feeder) onto mounting plates; 2 units are required for each motor starter protector	2	3RV2928-0B		100	10 units	41E

For graphic overviews for RH assembly kits, see page 8/12 onwards.

Accessories

Busbar adapters









8US1251-5DS10

8US1251-5DT11

8US1250-5AS10

8US1250-5AT10

For load feeders	Rated current	Connect- ing cable	Adapter length	Adapter width	Rated voltage	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Α	AWG	mm	mm	V	d					
Busbar adapters for	60 mm s	ystems									
For flat copper profiles ac Width: 12 mm and 30 mm Thickness: 5 mm and 10 r and for T and double-T sp	ı mm										
For load feeders with so	rew termin	nals					Screw terminals				
S00/S0	25	12	200	45	690	2	8US1251-5DS10		1	1 unit	140
S00 (motor starter protector)/S0 (contactor)	25	12	260	45	690	2	8US1251-5DT10		1	1 unit	140
S0	32	10	200	45	690	3	8US1251-5NS10		1	1 unit	140
S0	32	10	260	45	690	2	8US1251-5NT10		1	1 unit	140
S2	80	4	260	55	690	5	8US1261-6MT10		1	1 unit	140
S2 ¹⁾	80	4	260	118	690	5	8US1211-6MT10		1	1 unit	140
For load feeders with sp	ring-type t	terminals					Spring-type terminals	$\stackrel{\infty}{\square}$			
S00	25	12	200	45	690	2	8US1251-5DS11		1	1 unit	140
S00/S0	25	12	260	45	690	2	8US1251-5DT11		1	1 unit	140
S0	32	10	200	45	690	5	8US1251-5NS11		1	1 unit	140
S0	32	10	260	45	690	2	8US1251-5NT11		1	1 unit	140
Accessories ²⁾											
Device holders			200	45		2	8US1250-5AS10		1	1 unit	140
For lateral attachment to busbar adapters			260	45		2	8US1250-5AT10		1	1 unit	140
Side modules For widening busbar adapters			200	9		2	8US1998-2BJ10		1	10 units	140
Vibration and shock kits For high vibration and shock loads	1										
S00/S0						2	8US1998-1CA10		1	2 units	140
S2						5	8US1998-1DA10		1	1 unit	140

¹⁾ For the assembly of feeders for reversing starters comprising a motor starter protector and two contactors.

²⁾ For additional mounting rails for busbar adapters, see page 8/50.

								Access	ories
	For motor		Version	SD	Article No.	Price		PS*	PG
	starter protectors	contac- tors				per PU	(UNIT, SET, M)		
	Size	Size		d					
RS assembly kits for re	eversing c	luty and (60-mm busbar systems						
	RS assem	bly kits fo	r screw terminals		Screw terminals	(1)			
	\$00, \$0 \$0 \$00	\$00 \$0 \$0	Comprising: • Wiring kit for main and auxiliary circuit • Busbar adapters • Device holders • Two connecting wedges • Mechanical interlocks • Two connecting clips for two contactors • Fixing accessories	2 2 2	3RA2913-1DB1 3RA2923-1DB1 3RA2923-1EB1		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
			Link modules must be ordered separately.						
	S2	S2	Comprising: • Wiring kit for main and auxiliary circuit • Busbar adapters • Mechanical interlocks • Two connectors for two contactors • Fixing accessories	2	3RA2933-1DB1		1	1 unit	41B
			Link modules must be ordered separately.						
	RS assem	bly kits fo	r spring-type terminals		Spring-type terminals	8			
	\$00 \$0	\$00 \$0	Comprising: • Wiring kit for main and auxiliary circuit • Busbar adapters • Device holders • Two connecting wedges • Two connectors for two contactors • Two spacers (for size S0 only) • Fixing accessories Link modules must be ordered	2 2	3RA2913-1DB2 3RA2923-1DB2		1 1	1 unit 1 unit	41B 41B

For graphic overviews for RS assembly kits, see page 8/15 onwards.

separately.

	For motor starter protectors	For contactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size		d					
Connecting wedges									
	device hol	ders or of s	g of busbar adapters and standard mounting rail adapters ion required)	2	8US1998-1AA00		100	100 units	140
8US1998-1AA00									
Spacers									
		compensa e terminals	tion on AC contactors size S0 wit	th	Spring-type terminals				
01-0	S0	S0	Single-unit packaging	2	3RA2911-1CA00		1	1 unit	41B
3RA2911-1CA00	S0	S0	Multi-unit packaging	2	3RA2911-1C		1	5 units	41B

Accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Tools for opening spri	ng-type terminals						
	Screwdrivers For all SIRIUS devices with spring-type terminals		Spring-type terminals				
3RA2908-1A	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	2	3RA2908-1A		1	1 unit	41B
Blank labels	partially inculated						
3RT2900-1SB20	Unit labeling plates ¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray	20	3RT2900-1SB20		100 3	340 units	41B
Configuration Manual "Load Feeders – Confi	iguring the SIRIUS Modular System"						
	Configuration manual for new combinations of load feeders Information and assignment tables for combinations for self-assembly; For the Configuration Manual, see https://support.industry.siemens.com/cs/ww/en/view/3971	4188.					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

3RV29 infeed system for load feeders

Overview

Types of infeed for 3RA2 fuseless load feeders

On the whole four different power infeed possibilities are available:

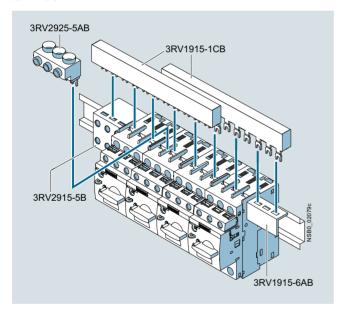
- · Parallel wiring
- Use of three-phase busbars (combination with SIRIUS motor starter protectors and contactors possible)
- 8US busbar adapters
- SIRIUS 3RV29 infeed systems

Insulated three-phase busbar system

Three-phase busbar systems provide an easy, time-saving and clearly arranged means of feeding 3RA2 load feeders with screw terminals. Different versions are available for sizes S00 and S0 and can also be used for the various different types of motor starter protectors.

The busbars are suitable for between two and five feeders. However, any kind of extension is possible by clamping the tags of an additional busbar (rotated by 180°) underneath the terminals of the respective last motor starter protector.

A combination of feeders of different sizes is possible with sizes S00 and S0. Connecting pieces are available for this purpose. The motor starter protectors are supplied by appropriate infeed terminals.



SIRIUS three-phase busbar system size S00/S0

The three-phase busbar systems are finger-safe. They are designed for any short-circuit stress which can occur at the output side of connected motor starter protectors.

The three-phase busbar systems can also be used to construct "Type E Starters" of size S0 or S2 according to UL/CSA. However, special infeed terminals must be used for this purpose; see page 7/48.

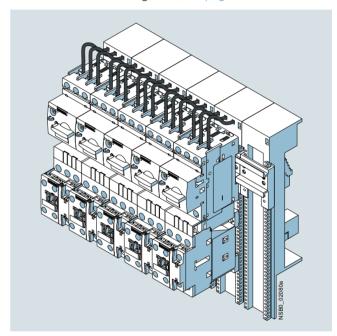
8US busbar adapters for 60 mm systems

The load feeders are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs.

The busbar adapters for busbar systems with 60 mm center-tocenter clearance are suitable for copper busbars with a width of 12 to 30 mm. The busbars can be 4 to 5 mm or 10 mm thick.

The feeders are snapped onto the adapter and connected on the line side. This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

For "Selection and ordering data", see page 8/52.



SIRIUS load feeders with busbar adapters snapped onto busbars

SIRIUS 3RV29 infeed system

The 3RV29 infeed system is a convenient means of energy supply and distribution for a group of several motor starter protectors or complete load feeders with a screw or spring-type terminal up to size S0.

The system is based on a basic module complete with a lateral incoming unit (three-phase busbar with infeed) which has two slots.

Expansion modules are available for extending the system (three-phase busbars for system expansion).

For the 3RV29 infeed system, see page 7/62.

General data

Overview

3RA6 fuseless compact starters and infeed system for 3RA6



3RA62 reversing starter

Integrated functionality

The SIRIUS 3RA6 compact starters are a generation of special load feeders with the integrated functionality of a motor starter protector, contactor and electronic overload relay. In addition, various functions of optional mountable accessories (e.g. auxiliary switches, surge suppressors) are already integrated in the SIRIUS compact starter.



3RA6 compact starters with the integrated functionality of a motor starter protector, contactor and electronic overload relay.

Applications

SIRIUS compact starters can be used wherever standard three-phase motors or resistive loads up to 32 A (approx. 15 kW/400 V) are directly started or switched.

The compact starters are not suitable for the protection of DC loads.

Approvals according to IEC, UL, CSA and CCC standards have been issued for the compact starters.

More information

Homepage, see www.siemens.com/compactstarter Industry Mall, see www.siemens.com/product?3RA68 Online configurator, see www.siemens.com/sirius/configurators

Very high operational reliability

The high short-circuit breaking capacity and defined shut-down when the end of service life is reached mean that the SIRIUS compact starter achieves a very high level of operational reliability that would otherwise have only been possible with considerable additional outlay. This sets it apart from devices with similar functionality.

Safe disconnection

The auxiliary switches (NC contacts) of the 3RA6 compact starters are designed as mirror contacts. This enables their use for safe disconnection – e.g. EMERGENCY STOP up to SIL 1 (IEC 62061) or PL c (ISO 13849-1) or, if used in conjunction with an additional infeed contactor, up to SIL 3 (IEC 62061) or PL e (ISO 13849-1).

Communications integration through AS-Interface

To enable communications integration through AS-Interface there is an AS-i add-on module available in several versions for mounting instead of the control circuit terminals on the SIRIUS compact starter.

The design of the AS-i add-on module permits a group of up to 62 feeders with a total of four cables to be connected to the control system. This reduces wiring work considerably compared to the parallel wiring method.

Communications integration using IO-Link

Up to four compact starters in IO-Link version (reversing and direct-on-line starters) can be connected together and conveniently linked to the IO-Link master through a standardized IO-Link connection.

The IO-Link connection enables a high density of information in the local range.

For details of the communication connection using IO-Link, see page 2/97 onwards.

The diagnostics data of the process collected by the 3RA6 compact starter, e.g. short circuit, end of service life, limit position, etc., are not only indicated on the compact starter itself but also transmitted to the higher-level control system through IO-Link.

Thanks to the optionally available operator panel, which can be installed in the control cabinet door, it is easy to control the 3RA6 compact starters with IO-Link from the control cabinet door.

Permanent wiring/easy replacement

Using the SIRIUS infeed system for 3RA6 (see page 8/78), it is possible to carry out the wiring in advance without a compact starter having to be connected.

A compact starter is very easily replaced simply by pulling it out of the device without disconnecting the wiring.

Even with screw connections or mounting on a standard mounting rail there is no need to disconnect any wiring (on account of the removable main and control circuit terminals) in order to replace a compact starter.

General data

Consistent solution from the infeed to the motor feeder

The SIRIUS infeed system for 3RA6 with integrated PE bar is offered as a user-friendly possibility of feeding in summation currents up to 100 A with a maximum conductor cross-section of 70 mm² and connecting the motor cable directly without additional intermediate terminals.

Screw and spring-type terminals

The SIRIUS compact starters and the infeed system for 3RA6 are available with screw and spring-type terminals.



The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

System configurator for engineering

A free system configurator is available to reduce further the amount of engineering work for selecting the required compact starters and matching infeed.

Use of load feeders in conjunction with IE3/IE4 motors

Note:

For the use of SIRIUS 3RA6 compact starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual

For more information, see page 1/7.

Types of infeed for the 3RA6 fuseless compact starters

On the whole four different infeed possibilities are available:

- · Parallel wiring
- Use of three-phase busbars (combination with SIRIUS motor starter protectors and SIRIUS contactors possible)
- 8US busbar adapters
- SIRIUS infeed system for 3RA6 (see page 8/78)

To comply with the clearance and creepage distances demanded according to UL 508 there are the following infeed possibilities:

Type of infeed	Infeed terminal (according to UL 508, type E)	Туре
Parallel wiring	Terminal block for "Self-Protected Combination Motor Controller (Type E)"	3RV2928-1H
Three-phase busbars	Three-phase infeed terminal for constructing "Type E Starters", UL 508	3RV2925-5EB
Infeed system for 3RA6	Infeed on left, 50/70 mm ² screw terminal with 3 sockets, outgoing terminal with screw/spring-type terminals, including PE bar	3RA6813-8AB (screw terminals), 3RA6813-8AC (spring-type terminals)

SIRIUS 3RA6 compact starters

SIRIUS 3RA6 compact starters are universal motor feeders according to IEC 60947-6-2. As control and protective switching devices (CPS) they can connect, convey and disconnect the thermal, dynamic and electrical loads from short-circuit currents up to $I_{\rm q}=53$ kA, i.e. they are practically weld-free. They combine the functions of a motor starter protector, a contactor and an electronic overload relay in one enclosure. 45-mm-wide direct-on-line starters and 90-mm-wide reversing starters are available as variants.

The reversing starter version comes with not only an internal electrical interlock but also with a mechanical interlock to prevent simultaneous actuation of both directions of rotation.

The compact starters have isolating features in accordance with IEC 60947.2 and can be used as disconnector units (main control switch according to EN 60204 or VDE 0113). Isolation is effected by moving the handle into the "OFF" position; disconnection by means of the control contacts is not enough.

3RA6 fuseless compact starters are available in five current setting ranges. The 3RA61 and 3RA62 have two control voltage ranges (AC/DC), and the 3RA64 and 3RA65 have one control voltage range (DC):

Current	At 400 V AC for	Rated control supply voltage for						
setting range	three-phase motors Standard output P	3RA61, 3RA62 compact starters	3RA64, 3RA65 compact starters for IO-Link					
А	kW	V AC/DC	V DC					
0.1 0.4	0.09	24	24					
0.32 1.25	0.37	110 240						
1 4	1.5	-						
3 12	5.5	-						
8 32	15							

Notes:

The 3RA2 load feeders can be used for fuseless load feeders > 32 A up to 65 A. Load feeders in size S3 up to 100 A are available for self-assembly (see also page 8/4).

The SENTRON 3VL circuit breakers and the SIRIUS 3RT contactors can be used for fuseless load feeders > 100 A.

Operating conditions

The SIRIUS 3RA6 compact starters are suitable for use in any climate. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. Suitable covers must be provided for installation in dusty and damp locations.

The SIRIUS compact starters are generally designed to degree of protection IP20. The permissible ambient temperature during operation is -20 to +60 °C. The rated short-circuit current $I_{\rm CS}$ according to IEC 60947-6-2 is 53 kA at 400 V.

Note:

The maximum permissible short-circuit currents of the device versions for the various forms of power supply and voltages are available on request from Technical Support:

https://support.industry.siemens.com/My/ww/en/requests

General data

Overload tripping times

The tripping time in the event of overload can be set on the device to normal starting conditions (CLASS 10) and to heavy starting conditions (CLASS 20). As the breaker mechanism still remains closed after an overload, resetting is possible by either local manual reset or auto reset after three minutes cooling time.

With auto reset, there is no need to open the control cabinet.

Diagnostics options

The compact starter provides the following diagnostics options:

- With LFDs
- Connection to the control voltage
- Position of the main contacts
- With mechanical display
 - Tripping due to overload
 - Tripping due to short circuit
 - Tripping due to malfunction (end of service life reached because of worn switching contacts or a worn switching mechanism or faults in the control electronics)

These states can also be evaluated in the higher-level control system:

- With parallel wiring using the integrated auxiliary and signaling switches of the compact starter
- With AS-Interface or IO-Link in even greater detail using the respective communication interface

Four complement versions for 3RA61 and 3RA62 compact starters

- For standard mounting rail or screw fixing: basic version including one pair of main circuit terminals and one pair of control circuit terminals
- For standard mounting rail or screw fixing when using the AS-i add-on module:
 without control circuit terminals because the AS-i add-on module is plugged on instead
- For use with the infeed system for 3RA6: without main circuit terminals because they are supplied with the infeed system and the expansion modules
- For use with the infeed system for 3RA6 and the AS-i add-on module: without terminal complement (also for reordering when replacing the compact starter)

The control circuit terminals are always required by the compact starters for IO-Link; the main circuit terminals depend on the use of the infeed system.

More components of the 3RA6

Apart from the control supply voltage, "Overload" (1 CO) and "Short circuit/Function fault" (1 NO) signaling contacts are already integrated into the 3RA61/3RA62 – and lockable via two 6-pole removable control circuit terminals. The 3RA61 has two auxiliary contacts (1 NO + 1 NC) for displaying the position of the main contacts. Unlike the 3RA61 direct-on-line starter, the 3RA62 reversing starter has one auxiliary contact (1 NO) per direction of rotation per main contact.

Available for the 3RA61 and 3RA64 direct-on-line starters is a slot for an optional auxiliary switch block (optionally 2 NO, 2 NC or 1 NO + 1 NC) and for the 3RA62 and 3RA65 reversing starters there are two slots (for auxiliary switch blocks, see "Accessories" on page 8/71).

Positively-driven operation of the auxiliary contacts

Positively-driven operation between individual auxiliary circuits exists for the compact starter in the version as a direct-on-line starter for parallel wiring (3RA61) between the auxiliary circuits of the NC contacts (NC 21-22) and the NO contacts (NO 13-14) in the basic unit.

In addition, the optional auxiliary switch block offers positively driven contacts in the 3RA6913-1A version, each with one normally closed contact and one normally open contact.

Configurator



Configurator

Advantages:

- Simple usage from individual compact starters or also with corresponding infeed system and AS-i connection
- In the final configuration, you will be presented with additional technical information such as CAD data and product data sheets as well as characteristic curves, operating instructions, manuals etc.

See www.siemens.com/sirius/configurators

General data

Article No. scheme

Product versions		Article	num	ber				
Compact starters		3RA6		-				
Product function	Direct-on-line starter	1	2	0			П	For motor standard output 0.09 15 kW ¹⁾
	Reversing starter	2	2 5	0				For motor standard output 0.09 15 kW ¹⁾
	Direct-on-line starter for IO-Link	4	1 0	0				For motor standard output 0.09 15 kW ¹⁾
	Reversing starter for IO-Link	Ę	0	0				For motor standard output 0.09 15 kW ¹⁾
	Infeed system	8	3					
	Accessories	9)					
	 Auxiliary switches 		1					
	 Terminals 		2					
	 IO-Link accessories 		3					
	 Fixing elements 		4					
	Control kit		5					
Connection methods	No terminals				0		П	
	Screw terminals				1			
	Spring-type terminals				2			
Setting range	0.1 0.4 A				A	١		
	0.32 1.25 A				В	3		
	1 4 A				C	;		
	3 12 A				D)		
	8 32 A				E			
Rated control supply	24 V DC					B 4		For direct-on-line/reversing starters for IO-Link
voltage	24 V AC/DC					В 3		For direct-on-line/reversing starters
	110 240 V AC/DC					P 3		For direct-on-line/reversing starters
Terminal	None						0	Without main and control circuit terminals
complement variant	1/1						2	With 1 pair of main circuit and 1 pair of control circuit terminals
	0/1						3	Without main circuit terminals, with 1 pair of control circuit terminals
	1/0						4	With 1 pair of main circuit terminals, without control circuit terminals

3RA6 1 2 0 - 0 A B 3 0

Standard three-phase motor, basis 4-pole at 400 V AC; the actual startup characteristics of the motor as well as its rated data are important factors here.

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

General data

Benefits

Product advantages

The SIRIUS 3RA6 compact starters offer a number of benefits:

- Compact design saves space in the control cabinet
- Little planning and assembly work and far less wiring thanks to a single complete unit with one article number
- Low variance and therefore low stock levels, with two wide voltage ranges and five wide setting ranges for the rated current
- High plant availability through integrated functionalities such as prevention of main contact welding and disconnection at end of service life
- Enhanced productivity through automatic device reset in case of overload and differentiated detection of overload and short circuit
- Easy checking of the wiring and testing of the motor direction prior to start-up thanks to optional control kits

- Speedy replacement of devices thanks to removable terminals with spring-type and screw terminals in the main and control circuit
- Efficient power distribution through the related SIRIUS infeed system for 3RA6
- Direct connection of the motor feeder cable to the SIRIUS infeed system for 3RA6 thanks to integrated PE bar
- Connecting and looping through of incoming feeders up to a cross-section of 70 mm²
- When using the infeed system for 3RA6, possibility of directly connecting the motor cable without intermediate terminals
- Integration in Totally Integrated Automation thanks to the optional connection to AS-Interface or IO-Link

The SIRIUS 3RA6 compact starters create the basis for high-availability and future-proof machine concepts.

General data

Technical specifications

Industry Mall, see www.siemens.com/product?3RA6 System Manual, see http://support.industry.siemens.com/cs/ww/en/view/27865747. FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16301/faq Note on security: In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept. For more information about the subject of Industrial Security, recommendation about the subject of Industrial Security.

Туре		_	3RA61	3RA62	3RA64	3RA65
Mechanics and environment			JIAUI	JUNUT	JIMU4	JUMOS
Mounting dimensions (W x H x D)						
Screw terminals Spring-type terminals	T O	mm mm	45 x 170 x 165 45 x 191 x 165	90 x 170 x 165 90 x 191 x 165	45 x 170 x 165 45 x 191 x 165	90 x 170 x 165 90 x 191 x 165
Depth from standard mounting rail		mm	160			
Permissible ambient temperature • For operation (permissible operational current, see the following section "Electrical specifications") • During storage • During transport		°C °C °C	-20 +70, restr -55 +80 -55 +80	iction as from 60 o	depending on des	ign
Permissible mounting position	90° +1+1+1 90° 22.5° 22.5° 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8					
Shock resistance (sine-wave pulse)			$a = 60 \text{ m/s}^2 = 6$	g with 10 ms; for e	every 3 shocks in	all axes
Vibratory load			$f = 4 \dots 5.8 \text{ Hz}; c$	d = 15 mm; f = 5.8	500 Hz; a = 20	m/s ² ;10 cycles
Degree of protection	Acc. to IEC 60947-1		IP20			
Installation altitude		m	Up to 2 000 abo	ve sea level without	out restriction	
Relative air humidity		%	10 90			
Pollution degree			3			
Electrical specifications						
Device standard			IEC 60947-6-2			
Maximum rated operational voltage $U_{\rm e}$		V V		E and 3RA650 er 32 A designs)	00E	
Rated frequency		Hz	50/60			
Rated insulation voltage <i>U</i> _i (pollution degree 3)		V	690			
Rated impulse withstand voltage $U_{\rm imp}$		kV	6			
Rated operational current $I_e^{1)}$ and setting range for overload release	0.1 0.4 A 0.32 1.25 A 1 4 A 3 12 A 8 32 A	A A A A	0.4 1.25 4 12 32			
Permissible operational current of the compact When several compact starters are mounted side system (for more details on the various design va- see System Manual)	t starter²⁾ -by-side in the 3RA6 infeed riants,					
 For a control cabinet inside temperature of For a control cabinet inside temperature of For a control cabinet inside temperature of 	+40 °C +60 °C +70 °C	% % %	100 80 60			
Trip class (CLASS)	Acc. to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	70	10/20			
Overload function Ratio of lower to upper current mark	,		1:4			
Rated service short-circuit breaking capacity $I_{\rm CS}$ at 50/60 Hz, 400 V AC		kA	53			
Rated service short-circuit breaking capacity $I_{\rm CSIT}$ at 50/60 Hz 400/690 V AC in IT systems		kA	1.5			

¹⁾ For the use of 3RA6 compact starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

²⁾ Details about installation conditions and the use of the compact starters, and particularly about the derating of the rated current, can be found in the System Manual.

General data

Туре			3RA61	3RA62	3RA64	3RA65
Electrical specifications (continued)						
Power loss P _{v max} of all main current paths	0.4 A	mW	10			
Dependent on rated current $I_{\rm e}$	1.25 A	mW	100			
(upper setting range)	4 A 12 A	W	1 1.8			
	32 A	W	5.4			
Max. switching frequency	AC-41	1/h	750			
5 . ,	AC-43	1/h	250			
-	AC-44	1/h	15			
No-load switching frequency		1/h	3 600		3600, depending communication	g on the IO-Link
Touch protection	Acc. to DIN VDE 0106, Part 100		Finger-safe		Communication	uirie
Isolating features of the compact starter	Acc. to IEC 60947-3		✓ Isolation is assure	ed only by moving	the actuator into	the "OFF" position.
Main and EMERGENCY STOP switch characteristics of the compact starter and accessories	Acc. to IEC 60204		1	, .,		
Protective separation	Acc. to IEC 60947-2					
Control circuit to auxiliary circuit Horizontal standard mounting rail Other mounting position		V V	Up to 400 Up to 250			
Auxiliary circuit to auxiliary circuit						
Horizontal standard mounting rail Other mounting position		V	Up to 400 Up to 250			
Main circuit to auxiliary circuit • Any mounting position		V	Up to 400			
EMC interference immunity	Acc. to IEC 60947-1		· ·	degree of severity	3	
Conducted interference	BURST acc. to IEC 61000-4-4	1				
 In the main circuit 	20.10. 400.10.120 0.000 1	kV	4		4	
 In the auxiliary circuit 		kV	3		2	
Conducted interference	SURGE acc. to IEC 61000-4-5	5				
In the main circuitConductor - Ground		kV	4		2	
- Conductor - Conductor		kV	2		1	
In the auxiliary circuit		137	0		0.51)	
Conductor - GroundConductor - Conductor		kV kV	2		0.5 ¹⁾	
Auxiliary switches						
 Integrated 						
Position of the main contactsOverload/short circuit and malfunction signal			1 NO + 1 NC 1 CO/1 NO	2 NO	1 NO + 1 NC	2 NO
Expandable			100/1110			
- Position of the main contacts			2 NO, 2 NC, 1 NO	+ 1 NC		
Surge suppressors			Integrated (varis	tor)		
Electromagnetic operating mechanisms						
Control voltage		V	24 AC/DC		24 DC	
		V	110 240 AC/D	С		
Frequency	At AC	Hz	50/60 (±5%)			
Operating range			0.7 1.25 <i>U</i> _s		0.85 1.2 <i>U</i> _s	
No-load switching frequency		1/h	3 600			
Line protection	At 10 kA At 50 kA	mm² mm²	2.5 4			
Shock resistance			0.5			
Breaker mechanism OFF Breaker mechanism ON		g	25 15			
		g	10			
Normal switching duty			10 v 1			
Making capacity			12 x I _n			
Breaking capacity	11 1 10 1	1.144	10 x I _n			
Switching capacity dependent on rated current	Up to 12 A Up to 32 A	kW kW	5.5 15			
Endurance in operating cycles	A+1 - 0.0 v 1 and 400 V		2	2 v	2 000 000	2 v 1 E00 000
Electrical endurance	At $I_e = 0.9 \times I_n$ and 400 V		3 10 000 000	2 x 3 10 000 000	3 000 000	2 x 1 500 000
				2 000 000		

[✓] Function available

Tetriction available
1) To maintain maximum interference immunity in a harsh electromagnetic environment, additional overvoltage protection should be provided in the control circuit. The 5SD7432-4 plug-in surge arrester with remote signaling, for instance, is suitable, see Catalog LV 10.

General data

Туре		3BA6120-	.□B3., 3RA62	250□B3.		3BA6120-	.EB3., 3RA62	50EB3.		
.,,,,,		□ = A, B,	*			01170120	, 0.1,7.0_			
							Rated operational current 32 A			
Rated control supply voltage	V	24 AC	crational carr	24 DC		24 AC	orational carr	24 DC		
Inrush peak current	A	0.59		0.47		0.59		0.47		
Hold current	A	0.39		0.47		0.59		0.47		
Closed	W	2.8		2.9		3.5		3.1		
Operating times, typical On Off	ms ms	< 160 < 35			< 140 < 35		< 160 < 30			
Туре		3RA6 20	□P3., 3RA62	50□P3.		3RA6120-	.EP3., 3RA62	50EP3.		
		□ = A, B,	C or D							
		Rated ope	erational curr	ent ≤ 12 A		Rated ope	erational curr	ent 32 A		
Rated control supply voltage	٧	110 AC	240 AC	110 DC	240 DC	110 AC	240 AC	110 DC	240 DC	
Inrush peak current	Α	0.24	0.40	0.17	0.29	0.24	0.40	0.17	0.29	
Hold current	А	0.06	0.08	0.03	0.02	0.06	0.07	0.04	0.03	
Closed	W	3.8	6	3.1	5.1	3.7	5.2	3.4	5.8	
Operating times, typical On Off	ms ms	< 160 < 50	< 140 < 80	< 150 < 50	< 140 < 70	< 160 < 40	< 140 < 60	< 150 < 40	< 140 < 60	
Туре		3RA6400-	.□B4., 3RA65	500□B4.		3RA6400-	.EB4., 3RA65	00EB4.		
		□ = A, B,	C or D				•			
			erational curr	ent ≤ 12 A		Rated ope	Rated operational current 32 A			
Rated control supply voltage	٧	24 DC				24 DC				
Inrush peak current	Α	0.39				0.53				
Hold current	А	0.13				0.15				
Closed	W	2.9				3.4				
Operating times, typical ¹⁾										
• On	ms	< 140				< 140				
• Off	ms	< 35				< 30				

¹⁾ Plus IO-Link communication

3RA61

3RA62

3RA64

3RA65

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA6 Compact Starters

General data

Type

туре			3HA61	3HA62	3RA64	3HA65
Control circuit						
Rated operational voltage						
External auxiliary switch block		V	400/690			
Internal auxiliary switch		V	400/690			
Short-circuit signaling switch		V	400			
Overload signaling switch		V	400			
Switching capacity						
External auxiliary switch block	AC-15					
,	 Up to U_e = 230 V 	Α	6			
	• Up to $U_{\rm e} = 400 \text{ V}$	Α	3			
	• Up to $U_e = 289/500 \text{ V}$	Α	2			
	• Up to $U_{\rm e} = 400/690 \text{ V}$	Α	1			
	DC-13	^	0			
	• Up to $U_e = 24 \text{ V}$	A	6			
	• Up to $U_e = 60 \text{ V}$	A	0.9			
	 Up to U_e = 125 V Up to U_e = 250 V 	A A	0.55 0.27			
Internal auxiliary switch	AC-15	^	0.27			
- Internal adxillary Switch	• Up to $U_{\rm e}$ = 230 V	Α	6			
	• Up to $U_{\rm e} = 400 \text{ V}$	A	3			
	• Up to $U_e = 289/500 \text{ V}$	A	2			
	• Up to $U_{\rm e} = 400/690 \text{ V}$	Α	1			
	DC-13					
	• Up to $U_{e} = 24 \text{ V}$	A	10			
	• Up to $U_{\rm e} = 60 \text{ V}$	A	2			
	• Up to <i>U</i> _e = 125 V	A	1			
	• Up to $U_{\rm e} = 250 \text{ V}$	A	0.27			
Signaling switch	• Up to <i>U</i> _e = 480 V AC-15	Α	0.1			
Signaling switch	• Up to $U_{\rm e}$ = 230 V	Α	3			
	• Up to $U_{\rm e} = 400 \text{ V}$	A	1			
	DC-13	, ,	·			
	• Up to $U_{\rm P} = 24 \text{ V}$	Α	2			
	• Up to $U_{\rm e} = 250 \text{ V}$	Α	0.11			
External auxiliary switch blocks, in	nternal auxiliary switches					
Endurance in operating cyclesMechanical endurance			10 000 000		3 000 000	
Electrical endurance	AC-15, 230 V		10 000 000		3 000 000	
	• Up to 6 A		200 000			
	• Up to 3 A		500 000			
	• Up to 1 A		2 000 000			
	 Up to 0.3 A 		10 000 000			
	DC-13, 24 V					
	 Up to 6 A 		30 000			
	• Up to 3 A		100 000			
	• Up to 0.5 A		2 000 000			
	• Up to 0.2 A		10 000 000			
	DC-13, 110 V • Up to 1 A		40 000			
	• Up to 0.55 A		100 000			
	• Up to 0.3 A		300 000			
	• Up to 0.1 A		2 000 000			
	• Up to 0.04 A		10 000 000			
	DC-13, 220 V					
	 Up to 0.3 A 		110 000			
	• Up to 0.1 A		650 000			
	• Up to 0.05 A		2 000 000			
	• Up to 0.018 A		10 000 000			
Contact reliability	At 17 V and 5 mA	Oper-	1 faulty switch	ing operation p	er 100 000 000	
		ating				
		cycles				
Short-circuit protection	- F		40			
 Short-circuit current I_K ≤ 1.1 kA 	Fuse links, operational class gG	А	10			
	operational class gG - NEOZED Type 5SE					
	- NEOZED Type 5SE - DIAZED Type 5SB					
	- LV HRC Type 3NA					
• Short-circuit current I _K < 400 A	Miniature circuit breaker up to	Α	10			
	230 V with C characteristic					

General data

Туре			3RA61	3RA62	3RA64	3RA65
Signaling switches						
Endurance in operating cycles • Mechanical endurance • Electrical endurance AC-15	At 230 V and 3 A		20 000 6 050			
Contact reliability	At 17 V and 5 mA	Oper- ating cycles	1 faulty switching	ng operation per	100 000 000	
Short-circuit protection						
• Short-circuit current $I_{K} \le 1.1 \text{ kA}$	Fuse links, operational class gG - NEOZED Type 5SE - DIAZED Type 5SB - LV HRC Type 3NA	А	6			
• Short-circuit current $I_{\rm K}$ < 400 A	Miniature circuit breaker up to 230 V with C characteristic	Α	6			
Overload (short-circuit current $I_{K} \le 1.1 \text{ kA}$)	Fuse links, operational class gG - NEOZED Type 5SE - DIAZED Type 5SB - LV HRC Type 3NA	A	4			

SIRIUS 3RA6 Compact Starters 3RA61, 3RA62 Compact Starters

3RA61 direct-on-line starters IE3/IE4 ready

Selection and ordering data







Width 45 mm

Rated short-circuit current I_{CS} = 53 kA at 400 V

A set of 3RA6940-0A adapters is required for screw fixing.

3RA6120-1CB32	3RA6120-2EB32
Standard three-phase	Setting range for

Standard three-phase motor 4-pole at 400 V AC ¹⁾ Standard output <i>P</i>	Setting range for electronic overload release	Instantaneous electronic release	SD ²⁾	Article No. Pr		O ²⁾ Article No.	Price per PU
	<u> </u>	<i>I</i> >					
kW	A	A	d		d		

For use with the infeed system for 3RA6	
and with the AS-i add-on module or as a re	eplacement device,
without main and control circuit terminals	

without main	and control circuit terminals				
0.09	0.1 0.4	56	10	3RA6120-0A□30	
0.37	0.32 1.25	56	10	3RA6120-0B□30	
1.5	1 4	56	2	3RA6120-0C□30	
5.5	3 12	168	2	3RA6120-0D□30	
15	8 32	448	2	3RA6120-0E□30	

				Screw terminals	+	Spring-type terminals	
For standard mounting rail or screw fixing, including 1 pair of main circuit terminals							
0.09	0.1 0.4	56	2	3RA6120-1A□32	2	3RA6120-2A□32	
0.37	0.32 1.25	56	2	3RA6120-1B□32	2	3RA6120-2B□32	
1.5	1 4	56	2	3RA6120-1C□32	2	3RA6120-2C□32	
5.5	3 12	168	2	3RA6120-1D□32	2	3RA6120-2D□32	
15	8 32	448	2	3RA6120-1E□32	2	3RA6120-2E□32	
	nfeed system for 3RA6, uit terminals, with 1 pair o	of control circuit ter	minals				
0.09	0.1 0.4	56	10	3RA6120-1A□33	10	3RA6120-2A□33	
0.37	0.32 1.25	56	2	3RA6120-1B□33	10	3RA6120-2B□33	
1.5	1 4	56	2	3RA6120-1C□33	2	3RA6120-2C□33	
5.5	3 12	168	2	3RA6120-1D□33	2	3RA6120-2D□33	
15	8 32	448	2	3RA6120-1E□33	2	3RA6120-2E□33	

Article No. supplements for	rated control	supply voltage
-----------------------------	---------------	----------------

•	24	٧	AC/DC
---	----	---	-------

^{• 110 ... 240} V AC/DC

For standard mounting rail or screw fixing for use with AS-i add-on module, with 1 pair of main circuit terminals, without control circuit terminals Rated control supply voltage 24 V AC/DC

riated control supply vo	mage Z+ V / (O/DO					
0.09	0.1 0.4	56	10	3RA6120-1AB34	10	3RA6120-2AB34
0.37	0.32 1.25	56	10	3RA6120-1BB34	10	3RA6120-2BB34
1.5	1 4	56	10	3RA6120-1CB34	10	3RA6120-2CB34
5.5	3 12	168	2	3RA6120-1DB34	10	3RA6120-2DB34
15	8 32	448	10	3RA6120-1EB34	10	3RA6120-2EB34

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Standard delivery times apply for a rated control supply voltage of 24 V AC/DC. For the other rated control supply voltages, longer delivery times are possible.

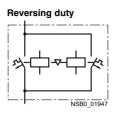
SIRIUS 3RA6 Compact Starters 3RA61, 3RA62 Compact Starters

IE3/IE4 ready 3RA62 reversing starters

Selection and ordering data







Width 90 mm

Rated short-circuit current I_{CS} = 53 kA at 400 V

Two sets of 3RA6940-0A adapters are required for screw fixing.

$$\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 42F \end{array}$$

011/10200 101 02	U	•
Standard three-phase motor 4-pole at 400 V AC	1)	5
Standard output P		

kW

15

Setting range for electronic overload release

Instantaneous electronic release *I* >

nent device,

Α

56

56

56

56

168

448

SD²⁾ Article No.

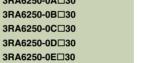
Price SD2) Article No

per PU	SDE	Article No.	per PU
	А		

For use with the infeed system for 3RA6
and with the AS-i add-on module or as a replacen
without main and control circuit terminals

 Image: control of the
0.09	0.1 0.4
0.37	0.32 1.25
1.5	1 4







Screw termi	na	ls	







	of main circuit terminals		I circuit terminals
0.09	0.1 0.4	56	10

0.00	0.10.4	00	10
0.37	0.32 1.25	56	2
1.5	1 4	56	2
5.5	3 12	168	2
15	8 32	448	2

56	2	3HA6
56	2	3RA6
168	2	3RA6
448	2	3RA6

3RA6250-1E□32
3RA6250-1D□32
3RA6250-1C□32
3RA6250-1B□32
3HA0230-1ALI32

10 3RA6250-2A□32 2 3RA6250-2B□32

2	3RA6250-2C□32
2	3RA6250-2D□32
10	3RA6250-2E□32

For use	e in the	e infe	ed syst	tem for	3RA6.
without	main d	circuit	termina	als. With	1 pair c

0.09	0.1 0.4
0.37	0.32 1.25
1.5	1 4
5.5	3 12

8 ... 32



3RA6250-1A□33 3RA6250-1B□33 3RA6250-1C□33 3RA6250-1D□33 3RA6250-1E□33

10 3RA6250-2A□33 10 3RA6250-2B□33 10 3RA6250-2C□33 10 3RA6250-2D 33

10

3RA6250-2E□33

Article No. supplements for rated control supply voltage

• 24 V AC/DC

15

• 110 ... 240 V AC/DC

For standard mounting rail or screw fixing

for use with AS-i add-on module, with 1 pair of main circuit terminals, without control circuit terminals Rated control supply voltage 24 V AC/DC

0.09	0.1 0.4	56	10
0.37	0.32 1.25	56	10
1.5	1 4	56	10
5.5	3 12	168	10
15	8 32	448	10

3RA6250-1AB34 3RA6250-1BB34 3RA6250-1CB34 3RA6250-1DB34 3RA6250-1EB34

10 3RA6250-2AB34 10 3RA6250-2BB34 10 3RA6250-2CB34 10 3RA6250-2DB34 10 3RA6250-2EB34

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Standard delivery times apply for a rated control supply voltage of 24 V AC/DC. For the other rated control supply voltages, longer delivery times are possible.

SIRIUS 3RA6 Compact Starters 3RA64, 3RA65 Compact Starters for IO-Link

3RA64 direct-on-line starters IE3/IE4 ready

Selection and ordering data





Direct-on-line start

Rated control supply voltage 24 V DC

Width 45 mm

Rated short-circuit current I_{CS} = 53 kA at 400 V

A set of 3RA6940-0A adapters is required for screw fixing.

auxiliary switch block							
Standard three-phase motor 4-pole at 400 V AC ¹⁾ Standard output <i>P</i>	Setting range for electronic overload release	Instantaneous electronic release	SD	Article No. Price S per PU		Article No.	Price per PU
	<u> </u>	[>					
kW	А	A	d	Screw terminals	d	Spring-type terminals	<u> </u>
For standard mounting including 1 pair of main		air of control circuit term	inals				
0.09	0.1 0.4	56	10	3RA6400-1AB42	10	3RA6400-2AB42	
0.37	0.32 1.25	56	10	3RA6400-1BB42	10	3RA6400-2BB42	
1.5	1 4	56	2	3RA6400-1CB42	2	3RA6400-2CB42	
5.5	3 12	168	2	3RA6400-1DB42	2	3RA6400-2DB42	
15	8 32	448	10	3RA6400-1EB42	10	3RA6400-2EB42	
For use in the infeed s							
without main circuit term	ninals, with 1 pair of cont	rol circuit terminals					
0.09	0.1 0.4	56	10	3RA6400-1AB43	10	3RA6400-2AB43	
0.37	0.32 1.25	56	2	3RA6400-1BB43	2	3RA6400-2BB43	
1.5	1 4	56	2	3RA6400-1CB43	2	3RA6400-2CB43	
5.5	3 12	168	2	3RA6400-1DB43	2	3RA6400-2DB43	
15	8 32	448	10	3RA6400-1EB43	10	3RA6400-2EB43	

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

SIRIUS 3RA6 Compact Starters

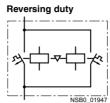
3RA64, 3RA65 Compact Starters for IO-Link

IE3/IE4 ready 3RA65 reversing starters

Selection and ordering data



3RA65 with 3RA6911-1A auxiliary switch blocks



Rated control supply voltage 24 V DC

Width 90 mm

Rated short-circuit current I_{CS} = 53 kA at 400 V

Two sets of 3RA6940-0A adapters are required for screw fixing.

$$\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 42F \end{array}$$

Standard three-phase motor 4-pole at 400 V AC ¹⁾ Standard output <i>P</i>	Setting range for electronic overload release	Instantaneous electronic release	SD	Article No.	Price per PU	SD	Article No.	Price per PU
	G	<i>I</i> >						
kW	A	A	d	Screw terminals		d	Spring-type terminals	<u> </u>
For standard mountin including 1 pair of main	g rail or screw fixing, circuit terminals and 1 p	air of control circuit term	inals					
0.09	0.1 0.4	56	10	3RA6500-1AB42		10	3RA6500-2AB42	
0.37	0.32 1.25	56	2	3RA6500-1BB42		10	3RA6500-2BB42	
1.5	1 4	56	2	3RA6500-1CB42		10	3RA6500-2CB42	
5.5	3 12	168	10	3RA6500-1DB42		10	3RA6500-2DB42	
15	8 32	448	10	3RA6500-1EB42		10	3RA6500-2EB42	
For use in the infeed s without main circuit term	system for 3RA6, ninals, with 1 pair of cont	rol circuit terminals						
0.09	0.1 0.4	56	10	3RA6500-1AB43		10	3RA6500-2AB43	
0.37	0.32 1.25	56	10	3RA6500-1BB43		10	3RA6500-2BB43	
1.5	1 4	56	10	3RA6500-1CB43		10	3RA6500-2CB43	
5.5	3 12	168	10	3RA6500-1DB43		10	3RA6500-2DB43	
15	8 32	448	10	3RA6500-1EB43		10	3RA6500-2EB43	

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Accessories

Overview

Accessories for SIRIUS 3RA6 compact starters

The following accessories are available specially for the 3RA6 compact starters:

- Infeed system for 3RA6, see page 8/78 onwards
- For AS-i add-on modules, see page 8/76 onwards: "Add-on modules for AS-Interface"
- External auxiliary switch blocks: Snap-on auxiliary switch as versions 2 NO, 2 NC and 1 NO + 1 NC with screw or springtype terminals; the contacts of the auxiliary switch block open and close jointly with the main contacts of the compact starter. The NC contacts are designed as mirror contacts.
- Control kit: Aid for manually closing the main contacts to check the wiring and motor direction under conditions of short-circuit protection
- Adapter for screw fixing the compact starter, including push-in lugs
- Main circuit terminal: Available with screw and spring-type terminals
- Main circuit terminals mixed connection method:
 With the main circuit terminals mixed connection method it is
 also possible in the main circuit to switch from screw terminals
 on the line side to spring-type terminals on the outgoing side.
 This enables, for example, the side-by-side mounting of
 several compact starters and their cost-efficient connection
 using three-phase busbars on the infeed side. The motors are
 then connected directly by the quick and reliably contacting
 spring-type terminals.

Accessories for UL applications

The terminal block for "Self-Protected Combination Motor Controller", type E is available for complying with the clearance and creepage distances demanded according to UL 508.

Accessories for infeed using three-phase busbar systems

The three-phase busbars can be used as an easy, time-saving and clearly arranged means of feeding SIRIUS 3RA6 compact starters with screw terminals. Motor starter protector sizes S00 and S0 can also be integrated.

The busbars are suitable for between two and five devices. However, any kind of extension up to a maximum summation current of 63 A is possible by clamping the tags of an additional busbar (rotated by 180°) underneath the terminals of the respective last motor starter protector.

Motor starter protectors S00 and S0 of the 3RV2 series can be combined in any way (without a special connecting piece). The motor starter protectors are supplied by appropriate infeed terminals. Special infeed terminals are required for constructing "Type E Starters" according to UL/CSA.

The three-phase busbar systems are finger-safe but empty connection tags must be fitted with covers. They are designed for any short-circuit stress which can occur at the output side of connected SIRIUS 3RA6 compact starters or motor starter protectors.

Busbar adapters for 60 mm systems

The compact starters are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs. These feeders are suitable for copper busbars with a width from 12 to 30 mm. The busbars can be 4 to 5 mm or 10 mm thick.

The 8US busbar system can be loaded with a maximum summation current of 630 A.

The "reversing starter" version requires a device holder alongside the busbar adapter for lateral mounting.

The compact starters are snapped onto the adapter and connected on the line side. This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

For more accessories such as incoming and outgoing terminals, flat copper profiles etc., see Catalog LV 10.

Accessories for operation with closed control cabinet doors

Door-coupling rotary operating mechanisms for standard and EMERGENCY STOP applications are available for operating the compact starter with closed control cabinet doors.

Accessories for SIRIUS 3RA6 compact starters in IO-Link version

The following accessories are available specially for the 3RA64, 3RA65 compact starters:

- Additional connection cables for side-by-side mounting of up to four compact starters
- Operator panel for on-site control and diagnostics of up to four compact starters coupled to each other

Accessories

Selection and ordering	g data					
	Version	SD	Article No. Pric		PS*	PG
Accessories specially	for 3RA6 compact starters	d				
	Control kit For mechanical actuation of the compact starter	2	3RA6950-0A	1	1 unit	42F
3RA6950-0A	Adapters for screw fixing the compact starter (set including push-in lugs) Direct-on-line starters require one set, reversing starters two sets.	2	3RA6940-0A	1	1 unit	42F
			Screw terminals)		
3RA6911-1A	Auxiliary switch blocks for compact starters 2 NO 1 NO 1 NO +1 NC (these auxiliary contacts are positively driven		3RA6911-1A 3RA6912-1A 3RA6913-1A	1 1 1	1 unit 1 unit 1 unit	42F 42F 42F
3RA6920-1A	Main circuit terminals (incoming and outgoing side)	2	3RA6920-1A	1	1 unit	42F
Floring A	Control circuit terminals (1 set comprising 2 terminals)					
00000	• for 3RA61	2	3RA6920-1B	1	1 unit	42F
ALL AND SEC SINC C 22	• for 3RA62	2	3RA6920-1C	1	1 unit	42F
3RA6920-1B			Spring-type terminals	<u> </u>		
			Spring-type terminals	Í		
	Auxiliary switch blocks for compact starters	0	0D40044 04		4 9	405
1300 1000 2300 ton	• 2 NO • 2 NC	2	3RA6911-2A 3RA6912-2A	1	1 unit 1 unit	42F 42F
00 00 00 00	 1 NO +1 NC (these auxiliary contacts are positively driven 		3RA6913-2A	1	1 unit	42F
3RA6911-2A						
3RA6920-2A	Main circuit terminals (incoming and outgoing side)	2	3RA6920-2A	1	1 unit	42F
3RA6920-2B	Control circuit terminals (1 set comprising 2 terminals) • for 3RA61 • for 3RA62	2	3RA6920-2B 3RA6920-2C	1	1 unit 1 unit	42F 42F

Accessories

Version	SD	Article No.	Price per PU	PU (UNIT, SET. M)	PS*	PG
	d			, ,		
for 3RA6 compact starters (continued)						
Main circuit terminals, mixed connection method 1 set comprises:	20	3RA6920-3A		1	1 unit	42F
 1 joint block on the line side with screw terminals 1 joint block on the outgoing side with spring-type terminals 						
Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
for 2DA64, 2DA65 compact starters for IO Link	u					
•						
mounting of up to 4 compact starters						
• 10-pole - 8 mm ¹⁾ - 200 mm ¹⁾	2 5	3RA6932-0A 3RA6933-0B		1 1	5 units 5 units	42F 42F
• 14-pole - 8 mm ²⁾ - 200 mm	5 5	3RA6931-0A 3RA6933-0C		1 1	5 units 5 units	42F 42F
Operator panels (set) 1 operator panel 1 enabling module 1 interface cover 1 fixing terminal	10	3RA6935-0A		1	1 unit	42F
-						
Enabling modules (replacement)	10	3RA6936-0A		1	1 unit	42F
Interface covers (replacement)	10	3RA6936-0B		1	5 units	42F
Connection cables (round) for connecting the operator panel 10-pole, 2 000 mm	5	3RA6933-0A		1	1 unit	42F
	for 3RA6 compact starters (continued) Main circuit terminals, mixed connection method 1 set comprises: • 1 joint block on the line side with screw terminals • 1 joint block on the outgoing side with spring-type terminals Version Version Version Version Version Version Operator panels (set) • 1 operator panel (set) • 1 operator panel (set) • 1 interface cover • 1 fixing terminal Enabling modules (replacement) Interface covers (replacement) Connection cables (round) for connecting the operator panel	for 3RA6 compact starters (continued) Main circuit terminals, mixed connection method 1 set comprises: • 1 joint block on the line side with screw terminals • 1 joint block on the outgoing side with spring-type terminals Version SD Version SD d for 3RA64, 3RA65 compact starters for IO-Link Additional connection cables (flat) for side-by-side mounting of up to 4 compact starters • 10-pole - 8 mm ¹⁾ - 200 mm ¹⁾ • 14-pole - 8 mm ²⁾ - 200 mm 5 Operator panels (set) • 1 operator panel • 1 enabling module • 1 interface cover • 1 fixing terminal Enabling modules (replacement) Interface covers (replacement) Interface covers (replacement) Connection cables (round) for connecting the operator panel	for 3RA6 compact starters (continued) Main circuit terminals, mixed connection method 1 set comprises: • 1 joint block on the line side with screw terminals • 1 joint block on the outgoing side with spring-type terminals Version SD Article No. d for 3RA64, 3RA65 compact starters for IO-Link Additional connection cables (flat) for side-by-side mounting of up to 4 compact starters • 10-pole • 8 mm ¹⁾ • 200 mm ¹⁾ 5 3RA6932-0A 3RA6933-0B • 14-pole • 8 mm ²⁾ • 200 mm 5 3RA6933-0C Operator panels (set) • 1 operator panel • 1 enabling module • 1 interface cover • 1 fixing terminal Enabling modules (replacement) Interface covers (replacement) Interface covers (replacement) Interface covers (replacement) Connection cables (round) for connecting the operator panel	for 3RA6 compact starters (continued) Main circuit terminals, mixed connection method 1 set comprises: 1 joint block on the line side with screw terminals 1 joint block on the outgoing side with spring-type terminals Version SD Article No. Price per PU d for 3RA64, 3RA65 compact starters for IO-Link Additional connection cables (flat) for side-by-side mounting of up to 4 compact starters 10-pole 8 mm¹) 2 3RA6932-0A 3RA6933-0B 14-pole 8 mm²) 20 0mm¹) 3RA6933-0B Toperator panels (set) 1 operator panel 1 enabling module 1 interface cover 1 fixing terminal Enabling modules (replacement) Interface covers (replacement) Interface covers (replacement) Connection cables (round) for connecting the operator panel	Per PU CUNIT, SET, M	Der PU CUNIT SET, M

^{1) 10-}pole connection cables are required for EMERGENCY STOP group concepts.

For matching IO-Link masters, see page 2/104 onwards.

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	otected Combination Motor Controllers (Type E) ed through parallel wiring with compact starters						
3RV2928-1H	Terminal blocks type E for extended clearance and creepage distances (1 and 2 inch) Note: UL 508 demands 1-inch clearance and 2-inch creepage distance at line side for "Combination motor controller type E". Terminal blocks are not required for use according to CSA. These terminal blocks cannot be used in combination with 3RV19.5 three-phase busbars.	•	3RV2928-1H		1	1 unit	41E

Is included in the scope of supply of the SIRIUS 3RA6 compact starter in IO-Link version.

Δ				173	

	starters a	of compact nd motor star s that can be d	Modula ter spacin				Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Without la accessor										
			mm	А	Size	d					
hree-phase busba	rs for infee	ed with 3RA	6								
RV1915-1AB	protector	ng several cor s with screw to mounting rails	erminals, m	ounted side-	by-side on						
	2 3		45 45	63 63	S00, S0 ¹⁾ S00, S0 ¹⁾		3RV1915-1AB		1	1 unit	41E
A CALL COLOR	3 4		45 45	63	S00 S0 ¹⁾	>	3RV1915-1BB 3RV1915-1CB		1	1 unit 1 unit	41E 41E
RV1915-1BB	5		45	63	S00, S0 ¹⁾	>	3RV1915-1DB		1	1 unit	41E
HE SEE											
RV1915-1CB											
W 1915-1CB											
AAAAAAAAAAA											
RV1915-1DB											
	Version			pacing	For motor starter protectors	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			m		Size	d					1 0
Covers for connect	ion tags of	the three-p	hase bus	l					OL1, WI)		
				pars					OL1, WI)		
RV1915-6AB	positions	otection for en			S00, S0	>	3RV1915-6AB			10 units	
RV1915-6AB	positions		npty	\$	·	>		Diag	1		41E
RV1915-6AB	Conductor Solid or	or cross-sectic Finely A stranded c	npty on WG	Tightening torque	·		3RV1915-6AB Article No.	Price per PU		10 units	41E
RV1915-6AB	Conductor Solid or	or cross-sectic Finely A stranded c with end c sleeve	npty on WG ables, solid	Tightening torque	For compact starters and motor starter	>			1 PU (UNIT,		
Three-phase infeed	Conductor Solid or stranded mm² terminals	or cross-sectic Finely A stranded c with end o sleeve mm ² A for three-pt	on WG ables, solid r stranded WG	Tightening torque Nm pars and fo	For compact starters and motor starter protectors Size	SD			1 PU (UNIT,		41E
Three-phase infeed constructing "Type	Conductor Solid or stranded mm²	or cross-sectic Finely A stranded c with end o sleeve mm ² A for three-pt	on WG ables, solid r stranded WG	Tightening torque Nm pars and fo	For compact starters and motor starter protectors Size	SD			1 PU (UNIT,		41E

Three-phase infeed terminals for 3-phase busbars



3RV2925-5EB

Connection from below¹⁾
2.5 ... 25 2.5 ... 16 10 ... 4

2.5 ... 25 2.5 ... 16 10 ... 4

Input: 4; S00, S0 Output: 2 ... 2.5

S00, S0

3 ... 4

3RV2915-5B

3RV2925-5EB

1 1 unit 41E

1 unit

41E

This terminal is connected in place of a compact starter, please take the space requirement (45 mm) into account.

Accessories

	Version			SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Busbar adapters for 60) mm eveteme			d					
Busilar adapters for ou	For flat copper profiles Width: 12 30 mm Thickness: 4 5 mm (J	N 46433	2	8US1211-1NS10		1	1 unit	140
8US1211-1NS10									
Device holders for late adapter for 60 mm sys		side the busba	ır						
	Required in addition to mounting a reversing s		oter for	2	8US1250-1AA10		1	1 unit	140
8US1250-1AA10									
	Version	Color of actuator	Version of extension shaft	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
D			mm	d					
Door-coupling rotary of starter with closed cor	ntrol cabinet doors			t					
	The door-coupling rote of a knob, a coupling of shaft (6 mm x 6 mm). I mechanisms are desig The door interlocking p control cabinet door in starter protector. The C to 3 padlocks.	Iriver and a 130 m The door-coupling ned to degree of prevents acciden the ON position	Im long extension g rotary operating protection IP64. tal opening of the of the motor						
3RV2926-0B	Door-coupling rotary operating mechanisms	Black	130	>	3RV2926-0B		1	1 unit	41E
	EMERGENCY STOP door-coupling rotary operating mechanisms	Red/yellow	130	•	3RV2926-0C		1	1 unit	41E

						Access	ories
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			, ,		
Tools for opening	spring-type terminals						
			Spring-type terminals	$\stackrel{\infty}{\mathbb{H}}$			
	Screwdrivers For all SIRIUS devices with spring-type terminals	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated						
Blank labels							
3RT2900-15B20	Unit labeling plates ¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray	20	3RT2900-1SB20		100	340 units	41B
System Manual							
	npact Starter, SIRIUS Infeed System for 3RA6"						
	System Manual, see http://support.industry.siemens.com/cs/ww/en/view/2786574	17.					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

Add-on modules for AS-Interface

Overview

Various AS-i add-on modules are available for communication of the 3RA6 compact starter with the control system using AS-Interface:

- · Standard version
- With two local inputs
- With two free external inputs
- With one free external input and one free external output
- With two free external outputs
- For local control

The AS-i add-on modules can be combined only in connection with compact starters with a rated control supply voltage of 24 V AC/DC.

AS-i add-on module for local control

With this new module it is also possible for the connected compact starter to be operated directly using simple switches, i.e. without recourse to AS-i communication, if required.

"Automatic" mode

NC contacts can be connected to the inputs Y2 and Y4 through the local terminals on the AS-i add-on module. If the "+" terminals are connected simultaneously to both local inputs, the AS-i add-on module will be in "Automatic" mode, i.e. it will communicate with the control system through AS-Interface.

Local control

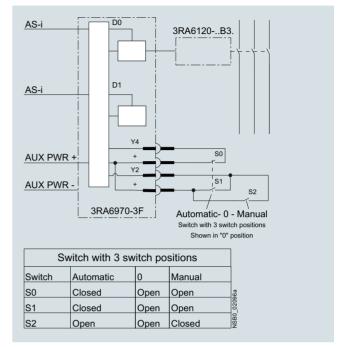
Opening the two inputs Y2 and Y4 will result in the direct disconnection of the compact starter. Operation through AS-i communication is finished and the compact starter can now be switched on and off directly using NO contacts (one NO contact per direction of rotation on the reversing starter).

"LED AUX Power" must light up green, the 24 V DC supply must be ensured and the AS-i control supply voltage must no longer be applied.

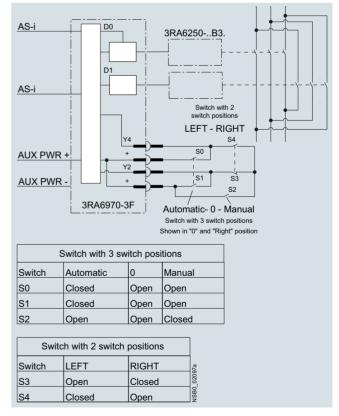
Resetting to "Automatic" mode

If a "1" signal is simultaneously applied at the local inputs, the availability bit DI 0 is switched to a "1" signal.

If AS-i communication is reset, the motor is first switched off and then on again when requested by the control system.



Circuit diagram example for controlling a 3RA6120 direct-on-line starter using an AS-i add-on module for local control



Circuit diagram example for controlling a 3RA6250 reversing starter using an AS-i add-on module for local control

Add-on modules for AS-Interface

PU (UNIT, SET, M)	PS*	PG
1		
1		
1		
	1 unit	42F
1	1 unit	42F
1	1 unit	42F
1	1 unit	42F
1	1 unit	42F
1	1 unit	42F
1	5 units	42C
1	5 units	42C
1	1 unit	42C

For matching AS-Interface masters, network transitions and power supply units, see pages 2/36, 2/44 and 2/78 onwards.

Infeed system for 3RA6

Overview

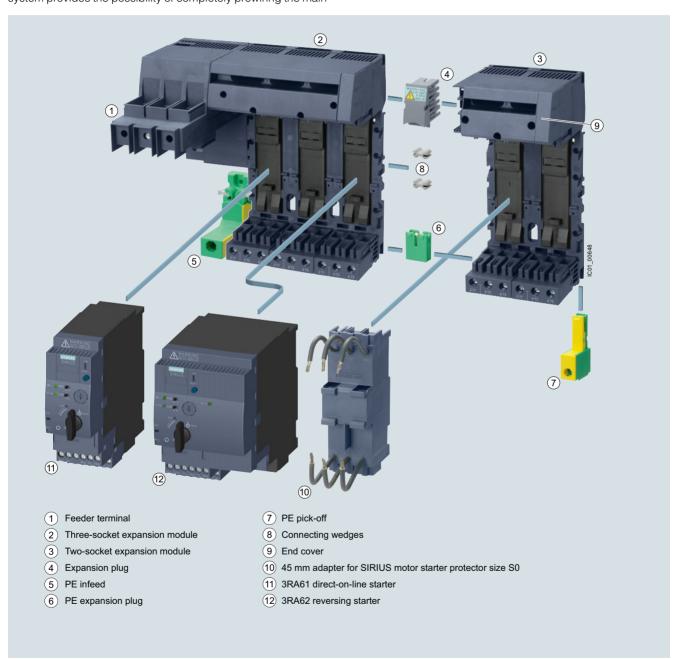
More information

Homepage, see www.siemens.com/compactstarter Industry Mall, see www.siemens.com/product?3RA68

Online configurator, see www.siemens.com/sirius/configurators

The infeed system for 3RA6 compact starters enables far less wiring in the main circuit and, thanks to the easy exchangeability of the compact starters, reduces the usual downtimes for maintenance work during the plant's operating phase. The infeed system provides the possibility of completely prewiring the main

circuit without a compact starter needing to be connected at the same time. As the result of the removable terminals in the main circuit, compact starters can be integrated in an infeed system in easy manner (without the use of tools).



Infeed system for 3RA6 compact starters

Infeed system for 3RA6

In addition, the integrated PE bar means it is optionally possible to connect the motor cable directly to the infeed system without additional intermediate terminals. The infeed system for 3RA6 compact starters is designed for summation currents up to 100 A with a maximum conductor cross-section of up to 70 mm² on the infeed terminal block.

The infeed system can be mounted on a standard mounting rail or flat surfaces.

1) Infeed

The three-phase infeed is available as a infeed with screw terminal (25/35 mm² up to 63 A or 50/70 mm² up to 100 A) and as a infeed with spring-type terminal (25/35 mm² up to 63 A).

The infeed with spring-type terminal can be fitted on the left as well as on the right of an expansion module.

The infeed with screw terminal is supplied only with a 3-socket expansion module and permanently fitted on the left side.

The infeed with screw terminals enable connection of the main conductors (L1, L2, L3) either from above or from below.

The infeed with screw terminal is supplied complete with one end cover, the infeed with spring-type terminal complete with two end covers.

2 3-socket expansion module

The expansion module with three sockets for compact starters is available with screw terminals and with spring-type terminals.

Expansion modules enable the infeed system to be expanded and can be fitted to each other in any number.

Two expansion modules are held together with the help of two connecting wedges and one expansion plug. These assembly parts are included in the scope of supply of the respective expansion module.

When the infeed system for 3RA6 is used, the compact starters (plug-in modules) are easily assembled and disassembled even when live.

Optional possibilities:

- PE connection on motor outgoing side
- Outfeed for external auxiliary devices
- Connection to 3RV29 infeed system
- Integration of SIRIUS 3RV1 and 3RV2 motor starter protectors size S0 up to 25 A (using 3RA6890-0BA adapter)

(3) 2-socket expansion module

If only two instead of three additional sockets are required, then the 2-socket expansion module is the right choice. It has the same functionality as the 3-socket expansion module.

(4) Expansion plug

Two expansion modules can be connected together using the expansion plug. Flexible expansion of the infeed system is thus possible.

(5) PE infeed

This module enables a PE cable to be connected.

The PE infeed can be ordered with screw terminals and springtype terminals (35 mm²) and can be fitted on the left or right of the expansion block.

6 PE expansion plug

The PE expansion plug is inserted from below and enables two PE bars to be connected.

7 PE pick-off

The PE pick-off is available with screw terminals and spring-type terminals ($6/10~\text{mm}^2$). It is snapped into the infeed system from below.

8 Connecting wedges

Two connecting wedges are used to hold together two expansion modules.

(9) End covers

On the last expansion module of a row, the socket provided for the expansion plug can be covered by inserting the end cover.

(ii) 45 mm adapters for SIRIUS 3RV1/3RV2 motor starter protectors

SIRIUS 3RV1 and 3RV2 motor starter protectors size S0 with screw terminals can be fitted to the adapter, enabling them to be plugged into the infeed system.

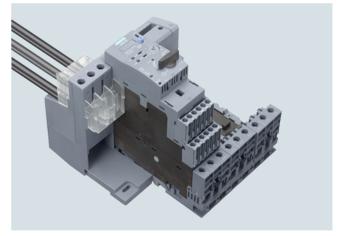
IP20 terminal covers for increasing finger-safety

Universally configured terminal covers are available for the 25/35 mm² and 50/70 mm² three-phase infeeds with screw terminal:

- 3RA6880-2AB terminal covers for infeeds with screw terminal 25/35 mm² (3RA6812-8AB/AC)
- 3RA6880-3AB terminal covers for infeeds with screw terminal 50/70 mm² (3RA6813-8AB/AC)

The terminal covers can be used in two ways on the infeed terminals of the infeeds with screw terminal 25/35 mm² and 50/70 mm² (see illustration):

- If the terminals are connected, the cables are also covered:
 - by approx. 14 mm with the 3RA6880-2AB
 - by approx. 18 mm with the 3RA6880-3AB
- On clamping points without connected cables, the covers can be turned once and then pushed over the clamping points for finger-safe covering of the metal parts.



Use of the 3RA6880-2AB terminal cover on the infeed with screw terminal 25/35 mm² (3RA6812-8AB/AC). The upper cover increases the finger-safety for the connected conductors. The identical lower cover is turned for use and prevents touching of the voltage-carrying metal parts of the infeed terminal. For better recognition, the covers are shown as transparent in this illustration and not in their original color.

Infeed system for 3RA6

Terminal blocks

Using the terminal block the three phases can be fed out of the system; this means that single-phase, two-phase and three-phase components can also be integrated in the system.

After the end cover is pulled out, the terminal block can be plugged onto an expansion module.

Expansion plug for SIRIUS 3RV29 infeed systems

After the end cover is pulled out, the expansion plug for the SIRIUS 3RV29 infeed system can be plugged onto an expansion module. It connects the infeed system for 3RA6 compact starters with the SIRIUS 3RV29 infeed system.

Maximum rated operational current

The following maximum rated operational currents apply for the components of the infeed system for 3RA6:

Component	Maximum rated operational current
	A
Infeed with screw terminal 50/70 mm ²	100
Infeed with screw terminal 25/35 mm ²	63
Infeed with spring-type terminal 25/35 mm ²	63
Expansion plug	63

With side-by-side mounting of several expansion modules, the maximum rated operational current from the second expansion module to the end of the row is 63 A.

Proposal for upstream short-circuit protection devices

The following short-circuit data apply for the components of the infeed system for 3RA6 compact starters:

inleed system for ShAo compact starters.						
Conductor cross-section	Maximum let-through current $I_{ m d,\ max}$ and current integral I^2t	Proposal for upstream short-circuit protection device	Maxi- mum prospec- tive I _{short-} circuit kA			
3RA681	cuit protection for 8A. infeed with screw terminal n² and 50/70 mm²)					
2.5 35, 2.5 70	$I_{d, \text{max}}$ < 21 kA, I^2t = 530 kA ² s	3RV2041-4MA10 (LV HRC gG 3NA3; 315 A)	50			
	cuit protection for aded infeed 25/35 mm ² , -5AC					
4	$I_{d, \text{max}} < 9.5 \text{ kA}, I^2 t = 85 \text{ kA}^2 \text{s}$	3RV2021-4DA10	40			
6	$I_{d, \text{max}} < 12.5 \text{ kA}, I^2 t = 140 \text{ kA}^2 \text{s}$	3RV2031-4EA10	30			
10	$I_{d, max}$ < 15 kA, I^2t = 180 kA ² s	3RV2031-4WA10	25			
16/25	$I_{d, \text{max}} < 19 \text{ kA}, I^2 t = 440 \text{ kA}^2 \text{s}$	3RV2031-4JA10	65			
		3RV2041-4JA10	65			
35	$I_{d, \text{max}}$ < 21 kA, I^2t = 530 kA ² s	3RV2041-4MA10 (LV HRC gG 3NA3; 315 A)	50			
	cuit protection for block, 3RV2917-5D					
1.5	$I_{\rm d, \ max}$ < 7.5 kA	5SY				
2.5	$I_{\rm d, \ max}$ < 9.5 kA	1)				
4	$I_{\rm d, \ max}$ < 9.5 kA					
6	$I_{\rm d, \ max}$ < 12.5 kA					
43						

¹⁾ To prevent the possibility of short circuits, the cables on the terminal block must be installed so that they are short-circuit proof.

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA6 Compact Starters

Infeed system for 3RA6

Selection and ordering data

Version Article No. PS* PG (UNIT, per PU SÈT, M)

Three-phase infeeds and expansion modules



Infeeds with screw terminal 25/35 mm² left Infeed with screw terminal at line side with a permanently fitted 3-socket expansion module with screw or spring-type terminals on the outgoing side and integrated PE bar

Expansion module with 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter

3RA6812-8AB



• Screw terminals on the outgoing side

· Spring-type terminals on the outgoing side



42F 1 unit

1 unit 42F

3RA6812-8AC



Infeed with screw terminal at line side with a permanently fitted 3-socket expansion module with screw or spring-type terminals on the outgoing side and integrated PE bar

Infeeds with screw terminal 50/70 mm² left

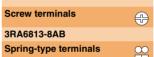
Expansion module with 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter, suitable for UL operation according to UL 508 Type E

3RA6813-8AB



· Screw terminals on the outgoing side

· Spring-type terminals on the outgoing side



3RA6813-8AC

1 unit 42F

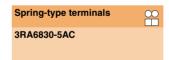
1 unit 42F



3RA6830-5AC

Infeed with spring-type terminal 25/35 mm² left or right

Up to 63 A



42F 1 unit

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA6 Compact Starters

Infeed system for 3RA6

	Version	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
		d			SET, M)		
Expansion modules		<u> </u>					
	Two-socket expansion modules With screw or spring-type terminals and integrated PE bar With 2 sockets for 2 direct-on-line starters or 1 reversing starter Expansion plug and 2 connecting wedges are included in the scope of supply.						
authorn.			Screw terminals	(1)			
3RA6822-0AB	Version with screw terminals	2	3RA6822-0AB		1	1 unit	42F
STINEOZZ GYAZ			Spring-type terminals	<u> </u>			
	Version with spring-type terminals	2	3RA6822-0AC		1	1 unit	42F
3RA6822-0AC							
ii ii	Three-socket expansion modules With screw or spring-type terminals and integrated PE bar With 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter Expansion plug and 2 connecting wedges are included in the scope of supply.						
anther the the			Screw terminals	(1)			
3RA6823-0AB	Version with screw terminals	2	3RA6823-0AB		1	1 unit	42F
			Spring-type terminals	#			
3RA6823-0AC	Version with spring-type terminals	2	3RA6823-0AC		1	1 unit	42F

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA6 Compact Starters

Infeed system for 3RA6

z					noou o,		
	Version	SD	Article No.	Price	PU	PS*	PG
				per PU	(UNIT, SET, M)		
		d					
Accessories for infeed							
	PE infeeds, 25/35 mm ²		Screw terminals				
	• Varsian with agray terminals	2		+	1	1 unit	40E
	Version with screw terminals	2	3RA6860-6AB		1	1 unit	42F
3RA6860-6AB							
6.0			Spring-type terminals	<u> </u>			
	Version with spring-type terminals	2	3RA6860-5AC		1	1 unit	42F
3RA6860-5AC							
	PE pick-offs 6/10 mm ²						
			Screw terminals	+			
	Version with screw terminals	2	3RA6870-4AB		1	1 unit	42F
3RA6870-4AB							
in the second			Spring-type terminals	8			
	Version with spring-type terminals	2	3RA6870-3AC		1	1 unit	42F
3RA6870-3AC							
	Expansion plugs						
	PE expansion plugs	2	3RA6890-0EA		1	1 unit	42F
3RA6890-0EA							
	Expansion plugs Between 2 expansion modules	2	3RA6890-1AB		1	1 unit	42F
NARN I NG 30 NOT CONNECT OR LIPPLIS	Included in the scope of supply of the expansion						
100	modules						
185							
3RA6890-1AB	Expansion whose for CIDIUS OBVOS infects	0	2DAC000 1 A A		4	414	405
14 9	Expansion plugs for SIRIUS 3RV29 infeed system Connects infeed system for 3RA6 to	2	3RA6890-1AA		1	1 unit	42F
	3RV29 infeed system						
3RA6890-1AA							

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA6 Compact Starters

Infeed system for 3RA6

Accessories for infeed systems for SRA6 (continued) AS mm adapters								
Accessories for infeed systems for 3RA6 (continued) 45 mm adapters For SIRIUS 9RV 12 and 9RV2.2 circuit breakers/motor starter potentions size SD up to 29 A • Screw terminals (conductor cross-section AWG 10) Terminal covers for infeeds with screw terminal (P20 terminal covers for infeeds with screw terminal 25mm (9RA6812-6AB/AC) (2 units per pack) Terminal covers for infeeds with screw terminal 25mm (9RA6812-6AB/AC) (2 units per pack) Terminal covers for infeeds with screw terminal 25mm (9RA6812-6AB/AC) (2 units per pack) For infegration of single-phase, two-phase and three-phase external components • Spring-type terminals • Spring-type terminals Spring-type terminals Screwtrivers For all SiRIUS devices with spring-type terminals Longth approx. 200 mm, 30 mm x 0.5 mm, 150 mm, 15		Version	SD	Article No.			PS*	PG
Accessories for Infeed systems for 3RA6 (continued) 45 mm adapters For SIRIUS 4RV12 and 4RV2.2 circuit breakers/motor starter protectors are S0 up to 25 A • Screw terminals (conductor cross-section AWG 10) Terminal covers for infeeds with screw terminal 1P20 terminal covers for infeeds with screw terminal 2P30 mm (GRA6812-8B/AC) (2 units per pack) Terminal covers for infeeds with screw terminal 2P30 mm (GRA6812-8B/AC) (2 units per pack) Terminal covers for infeeds with screw terminal 2P30 mm (GRA6812-8B/AC) (2 units per pack) 3RA6880-2AB Por infeeds with screw terminal 50/70 mm² (GRA6813-8AB/AC) (2 units per pack) Terminal blocks For infeeds with screw terminal 2P30 mm² (GRA6813-8AB/AC) (2 units per pack) Spring-type terminals • Spring-type terminals Spring-type terminals For all SIRIUS devices with spring-type terminals Screwdrivers For all SIRIUS devices with spring-type terminals Screwdrivers Spring-type terminals					per PU			
### AS Man adapters For SIRIUS STM 2 and STRV 2 elecult breakers/motor starter protectors also 90 up to 25 A • Screw terminals P20 terminal covers for infeeds with screw terminal 29 mm (SARASE 2-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 29 mm (SARASE 2-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 29 mm (SARASE 2-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 29 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers for infeeds with screw terminal 20 mm (SARASE 3-ABAC) (2 units per pack) P20 terminal covers			d					
For SIRIUS 3871.2 and SRV2 2 distuit breakers/motor startor protectors size 50 up to 25 A Screw terminals (conductor cross-section AWG 10) Terminal covers for infeeds with screw terminal P20 terminal covers for infeeds with screw terminal 22/303 mm* (3RA6812-8AB/AC) (2 units per pack) Terminal covers for infeeds with screw terminal 28/303 mm* (3RA6812-8AB/AC) (2 units per pack) Terminal covers for infeeds with screw terminal 28/303 mm* (3RA6812-8AB/AC) (2 units per pack) Terminal blocks For infeeds with screw terminal 3RA6880-3AB Terminal blocks For infeeral components • Spring-type terminals • Spring-type terminals • Spring-type terminals Screwdrivers Tools for opening spring-type terminals Length approx. 200 mm, 3.0 mm x 0.5 mm, thating 13/RHUS 5RA6 Compact Starter, SIRIUS infeed System for 3RA67, see:	Accessories for infee	d systems for 3RA6 (continued)						
Serve terminals **Screwdrives** **Spring-type terminals** **Screwdrives** **Spring-type terminals** **Screwdrives** **Spring-type terminals** **S		45 mm adapters						
Screw terminals **Screw terminals** **Conductor cross-section AWG 10)* **Terminal covers for infeeds with screw terminal IP20 terminal covers for infeeds with screw terminal 28/35 mm* (3RA6812-8AB/AC)* **Grand (2 units per pack)* **Terminal covers for infeeds with screw terminal 28/35 mm* (3RA6812-8AB/AC)* **Grand (2 units per pack)* **Terminal blocks** **For integration of single-phase, two-phase and three-phase external components* **Spring-type terminals** **	COSTI			Screw terminals				
Conductor cross-section AWG 10	1000	·	2	2DA6900 0DA		4	1 unit	40E
Terminal covers for infeeds with screw terminal IP20 terminal covers for infeeds with screw terminal 2 3RA6880-2AB IP20 terminal covers for infeeds with screw terminal 2 3RA6880-2AB IP20 terminal covers for infeeds with screw terminal 3 3RA6880-3AB IP20 terminal covers for infeeds with screw terminal 50/70 mm² (3RA6813-3AB/AC) (2 units per pack) Terminal blocks For integration of single-phase, two-phase and three-phase external components • Spring-type terminals • Spring-type terminals Screwdrivers For all SIRIUS devices with spring-type terminals Length approx. 200 mm, 3 0 mm x 0.5 mm partialnum grayblack, partially usualted System Manual System Manual System Manual System Manual SIRIUS SRA6 Compact Starter, SIRIUS Infeed System for 3RA6', see	7-7		2	3HA009U-UDA		1	i uiiit	42
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SÍRIUS Infeed System for 3RA6", see	System Manual							
https://support.industry.siemens.com/cs/ww/en/view/27865747								
		https://support.industry.siemens.com/cs/ww/en/view/27865	747					

SIRIUS 3RM1 motor starters

Overview



3RM13 motor starter with reversing functionality, electronic overload protection and safety-related shutdown

More information

3RM1 motor starters:

Homepage, see www.siemens.com/motorstarter/3RM1 Industry Mall, see www.siemens.com/product?3RM1

3SK safety relays for protecting the 3RM1 motor starters:

Homepage, see www.siemens.com/safety-relays Industry Mall, see www.siemens.com/product?3SK

SIRIUS 3RM1 motor starters are compact devices, 22.5 mm wide, combining a large number of functions in a single enclosure. They consist of combinations of relay contacts, power semiconductors (hybrid technology), and an electronic overload relay for operational switching of three-phase motors up to 3 kW (at 400 V) and resistive loads up to 10 A at AC voltages up to 500 V.

The 3RM1 motor starters with overload protection with wide setting range are available as direct-on-line starters and reversing starters and as versions with safety-related shutdown up to SIL 3/PL e.

Seamlessly integrated safety right through to the main circuit



Problem-free integration of functional safety into the main circuit through the simple combination of 3RM1 and 3SK devices

Functional safety in the main circuit needs to be both simple and flexible.

The unique compatibility of hybrid 3RM1 fail-safe motor starters and 3SK safety relays means that integrated functional safety right through to the main circuit is no longer a problem.

Their compact design allows the motor starters to be installed to the right of the safety relay in a simple manner, just like an output expansion. The wiring of the safety-related signals to the relay can be performed simply, quickly and in an error-free manner using the device connector.

The ergonomically designed enclosure with removable terminals and terminal labeling in the hinged cover allows for the cables to be conveniently diagonally mounted from the front. Either screw or spring-type terminals with push-in technology are available.

Highlights

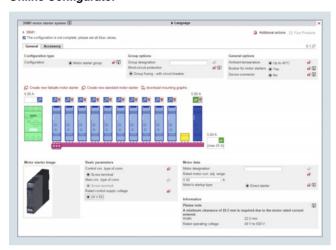
- Fail-safe disconnection of motors up to 3 kW
- Problem-free combination of fail-safe motor starters and safety relays
- End-to-end system, simple setup using device connectors
- Ergonomic enclosure

Note:

For SIRIUS 3SK safety relays, see page 11/12.

SIRIUS 3RM1 motor starters

Online Configurator



Advantages of the online configurator:

- Create individual motor starters or a complex motor starter group
- Individual selection options, such as direct or reversing starting, spring-type or screw terminals, as well as motor current and control voltage
- Graphic representation of the design during configuration
- Automatic calculation of the matching motor starter protector/circuit breaker (for group configuration)

See

www.siemens.com/sirius/configurators

Online Configurator

Article No. scheme

Product versions		Article	numb	er				
Product function	Direct-on-line starters Failsafe direct-on-line starters Reversing starters Failsafe reversing starters	3RM12	0 🗆	— [— [⊒ A	A 🗆	4	with ATEX certification and safety-related shutdown
Wide setting range for electronic overload release	0.1 0.5 A 0.4 2.0 A 1.6 7.0 A (10 A) ¹⁾		1 2 7					for motor standard output 0 0.12 kW ²⁾ for motor standard output 0.09 0.75 kW ²⁾ for motor standard output 0.55 3 kW ²⁾
Connection method	Screw terminals Spring-type terminals (push-in) Mixed connection method			1 2	2			Spring-type terminals (push-in)
Rated control supply voltage $U_{\rm S}$	24 V DC 110 230 V AC; 110 V DC					0		
Example		3RM13	0 1	- 2	2 A	A 0	4	

¹⁾ Operation of resistive loads with maximum 10 A.

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers. For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

Product advantages

- Less space required in the control cabinet (20 to 80%) thanks to high functional density, which also means reduced wiring and testing
- Greater endurance and reduced heat losses thanks to hybrid technology, see www.siemens.com/sirius/energysaving
- Lower costs for stock keeping and configuration as a result of the wide setting range of the electronic overload release (up to 1:5)
- Fast wiring without tools for rigid conductors or conductors equipped with end sleeves thanks to spring-type terminals (push-in)
- Safety-related shutdown in accordance with SIL 3/PL e by shutting down the control supply voltage without additional devices in the main circuit
- The motor starters can be ideally combined with 3SK safety relays for safety-related shutdown (see page 11/12)
- Motor status feedback to the higher-level control system in the case of 3RM10 and 3RM12 motor starters in the 24 V DC version

- Virtually error-free wiring on the mains connection side and reduction in short-circuit protective devices by means of 3RM19 infeed system
- ATEX certification of the overload protection of the 3RM1
 Failsafe motor starters: "Increased safety" type of protection
 EEx e according to ATEX directive 2014/34/EU
- The 3RM1 motor starters can be used with highly energyefficient IE3/IE4 motors. In this regard, please observe the information on dimensioning and configuring, see Application Manual.

For more information about IE3/IE4, see page 1/7.

Standards and approvals

- IEC/EN 60947-4-2
- UL 60947-4-2
- CSA
- ATEX
- IEC 61508-1: SIL 3
- ISO 13849: PL e
- · CCC approval for China

²⁾ Standard three-phase motor, basis 4-pole at 400 V AC; the actual startup characteristics of the motor as well as its rated data are important factors here.

SIRIUS 3RM1 motor starters

Technical specifications

More information	
Industry Mall, see www.siemens.com/product?3RM1 FAQs	Qs, see https://support.industry.siemens.com/cs/ww/en/ps/16311/faq
Manual, see https://support.industry.siemens.com/cs/ww/en/view/66295730	

Article number		3RM10, 3RM12	3RM11, 3RM13
General technical specifications:			
Dimensions (W x H x D)	mm	22.5 x 100 x 141.6	
Ambient temperature • During operation • During storage • During transport		-25 +60 -40 +70 -40 +70	
Installation altitude at height above sea level, maximum	m	4 000	2 000
Shock resistance		6 g / 11 ms	
Vibration resistance		1 6 Hz, 15 mm; 20 m/s ² ,	500 Hz
Degree of protection		IP20	
Mounting position		Vertical, horizontal, standin	g (consider derating)

Article number		3RM1.01	3RM1.02	3RM1.07
Main circuit:				
Operational voltage rated value maximum	V	500		
Operating frequency	Hz	50/60		
Operational current at AC-53a at 400 V at an ambient temperature of 40 °C	Α	0.5	2	7
Minimum load [% of IM]	%	20		
Adjustable current response value of the inverse-time delayed overload release	Α	0.1 0.5	0.4 2	1.6 7

Article number		3RM1.0AA04	3RM1.0AA14
Control circuit:			
Type of voltage of the control supply voltage		DC	AC/DC
Control supply voltage			
At DC	V	24	110
At AC at 50 Hz	V		110 230
Frequency of the control supply voltage	Hz		50/60

SIRIUS 3RM1 motor starters

Туре		3RM1.01AA.4	3RM1.03AA.4	3RM1.02AA.4
Connections/terminals:				·
Type of electrical connection for main circuit (1 or 2 conductors can be connected)		Screw termin	als	
Connectable conductor cross-section for main contacts Solid Finely stranded	mm²	1x (0.5 4), 2x (0.5	5 2.5)	1x (0.5 4)
- With end sleeve - Without end sleeve	mm² mm²	1x (0.5 4), 2x (0.5	5 1.5)	1x (0.5 2.5) 1x (0.5 4)
Type of electrical connection for auxiliary and control circuit (1 or 2 conductors can be connected)		Screw terminals	Spring-type □	terminals
Type of connectable conductor cross-sections for auxiliary contacts • Solid	mm²	1x (0.5 2.5), 2x (1.0 1.5)	1x (0.5 1.5), 2x	(0.5 1.5)
Finely strandedWith end sleeve	mm²	1x (0.5 2.5), 2x (0.5 1)	1x (0.5 1.0), 2x	(0.5 1.0)
- Without end sleeve	mm²	`	1x (0.5 1.5), 2x	(0.5 1.5)
Type of connectable conductor cross-sections for AWGH cables • For main contacts • For auxiliary contacts		1x (20 12), 2x (20 1x (20 14), 2x (18 16)		

Accessories

More information

Manual, see

https://support.industry.siemens.com/cs/ww/en/view/66295730

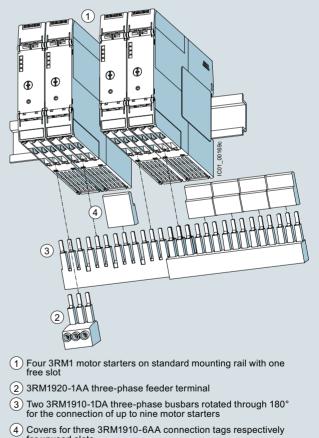
Three-phase infeed system (3RM19 three-phase busbar system)

The system permits an easy, time-saving and safe means of feeding two or more 3RM1 motor starters. It can be used only with motor starters with screw terminals and in combination with 8US1716-0RK00 adapters for mounting rails in the main circuit.

The maximum summation current must not exceed 25 A. The primary infeed is connected via a three-phase infeed terminal.

The busbars are available in three lengths, for two, three or five motor starters. More than five devices can be connected by clamping the connection tags of a second busbar rotated by 180°

The three-phase busbars are finger-safe but empty connection tags must be fitted with covers.



for unused slots

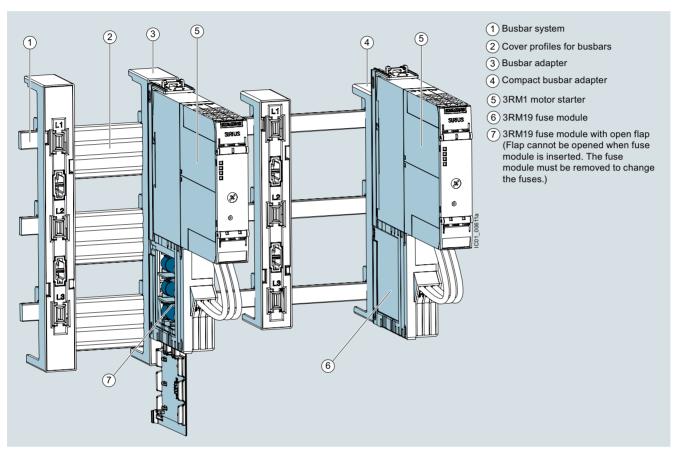
3RM19 infeed system with three-phase infeed terminal: In the above example, two three-phase busbars (5-pole busbars) rotated through 180° allow up to nine 3RM1 motor starters to be connected. Contact with the unused connection tags in unoccupied positions is prevented safely by the covers.

SIRIUS 3RM1 motor starters

Fuse module for the use of 3RM1 motor starters on 8US busbar systems and mounting rails

The fuse module permits the very compact construction of a load feeder with a maximum width of 22.5 mm. The 3RM1 motor starter in combination with the integrated fuses for short-circuit protection can therefore be used on 8US busbar systems. Thanks to the range of different adapters, the fuse module can be used in all 60 mm busbar systems and also in compact busbar systems and on mounting rails. The interface to the adapter also permits a simple and secure replacement of the load feeder.

The fuse module can be combined with all 3RM1 motor starters. The easily replaceable fuses protect the connected motor and the cables.

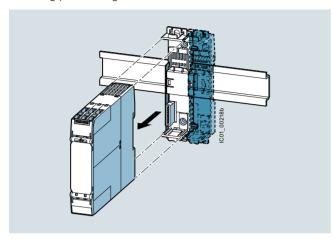


By means of the fuse module, 3RM1 motor starters can be used in busbar systems and 8US compact busbar systems, as well as on mounting rails

SIRIUS 3RM1 motor starters

Device connectors for the control circuit

The device connectors for 3RM1 motor starters (24 V DC control supply voltage only) reduce the outlay for cabling by looping through the control supply voltage. The device connectors can be snapped onto a standard mounting rail or fixed to a level mounting panel using screws.



Device connectors with 3RM1 motor starter

Using the device connectors exclusively for feeding in the control supply voltage

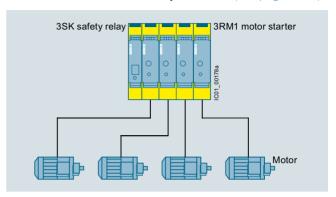
By using device connectors, a maximum of five motor starters can be supplied with 24 V DC control supply voltage. This requires the control supply voltage to be applied to the A1 and A2 terminals of only one motor starter.

Device daisy chain connectors can be used for gaps between two motor starters. Device termination connectors terminate a group.

Using the device connectors for safe group shutdown

In combination with the 3RM11 and 3RM13 fail-safe motor starters, the device connector can also be used for safety-related shutdown. For this application, groups of no more than five fail-safe motor starters can be connected using a device connector, and the group must be terminated with a terminating connector. Removing the control voltage supply from the first motor starter will safely shut down the whole group.

Safe group shutdown can be implemented particularly easily in conjunction with 3SK safety relays. In this case, up to five motor starters can be directly connected to 3SK safety relays via the device connector and then safely shut down (see page 11/12).



Ideal connection: Combination of four SIRIUS 3RM1 Failsafe motor starters with SIRIUS 3SK safety relays

Electromechanical switching devices in series with hybrid motor starters

Switching an inductive load - in particular of motors < 1 kW with high inductance - with an electromechanical switching device (e.g. contactor) can cause high and steep voltage edges.

The resulting faults/damage can be prevented by first disconnecting with the hybrid motor starter or by using EMC suppression modules:

- For 3RT2916-1P. EMC suppression modules for direct mounting on the contactor, see page 3/119
- For motor suppression modules that are fitted in the main circuit, see page 8/94

Note:

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/109758696.

IE3/IE4 ready SIRIUS 3RM1 motor starters

Selection and ordering data

More information	1									
Industry Mall, see	www.siemens.com/pro	oduct?3RM1								
	Rating for three- phase motor at 400 V ¹⁾	Adjustable current response value of the inverse-time delayed overload release	voltage		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PC
		overioad release	At DC	At AC at 50 Hz						
	kW	A	V	V	d					
Direct-on-line	starters									
Funn.	0 0.12	0.1 0.5	24		2	3RM1001-□AA04		1	1 unit	41[
	0.09 0.75	0.4 2	24		2	3RM1002-□AA04		1	1 unit	41[
	0.55 3	1.6 7	24		2	3RM1007-□AA04		1	1 unit	411
1845	0 0.12	0.1 0.5	110	110 230	2	3RM1001-□AA14		1	1 unit	411
	0.09 0.75	0.4 2	110	110 230	2	3RM1002-□AA14		1	1 unit	411
(A)	0.55 3	1.6 7	110	110 230	2	3RM1007-□AA14		1	1 unit	411
- /										
EDNE										
RM1001-1AA04										
Reversing star	rters									
hum	0 0.12	0.1 0.5	24		2	3RM1201-□AA04		1	1 unit	41[
444	0.09 0.75	0.4 2	24		2	3RM1202-□AA04		1	1 unit	41[
	0.55 3	1.6 7	24		2	3RM1207-□AA04		1	1 unit	41[
1965	0 0.12	0.1 0.5	110	110 230	2	3RM1201-□AA14		1	1 unit	411
	0.09 0.75	0.4 2	110	110 230	2	3RM1202-□AA14		1	1 unit	411
*	0.55 3	1.6 7	110	110 230	2	3RM1207-□AA14		1	1 unit	41[
-										
ENE										
3RM1201-1AA04										
Failsafe direct	-on-line starters									
funn.	0 0.12	0.1 0.5	24		2	3RM1101-□AA04		1	1 unit	410
6447	0.09 0.75	0.4 2	24		2	3RM1102-□AA04		1	1 unit	41[
	0.55 3	1.6 7	24		2	3RM1107-□AA04		1	1 unit	41[
100.0	0 0.12	0.1 0.5	110	110 230	2	3RM1101-□AA14		1	1 unit	41[
	0.09 0.75	0.4 2	110	110 230	2	3RM1102-□AA14		1	1 unit	41[
8	0.55 3	1.6 7	110	110 230	2	3RM1107-□AA14		1	1 unit	411

EOR										
RM1101-1AA04										
Failsafe revers	sing starters									
funn/	0 0.12	0.1 0.5	24		2	3RM1301-□AA04		1	1 unit	410
444	0.09 0.75	0.4 2	24		2	3RM1302-□AA04		1	1 unit	41[
	0.55 3	1.6 7	24		2	3RM1307-□AA04		1	1 unit	41[
200.0	0 0.12	0.1 0.5	110	110 230	2	3RM1301-□AA14		1	1 unit	41[
	0.09 0.75	0.4 2	110	110 230	2	3RM1302-□AA14		1	1 unit	410
8	0.55 3	1.6 7	110	110 230	2	3RM1307-□AA14		1	1 unit	41[

808										
3RM1301-1AA04										
ype of electrical	l connection									
Screw terminals	for main circuit, screw	terminals for control cir	cuit			1				
		n circuit, spring-type ter	minals (p	oush-in)		2				
for control circui	it			,						
		y-type terminals (push-ir	` .							

Screw terminals for main circuit, spring-type terminals (push-in) for control circuit
 The actual startup characteristics of the motor as well as its rated data are important factors here.

SIRIUS 3RM1 motor starters

		0.0	A 22 A 32	DU	50+	
	Product designation	SD	Article No. Price per PU	PU (UNIT,	PS*	PG
		d		SÈT, M)		
Three-phase infeed syste	em for 3RM1 with screw terminals					
111	Three-phase infeed terminals	•	3RM1920-1AA	1	1 unit	41D
	for three-phase busbars					
000						
3RM1920-1AA						
	Three-phase busbars					
111111	For 2 motor starters		3RM1910-1AA	1	1 unit	41D
3RM1910-1AA						
111111111	For 3 motor starters	>	3RM1910-1BA	1	1 unit	41D
3RM1910-1BA						
Illinos.	For 5 motor starters	>	3RM1910-1DA	1	1 unit	41D
3331111						
3RM1910-1DA	0.000		0DM1040 CA A	-	10	440
	Covers For 3 connection tags of	•	3RM1910-6AA	ı	10 units	41D
	the three-phase busbars					
3RM1910-6AA						
Fuse modules for 3RM1 busbars or mounting rail						
	Fuse module with 3NW6007-1 fuse	2	3RM1932-1AB	1	1 unit	41D
	Fuse module without fuse ¹⁾	10	3RM1930-1AA	1	1 unit	41D
3RM1932-1AB						
Adapters						
	Adapters for busbar systems 22.5 mm x 200 mm x 41.5 mm	5	8US1216-0AS00	1	1 unit	140
100						
5 0						
bil '						
B						
bi).						
8US1216-0AS00						
	Adapters for compact busbar systems 22.5 mm x 160 mm x 41.5 mm	5	8US1616-0AK02	1	1 unit	140
	22.5 mm x 160 mm x 41.5 mm					
F						
ii						
8						
bi L						
8US1616-0AK02						
110.0.0.0.0.1.02				I		

¹⁾ For details of alternative fuses, see manual.

				SIRIUS	3RM1	motor s	tarters
	Product designation	SD	Article No.	Price	PU	PS*	PG
	Troduct designation	OD	Autore 140.	per PU	(UNIT, SET, M)	10	1 0
		d			- , ,		
Adapters	Adapter for 35 mm DIN mounting rails	5	8US1716-0RK00		1	1 unit	140
0 0 0 0 8US1716-0RK00	22.5 mm x 185 mm x 23.5 mm	J	3031710-01IKUU		'	Tunt	140
Cover profiles (1)2)	-						
Cover profiles for busbar	12 mm x 5 mm x 1 000 mm	2	8US1922-2CA00		1	10 units	140
8US1922-2CA00	40 mm or 60 mm center-to-center busbar clearance depending on busbar system	_			·	TO GIME	
000 1922-20A00	15 mm x 5 mm x 1 000 mm	2	8US1922-2AA00		1	10 units	140
	20 mm x 5 mm x 1 000 mm 25 mm x 5 mm x 1 000 mm						
	30 mm x 5 mm x 1 000 mm 40 mm or 60 mm center-to-center busbar clearance						
8US1922-2AA00	depending on busbar system						
	12 mm x 10 mm x 1 000 mm 15 mm x 10 mm x 1 000 mm	2	8US1922-2BA00		1	10 units	140
	20 mm x 10 mm x 1 000 mm						
	25 mm x 10 mm x 1 000 mm 30 mm x 10 mm x 1 000 mm						
8US1922-2BA00	60 mm center-to-center busbar clearance						
Device connectors							
100	Device connectors For 3RM1 motor starters, 24 V DC, 22.5 mm	2	3ZY1212-2EA00		1	1 unit	41L
3ZY1212-2EA00							
	Device daisy chain connectors For 3RM1 motor starters 24 V DC, 22.5 mm	2	3ZY1212-2AB00		1	1 unit	41L
3ZY1212-2AB00	For gaps without motor starters in assemblies						
ACC.	Device termination connectors	2	3ZY1212-2FA00		1	1 unit	41L
3ZY1212-2FA00	For 3RM1 motor starters, 24 V DC, 22.5 mm						

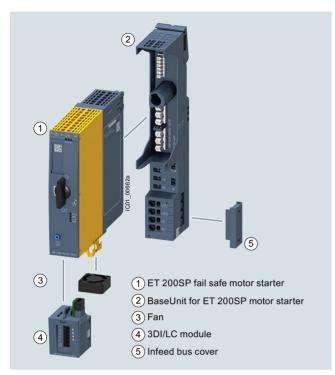
The cover profiles for busbars can be used for maintaining minimum spacing between the load feeders.
 For further accessories for the configuration of a busbar system, see Catalog LV 10.

SIRIUS 3RM1 motor starters

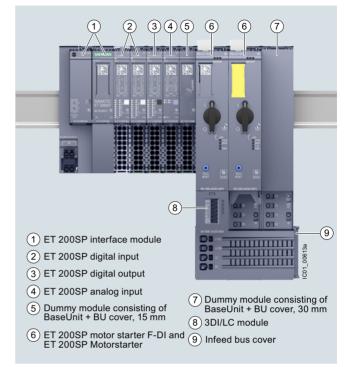
	Product designation	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			SEI, IVI)		
Removable termina							
17	Terminal for main circuit, 2-pole		Screw terminals				
	Screw terminals,	2	3ZY1122-1BA00	+	1	6 units	41L
ET .	1 x 4 mm ²	۷	3211122-1BA00		'	0 urilis	41L
			Spring-type terminals	\sim			
	Coving two togginals (nuclein)	0		8	1	6 units	441
3ZY1122-1BA00	 Spring-type terminals (push-in), 1 x 4 mm² 	2	3ZY1122-2BA00		1	o units	41L
	Terminal for control circuit, 3-pole						
			Screw terminals	(1)			
	• Screw terminals, 1 x 2.5 mm ²	2	3ZY1131-1BA00		1	6 units	41L
a	1 X 2.5 mm						
			Spring-type terminals				
	 Spring-type terminals (push-in), 1 x 2.5 mm² 	2	3ZY1131-2BA00		1	6 units	41L
3ZY1131-1BA00 Further accessorie							
Turther accessorie	Push-in lugs for wall mounting	2	3ZY1311-0AA00		1	10 units	41L
	2 lugs per device are required						
3ZY1311-0AA00	0.111		OTV4004 04 400			- ·	441
	Sealable covers, 22.5 mm For simple protection against unauthorized access	2	3ZY1321-2AA00		1	5 units	41L
3ZY1321-2AA00							
	Coding pins for removable terminals For mechanical coding of the terminals	2	3ZY1440-1AA00		1	12 units	41L
	To mechanical coding of the terminals						
07)/1440 14400							
3ZY1440-1AA00	Hinged cover NEW						
SIEMENS SIRIUS	Replacement cover, without terminal labeling, 22.5 mm wide						
	Titanium gray	2	3ZY1450-1AB00		1	5 units	41H
	• Yellow	2	3ZY1450-1BB00		1	5 units	41H
3ZY1450-1AB00	Makes assessed as adult Wall						
	Motor suppression module ₩≡₩ • Square	15	3RK1911-6EA00		1	1 unit	42D
	• Round	15	3RK1911-6EB00		1	1 unit	42D
3DK1011 CEA00							
3RK1911-6EA00	Screwdrivers		Spring-type terminals	00			
	For all SIRIUS devices with spring-type terminals	c		$\stackrel{\otimes}{\mathbb{H}}$			
	Length approx. 200 mm, 3.0 mm x 0.5 mm,	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A	titanium gray/black, partially insulated						
	•						

ET 200SP motor starters

Overview



Motor starter, BaseUnit, fan and 3DI/LC control module



3RK1308 motor starter in the ET 200SP I/O system

More information

Homepage, see www.siemens.com/ET200SP-motorstarter Industry Mall, see www.siemens.com/product?3RK1308 TIA Selection Tool, see www.siemens.com/TST Further components in the ET 200SP distributed I/O system:

- Catalog ST 70
- Industry Mall, see www.siemens.com/product?ET200SP

ET 200SP motor starters

ET 200SP is a scalable and extremely flexible modular I/O system with IP20 degree of protection.

As I/O modules, the ET 200SP motor starters are an integral part of this I/O system. They are switching and protection devices for single- and three-phase loads and are available as direct-on-line or reversing starters.

Basic functionality

All versions of the ET 200SP motor starter feature the following functionality:

- Fully pre-wired motor starters for switching and protecting any AC loads up to 5.5 kW from 48 V AC to 500 V AC
- Disconnection possible via fail-safe motor starters up to SIL 3 and PL e Cat. 4
- With self-assembling 32 A power bus, i.e. the load voltage is only fed in once for a group of motor starters
- All control supply voltages connected only once, i.e. when modules are added they are automatically connected to the next module
- · Hot swapping is permissible
- Digital inputs can optionally be used via a 3DI/LC module
- Control of the motor starter from the control system and extensive diagnostics status via the cyclic process image
- Diagnostics capability for active monitoring of the switching and protection functions

 The signal states in the process image of the motor starter provide information about protective devices (short circuit or overload), the switching states of the motor starter, and system faults.

Use of fan

For motor starters with a 12 A rated current, the 3RW4928-8VB00 fan is included in the scope of supply.

This fan can also be ordered as an option for motor starters with lower rated currents, if the boundary conditions demand this. For information on the ambient conditions for the use of motor starters, see chapter "Product overview" in the Manual.

Designing interference-free motor starters

For interference-free operation of the ET 200SP station in accordance with IEC 60947-4-2 standard, use a dummy module before the first motor starter. The dummy module consists of the 6ES7193-6BP00-0BA0 or 6ES7193-6BP00-0DA0 BaseUnit and the 6ES7133-6CV15-1AM0 BU cover 15 mm.

The 15 mm BU cover protects the plug contacts of the BaseUnit against dirt.

ET 200SP motor starters

Electromechanical switching devices in series with hybrid motor starters

Switching an inductive load - in particular of motors <1 kW with high inductance - with an electromechanical switching device (e.g. contactor) can cause high and steep voltage edges.

The resulting faults/damage can be prevented by first disconnecting with the hybrid motor starter or by using EMC suppression modules:

- For 3RT2916-1P. EMC suppression modules for direct mounting on the contactor, see page 3/119
- For motor suppression modules that are fitted in the main circuit, see page 8/104

Note:

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/109758696.

BaseUnits for motor starters

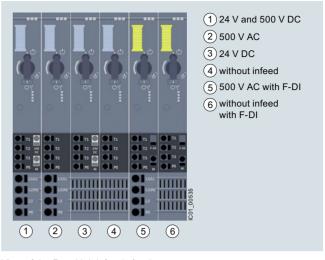
BaseUnits are components for accommodating the ET 200SP I/O modules.

The self-assembling voltage buses integrated into the terminal modules reduce wiring outlay to the single infeed (both of auxiliary and load voltage).

All modules following on the right are automatically supplied upon plugging the BaseUnits together, if BaseUnits are inserted with routing.

The rugged design and keyed connection technology enables use in harsh industrial conditions.

The BaseUnits are available with various infeeds for the motor starters.



View of the BaseUnit infeeds for the motor starters

3DI/LC control module

This is a digital input module with three inputs for local motor starter functions such as "manual local control", "implementation of fast inputs" or "end position disconnection". For a list of all the functions permitted by the 3DI/LC module, see chapter "Overview of functions" in the manual.

The module is plugged into the front of the motor starter from which it is supplied with a 24 V DC operating voltage.

Article No. scheme

Product versions		Article number	
Motor starters		3RK1308 - 0 🗆 🗆 0 0 - 0 C	P 0
Product function	Direct-on-line starter	A	for motor standard output 0.12 5.5 kW ¹⁾
	Reversing starters	В	for motor standard output 0.12 5.5 kW ¹⁾
	Fail-safe direct-on-line starters	C	for motor standard output 0.12 5.5 kW ¹⁾
	Fail-safe reversing starters	D	for motor standard output 0.12 5.5 kW ¹⁾
Current range	0.3 1 A	В	maximum current-carrying capacity when starting 10 A
	0.9 3 A	C	maximum current-carrying capacity when starting 30 A
	2.8 9 A	D	maximum current-carrying capacity when starting 90 A
	4 12 A	E	including fan (3RW4928-8VB00), maximum current-carrying capacity when starting 100 A
Example		3RK1308 - 0 A D 0 0 - 0 C	P 0

¹⁾ For standard motors: Single- or three-phase asynchronous motors, single-phase AC motors, single-phase asynchronous motors, at 400 V AC and 500 V AC; the actual startup characteristics of the motor as well as its rated data are important factors here.

Product version	s	Article number	
BaseUnit		3RK1908 - 0 A P 0 0 - 0 □	P 0
BU infeed	24 V and 500 V AC	Α	
	24 V DC	В	
	500 V AC	C	
	without infeed	D	
	500 V AC	E	with F-DI for fail-safe motor starters
	without infeed	F	with F-DI for fail-safe motor starters
Example		3RK1908 - 0 A P 0 0 - 0 A	P 0

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

ET 200SP motor starters

Benefits

Product advantages

The ET 200SP motor starters offer a number of advantages:

- Fully integrated into the ET 200SP I/O system (including TIA Selection Tool and TIA Portal)
- High degree of flexibility when it comes to safety applications via SIMATIC F-CPU or SIRIUS 3SK safety relays up to SIL 3 and PL e Cat. 4.
- Simple, integrated current value transmission
- Extensive parameterization by means of TIA Portal
- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Greater endurance and reduced heat losses thanks to hybrid technology
- Less space required in the control cabinet (20 to 80%) as a result of greater functional density (direct-on-line and reversing starters in same width)
- Extensive diagnostics and information for preventive maintenance
- Parameterizable inputs via 3DI/LC control module
- Less wiring and testing required as a result of integrating several functions into a single device
- Lower overheads for stock keeping and configuration as a result of the wide setting range of the electronic overload release (up to 1:3)
- Technology has lower inherent power losses than speedcontrolled drive systems, so that less cooling (and smaller footprint) are possible (and enabling a more compact design)
- The ET 200SP motor starters can be used with highly energyefficient IE3/IE4 motors, see Application Manual.
 Take the current characteristics of the connected motor and
 motor starter into account when dimensioning.
 In addition to the rated current, the maximum permissible
 current range of the motor starter and the ratio of the rated current to the starting current of the motor are relevant.
 For more information on IE3/IE4, see page 1/7.

Standards and approvals

- IEC/EN 60947-4-2
- UL 60947-4-2
- CSA
- ATEX
- IEC 61508-1: SIL 3
- ISO 13849: PL e
- · CCC approval for China

Application

The ET 200SP motor starters are suitable for the following applications:

- · Switching and monitoring of
 - three-phase motors with overload and short-circuit protection (e.g. 400 V asynchronous motors for secondary drives in conveyor systems)
 - single-phase motors with overload and short-circuit protection (e.g. 230 V motors for pump applications)
 - resistive loads by means of current value and diagnosis via the maintenance function (e.g. for heaters)
- Plant monitoring and energy management in conveyor systems:
- By means of the phase asymmetry and zero current detection during current measurement, for example, drive belt monitoring and blocking monitoring are possible.
- Track switching and lifting table control in conveyor systems: Track switches can be implemented using the quick stop function and lifting table controls by means of the "immediate end position disconnection" function without any laborious programming.
- Safe isolation of the drive from main power supply: The isolating functions according to IEC 60947-1 offer protection against inadvertent activation during plant maintenance.

ET 200SP motor starters

Technical specifications

More information	
Industry Mall, see www.siemens.com/product?3RK1308	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/21800/faq
Manual, see https://support.industry.siemens.com/cs/ww/en/view/109479973	

ET 200SP motor starters

Article number		3RK1308- 0AB00-0CP0 3RK1308- 0BB00-0CP0	3RK1308- 0AC00-0CP0 3RK1308- 0BC00-0CP0	3RK1308- 0AD00-0CP0 3RK1308- 0BD00-0CP0	3RK1308-
Product designation		Motor starters			
General technical specifications:					
Width x height x depth	mm	30 × 142 × 150			
Design of the switch contact		Hybrid			
Design of the motor protection		Electronic			
Installation altitude at height above sea level, maximum	m	4 000			
Mounting position		Vertical, horizon	ital, flat (observe o	derating)	
Type of mounting		Can be plugged	d into BaseUnit		
Ambient temperature • During operation • During transport • During storage	°C °C °C	-25 +60 -40 +70 -40 +70			
Relative humidity during operation	%	10 95			
Vibration resistance		15 mm up to 6 h	Hz; 2 g up to 500 l	Hz	
Shock resistance		6 g / 11 ms			
Degree of protection		IP20			
Type of coordination		1			
Electrical data:					
Supply voltage at DC rated value	V	24			
Operational power for AC-53a at 400 V rated value	kW	0.25	1.1	4	5.5
Operating frequency, rated value	Hz	50 60			
 Ultimate short-circuit current breaking capacity (I_{cu}) at 400 V rated value at 500 V rated value 	kA kA	55 55			
Adjustable current response value of the inverse-time delayed overload release	А	0.3 1	0.9 3	2.8 9	4 12
Max. current carrying capacity at startup	А	10	30	90	100
Max. permissible voltage for protective separation between main and auxiliary circuit	V	500			
Insulation voltage, rated value	V	500			
Trip class		CLASS 5 and 10	O adjustable		

ET 200SP motor starters

Article number		3RK1308- 0CB00-0CP0	3RK1308- 0CC00-0CP0	3RK1308- 0CD00-0CP0	3RK1308- 0CE00-0CP0
		3RK1308- 0DB00-0CP0	3RK1308- 0DC00-0CP0	3RK1308- 0DD00-0CP0	3RK1308- 0DE00-0CP0
Product designation		Fail-safe motor	starter		
General technical specifications:					
Width x height x depth	mm	30 × 142 × 150			
Design of the switch contact		Hybrid			
Design of the motor protection		Electronic			
Installation altitude at height above sea level, maximum	m	2 000			
Mounting position			tal, flat (observe de	rating)	
Type of mounting		Can be plugged	I into BaseUnit		
Ambient temperature • During operation • During transport • During storage	°C °C °C	-25 +60 -40 +70 -40 +70			
Relative humidity during operation	%	10 95			
Vibration resistance		15 mm up to 6 H	lz; 2 <i>g</i> up to 500 Hz	7	
Shock resistance		6 g / 11 ms			
Degree of protection		IP20			
Type of coordination		1			
Electrical data:					
Supply voltage at DC rated value	V	24			
Operational power for AC-53a at 400 V rated value	kW	0.25	1.1	4	5.5
Operating frequency, rated value	Hz	50 60			
Ultimate short-circuit current breaking capacity (I _{cu}) • at 400 V rated value • at 500 V rated value	kA kA	55 55			
Adjustable current response value of the inverse-time delayed overload release	А	0.3 1	0.9 3	2.8 9	4 12
Max. current carrying capacity at startup	А	10	30	90	100
Max. permissible voltage for protective separation between main and auxiliary circuit	V	500			
Insulation voltage, rated value	V	500			
Trip class		CLASS 5 and 10	adjustable		

ET 200SP motor starters

BaseUnits for motor starters

Article number		3RK1908- 0AP00-0AP0	3RK1908- 0AP00-0BP0	3RK1908- 0AP00-0CP0	3RK1908- 0AP00-0DP0	3RK1908- 0AP00-0EP0	3RK1908- 0AP00-0FP0
Product designation		BaseUnit					
General technical specifications:							
Width x height x depth	mm	30 × 215 × 75					
During transport	Š Š	-25 +60 -40 +70 -40 +70					
Degree of protection		IP20					
Touch protection against electric shock		Finger-safe					
Connections/terminals:							
Type of connectable conductor cross-sections at the inputs for supply voltage Solid Finely stranded with end sleeve Finely stranded without end sleeve Solid for AWG cables For infeed Solid Finely stranded with end sleeve Finely stranded with end sleeve Finely stranded without end sleeve Solid for AWG cables For load-side outgoing feeder Solid Finely stranded with end sleeve Finely stranded with end sleeve Solid Finely stranded with end sleeve Finely stranded without end sleeve Solid for AWG cables		1x0.5 2.5 mm ² 1x0.5 2.5 mm ² 1x0.5 2.5 mm ² 1x20 12 1x1 6 mm ² 1x1 6 mm ² 1x1 6 mm ² 1x1 10 1x0.5 2.5 mm ²	 	 1x1 6 mm ² 1x1 6 mm ² 1x1 6 mm ²		1x1 6 mm ² 1x1 6 mm ² 1x1 6 mm ² 1x18 10	
Type of electrical connection for auxiliary and control circuits		Spring-type term	inals (push-in)				
Miscellaneous:							
Type of screwdriver tip		Slotted					
Size of screwdriver tip		Standard screwo	Iriver 0.6 mm x 3	3.5 mm			

ET 200SP motor starters

3DI/LC control module

Article number		3RK1908-1AA00-0BP0
Product designation		3DI/LC control module
General technical specifications:		
Width x height x depth	mm	30 × 54.5 × 42.3
Type of product		Accessories
Number of digital inputs		4
Installation altitude at height above sea level, maximum	m	2 000
Mounting position		Vertical, horizontal, flat
Type of mounting		Can be plugged onto motor starter
Ambient temperature • During operation • During transport • During storage	°C °C	-25 +60 -40 +70 -40 +70
Connections/terminals: Connectable conductor cross-section for auxiliary contacts • Solid or stranded • Finely stranded with end sleeve • Finely stranded without end sleeve	mm² mm² mm²	0.2 1.5 0.25 1.5 0.2 1.5
AWG number as coded connectable conductor cross-section		24 16
Type of electrical connection for auxiliary and control circuits		Spring-type terminals (push-in)
Electrical data:		
Type of voltage of the control supply voltage		DC
Control supply voltage at DC rated value	V	20.4 28.8
Miscellaneous:		
Type of screwdriver tip		Slotted
Size of screwdriver tip		Standard screwdriver 0.6 mm x 3.5 mm

ET 200SP motor starters IE3/IE4 ready

Selection and orderi	ng data							
	Adjustable current response value of the inverse-time delayed overload release	Max. current carrying capacity at startup	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	A	d					
Motor starters								
	Direct-on-line starters							
	0.3 1 0.9 3 2.8 9 4 12	10 30 90 100	2 2 2 2	3RK1308-0AB00-0CP0 3RK1308-0AC00-0CP0 3RK1308-0AD00-0CP0 3RK1308-0AE00-0CP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D
3RK1308-0AB00-0CP0								
	Reversing starters							
	0.3 1 0.9 3 2.8 9 4 12	10 30 90 100	2 2 2 2	3RK1308-0BB00-0CP0 3RK1308-0BC00-0CP0 3RK1308-0BD00-0CP0 3RK1308-0BE00-0CP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D
3RK1308-0BB00-0CP0								
Fail-safe motor starte								
	Fail-safe direct-on-line s	starters						
	0.3 1 0.9 3 2.8 9 4 12	10 30 90 100	2 2 2 2	3RK1308-0CB00-0CP0 3RK1308-0CC00-0CP0 3RK1308-0CD00-0CP0 3RK1308-0CE00-0CP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D 42D
3RK1308-0CE00-0CP0	Fail acts reversing start	toro						
Attenia	Fail-safe reversing start	10	2	3RK1308-0DB00-0CP0		1	1 unit	42D
3RK1308-0DE00-0CP0	0.9 3 2.8 9 4 12	30 90 100	2 2 2	3RK1308-0DC00-0CP0 3RK1308-0DD00-0CP0 3RK1308-0DE00-0CP0		1 1 1	1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D

						ET	200SP n	notor sta	arters
							_		
	Type of product	Operational voltage of the	Supply voltage of the DC	SD	Push-in terminals	$\stackrel{\circ}{\mathbb{H}}$	PU (UNIT,	PS*	PG
		AC infeed	infeed		Article No.	Price	SÈT, M)		
		V	V	d		per PU			
BaseUnits ¹⁾		V	V	u					
-	For motor starters								
	with AC/DC infeed	500	24	2	3RK1908-0AP00-0AP0		1	1 unit	42D
	with DC infeed		24	2	3RK1908-0AP00-0BP0		1	1 unit	42D
al l	with AC infeed	500		2	3RK1908-0AP00-0CP0		1	1 unit	42D
9	without infeed			2	3RK1908-0AP00-0DP0		1	1 unit	42D
No.	with AC infeed.	500		2	3RK1908-0AP00-0EP0		1	1 unit	42D
	with F-DI for fail-safe motor starters	000		_	OTTENSOR OAT OU OLI O		'	i dilit	720
3RK1908-0AP00-0AP0	without AC infeed, with F-DI for fail-safe			2	3RK1908-0AP00-0FP0		1	1 unit	42D
	motor starters								
 The voltage is looped-th BaseUnits. 	nrough from BaseUnits with	infeed to subse	quent						
Baseunits.									
	Type of product	Supply voltage at DC rated	Loop through the potential	SD	Push-in terminals		PU (UNIT,	PS*	PG
		value	group from the		Article No.	Price	SET, M)		
			left		Alticle No.	per PU			
Decellaite		V		d					
BaseUnits	For dummy modules								
	For dummy modules	0.4			0507400 0BB00 0B40			a 11	055
	dark, looping through the potential group	24	Yes	Χ	6ES7193-6BP00-0BA0		1	1 unit	255
	light, opening a new	24	No	Χ	6ES7193-6BP00-0DA0		1	1 unit	255
	potential group								
0507400 00000 0040									
6ES7193-6BP00-0BA0									
	Control supply voltage at DC rated value	Product functio	n	SD	Push-in terminals	$\stackrel{\circ}{\square}$	PU (UNIT,	PS*	PG
	at 50 rated value	Local control [Digital inputs		Article No.	Price	SET, M)		
			parameterizable			per PU			
	V			d					
3DI/LC control modu									
	20.4 28.8	Yes Y	'es	2	3RK1908-1AA00-0BP0		1	1 unit	42D
295									
100 AT 10									

3RK1908-1AA00-0BP0

ET 200SP motor starters

	Product designation	Type of product	SD	Article No.	Price	PU	PS*	PG
			d		per PU	(UNIT, SET, M)		
Accessories	BU cover 15 mm	for BaseUnits	1	6ES7133-6CV15-1AM0		1	5 units	255
	DO COVER TO IIIIII	Type A0 or A1	•	OLOT 135 GOV 13 TAMO		,	o units	230
6ES7133-6CV15-1AM0	BU cover 30 mm	For protection of	0	3RK1908-1CA00-0BP0		1	4 unit	42D
	BU cover 30 mm	For protection of empty slots, 30 mm	2	3HK1908-1CA00-0BP0		1	1 unit	420
3RK1908-1CA00-0BP0	Infeed bus cover	For ET 200SP	2	3RK1908-1DA00-2BP0		1	1 unit	42D
	(1 bag containing 10 covers)							
3RK1908-1DA00-2BP0	Mechanical bracket	Mechanical,	2	3RK1908-1EA00-1BP0		1	1 unit	42D
3RK1908-1EA00-1BP0	(1 bag containing 5 mechanical brackets)	for ET 200SP	۷	SIIKI300-IEA00-IBF0		,	Tunit	420
3RW4928-8VB00	Fan	Can be used for 3RK1308	•	3RW4928-8VB00		1	1 unit	42G
	Motor suppression mod	ule <u>NEW</u>						
3RK1911-6EA00	• Square		15	3RK1911-6EA00		1	1 unit	42D
3RK1911-6EB00	• Round		15	3RK1911-6EB00		1	1 unit	42D

Motor Starters for Use in the Field, High Degree of Protection





Price groups PG 212, 215, 216, 218, 219, 230, 241,

	250, 2AP, 337, 343, 346, 41B, 41J, 42C 42D, 572, 589, 5K1, 5K2, 5N2, 753, 2A
9/2	Introduction
	ET 200pro motor starters
9/3	General data
9/8	Standard motor starters
9/9	High Feature motor starters
9/10	ET 200pro isolator modules
	ET 200pro safety motor starters Solutions local/PROFIsafe
	Safety modules local
9/11	- Safety local isolator modules
9/11	- 400 V disconnecting modules
	Safety modules PROFIsafe
9/14	- F-Switch PROFIsafe
9/15	Accessories for ET 200pro motor
	starters NEW
9/20	ET 200pro – interface modules NEW
	ET 200pro CPUs
9/24	Standard CPUs
9/28	Fail-safe CPUs
	ET 200pro – I/O modules
9/33	Digital expansion modules
9/34	Analog expansion modules
9/34	IO-Link master modules
9/34	Fail-safe digital expansion modules

PM-E power modules PM-O power module outputs ET 200pro pneumatic interfaces

SIMATIC ET 200pro FC-2 frequency converters ET 200pro add-on products ET 200pro software Motor Starter ES

RF170C Power supplies

	SIRIUS M200D motor starters
9/41	General data
	M200D motor starters for AS-Interface
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9/47	M200D Basic motor starters
9/48	M200D Standard motor starters
	M200D motor starters for PROFIBUS/PROFINET
9/49	General data
9/55	Communication modules,
	motor starter modules
	Software
9/56	Motor Starter ES
	Accessories
9/57	For all M200D motor starters
9/62	For M200D motor starters
	for AS-Interface
9/64	For M200D motor starters for PROFIBUS
9/65	For M200D motor starters for PROFINET
9/66	Hybrid fieldbus connections

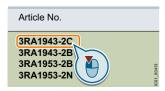
Note:

Conversion tool, see

www.siemens.com/sirius/conversion-tool

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/ product?3RA1943-2C

Motor Starters for Use in the Field, High Degree of Protection

Introduction

Overview





RK1304 3RK1315

	0.11.10.10		
		Article No.	Page
ET 200pro motor starters			
Motor starters in the SIMATIC ET 200pro I/O system up to 5.5 kW			
Standard motor starters		3RK1304	9/8
High Feature motor starters		3RK1304	9/9
ET 200pro isolator modules	With switch disconnector function for safe disconnection	3RK1304	9/10
Safety modules local	Isolator module, 400 V disconnecting module	3RK1304	9/11
Safety modules PROFIsafe	F-Switch PROFIsafe	6ES7148	9/14
Accessories for ET 200pro motor starters	 Incoming power supply, power loop-through connection on the field device, motor cable, power bus with power terminal connectors 	3RK19	9/15
ET 200pro – interface modules	 For communication with PROFIBUS, PROFINET and IWLAN 	6ES71	9/20
ET 200pro CPUs	Standard CPUs, fail-safe CPUs	6ES71	9/24
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Distributed motor starters up to 5.5 kW			
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M200D communication modules for PROFINET		3RK1335	9/55
M200D motor starter modules		3RK1395	9/55
Accessories	• Incoming power supply, motor cable, power bus with power terminal connectors	3RK1911	9/59
	Motor control with I/O communication	3RK1902	9/61
	Motor control with AS-i communication	3RK1902	9/62
	Motor control with PROFIBUS	3RK1902	9/64
	Motor control with PROFINET	3RK1902	9/65
Hybrid fieldbus connections			
	Passive and active	3RK1911	9/67

Flexible and cost-efficient distributed starter solutions

Be it their high degree of protection, compact design or integrated multifunctionality – our motor starters and soft starters for use in the field are ideal for realizing distributed drive solutions. The modular concepts, distributed power supply and integrated safety technology of our portfolio for a high degree of protection consistently supports current trends in drive technology.

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

General data

Overview

ET 200pro motor starters in I/O system ET 200pro

SIMATIC ET 200pro is the modular I/O system with high degree of protection IP65/66/67 for local, cabinet-free use. The ET 200pro motor starters with the high degree of protection IP65 are an integral part of ET 200pro.



ET 200pro motor starter: Isolator module, Standard starter and High Feature starter mounted on a wide module rack

ET 200pro motor starters (see pages 9/8 and 9/9)

- Only two variants up to 5.5 kW
- · All settings can be parameterized by bus
- Comprehensive diagnostic signals
- Support for PROFlenergy
- · Overload can be acknowledged by remote reset
- · Current unbalance monitoring
- Stall protection
- EMERGENCY START function on overload
- Current value transmission by bus
- · Current limit monitoring
- · Full support of acyclic services
- Direct-on-line or reversing starters
- Power bus connection can be plugged in using Han Q4/2 plug-in connectors
- Motor feeder with Han Q8/0 connector
- Conductor cross-section up to 6 x 4 mm²
- 25 A per segment (power looped through using jumper plug)
- In the Standard and High Feature versions (with 4 DI on-board)
- · Electromechanical switching and electronic switching
- Electronic starter for direct activation or with integrated soft starter function
- Supplied with 400 V AC brake contact as an option
- Temperature sensor can be connected (Thermoclick or PTC type A)
- Provision of the motor current in PROFlenergy format to higher-level systems, motor current shutdown in dead times using PROFlenergy

More information

Homepage, see www.siemens.com/ET200pro

Industry Mall, see www.siemens.com/product?3RK1304

Further components in the ET 200pro distributed I/O system:

- Catalog ST 70
- Industry Mall, see www.siemens.com/product?ET200pro

ET 200pro isolator modules (see page 9/10)

The isolator module with switch disconnector function is used for safe disconnection of the 400 V operational voltage during repair work in the plant and provides an integrated group fusing function (i.e. additional group short-circuit protection for all subsequently supplied motor starters).

Depending on the power distribution concept, all stations can be equipped with an isolator module as an option.

Safety applications

Safety Solution local (see page 9/11)

With the Safety local modules

- · Safety local isolator module and
- 400 V disconnecting module

with an appropriate connection, safety level PL e (according to ISO 13849-1) can be reached.

Safety Solution PROFIsafe (see page 9/14)

With the Safety PROFIsafe modules

- F-Switch and
- 400 V disconnecting module

with an appropriate connection, safety levels SIL 3 (according to IEC 62061) and PL e (according to ISO 13849-1) can also be reached.

Functionality

With the ET 200pro motor starters, any three-phase loads can be protected and switched.

The ET 200pro motor starters are available with mechanical and also electronic contacts.

The ET 200pro electromechanical starters are offered as directon-line starters (DSe) and reversing starters (RSe) as **Standard** and **High Feature** versions. There are device versions with or without control for externally fed brakes with 400 V AC.

Compared with the Standard motor starters, the **High Feature**, **mechanical** motor starter also has:

- · Four digital inputs
- Advanced parameterization options

The ET 200pro electronic starters are offered as direct-on-line starters (sDSSte/sDSte) and reversing starters (sRSSte/sRSte) in the High Feature version.

Compared with the High Feature mechanical motor starters, the **High Feature**, **electronic** motor starter also has:

- Soft starting and smooth ramp-down function
- Deactivated soft start function as an electronic starter for applications with a high switching frequency
- Advanced parameterization options

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

General data

As a result of the protection concept with solid-state overload evaluation and the use of SIRIUS switching devices, size S00, additional advantages are realized on the Standard and High Feature motor starters – advantages that soon make themselves positively felt particularly in manufacturing processes with high plant stoppage costs:

- Configuration is made easier by the fine modular structure with ET 200pro. When using ET 200pro motor starters, the parts list per load feeder is reduced to two main items: the bus module and the motor starter. This makes the ET 200pro ideal for modular machine concepts or solutions for conveying systems and in machine-tool building.
- Expansions are easily possible through the subsequent adding of modules. The innovative plug-in technology also does away with the wiring needed up to now. Through the hot swapping function (disconnection and connection during operation) a motor starter can be replaced within seconds if necessary, without having to shut down the ET 200pro station and with it the process in the plant. The motor starters are therefore recommendable in particular for applications with special demands on availability. Storage costs are also optimized by the low level of variance (two units up to 5.5 kW).
- With four locally acting inputs available on the High Feature motor starter it is possible to realize autonomous special functions that work independently of the bus and the higher level control system, e.g. as a quick stop on gate valve controls or limit position disconnectors. In parallel with this, the states of these inputs are signaled to the control system.

Article No. scheme

Product versions		Article number						
Motor starters		3RK1304 - 5	□s	□0-		AA		
Setting range	0.15 2.0 A		K					
	1.5 12 A		L					
Product function	Direct-on-line starters DSe			1	4			Standard
	Reversing starters RSe			1	5			Standard
	Direct-on-line starters DSe			1	2			High Feature
	Reversing starters RSe			1	3			High Feature
	Direct-on-line starters sDSSSte/sDSte			7	2			High Feature
	Reversing starters sDSSSte/sDSte			7	3			High Feature
Inputs/outputs	Without brake output						0	
	With brake output						3	400 V AC, with High Feature + 4 inputs
Example		3RK1304 - 5	K S	10-	- 4	АА	0	

Product versions		Article number			
Modules		3RK1304 - 0 H S 0 0 -		A A 0	
Product function	Isolator modules		6		
	Isolator modules		7		Safety modules local
	400 V disconnecting module		8		Safety modules local/PROFIsafe
Example		3RK1304 - 0 H S 0 0 -	6	A A 0	

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

General data

Туре		Standard motor starters	High Feature motor s	starters
Technology designation ¹⁾		DSe, RSe	DSe, RSe	sDSSte, sDSte, sRSSte, sRSte
Device functions (firmware features)				
Parameterizable rated operational current		✓		
Integrated short-circuit protection		✓		
Parameterizable current limit values			✓ 2 limit values	
Parameterizable response in case of current limit violation			✓	
Zero current monitoring		✓		
Parameterizable response in case of zero current violation		✓		
Parameterizable current unbalance limit	%	Fixed limit value $(30 \times I_e)$	√ 30 60 × I _e	
Parameterizable response in case of unbalance limit violation		✓		
Motor blocking monitoring			✓	
Parameterizable blocking current limit	%		✓ 150 1 000 x I _e	
Parameterizable blocking time limit	S		√ 1 5	
Current value transmission		✓		
Group warning diagnostics			✓ Parameterizable	
Group diagnostics		✓ Parameterizable		
EMERGENCY START		✓		
Digital inputs • Parameterizable input signal		 	✓ 4 inputs✓ Latching/non-latching	ng
Parameterizable input levelParameterizable input signal delay	ms		✓ NC/NO contacts ✓ 10 80	
Parameterizable input signal extension	ms		✓ 0 200	
Parameterizable input control actions			✓ 12 different actions	
Brake output (400 V AC)		✓ Order option		
Parameterizable brake enabling delay	S	✓ -2.5 +2.5		
Parameterizable holding time of the brake during stopping	S	√ 0 25		
Parameterizable start up type				✓
Parameterizable ramp-down time				✓
Parameterizable starting voltage				✓
Parameterizable stopping voltage				✓
Local device interface		✓		
Firmware update The area of the second secon		✓ By specialists		
Thermal motor model		<u> </u>	4 OL ACO E 40 4E 00	`
Parameterizable trip class		CLASS 10 fixed	✓ CLASS 5, 10, 15, 20)
Parameterizable response in case of overload of thermal motor model Advance warning limit for motor heating	0/		✓ 3 possible states ✓ Parameterizable 0 .	05
Advance warning limit for motor neating Advance warning limit time-related trip reserve	% S		 ✓ Parameterizable 0 . ✓ Parameterizable 0 . 	
Parameterizable recovery time	min		✓ Parameterizable 0 . ✓ 1 30	500
Parameterizable protection against voltage failure	111111	Permanently integrated	✓ T 30	
Reversing start function		✓ Order option		
Parameterizable interlock time for reversing starters		150 ms fixed	√ 0 60 s	
Integrated logbook functions		✓ 3 device logbooks		
Integrated statistics data memory		✓ c devide legiscolle		
Parameterizable response in case of CPU/master stop		✓		
PROFlenergy profile support Disconnection of the motor current during idle times Measured motor current values		<i>'</i>		
Device indications • Group fault • Switching state • Device status • Digital inputs		SF LED (red) STATE LED (red, yellow DEVICE LED (red, yello		

- Digital inputs

✓ Function available

-- Function not available

1) DS RS DSS .. RSS ... Direct-on-line starters Reversing starters Direct-on-line soft starters

Direct-on-line soft starters
Reversing soft starters
Electronic motor protection
Full motor protection (thermal + electronic)
Electronic switching with semiconductor. e te s

0

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

General data

Benefits

ET 200pro motor starters provide the following advantages:

- High flexibility thanks to a modular and compact design
- Little variance among all motor starter versions (two units up to 5.5 kW)
- Extensive parameterization using STEP 7 HW Config
- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Extensive diagnostics and information for preventive maintenance
- Parameterizable inputs for on-site control functions (High Feature)
- Cabinet-free design thanks to high degree of protection IP65

Application

The SIMATIC ET 200pro motor starters are ideal for the use of several spatially concentrated distributed drive solutions in which several motors, or digital or analog sensors and actuators are addressed from a distributed station. They are perfectly suited for protecting and switching any AC loads.

Application areas

The SIMATIC ET 200pro motor starters are suitable for numerous sectors of industry, e.g. machinery and plant engineering or conveying applications.

Use of ET 200pro motor starters in conjunction with IE3/IE4 motors

Note:

For the use of ET 200pro motor starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

General data

Technical specifications

Technical specifications							
More information							
Manual, see https://support.industry.siemens.com/cs/ww/en/v	Notes on security: System networking requires suitable protective measures (including network segmentation for IT security) in order to ensure safe plant operation. For more information on the subject of Industrial Security, see www.siemens.com/industrialsecurity.						
Туре		Standard motor starters Mechanically switching without inputs	High Feature motor starte Mechanically switching with inputs	ers Mechanically switching with inputs and soft starter function			
Technology designation ¹⁾		DSe, RSe	DSe, RSe	sDSSte, sDSte, sRSSte, sRSte			
Mechanics and environment							
Motor starters or modules that can be connected to ET 200pro With width of 110 mm	•	max. 8					
Mounting dimensions (W x H x D) • Direct-on-line starters and reversing starters	mm	110 x 230 x 150		110 x 230 x 160			
Permissible ambient temperature • During operation • During storage	°C °C	-25 +55, from +40 with c	derating				
Permissible mounting position		Vertical, horizontal					
Vibration resistance acc. to IEC 60068, Part 2-6	g	2					
Shock resistance acc. to IEC 60068, Part 2-27	g/ms	Half-sine 15/11					
Degree of protection		IP65					
Pollution degree		3, IEC 60664 (IEC 61131)					
Electrical specifications							
Power consumption at 24 V DC From auxiliary circuit L+/M (U1) From auxiliary circuit A1/A2 (U2)	mA mA	Approx. 40 Approx. 200					
Rated operational current I _e for power bus	А	25					
Rated operational voltage U _e • Approval according to EN 60947-1, Appendix N • Approval according to CSA and UL	V AC V AC V AC	400 (50/60 Hz) Up to 400 (50/60 Hz) Up to 600 (50/60 Hz)		Up to 400 (50/60 Hz) Up to 480 (50/60 Hz)			
Approval • DIN VDE 0106, Part 101	V	Up to 400		Up to 480			
CSA and UL approval Conductor cross-sections		Up to 600		Up to 480			
Incoming power supply	mm ²	Max. 6 x 4					
Touch protection		Finger-safe					
Rated impulse withstand voltage U_{imp}	kV	6					
Rated insulation voltage U _i	V	400					
• AC-1 / 2 / 3 at 40 °C - At 400 V - At 500 V • AC-4 at 40 °C	A A	0.15 2.0/1.5 12.0 0.15 2.0/1.5 9.0		0.15 2.0/1.5 12.0 ²⁾			
- At 400 V	Α	0.15 2.0/1.5 4.0					
Rated short-circuit breaking capacity	kA	100 at 400 V					
Type of coordination acc. to IEC 60947-4-1		1					
Power of three-phase motors at 400 V Utilization categories	kW	Max. 5.5 AC-1, AC-2, AC-3, AC-4		Max. 5.5/4 ³⁾ AC-53a ⁴⁾ (max. 9 A with deactivated soft start function up to CLASS 10)			
Protective separation between main and auxiliary circuits	V	400, acc. to EN 60947-1, A	ppendix N	function up to CLASS 10)			
Endurance of contactor • Mechanical	Operating	30 million					
• Electrical	cycles Operating cycles	Up to 10 million; depending (see manual)	g on the current loading				
Permissible switching frequency	<u> </u>	,	loading, motor starting time,	and relative ON period			
Operating times at 0.85 1.1 x U _e • Closing delay • Opening delay	ms ms	11 50 5 45		 			
1) DS Direct-on-line starters RS Reversing starters DSS Direct-on-line soft starters RSS Reversing soft starters e Electronic motor protection te Full motor protection (thermal + electronic) s Electronic switching with semiconductor.		operational current is	ntrol function is deactivated, s reduced to 9 A up to CLAS on as electronic starter max.	SS 10.			

Motor Starters for Use in the Field, High Degree of Protection

ET 200pro Motor Starters

Standard motor starters IE3/IE4 ready

Overview

The functionality, device functions, and technical specifications of the Standard motor starter are described in "ET 200pro Motor Starters, General data" (see page 9/3 onwards).

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Standard motor s Motor protection:	tarters, mechanical thermal model						
9	DSe direct-on-line starters ¹⁾		-				
Name and	Without brake outputWith brake output 400 V AC	2 2	3RK1304-5□S40-4AA0 3RK1304-5□S40-4AA3		1 1	1 unit 1 unit	42D 42D
- man Hard	RSe reversing starters ¹⁾						
A 100	Without brake outputWith brake output 400 V AC	2 2	3RK1304-5□S40-5AA0 3RK1304-5□S40-5AA3		1 1	1 unit 1 unit	42D 42D
图團图	Setting range Rated operational current			Additional price			
DSe Standard	• 0.15 2.0 A • 1.5 12.0 A		K	None 🗸			

Only functions when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see "Accessories for ET 200pro motor starters", page 9/19).

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

IE3/IE4 ready

High Feature motor starters

PS*

PU

PG

Overview

The functionality, device functions, and technical specifications of the High Feature motor starter are described in "ET 200pro Motor Starters, General data" (see page 9/3 onwards).

Version

The High Feature motor starter differs from the Standard motor starter in having more parameters and four integrated, freelyparameterizable digital inputs.

Price

Additional price

None

Selection and ordering data

				per PU	(UNIT, SET, M)		
		d					
High Feature motor Motor protection: the	starters, mechanical nermal model						
9	DSe direct-on-line starters ¹⁾		_				
Name and	 Without brake output and with 4 inputs With brake output 400 V AC and 4 inputs 	2 5	3RK1304-5□S40-2AA0 3RK1304-5□S40-2AA3		1 1	1 unit 1 unit	42D 42D
	RSe reversing starters ¹⁾						
RSe High Feature	 Without brake output and with 4 inputs With brake output 400 V AC and 4 inputs 	2 2	3RK1304-5□S40-3AA0 3RK1304-5□S40-3AA3		1 1	1 unit 1 unit	42D 42D
	Setting range Rated operational current			Additional price			
	• 0.15 2.0 A • 1.5 12.0 A		K L	None ✓			

High Feature motor starters²⁾, electronic Full motor protection, comprising thermal motor protection and thermistor motor protection



sRSSte High Feature

Direct-on-line starters sDSSte/sDSte¹⁾²⁾

 Without brake output and with 4 inputs With brake output 400 V AC and 4 inputs 	2 5	3RK1304-5□S70-2AA0 3RK1304-5□S70-2AA3	1 1	1 unit 1 unit	42D 42D
Reversing starters sRSSte/sRSte ¹⁾²⁾					
 Without brake output and with 4 inputs With brake output 400 V AC and 4 inputs 	2	3RK1304-5□S70-3AA0 3RK1304-5□S70-3AA3	1	1 unit 1 unit	42D 42D
• With brake output 400 v AC and 4 inputs	2	3HK 1304-5LIS70-3AA3	l '	i uriit	42D

Article No.

Setting range Rated operational current

• 0.15 ... 2.0 A • 1.5 ... 12.0 A

1) Only functions when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see "Accessories for ET 200pro moto starters", page 9/19).

- 2) The solid-state motor starters can be used not only as solid-state motors starters with a high level of switching frequency but also as fully fledged soft starters for soft starting and stopping. The changeover from motor starter to soft starter takes place through reparameterization in HW Config. Depending on the setting, this results in the following current ranges:
 - Parameterization as solid-state motor starter: 0.15 to 2 A and 1.5 to 9 A (4 kW)
 - Parameterization as soft starter: 0.15 to 2 A and 1.5 to 12 A (5.5 kW).

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

ET 200pro isolator modules IE3/IE4 ready

Overview

The isolator module with integrated group fusing function (i.e. additional group short-circuit protection for all subsequently supplied motor starters) and switch disconnector function is used for safe disconnection of the 400 V operational voltage in the plant.

Depending on the power distribution concept, all stations can be equipped with an isolator module as an option.

The following properties apply to the isolator module:

- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Cabinet-free design thanks to high degree of protection IP65

The isolator module is available in addition in a safety version (see "Safety local isolator module" on page 9/11).

Technical specifications

Туре		Isolator modules
General data		
Mounting dimensions (W x H x D) • Direct-on-line starters and reversing starters	mm	110 x 230 x 170
Permissible ambient temperature • During operation • During storage	°C °C	-25 +55 -40 +70
Permissible mounting position		Any
Vibration resistance acc. to IEC 60068 Part 2-6	g	2
Shock resistance acc. to IEC 60068 Part 2-27	g/ms	Half-sine 15/11
Power consumption From auxiliary circuit L+/M (U1) From auxiliary circuit A1/A2 (U2)	mA	Approx. 20
Rated operational current I_e for power bus	Α	25
Rated operational voltage U _e	V	400
Approvals according to DIN VDE 0106, Part 101 CSA and UL	V V	Up to 500 Up to 600
Conductor cross-sections • Incoming power supply	mm^2	Max. 6 x 4

Туре		Isolator modules
Degree of protection		IP65
Touch protection		Finger-safe
Pollution degree		3, IEC 60664 (IEC 61131)
Rated impulse withstand voltage $U_{\rm imp}$	kV	6
Rated insulation voltage <i>U</i> _i	V	400
Rated operational current I_e for starters		
• AC-1 / 2 / 3 at 40 °C - At 400 V - At 500 V	A A	25 25
Rated short-circuit breaking capacity	kA	50 at 400 V
Type of coordination acc. to IEC 60947-4-1		2
Protective separation between main and auxiliary circuits	V	400, according to DIN VDE 0106, Part 101
Device functions • Group diagnostics		Yes, parameterizable
Device indications • Group fault		SF LED (red)

Selection and ordering data

	Version	SD		Price er PU	PU (UNIT, SET, M)	PS*	PG
ET 200pro isolator mod							
No.	Isolator modules ¹⁾ Rated operational current 25 A	2	3RK1304-0HS00-6AA0		1	1 unit	42D



3RK1304-0HS00-6AA0

Only functions when used together with the related 110 mm backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see page 9/19).

Motor Starters for Use in the Field, High Degree of Protection

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Safety modules local

Overview

Safety Solution local

With the Safety local modules

- Safety local isolator module and
- 400 V disconnecting module

with an appropriate connection, safety level PL e (according to ISO 13849-1) can be reached.



ET 200pro motor starter (Safety Solution local): Safety local isolator module, disconnecting module, Standard starter and High Feature starter mounted on a wide module rack

Safety local isolator module

The Safety local isolator module is a repair switch with integrated safety evaluation functions that can be parameterized using DIP switches.

It is used for

- Connection of a 1- or 2-channel EMERGENCY STOP circuit up to PL e (protective door or EMERGENCY STOP pushbuttons) and parameterizable start behavior
- For controlling the 400 V disconnecting module by means of a safety rail signal

400 V disconnecting module

The 400 V disconnecting module enables the safe disconnection of an operational voltage of 400 V up to PL e. For operation in a Safety Solution local application, it functions only in combination with the Safety local isolator module.

For operation in a Safety PROFIsafe application it functions only in combination with the F-Switch.

Functionality

Safety local isolator module

The Safety local isolator module features the same functions as a standard isolator module with an additional local safety function

The Safety local isolator module contains a 3TK2841 module and is equipped with M12 terminals for the connection of external safety components.

Terminals 1 and 2 can be used to connect either 1-channel or 2-channel EMERGENCY STOP circuits or protective door circuits (IN 1, IN 2).

For monitored starts, an external START switch can be connected to terminal 3.

The required safety functions can be set using two slide switches located under the left M12 opening.

In the event of an EMERGENCY STOP, the Safety local isolator module trips the downstream 400 V disconnecting module. This safely separates the 400 V circuit up to PL e.

In combination with the 400 V disconnecting module, the Safety local isolator module can be used for safety applications up to PL e.

400 V disconnecting module

The 400 V disconnecting module can be used together with the Safety local isolator module for local safety applications and together with the F-Switch for PROFIsafe safety applications.

It contains two contactors connected in series for safety-related disconnection of the main circuit.

The auxiliary circuit supply of the device is over a safety power rail in the backplane bus module.

The 400 V disconnecting module can be used in conjunction with the Safety local isolator module or with the F-Switch for safety applications up to PL e.

Motor Starters for Use in the Field, High Degree of Protection

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Safety modules local

Technical specifications

Туре		Safety local isolator module	400 V disconnecting module
General data			
Mounting dimensions (W x H x D) • Direct-on-line starters and reversing starters	mm	110 x 230 x 170	110 x 230 x 150
Permissible ambient temperature			
During operationDuring storage	°C O°	-25 +55 -40 +70	
Permissible mounting position		Any	
Vibration resistance acc. to IEC 60068, Part 2-6		2 g	
Shock resistance acc. to IEC 60068, Part 2-0		Half-sine 15 <i>g</i> /11 ms	
Power consumption		11an-3me 13 g/11 ms	
From auxiliary circuit L+/M (U1) From auxiliary circuit A1/A2 (U2)	mA	Approx. 20	
Rated operational current I _e for power bus	А	25	
Rated operational voltage $U_{\rm e}$	V	400 (50/60 Hz)	
Approval DIN VDE 0106, Part 101	V	Up to 500	
CSA and UL approval	V	Up to 600	
Conductor cross-sections Incoming power supply	mm ²	Max. 6 x 4	
Degree of protection		IP65	
Touch protection		Finger-safe	
Pollution degree		3, IEC 60664 (IEC 61131)	
Rated impulse withstand voltage U _{imp}	kV	6	
Rated insulation voltage <i>U</i> _i	V	400	
Rated operational current I _e for starters			
• AC-1 / 2 / 3 at 40 °C			
- At 400 V - At 500 V	A	16 16	25 25
Rated short-circuit breaking capacity	A kA	50 at 400 V	23
Type of coordination acc. to IEC 60947-4-1	KA	2	
Protective separation between main and auxiliary circuits	V	400.	
Protective separation between main and auxiliary circuits	V	according to DIN VDE 0106, Part 101	
Operating times at 0.85 1.1 x U _s		,	
Closing delay	ms		25 100
Opening delay	ms		7 10
Device functions • Group diagnostics		Yes, parameterizable	
Device indications			

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

IE3/IE4 ready Safety modules local

	rice P PU (UNI SET, N	-	PG
Safety modules local			
Safety local isolator module ¹⁾²⁾ Rated operational current 16 A 5 3RK1304-0HS00-7AA0		1 1 unit	42D
3RK1304-0HS00-7AA0			
400 V disconnecting module ³⁾⁴⁾ Rated operational current 25 A 2 3RK1304-0HS00-8AA0		1 1 unit	42D

- $^{\mbox{\scriptsize 1})}$ The Safety local isolator module only functions when used together with the 400 V disconnecting module.
- $^{2)}$ Only in combination with the special backplane bus module for the Safety Local isolator module (see "Accessories for ET 200pro motor starters", page 9/19).
- 3) The 400 V disconnecting module functions only when used together with the Safety local isolator module or with the F-Switch.
- $^{\rm 4)}$ The 400 V disconnecting module functions only when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see "Accessories for ET 200pro motor starters", page 9/19).

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Safety modules PROFIsafe IE3/IE4 ready

Overview

Safety Solution PROFIsafe

With the Safety PROFIsafe modules

- F-Switch and
- 400 V disconnecting module

With an appropriate connection, safety levels SIL 3 (according to IEC 62061) and PL e (according to ISO 13849-1) can be reached.

F-Switch PROFIsafe

Fail-safe digital inputs/outputs in degrees of protection IP65 to IP67 for near-machine, cabinet-free use.

Fail-safe digital inputs

- For the fail-safe reading in of sensor information (1-/2-channel)
- Including integrated discrepancy evaluation for 2v2 signals
- Internal sensor supplies (incl. testing) available

Fail-safe digital outputs

 Three fail-safe PP-switching outputs for safe switching of the backplane busbars

The F-Switch is certified up to SIL 3/PL e and has detailed diagnostics.

It supports PROFIsafe in PROFIBUS configurations as well as in PROFINET configurations.

Note:

Safety characteristics, see page 16/6.

Functionality

The PROFIsafe F-Switch is a fail-safe solid-state module for PROFIsafe safety applications. It has two fail-safe inputs and outputs for safe switching of the 24 V supply over backplane busbars. In combination with the 400 V disconnecting module, fail-safe disconnection of ET 200pro motor starters is possible in PROFIsafe applications up to SIL 3/PL e.

400 V disconnecting module

See "Safety modules local", Overview, page 9/11 and Technical specifications, page 9/12.

Selection and ordering data

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Safety modules PROF	Isafe						
9 14	400 V disconnecting modules ¹⁾²⁾						
3RK1304-0HS00-8AA0	Rated operational current 25 A	2	3RK1304-0HS00-8AA0		1	1 unit	42D
3NN 1304-0H300-6AA0	F-Switch PROFIsafe						
	24 V DC, including bus module Note: Connection module must be ordered separately	1	6ES7148-4FS00-0AB0		1	1 unit	241
6ES7148-1FS00-0AB0							
	Connection modules for F-Switch						
	24 V DC	1	6ES7194-4DA00-0AA0		1	1 unit	241

¹⁾ The 400 V disconnecting module functions only when used together with the Safety local isolator module or with the F-Switch.

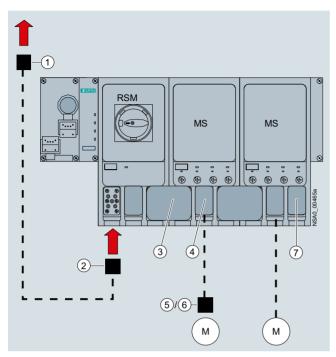
²⁾ The 400 V disconnecting module functions only when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see "Accessories for ET 200pro motor starters", page 9/19).

ET 200pro Motor Starters

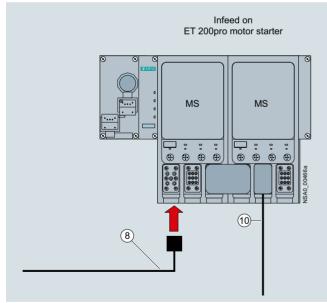
ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Accessories for ET 200pro motor starters

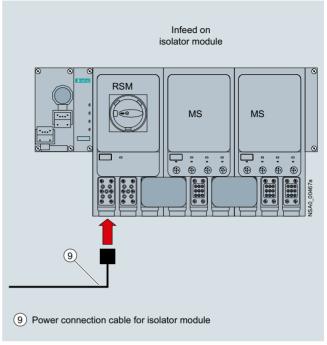
Overview



Basic design of an ET 200pro version with (from the left) connection module for IM, interface module for communication (IM), RSM isolator module, two ET 200pro motor starters (MS), and connections for energy



Infeed on the ET 200pro motor starter



Infeed on the RSM isolator module

Legend:

- ① Power feeder plug (see page 9/17)
- 2 Power connection plug (see page 9/17)
- 3) Power jumper plug (see page 9/17)
- (4) Motor connection plug (see page 9/17)
- (5) Motor plug (see page 9/17)
- (6) Motor plug with EMC suppressor circuit (see page 9/17)
- Power loop-through plug (see page 9/17)
- 8 Power connection cable (see page 9/17)
- Power connection cable for isolator module (see page 9/17)
- n Motor cable (see page 9/18)

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Accessories for ET 200pro motor starters

Power bus

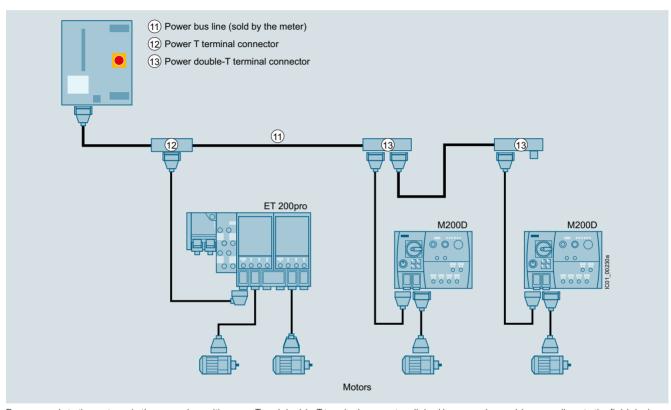
The power supply to the field devices (ET 200pro motor starters, M200D motor starters) is provided via the power bus, in which the power T terminal connectors or power double-T terminal connectors are connected by power bus cables.

Feeders

From the terminal connectors, spur lines with Han Q4/2 plugs lead to the field devices, from which the motors are supplied with power via motor connection cables.

Interruption-free thanks to power terminal connectors

In finger-safe connection technology the power T terminal connectors and power double-T terminal connectors connect the components of a feeder to the power bus. They ensure interruption-free operation, i.e. the power bus is not interrupted when the components are plugged in.



Power supply to the motors via the power bus with power T and double-T terminal connectors linked by power bus cables, spur lines to the field devices (motor starters), and power loop-through connections to the motors via motor connection cables

Motor control via PROFIBUS

The interface modules (IM) for PROFIBUS can be combined with three different connection modules for connecting PROFIBUS DP and the power supply:

- Direct connection with cable bushings
- ECOFAST connection with hybrid fieldbus cables (with two copper cores for data transmission with PROFIBUS DP, and four copper cores for the power supply), and ECOFAST connectors (HanBrid)¹⁾
- M12, 7/8" connection
 - with M12 connecting cable and M12 plugs for data transmission with PROFIBUS DP
 - with 7/8" connecting cable and 7/8" plugs for the power supply²⁾

For the connection modules with the associated accessories, see "Accessories ET 200pro interface modules", page 9/20).

Motor control via PROFINET

For the connection modules with the associated accessories, see Accessories for ET 200pro interface modules, page 9/22 onwards.

¹⁾ Hybrid fieldbus connections with HanBrid sockets designed as cabinet bushings transmit data and energy from the control cabinet (IP20) to the field (IP65). They are the interface for jointly routing PROFIBUS DP and the auxiliary voltages into the hybrid fieldbus cable (see page 9/66).

On the control cabinet bushings with two M12 sockets for the PROFIBUS M12 connecting cables (see page 9/66), the 24 V supply of the motor starters is implemented via separate 7/8" connecting cables.

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Accessories for ET 200pro motor starters

Selection and ordering	ı data					
	Version	SD	Article No. Price per PU		PS*	PG
		l,	perro	SET, M)		
Incoming power supply	1	d				
31	① Power feeder plugs Connector set for incoming power supply, e.g. for connecting to T terminal connectors, comprising a coupling enclosure, straight outgoing feeder (with bracket), pin insert for HAN Q4/2, incl. bushing					
	 5 male contacts, 2.5 mm² 5 male contacts, 4 mm² 5 male contacts, 6 mm² 	5 5 5	3RK1911-2BS60 3RK1911-2BS20 3RK1911-2BS40	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
	② Power connection plugs Connector set for incoming power supply for connection to ET 200pro motor starters/ET 200pro isolator modules, comprising a cable-end connector hood, angular outgoing feeder, female insert for HAN Q4/2, including bushing					
	 5 female contacts, 2.5 mm² 5 female contacts, 4 mm² 5 female contacts, 6 mm² 	5 5 5	3RK1911-2BE50 3RK1911-2BE10 3RK1911-2BE30	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
	Power connection cables, assembled at one end Power connection cable for ET 200pro motor starters, open at one end, for HAN Q4/2, angular, 4 x 4 mm ²					
	Length 1.5 mLength 5.0 m	5 5	3RK1911-0DB13 3RK1911-0DB33	1 1	1 unit 1 unit	42D 42D
	Length 1.5 mLength 5.0 m	30 30	3RK1911-0DF13 3RK1911-0DF33	1 1	1 unit 1 unit	42D 42D
Power loop-through on						_
	Power jumper plugs Power loop-through plugs Connector set for power loop-through for connection to ET 200pro motor starters/ET 200pro isolator modules, comprising a cable-end connector hood, angular outgoing feeder, pin insert for HAN Q4/2, including bushing	2	3RK1922-2BQ00	1	1 unit	42D
	 4 male contacts, 2.5 mm² 4 male contacts, 4 mm² 	5 5	3RK1911-2BF50 3RK1911-2BF10	1 1	1 unit 1 unit	42D 42D
Motor cables	Motor connection plugs Connector set for motor cable for connection to ET 200pro motor starters, comprising a cable-end connector hood, angular outgoing feeder, pin insert for HAN Q8/0, incl. bushing	_				400
	 8 male contacts, 1.5 mm² 6 male contacts, 2.5 mm² 	5 5	3RK1902-0CE00 3RK1902-0CC00	1	1 unit 1 unit	42D 42D
	(§) Motor plugs Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, female insert for HAN 10e, incl. star jumper, including bushing	00	ODK4044 ODMO4		4	405
	 7 female contacts, 1.5 mm² 7 female contacts, 2.5 mm² 	30 30	3RK1911-2BM21 3RK1911-2BM22	1 1	1 set 1 set	42D 42D
	Motor plugs with EMC suppressor circuit Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, female insert for HAN 10e with EMC suppressor circuit, including star jumper, including bushing					
	 7 female contacts, 1.5 mm² 7 female contacts, 2.5 mm² 	30 30	3RK1911-2BL21 3RK1911-2BL22	1 1	1 set 1 set	42D 42D

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Accessories for ET 200pro motor starters

	Version	SD	Article No. Pric	e PU	PS*	PG
	Version	30	per Pl	J (UNIT,	го	ru
		d		SET, M)		
Motor cables (continue	ed)	u				
	Motor cables, assembled at one end					
	Open at one end, HAN Q8, angular, length 5 m • For motor without brake, for ET 200pro, 4 x 1.5 mm ²	15	3RK1911-0EB31	1	1 unit	42D
	• For motor with brake for ET 200pro, 6 x 1.5 mm ²	30	3RK1911-0ED31	1	1 unit	42D
	 For motor without brake, with thermistor, for ET 200pro, 6 x 1.5 mm² 	30	3RK1911-0EF31	1	1 unit	42D
	 For motor with brake and thermistor for ET 200pro, 8 x 1.5 mm² 	30	3RK1911-0EG31	1	1 unit	42D
Power bus						
	Power T terminal connectors For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection used with preassembled bus segments	1				
	• 2.5 mm ² / 4 mm ² • 4 mm ² / 6 mm ²	5 5	3RK1911-2BF01 3RK1911-2BF02	1	1 unit 1 unit	42D 42D
	® Power double-T terminal connectors For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection used with preassembled bus segments, connection of two motor starters possible	,				
	• 4 mm ² / 6 mm ²	5	3RK1911-2BG02	1	1 unit	42D
	Sealing set (comprising 2 seals) For power T/power double-T terminal connectors					
	 For power cables with Ø 10 13 mm For power cables with Ø 13 16 mm For power cables with Ø 16 19 mm For power cables with Ø 19 22 mm Blanking plugs 	5 5 5 X 5	3RK1911-5BA00 3RK1911-5BA10 3RK1911-5BA20 3RK1911-5BA30 3RK1911-5BA50	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D 42D
Further accessories for	or power connections					
3RK1902-0CW00	Crimping tool for pins/sockets, 4 mm ² and 6 mm ²	15	3RK1902-0CW00	1	1 unit	42D
3HK 1902-0C W00	Dismantling tools					
	 For male and female contacts for 9-pole HAN Q4/2 inserts 	15	3RK1902-0AB00	1	1 unit	42D
	For male and female contacts for 9-pole HAN Q8 inserts	5	3RK1902-0AJ00	1	1 unit	42D
	Sealing caps For 9-pole power socket connectors					
	1 unit per pack10 units per pack	5 5	3RK1902-0CK00 3RK1902-0CJ00	1 1	1 unit 10 units	42D 42D



3RK1902-0CK00

ET 200pro Motor Starters

ET 200pro Safety Motor Starters Solutions Local/PROFIsafe

Accessories for ET 200pro motor starters

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Further accessories		d					
Turner accessories	Module racks, wide ¹⁾ • Length 500 mm • Length 1 000 mm • Length 2 000 mm	1 1 1	6ES7194-4GB00-0AA0 6ES7194-4GB60-0AA0 6ES7194-4GB20-0AA0		1 1 1	1 unit 1 unit 1 unit	250 250 250
	Module racks, wide, compact ¹⁾ • Length 500 mm • Length 1 000 mm • Length 2 000 mm	1 1 1	6ES7194-4GD00-0AA0 6ES7194-4GD10-0AA0 6ES7194-4GD20-0AA0		1 1 1	1 unit 1 unit 1 unit	250 250 250
	Backplane bus modules 110 mm ²⁾	2	3RK1922-2BA00		1	1 unit	42D
	Backplane bus module for Safety local isolator modules	2	3RK1922-2BA01		1	1 unit	42D
	Handheld devices For ET 200pro motor starters (or for ET 200S High Feature and M200D motor starters) for local operation Notes: The motor-starter-specific serial interface cables must	5	3RK1922-3BA00		1	1 unit	42D
	 be ordered separately. The RS 232 interface cable 3RK1922-2BP00 is used for the MS ET 200pro. 						
3RK1922-3BA00	RS 232 interface cable Serial data connection between ET 200pro (or M200D) motor starters and the RS 232 interface of a PC/PG/ laptop (with the Motor Starter ES software) or the handheld device 3RK1922-3BA00.	5	3RK1922-2BP00		1	1 unit	42D
	USB interface cable, 2.5 m Serial data connection between ET 200pro (or M200D) motor starters and the USB interface of a PC/PG/laptop (with the Motor Starter ES software).	3	6SL3555-0PA00-2AA0		1	1 unit	346
3RK1901-1KA00	M12 sealing caps For sealing unused M12 input or output sockets (one set contains ten sealing caps)	>	3RK1901-1KA00		100	10 units	42C
///	Motor suppression module NEW RC element for installation in motor terminal box						
	Type of construction square	15	3RK1911-6EA00		1	1 unit	42D
3RK1911-6EA00	Type of construction round	15	3RK1911-6EB00		1	1 unit	42D
3RK1911-6EB00							

¹⁾ The wide module rack can accommodate all ET 200pro motor starters and any optional modules (isolator module, Safety local isolator module and 400 V disconnecting module).

Notes:

- For motor control with PROFIBUS, see page 9/20
- For motor control with PROFINET, see page 9/22
- For Manual "SIMATIC ET 200pro Motor Starters", see https://support.industry.siemens.com/cs/ww/en/view/22332388

²⁾ The backplane bus module is a prerequisite for operation of the ET 200pro motor starter and the optional module.

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

Selection and ordering data					
Version	SD	Article No. Price per PU		PS*	PG
	d		0=1,111,		
IM 154-1 and IM 154-2 interface modules					
IM 154-1 interface module For ET 200pro; for communication between ET 200pro and higher-level masters over PROFIBUS DP	1	6ES7154-1AA01-0AB0	1	1 unit	250
IM 154-2 DP High Feature interface module For ET 200pro; for communication between ET 200pro and higher-level masters over PROFIBUS DP; support of PROFIsafe	1	6ES7154-2AA01-0AB0	1	1 unit	250
Accessories					
CM IM DP ECOFAST connection modules For connection of PROFIBUS DP and 24 V power supply to PROFIBUS interface modules, 2 ECOFAST Cu connections	1	6ES7194-4AA00-0AA0	1	1 unit	250
CM IM DP direct connection modules For direct connection of PROFIBUS DP and 24 V power supply to PROFIBUS interface modules, up to 6 M20 screwed cable bushings	1	6ES7194-4AC00-0AA0	1	1 unit	250
CM IM DP M12 7/8" connection modules For connection of PROFIBUS DP and 24 V power supply to PROFIBUS interface modules, 2 x M12 and 2 x 7/8"	1	6ES7194-4AD00-0AA0	1	1 unit	250
Accessories for CM IM DP ECOFAST					
PROFIBUS ECOFAST hybrid cables, assembled With 2 ECOFAST connectors, trailing cable with 2 x Cu 0.64 mm ² and 4 x Cu 1.5 mm ² , in various lengths:					
• 1.5 m • 3.0 m	1 1	6XV1830-7BH15 6XV1830-7BH30	1	1 unit 1 unit	5K2 5K2
• 5.0 m	1	6XV1830-7BH50	i	1 unit	5K2
• 10 m • 15 m	1 1	6XV1830-7BN10 6XV1830-7BN15	1 1	1 unit 1 unit	5K2 5K2
• 20 m	i	6XV1830-7BN20	i	1 unit	5K2
PROFIBUS ECOFAST hybrid cables GP, assembled With 2 ECOFAST connectors, trailing cable with 2 x Cu 0.64 mm ² and 4 x Cu 1.5 mm ² , in various lengths:					
• 1.5 m • 3.0 m	1 1	6XV1860-3PH15 6XV1860-3PH30	1	1 unit 1 unit	5K2 5K2
• 5.0 m	1	6XV1860-3PH50	i	1 unit	5K2
• 10 m • 15 m	1	6XV1860-3PN10 6XV1860-3PN15	1 1	1 unit 1 unit	5K2 5K2
• 20 m	i	6XV1860-3PN20	i	1 unit	5K2
PROFIBUS ECOFAST hybrid cables, non-assembled Trailing cable with 2 x Cu 0.64 mm ² and 4 x Cu 1.5 mm ² , in various lengths:					
• 50 m • 100 m	1 1	6XV1830-7AN50 6XV1830-7AT10	1 1	1 unit 1 unit	5K2 5K2
PROFIBUS ECOFAST hybrid connectors 180 ECOFAST Cu, 2 x Cu, 4 x 1.5 mm², HANBRID connectors	1	0AV 1030-7AI 10	<u>'</u>	T UTIIL	JNZ
 With pin insert, pack of 5 With female insert, pack of 5 	1	6GK1905-0CA00 6GK1905-0CB00	1 1	5 units 5 units	5K2 5K2
PROFIBUS ECOFAST hybrid connectors, angular ECOFAST Cu, 2 x Cu, 4 x 1.5 mm ² , HANBRID connectors					
 With pin insert, pack of 5 With female insert, pack of 5 	1	6GK1905-0CC00 6GK1905-0CD00	1 1	5 units 5 units	5K2 5K2
Accessories for CM IM DP Direct					
PROFIBUS trailing cables Max. acceleration 4 m/s ² , at least 3 000 000 bending cycles, bending radius at least 60 mm, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m.	1	6XV1830-3EH10	1	1 M	5K2
PROFIBUS FC Food bus cables With PE outer sheath for operation in the food and beverage industry, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m.	1	6XV1830-0GH10	1	1 M	5K2
PROFIBUS FC Robust bus cables With PUR outer sheath for operation in environments exposed to chemicals and mechanical loads, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m.	1	6XV1830-0JH10	1	1 M	5K2
Power cables 5-core, $5 \times 1.5 \text{ mm}^2$, trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m.	1	6XV1830-8AH10	1	1 M	5K2

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

		E1 200p	ro – intei	rtace mo	dules
Version	SD	Article No. Price per PL		PS*	PG
	d				
IM 154-1 and IM 154-2 interface modules (continued)		l			
Accessories for CM IM DP M12 7/8"					
PROFIBUS M12 connecting cables Preassembled with two M12 plugs, 5-pole, in various lengths:					
• 1.5 m	1	6XV1830-3DH15	1	1 unit	5K1
• 2.0 m • 3.0 m	1	6XV1830-3DH20 6XV1830-3DH30	1	1 unit 1 unit	5K1 5K1
• 5.0 m	1	6XV1830-3DH50	1	1 unit	5K1
• 10 m • 15 m	1	6XV1830-3DN10 6XV1830-3DN15	1	1 unit 1 unit	5K ⁻
7/8" connecting cables for power supply 5-core, 5 x 1.5 mm², trailing, preassembled with two 7/8" plugs, 5-pole, in various lengths:					
• 1.5 m	1	6XV1822-5BH15	1	1 unit	5K
• 2.0 m • 3.0 m	1 1	6XV1822-5BH20 6XV1822-5BH30	1	1 unit 1 unit	5K ⁻ 5K ⁻
• 5.0 m	1	6XV1822-5BH50	1	1 unit	5K
• 10 m	1	6XV1822-5BN10	1	1 unit	5K
• 15 m M12 connectors	1	6XV1822-5BN15	1	1 unit	5K1
For ET 200eco, with axial cable feeder					
With pin insert, pack of 5	1	6GK1905-0EA00	1	5 units	5K2
With pin insert, pack of 5 PROFIBUS M12 bus termination plugs	1	6GK1905-0EB00 6GK1905-0EC00	1	5 units 5 units	5K2 5K2
With pin insert		0GK 1905-0EC00	<u>'</u>	5 uriils	SNZ
7/8" connectors For ET 200eco, with axial cable feeder	_	201/4005 25400		- ·	FIZ
 With pin insert, pack of 5 With female insert, pack of 5 	1	6GK1905-0FA00 6GK1905-0FB00	1	5 units 5 units	5K2 5K2
M12 sealing caps		3RX9802-0AA00	100	10 units	42C
For protection of unused M12 terminals on ET 200pro 7/8" sealing caps For protection of unused 7/8" terminals on ET 200pro, pack of 10 units per packing unit	1	6ES7194-3JA00-0AA0	1	10 units	250
General accessories					
ET 200pro module racks					
Narrow, for interface, solid-state and power modules					
- 500 mm - 1 000 mm	1	6ES7194-4GA00-0AA0 6ES7194-4GA60-0AA0	1 1	1 unit 1 unit	250 250
- 2 000 mm, can be cut to length	1	6ES7194-4GA20-0AA0	į	1 unit	250
Compact, for interface, solid-state and power modules					
- 500 mm - 1 000 mm	1	6ES7194-4GC70-0AA0 6ES7194-4GC60-0AA0	1	1 unit 1 unit	250 250
- 2 000 mm, can be cut to length	1	6ES7194-4GC20-0AA0	i	1 unit	250
Wide, for interface, solid-state, power modules and motor starters					
- 500 mm - 1 000 mm	1	6ES7194-4GB00-0AA0 6ES7194-4GB60-0AA0	1	1 unit 1 unit	250 250
- 2 000 mm, can be cut to length	1	6ES7194-4GB20-0AA0	i	1 unit	250
Wide, for I/O modules and motor starters					
- 500 mm - 1 000 mm	1	6ES7194-4GD00-0AA0 6ES7194-4GD10-0AA0	1	1 unit 1 unit	250 250
- 2 000 mm	1	6ES7194-4GD20-0AA0	i	1 unit	250
Spare fuses 12.5 A quick-response, for interface and power modules, pack of 10	1	6ES7194-4HB00-0AA0	1	10 units	250
PROFIBUS FastConnect bus cables Standard type with special design for fast installation, 2-core, shielded, sold by the meter; delivery unit max. 1 000 m; minimum order quantity 20 m	1	6XV1830-0EH10	1	1 M	5K1
PROFIBUS hybrid standard cables GP Standard PROFIBUS hybrid cable with 2 power cores (1.5 mm²) for supplying data and power to the ET 200pro	1	6XV1860-2R	1	1 M	5K2
SIMATIC Manual Collection	X	6ES7998-8XC01-8YE0	1	1 unit	219
Electronic manuals on DVD, several languages: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)					
SIMATIC Manual Collection – Update service for 1 year	5	6ES7998-8XC01-8YE2	1	1 unit	219
Scope of supply: the current DVD S7 Manual Collection as well as the three subsequen updates	t				
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Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

Version	SD	Article No.	Price	PU	PS*	PG
			per PU	(UNIT, SET, M)		
IM 154-3 PN and IM 154-4 PN interface modules	d					
IM 154-3 PN High Feature interface modules NEW For communication between ET 200pro and a higher-level controller via PROFINET IO; support of PROFIsafe. Order connection module 6ES7194-4AK00-0AA0 separately.	1	6ES7154-3AB00-0AB0		1	1 unit	250
IM 154-4 PN High Feature interface modules For communication between ET 200pro and a higher-level controller via PROFINET IO; support of PROFIsafe. Order connection module 6ES7194-4AK00-0AA0 separately.	1	6ES7154-4AB10-0AB0		1	1 unit	250
Accessories						
Connection modules for IM 154-3 PN High Feature • Connection module CM IM PN M12, 7/8" S NEW For connection of PROFINET PN and 24 V power supply to PROFINET interface modules, 2 x M12 and 2 x 7/8"	1	6ES7194-4AK00-0AA0		1	1 unit	250
Connection modules for IM 154-4 PN High Feature						
CM IM PN M12 connection modules, 7/8" For connection of PROFINET PN and 24 V power supply to PROFINET interface modules, 2 x M12 and 2 x 7/8"	1	6ES7194-4AJ00-0AA0		1	1 unit	250
CM IM PN 2xRJ45 connection modules For connection of PROFINET PN and 24 V power supply to PROFINET interface modules, 2 x RJ45 and 2 x push-pull power connectors	1	6ES7194-4AF00-0AA0		1	1 unit	250
CM IM PN 2xSCRJ FO connection modules For connection of PROFINET PN and 24 V power supply to PROFINET interface modules, 2 x SCRJ FO and 2 x push-pull power connectors	1	6ES7194-4AG00-0AA0		1	1 unit	250
M12 sealing caps	>	3RX9802-0AA00		100	10 units	42C
For protection of unused M12 terminals on ET 200pro IE M12 connecting cables Preassembled with two M12 plugs, max. 85 m, in various lengths:						
• 0.3 m	1	6XV1870-8AE30		1	1 unit	5K1
• 0.5 m • 1.0 m	1 1	6XV1870-8AE50 6XV1870-8AH10		1 1	1 unit 1 unit	5K1 5K1
• 1.5 m	1	6XV1870-8AH15		1	1 unit	5K1
• 2.0 m • 3.0 m	1 1	6XV1870-8AH20 6XV1870-8AH30		1 1	1 unit 1 unit	5K1 5K1
• 5.0 m	1	6XV1870-8AH50		1	1 unit	5K1
• 10 m • 15 m	1 1	6XV1870-8AN10 6XV1870-8AN15		1	1 unit 1 unit	5K1 5K1
For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294 7/8" sealing caps	1	6ES7194-3JA00-0AA0			10 unito	050
1 pack = 10 units	ı	0E37194-3JA00-0AA0			10 units	250
7/8" connecting cables for power supply 5-core, 5 x 1.5 mm ² , trailing, preassembled with two 7/8" plugs, 5-pole, max. 50 m, in various lengths:						
• 1.5 m • 2.0 m	1 1	6XV1822-5BH15 6XV1822-5BH20		1 1	1 unit 1 unit	5K1 5K1
• 3.0 m	1	6XV1822-5BH30		1	1 unit	5K1
• 5.0 m • 10 m	1 1	6XV1822-5BH50 6XV1822-5BN10		1 1	1 unit 1 unit	5K1 5K1
• 15 m For more special lengths with 90° or 180° cable feeder, see	i	6XV1822-5BN15		i 	1 unit	5K1
http://support.automation.siemens.com/WW/view/en/26999294 Power cables	1	6XV1830-8AH10		1	1 M	5K2
5-core, 5 x 1.5 mm 2 , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m.	'	UAV 1030-0ATTIO		,	1 101	JIN2
7/8" connectors For ET 200eco, with axial cable feeder						
 With pin insert, pack of 5 With female insert, pack of 5 	1 1	6GK1905-0FA00 6GK1905-0FB00		1 1	5 units 5 units	5K2 5K2
Industrial Ethernet FastConnect installation cables						
• IE FC TP standard cables GP 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m	1	6XV1840-2AH10		1	1 M	5K1
 IE FC TP trailing cables 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m IE FC TP trailing cables GP 2 x 2; 	1	6XV1840-3AH10 6XV1870-2D		1	1 M 1 M	5K1 5K2
Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m • IE TP torsion cables GP 2 x 2;	1	6XV1870-2F		1	1 M	5K2
Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m						
IE FC TP marine cables 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m	1	6XV1840-4AH10		1	1 M	5K1

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

					lace IIIC	radico
Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 154-3 PN and IM 154-4 PN interface modules (continued)	u					
IE RJ45 Plug PRO RJ45 plug-in connector for field assembly in degree of protection IP65/67, plastic enclosure, insulation displacement method, for SCALANCE X-200IRT PRO and ET 200pro: 1 pack = 1 unit	1	6GK1901-1BB10-6AA0		1	1 unit	5K2
IE SC RJ POF Plug PRO SC RJ plug-in connector for field assembly for POF fibers in degree of protection IP65/67, plastic enclosure, for SCALANCE X-200IRT PRO and ET 200pro, 1 pack = 1 unit	1	6GK1900-0MB00-6AA0		1	1 unit	5K2
IE SC RJ PCF Plug PRO SC RJ plug-in connector for field assembly for PCF fibers in degree of protection IP65/67, plastic enclosure, for SCALANCE X-200IRT PRO, 1 pack = 1 unit	1	6GK1900-0NB00-6AA0		1	1 unit	5K2
Power Plug PRO 5-pole power plug-in connector for field assembly for 2 x 24 V power supply in degree of protection IP65/67, plastic enclosure, for SCALANCE X-200IRT and ET 200pro, 1 pack = 1 unit	1	6GK1907-0AB10-6AA0		1	1 unit	5K2
IE Panel Feedthrough Control cabinet bushing for transition from M12 connection method (D-coded, IP65) to RJ45 connection method (IP20)						
• 1 pack = 5 units	1	6GK1901-0DM20-2AA5		1	5 units	5K2
Push-pull connectors For 1L+/ 2L+, non-assembled	1	6GK1907-0AB10-6AA0		1	1 unit	5K2
Covers for RJ45 push-pull sockets 5 units per pack	1	6ES7194-4JD50-0AA0		1	5 units	250
Covers for push-pull power sockets (1L+, 2L+) 5 units per pack	1	6ES7194-4JA50-0AA0		1	5 units	250
General accessories						
ET 200pro module racks						
 Narrow, for interface, solid-state and power modules 						
- 500 mm	1	6ES7194-4GA00-0AA0		1	1 unit	250
- 1 000 mm	1	6ES7194-4GA60-0AA0		1	1 unit	250
- 2 000 mm, can be cut to length	1	6ES7194-4GA20-0AA0		1	1 unit	250
Compact, for interface, solid-state and power modules						050
- 500 mm - 1 000 mm	1 1	6ES7194-4GC70-0AA0 6ES7194-4GC60-0AA0		1 1	1 unit 1 unit	250 250
- 2 000 mm, can be cut to length	1	6ES7194-4GC20-0AA0		i	1 unit	250
• Wide, for interface, solid-state, power modules and motor starters						
- 500 mm	1	6ES7194-4GB00-0AA0		1	1 unit	250
- 1 000 mm	1	6ES7194-4GB60-0AA0		1	1 unit	250
- 2 000 mm, can be cut to length	1	6ES7194-4GB20-0AA0		1	1 unit	250
Wide, for I/O modules and motor starters						050
- 500 mm - 1 000 mm	1 1	6ES7194-4GD00-0AA0 6ES7194-4GD10-0AA0		1 1	1 unit 1 unit	250 250
- 2 000 mm	1	6ES7194-4GD20-0AA0		1	1 unit	250
Spare fuses 12.5 A quick-response, for interface and power modules, pack of 10	1	6ES7194-4HB00-0AA0		1	10 units	250
SIMATIC Manual Collection Electronic manuals on DVD, several languages: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	X	6ES7998-8XC01-8YE0		1	1 unit	219
SIMATIC Manual Collection – Update service for 1 year Scope of supply: the current DVD S7 Manual Collection as well as the three subsequer updates	5 nt	6ES7998-8XC01-8YE2		1	1 unit	219

ET 200pro Motor Starters ET 200pro - CPUs

Selection	and	ordering	data
Selection	allu	oraeriiia	uata

Selection and ordering data					
Version	SD	Article No. Price per PU		PS*	PG
	d		OL1, WI)		
IM 154-8 PN/DP CPU interface modules					-
IM 154-8 PN/DP CPU interface modules, V3.2 PROFINET IO Controller for operating distributed I/Os on PROFINET, with integrated PLC functionality	1	6ES7154-8AB01-0AB0	1	1 unit	250
Accessories			_		
MMC 64 KB ¹⁾	1	6ES7953-8LF31-0AA0	1	1 unit	230
For program backups MMC 128 KB ¹⁾	1	6ES7953-8LG31-0AA0	1	1 unit	230
For program backups		5257555 52451 5AA5	,	i dilit	200
MMC 512 KB ¹⁾	1	6ES7953-8LJ31-0AA0	1	1 unit	230
For program backups MMC 2 MB ¹⁾	1	6ES7953-8LL31-0AA0	1	1 unit	230
For program backups and/or firmware updates	'	0E37933-0EE31-0AA0	,	i uiiit	230
MMC 4 MB ¹⁾	1	6ES7953-8LM31-0AA0	1	1 unit	230
For program backups					
MMC 8 MB ¹⁾ For program backups	1	6ES7953-8LP31-0AA0	1	1 unit	230
Connection modules For CPU IM 154-8 PN/DP, with 4 x M12 and 2 x 7/8", for connection of PROFINET and PROFIBUS DP	1	6ES7194-4AN00-0AA0	1	1 unit	250
SCALANCE X-200	1	6GK5208-0HA10-2AA6	1	1 unit	5N2
Industrial Ethernet switches With integrated SNMP access, web diagnostics, copper cable diagnostics and PROFINET diagnostics, SCALANCE X208PRO for configuring line, star and ring structures, in degree of protection IP65, with eight 10/100 Mbps M12 ports, including eleven M12 dust covers	ı	Odity200-VIIA10-ZAA0		Turiit	JINZ
Industrial Ethernet FC RJ45 Plug 180					
RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 180° cable feeder					
• 1 unit	1	6GK1901-1BB10-2AA0	1	1 unit	5K1
• 10 units • 50 units	1	6GK1901-1BB10-2AB0 6GK1901-1BB10-2AE0	1	10 units 50 units	5K1 5K1
Industrial Ethernet FastConnect installation cables	•	0.00011221027.20			
 FastConnect standard cable FastConnect trailing cable FastConnect marine cable 	1 1 1	6XV1840-2AH10 6XV1840-3AH10 6XV1840-4AH10	1 1 1	1 M 1 M 1 M	5K1 5K1 5K1
Industrial Ethernet FastConnect installation cables	-				
• IE FC TP trailing cables GP 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m	1	6XV1870-2D	1	1 M	5K2
 IE TP torsion cables GP 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m 	1	6XV1870-2F	1	1 M	5K2
Industrial Ethernet FastConnect Stripping tools	1	6GK1901-1GA00	1	1 unit	5K2
IE connecting cables M12-180/M12-180					
 Preassembled IE FC TP trailing cables GP 2 x 2 (PROFINET type C) with two 4-pole M12 plugs (4-pole, D-coded), degree of protection IP65/IP67, in various lengths: 					
- 0.3 m	1	6XV1870-8AE30	1	1 unit	5K1
- 0.5 m	1	6XV1870-8AE50	1	1 unit	5K1
- 1.0 m - 1.5 m	1	6XV1870-8AH10 6XV1870-8AH15	1	1 unit 1 unit	5K1 5K1
- 2.0 m	1	6XV1870-8AH20	1	1 unit	5K1
- 3.0 m	1	6XV1870-8AH30	1	1 unit	5K1
- 5.0 m - 10 m	1	6XV1870-8AH50 6XV1870-8AN10	1 1	1 unit 1 unit	5K1 5K1
- 15 m	1	6XV1870-8AN15	i	1 unit	5K1
 PROFINET M12 connecting cables, trailing, preassembled at both ends with M12 plugs, angular (pin), in various lengths: 3.0 m 	15	3RK1902-2NB30	1	1 unit	42D
- 3.0 m - 5.0 m - 10 m	15 15 15	3RK1902-2NB50 3RK1902-2NB50 3RK1902-2NC10	1 1	1 unit 1 unit 1 unit	42D 42D 42D
PROFINET M12 connecting cables, trailing, preassembled at one end with M12 plugs angular (one end with pin, one end open), in various lengths:					
- 3.0 m - 5.0 m	15 15	3RK1902-2HB30 3RK1902-2HB50	1	1 unit 1 unit	42D 42D
- 10 m 1) For operation of the CPLL on MMC is occupied.	15	3RK1902-2HC10	1	1 unit	42D

¹⁾ For operation of the CPU, an MMC is essential.

ET 200pro Motor Starters ET 200pro – CPUs

Version	SD	Article No.	Price	PU	PS*	PG
		p	er PU	(UNIT, SET, M)		
IM 154-8 PN/DP CPU interface modules (continued)	d					
IE FC M12 Plug PRO						
PROFINET M12 connectors, D-coded with quick-connect technology, axial outgoing feeder						
1 unit8 units	1 1	6GK1901-0DB20-6AA0 6GK1901-0DB20-6AA8		1 1	1 unit 8 units	5K1 5K1
PROFINET M12 connectors, D-coded, angular	5	3RK1902-2DA00		1	1 unit	42D
IE Panel Feedthrough Control cabinet bushing for transition from M12 connection method (D-coded, IP65/IP67) to RJ45 connection method (IP20), 1 pack = 5 units	1	6GK1901-0DM20-2AA5		1	5 units	5K2
7/8" connecting cables for power supply						
 5-core, 5 x 1.5 mm², trailing, preassembled with two 7/8" plugs (axial outgoing feeder), 5-pole, max. 50 m, in various lengths: 						
- 1.5 m - 2.0 m	1	6XV1822-5BH15 6XV1822-5BH20		1 1	1 unit	5K1
- 3.0 m	1 1	6XV1822-5BH30		1	1 unit 1 unit	5K1 5K1
- 5.0 m	1	6XV1822-5BH50		1	1 unit	5K1
- 10 m - 15 m	1 1	6XV1822-5BN10 6XV1822-5BN15		1 1	1 unit 1 unit	5K1 5K1
 For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294 						
 Trailing power cables, 5 x 1.5 mm², preassembled at both ends with 7/8" connecto angular (one end with socket, one end with pin), in various lengths: 	rs,					
- 3.0 m	15	3RK1902-3NB30		1	1 unit	42D
- 5.0 m - 10 m	15 15	3RK1902-3NB50 3RK1902-3NC10		1 1	1 unit 1 unit	42D 42D
 Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), in various lengths: 	.0			·	, a.m.	.23
- 3.0 m	15	3RK1902-3GB30		1	1 unit	42D
- 5.0 m - 10 m	15 15	3RK1902-3GB50 3RK1902-3GC10		1 1	1 unit 1 unit	42D 42D
Power cables	1	6XV1830-8AH10		1	1 M	5K2
5-core, 5 x 1.5 mm 2 , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m						
7/8" connectors For ET 200eco, with axial cable feeder						
 With pin insert, pack of 5 With female insert, pack of 5 	1 1	6GK1905-0FA00 6GK1905-0FB00		1 1	5 units 5 units	5K2 5K2
Angular, with female insert, 1 unit	5	3RK1902-3DA00		1	1 unit	42D
Angular with pin insert, 1 unit 701 and a series of 10.	5	3RK1902-3BA00		1	1 unit	42D
7/8" covers, pack of 10 Twisted pair connecting cables 4 x 2 with RJ45 connectors	1	6ES7194-3JA00-0AA0		1	10 units	250
• 0.5 m	1	6XV1870-3QE50		1	1 unit	5K1
• 1 m	1	6XV1870-3QH10		1	1 unit	5K1
• 2 m	1 1	6XV1870-3QH20 6XV1870-3QH60		1	1 unit 1 unit	5K1 5K1
• 10 m	1	6XV1870-3QN10		i	1 unit	5K1
Crossed twisted pair connecting cables 4 x 2 with RJ45 connectors						
• 0.5 m • 1 m	1 1	6XV1870-3RE50 6XV1870-3RH10		1 1	1 unit 1 unit	5K1 5K1
• 2 m	1	6XV1870-3RH20		i	1 unit	5K1
• 6 m	1	6XV1870-3RH60		1	1 unit	5K1
• 10 m M12 sealing caps	1	6XV1870-3RN10 3RX9802-0AA00		100	1 unit 10 units	5K1 42C
For protection of unused M12 terminals on ET 200pro M12 sealing caps with female thread	1	6ES7194-4JD60-0AA0		1	5 units	250
5 units	'	0207134 40000 0AA0			o unito	
PROFIBUS M12 connecting cables Preassembled with two 5-pole M12 plugs/sockets, max. 100 m in various lengths:						
• 1.5 m	1	6XV1830-3DH15		1	1 unit	5K1
• 2.0 m • 3.0 m	1 1	6XV1830-3DH20 6XV1830-3DH30		1 1	1 unit 1 unit	5K1 5K1
• 5.0 m	1	6XV1830-3DH50		1	1 unit	5K1
• 10 m • 15 m	1 1	6XV1830-3DN10 6XV1830-3DN15		1 1	1 unit 1 unit	5K1 5K1
For more special lengths with 90° or 180° cable feeder, see	'	1000 021110		,	. ann	JICI
http://support.automation.siemens.com/WW/view/en/26999294						

ET 200pro Motor Starters ET 200pro – CPUs

Version	SD	Article No. Price	PU	PS*	PG
		per PL	(UNIT, SET, M)		
	d		SEI, IVI)		
IM 154-8 PN/DP CPU interface modules (continued)	d				
PROFIBUS M12 bus termination plugs, female insert	1	6GK1905-0ED00	1	5 units	5K2
PROFIBUS M12 bus termination plugs, pin insert	1	6GK1905-0EC00	1	5 units	5K2
M12 plug-in connectors, axial outgoing feeder, with pin insert	1	6GK1905-0EA00	1	5 units	5K2
PROFIBUS FC standard cable GP	1	6XV1830-0EH10	1	1 M	5K1
Standard type with special design for fast installation, 2-core, shielded,		5X 1000 021110	· ·		OICI
Sold by the meter: max. delivery unit 1 000 m, minimum order quantity 20 m					
PROFIBUS FC trailing cable 2-core, shielded	1	6XV1830-3EH10	1	1 M	5K2
PROFIBUS FC food cable	1	6XV1830-0GH10	1	1 M	5K2
2-core, shielded		5XX 1666 64.116	· ·		0.12
Sold by the meter: max. delivery unit 1 000 m, minimum order quantity 20 m					
PROFIBUS FC robust cables 2-core, shielded	1	6XV1830-0JH10	1	1 M	5K2
Sold by the meter: max. delivery unit 1 000 m, minimum order quantity 20 m					
PROFIBUS M12 connectors					
5-pole, B-coded, metal enclosure, 1 pack = 5 units					
Female insert	1	6GK1905-0EB00	1	5 units	5K2
CPU 1516pro-2 PN					
CPU 1516pro-2 PN Work memory 1 MB for program, 5 MB for data, PROFINET IO IRT interface,	1	6ES7516-2PN00-0AB0	1	1 unit	215
PROFINET IO RT interface; SIMATIC Memory Card required					
Accessories					
SIMATIC Memory Card					
• 4 MB ¹⁾	NEW 1	6ES7954-8LC03-0AA0	1	1 unit	212
• 12 MB ¹⁾	NEW 1	6ES7954-8LE03-0AA0	1	1 unit	212
• 24 MB ¹⁾	NEW 1	6ES7954-8LF03-0AA0	1	1 unit	212
• 256 MB ¹⁾	NEW 1	6ES7954-8LL03-0AA0	1	1 unit	212
• 2 GB ¹⁾	1	6ES7954-8LP02-0AA0	1	1 unit	212
• 32 GB ¹⁾	1	6ES7954-8LT03-0AA0	1	1 unit	212
Connection modules	1	6ES7194-4AP00-0AA0	1	1 unit	215
CM CPU 2PN M12 / 7/8", with 3 x M12 and 2 x 7/8", for connection of 2 x PROFINET					
Industrial Ethernet FC RJ45 Plug 180					
RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure					
and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 180° cable feeder					
• 1 unit	1	6GK1901-1BB10-2AA0	1	1 unit	5K1
• 10 units	1	6GK1901-1BB10-2AB0	1	10 units	5K1
• 50 units	1	6GK1901-1BB10-2AE0	1	50 units	5K1
Industrial Ethernet FastConnect installation cables		CV1/4040 041140		4.14	EI/4
FastConnect standard cableFastConnect trailing cable	1	6XV1840-2AH10 6XV1840-3AH10	1	1 M 1 M	5K1 5K1
FastConnect marine cable	1	6XV1840-4AH10	i	1 M	5K1
Industrial Ethernet FastConnect installation cables					
• IE FC TP trailing cables GP 2 x 2;	1	6XV1870-2D	1	1 M	5K2
Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m		0.004.020.05		4.14	FILO
• IE TP torsion cables GP 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m	1	6XV1870-2F	1	1 M	5K2
Industrial Ethernet FastConnect	1	6GK1901-1GA00	1	1 unit	5K2
Stripping tools					
IE connecting cables M12-180/M12-180					
 Preassembled IE FC TP trailing cables GP 2 x 2 (PROFINET type C) with two M12 plugs (4-pole, D-coded), degree of protection IP65/IP67, in various leng 					
- 0.3 m	1	6XV1870-8AE30	1	1 unit	5K1
- 0.5 m	1	6XV1870-8AE50	i	1 unit	5K1
- 1.0 m	1	6XV1870-8AH10	1	1 unit	5K1
- 1.5 m - 2.0 m	1	6XV1870-8AH15 6XV1870-8AH20	1	1 unit 1 unit	5K1 5K1
- 3.0 m	1	6XV1870-8AH30	i	1 unit	5K1
- 5.0 m	1	6XV1870-8AH50	1	1 unit	5K1
- 10 m	1	6XV1870-8AN10	1	1 unit	5K1
- 15 m • PROFINET M12 connecting cables, trailing, processmalled at both ands with	I	6XV1870-8AN15	'	1 unit	5K1
 PROFINET M12 connecting cables, trailing, preassembled at both ends with M12 plugs, angular (pin), in various lengths: 					
- 3.0 m	15	3RK1902-2NB30	1	1 unit	42D
- 5.0 m - 10 m	15 15	3RK1902-2NB50 3RK1902-2NC10	1	1 unit 1 unit	42D 42D
1) For operation of the CPU, an MMC is essential	ı	JIII 1302-2110 IU	'	i ullit	420
i di apolatidi di tie di d, ali iviivid 15 E55Ellilal					

¹⁾ For operation of the CPU, an MMC is essential

ET 200pro Motor Starters ET 200pro – CPUs

Version	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
				SET, M)		
CPU 1516pro-2 PN (continued)	d					
IE Connecting Cable M12-180/M12-180 (continued)						
PROFINET M12 connecting cables, trailing, preassembled at one end with M12 plugs angular (one end with pin, one end open), in various lengths:	S,					
- 3.0 m - 5.0 m - 10 m	15 15 15	3RK1902-2HB30 3RK1902-2HB50 3RK1902-2HC10		1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
IE FC M12 Plug PRO		0				
PROFINET M12 connectors, D-coded with quick-connect technology, axial outgoing feeder.						
• 1 unit • 8 units	1 1	6GK1901-0DB20-6AA0 6GK1901-0DB20-6AA8		1 1	1 unit 8 units	5K1 5K1
PROFINET M12 connectors, D-coded, angular	5	3RK1902-2DA00		i	1 unit	42D
IE Panel Feedthrough Control cabinet bushing for transition from M12 connection method (D-coded, IP65/IP67) to RJ45 connection method (IP20), 1 pack = 5 units	1	6GK1901-0DM20-2AA5		1	5 units	5K2
7/8" connecting cables for power supply						
5-core, $5\times 1.5~\text{mm}^2$, trailing, preassembled with two 7/8" plugs (axial outgoing feeder), 5-pole, max. 50 m, in various lengths:						
• 1.5 m • 2.0 m	1 1	6XV1822-5BH15 6XV1822-5BH20		1 1	1 unit 1 unit	5K1 5K1
• 3.0 m	1	6XV1822-5BH30			1 unit	5K1
• 5.0 m	1	6XV1822-5BH50		1	1 unit	5K1
• 10 m	1 1	6XV1822-5BN10		1 1	1 unit	5K1
 15 m For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294 	I	6XV1822-5BN15		1	1 unit	5K1
 Trailing power cables, 5 x 1.5 mm², preassembled at both ends with 7/8* connectors angular (one end with socket, one end with pin), in various lengths: 	i,					
- 3.0 m	15	3RK1902-3NB30		1	1 unit	42D
- 5.0 m - 10 m	15 15	3RK1902-3NB50 3RK1902-3NC10		1 1	1 unit 1 unit	42D 42D
 Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), in various lengths: 						
- 3.0 m	15	3RK1902-3GB30		1	1 unit	42D
- 5.0 m	15	3RK1902-3GB50		1	1 unit	42D
- 10 m	15	3RK1902-3GC10		1	1 unit	42D
Power cables 5-core, $5 \times 1.5 \text{ mm}^2$, trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-8AH10		1	1 M	5K2
7/8" connectors For ET 200eco, with axial cable feeder						
With pin insert, pack of 5 With family insert, pack of 5	1	6GK1905-0FA00		1	5 units	5K2
 With female insert, pack of 5 Angular, with female insert, 1 unit 	1 5	6GK1905-0FB00 3RK1902-3DA00		1	5 units 1 unit	5K2 42D
Angular with pin insert, 1 unit	5	3RK1902-3BA00		1	1 unit	42D
7/8" covers, pack of 10	1	6ES7194-3JA00-0AA0		1	10 units	250
Twisted pair connecting cables 4x2 with RJ45 connectors						
• 0.5 m	1	6XV1870-3QE50		1	1 unit	5K1
• 1 m • 2 m	1 1	6XV1870-3QH10 6XV1870-3QH20		1 1	1 unit 1 unit	5K1 5K1
• 6 m	1	6XV1870-3QH60		1	1 unit	5K1
• 10 m	1	6XV1870-3QN10		1	1 unit	5K1
Crossed twisted pair connecting cables 4x2 with RJ45 connectors						
• 0.5 m • 1 m	1	6XV1870-3RE50 6XV1870-3RH10		1 1	1 unit	5K1
• 1 m	1	6XV1870-3RH10		1	1 unit 1 unit	5K1 5K1
• 6 m	1	6XV1870-3RH60		1	1 unit	5K1
• 10 m	1	6XV1870-3RN10		1	1 unit	5K1
M12 sealing caps For protection of unused M12 terminals on ET 200pro	•	3RX9802-0AA00		100	10 units	42C
M12 sealing caps with female thread 5 units	1	6ES7194-4JD60-0AA0		1	5 units	250

ET 200pro Motor Starters ET 200pro – CPUs

i dirsale or os						
Selection and ordering data						
Version	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
			perro	SET, M)		
	d					
IM 154-8 F PN/DP CPU interface modules						
IM 154-8 F PN/DP CPU interface modules, V3.2 Fail-safe PROFINET IO Controller for operating distributed I/Os on PROFINET, with integrated PLC functionality						
512 KB work memory 1.5 MB work memory	1 1	6ES7154-8FB01-0AB0 6ES7154-8FX00-0AB0		1 1	1 unit 1 unit	241 241
S7 Distributed Safety V5.4 SP5 Update 2 programming tool						
Task: Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco, ET 200SP						
Requirement: Windows 7 SP1 (64 bit), Windows 10 Professional/Enterprise (64-bit), Windows Server 2008 R2 SP1 (64-bit), Windows Server 2012 R2 (64-bit), Windows Server 2016 (64-bit); STEP 7 from V5.5 SP1; Please note also the operating system approved for the STEP 7 version used.						
 Floating license for 1 user, software and documentation on DVD; license key on USB flash drive 	1	6ES7833-1FC02-0YA5		1	1 unit	241
 Floating license for 1 user, software, documentation and license key download ¹⁾; email address required for delivery 	1	6ES7833-1FC02-0YH5		1	1 unit	241
S7 Distributed Safety upgrade	5	6ES7833-1FC02-0YE5		1	1 unit	241
 From V5.x to V5.4; floating license for 1 user, software and documentation on DVD; license key on USB flash drive 						
STEP 7 Safety Advanced V15 Task:						
Engineering tool for configuring and programming fail-safe user programs for SIMATIC S7-1200 FC, S7-1500F, S7-1500F Software Controller, S7-300F, S7-400F, WinAC RTX F, ET 200SP F Controller and the fail-safe I/O, ET 200SP, ET 200S, ET 200M, ET 200ISP, ET 200Pro and ET 200Eco						
Requirement: STEP 7 Professional V15						
Floating license for 1 user, software and documentation on DVD; license key on USB flash drive	Χ	6ES7833-1FA15-0YA5		1	1 unit	218
 Floating license for 1 user, software, documentation and license key download¹⁾; email address required for delivery 	1	6ES7833-1FA15-0YH5		1	1 unit	218
Accessories						
SIMATIC Micro Memory Cards						
MMC 64 KB ²⁾ for program backup	1	6ES7953-8LF31-0AA0		1	1 unit	230
MMC 128 KB ²⁾ for program backup	1	6ES7953-8LG31-0AA0		1	1 unit	230
MMC 512 KB ²⁾ for program backup	1	6ES7953-8LJ31-0AA0		1	1 unit	230
MMC 2 MB ²⁾ for program backups and/or firmware updates	1	6ES7953-8LL31-0AA0		1	1 unit	230
MMC 4 MB ²⁾ for program backup	1	6ES7953-8LM31-0AA0		1	1 unit	230
• MMC 8 MB ²⁾ for program backup	1	6ES7953-8LP31-0AA0		1	1 unit	230
Connection modules For CPU IM 154-8 PN/DP, with 4 x M12 and 2 x 7/8", for connection of PROFINET and PROFIBUS DP	1	6ES7194-4AN00-0AA0		1	1 unit	250
SCALANCE X-200 Industrial Ethernet switches With integrated SNMP access, web diagnostics, copper cable diagnostics and PROFINET diagnostics, SCALANCE X208PRO for configuring line, star and ring structures, in degree of protection IP65, with eight 10/100 Mbps M12 ports, including eleven M12 dust covers	1	6GK5208-0HA10-2AA6		1	1 unit	5N2
Industrial Ethernet FC RJ45 Plug 90 RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 90° cable feeder						
1 unit10 units	1	6GK1901-1BB20-2AA0 6GK1901-1BB20-2AB0		1 1	1 unit 10 units	5K1 5K1
Industrial Ethernet FC RJ45 Plug 180 RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 180° cable feeder						
1 unit10 units50 units	1 1 1	6GK1901-1BB10-2AA0 6GK1901-1BB10-2AB0 6GK1901-1BB10-2AE0			1 unit 10 units 50 units	5K1 5K1 5K1
1) For up-to-date information and download availability, see						

¹⁾ For up-to-date information and download availability, see http://www.siemens.com/tia-online-software-delivery.

²⁾ For operation of the CPU, an MMC is essential.

ET 200pro Motor Starters ET 200pro – CPUs

Mail 154-9 F P N/DP CPU Interface modules (continued)					ail-safe	CPUS
Miles Fig.	Version	SD	Article No. Price		PS*	PG
Math 154-9F PNIDP CPU Interface modules (continued)			per PU			
FlastConnect stander castle 1		d		OL1, 101)		
FastConnect training cable 1 6XV1840-9.4H10 1 1 1 1 5 5 5 5 5 5	IM 154-8 F PN/DP CPU interface modules (continued)					
- FastConnect trailing cable 1	Industrial Ethernet FastConnect installation cables					
FastConnect markine cable						5K1
*** IF CP Trailing cables OP 2 x 2 ***Sold by the marker, delivery unit max. 1 000 m; minimum order quantity 20 m** ***IE Tip Torlon cables OP 2 x 2 ***Sold by the marker, delivery unit max. 1 000 m; minimum order quantity 20 m** **Industrial Ethomet Fast Connect **Torlon cables M12-180M12-180 **IE connecting cables M12-180M12-180 **IE connecting cables M12-180M12-180 **IE connecting cables M12-180M12-180 **IE on the CPT Trailing packes GP 2 x 2 (PROFINET type C) with two 4-pole M12 ptgg (4-pole, D-coded), degree of protection iPos/IPor, in various lengths: **I 0.9 m						5K1
Solid by the meteit, delivery unit max. 1 900 m; minimum order quantity 20 m ETP Torison bables OF 2 x 2 Solid by the meteit, delivery unit max. 1 900 m; minimum order quantity 20 m GK1901-IGA00	Industrial Ethernet FastConnect installation cables					
Fig.		1	6XV1870-2D	1	1 M	5K2
Sold by the meter, delivery unit max. 1,000 m. minimum order quantity 20 m.		1	6XV1870-2F	1	1 M	5K2
Econecting cables M12-190/M12-190 Preassembled IF C-1P trailing cables GP 2 x 2 (PROFINET type C) with two 4-pole M12-plugs (4-pole, D-corded), degree of protection IPSGIP67, in various lengths:	Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m					~
		1	6GK1901-1GA00	1	1 unit	5K2
Preaspended LE CT Ptrailing cables GP 2 x 2 (PROFINET type C) with two 4-pole Mt/2 plugs (4-pole, D-coded), degree of protection IP65(P67, in various lengths:						
- 0.3 m	•					
1						
1.10 m						
. 2.0 m						5K1
. 3.0 m						5K1
. 10 m						5K1
- 15 m						5K1
• PROFINET M12 connecting cables, trailing, preassembled at both ends with M12 plugs, angular (pin), in various lengths:						5K1 5K1
- 5.0 m	PROFINET M12 connecting cables, trailing, preassembled at both ends with	·				0
- 10 m						42D
angular (one end with pin, "one end open), in various lengths: - 3.0 m						42D 42D
- 5.0 m 15 3RK1902-2HB50 1 1 unit 42D FPROFINET M12 connectors, D-coded with quick-connect technology, axial outgoing feeder 1 unit 42D 1 unit 1 6GK1901-0DB20-6AA0 1 unit 42D 1 unit 2 unit 5 3RK1902-2DA00 1 unit 42D 1 unit 2 unit 5 3RK1902-2DA00 1 unit 42D 1 unit 4 unit 5 41 2 unit 78 units 1 6GK1901-0DB20-6AA0 1 unit 42D 2 unit 78 units 1 1 0GK1901-0DB20-6AA0 1 unit 42D 3 units 5 41 3 units 5 41 4 unit 2 unit 5 41 4 unit 4 unit 5 41 4 unit 5 41 4 unit 6 unit 6 unit 6 unit 4 unit 6 unit 6 unit 6 unit 4 unit 6 unit 6 unit 5 units 7 units 5 units 6 unit 7 unit 6 unit 6 unit 7 unit 6 unit 6 unit 7 unit 6 unit 7 unit 6 unit 7 unit		,				
FC N12 Plug PRO 1						42D
PROFINET M12 connectors, D-coded with quick-connect technology, axial outgoing feeder. • 1 unit • 8 units • 1 1 6GK1901-0DB20-6AA0 • 1 1 unit • 8 units • 1 3 8 units • 1 1 6GK1901-0DB20-6AA0 • 1 1 unit • 8 units • 1 1 6GK1901-0DB20-6AA0 • 1 1 unit • 8 units • 9 FROFINET M12 connectors, D-coded, angular • 1 unit • 42D IE Panel Feedthrough Control cabinet bushing for transition from M12 connection method (D-coded, IP65)IP67) to RJ45 connection method (IP20), 1 pack = 5 units 7/8" connecting cables for power supply • 5-core, 5 x 1.5 mm², trailing, preassembled with two 7/8" plugs (axial outgoing feeder), 5-pole, max. 50 m, in various lengths: - 1.5 m - 2.0 m - 1 6XV1822-5BH15 - 1 1 unit - 5K1 - 1.5 m - 5.0 m - 1 6XV1822-5BH50 - 1 1 unit - 5K1 - 1.5 m - 5.0 m - 1 6XV1822-5BH50 - 1 1 unit - 5K1 - 1.5 m - 5.0 m - 1 6XV1822-5BH15 - 1 1 unit - 5K1 - 1.5 m - 5.0 m -						42D
• 1 unit	PROFINET M12 connectors, D-coded with quick-connect technology,					
• PROFINET M12 connectors, D-coded, angular 5 3RK1902-2DA00 1 1 unit 42D IE Panel Feedthrough 1 6GK1901-0DM20-2AAS 1 5 units 5K2 Control cabinet bushing for transition from M12 connection method (IP20), 1 pack = 5 units 6KX1822-5BH20 1 5 units 5K2 7/8" connecting cables for power supply • 5-core, 5 x 1.5 mm², trailing, preassembled with two 7/8" plugs (axial outgoing feeder), 5-pole, max. 50 m, in various lengths: 1 6XV1822-5BH15 1 1 unit 5K1 - 1.5 m 2.0 m 1 6XV1822-5BH20 1 1 unit 5K1 - 5.0 m 1 6XV1822-5BH30 1 1 unit 5K1 - 10 m 1 6XV1822-5BH30 1 1 unit 5K1 - 10 m 1 6XV1822-5BH30 1 1 unit 5K1 - For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294 5K1 3K1902-3NB30 1 1 unit 42D - 10 m 15 3RK1902-3NB50 1 1 unit 42D - 5.0 m </td <td><u> </u></td> <td>1</td> <td>6GK1901-0DB20-6AA0</td> <td>1</td> <td>1 unit</td> <td>5K1</td>	<u> </u>	1	6GK1901-0DB20-6AA0	1	1 unit	5K1
IE Panel Feedthrough Control cabinet bushing for transition from M12 connection method (D-coded, PF65/P67) to RJ45 connection method (IP20), 1 pack = 5 units SK2 (PF65/P67) to RJ45 connection method (IP20), 1 pack = 5 units SK2 (PF65/P67) to RJ45 connection method (IP20), 1 pack = 5 units SK2 (PF65/P67) to RJ45 connection method (IP20), 1 pack = 5 units SK2 (PF65/P67) to RJ45 connection method (IP20), 1 pack = 5 units SK2 (PF65/P67) to RJ45 (PF65/P67)						5K1
Control cabinet bushing for transition from M12 connection method (D-coded, IP65/IP67) to RJ45 connection method (IP20), 1 pack = 5 units 7/8" connecting cables for power supply • 5-core, 5 x 1.5 mm², trailing, preassembled with two 7/8" plugs (axial outgoing feeder), 5-pole, max. 50 m, in various lengths: - 1.5 m - 2.0 m - 1 6XV1822-5BH15 - 1 1 unit 5K1 - 3.0 m - 1 6XV1822-5BH30 - 1 1 unit 5K1 - 5.0 m - 1 6XV1822-5BH50 - 1 1 unit 5K1 - 10 m - 1 6XV1822-5BH50 - 1 1 unit 5K1 - 15 m - 5 m - 1 6XV1822-5BN10 - 1 1 unit 5K1 - 2 1 1 unit 5K1 - 3 3 3 3 1 1 unit 5K1 - 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3						
• 5-core, 5 x 1.5 mm², trailing, preassembled with two 7/8° plugs (axial outgoing feeder), 5-pole, max. 50 m, in various lengths: - 1.5 m - 2.0 m - 3.0 m - 1 6XV1822-5BH20 - 1 1 unit 5K1 - 3.0 m - 1 6XV1822-5BH30 - 1 1 unit 5K1 - 5.0 m - 1 0 m - 10 m - 15 m - 7/8° connectors, angular (one end with socket, one end with pin), in various lengths: - 3.0 m - 5.0 m - 5.0 m - 1 6XV1822-5BN10 - 1 1 unit 5K1 - 6XV1822-5BN10 - 1 1 unit 5K1 - 5X1 - 5X1822-5BN10 - 1 1 unit 5K1 - 5X1822-5BN10 - 1 1 unit 5K1 - 5X1822-5BN15 - 1 unit 5X1 - 5X1822-5BN15 - 1 unit 42D - 5X1822-5BN15 - 1 unit	Control cabinet bushing for transition from M12 connection method (D-coded, IP65/IP67) to RJ45 connection method (IP20), 1 pack = 5 units			·		
(axial outgoing feeder), 5-pole, max. 50 m, in various lengths: - 1.5 m - 2.0 m - 3.0 m - 1 6XV1822-5BH20 - 1 1 unit 5K1 - 5.0 m - 1 6XV1822-5BH30 - 1 1 unit 5K1 - 5.0 m - 1 6XV1822-5BH30 - 1 1 unit 5K1 - 5.0 m - 1 6XV1822-5BH30 - 1 1 unit 5K1 - 5.0 m - 1 5 m - 1 6XV1822-5BH30 - 1 1 unit 5K1 - 5K1 - 5.0 m - 1 6XV1822-5BH50 - 1 1 unit 5K1 - 1 1 unit 5K1 - 1 5 m - 1 5 m - 1 6XV1822-5BH10 - 1 1 unit 5K1 - 1 2 m - 1 3 m - 1 3 m - 5.0 m - 5.0 m - 5.0 m - 1 5 3 m - 10 m - 5.0 m - 1 5 3 m - 5.0 m - 1 1 unit 42D - Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8° connector with female insert, angular (one end with socket, one end open), in various lengths: - 3.0 m - 5.0 m - 1 1 unit 42D - 5.0 m - 1 1 unit 42D - 5.0 m - 5.	The state of the s					
- 1.5 m						
- 3.0 m		1		1		5K1
- 5.0 m						5K1
- 15 m 1 6XV1822-5BN15 1 1 unit 5K1 - For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294 • Trailing power cables, 5 x 1.5 mm², preassembled at both ends with 7/8" connectors, angular (one end with socket, one end with pin), in various lengths: - 3.0 m						5K1
- For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294 • Trailing power cables, 5 x 1.5 mm², preassembled at both ends with 7/8" connectors, angular (one end with socket, one end with pin), in various lengths: - 3.0 m - 5.0 m - 10 m - 10 m - 10 m - 15 3RK1902-3NB30 - 1 1 unit 42D - 3RK1902-3NB50 - 1 1 unit 42D - 3RK1902-3NC10 - 1 1 unit 42D - 3RK1902-3NC10 - 1 1 unit 42D - 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10 m - 10 m - 15 3RK1902-3GB30 - 1 1 unit 42D - 5.0 m - 10						5K1
 Trailing power cables, 5 x 1.5 mm², preassembled at both ends with 7/8" connectors, angular (one end with socket, one end with pin), in various lengths: 3.0 m 5.0 m 15 3RK1902-3NB30 1 1 unit 42D Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), in various lengths: 3RK1902-3NB30 1 1 unit 42D Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), in various lengths: 3RK1902-3GB30 1 1 unit 42D To m <l< td=""><td>- For more special lengths with 90° or 180° cable feeder, see</td><td>1</td><td>6XV1822-5BN15</td><td><u>'</u></td><td>i unit</td><td>51.1</td></l<>	- For more special lengths with 90° or 180° cable feeder, see	1	6XV1822-5BN15	<u>'</u>	i unit	51.1
- 5.0 m	• Trailing power cables, 5 x 1.5 mm ² , preassembled at both ends with					
- 10 m • Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), in various lengths: - 3.0 m - 5.0 m - 10 m 1 1 unit 42D 3RK1902-3NC10 1 1 unit 42D 3RK1902-3RC10 1 1 unit 42D 42D 5 Core, 5 x 1.5 mm², trailing, sold by the meter, minimum order quantity 20 m,						42D
 Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), in various lengths: 3.0 m 5.0 m 15 3RK1902-3GB30 1 1 unit 42D 5 3RK1902-3GB50 1 1 unit 42D 3RK1902-3GB50 1 1 unit 42D 42D 5 3RK1902-3GB50 1 1 unit 42D 4 2D 5 3RK1902-3GB50 1 1 unit 42D 4 2D 5 3RK1902-3GB50 1 1 unit 42D 5 3RK1902-3GB50 1 1 unit 42D 1 1 unit 42D 5 5 Core, 5 x 1.5 mm², trailing, sold by the meter, minimum order quantity 20 m, 						42D 42D
- 3.0 m	 Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), 					
- 5.0 m 15 3RK1902-3GB50 1 1 unit 42D - 10 m 3RK1902-3GC10 1 1 unit 42D Power cables 1 6XV1830-8AH10 1 1 M 5K2 5-core, 5 x 1.5 mm², trailing, sold by the meter, minimum order quantity 20 m, 5K2	9	15	3RK1902-3GB30	1	1 unit	42D
Power cables 1 6XV1830-8AH10 1 1 M 5K2 5-core, 5 x 1.5 mm², trailing, sold by the meter, minimum order quantity 20 m,	- 5.0 m	15	3RK1902-3GB50	1	1 unit	42D
5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m,						
	5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m,		ON 1000 ONITIO		1 171	٥١١٨

ET 200pro Motor Starters ET 200pro – CPUs

Version	SD	Article No. Pric		PS*	PG
		ροιτ	SET, M)		
	d				
IM 154-8 F PN/DP CPU interface modules (continued) 7/8" connectors					
For ET 200eco, with axial cable feeder					
With pin insert, pack of 5	1	6GK1905-0FA00	1	5 units	5K2
 With female insert, pack of 5 Angular, with female insert, 1 unit 	1 5	6GK1905-0FB00 3RK1902-3DA00	1	5 units 1 unit	5K2 42D
Angular with pin insert, 1 unit	5	3RK1902-3BA00	i	1 unit	42D
7/8" covers, pack of 10	1	6ES7194-3JA00-0AA0	1	10 units	250
Twisted pair connecting cables 4 x 2 with RJ45 connectors					
• 0.5 m • 1 m	1 1	6XV1870-3QE50 6XV1870-3QH10	1	1 unit 1 unit	5K1 5K1
• 2 m	1	6XV1870-3QH10	i	1 unit	5K1
• 6 m	1	6XV1870-3QH60	1	1 unit	5K1
• 10 m	1	6XV1870-3QN10	1	1 unit	5K1
Crossed twisted pair connecting cables 4 x 2 with RJ45 connectors		CVV4070 0DEF0		4	FIZA
• 0.5 m • 1 m	1 1	6XV1870-3RE50 6XV1870-3RH10	1	1 unit 1 unit	5K1 5K1
• 2 m	1	6XV1870-3RH20	1	1 unit	5K1
• 6 m	1	6XV1870-3RH60	1	1 unit	5K1
• 10 m M12 sealing caps	1	6XV1870-3RN10 3RX9802-0AA00	100	1 unit 10 units	5K1 42C
For protection of unused M12 terminals on ET 200pro		STIX SOUZ GAAGO	100	TO driits	420
M12 sealing caps with female thread 5 units	1	6ES7194-4JD60-0AA0	1	5 units	250
PROFIBUS M12 connecting cables Preassembled with two 5-pole M12 plugs/sockets, max. 100 m,					
in various lengths: • 1.5 m	1	6XV1830-3DH15	1	1 unit	5K1
• 2.0 m	i	6XV1830-3DH13	i	1 unit	5K1
• 3.0 m	1	6XV1830-3DH30	1	1 unit	5K1
• 5.0 m • 10 m	1 1	6XV1830-3DH50 6XV1830-3DN10	1	1 unit 1 unit	5K1 5K1
• 15 m	i	6XV1830-3DN15	i	1 unit	5K1
For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294					
PROFIBUS M12 bus termination plugs, female inserts	1	6GK1905-0ED00	1	5 units	5K2
PROFIBUS M12 bus termination plugs, pin inserts	1	6GK1905-0EC00	1	5 units	5K2
M12 plug-in connectors, axial outgoing feeder, with pin insert	1	6GK1905-0EA00	1		5K2
PROFIBUS FC standard cable GP Standard type with special design for fast installation, 2-core, shielded,	1	6XV1830-0EH10	1	1 M	5K1
Sold by the meter:					
Max. delivery unit 1 000 m, minimum order quantity 20 m					
PROFIBUS FC trailing cable	1	6XV1830-3EH10	1	1 M	5K2
2-core, shielded		5X11666 621116			OILE
PROFIBUS FC food cable 2-core, shielded	1	6XV1830-0GH10	1	1 M	5K2
Sold by the meter:					
Max. delivery unit 1 000 m, minimum order quantity 20 m					
PROFIBUS FC robust cables 2-core, shielded	1	6XV1830-0JH10	1	1 M	5K2
Sold by the meter:					
Max. delivery unit 1 000 m, minimum order quantity 20 m					
PROFIBUS M12 connectors					
5-pole, B-coded, metal enclosure,					
1 pack = 5 units • Female insert	1	6GK1905-0EB00	-1	5 unite	5K2
▼ I EITIAIE IIISEIL	1	UGK 1903-0ED00	1	5 units	UNZ

ET 200pro Motor Starters ET 200pro – CPUs

				,	-ail-safe	CPUS
Version	SD	Article No.	Price	PU	PS*	PG
			per PU	(UNIT, SET, M)		. 5
	d			SEI, IVI)		
CPU 1516pro F-2 PN						
CPU 1516pro F-2 PN	1	6ES7516-2GN00-0AB0		1	1 unit	216
Work memory 1.5 MB for program, 5 MB for data, PROFINET IO IRT interface,						
PROFINET IO RT interface;						
SIMATIC Memory Card required Accessories						
SIMATIC Memory Card						
• 4 MB ¹⁾	NEW 1	6ES7954-8LC03-0AA0		1	1 unit	212
• 12 MB ¹⁾ • 24 MB ¹⁾	NEW 1	6ES7954-8LE03-0AA0 6ES7954-8LF03-0AA0		1 1	1 unit 1 unit	212 212
• 256 MB ¹⁾	NEW 1	6ES7954-8LL03-0AA0		1	1 unit	212
• 2 GB ¹⁾	1	6ES7954-8LP02-0AA0		1	1 unit	212
• 32 GB ¹⁾ Connection modules	1	6ES7954-8LT03-0AA0 6ES7194-4AP00-0AA0		1	1 unit 1 unit	212
COM CPU 2PN M12 / 7/8"; with 3 x M12 and 2 x 7/8", for connection of 2 x PROFINET	ı	0ES/194-4AP00-0AA0		'	i uiiii	210
Industrial Ethernet FC RJ45 Plug 180						
RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 180° cable feeder						
• 1 unit	1	6GK1901-1BB10-2AA0		1	1 unit	5K1
• 10 units • 50 units	1 1	6GK1901-1BB10-2AB0 6GK1901-1BB10-2AE0		1 1	10 units 50 units	5K1 5K1
Industrial Ethernet FastConnect installation cables						
FastConnect standard cable	1	6XV1840-2AH10		1	1 M	5K1
FastConnect trailing cableFastConnect marine cable	1 1	6XV1840-3AH10 6XV1840-4AH10		1 1	1 M 1 M	5K1 5K1
Industrial Ethernet FastConnect installation cables						
• IE FC TP trailing cables GP 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m	1	6XV1870-2D		1	1 M	5K2
• IE TP torsion cables GP 2 x 2; Sold by the meter, delivery unit max. 1 000 m; minimum order quantity 20 m	1	6XV1870-2F		1	1 M	5K2
Industrial Ethernet FastConnect Stripping tools	1	6GK1901-1GA00		1	1 unit	5K2
IE connecting cables M12-180/M12-180						
 Preassembled IE FC TP trailing cables GP 2 x 2 (PROFINET type C) with two 4 M12 plugs (4-pole, D-coded), degree of protection IP65/IP67, in various length 						
- 0.3 m	1	6XV1870-8AE30		1	1 unit	5K1
- 0.5 m - 1.0 m	1 1	6XV1870-8AE50 6XV1870-8AH10		1 1	1 unit 1 unit	5K1 5K1
- 1.5 m	1	6XV1870-8AH15		1	1 unit	5K1
- 2.0 m - 3.0 m	1 1	6XV1870-8AH20 6XV1870-8AH30		1 1	1 unit 1 unit	5K1 5K1
- 5.0 m	1	6XV1870-8AH50		1	1 unit	5K1
- 10 m - 15 m	1	6XV1870-8AN10 6XV1870-8AN15		1	1 unit 1 unit	5K1
 PROFINET M12 connecting cables, trailing, preassembled at both ends with M12 plugs, angular (pin), in various lengths: 	ı	0AV1070-0AN13		'	i uiiii	5K1
- 3.0 m	15	3RK1902-2NB30		1	1 unit	42D
- 5.0 m - 10 m	15 15	3RK1902-2NB50 3RK1902-2NC10		1 1	1 unit 1 unit	42D 42D
 PROFINET M12 connecting cables, trailing, preassembled at one end with M12 angular (one end with pin, one end open), in various lengths: 		Entrological Property of the P			i dilli	120
- 3.0 m	15	3RK1902-2HB30		1	1 unit	42D
- 5.0 m - 10 m	15 15	3RK1902-2HB50 3RK1902-2HC10		1 1	1 unit 1 unit	42D 42D
IE FC M12 Plug PRO PROFINET M12 connectors, D-coded with quick-connect technology,	1.0	2.1010			· anne	120
axial outgoing feeder		60K1001 0DD00 64 10			4 ,	F1/ 4
• 1 unit • 8 units	1 1	6GK1901-0DB20-6AA0 6GK1901-0DB20-6AA8		1	1 unit 8 units	5K1 5K1
PROFINET M12 connectors, D-coded, angular	5	3RK1902-2DA00		1	1 unit	42D
IE Panel Feedthrough Control cabinet bushing for transition from M12 connection method (D-coded,	1	6GK1901-0DM20-2AA5		1	5 units	5K2
IP65/IP67) to RJ45 connection method (IP20), 1 pack = 5 units						

¹⁾ For operation of the CPU, an MMC is essential

ET 200pro Motor Starters ET 200pro – CPUs

Version	SD		Price er PU	PU (UNIT,	PS*	PG
	d			SET, M)		
CPU 1516pro F-2 PN (continued)						
7/8" connecting cables for power supply						
 5-core, 5 x 1.5 mm², trailing, preassembled with two 7/8" plugs (axial outgoing feeder), 5-pole, max. 50 m, in various lengths: 						
- 1.5 m - 2.0 m - 3.0 m	1 1 1	6XV1822-5BH15 6XV1822-5BH20 6XV1822-5BH30		1 1 1	1 unit 1 unit 1 unit	5K1 5K1 5K1
- 5.0 m - 10 m - 15 m	1 1 1	6XV1822-5BH50 6XV1822-5BN10 6XV1822-5BN15		1 1 1	1 unit 1 unit 1 unit	5K1 5K1 5K1
 For more special lengths with 90° or 180° cable feeder, see http://support.automation.siemens.com/WW/view/en/26999294 						
 Trailing power cables, 5 x 1.5 mm², preassembled at both ends with 7/8" connectors, angular (one end with socket, one end with pin), in various lengths: 						
- 3.0 m - 5.0 m	15 15	3RK1902-3NB30 3RK1902-3NB50		1	1 unit 1 unit	42D 42D
 10 m Trailing power cables, 5 x 1.5 mm², preassembled at one end with 7/8" connector with female insert, angular (one end with socket, one end open), in various lengths: 	15	3RK1902-3NC10		1	1 unit	42D
- 3.0 m - 5.0 m - 10 m	15 15 15	3RK1902-3GB30 3RK1902-3GB50 3RK1902-3GC10		1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
Power cables 5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-8AH10		1	1 M	5K2
7/8" connectors For ET 200eco, with axial cable feeder						
 With pin insert, pack of 5 With female insert, pack of 5 Angular, with female insert, 1 unit Angular with pin insert, 1 unit 	1 1 5 5	6GK1905-0FA00 6GK1905-0FB00 3RK1902-3DA00 3RK1902-3BA00		1 1 1	5 units 5 units 1 unit 1 unit	5K2 5K2 42D 42D
7/8" covers, pack of 10	1	6ES7194-3JA00-0AA0		1	10 units	250
Twisted pair connecting cables 4 x 2 with RJ45 connectors						
• 0.5 m • 1 m	1 1	6XV1870-3QE50 6XV1870-3QH10		1	1 unit 1 unit	5K1 5K1
• 2 m	1	6XV1870-3QH20		1	1 unit	5K1
• 6 m	1	6XV1870-3QH60		1	1 unit	5K1
• 10 m	1	6XV1870-3QN10		1	1 unit	5K1
Crossed twisted pair connecting cables 4 x 2 with RJ45 connectors	4	CVV4070 2DE50		,	4!4	EIZa
• 0.5 m • 1 m	1 1	6XV1870-3RE50 6XV1870-3RH10		1	1 unit 1 unit	5K1 5K1
• 2 m	i	6XV1870-3RH20		i	1 unit	5K1
• 6 m • 10 m	1 1	6XV1870-3RH60 6XV1870-3RN10		1 1	1 unit 1 unit	5K1 5K1
M12 sealing caps For protection of unused M12 terminals on ET 200pro	•	3RX9802-0AA00		100	10 units	42C
M12 sealing caps with female thread 5 units	1	6ES7194-4JD60-0AA0		1	5 units	250

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

Selection	and	oraering	aata

Selection and ordering data						
Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d			,		
Digital expansion modules						
8 DI digital input modules 24 V DC, with module diagnostics, including bus module connection module to be ordered separately	1	6ES7141-4BF00-0AA0		1	1 unit	250
8 DI High Feature digital input modules 24 V DC, with channel diagnostics, including bus module connection module to be ordered separately	5	6ES7141-4BF00-0AB0		1	1 unit	250
16 DI digital input modules 24 V DC, with module diagnostics, including bus module connection module 6ES7 194-4CB50-0AA0 to be ordered separately	1	6ES7141-4BH00-0AA0		1	1 unit	250
4 DO digital output modules 24 V DC, 2 A, with module diagnostics, including bus module connection module to be ordered separately	1	6ES7142-4BD00-0AA0		1	1 unit	250
4 DO High Feature digital output modules 24 V DC, 2 A, with channel diagnostics, including bus module connection module to be ordered separately	1	6ES7142-4BD00-0AB0		1	1 unit	250
8 DO digital output modules 24 V DC, 0.5 A, with module diagnostics, including bus module connection module to be ordered separately	1	6ES7142-4BF00-0AA0		1	1 unit	250
4 DI/4 DO digital input and output modules 24 V DC, 0.5 A, with module diagnostics, including bus module connection module to be ordered separately	1	6ES7143-4BF50-0AA0		1	1 unit	250
4 DI/4 DO digital input and output modules 24 V DC, 0.5 A, with module diagnostics, including bus module connection module to be ordered separately	1	6ES7143-4BF00-0AA0		1	1 unit	250
Accessories						
CM IO 4 x M12 connection modules 4 M12 sockets for connection of digital or analog sensors or actuators to ET 200pro	1	6ES7194-4CA00-0AA0		1	1 unit	250
CM IO 4 x M12 Invers connection modules 4 M12 sockets for connection of digital actuators to ET 200pro (4 DO and 4 DO HF); 2 x M12 with single assignment, 2 x M12 with double assignment	1 nt	6ES7194-4CA50-0AA0		1	1 unit	250
CM IO 4 x M12 P connection modules 4 M12 sockets for connection of digital sensors or actuators to ET 200pro; plastic version	1 on	6ES7194-4CA10-0AA0		1	1 unit	250
CM IO 8 x M12 connection modules 8 M12 sockets for connection of digital sensors or actuators to ET 200pro	1	6ES7194-4CB00-0AA0		1	1 unit	250
CM IO 8 x M12 P connection modules 8 M12 sockets for connection of digital sensors or actuators to ET 200pro; plastic version		6ES7194-4CB10-0AA0		1	1 unit	250
CM IO 8 x M12D connection modules 8 M12 sockets for connection of digital sensors or actuators to ET 200pro	1	6ES7194-4CB50-0AA0		1	1 unit	250
CM IO 8 x M8 connection modules 8 M8 sockets for connection of digital sensors or actuators to ET 200pro	1	6ES7194-4EB00-0AA0		1	1 unit	250
CM IO 2 x M12 connection modules 2 M12 8-pole sockets; to be used with: EM 8DI 24 V DC and 8 DO 24 V DC/0.5 A	1	6ES7194-4FB00-0AA0		1	1 unit	250
CM IO 1 x M23 connection modules 1 M23 socket, to be used with: EM 8 DI 24 V DC and 8 DO 24 V DC/0.5 A	1	6ES7194-4FA00-0AA0		1	1 unit	250
Module labeling plates For color coding of CM IOs in the colors white, red, blue and green; pack of 100	1	6ES7194-4HA00-0AA0		1	500 units	250
M12 sealing caps For protection of unused M12 terminals on ET 200pro	•	3RX9802-0AA00		100	10 units	42C
Labels 20 x 7, pastel turquoise, pack of 340	20	3RT1900-1SB20		100	340 units	41B
M12 Y-shaped coupler plugs For double connection of sensors with a single cable, 5-pole; cannot be used for F-DI4/8	1	6ES7194-1KA01-0XA0		1	1 unit	250
M12 Y-cables For double connection of I/Os with a single cable to ET 200, 5-pole	1	6ES7194-6KA00-0XA0		1	1 unit	250
M8 sealing caps For IP67 modules	2	3RK1901-1PN00		100	10 units	42C

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

Li 200pio – 1/0 illoudies					
Version	SD	Article No. Price		PS*	PG
		perro	SET, M)		
	d				
Analog expansion modules					
4AI U analog input modules High Feature, ±10 V; ±5 V; 0 10 V; 1 5 V, channel diagnostics, including bus module. Connection module to be ordered separately	1	6ES7144-4FF01-0AB0	1	1 unit	250
4AI I analog input modules High Feature, ±20 mA; 0 20 mA; 4 20 mA, channel diagnostics, including bus module. Connection module to be ordered separately	1	6ES7144-4GF01-0AB0	1	1 unit	250
4AI RTD analog input modules High Feature; resistors: 150, 300, 600 and 3 000 Ohm; thermistor: Pt100, 200, 500, 1 000, Ni100, 120, 200, 500 and 1 000; channel diagnostics, including bus module. Connection module must be ordered separately	1	6ES7144-4JF00-0AB0	1	1 unit	250
4AI TC analog input modules High Feature; thermocouples: Types B, E, J, K, L, N, R, S, T; voltage measurement: ±80 mV; channel diagnostics, including bus module. Connection module must be ordered separately	1	6ES7144-4PF00-0AB0	1	1 unit	250
4AO U analog output modules High Feature, ±10 V; 0 10 V; 1 5 V, channel diagnostics, including bus module. Connection module to be ordered separately	1	6ES7145-4FF00-0AB0	1	1 unit	250
4AO I analog output modules High Feature, ±20 mA; 0 20 mA; 4 20 mA, channel diagnostics, including bus module. Connection module to be ordered separately	1	6ES7145-4GF00-0AB0	1	1 unit	250
Accessories CM IO 4 x M12 connection modules 4 M12 sockets for connection of digital or analog sensors or actuators to ET 200pro	1	6ES7194-4CA00-0AA0	1	1 unit	250
M12 compensation plugs With integrated Pt100 for reference point compensation when connecting thermocouples	1	6ES7194-4AB00-0AA0	1	1 unit	250
Module labeling plates For color coding of CM IOs in the colors white, red, blue and green; pack of 100	1	6ES7194-4HA00-0AA0	1	500 units	250
M12 sealing caps For protection of unused M12 terminals on ET 200pro	>	3RX9802-0AA00	100	10 units	42C
IO-Link master modules					
4 IO-LINK HF solid-state modules 4 IO-Link ports acc. to IO Link specification V1.1, Port Class B; High Feature, channel diagnostics, including bus module connection module to be ordered separately	1	6ES7147-4JD00-0AB0	1	1 unit	250
Accessories					
CM IO-Link 4 x M12 P connection modules 4 M12 sockets for connection of IO-Link devices to ET 200pro 4 IO-LINK HF solid-state module	1	6ES7194-4CA20-0AA0	1	1 unit	250
Module labeling plates For coding of CM IOs in the colors white, red, blue and green; pack of 100	1	6ES7194-4HA00-0AA0	1	500 units	250
M12 sealing caps For protection of unused M12 terminals on ET 200pro	•	3RX9802-0AA00	100	10 units	42C
Fail-safe digital expansion modules					
8/16 F-DI PROFIsafe fail-safe digital input modules 24 V DC, including bus module. Connection module must be ordered separately	1	6ES7148-4FA00-0AB0	1	1 unit	241
4/8 F-DI, 4 F-DO 2 A fail-safe digital input/output modules 24 V DC, including bus module. Connection module must be ordered separately	1	6ES7148-4FC00-0AB0	1	1 unit	241
F-Switch PROFIsafe fail-safe solid-state modules Three fail-safe PP-switching outputs for safe switching of the backplane busbars (2L+, F0, F1); two fail-safe digital inputs, 45 mm; usable up to SIL 3 (IEC 61508)	1	6ES7148-4FS00-0AB0	1	1 unit	241
Accessories					
Connection modules For F-Switch PROFIsafe fail-safe solid-state modules	1	6ES7194-4DA00-0AA0	1	1 unit	241
Connection modules For the 4/8 F-DI/4 F-DO, 24 V DC/2 A fail-safe solid-state modules	1	6ES7194-4DC00-0AA0	1	1 unit	241
Connection modules For the 8/16 F-DI, 24 V DC fail-safe solid-state modules	1	6ES7194-4DD00-0AA0	1	1 unit	241
PROFIBUS DP IM 154-2 interface modules Including terminal module	1	6ES7154-2AA01-0AB0	1	1 unit	250
PROFINET IM154-4 PN interface modules Including terminal module	1	6ES7154-4AB10-0AB0	1	1 unit	250
M12 sealing caps For protection of unused M12 terminals on ET 200pro	•	3RX9802-0AA00	100	10 units	42C

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

					- 1/O IIIC	
Version	SD	Article No.	Price	PU	PS*	PG
		1	per PU	(UNIT, SET, M)		
	d			OL1, IVI)		
PM-E power modules						
PM-E power modules 24 V DC	1	6ES7148-4CA00-0AA0		1	1 unit	250
For resupply and group formation of the 24 V DC load voltage for solid-state modules within an ET 200pro station						
Accessories						
CM PM-E ECOFAST connection modules	1	6ES7194-4BA00-0AA0		1	1 unit	250
For resupply of 24 V load voltage, 1 ECOFAST Cu connection						
CM PM-E Direct connection modules For resupply of 24 V load voltage, up to 2 M20 screwed cable bushings	1	6ES7194-4BC00-0AA0		1	1 unit	250
CM PM-E 7/8" connection modules For resupply of 24 V load voltage, 1 x 7/8"	1	6ES7194-4BD00-0AA0		1	1 unit	250
CM PM-E PP connection modules For resupply of 24 V load voltage, 2 x push-pull, with spare fuse	1	6ES7194-4BE00-0AA0		1	1 unit	250
Spare fuses 12.5 A quick-response, for interface and power modules, pack of 10	1	6ES7194-4HB00-0AA0		1	10 units	250
PROFIBUS ECOFAST hybrid cables – copper						
Trailing cables (PUR sheath) with two copper conductors, shielded, for PROFIBUS DP and four copper cores with 1.5 mm ²						
Non-assembled						
- 50 m - 100 m	1 1	6XV1830-7AN50 6XV1830-7AT10		1 1	1 unit 1 unit	5K2 5K2
Preassembled with ECOFAST plug and socket, fixed length	'	0AV 1030-7AI 10		'	i uiiit	JINZ
- 1.5 m	1	6XV1830-7BH15		1	1 unit	5K2
- 3 m - 5 m	1 1	6XV1830-7BH30 6XV1830-7BH50		1 1	1 unit 1 unit	5K2 5K2
- 10 m	1	6XV1830-7BN10		1	1 unit	5K2
- 15 m	1	6XV1830-7BN15		1	1 unit	5K2
- 20 m PROFIBUS ECOFAST hybrid cables GP	- 1	6XV1830-7BN20		ı	1 unit	5K2
Trailing cables with 4 x Cu and 2 x Cu, shielded with UL approval						
Preassembled with ECOFAST plug and socket						
- 1.5 m - 3 m	1 1	6XV1860-3PH15 6XV1860-3PH30		1 1	1 unit 1 unit	5K2 5K2
- 5 m	1	6XV1860-3PH50		1	1 unit	5K2
- 10 m - 15 m	1 1	6XV1860-3PN10 6XV1860-3PN15		1 1	1 unit 1 unit	5K2 5K2
- 10 m	1	6XV1860-3PN20		1	1 unit	5K2
ECOFAST plug connectors, can be preassembled Sockets; Order unit 5 units	1	6GK1905-0CB00		1	5 units	5K2
PROFIBUS ECOFAST hybrid plugs, angular	1	6GK1905-0CD00		1	5 units	5K2
With 2 x Cu shielded and 4 x Cu 1.5 mm ² ; 5 units; with installation instructions; female insert						
Push-pull connectors For 1L+/2L+, non-assembled	1	6GK1907-0AB10-6AA0		1	1 unit	5K2
Covers for push-pull sockets	1	6ES7194-4JA50-0AA0		1	5 units	250
5 units Accessories for CM PM-E Direct						
Power cables	1	6XV1830-8AH10		1	1 M	5K2
5-core, $5 \times 1.5 \text{ mm}^2$, trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m						
Accessories for CM PM-E 7/8"	-					-
7/8" connecting cables for power supply 5-core, 5 x 1.5 mm ² , trailing, preassembled with two 7/8" plugs, 5-pole						
• Length 1.5 m	1	6XV1822-5BH15		1	1 unit	5K1
Length 2.0 mLength 3.0 m	1 1	6XV1822-5BH20 6XV1822-5BH30		1 1	1 unit 1 unit	5K1 5K1
• Length 5.0 m	1	6XV1822-5BH50		1	1 unit	5K1
Length 10 mLength 15 m	1 1	6XV1822-5BN10 6XV1822-5BN15		1 1	1 unit 1 unit	5K1 5K1
7/8" connectors	· ·			,	· unit	51(1
With axial cable feeder						
With female insert, pack of 5	1	6GK1905-0FB00		1	5 units	5K2

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

Version	SD	Article No.	Price	PU	PS*	PG
			per PU	(UNIT, SET, M)		
	d			0=1,,		
PM-O power module outputs						
PM-O power modules 2 x 24 V DC For tapping the 24 V load voltage 2L+ and the solid-state/sensor supply voltage 1L+ within an ET 200pro station	1	6ES7148-4CA60-0AA0		1	1 unit	250
Accessories						
CM PM-O PP connection modules For tapping 24 V load voltage and solid-state/sensor supply voltage, 2 x push-pull plug-in connectors	1	6ES7194-4BH00-0AA0		1	1 unit	250
Push-pull connectors For 1L+/ 2L+, non-assembled	1	6GK1907-0AB10-6AA0		1	1 unit	5K2
Covers for push-pull sockets 5 units	1	6ES7194-4JA50-0AA0		1	5 units	250
ET 200pro pneumatic interfaces						
EM 148-P pneumatic interfaces						
 DO 16 x P/CPV 10 for direct connection of the FESTO valve terminals CPV 10 16 DO x R DO 16 x P/CPV 14 for direct connection of the FESTO valve terminals CPV 14 16 DO x R 		6ES7148-4EA00-0AA0 6ES7148-4EB00-0AA0		1 1	1 unit 1 unit	250 250
FESTO CPV 10 valve terminals		to be purchased				
FESTO CPV 14 valve terminals		through FESTO see page 16/16				
RF170C						
SIMATIC RF170C communication modules For connection to the distributed ET 200pro I/O system	1	6GT2002-0HD01		1	1 unit	572
Accessories						
Connection blocks for SIMATIC RF170C For connecting 2 readers or other RS422/RS232 devices through M12 plug-in connectors	1	6GT2002-1HD01		1	1 unit	572
Reader cables for SIMATIC RF200/RF300/RF600/MV440 Or MOBY D extension cable and SIMATIC RF200/RF300/RF600/MV400, material PUR CMG approval, trailing	,					
• 2 m, straight connector	1	6GT2891-4FH20		1	1 unit	572
 5 m, straight connector 10 m, straight connector 	1 1	6GT2891-4FH50 6GT2891-4FN10		1 1	1 unit 1 unit	572 572
• 20 m, straight connector	1	6GT2891-4FN20		1	1 unit	572
 50 m, straight connector 2 m, connector angular at the reader 	1 1	6GT2891-4FN50 6GT2891-4JH20		1 1	1 unit 1 unit	572 572
5 m, connector angular at the reader 10 m, connector angular at the reader	1 1	6GT2891-4JH50 6GT2891-4JN10		1 1	1 unit 1 unit	572 572
Reader cables for MOBY D Material PUR, CMG approval, trailing, 2 m	1	6GT2691-4FH20		1	1 unit	572
Reader cables for MV300 handheld readers						
 Coiled cable with useful length of 1.6 m 4 m for MV320, material PUR Coiled cable with useful length of 1.6 m 4 m for MV340, material PUR 	1 1	6GT2191-0BH50 6GT2191-0AH50		1 1	1 unit 1 unit	572 572
Plug for connecting other RS422/RS232 devices	1	6GT2090-0BE00		1	5 units	572
M12 8-pole male connector, screw contacts for cores up to 0.5 mm ² order quantity: 1 pack of 5 units						
M12 sealing caps for unused reader connections Minimum order quantity 10 units, price per 100 units	>	3RX9802-0AA00		100	10 units	42C
DVD "RFID Systems Software & Documentation"	5	6GT2080-2AA20		1	1 unit	572

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

Power supplies

Selection and ordering data						
Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d			. ,		
Three-phase, 24 V DC (ET 200pro PS, IP67)						
SIMATIC ET 200pro PS Stabilized power supply in the construction and design of the distributed I/O syste with the option of looping the power to other modules; with degree of protection IPI Input: 400 480 V 3 AC Output: 24 V DC/8 A		6ES7148-4PC00-0HA0		1	1 unit	589
Accessories						
Power connection plugs For connection to the distributed I/O system						
• for X1 (6 mm²) • for X2 (4 mm²)	5 5	3RK1911-2BE30 3RK1911-2BF10		1 1	1 unit 1 unit	42D 42D
National Fire Protection Association (NFPA) compatibility These devices are only certified for installation in industrial machines in accordance with the "Electrical Standard for Industrial Machinery" (NFPA79).	e					
 For X1 SIMATIC ET 200pro PS 61 88 201 1003.xx (AWG10) For X1 SITOP PSU300P 61 88 201 1000.xx / 61 88 201 1002.xx (AWG14) 		to be purchased through Harting see page 16/16				
For X2 SIMATIC ET 200pro PS 61 88 202 1010.xx (AWG10)* dummy cap included for X2 For X3 Phoenix-Contact SAC-5P-M12-M12FS dummy cap included for X3						
Sealing caps For 9-pole power socket connectors						
• X2 (pack of 1)	5	3RK1902-0CK00		1	1 unit	42D
• X2 (pack of 10)	5	3RK1902-0CJ00		1	10 units	42D

ET 200pro Motor Starters

SIMATIC ET 200pro FC-2 frequency converters

Selection and ordering data					
Version	SD	Article No. Price per PU		PS*	PG
	d		OL1, WI)		
SIMATIC ET 200pro FC-2 frequency converters					
SIMATIC ET 200pro FC-2 frequency converters With integrated safety function STO (Safe Torque Off), 380 480 V 3 AC, ±10%, 47 63 Hz Overload: 150%, 60 s; 200%, 3 s Power rating: 1.1 kW (0 +55 °C), 1.5 kW (0 +45 °C)	3	6SL3514-1KE13-5AE0	1	1 unit	337
Accessories for SIMATIC ET 200pro FC-2 frequency converters					
Backplane bus modules for accommodating the frequency converter ¹⁾	3	6SL3260-2TA00-0AA0	1	1 unit	337
Connecting cables preassembled at one end Power connection cable, open at one end, for HAN Q4/2, angled, $4 \times 4 \text{ mm}^2$					
Length 1.5 mLength 5 m	5 5	3RK1911-0DB13 3RK1911-0DB33	1	1 unit 1 unit	42D 42D
Connector set for incoming power supply, HAN Q4/2	J	3HK1911-0DB33	'	1 UIIII	420
• 2.5 mm ² • 4.0 mm ² • 6.0 mm ²	5 5 5	3RK1911-2BE50 3RK1911-2BE10 3RK1911-2BE30	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
Motor cables preassembled at one end For motors with brake and temperature sensor with HAN Q8 connector, shielded					
Cross-section 1.5 mm ²		ZKT. Z0000504000450			
Length 1.5 m Length 3 m		ZKT: 70020501000150 HTG: 61 88 201 0288 ZKT: 70020501000300			
• Length 5 m		HTG: 61 88 201 0289 ZKT: 70020501000500			
• Length 10 m		HTG: 61 88 201 0290 ZKT: 70020501001000 HTG: 61 88 201 0299			
Frequency converter plugs		111 G. 01 88 201 0233			
For motor cable, shielded, HAN Q8 Cross-section 1.5 mm ²		ZKT:10032001			
Cross-section 1.5 min-		HTG: 61 83 401 0131 ZKT: Available from KnorrTec, see page 16/16 HTG: Available from Harting,			
Power jumper plugs	2	See page 16/16 3RK1922-2BQ00	1	1 unit	42D
For 400 V power loop-through connection to the following 400 V modules		COL 0055 04 400 41144	-	et comba	0.40
IOP-2 Handheld For use with SINAMICS G120, SINAMICS G120C, SINAMICS G120P, SINAMICS G110D, SINAMICS G120D, SINAMICS G110M and SIMATIC ET 200pro FC-2	3	6SL3255-0AA00-4HA1	1	1 unit	343
Included in the scope of supply: Intelligent Operator Panel IOP-2 Handheld enclosure Batteries (4 x AA) Charger (international) RS 232 connecting cable (length 3 m, only for use in combination with					
SINAMICS G120, SINAMICS G120C and SINAMICS G120P ²⁾) • USB cable (length 1 m)					
RS 232 interface cable With optical interface for connection of the SIMATIC ET 200pro FC-2 frequency converter to the IOP-2 Handheld (length 2.5 m) ²⁾	5	3RK1922-2BP00	1	1 unit	42D
PC inverter connection kit 2 (mini USB interface cable for communication with a PC) For controlling and commissioning an inverter directly from a PC over a point-to-point link if the appropriate software (STARTER commissioning tool ³⁾ V4.4 plus SSP (SINAMICS Support Package) or higher is installed (length 3 m)	3	6SL3255-0AA00-2CA0	1	1 unit	343
SINAMICS memory card (SD card) For the SIMATIC ET 200pro FC-2 parameter settings If required there is space on the memory card for the complete parameterization of the frequency converter. During servicing, the plant is immediately ready for use again after replacing the frequency converter and inserting the memory card.	5	6SL3054-4AG00-2AA0	1	1 unit	753

¹⁾ Absolutely essential for operation of the converter.

²⁾ For use in combination with SINAMICS G110D, SINAMICS G120D, SINAMICS G110M or SIMATIC ET 200pro FC-2, the RS 232 connecting cable with optical interface is required (Article No.: 3RK1922-2BP00). The cable must be ordered separately.

³⁾ The STARTER commissioning tool is available online at www.siemens.com/starter.

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Motor Starters

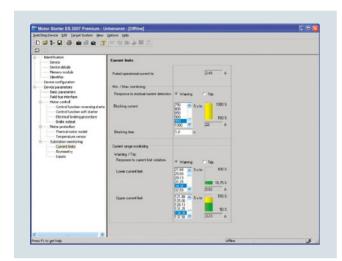
ET 200pro add-on products

Selection and ordering data						
Selection and ordering data						
Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PC
	d					
EtherNet/IP interface modules						
SIMATIC ET 200pro interface modules for EtherNet/IP	1	ZNX:EIP200PRO		1	1 unit	250
Including:						
Bus termination module for ET 200pro Companion disk with the manuals and configuration tool						
Accessories						
Connection modules for EtherNet/IP For connection of the interface module to EtherNet/IP	1	ZNX:EIP200PROCM1		1	1 unit	250

Motor Starters for Use in the Field, High Degree of Protection ET 200pro Software

Motor Starter ES

Overview



Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters

More information

Homepage, see www.siemens.com/sirius-engineering Industry Mall, see www.siemens.com/product?3ZS1
Technical specifications and system requirements, see https://support.industry.siemens.com/cs/ww/en/ps/16713/td

Motor Starter ES is used for the start up, parameterization, diagnostics, documentation and preventive maintenance of SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor starters.

The software program is available in three versions which differ in their user-friendliness, scope of functions and price.

For detailed information on the Motor Starter ES software, see page 14/10.

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

General data

Overview



SIRIUS M200D AS-i Basic motor starter with manual local operation

The intelligent and highly flexible SIRIUS M200D motor starters for distributed installation start, monitor and protect motors and loads up to 5.5 kW.

The M200D motor starters are available in four versions:

M200D AS-i Basic	M200D AS-i Standard	M200D PROFIBUS	M200D PROFINET					
Motor control with AS-i communication	on	PROFIBUS	PROFINET					
Mechanical or electronic switching								
✓	✓	✓	✓					
Electronic switchin	Electronic switching with soft starter functionality							
	✓	✓	✓					

- ✓ Function available
- -- Function not available

More information

Homepage, see www.siemens.com/motorstarter
Industry Mall, see www.siemens.com/product?M200D

TIA Selection Tool Cloud (TST Cloud), see

https://mall.industry.siemens.com/spice/TSTWeb/?kmat=MS_M200D

Basic functionality

The versions of the M200D motor starter are equipped with the following properties and functions:

- Available as direct-on-line and reversing starters in a rugged design
- Electromechanical or electronic switching version
- Low variance only two device versions up to 5.5 kW thanks to wide range setting
- All versions have the same enclosure size.
- Degree of protection IP65
- Quick and fail-safe wiring of system and motor cables using ISO 23570 plug-in connector technology (Q4/2 and Q8/0)
- Robust and widely used M12 connection method for digital inputs and outputs
- Integrated feeder connector monitoring
- Full motor protection through overload protection and a temperature sensor (PTC, TC)
- Short-circuit and overload protection integrated
- Integrated repair switch lockable with three locks (multi-level service)
- Uniform wiring to the SINAMICS G110D, SINAMICS G110M and SINAMICS G120D frequency inverters and to the ET 200pro distributed I/O system
- Extensive diagnostics concept using LEDs
- Optional integrated manual local control with key-operated switch (ordering option)
- Optionally available brake actuation with voltages from 180 V DC (no rectifier needed in motor) or 230/400 V AC (ordering options)

Article No. scheme

Product versions		Article number
Motor starters		3RK13 🗆 5 - 6 🗆 S 🗆 1 - 🗆 A 🗆 🗆
Туре	AS-i Basic AS-i Standard PROFIBUS/PROFINET	1 A A A D
Setting range for rated operational current $I_{\rm A}$	0.15 2 A 1.5 9 A 1.5 12 A	K N L
Starter version	Electromechanical starters Electronic starters	4 with integrated contactor7 with thyristors
Product function	Direct-on-line starters Reversing starters Direct-on-line starters Reversing starters	0 1 2 with manual local operation 3 with manual local operation
Brake actuation	None 230/400 V AC 180 V DC	0 3 5
Example		3RK13 1 5 - 6 K S 4 1 - 3 A A 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

General data

Benefits

M200D motor starters provide the following advantages for customers:

- High plant availability through plug-in capability of the main circuit, communication and I/Os – relevant for installing and replacing devices
- Cabinet-free construction and near-motor installation thanks to the high degree of protection IP65
- The motor starters record the actual current flow for the parameterizable electronic motor overload protection.
 Reliable messages concerning the overshooting or undershooting of setpoint values ensure comprehensive motor protection. All motor protection functions can be defined by simple parameterization
- Low stock levels and low order costs thanks to a wide setting range for the electronic motor protection of 1:10 (only two device versions up to 5.5 kW)
- The integrated wide range for the current enables a single device to cover numerous standard motors of different sizes.

- Comprehensive offering of accessories, including readyassembled cables
- The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay:
 - Preassembled cables can be plugged directly onto the motor starter module.
- Easy and user-friendly installation because all versions have the same enclosure dimensions.
- Fast and user-friendly commissioning using optional manual local operation
- Increase of process speed through integrated functions such as "Quick Stop" and "Disable Quick Stop", e.g. at points and crossings
- Optional manual local control with momentary-contact and latching operation for easier start up and easier servicing

Application

The high degree of protection IP65 makes the M200D motor starters suitable in particular for use on extensive conveying systems such as are found in mail sorting centers, airports, automotive factories and the packing industry.

For simple drive tasks, particularly in conveyor applications, the new SINAMICS G110D frequency inverter series with a performance range from 0.75 kW to 7.5 kW and degree of protection IP65 is the ideal partner for the M200D motor starters.

SINAMICS G110D inverters allow for stepless speed control of three-phase asynchronous motors and comply with the requirements for materials handling applications with frequency control (for further information, see Catalog D 31.2).

For simple drive tasks in conveyor applications in which a frequency inverter integrated into the motor is required, the SINAMICS G110M frequency inverter with a performance range from 0.37 kW to 4 kW and degree of protection IP65/66 is the ideal partner. The SINAMICS G110M is available individually as a frequency inverter for self-assembly and pre-mounted on SIMOGEAR geared motors, and with its conveyor-specific functions it satisfies the requirements of conveyor technology applications (for further information, see Catalog D 31.2).

Use of SIRIUS M200D motor starters in conjunction with IE3/IE4 motors

Note:

For the use of SIRIUS M200D motor starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters M200D Motor Starters for AS-Interface

General data

Overview

For motor control using AS-Interface there are the following M200D motor starter versions: SIRIUS M200D AS-i Basic and SIRIUS M200D AS-i Standard (basic functionality, see page 9/41 "SIRIUS M200D Motor Starters" → "General data" → "Overview").

SIRIUS M200D AS-i Basic

Functionality

 Easy and fast on-site start up through parameterization of local setting knobs (DIP switches) and rotary coding switches for adjusting the rated operational current. The rotary coding switch has an OFF position for deactivating the overload protection with the help of the thermal motor model when using a temperature sensor.

Communications

- AS-i communication with A/B addressing according to Spec V2.1
- The AS-i bus is connected cost-effectively using an M12 connection on the device. Of the four digital inputs, two are contained in the process image and can therefore be used in the PLC program. The other two inputs are locally effective and permanently assigned with functions.
- The LEDs can provide comprehensive diagnostics of the device on the spot. In addition to diagnostics using the PAE process image, the device can create up to 15 different diagnostic signals per slave. The message with the highest priority can be read out through the AS-i communication. This is yet another new development which distinguishes the M200D AS-i Basic motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

SIRIUS M200D AS-i Standard

The intelligent and highly flexible M200D AS-i standard motor starter in A/B technology starts and protects motors and loads up to 5.5 kW. They are available in direct-on-line or reversing starter versions, in a mechanical version and also an electronic version (the latter with soft start function).

The M200D AS-i Standard motor starter is the most functional member of the SIRIUS motor starter family in the high degree of protection IP65 for AS-i communication. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Functionality

- AS-i communication with A/B addressing according to Spec 3.0
- Electronic version also with soft start function
- AS-i slave profile 7AE/7A5 with process image 6E/4A
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible through AS-i, providing maximum flexibility and best adaptability to the application.
- Additionally expanded diagnostics using data record through AS-i bus
- Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through AS-i bus with the help of data records or an expanded process image from the user program
- Control of the motor starter using a command data record from the user program
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- Parameterization using Motor Starter ES at the local interface (ordering option for start up software)
- Diagnostics with the help of Motor Starter ES (ordering option for start up software)

Mounting and installation

The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay. Connecting cables can be plugged directly onto the motor starter module. Swapping of the connecting wires and malfunctions within the plant are prevented by preassembled cables. The AS-i bus is connected cost-effectively using an M12 connection on the device. All versions have identical enclosure dimensions for easier system design and conversion.

Parameterization and configuration

The particularly robust M200D AS-i Standard motor starter is characterized by numerous functions which can be flexibly parameterized. It enables highly flexible parameterization through the AS-i bus using data records from the user program as well as user-friendly local parameterization using the Motor Starter ES start up software through the local point-to-point interface.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All motor protection functions, limit values and reactions can be defined by parameterization. The AS-i Standard is unique. In its 6E/4A process image the motor starter sends all four digital inputs and the digital output via the process image to the PLC in cyclic mode. System configuration and system documentation are facilitated not least by a number of CAX data.

Operation

The new generation of motor starters is characterized by its advanced functionality, maximum flexibility and extremely high degree of automation.

All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are parameterizable and therefore adaptable to the application. The motor starters record the actual current flow. Evaluating the current of the parameterizable solid-state overload protection increases the availability of the drives, as do reliable messages concerning the overshooting or undershooting of setpoint values.

Diagnostics and maintenance

The M200D sets new standards for diagnostics. In addition to diagnostics using the PAE process image and diagnostics by "parameter echo" (up to 15 different diagnostic signals per slave can be read out via AS-i communication), the possibility of reading out diagnostic data records is unique on the market.

The AS-i Standard is recommended in particular for expansive and highly automated system components because the possibility of monitoring devices and systems with data records (statistical data, measured values and device diagnostics) provides an in-depth view of the plant from the control room, guaranteeing the monitoring process and increasing plant availability.

Preventive maintenance can be carried out with the integrated maintenance timer and plant downtimes prevented as a result in advance.

Local control of a drive is possible using the ordering option with integrated manual operation. This is yet another new development which distinguishes the M200D AS-i Standard motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the plant.

SIRIUS M200D Motor Starters M200D Motor Starters for AS-Interface

General data





SIRIUS M200D SIRIUS M200D AS-i Basic AS-i Standard

	AS-i Basic	AS-i Standard
Device functions (firmware features)		
Slave on the bus		
Fieldbus	✓ AS-i	
Slave type	✓ A/B acc. to Spec 2.1	✓ A/B acc. to Spec 3.0
Profile	✓ 7.A.E	✓ 7.A.E & 7.A.5
Number of assigned AS-i addresses on the bus	√ 1	√ 2
Number of stations per AS-i master	✓ Max. 62 devices	✓ Max. 31 devices
AS-i master profile	✓ M3 and higher	✓ M4 and higher
Parameter assignment	o de la companya de	Ŭ
DIP switches	✓	
Potentiometer for rated operational current	/	
Motor Starter ES		✓
Data records through AS-i		✓
Diagnostics		
Diagnostics through parameter channel	/	
Acyclic through data records		✓
Expanded process image PAE 4 bytes		✓
Process image		
Process image	✓ 4E/3A	✓ 6E/4A
Data channels		
Local optical interface (manual local)	/	
AS-i bus	/	
Motor Starter ES through local interface		✓
Motor Starter ES through bus		
Data records ¹⁾ (acyclic)		
Parameter assignment		✓
Diagnostics		✓
Measured values		·
Statistics		/
Commands		/
Inputs		
Number	√ 4	
Of these in the process image	✓ 2 through AS-i	✓ 4 through AS-i
Input action	✓ For permanently assigned functions, see manual	3
Quick stop	✓ Permanent function: latching, edge-triggered	Parameterizable function: latching (edge-triggered), non-latching (level-triggered)
Outputs		
Number	√ 1	
Output action		✓ Parameterizable: For function, see manual
Brake output	3 1 3 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,
180 V DC /230/400 V AC / none	✓	
Motor protection		
Overload protection	✓ Electronic, wide range 1:10	
Short-circuit protection	✓	
Full motor protection	✓	
Temperature sensor	✓ Parameterizable using DIP switches: PTC or Thermoclick or deactivated	✓ Parameterizable using Motor Starter ES, data record: PTC or Thermoclick or deactivated

✓ Function available

- -- Function not available
- The data records are a reduced selection compared with PROFIBUS/PROFINET.

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

M200D Motor Starters for AS-Interface

General data





SIRIUS M200D SIRIUS M200D AS-i Basic AS-i Standard

	_	o i busic	~	o i otalidala
Device functions (firmware features) (co	ntinu	ed)		
Device function				
Repair switch	1			
Current limit monitoring bottom			1	Parameterizable
Current limit monitoring top			1	Parameterizable
Zero current detection	1	Permanent function: disconnection, less than 18.75% of the rated operational current $I_{\rm e}$	1	Parameterizable
Blocking current	1	Permanent function: starting up of the motor: Tripping limit up to 800% of the rated operational current $I_{\rm e}$ for 10 s	1	Parameterizable
		Active operation: Threshold for tripping "blocking current" up to 400% of the rated operational current $I_{\rm e}$		
Unbalance	1	Permanent function: up to 30% of the rated operational current I_e (only mechanical MS)	/	Parameterizable
Load type	1	Permanent function: Three-phase	1	Parameterizable: single-phase and three-phase
Shutdown class	1	Parameterizable using DIP switches: CLASS 10/deactivated		Parameterizable using Motor Starter ES, data record: CLASS 5, 10, 15, 20
Protection against voltage failure	1		1	Parameterizable: activated/deactivated
Soft starter control function				
Soft start function			1	Only solid-state version
Bypass function			1	Only solid-state version

- ✓ Function available
- -- Function not available

Application

The M200D AS-i standard is particularly suitable for highly automated applications in conveyor systems requiring devices and systems to be monitored to prevent or limit plant downtime. The option of planning the functions of the motor starter or its interfaces also creates the prerequisite for fine-adjustment to the function of the motor starter in the application and hence provides for extreme flexibility.

Use of M200D motor starters in conjunction with IE3/IE4 motors

Note:

For the use of SIRIUS M200D motor starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual

For more information, see page 1/7.

Technical specifications

More information

Manuals for SIRIUS M200D:

AS-i Basic, see
 https://support.ir

https://support.industry.siemens.com/cs/ww/en/view/35016496

• AS-i Standard, see

https://support.industry.siemens.com/cs/ww/en/view/38722160

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16324/faq

Note on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions only represent one component of such a concept.

For more information on the subject of Industrial Security, see www.siemens.com/industrialsecurity.

SIRIUS M200D Motor Starters M200D Motor Starters for AS-Interface

General data

Туре		M200D motor starte	ers		
		AS-i Basic electromechanical switching	AS-i Basic electronic switching	AS-i Standard electromechanical switching	AS-i Standard electronic switching
Technology designation ¹⁾		DSte/RSte	sDSte/sRSte	DSte/RSte	sDSSte/sRSSte
Mechanics and environment					
Mounting dimensions (W x H x D)	mm	294 x 215 x 159			
Permissible ambient temperature					
During operationDuring storage	°C ℃	-25 +55 -40 +70			
Weight	g	2 880/3 130	3 220/3 420	2 880/3 130	3 220/3 420
Permissible mounting position		Vertical, horizontal, I	ying		
Vibration resistance acc. to IEC 60068 Part 2-6	g	2			
Shock resistance • Acc. to IEC 60068 Part 2-27 Without influencing the part and a particular and a particu	g/ms	12/11 half-sine			
Without influencing the contact position Person of protection and to IEC 529.	g/ms	9.8/5 or 5.9/10 IP65			
Degree of protection acc. to IEC 529		1700			
Installation altitude • Up to 1 000 m • Ub to 2 000 m		No derating 1% per 100 m			
Cooling		Convection			
Protection class IEC 536 (VDE 0106-1)		1			
Electrical specifications					
Control circuit					
Operating voltage U_{As-i}	V DC	26.5 31.6			
Supply voltage U _{aux}	V DC	20.4 28.8			
Power consumption from AS-i (incl. 200 mA sensor supply)		< 300			
Current consumption from U_{aux} (without digital output)	•				
• Max.	mA	155	15 (direct-on-line)/ 175 (reversing)	155	15 (direct-on-line)/ 175 (reversing)
• Typ.	mA	75	10 (direct-on-line)/ 75 (reversing)	75	10 (direct-on-line)/ 75 (reversing)
Main circuit					
Maximum navvey of these phase maters at 400 V AC	kW		4	5.5	5.5
Maximum power of three-phase motors at 400 V AC	KVV	5.5	4	0.0	
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line	V AC V AC A A	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12	480 (50/60 Hz) 0.15 2/1.5 9	600 (50/60 Hz) 0.15 2/1.5 12	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting	V AC V AC A A	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12	480 (50/60 Hz) 	600 (50/60 Hz) 0.15 2/1.5 12	480 (50/60 Hz) 0.15 2/1.5 12
Rated operational voltage <i>U</i> _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters <i>I</i> _e at 400 V AC • 400 V at AC-1 / 2 / 3	V AC V AC A A A	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz) 	600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1/2/3 • 500 V at AC-1/2/3	V AC V AC A A A	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz) 	600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz) 0.15 2/1.5 12
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1/2/3	V AC V AC A A A	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz) 0.15 2/1.5 9	600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz)
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-4	V AC V AC A A A A A A Oper- ating	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9	480 (50/60 Hz) 0.15 2/1.5 9	600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 400 V at AC-4 • 400 V at AC-53a Mechanical endurance of contactor	V AC V AC A A A A A A Oper-	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 	480 (50/60 Hz) 0.15 2/1.5 9	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 	480 (50/60 Hz)
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-4 • 400 V at AC-53a	V AC V AC A A A A A A Oper- ating	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device	480 (50/60 Hz) 0.15 2/1.5 9	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device	480 (50/60 Hz)
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-4 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1	V AC V AC A A A A A A Oper- ating	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million	480 (50/60 Hz) 0.15 2/1.5 9 9	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1 Permissible switching frequency	V AC V AC A A A A A A Oper- ating	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device version 2A)	480 (50/60 Hz) 0.15 2/1.5 9 9	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device version 2A)	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-4 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1	V AC V AC A A A A A A Oper- ating	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device version 2A)	480 (50/60 Hz) 0.15 2/1.5 9 9	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device version 2A)	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1 Permissible switching frequency Rated ultimate short-circuit breaking capacity I _q • At 400 V AC • At 500 V AC Short-circuit protection	V AC V AC A A A A A A Oper- ating cycles	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device version 2A) See manual	480 (50/60 Hz) 0.15 2/1.5 9 9 1	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device version 2A) See manual	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting
Rated operational voltage U_e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I_e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1 Permissible switching frequency Rated ultimate short-circuit breaking capacity I_q • At 400 V AC • At 500 V AC Short-circuit protection • At $I_{emax} = 2 A$ • At $I_{emax} = 9 / 12 A$	V AC V AC A A A A A A Oper- ating cycles	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device version 2A) See manual	480 (50/60 Hz) 0.15 2/1.5 9 1 20 ²) = 26 A	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device version 2A) See manual	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting
Rated operational voltage U_e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I_e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1 Permissible switching frequency Rated ultimate short-circuit breaking capacity I_q • At 400 V AC • At 500 V AC Short-circuit protection • At $I_{emax} = 2$ A	V AC V AC A A A A A A Oper- ating cycles	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device version 2A) See manual 50 50 ²) integrated, 2 x13 I _e s	480 (50/60 Hz) 0.15 2/1.5 9 1 20 ²) = 26 A	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device version 2A) See manual	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting
Rated operational voltage U_e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I_e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1 Permissible switching frequency Rated ultimate short-circuit breaking capacity I_q • At 400 V AC • At 500 V AC Short-circuit protection • At $I_{emax} = 2 A$ • At $I_{emax} = 9 / 12 A$	V AC V AC A A A A A A Oper- ating cycles	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device version 2A) See manual 50 50 ²) integrated, 2 x13 I _e integrated, 2 x13 I _e i	480 (50/60 Hz) 0.15 2/1.5 9 9 1 20 ²) = 26 A = 208 A	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device version 2A) See manual	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting Rated operational current for starters I _e at 400 V AC • 400 V at AC-1 / 2 / 3 • 500 V at AC-1 / 2 / 3 • 400 V at AC-53a Mechanical endurance of contactor Trip class Type of coordination acc. to IEC 60947-4-1 Permissible switching frequency Rated ultimate short-circuit breaking capacity I _q • At 400 V AC • At 500 V AC • At 500 V AC Short-circuit protection • At I _{emax} = 2 A • At I _{emax} = 9 /12 A Brake actuation (option)	V AC V AC A A A A A A A A Oper- ating cycles	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 10 1 (2 for device version 2A) See manual 50 50 ²) integrated, 2 x13 I _e integrated, 2 x13 I _e i	480 (50/60 Hz) 0.15 2/1.5 9 9 1 20 ²) = 26 A = 208 A	600 (50/60 Hz) 0.15 2/1.5 12 12 9 4 30 million CLASS 5, 10, 15, 20 1 (2 for device version 2A) See manual	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9 12 for soft starting 9 for direct-on-line starting

¹⁾ DS Direct-on-line starters
RS ... Reversing starters
DSS .. Direct-on-line soft starters
RSS .. Reversing soft starters
te Full motor protection (thermal + electronic)
s Electronic switching with semiconductor.

²⁾ Only systems with grounded neutral point permitted.

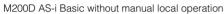
Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

M200D Motor Starters for AS-Interface

IE3/IE4 ready M200D Basic motor starters

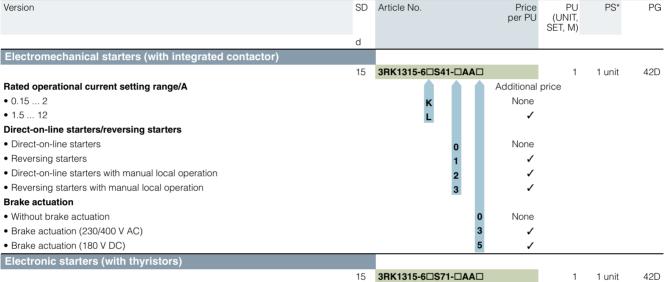
Selection and ordering data







M200D AS-i Basic with manual local operation



Rated operational current setting range/A

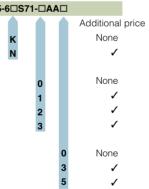
- 0.15 ... 2
- 1.5 ... 9

Direct-on-line starters/reversing starters

- Direct-on-line starters
- Reversing starters
- Direct-on-line starters with manual local operation
- Reversing starters with manual local operation

Brake actuation

- Without brake actuation
- Brake actuation (230/400 V AC)
- Brake actuation (180 V DC)



SIRIUS M200D Motor Starters M200D Motor Starters for AS-Interface

M200D Standard motor starters IE3/IE4 ready

Selection and ordering data





M200D AS-i Standard without manual local operation

M200D AS-i Standard with manual local operation



SIRIUS M200D Motor Starters

M200D Motor Starters for PROFIBUS/PROFINET

General data

Overview

The intelligent, highly flexible M200D PROFIBUS/PROFINET motor starters are the most functional motor starters of the SIRIUS motor starter family in the high degree of protection IP65 for PROFIBUS/PROFINET communication.

They start and protect motors and loads up to 5.5 kW. Direct-online and reversing starter versions are available, in a mechanical version and also an electronic version (the latter with soft start function)

The particularly robust M200D PROFIBUS/PROFINET motor starters are characterized by numerous functions which can be flexibly parameterized. Their modular design comprises a motor starter module and a communication module.

The M200D PROFINET motor starters enable TIA-integrated parameterization through PROFINET from STEP 7 - in familiar, user-friendly manner with the look and feel of PROFIBUS.

Functionality

- For basic functionality, see page 9/41 "M200D Motor Starters" → "General data" → "Overview"
- · Electronic version also with soft start function
- Robust and widely used M12 connection method for the digital inputs and outputs and the PROFIBUS/PROFINET bus connection
- All four digital inputs and two digital outputs exist in the cyclic process image. This provides complete transparency of the process on the control level
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible through the bus, providing maximum flexibility and excellent adaptability to the appli-
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- · Extensive diagnostics concept using LEDs and through the bus with the TIA-compatible mechanisms
- Expanded diagnostics using data records
- · Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through PROFIBUS/PROFINET bus with the help of data records from the user program
- Control of the motor starter using a command data record from the user program
- Removable modular control unit quicker device replacement and therefore lower costs when device outages occur - since existing wiring is on the control unit and only one device needs to be replaced
- Parameterization in STEP 7 HW Config using Motor Starter ES (ordering option for start up software)
- Start up and diagnostics with the help of Motor Starter ES (ordering option for start up software)
- Trace function through Motor Starter ES for optimized start up and tracking of process and device values

Only with PROFINET:

- Just one bus system from the MES level to the devices no routers
- More stations on the bus and possible configuration of flexible bus structures
- Automatic re-parameterization in case of device replacement thanks to proximity detection
- Wireless integration of plant segments in difficult environments using WLAN
- Easier expansion of the system thanks to a higher number of stations on the bus and elimination of terminating resistors



M200D motor starter module for PROFIBUS/PROFINET (without communication module)



M200D communication module for PROFIBUS



M200D communication module for PROFINET

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters M200D Motor Starters for PROFIBUS/PROFINET

General data

Mounting and installation

The M200D PROFIBUS/PROFINET motor starter is comprised of the communication module and the motor starter module. Only the motor starter module has to be replaced therefore when replacing devices. This saves time and money. The communication module remains as an active station on the bus and all other system components continue running. This prevents downtimes.

The integrated plug-in technology enables far lower wiring outlay: Connecting cables can be plugged directly onto the motor starter module. The PROFINET bus is connected cost-effectively using an M12 connection on the device. All versions have identical enclosure dimensions for easier system design and conversion.

Parameterization and configuration

All motor protection functions, limit values and reactions can be defined by parameterization.

The user has several user-friendly options for the parameterization. In addition to parameterization directly from STEP 7, which also permits automatic re-parameterization in case of device replacement, it is possible to use the user-friendly Motor Starter ES start up software. By connecting a programming device directly to PROFIBUS/PROFINET and the Motor Starter ES start up software, the devices can also be conveniently programmed from a central point through the bus. Also, parameters can be changed during operation from the user program using the data record mechanism so that the function of the motor starter is adapted to the process when required. With the help of a PC and the Motor Starter ES software it is also possible to perform the parameterization through the local point-to-point interface on-site.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are parameterizable and therefore adaptable to the application. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Only with M200D PROFINET motor starters

Thanks to the integrated proximity detection, the device name does not need to be issued manually when a device is replaced. The name is issued automatically by the neighboring devices which note the "names" of the devices in their proximity. No additional start up measures are required therefore when replacing a device.

The new motor starter generation is characterized by high functionality, maximum flexibility and the highest level of automation. PROFINET is especially recommended for large-scale and highly automated system components, since the possibility of monitoring the devices or plants with data records (statistical data, measured values and device diagnostics) ensures a broader insight into the plant by the control room, and hence increases the availability of the plant sustainably.

Operation

The motor starters record the actual current flow. Evaluating the current of the parameterizable solid-state overload protection increases the availability of the drives, as do reliable signals concerning the overshooting or undershooting of setpoint values.

Diagnostics and maintenance

Diagnostics is provided through numerous mechanisms – and can be used as the customer prefers.

The motor starter is TIA-diagnostics compatible, which means that when a fault is identified, a diagnostics alarm is distributed, which invokes the diagnostics OB in the case of a SIMATIC control. The fault can be evaluated as usual in the user program.

The M200D motor starter offers a large variety of diagnostics data through data records. Its functionality is without equal on the market. There are extensive options for reading out data from the motor starter for monitoring devices, systems or processes.

The motor starter is equipped internally with three logbooks for device faults, motor starter trips and events that are issued with a time stamp. These logbooks can be read out of the motor starter at any time in the form of data records and provide the plant operator with plenty of information about the state of his plant and process which he can use to carry out improvements.

With the slave pointer and statistical data functions it is possible to read out, for example, the maximum internal current values or the number of motor starter connection operations for plant monitoring purposes. This allows deviations in the process to be monitored, but also optimum initial commissioning to take place. The user can draw conclusions about the actual load conditions of the devices in his process and on this basis can optimize his plant maintenance intervals.

The device diagnostics data record contains details of all the states of the motor starter, the device configuration and the communication status as a basis for central device and plant monitoring.

With installation and maintenance functions (I&M), information on modules employed and data specified by the user during configuration, such as location designations, are stored in the motor starter. I&M functions are used for troubleshooting faults and localizing changes in hardware in a plant or checking the system configuration. Reordering a device is particularly easy as the result.

The integrated maintenance timer can be used to implement preventative maintenance and avoid plant downtimes through look-ahead servicing.

Another new addition is the TRACE integrated into the ES motor starter software. It can be used to record measured values as a function of time following a trigger event. This enables process flows to be recorded and their timing optimized.

Local control of a drive is possible using the ordering option with integrated manual operation. This is yet another new development which distinguishes the M200D PROFIBUS/PROFINET motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

M200D PROFINET motor starters with PROFlenergy

Increasing energy prices, far-reaching ecological problems worldwide and the threat of climate change make it necessary for you to be more conscious about your use of energy.

Active and effective energy management is possible with PROFlenergy.

PROFlenergy is a manufacturer-independent profile on PROFINET, which can be used by all manufacturers, has been standardized by PNO¹⁾ and supports switching off electrical devices during dead times and measuring the energy flow.

1) In the PNO (PROFIBUS Nutzerorganisation e. V. – PROFIBUS User Organization), manufacturers and users have come together to agree on the PROFIBUS and PROFINET standardized communication technologies.

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

M200D Motor Starters for PROFIBUS/PROFINET

General data

Switching off during dead times

PROFlenergy supports the targeted switching-off of loads during dead time.

These can be planned short breaks of a few minutes (such as lunch breaks), longer dead times (such as nights) or unplanned dead times. Énergy is always saved when no power is required.

Measuring and visualizing the energy flow as a basis of energy management

The objective of energy management is to optimize the use of energy in a company – from the purchasing of energy through to the consumption of energy - economically and ecologically.

Analyses of energy consumption over time can be used to control energy flows, avoid energy peaks, improve ratings and thus save costs.

PROFlenergy enables consumption data to be read off from the devices in a unified form. This is recorded during operation and can be displayed on a control panel, for example, or sent to overlying energy management software packages. This ensures that the measured variables are in a uniform manufacturerindependent form and structure that is available to the user for further processing. These PROFlenergy functions thus provide the basis for active load and energy management during operation.

PROFlenergy in the M200D PROFINET motor starter

The M200D PROFINET motor starter supports the "switching during dead times" and "current measurement values" functions of the motor current using PROFlenergy. These are called commands, because they trigger a reaction in the M200D motor starter.





SIRIUS M200D	SIRIUS M200D
PROFIBUS	PROFINET

	PHOLIDO2	PROFINEI
Device functions (firmware features)		
Slave on the bus		
Fieldbus	✓ PROFIBUS to M12	✓ PROFINET to M12
Adjustable number of stations	✓ 1125	 1 128 with CPU 315, CPU 317 1 1 256 with CPU 319
Parameter assignment		
DIP switches	✓ For address setting and terminating resistor	
Motor Starter ES	✓ Through bus, optical interface	
PROFIBUS/PROFINET data records	✓	
From STEP 7/HW Config	✓	
Diagnostics		
Acyclic through data records	✓	
Diagnostic interrupt support	✓	
Process image		
Process image	✓ 2 bytes PAE/ 2 bytes PAA	
Data channels		
Local optical interface (manual local)	✓	
Motor Starter ES through local interface	✓	
Using Motor Starter ES through bus	✓	
Data records (acyclic)		
Parameter assignment	✓ Using DS 131 (DS = data record)	
Diagnostics	✓ Device-specific DS 92	
Measured values	✓ Measured values DS 94	
Statistics	✓ Statistical data DS 95	
Commands	✓ Using DS 93	
Slave pointer	✓ Slave pointer DS 96	
Logbook	✓ Using Motor Starter ES and data records: devi	ice faults DS 72, tripping operation DS 73, events DS 75
Device identification	✓ Using DS 100	
I&M data	✓ Using DS 231 234	✓ Using data records 0xAFF0 0xAFF3
Inputs		
Number	√ 4	
Of these in the process image	√ 4	
Input action	✓ Parameterizable: Flexibly assignable action, see the parameterizable of the parameter	ee manual
Quick stop	✓ Parameterizable: latching, non-latching	

- ✓ Function available
- -- Function not available

SIRIUS M200D Motor Starters M200D Motor Starters for PROFIBUS/PROFINET

General data





SIRIUS M200D PROFIBUS SIRIUS M200D PROFINET

	THO INC.
Device functions (firmware features) (co	atinued)
Outputs	
Number	√ 2
Of these in the process image	√ 2
Output action	✓ Parameterizable: Flexibly assignable action, see manual
Brake output	
180 V DC /230/400 V AC / none	✓
Motor protection	
Overload protection	✓ Electronic, wide range 1:10
Short-circuit protection	✓
Full motor protection	✓
Temperature sensor	✓ Parameterizable using Motor Starter ES, data record: PTC or Thermoclick or deactivated
Device function	
Repair switch	✓
Current limit monitoring bottom	✓ Parameterizable
Current limit monitoring top	✓ Parameterizable
Zero current detection	✓ Parameterizable: tripping, warning
Blocking current	✓ Parameterizable
Unbalance	✓ Parameterizable
Load type	✓ Parameterizable: single-phase and three-phase
Shutdown class	✓ Parameterizable using Motor Starter ES, data record: CLASS 5, 10, 15, 20
Protection against voltage failure	✓ Parameterizable: activated/deactivated
Support for PROFlenergy profile	
Switching during dead times	3
Measured motor current values	3
Soft starter control function	
Soft start function	✓
Bypass function	✓ Only solid-state version

- ✓ Function available
- Function not available

Benefits

M200D PROFINET motor starters with PROFlenergy

Both standards and laws are making environmental protection and energy management increasingly important, as is the desire to cut energy costs in production facilities and thus ensure a sustainable competitive advantage. It is thus an objective within the industry to save energy and actively reduce CO_2 emissions. By the careful use of valuable resources, the manufacturer-independent PROFlenergy profile on PROFINET can make an active contribution to environmental protection.

Application

M200D PROFIBUS/PROFINET motor starters are particularly suitable for fully TIA-integrated, highly automated conveyor applications that meet all needs with regard to the monitoring of devices and systems and preventive maintenance.

Adaptability of the motor starter functions and maximum flexibility of the device enable a broad range of application without any limits. The PROFINET-specific expansions are the best assurance of a future-proof investment.

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters M200D Motor Starters for PROFIBUS/PROFINET

General data

Technical specifications

More information					
Manual for M200D PROFIBUS/PROFINET, see https://support.industry.siemens.com/cs/ww/en/view/38823402 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16325/faq	Note on security: In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions only represent one component of such a concept. For more information on the subject of Industrial Security, see www.siemens.com/industrialsecurity.				

Туре		M200D PROFIBUS/PROFINET motor starter modules		
		Electromechanical switching	Electronic switching	
Technology designation ¹⁾		DSte/RSte	sDSSte/sRSSte	
Mechanics and environment				
Mounting dimensions (W x H x D) • Without communication module • With communication module	mm mm	294 x 215 x 159 295 x 215 x 163		
Permissible ambient temperature	°C °C	-25 +55 -40 +70		
Weight	g	2 820/3 080	3 160/3 360	
Permissible mounting position		Vertical, horizontal, lying		
Vibration resistance acc. to IEC 60068 Part 2-6	g	2		
Shock resistance • Acc. to IEC 60068 Part 2-27 • Without influencing the contact position	g/ms g/ms	12/11 half-sine 9.8/5 or 5.9/10		
Degree of protection acc. to IEC 529		IP65		
Installation altitude • Up to 1 000 m • Up to 2 000 m		No derating 1% per 100 m		
Cooling		Convection		
Protection class IEC 536 (VDE 0106-1)		1		
Electrical specifications				
Main circuit				
Maximum power of three-phase motors at 400 V AC	kW	5.5		
Rated operational voltage U _e • Approval acc. to EN 60947-1 • Approval acc. to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting	V AC V AC A A	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9	
Rated operational current for starters I _e at 400 V AC • 400 V at AC-1/2/3 • 500 V at AC-1/2/3 • 400 V at AC-4 • 400 V at AC-53a	A A A	12 9 4 	 12 for soft starting, 9 for direct-on-line start- ing	
Mechanical endurance of contactor	Oper- ating cycles	30 million	-	
Trip class	-	CLASS 5, 10, 15, 20		
Permissible switching frequency		See manual		
Rated ultimate short-circuit breaking capacity $I_{\bf q}$ • At 400 V AC • At 500 V AC	kA kA	50 50	20 ²⁾	
Short-circuit protection • At I _{emax} = 2 A • At I _{emax} = 9 /12 A		integrated, 2 x13 I_e = 26 A integrated, 2 x13 I_e = 208 A		

• At $I_{\text{emax}} = 9 / 12 \text{ A}$

integrated, 2 x13 I_e = 208 A

1) DS Direct-on-line starters
RS ... Reversing starters
DSS .. Direct-on-line soft starters
RSS .. Reversing soft starters
te Full motor protection (thermal + electronic)
s Electronic switching with semiconductor.

²⁾ Only systems with grounded neutral point permitted.

SIRIUS M200D Motor Starters M200D Motor Starters for PROFIBUS/PROFINET

General data

		Line voltage					
		380 V AC	400 V AC	440 V AC	480 V AC	500 V AC	
Brake voltage with brake actuation 180 V DC ¹⁾							
Operational voltage	V	230/400 AC or 180 DC					
Uninterrupted current	Α	< 0.5 at 230/400	< 0.5 at 230/400 V AC, < 0.8 at 180 V DC				
Short-circuit protection		Yes, 1 A melting	fuse				
Rectified brake voltage	V DC	171	180	198	216	225	
Recommended brake coil voltage for Siemens motors	V DC	170 200	170 200	184 218	184 218		

¹⁾ Integrated brake actuation supplies DC power supply for the brake.

Туре		M200D communication modules	
		For PROFIBUS	For PROFINET
Mechanics and environment			
Mounting dimensions (W x H x D)	mm	174 x 139 x 40	
Permissible ambient temperature • During operation • During storage	°C °C	-25 +55 -40 +70	
Weight	g	300	
Permissible mounting position		Vertical, horizontal, lying	
Vibration resistance acc. to IEC 60068 Part 2-6	g	2	
Shock resistance • Acc. to IEC 60068 Part 2-27 • Without influencing the contact position Degree of protection acc. to IEC 529	g/ms g/ms	12/11 half-sine 9.8/5 or 5.9/10	
Installation altitude • Up to 1 000 m • Up to 2 000 m		No derating 1% per 100 m	
Cooling		Convection	
Protection class IEC 536 (VDE 0106-1)		1	
Electrical specifications			
Control circuit			
Operational voltage • U _{DC24V-NS} • U _{DC24V-S}	V DC V DC	20.4 28.8 20.4 28.8	
Power consumption from • U _{DC24V-NS} • U _{DC24V-S}	mA mA	< 300 < 100	

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters M200D Motor Starters for PROFIBUS/PROFINET

Communication modules, motor starter modules

Selection and ordering data



M200D motor starter module PROFIBUS/PROFINET (without communication module



M200D motor starter PROFIBUS



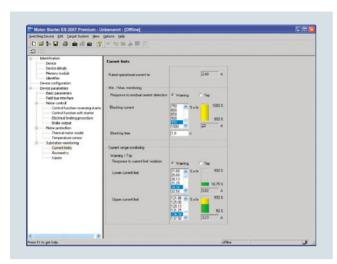
M200D motor starter PROFINET

(without communication module)						
Version	SD	Article No.	Price per PU		PS*	PG
	d					
M200D communication modules for PROFIBUS						
Communication module for PROFIBUS M12 connection for communication, 7/8" for 24 V power supply	15	3RK1305-0AS01-0AA0		1	1 unit	42D
M200D communication modules for PROFINET						
Communication module for PROFINET M12 connection for communication, 7/8" for 24 V power supply	15	3RK1335-0AS01-0AA0		1	1 unit	42D
M200D motor starter modules for PROFIBUS/PROFINET						
Electromechanical starters (with integrated contactor)						
	15	3RK1395-6□S41-□AD		1	1 unit	42D
Rated operational current setting range/A			Additional	price		
• 0.15 2		K	None			
• 1.5 12		L	/			
Direct-on-line starters/reversing starters						
Direct-on-line starters		0	None			
Reversing starters		1	/			
Direct-on-line starters with manual local operation		2	/			
Reversing starters with manual local operation		3	/			
Brake actuation						
Without brake actuation			0 None			
Brake actuation (230/400 V AC)			3 🗸			
Brake actuation (180 V DC)			5			
Electronic starters (with thyristors)						
	15	3RK1395-6□S71-□AD		1	1 unit	42D
Rated operational current setting range/A			Additional	price		
• 0.15 2		K	None			
• 1.5 12		L	/			
Direct-on-line starters/reversing starters						
Direct-on-line starters		0	None			
Reversing starters		1	/			
Direct-on-line starters with manual local operation		2	/			
Reversing starters with manual local operation		3	/			
Brake actuation						
Without brake actuation			0 None			
Brake actuation (230/400 V AC)			3 🗸			
Brake actuation (180 V DC)			5 🗸			

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters Software

Motor Starter ES

Overview



Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters $\,$

More information

Homepage, see www.siemens.com/sirius-engineering Industry Mall, see www.siemens.com/product?3ZS1

Technical specifications and system requirements, see https://support.industry.siemens.com/cs/ww/en/ps/16713/td

Motor Starter ES is used for the start up, parameterization, diagnostics, documentation and preventive maintenance of SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor starters.

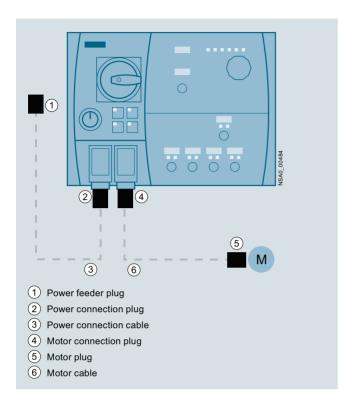
The software program is available in three versions which differ in their user-friendliness, scope of functions and price.

For detailed information on the Motor Starter ES software, see page 14/10.

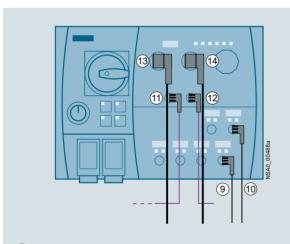
Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters Accessories

For all M200D motor starters

Overview

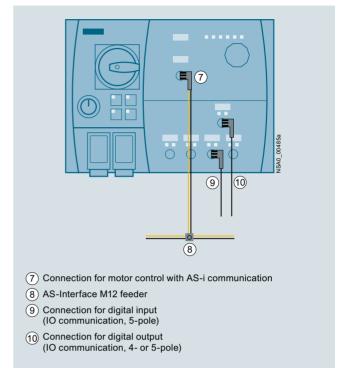


Power and motor connection on the M200D motor starter (in this example: M200D for AS-i)

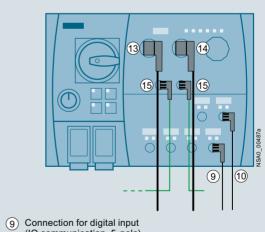


- (9) Connection for digital input (IO communication, 5-pole)
- (10) Connection for digital output (IO communication, 4- or 5-pole)
- (11) PROFIBUS connection (input)
- (12) PROFIBUS connection (loop)
- (13) Connection for 24 V supply (infeed)
- (14) Connection for 24 V supply (loop)

Communication connection using PROFIBUS and digital inputs and outputs



Communication connection using AS-Interface and digital inputs and



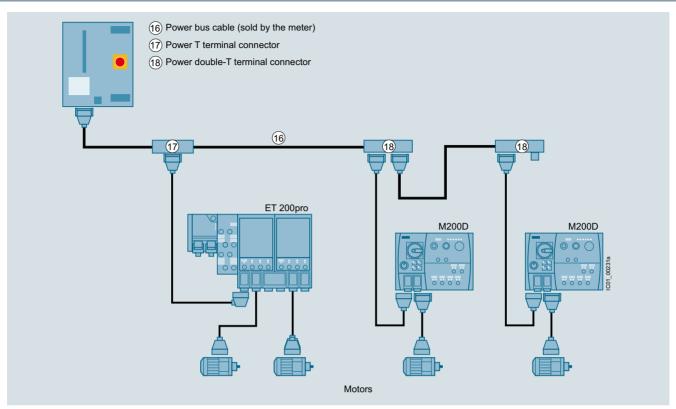
- (IO communication, 5-pole)
- Connection for digital output (IO communication, 4- or 5-pole)
- (13) Connection for 24 V supply (infeed)
- (14) Connection for 24 V supply (loop)
- Connection with PROFINET (input on the left, loop on the right)

Communication connection using PROFINET and digital inputs and outputs

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

Accessories

For all M200D motor starters



Power supply to the motors via the power bus with power T and double-T terminal connectors linked by power bus cables, spur lines to the field devices (motor starters), and power loop-through connections to the motors via motor connection cables

Power bus

The power supply to the field devices (ET 200pro motor starters, M200D motor starters) is provided via the power bus, in which the power T terminal connectors or power double-T terminal connectors are connected by power bus cables.

Feeders

From the terminal connectors, spur lines with Han Q4/2 plugs lead to the field devices, from which the motors are supplied with power via motor connection cables.

Interruption-free thanks to power terminal connectors

In finger-safe connection technology the power T terminal connectors and power double-T terminal connectors connect the components of a feeder to the power bus. They ensure interruption-free operation, i.e. the power bus is not interrupted when the components are unplugged.

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters Accessories

For all M200D motor starters

Selection and ordering data

The accessories listed below represent a basic selection sorted by:

- Accessories for all M200D motor starters
- Accessories for M200D motor starters for AS-interface
- Accessories for M200D motor starters for PROFIBUS
- Accessories for M200D motor starters for PROFINET

	Varaian	CD.	Article No.	DII	DC*	DC
	Version	SD	Article No. Price per PU		PS*	PG
				SET, M)		
Manustable accession	_	d				
Mountable accessories		_	2DV1011 2DA00		4 unit	400
Incoming power suppl	M200D protective brackets	5	3RK1911-3BA00	1	1 unit	42D
incoming power suppr	Power feeder plugs					
	Connector set for incoming power supply, e.g. for con-					
	necting to T terminal connectors, comprising a coupling enclosure, straight outgoing feeder (with bracket).					
	pin insert for HAN Q4/2, incl. bushing					
	 5 male contacts, 2.5 mm² 5 male contacts, 4 mm² 	5 5	3RK1911-2BS60 3RK1911-2BS20	1 1	1 unit 1 unit	42D 42D
	• 5 male contacts, 6 mm ²	5	3RK1911-2BS40	i	1 unit	42D
	② Power connection plugs					
	Connector set for incoming power supply for connection to M200D motor starters, comprising a cable-end					
	connector hood, angular outgoing feeder, female insert					
	for HAN Q4/2, incl. bushing • 5 female contacts, 2.5 mm ² ,	5	3RK1911-2BE50	1	1 unit	42D
	2 female contacts, 0.5 mm ² • 5 female contacts, 4 mm ² ,	5	2DV1011 2DE10		1 unit	420
	2 female contacts, 0.5 mm ²	5	3RK1911-2BE10	1	1 unit	42D
	• 5 female contacts, 6 mm ² , 2 female contacts, 0.5 mm ²	5	3RK1911-2BE30	1	1 unit	42D
	② + ③ Power connection cable					
	Assembled at one end with "N" and jumper pin 11 and 12 for plug monitoring, with HAN Q4/2, angular;					
	open at one end; 5 x 4 mm ²					
	• Length 1.5 m	10	3RK1911-0DC13	1	1 unit	42D
	Length 5.0 m	10	3RK1911-0DC33	1	1 unit	42D
Motor cables						
	Motor connection plugs Connector set for motor cable for connection to M200D					
	motor starters, comprising a cable-end connector hood,					
	angular outgoing feeder, pin insert for HAN Q8/0, incl. bushing					
	8 male contacts, 1.5 mm ²	5	3RK1902-0CE00	1	1 unit	42D
	• 6 male contacts, 2.5 mm ²	5	3RK1902-0CC00	1	1 unit	42D
	 Motor plugs Connector set for motor cable for connection to motors, 					
	comprising a cable-end connector hood, straight outgoing feeder, female insert for HAN 10e,					
	incl. star jumper, including bushing					
	 7 female contacts, 1.5 mm² 7 female contacts, 2.5 mm² 	30 30	3RK1911-2BM21 3RK1911-2BM22	1 1	1 set 1 set	42D 42D
		30	311-2DW22	'	1 561	420
	4 • 6 Motor cables, assembled at one end For connection to M200D motor starters, HAN Q8/0,					
	angular, length 5 m					,
	Motor cables for motor without brake, 4 x 1.5 mm ² Materials and the first product without brake with the aminton and the second and t	15	3RK1911-0EB31	1	1 unit	42D
	 Motor cables for motor without brake with thermistor, 6 x 1.5 mm² 	30	3RK1911-0EF31	1	1 unit	42D
	 Motor cables for motor with brake actuation, braking voltage 400 V AC or 180 V DC, 6 x 1.5 mm² 	30	3RK1911-0ED31	1	1 unit	42D
	 Motor cables for motor with brake actuation, braking voltage 400 V AC or 180 V DC and thermistor, 8 x 1.5 mm² 	30	3RK1911-0EG31	1	1 unit	42D
	 Motor cables for motor with brake actuation, braking voltage 230 V AC, 6 x 1.5 mm² 	30	3RK1911-0EH31	1	1 unit	42D
	 Motor cables for motor with brake actuation, braking voltage 230 V AC and thermistor, 8 x 1.5 mm² 	30	3RK1911-0EE31	1	1 unit	42D

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

Accessories

For all	M200D	motor	starters

	Version	SD	Article No. Proper	rice PU	PU (UNIT, SET, M)	PS*	PG
		d					
Power bus							
	Power T terminal connectors For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection used with preassembled bus segments	,					
	 2.5 mm² / 4 mm² 4 mm² / 6 mm² 	5 5	3RK1911-2BF01 3RK1911-2BF02		1 1	1 unit 1 unit	42D 42D
	® Power double-T terminal connector For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection used with preassembled bus segments, connection of two motor starters possible	,					
	• 4 mm² / 6 mm²	5	3RK1911-2BG02		1	1 unit	42D
	Sealing set (comprising 2 seals) For power T/power double-T terminal connectors						
	• For power cables with - Ø 10 13 mm - Ø 13 16 mm - Ø 16 19 mm - Ø 19 22 mm	5 5 X	3RK1911-5BA00 3RK1911-5BA10 3RK1911-5BA20 3RK1911-5BA30		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D
	Blanking plugs	5	3RK1911-5BA50		1	1 unit	42D
Further accessories for	Crimping tools for pins/sockets 4 mm ² and 6 mm ²	15	3RK1902-0CW00		1	1 unit	42D
3RK1902-0CW00	B' and B' and a last						
	Dismantling tools For male and female contacts for 9-pole HAN Q4/2 inserts Output Dismantling tools 15	3RK1902-0AB00		1	1 unit	42D	
	 For male and female contacts for 9-pole HAN Q8 inserts 	5 5	3RK1902-0AJ00		1	1 unit	42D
3RK1902-0CK00	Sealing caps For 9-pole power socket connectors 1 unit per pack 10 units per pack	5 5	3RK1902-0CK00 3RK1902-0CJ00		1	1 unit 10 units	42D 42D

3RK1902-0CK00

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters Accessories

For all M200D motor starters

					MILOUD		
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor control with I/O	communication	u					
	M12 plugs, straight Screw fixing, 5-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A	5	3RK1902-4BA00-5AA0		1	1 unit	42D
3RK1902-4BA00-5AA0							
	(ii) M12 plugs, angular Screw fixing, 5-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A	5	3RK1902-4DA00-5AA0		1	1 unit	42D
3RK1902-4DA00-5AA0							
3RK1902-4H5AA0	(9), (10) Control cables, assembled at one end M12 plugs, angular, screw fixing, 5-pole, 5 x 0.34 mm², A-coded, black PUR sheath, max. 4 A • Cable length 5 m • Cable length 10 m	5 5 5	3RK1902-4HB15-5AA0 3RK1902-4HB50-5AA0 3RK1902-4HC01-5AA0		1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
3NN 1902-4H3AA0	Control cable, assembled at both ends	-	311K130Z-411C01-3AA0		'	1 UIIII	420
3RK1902-4PB15-3AA0	Straight M12 plug, straight M12 socket, screw fixing, 3-pole, 3 x 0.34 mm², A-coded, black PUR sheath, max. 4 A • Cable length 1.5 m	5	3RK1902-4PB15-3AA0		1	1 unit	42D
Further accessories							
	Handheld devices For M200D motor starters (or for ET 200pro and ET 200S High Feature motor starters) for local operation. The motor starter-specific serial interface cables must be ordered separately. The RS 232 interface cable 3RK1922-2BP00 is used for the MS M200D.		3RK1922-3BA00		1	1 unit	42D
3RK1922-3BA00	RS 232 interface cable Serial data connection between M200D (or ET 200pro) motor starters and the RS 232 interface of a PC/PG/ laptop (with the Motor Starter ES software) or the handheld device 3RK1922-3BA00	5	3RK1922-2BP00		1	1 unit	42D
	USB interface cable, 2.5 m Serial data connection between M200D (or ET 200pro motor starters) and the USB interface of a PC/PG/laptop (with the Motor Starter ES software).	3	6SL3555-0PA00-2AA0		1	1 unit	346
3RK1901-1KA00	M12 sealing caps For sealing unused M12 input or output sockets and M12 female contacts for PROFIBUS and PROFINET communication modules (one set contains ten sealing caps)	•	3RK1901-1KA00		100	10 units	42C
3SU1950-0FB80-0AA0	RONIS SB30 keys Replacement key for M200D for "manual local control" ordering option	>	3SU1950-0FB80-0AA0		1	1 unit	41J

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

① Control cables, assembled at one end M12 plug, angular, screw fixing, 4-pole, 4 x 0.34 mm², A-coded, black PUR sheath, max. 4 A

Accessories

For M200D motor starters for AS-Interface

i communication

Selection and ordering data

Motor control	with	A5-
3RK1902-4GB50-	-4AAC)



3RK1902-4CA00-4AA0



3RK1901-2NR21



3RK1901-1MN00



3RX90..-0AA00

• Cable leng	th 5 m			5	3RK1902-4GB50-4AA0	1	1 unit	42D
⑦ M12 sock For screw fix max. 0.75 mr A-coded, ma	ing, 4-pole scre m ² ,	ew terminals,		5	3RK1902-4CA00-4AA0	1	1 unit	42D
AS-Interfa	ace M12 feede	er <i>NEW</i>						
For flat cable	For	Cable length	Cable end in feeder					
AS-i / U _{aux}	M12 socket		not available	2	3RK1901-2NR20	1	1 unit	42C
	M12 cable box	1 m	not available	2	3RK1901-2NR21	1	1 unit	42C
		2 m	not available	2	3RK1901-2NR22	1	1 unit	42C
AS-Interface		see also page	2/85					
Material	Color	Quantity						
Rubber	Yellow (AS-							
	Interface)	100 m roll		2	3RX9010-0AA00	1	1 unit	42C
		•		2	3RX9010-0AA00 3RX9012-0AA00	1	1 unit 1 unit	42C 42C
	Black	100 m roll						
TPE		100 m roll 1 km drum		5	3RX9012-0AA00	1	1 unit	42C
	Black (24 V DC) Yellow (AS-	100 m roll 1 km drum 100 m roll		5	3RX9012-0AA00 3RX9020-0AA00	1	1 unit 1 unit	42C 42C
	Black (24 V DC)	100 m roll 1 km drum 100 m roll 1 km drum		5 2 5	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00	1 1 1	1 unit 1 unit 1 unit	42C 42C 42C
	Black (24 V DC) Yellow (AS- Interface)	100 m roll 1 km drum 100 m roll 1 km drum 100 m roll		5 2 5 2	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00 3RX9013-0AA00	1 1 1	1 unit 1 unit 1 unit 1 unit	42C 42C 42C 42C
	Black (24 V DC) Yellow (AS- Interface)	100 m roll 1 km drum 100 m roll 1 km drum 100 m roll 1 km drum		5 2 5 2 5	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00 3RX9013-0AA00 3RX9014-0AA00	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	42C 42C 42C 42C 42C
TPE special version	Black (24 V DC) Yellow (AS- Interface) Black (24 V DC) Yellow (AS- Interface)	100 m roll 1 km drum 100 m roll 1 km drum 100 m roll 1 km drum 100 m roll		5 2 5 2 5 2	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00 3RX9013-0AA00 3RX9014-0AA00 3RX9023-0AA00	1 1 1 1 1	1 unit	42C 42C 42C 42C 42C 42C 42C
	Black (24 V DC) Yellow (AS- Interface) Black (24 V DC) Yellow (AS- Interface)	100 m roll 1 km drum 100 m roll 1 km drum 100 m roll 1 km drum 100 m roll 1 km drum 100 m roll 1 km drum		5 2 5 2 5 2 5	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00 3RX9013-0AA00 3RX9014-0AA00 3RX9023-0AA00 3RX9024-0AA00	1 1 1 1 1 1	1 unit	42C 42C 42C 42C 42C 42C 42C 42C
version according to	Black (24 V DC) Yellow (AS-Interface) 100 m roll 1 km drum 100 m roll 1 km drum 100 m roll 1 km drum 100 m roll 1 km drum 100 m roll		5 2 5 2 5 2 5 5 5	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00 3RX9013-0AA00 3RX9014-0AA00 3RX9023-0AA00 3RX9024-0AA00 3RX9017-0AA00	1 1 1 1 1 1 1	1 unit	42C 42C 42C 42C 42C 42C 42C 42C 42C	
version according to UL Class 2	Black (24 V DC) Yellow (AS- Interface) Black (24 V DC) Yellow (AS- Interface) Black (24 V DC)	100 m roll 1 km drum		5 2 5 2 5 2 5 5 5	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00 3RX9013-0AA00 3RX9014-0AA00 3RX9023-0AA00 3RX9024-0AA00 3RX9017-0AA00 3RX9027-0AA00	1 1 1 1 1 1 1 1	1 unit	42C 42C 42C 42C 42C 42C 42C 42C 42C 42C
version according to UL Class 2	Black (24 V DC) Yellow (AS-Interface) 100 m roll 1 km drum 100 m roll 100 m roll 100 m roll		5 2 5 2 5 2 5 5 5 5	3RX9012-0AA00 3RX9020-0AA00 3RX9022-0AA00 3RX9013-0AA00 3RX9014-0AA00 3RX9023-0AA00 3RX9024-0AA00 3RX9017-0AA00 3RX9027-0AA00 3RX9015-0AA00	1 1 1 1 1 1 1 1 1	1 unit	42C 42C 42C 42C 42C 42C 42C 42C 42C 42C	

Article No.

Price

(UNIT, SET, M)

per PU

PS*

PG

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters Accessories

For M200D motor starters for AS-Interface

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Further accessories							
3RK1904-2AB02	AS-Interface addressing unit V3.0 For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i Specification V3.0 For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B slaves) With input/output test function and many other commissioning functions Battery operation with four type AA batteries (IEC LR6, NEDA 15) Scope of supply: Addressing unit with four batteries Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m	2	3RK1904-2AB02		1	1 unit	42C
	M12 addressing cables to M12	5	3RK1902-4PB15-3AA0		1	1 unit	42D
	 Standard M12 cable for addressing slaves with M12 connection, e.g. K60R modules 						
3RK1902-4PB15-3AA0	When using the current version of the 3RK1904-2AB01 addressing unit						
	• 1.5 m						-
"SIRIUS M200D Motor	Starter" manuals						
	Manual - SIRIUS M200D AS-Interface Basic Motor Starter, see https://support.industry.siemens.com/cs/ww/en/view/350	16496					
	Manual - SIRIUS M200D AS-Interface Standard Motor Starter, su https://support.industry.siemens.com/cs/ww/en/view/387						

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters

Accessories

For M200D motor starters for PROFIBUS

Selection and orderin	g data					
	Version	SD	Article No. Price per F		PS*	PG
		d				
Motor control with PR	OFIBUS					
	M12 plugs, angular For screw fixing, 5-pole screw terminal, max. 0.75 mm ² , B-coded, no terminating resistor • ① 5 female contacts	5	3RK1902-1DA00	1	1 unit	42D
3RK1902-1DA00						
3HK 1902-1DA00	• @ 5 male contacts	5	3RK1902-1BA00	1	1 unit	42D
3RK1902-1BA00						
	Control cables, assembled at one end M12, screw fixing, angular, B-coded, no terminating resistor					
3RK1902-1G.	• (1) 5 female contacts, 3 m	15	3RK1902-1GB30	1	1 unit	42D
	• (1) 5 female contacts, 5 m	15	3RK1902-1GB50	1	1 unit	42D
	• (1) 5 female contacts, 10 m	15	3RK1902-1GC10	1	1 unit	42D
3RK1902-1N.	© Control cables, assembled at both ends M12, screw fixing, angular, pin/socket 5-pole, B-coded, no terminating resistor 3.0 m 5.0 m 10.0 m	15 15 15	3RK1902-1NB30 3RK1902-1NB50 3RK1902-1NC10	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
Further accessories						
	PROFIBUS trailing cables Max. acceleration 4 m/s ² , at least 3 000 000 bending cycles, bending radius at least 60 mm, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-3EH10	1	1 M	5K2
	PROFIBUS FC Food bus cables With PE outer sheath for operation in the food and beverage industry, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-0GH10	1	1 M	5K2
	PROFIBUS FC Robust bus cables With PUR outer sheath for operation in environments exposed to chemicals and mechanical loads, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-0JH10	1	1 M	5K2
	Power cables 5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-8AH10	1	1 M	5K2
Connection for 24 V p	ower supply of the M200D PROFIBUS/PROFINET					
	See page 9/65					
Manual "SIRIUS M200	D PROFIBUS/PROFINET Motor Starter"					

See https://support.industry.siemens.com/cs/ww/en/view/38823402

Motor Starters for Use in the Field, High Degree of Protection SIRIUS M200D Motor Starters Accessories

For M200D motor starters for PROFINET

						IIIVLI
Selection and ordering	g data					
	Version	SD	Article No. Price per Pt	PU (UNIT, SET, M)	PS*	PG
Motor control with DD	DEINET	d				
Motor control with PRO	® M12 plugs, angular					
	For screw fixing, 4-pole screw terminal, max. 0.75 mm², angular, D-coded • 4 male contacts	5	3RK1902-2DA00	1	1 unit	420
1)	Control cables, assembled at one end	5	3HK 1902-2DA00	!	1 unit	42D
	M12 for screw fixing, angular, 4-pole, D-coded,	45	ADI/4000 ALIDOS		4 0	400
!!! 3RK1902-2H.	4 male contacts, 3 m4 male contacts, 5 m	15 15	3RK1902-2HB30 3RK1902-2HB50	1 1	1 unit 1 unit	42D 42D
3NK 1902-2FI.	• 4 male contacts, 10 m	15	3RK1902-2HC10	1	1 unit	42D
	(b) Control cables, assembled at both ends M12 for screw fixing, angular at both ends, 4-pole, D-coded, male contacts at both ends					
3RK1902-2N.	• 3 m • 5 m	15 15	3RK1902-2NB30 3RK1902-2NB50	1 1	1 unit 1 unit	42D 42D
	• 10 m	15	3RK1902-2NC10	i	1 unit	42D
Further accessories				_		
	PROFINET IE FC TP standard cable GP 2 x 2 Sold by the meter	1	6XV1840-2AH10	1	1 M	5K1
	PROFINET IE FC TP trailing cable 2 x 2 Sold by the meter	1	6XV1840-3AH10	1	1 M	5K1
	PROFINET IE FC TP trailing cable GP 2 x 2 Sold by the meter	1	6XV1870-2D	1	1 M	5K2
	PROFINET IE FC TP torsion cable 2 x 2 Sold by the meter	1	6XV1870-2F	1	1 M	5K2
	PROFINET IE FC TP marine cable, 4-core Sold by the meter	1	6XV1840-4AH10	1	1 M	5K1
	Power cables 5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-8AH10	1	1 M	5K2
	Version	SD	Article No. Price per Pl	PU (UNIT, SET, M)	PS*	PG
Connection for 24 V po	ower supply of the M200D PROFIBUS/PROFINET					
	Plugs On M200D, 7/8" for screw fixing, angular, screw terminal, 1.5 mm ²					
	• (8) 5 female contacts	5	3RK1902-3DA00	1	1 unit	42D
3RK1902-3DA00						
3RK1902-3BA00	® 5 male contacts	5	3RK1902-3BA00	1	1 unit	42D
3RK1902-3G.	(® Supply lines, assembled at one end 7/8" for screw fixing, angular, 1.5 mm ² • 5 female contacts, 3 m • 5 female contacts, 5 m • 5 female contacts, 10 m	15 15 15	3RK1902-3GB30 3RK1902-3GB50 3RK1902-3GC10	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
	 ③ ④ Supply lines, assembled at both ends 7/8", for screw fixing, angular at both ends, 5-pole pin/socket, 1.5 mm² ◆ 3 m 	15	3RK1902-3NB30	1	1 unit	42D
3RK1902-3N.	• 5 m • 10 m	15 15	3RK1902-3NB50 3RK1902-3NC10	1 1	1 unit 1 unit	42D 42D
	7/8" sealing caps 1 pack = 10 units	1	6ES7194-3JA00-0AA0	1	10 units	250
6ES7194-3JA00-0AA0 Manual "SIRIUS M2000	D PROFIBUS/PROFINET Motor Starter"					

See https://support.industry.siemens.com/cs/ww/en/view/38823402

Hybrid fieldbus connections

Overview



Hybrid fieldbus connection with two HanBrid sockets



Control cabinet bushing with two M12 sockets

Hybrid fieldbus connections with HanBrid sockets designed as cabinet bushings transmit data and energy from the control cabinet (IP20) to the field (IP65). They are the interface for jointly routing PROFIBUS DP and the auxiliary voltages into the hybrid fieldbus cable.

On the cabinet bushings with two M12 sockets for the PROFIBUS M12 connecting cables, the 24 V supply of the motor starters is implemented via separate 7/8" connecting cables.

Passive and active hybrid fieldbus connections

The hybrid fieldbus connections are available in two versions which differ in their functionality.

- Passive version
- Active version with signal refresher function to considerably increase the maximum PROFIBUS cable length

Connection methods

The field side is connected using HanBrid or M12 plug-in connectors.

In the case of HanBrid, the following versions are available:

- · Socket/socket for feeding into the field
- Pin/socket for looping through in the field

The M12 version is generally configured with socket/socket.

Following connections are available at the rear (cabinet side) in the case of the passive bushings:

- Direct connection
- FastConnect connection

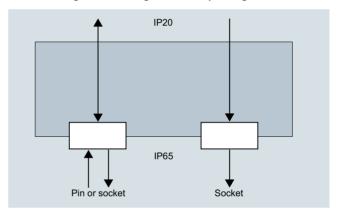
The active bushing with refresher function has 9-pole Sub D sockets for the rear connection.

Auxiliary power infeed

HanBrid plug-in connection technology offers the option of feeding in or looping through two separate auxiliary voltages of 24 V DC (switched/unswitched) into the field in addition to the PROFIBUS signal. The terminal block with spring-type terminals on the rear (cabinet side) of the hybrid fieldbus connection provides a variety of interconnecting options for these auxiliary voltages.

Passive hybrid fieldbus connections

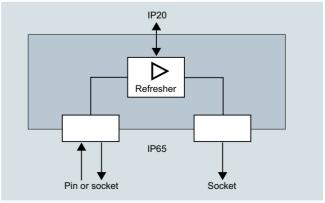
- Bushing from the control cabinet (IP20) into the field (IP65)
- HanBrid plug-in design socket/socket or pin/socket
- Direct connection or FastConnect connection for PROFIBUS at the rear
- Terminal block with spring-type terminals (0.25 to 2.5 mm²) for infeeding or forwarding the auxiliary voltages



Hybrid fieldbus connection as passive cabinet bushing

Active hybrid fieldbus connections with refresher function

- Bushing from the control cabinet (IP20) into the field (IP65)
- Three independent, electrically separated PROFIBUS segments
- Signal refresher function from and to all segments
- Automatic continuous baud rate detection
- Status/diagnostics displays with LEDs
- Cascading depth of a maximum nine hybrid fieldbus connections
- HanBrid plug-in design socket/socket and pin/socket
- M12 plug-in design socket/socket
- 9-pole Sub D socket connection for PROFIBUS at the rear
- Terminal block with spring-type terminals (0.25 to 2.5 mm²) for infeeding or forwarding the auxiliary voltages



Hybrid fieldbus connection as active control cabinet bushing with refresher function

Hybrid fieldbus connections

Technical specifications

Туре		Passive hybrid fieldbus connections	Active hybrid fieldbus connections
Mechanics and environment			
Dimensions (W x H x D)	mm	93 x 103 x 65	
Cutout (W x H)	mm	80 x 90	
Temperature range	°C	-25 +60	
Degree of protection		IP20 internal / IP65 on field side	
Material/enclosure	mm	Plastic (black PC), flame retardant	
Electrical specifications			
Rated operational voltage • 24 V DC not switched (NS) • 24 V DC switched (S)	V DC V DC	24, ± 25% 24, ± 25%	
Max. rated current	А	10	
Power supply			From 24 V DC not switched (NS)
Max. power consumption	mA		130
Mains buffering	ms		> 20
Baud rate detection			Automatic
Maximum cascading depth			9 hybrid fieldbus connections
Baud rates	kbps	9.6/19.2/45.45/93.75/187.5/500/1 500/3 0	00/6 000 /1 2 000
Electrical separation	V DC	500	

Selection and ordering data



Hybrid fieldbus connection on the field side: With socket/socket (HanBrid)



With pin/socket (HanBrid)



Control cabinet bushing on the field side With socket/socket (M12)

With Socket/Socket (Halibila)	• • • • • • • • • • • • • • • • • • • •	iti pinsocket (Hanbila)		•	VIIII SOCKEI/SO	onot (m 12)		
Link type / function	Connection IP65	Connection IP20 (PROFIBUS)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Hybrid fieldbus connections								
Passive								
Cu/Cu, for feeding into the field	Socket/socket (2 x HanBrid)	Direct connection	5	3RK1911-1AA22		1	1 unit	42D
Cu/Cu, for looping through in the field	Pin/socket (2 x HanBrid)	Direct connection	5	3RK1911-1AA32		1	1 unit	42D
Cu/Cu, for feeding into the field	Socket/socket (2 x HanBrid)	PROFIBUS FastConnect bus connector	5	3RK1911-1AF22		1	1 unit	42D
• Cu/Cu, for looping through in the field	Pin/socket (2 x HanBrid)	PROFIBUS FastConnect bus connector	5	3RK1911-1AF32		1	1 unit	42D
Active (refresher)								
Cu/Cu, for feeding into the field	Socket/socket (2 x HanBrid)	9-pole Sub D socket	5	3RK1911-1AJ22		1	1 unit	42D
Cu/Cu, for looping through in the field	Pin/socket (2 x HanBrid)	9-pole Sub D socket	5	3RK1911-1AJ32		1	1 unit	42D
Cu/Cu, for feeding into the field	Socket/socket (2 x M12)	9-pole Sub D socket	5	3RK1911-1AK22		1	1 unit	42D
Version			SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
			d			SET, M)		
Accessories								
		nd power supply connection	1	6ES7194-1JB10-0XA	0	1	10 units	250

6ES7194-1JB10-0XA0 PROFIBUS ECOFAST hybrid cables, see page 9/20.

Notes





	Price groups PG 200, 2SP, 41B, 41E, 41F, 41H, 41L, 42F, 42J, 470, 5K1, 5M2, 5P1, 5T1, 5W3	10
10/2	Introduction	1(
	SIMOCODE 3UF motor management and control devices	1(
	SIMOCODE pro 3UF7 motor management and control devices	10
10/5	General data	10
10/16	Basic units NEW	10
10/19	Expansion modules	10
10/21	Fail-safe expansion modules	10
10/22	Accessories NEW	
10/25	3UF18 current transformers for overload	
	<u>protection</u>	10
ST 70 ¹⁾	LOGO! logic modules	10
10/26	General data	10
10/27	LOGO! basic modules with display	10
10/28	LOGO! basic modules without display	10
10/29	LOGO! expansion modules	10

	Relays
0/37	LOGO! Software
0/36	LOGO!Contact
5/4	LOGO!Power
0/34	Accessories
	(mobile wireless communication)
0/32	- LOGO! CMR
0/31	- LOGO! CSM unmanaged
	modules
0/30	- LOGO! CMK2000 communication
	LOGO! communication modules

Timing relays

10/38	General data
10/39	SIRIUS 3RP25 timing relays,
	17.5 mm and 22.5 mm NEW
10/51	SIRIUS 3RP20 timing relays, 45 mm
10/57	7PV15 timing relays, 17.5 mm
3/101	SIRIUS 3RA28 solid-state time-delay
	auxiliary switch blocks for mounting
	onto 3RT2 contactors and 3RH2
	contactor relays
3/106	SIRIUS 3RA28 function modules for
	mounting onto 3RT2 contactors and
	3RH2 contactor relays

Official article fit		0/102	
catalog PDF to call	it up in the		mounting onto 3RT
Industry Mall and yo	ou will have		SIRIUS 3RR21, 3RR
access to all the red	quired		for mounting onto 3
information.		10/62	Current and active
Article No.			SIRIUS 3RR24 mon
			manusting anta 2DT

3RA1943-2C 3RA1943-2B 3RA1953-2B	Article No.	
100	3RA1943-2B	IC01_00413

clickable

Or directly on the Internet, e.g. www.siemens.com/ product?3RA1943-2C

Click on an article number in the 3/102 SIRIUS 3RT19 timing relays for 1 contactors contactors R22 monitoring relays SIRIUS 3RS70 signal converters 3RT2 contactors current monitoring nitoring relays for mounting onto 3RT2 contactors for IO-Link

Current and active current monitoring SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

General data Line monitoring

10/87	Current monitoring
10/89	Power factor and active current monitoring
	Residual-current monitoring
10/92	- Residual-current monitoring relays
10/94	- 3UL23 residual-current transformers
	Insulation monitoring
10/95	- General data
10/97	- For ungrounded AC networks
10/99	- For ungrounded DC and AC networks
10/102	Level monitoring
10/105	Speed monitoring
10/108	Accessories
	SIRIUS 3UG48 monitoring relays
	for stand-alone installation for IO-Link
10/109	General data
10/112	Line monitoring
10/115	Voltage monitoring
10/118	Current monitoring
10/121	Power factor and active current monitoring
	Residual-current monitoring
10/125	- Residual-current monitoring relays
10/94	- 3UL23 residual-current transformers
10/128	Speed monitoring
10/131	Accessories
	SIRIUS 3RS10, 3RS11, 3RS20, 3RS21
	temperature monitoring relays
10/132	General data
10/136	Relays, analogically adjustable for 1 sensor
10/138	Relays, digitally adjustable for 1 sensor
10/140	Relays, digitally adjustable for up to
	3 sensors
10/142	Accessories
	SIRIUS 3RS14, 3RS15 temperature
	monitoring relays for IO-Link
10/143	General data
10/148	Relays, digitally adjustable for 1 sensor
10/151	Relays, digitally adjustable for up to
10/150	3 sensors
10/153	
10/154	SIRIUS 3RN2 thermistor motor protection NEW
	Coupling relays and signal converters/
	interface converters
5/32	Coupling relays
3/152	3TG10 power relays/miniature
	a a mta atawa

Voltage monitoring

See Catalog ST 70.

Note:

For the conversion tool, e.g. from 3RP15 to 3RP25, from 3RS17 to 3RS70 or from 3RN1 to 3RN2, see www.siemens.com/sirius/conversion-tool

Siemens IC 10 · 2019

Introduction

Overview



Туре	SIMOCODE pro C	SIMOCODE pro V PROFINET General Performance	SIMOCODE pro S General Performance	SIMOCODE pro V High Performance PROFIBUS/PROFINET Modbus RTU/EtherNet/IP	Page
SIMOCODE pro 3UF7 motor manag	gement and control	devices			
Basic units	/	1	✓	✓	10/16
Current measuring modules	✓	/	✓	✓	10/17
Current/voltage measuring modules				✓	10/17
Operator panels	✓	/	✓	✓	10/18
Operator panels with display				✓	10/18
Expansion modules		/	✓	✓	10/19
Fail-safe expansion modules				✓	10/21
Current transformers	/	✓	✓	/	10/25
SIMOCODE ES (TIA Portal)	✓	✓	✓	✓	14/12
SIMOCODE pro block library for SIMATIC PCS 7	1	1	1	1	14/16

- ✓ Available
- -- Not available









Туре	Basic units	Expansion modules	Software	Page
LOGO! logic modules				
LOGO! basic modules with display	✓			10/27
LOGO! basic modules without display	✓			10/28
LOGO! expansion modules		✓		10/29
LOGO! CMK2000 communication modules		✓		10/30
LOGO! CSM unmanaged		✓		10/31
LOGO! CMR (mobile wireless communication)		✓		10/32
LOGO!Contact		✓		10/36
LOGO! Software			1	10/37

- ✓ Corresponds to
- -- Does not correspond to

Introduction







Туре	3RP25	3RP20	7PV15
Timing relays			
Enclosures:			
 17.5 mm industry and household equipment installation 	✓		1
• 22.5 mm industry	✓		
• 45 mm industry		✓	
Monofunction	✓	✓	✓
Multifunction	✓	✓	✓
Combination voltage	✓	✓	✓
Wide voltage range	✓	✓	✓
Application:			
 Control systems and mechanical engineering 	✓	1	1
Infrastructure			✓
Page	10/39	10/51	10/57

- ✓ Corresponds to or available
- -- Does not correspond to or not available

















3UG451., 3UG461.	3UG463.	3RR21, 3RR22, 3UG4621, 3UG4622	3UG4641	3UG4625 with 3UL23	3UG458.	3UG4501	3UG4651	Page
✓								10/79
	/							10/84
		✓						10/62, 10/87
		3RR22 ✓	✓					10/62, 10/89
			✓					10/89
				✓				10/92
					✓			10/97, 10/99
						/		10/102
							✓	10/105
	3UG461.´	3UG461.´	3UG461. 3RR22, 3UG4622 ✓	3RR22, 3UG461. 3RR22, 3UG4622	3UG461. 3RR22, 3UG4621, 3UG4622 with 3UL23	3UG461. 3RR22, 3UG4621, 3UG4622 with 3UL23	3UG461. 3RR22, 3UG4621, 3UG4622	3UG461. 3RR22, 3UG4621, 3UG4622 V

- ✓ Available
- -- Not available

Introduction















							- and and					
Туре	3UG481.	3UG4832	3RR24	3UG4822	3UG4841	3UG4825 with 3UL23	3UG4851	Page				
Monitoring relays for IO-Link												
Line monitoring	1							10/112				
Voltage monitoring		✓						10/115				
Current monitoring			✓	✓				10/70, 10/118				
Power factor and active current monitoring			1		1			10/70, 10/121				
Residual-current monitoring						1		10/125				
Speed monitoring							✓	10/128				

- Available
- Not available











Туре	3RS10, 3RS11, 3RS20, 3RS21	3RS14, 3RS15	3RN2	3RS70	Page
Temperature monitoring relays					
Temperature monitoring	✓		 		10/136, 10/138, 10/140
Temperature monitoring relays f	or IO-Link				
Temperature monitoring for IO-Link		✓			10/148, 10/151
Thermistor motor protection					
Thermistor motor protection			✓		10/154
Signal converters					
Single-range converters				✓	10/163
Multi-range converters				✓	10/163
Universal converters				✓	10/163

- Available
- Not available

Connection methods

The monitoring and control devices are available with screw or spring-type terminals.

SIRIUS 3RP25 timing relays, SIRIUS 3RN2 thermistor motor protection and SIRIUS 3RS70 signal converters are available with screw terminals or spring-type terminals (push-in).

Screw terminals



Spring-type terminals, spring-type terminals (push-in)

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e/d according to ATEX directive 2014/34/EU

The communication-capable, modularly designed SIMOCODE pro motor management system (SIRIUS Motor Management and Control Devices) protects motors of types of protection EEx e and EEx d in hazardous areas.

"Increased safety" type of protection EEx e/d according to ATEX directive 2014/34/EU

The SIRIUS 3RN2 thermistor motor protection relay protects motors with types of protection EEx e and EEx d in hazardous areas.

ATEX approval for operation in hazardous areas

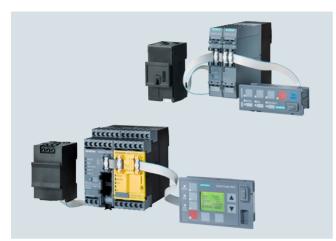
The SIRIUS SIMOCODE pro 3UF7 motor management system is certified for the protection of motors in hazardous areas according to

- ATEX Ex I (M2); equipment group I, category M2 (mining)
- ATEX Ex II (2) GD; equipment group II, category 2 in area GD

The SIRIUS 3RN2011, 3RN2012-...30, 3RN2013 and 3RN2023 thermistor motor protection relays for PTC sensors are certified according to ATEX Ex II (2) G and D for environments with explosive gas or dust loads.

General data

Overview



SIMOCODE pro S and SIMOCODE pro V

More information

Homepage, see www.siemens.com/simocode

Industry Mall, see www.siemens.com/product?3UF7

TIA Selection Tool Cloud (TST Cloud)

- For SIMOCODE pro S, se
- https://mall.industry.siemens.com/spice/TSTWeb/?kmat=SimocodeProS
- For SIMOCODE pro V, see

https://mall.industry.siemens.com/spice/TSTWeb/?kmat=SimocodeProV

SIMOCODE pro is a flexible, modular motor management system for motors with constant speeds in the low-voltage performance range. It optimizes the connection between I&C and motor feeder, increases plant availability and allows significant savings to be made for installation, commissioning, operation and maintenance of a system.

SIMOCODE pro offers, for example:

- Multifunctional, solid-state full motor protection that is independent of the automation system
- Integrated control functions instead of hardware for the motor control
- Detailed operational, service and diagnostics data
- Open communication via PROFIBUS DP, PROFINET/OPC UA, Modbus RTU or EtherNet/IP
- Safety relay function for the fail-safe disconnection of motors up to SIL 3 (IEC 61508, IEC 62061) or PL e with Category 4 (EN ISO 13849-1)
- SIMOCODE ES (TIA Portal) is the software package for SIMOCODE pro parameterization, start up and diagnostics.

Device series

Basic Performance with SIMOCODE pro C

The compact system for direct-on-line starters and reversing starters or for controlling a motor starter protector.

General Performance with SIMOCODE pro S or SIMOCODE pro V PN GP

The smart system for direct-on-line, reversing, and wye-delta starters or for controlling a motor starter protector or soft starter. Its expandability with an expansion module/multifunction module provides comprehensive input/output project data volume, precise ground-fault detection via the 3UL23 residual-current transformers and temperature measurement.

High Performance with SIMOCODE pro V

The variable system with all control functions and with the possibility of expanding the inputs, outputs and functions of the system at will using expansion modules

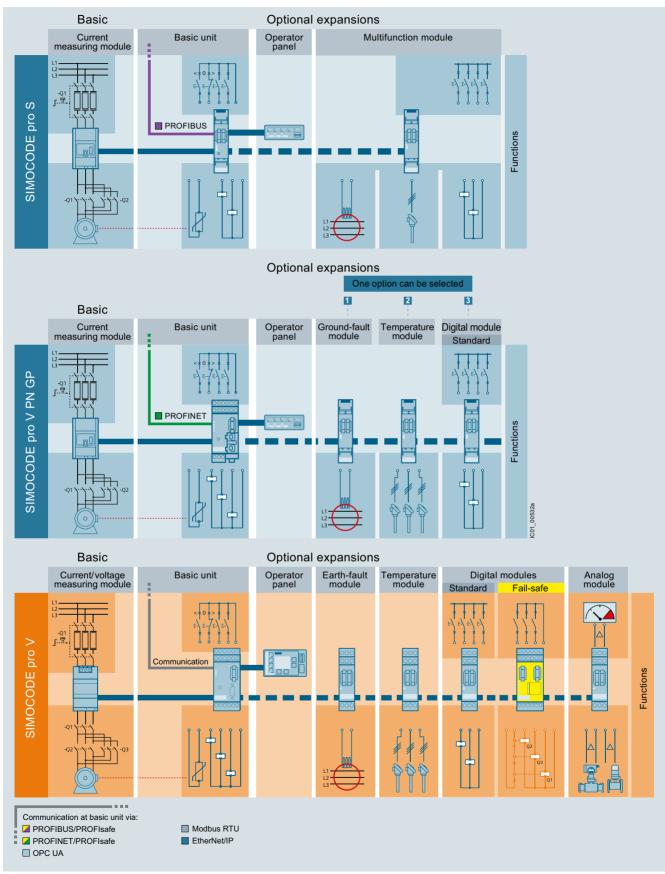
	PROFINET IO / OPC UA	ETHERNET / IP	PROFIBUS	MODBUS RTU	
Current/voltage measuring module					
Operator panel with display	unique br	The state of the s	The second secon	William Inc.	٥
Max. 5/7 expansion modules					High
Safety	SIMOCODE pro V PN	SIMOCODE pro V EIP	SIMOCODE pro V PB	SIMOCODE pro V MR	Q
Extended control functions (e.g. positioner, pole-changing starter)					
Current measuring module					
Operator panel					General
1 expansion module				Ğ	Ger
Basic control functions (e.g. direct-on-line/reversing start)	SIMOCODE pro V PN GP		SIMOCODE pro S	200	IC01_00548a

Device series

SIMOCODE 3UF Motor Management and Control Devices

SIMOCODE pro 3UF7 Motor Management and Control Devices

General data



System structure

General data

Expansion possibilities	SIMOCODE pro C Basic Performance	· •		SIMOCODE pro V High Performance		
	PROFIBUS	PROFIBUS	PROFINET GP	PROFIBUS/Modbus RTU	PROFINET/ EtherNet/IP	
Operator panels	✓	✓	✓	✓	✓	
Operator panels with display				1	✓	
Current measuring modules	✓	✓	✓	✓	✓	
Current/voltage measuring modules				✓	✓	
Expansion modules:						
Digital modules			1 ²⁾	2	2	
• Fail-safe digital modules ¹⁾				1	1	
Analog modules				1	2	
Ground-fault modules			1	1	1	
Temperature modules			1	1	2	
Multifunction modules		1				

[✓] Available

1) The fail-safe digital module can be used instead of one of the two digital modules

Per feeder each system always comprises one basic unit and one separate current measuring module. The two modules are connected together electrically through the system interface with a connection cable and can be mounted mechanically connected as a unit (one behind the other) or separately (side by side). The motor current to be monitored is decisive only for the choice of the current measuring module.

An operator panel for mounting in the control cabinet door is optionally connectable through a second system interface on the basic unit. Both the current measuring module and the operator panel are electrically supplied by the basic unit through the connection cable. More inputs, outputs and functions can be

added to the SIMOCODE pro V and SIMOCODE pro S by means of optional expansion modules, thus supplementing the inputs and outputs already existing on the basic unit. With the DM-F Local and DM-F PROFIsafe fail-safe digital modules it is also possible to integrate the fail-safe disconnection of motors in the SIMOCODE pro V motor management system.

All modules are connected by connection cables. The connection cables are available in various lengths. The maximum distance between modules (e.g. between the basic unit and the current measuring module) must not exceed 2.5 m. The total length of all the connection cables per system interface of the basic unit may be up to 3 m.

Article No. scheme

Product versions			Article number					
SIMOCODE pro motor management syste	m	3UF7		- 1		0		- 0
Type of unit/module	e.g. 0 = basic unit							
Functional version of the module	e.g. 20 = SIMOCODE pro S							
Connection type of the current transformer	e.g. A = through-hole technology							
Voltage version	e.g. B = 24 V DC					1		
Enclosure color	e.g. 1 = titanium gray							
Example		3UF7	0 2 0	- 1	A E	3 0	1 -	- 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

⁻⁻ Not available

²⁾ Only monostable version can be used.

General data

Benefits

General customer benefits

- Integrating the whole motor feeder into the process control by means of PROFIBUS DP, PROFINET/OPC UA, Modbus RTU or EtherNet/IP significantly reduces the wiring between the motor feeder and the PLC
- Decentralization of the automated processes by means of configurable control and monitoring functions in the feeder saves resources in the automation system and ensures full functionality and protection of the feeder even if the I&C or bus system fails
- The acquisition and monitoring of operating, service and diagnostics data in the feeder and process control system increases plant availability as well as maintenance and service-friendliness
- The high degree of modularity allows users to perfectly implement their plant-specific requirements for each motor feeder
- The SIMOCODE pro system offers functionally graded and space-saving solutions for each customer application
- The replacement of the control circuit hardware with integrated control functions decreases the number of hardware components and wiring required and in this way limits stock keeping costs and potential wiring errors
- The use of electronic full motor protection permits better utilization of the motors and ensures long-term stability of the tripping characteristic and reliable tripping even after years of service
- Thanks to the precision of the current, voltage, power and energy measurements (especially those acquired by the 2nd-generation current/voltage measuring modules), costs can be internally allocated with a high degree of accuracy
- By virtue of its wide frequency range (20 to 400 Hz), SIMOCODE can be used in combination with the 2nd-generation current/voltage measuring modules in a wide range of motor applications.

Multifunctional, electronic full motor protection for rated motor currents up to 820 A

SIMOCODE pro offers comprehensive protection of the motor feeder by means of a combination of different, multi-step and delayable protection and monitoring functions:

- Inverse-time delayed electronic overload protection (CLASS 5E to 40E)
- Thermistor motor protection
- Phase failure/unbalance protection
- · Stall protection
- · Monitoring of adjustable limit values for the motor current
- Voltage and power monitoring
- Monitoring of the power factor (motor idling/load shedding)
- Ground-fault monitoring
- Temperature monitoring, e.g. via Pt100/Pt1000
- Monitoring of operating hours, downtime and number of starts etc.

Recording of measuring curves

SIMOCODE pro can record measuring curves and therefore is able, for example, to present the progression of motor current during motor start up.

Flexible motor control implemented with integrated control functions (instead of comprehensive hardware interlocks)

Many predefined motor control functions have already been integrated into SIMOCODE pro, including all necessary logic operations and interlocks:

- Overload relays
- Direct-on-line and reversing starters
- Wye/delta starters (also with direction reversal)
- Two speeds, motors with separate windings (pole-changing starter); also with direction reversal
- Two speeds, motors with separate Dahlander windings (also with direction reversal)
- Positioner actuation
- · Solenoid valve actuation
- · Actuation of a motor starter protector
- Soft starter actuation (also with direction reversal)

These control functions are predefined in SIMOCODE pro and can be freely assigned to the inputs and outputs of the device (including the PROFIBUS/PROFINET process image).

These predefined control functions can also be flexibly adapted to each customized configuration of a motor feeder by means of freely configurable logic modules (truth tables, counters, timers, edge evaluation, etc.) and with the help of standard functions (power failure monitoring, emergency start, external faults, etc.), without additional auxiliary relays being necessary in the control circuit.

SIMOCODE pro makes a lot of additional hardware and wiring in the control circuit unnecessary, which results in a high level of standardization of the motor feeder in terms of its design and circuit diagrams.

General data

Detailed operational, service and diagnostics data

SIMOCODE pro makes different operational, service and diagnostics data available and helps to detect potential faults in time and to prevent them by means of preventative measures. In the event of a malfunction, a fault can be diagnosed, localized and rectified very quickly – there are no or very short downtimes.

Operating data

- Motor switching state derived from the current flow in the main circuit
- · All phase currents
- All phase voltages and phase-to-phase voltages
- Active power, apparent power and power factor
- Phase unbalance and phase sequence
- · Ground-fault current
- Frequency
- Time to trip
- Motor temperature
- · Remaining cooling time etc.

Service data

- · Motor operating hours
- Motor stop times
- Number of motor starts
- Number of overload trips
- · Interval for compulsory testing of the enabling circuits
- · Energy consumed
- Internal comments stored in the device etc.

Diagnostics data

- Numerous detailed early warning and fault messages
- Internal device fault logging with time stamp
- Time stamping of freely selectable status, alarm or fault messages etc.

Easy operation and diagnostics

Operator panel

The operator panel is used to control the motor feeder and can replace all conventional pushbuttons and indicator lights to save space. It makes SIMOCODE pro or the feeder directly operable in the control cabinet. It features all the status LEDs available on the basic unit and externalizes the system interface for simple parameterization or diagnosis on a PC/PG.

Operator panel with display

As an alternative to the 3UF720 standard operator panel for SIMOCODE pro V, a 3UF721 operator panel with display is also available. This can additionally indicate current measured values, operational and diagnostics data or status information of the motor feeder at the control cabinet. The pushbuttons of the operator panel can be used to control the motor. Furthermore, it is possible to set parameters such as rated motor current, limit values, etc. directly via the operator panel with display (with SIMOCODE pro V PROFIBUS as of E15, SIMOCODE pro V Modbus RTU as of E03 and with all SIMOCODE pro V PROFINET and EtherNet/IP).

Communication

SIMOCODE pro has either an integrated PROFIBUS DP or Modbus RTU interface (SUB-D or terminal connection) or a PROFINET or EtherNet/IP interface (2 x RJ45).

Fail-safe disconnection through PROFIBUS or PROFINET with the PROFIsafe profile is also possible in conjunction with a fail-safe controller (F-CPU) and the DM-F PROFIsafe fail-safe digital module.

SIMOCODE pro PROFIBUS

SIMOCODE pro PROFIBUS supports, for example:

- Cyclic services (DPV0) and acyclic services (DPV1)
- Extensive diagnostics and hardware interrupts
- Time stamp with high timing precision (SIMATIC S7) for SIMOCODE pro V
- DPV1 communication after the Y-Link

SIMOCODE pro PROFINET

SIMOCODE pro PROFINET supports, for example:

- Line and ring bus topology (for 2-port devices with an integrated switch)
- Media redundancy via MRP protocol (for 2-port devices with an integrated switch)
- Operating, service and diagnostics data via standard web browser
- OPC UA server for open communication with visualization and control system
- NTP-synchronized time
- Interval function and measured values for power management via PROFlenergy
- Module exchange without PC/memory module through proximity detection
- Extensive diagnostics and maintenance alarms

System redundancy with SIMOCODE pro PROFINET

All SIMOCODE PROFINET devices support the system redundancy mechanisms of PROFINET IO and therefore can be operated directly on fault-tolerant systems such as SIMATIC S7-400 H. As such, SIMOCODE pro can provide decisive added value also for the field level of plants in which plant availability and control system redundancy are priorities.

SIMOCODE pro Modbus RTU

SIMOCODE pro Modbus RTU supports, for example:

- Communication at 1 200/2 400/4 800/9 600/19 200 or 57 600 baud
- Access to freely parameterizable process image via Modbus RTU
- Access to all operating, service and diagnostics data via Modbus RTU

SIMOCODE pro EtherNet/IP

SIMOCODE pro EtherNet/IP supports, for example:

- Line and ring bus topology thanks to an integrated switch
- Ring structures via Device Level Ring (DLR) protocol
- Operating, service and diagnostics data via standard web browser
- NTP-synchronized time
- Parameter assignment via SIMOCODE ES V14 or higher via local device interface and Ethernet

General data

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information on Industrial Security, see www.siemens.com/industrialsecurity.

Autonomous operation

An essential feature of SIMOCODE pro is the autonomous execution of all protection and control functions, even when communication to the I&C system is interrupted. This means that even in the event of bus system or automation system failure, full functionality of the feeder is ensured or a specific behavior can be parameterized in case of such a fault, e.g. targeted shutdown of the feeder or execution of particular parameterized control mechanisms (such as reversal of the direction of rotation).

Advantages from integrated energy management



Ready for SIMATIC Energy Suite

As an integrated option for the TIA Portal, the SIMATIC Energy Suite couples energy management with automation efficiently, making energy consumption at your production facility transparent.

Thanks to the simplified configuration of energy-measuring components, e.g. SIMOCODE pro V, configuration effort is also clearly reduced.

Thanks to end-to-end connection with higher-level energy management systems or cloud-based services, you can seamlessly expand the recorded energy data to create a cross-site energy management system.

The advantages at a glance:

- Automatic generation of energy management data
- · Integration into TIA Portal and into automation
- Simple configuration

For more information, see page 1/3 or www.siemens.com/energysuite.

Application

SIMOCODE pro is often used for automated processes where plant downtimes are very expensive (e.g. chemical, oil/gas, water/wastewater, steel or cement industries) and where it is important to prevent plant downtimes through detailed operational, service and diagnostics data or to localize faults very quickly when they occur.

SIMOCODE pro is modular and space-saving and suited especially for operation in motor control centers (MCCs) in the process industry and for power plant technology.

Applications

- Protection and control of motors in hazardous areas for types of protection EEx e/d according to ATEX directive 2014/34/EU
 - With heavy starting (paper, cement, metal and water industries)
- In high-availability plants (chemical, oil, raw material processing industries, power plants)
- New: Dry-running protection of centrifugal pumps based on active power monitoring for type of protection Ex b

Use of SIMOCODE pro 3UF7 with IE3/IE4 motors

Note:

When using the SIMOCODE pro 3UF7 in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

Safety technology for SIMOCODE pro

The safe disconnection of motors in the process industry is becoming increasingly important as the result of new and revised standards and requirements in the safety technology field

With the DM-F Local and DM-F PROFIsafe fail-safe expansion modules it is easy to integrate functions for fail-safe disconnection in the SIMOCODE pro V motor management system while retaining service-proven concepts. The strict separation of safety functions and operational functions proves particularly advantageous for planning, configuring and construction. Seamless integration in the motor management system leads to greater transparency for diagnostics and during operation of the system.

Suitable components for this purpose are the DM-F Local and DM-F PROFIsafe fail-safe expansion modules, depending on the requirements:

- The DM-F Local fail-safe digital module for when direct assignment between a fail-safe hardware shutdown signal and a motor feeder is required, or
- The DM-F PROFIsafe fail-safe digital module for when a fail-safe controller (F-CPU) creates the signal for disconnection and transmits it in a fail-safe manner through PROFIBUS/PROFIsafe or PROFINET/PROFIsafe to the motor management system

New: Dry-running protection of centrifugal pumps with SIMOCODE pro in hazardous areas

With special versions of the current/voltage measuring modules, SIMOCODE pro enables dry-running protection of centrifugal pumps through active power monitoring and motor switch-off. This applies to centrifugal pumps with progressive flow characteristics, which are also suitable for pumping flammable media and are also installed in hazardous areas. If the active power, and thus the flow rate, falls below a minimum value, the motor – and thus the centrifugal pump – is switched off. When determining the limit values to be monitored, the user is supported by a menu-guided teach-in process in the engineering software.

General data

Technical specifications

More information		
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16337/td Manual Collection "SIMOCODE pro", see		Application Manual "SIRIUS Controls with IE3/IE4 motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820 Configuration Manual "Load Feeders – SIRIUS Modular System", see
https://support.industry.siemens.com/cs/ww/en/view/109743951 System Manual *SIMOCODE pro Safety Fail-Safe Digital Modules https://support.industry.siemens.com/cs/ww/en/view/50564852	s", see	https://support.industry.siemens.com/cs/ww/en/view/39714188
General data		
Туре		3UF7
Permissible ambient temperature • During operation • During storage and transport	°C °C	-25 +60; 3UF721: 0 +60 -40 +80; 3UF721: -20 +70
Degree of protection (acc. to IEC 60529) • Measurement modules with busbar connection • Operator panel (front) and door adapter (front) with cover • Other components		IP00 IP54 IP20
Shock resistance (sine pulse)	<i>g</i> /ms	15/11
Mounting position		Any
Frequency	Hz	50/60 ± 5%
EMC interference immunity (according to IEC 60947-1) Conducted interference, burst acc. to IEC 61000-4-4 Conducted interference, high frequency acc. to IEC 61000-4-6	kV kV V	Corresponds to degree of severity 3 2 (power ports) 1 (signal port) 10
Conducted interference, surge acc. to IEC 61000-4-5	kV kV	2 (line to ground); 3UF7320-1AB, 3UF7330-1AB: 1 (line to ground) 1 (line to line); 3UF7320-1AB, 3UF7330-1AB: 0.5 (line to line)
 Electrostatic discharge, ESD acc. to IEC 61000-4-2 Field-related interference acc. to IEC 61000-4-3 	kV kV V/m	8 (air discharge); 3UF7020: Operator input during operation only on the front 6 (contact discharge); 3UF721: 4 (contact discharge) 10
EMC emitted interference (according to IEC 60947-1)	-	
Conducted and radiated interference emission		EN 55011/EN 55022 (CISPR 11/CISPR 22) (corresponds to degree of severity A)
Protective separation (acc. to IEC 60947-1)		All circuits in SIMOCODE pro are safely separated from each other according to IEC 60947-1, i.e. they are designed with doubled creepage paths and clearances. In this context, compliance with the instructions in the test report "Safe Isolation" No. 2668 is required.

Gei			

Basic units								
Туре	3UF7011-1AU	J00-0, 3UF7010- J00, 3UF7020-1 J00-0, 3UF7013-	AU01-0,	0 3UF7012-1AB00-0, 3UF7013-1AB00-0				
Control circuit Rated control supply voltage U_s (acc. to IEC 61131-2)		110 240 V AC/DC; 50/60 Hz 24 V DC						
Operating range SIMOCODE pro C (3UF7000) and SIMOCODE pro V PROFIBUS (3UF7010) SIMOCODE pro V Modbus RTU (3UF7012) SIMOCODE pro V PROFINET (3UF7011), SIMOCODE pro V		$0.85 \dots 1.1 \times U_{s}$ $0.80 \dots 1.2 \times U_{s}$						
EtherNet/IP (3UF7013) and SIMOCODE pro S (3UF7020) - Operation - Start up		0.85 1.1 x (1.2 × <i>U</i> _s 1.2 × <i>U</i> _s		
Power consumption ¹⁾ • SIMOCODE pro C (3UF7000) and SIMOCODE pro S (3UF7020) • SIMOCODE pro V PROFIBUS (3UF7010) and SIMOCODE pro V Modbus RTU (3UF7012) • SIMOCODE pro V PROFIBUS E15/V4.0 (3UF7010-1A.00-0 -Z B01) and SIMOCODE pro V Modbus RTU E03/V2.0 (3UF7012-1A.00-0-Z B01)		7 VA/5 W 10 VA/7 W 7 VA/5 W			5 W 7 W			
					4 W			
 SIMOCODE pro V PROFINET (3UF7011) and SIMOCODE pro V EtherNet/IP (3UF7013) 		11 VA/8 W	11 VA/8 W			8 W		
Rated insulation voltage U_{i}	V	300 (for pollut	ion degree 3)					
Rated impulse withstand voltage $U_{\rm imp}$	kV	4						
Relay outputs								
• Number								
- SIMOCODE pro C, SIMOCODE pro V		3 monostable relay outputs						
(incl. SIMOCODE pro V PN GP) - SIMOCODE pro S • Specified short-circuit protection for auxiliary contacts		2 monostable relay outputs						
(relay outputs)								
- Fuse links			al class gG; 10 A					
 Miniature circuit breaker Rated uninterrupted current 	Α	1.6 A, C chara 6	acteristic (IEC 60	947-5-1); (6 A, C ci	naracteristic (_k < 500 A)	
Rated switching capacity	^	O						
- AC-15			6 A/120 V AC; 3 A					
- DC-13		2 A/24 V DC; 0.55 A/60 V DC; 0.25 A/125 V DC						
Inputs (binary)		4 inputs supplied internally by the device electronics (with 24 V DC) and connected to a common potential			/ DC)			
Thermistor motor protection (binary PTC)								
Summation cold resistance	kΩ	≤ 1.5						
Response valueReturn value	kΩ kΩ							
• neturi value	K22	1.5 1.65						
2nd-generation current/voltage measuring modules								
Туре		3UF70- 1AA01-0	3UF71- 1AA01-0	3UF7		3UF73- 1.A01-0	3UF74- 1BA01-0	
Main circuit								
Current setting I _e	Α	0.3 4	3 40	10 1	15	20 200	63 630	
Rated insulation voltage <i>U</i> _i	V	690						
Rated operational voltage $U_{\rm e}$	V	690						
Rated impulse withstand voltage $U_{\rm imp}$	kV	6						
Rated frequency	Hz	50/60						
Type of current		Three-phase	current					
Short circuit			ort-circuit protecti	on is real	ired in th	ne main circuit	<u> </u>	
Typical voltage measuring range		7 taditional on	ore official protocol	011 10 10 40		10 THAITT OILCUI	•	
Phase-to-phase voltage/line-to-line voltage (e.g. U_{L1L2}) Phase voltage (e.g. U_{L1N})	V	110 690 65 400						
Accuracy at 25 °C, 50/60 Hz		6			0.5-		2021/	
Valid for voltage range			lase voltage U_{L} ir ge U_{l} in the rang				690 V	
Valid for current range	Α	0.25 8/	2.25 80/	7.5 2		15 400/	47 1 260/	
· ·		8 32 80 320 230 920 400 1 600						
Voltage measurementCurrent measurement	% %	± 1.5 ± 1.5/3 (typica	al)					
Temperature drift of current measurement		,0 (1) [100	,					
- 3UF7110-1AA01-0	%	± 0.02 K						
- 3UF7111-1AA01-0, 3UF7112-1AA01-0, 3UF7113-1AA01-0, 3UF7113-1BA01-0, 3UF7114-1BA01-0	%	± 0.01 K						
 Power factor measurement (p.f. ≥ 0.5) 	%	± 1.5/5 (typica	al)					
 Apparent power measurement (p.f. ≥ 0.5) 	%	± 3/5 (typical)						
 Active power measurement (p.f. ≥ 0.5) 	%	± 5/10 ± 5/10						
	0/							
 Energy measurement (p.f. ≥ 0.5) 	% %	± 1.5						
 Energy measurement (p.f. ≥ 0.5) Frequency measurement (p.f. ≥ 0.5) 		± 1.5	lines from the ma	in circuit f	or voltar	ie measureme	ent of	
 Energy measurement (p.f. ≥ 0.5) 		± 1.5 In the supply	lines from the ma					

All values are based on a combination consisting of basic unit, current measuring module and operator panel.

General data

Current measuring modules							
· · · · · · · · · · · · · · · · · · ·		3UF7100-	3UF7101-	3UF7102-	3UF7103-	3UF7104-	
Туре		1AA00-0	1AA00-0	1AA00-0	1.A00-0	1BA00-0	
Main circuit							
Current setting I _e	Α	0.3 3	2.4 25	10 100	20 200	63 630	
Rated insulation voltage U _i	V	690; 3UF7103	and 3UF7104: 1	000 (at pollution	n degree 3)		
Rated operational voltage $U_{\rm e}$	V	690					
Rated impulse withstand voltage U_{imp}	kV	6; 3UF7103 an	d 3UF7104: 8				
Rated frequency	Hz	50/60					
Type of current		Three-phase co	urrent				
Short circuit		Additional short-circuit protection is required in the main circuit					
Accuracy of current measurement (in the range of 1 x minimum current setting $I_{\rm u}$ to 8 x max. current setting $I_{\rm o}$)	%	± 3 (typical)					
Digital modules or multifunction modules							
Туре		3UF7300, 3UF	7310, 3UF7600				
Control circuit							
Rated insulation voltage $U_{\rm i}$	V	300 (at pollutio	n degree 3)				
Rated impulse withstand voltage U _{imp}	kV	4	- ,				
Relay outputs Number Specified short-circuit protection for auxiliary contacts (relay outputs)		2 monostable or bistable relay outputs (depending on the version)					
 Fuse links Miniature circuit breakers Rated uninterrupted current Rated switching capacity 	Α	6 A operational class gG; 10 A quick-response (IEC 60947-5-1) 1.6 A, C characteristic (IEC 60947-5-1); 6 A, C characteristic ($I_{\rm k}$ < 500 A) 6					
- AC-15 - DC-13		6 A/24 V AC; 6 A/120 V AC; 3 A/230 V AC 2 A/24 V DC; 0.55 A/60 V DC; 0.25 A/125 V DC					
Inputs (binary)		4 inputs, electrically isolated, supplied externally with 24 V DC or 110 240 V AC/DC depending on the version, connected to a common potential					
Ground-fault modules or multifunction modules							
Туре		3UF7510, 3UF	7600				
Control circuit							
Connectable residual-current transformer		3UL23					
Type of current for monitoring		Type A (AC and pulsating DC residual currents)					
Adjustable response value		30 mA 40 A					
Relative measurement error	%	7.5					
Temperature modules or multifunction modules							
Туре		3UF7600, 3UF	7700				
Sensor circuit							
Number of temperature sensors • 3UF7700 • 3UF7600		3 temperature 1 temperature					
Typical sensor current • Pt100 • Pt1000/KTY83/KTY84/NTC	mA mA	1 0.2					
Open-circuit/short-circuit detection Sensor type Open circuit Short circuit	_	Pt100/Pt1000	KTY83-110 ✓ ✓	KTY84 ✓	NTC •		
- Measuring range	°C	-50 +500	-50 +175	-40 +300	80 160		
Measuring accuracy at 20 °C ambient temperature (T20)	K	< ± 2					
Deviation due to ambient temperature (in % of measuring range)	%	0.05 per K dev	riation from T20				
Conversion time	ms	500					
Connection type		Two- or three-wire connection					

- ✓ Detection possible
- -- Detection not possible

SIMOCODE 3UF Motor Management and Control Devices

SIMOCODE pro 3UF7 Motor Management and Control Devices

General data

Goriorai data							
Analog module					_		
Туре		3UF74					
Control circuit							
Inputs Channels Parameterizable measuring ranges Shielding Max. input current (destruction limit) Accuracy Input resistance Conversion time Resolution Open-circuit detection	mA mA % Ω ms Bit	2 (passive) 0/4 20 Up to 30 m shield recommended, from 30 m shield required 40 ± 1 50 150 12 With measuring range 4 20 mA					
Outputs		Ů,	<u> </u>				
Channels Parameterizable output range Shielding Max. voltage at output Accuracy Max. output load Conversion time Resolution Short-circuit proof	mA V DC % Ω ms Bit	1 0/4 20 Up to 30 m shield recommended, from 30 m shield required 30 ± 1 500 25 12 Yes					
Connection type		Two-wire connection	ı				
Electrical separation of inputs/output to the device electronics		No					
Fail-safe digital modules							
Туре		3UF7320-1AB00-0	3UF7320-1AU00-0	3UF7330-1AB00-0	3UF7330-1AU00-0		
Control circuit					_		
Rated control supply voltage $U_{\rm s}$	V	24 DC	110 240 AC/DC; 50/60 Hz	24 DC	110 240 AC/DC; 50/60 Hz		
Power consumption		3 W	9.5 VA/4.5 W	4 W	11 VA/5.5 W		
Rated insulation voltage	V	300					
Rated impulse withstand voltage U_{imp}	kV	4					
Relay outputs • Number		2 relay enabling circuits, 2 relay outputs					
Version of the fuse link For short-circuit protection of the relay enabling circuit	Α	4, operational class gG					
Rated uninterrupted current	Α	5					
Rated switching capacity • AC-15 • DC-13		3 A/24 V AC; 3 A/120 V AC; 1.5 A/230 V AC 4 A/24 V DC; 0.55 A/60 V DC; 0.22 A/125 V DC					
Inputs (binary)		5 (with internal power supply from the device electronics)					
Cable length Between sensor/start signal and evaluation electronics For further digital signals	m m	1 500	1 500	300	 300		
Safety data 1)							
SIL level max. according to IEC 61508		3					
Achievable performance level PL according to EN ISO 13849-1		е					
Achievable category according to EN ISO 13849-1	4						
Stop category according to EN 60204-1		0					
Probability of a dangerous failure for SIL 3 applications • Per hour (PFH _d) at a high demand rate according to IEC 62061 • Per hour (PFD _{avg}) at a low demand rate according to IEC 61508 T1 value for proof test interval or	1/h a	1.0 \times 10 ⁻⁸ for 2-channel sensor evaluation 2.0 \times 10 ⁻⁶ for 2-channel sensor evaluation 20					
service duration according to IEC 61508	u	25					

¹⁾ For more safety data, see System Manual "SIMOCODE pro Safety Fail-Safe Digital Modules".

General data

More information

Configuration instructions

When using an operator panel with display, please note that the type and number of expansion modules that can be connected are limited for the use of a SIMOCODE pro V PROFIBUS basic unit (with product version lower than E15) or SIMOCODE pro V Modbus RTU (with product version lower than E03), see

- TIA Selection Tool
- SIMOCODE pro Manual Collection

Protective separation

All circuits in SIMOCODE pro are safely isolated from each other in accordance with IEC 60947-1. That is, they are designed with double creepages and clearances. In the event of a fault, therefore, no parasitic voltages can be formed in neighboring circuits. The instructions of test log No. 2668 must be complied with.

Types of protection EEx e and EEx d

The overload protection and the thermistor motor protection of the SIMOCODE pro system comply with the requirements for overload protection of explosion-proof motors to the type of protection:

- EEx d "Flameproof enclosure" e.g. according to IEC 60079-1
- EEx e "Increased safety" e.g. according to IEC 60079-7

When using SIMOCODE pro devices with a 24 V DC control voltage, electrical separation must be ensured using a battery or a safety transformer according to IEC 61558-2-6. EC type test certificate: BVS 06 ATEX F 001 Test report: BVS PP 05.2029 EC.

Type of protection Ex b

The function for dry-running protection of centrifugal pumps in hazardous areas complies with the requirements of the following type of protection:

• Ex b "Control of ignition source", ignition protection system b1, e.g. according to EN 80079-37

SIMOCODE pro is registered for the dry-running protection of centrifugal pumps by means of active power monitoring according to both ATEX and IEC Ex.

Basic units IE3/IE4 ready

Selection	and	ordering	data
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Selection and orde	ring data					
	Version	SD	Screw terminals	PU (UNIT,	PS*	PG
		d	Article No. Price per PU			
SIMOCODE pro PR	OFIBUS					
	SIMOCODE pro C					
99999	PROFIBUS DP interface, 12 Mbps, RS 485 4 l/3 O freely assignable, input for thermistor connection, monostable relay outputs					
	Rated control supply voltage U _s : • 24 V DC		3UF7000-1AB00-0	1	1 unit	42J
	• 110 240 V AC/DC		3UF7000-1AU00-0	1	1 unit	42J
000000	. 10 2 10 . 7 10/20			· ·		.20
3UF7000-1AB00-0						
anni	SIMOCODE pro S					
	PROFIBUS DP interface, 1.5 Mbps, RS 485 4 I/2 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by a multifunction module					
	Note: The connection cable to the current measuring module must be at least 15 cm.					
EDE	Rated control supply voltage U_s :					
3UF7020-1AU01-0	• 24 V DC		3UF7020-1AB01-0	1	1 unit	42J
	• 110 240 V AC/DC	•	3UF7020-1AU01-0	1	1 unit	42J
999999	SIMOCODE pro V ¹⁾ PROFIBUS DP interface, 12 Mbps, RS 485 4 I/3 O freely assignable, input for thermistor connection,					
99000	monostable relay outputs, can be expanded by expansion modules					
	Rated control supply voltage U_s :					
	• 24 V DC		3UF7010-1AB00-0	1	1 unit	42J
000000	• 110 240 V AC/DC		3UF7010-1AU00-0	1	1 unit	42J
3UF7010-1AB00-0						
SIMOCODE pro PR						
Marine .	SIMOCODE pro V PROFINET GP NEW					
	ETHERNET/PROFINET IO, OPC UA server and web server, 100 Mbps, PROFINET system redundancy, 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion module, web server in German/English/Chinese/Russian					
Section 1	2 x connection to bus through RJ45,					
3UF7011-1AB00-1	Media Redundancy Protocol					
	Rated control supply voltage U_s :					
	• 24 V DC	•	3UF7011-1AB00-1	1	1 unit	42J
	• 110 240 V AC/DC		3UF7011-1AU00-1	1	1 unit	42J
	1 x connection to bus through RJ45,					
	Rated control supply voltage U _s : • 24 V DC		3UF7011-1AB00-2	1	1 unit	40.1
	• 110 240 V AC/DC		3UF7011-1AU00-2	1	1 unit	42J 42J
	SIMOCODE pro V PROFINET		30F7011-1A000-2	'	i uiiit	420
00000	ETHERNET/PROFINET IO, OPC UA server and web server, 100 Mbps, 2 x connection to bus through RJ45, PROFINET system redundancy, media redundancy protocol, 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules, web server in German/English/Chinese/Russian					
01/57044 44 200 0	Rated control supply voltage U_s :					
3UF7011-1AB00-0	• 24 V DC	•	3UF7011-1AB00-0	1	1 unit	42J
4)	• 110 240 V AC/DC		3UF7011-1AU00-0	1	1 unit	42J

¹⁾ For the use of 2nd-generation current/voltage measuring modules, SIMOCODE pro V PROFIBUS with product version E15 (V4.0) must be ordered. This version does not have an NEPSI certificate. It can be ordered at no extra charge. The article number must be supplemented by "-Z" and the order code "B01", e.g. 3UF7010-1AB00-0 -Z B01.

IE3/IE4 ready Basic units

	Version			SD	Screw terminals		PU (UNIT,	PS*	PG
				d	Article No.	Price per PU	SET, M)		
SIMOCODE pro Mo	dbus RTU								
	SIMOCODE pro V Modbus	s RTU ¹⁾⁵⁾							
900000	Modbus RTU interface, 57. 4 I/3 O freely assignable, input for thermistor connec monostable relay outputs, can be expanded by expar	tion,							
	Rated control supply voltage								
Å	• 24 V DC	,3		>	3UF7012-1AB00-0		1	1 unit	42J
999999	• 110 240 V AC/DC			>	3UF7012-1AU00-0		1	1 unit	42J
3UF7012-1A.00-0	,								
SIMOCODE pro Eth	erNet/IP								
	SIMOCODE pro V EtherNe	et/IP ¹⁾							
50000	EtherNet/IP interface, web a 2 x connection to bus throu DLR media redundancy, 4 I/3 O freely assignable, input for thermistor connect monostable relay outputs, can be expanded by exparweb server in German/Engl Rated control supply voltace.	server, 100 Mbps igh RJ45, tion, nsion modules, lish/Chinese/Russ							
3UF7013-1AB00-0	• 24 V DC	je υ _s .		•	211E7012 1AB00 0		4	1 unit	40.1
301 /013-1AD00-0	• 24 V DC • 110 240 V AC/DC				3UF7013-1AB00-0 3UF7013-1AU00-0		1	1 unit 1 unit	42J 42J
SIMOCODE pro our	rent or current/voltage me	oscuring mod	uloc		30F7013-1A000-0		'	i uiiit	420
SIMOCODE pro cui	Current measuring modul		uics						
	Straight-through	0.3 3	45	•	3UF7100-1AA00-0		1	1 unit	42J
SIEMENS	transformers	2.4 25	45		3UF7100-1AA00-0		i	1 unit	42J
		10 100	55	>	3UF7102-1AA00-0		1	1 unit	42J
		20 200	120	>	3UF7103-1AA00-0		1	1 unit	42J
	Busbar connection ⁶⁾	20 200 63 630	120 145	>	3UF7103-1BA00-0 3UF7104-1BA00-0		1 1	1 unit 1 unit	42J 42J
3UF7103-1AA00-0									
The state of the s	2nd-generation current/vo for SIMOCODE pro V ¹⁾²⁾	oltage measuring	g modules						
•••	Voltage measuring up to 69 measured values with increpower, power factor and free	eased accuracy,	ng						
	 Straight-through 	0.3 4	45	>	3UF7110-1AA01-0		1	1 unit	42J
	transformers	3 40	45		3UF7111-1AA01-0		1	1 unit	42J
		10 115	55		3UF7112-1AA01-0		1	1 unit	42J
	• Dualitar appropriation (1)	20 200	120		3UF7113-1AA01-0		'	1 unit	42J
3UF7110-1AA01-0	 Busbar connection⁶⁾ 	20 200 63 630	120 145	>	3UF7113-1BA01-0 3UF7114-1BA01-0		1 1	1 unit 1 unit	42J 42J
	Current/voltage measuring of centrifugal pumps in ha	modules for dry	running p	rotection					
							_	a 11	40.1
300	 Straight-through transformers 	0.3 4 3 40	45 45	>	3UF7120-1AA01-0 3UF7121-1AA01-0		1 1	1 unit 1 unit	42J 42J
4 4		10 115	55	•	3UF7122-1AA01-0		1	1 unit	42J
SHOUND SUPPL		20 200	120		3UF7123-1AA01-0		i	1 unit	42J
1000	Busbar connection ⁶⁾	20 200	120	>	3UF7123-1BA01-0		1	1 unit	42J
3UF7123-1AA01-0		63 630	145	•	3UF7124-1BA01-0		1	1 unit	42J



- 1) The SIMOCODE ES (TIA Portal) V14 software or higher is necessary for parameterization, see page 14/12.
- When installing the basic unit on a current/voltage measuring module, the connection cable must be at least 15 cm long.
- 3) The current/voltage measuring modules for dry-running protection require SIMOCODE pro V PROFIBUS basic units as of product version E16 (expected to be available from 03/2019), SIMOCODE pro V PROFINET as of product version E13 (expected to be available from 10/2018) or SIMOCODE pro V EtherNet/IP as of product version E04 (expected to be available from 03/2019).
- When using an operator panel with display with the current/voltage measuring modules for dry-running protection, an operator panel with display as of product version E03 (both versions 3UF7210-1AA01-0 and 3UF7210-1BA01-0 expected to be available from 03/2019) is required.
- 5) For the use of 2nd-generation current/voltage measuring modules, SIMOCODE pro V Modbus RTU with product version E03 (V2.0) must be ordered. This version does not have an NEPSI certificate. It can be ordered at no extra charge. The article number must be supplemented by "-Z" and the order code "B01", e.g. 3UF7012-1AB00-0 -Z B01.
- 6) One terminal parts kit 3RT1955-4PA00 or 3RT1966-4PA00 (see page 10/24) is included in the scope of delivery for connection to a contactor.

Note:

SIMOCODE pro V basic unit in a hardened version via SIPLUS extreme upon request.

Basic units IE3/IE4 ready

	Version	Current setting	Width	SD	Screw terminals	1	PU (UNIT,	PS*	PG
		А	mm	d	Article No.	Price per PU	SET, M)		
SIMOCODE pro opera	ator panels								
	Operator panels								
3UF7200-1AA01-0	Installation in control cabinet door or front plate, for plugging into all SIMOCODE pro basic units, ten LEDs for status indication and user-assignable buttons for controlling the motor, titanium gray			•	3UF7200-1AA01-0		1	1 unit	42J
	Operator panels with display	y for SIMOCODE	pro V						
NAME OF THE PARTY	Installation in control cabinet of plugging into SIMOCODE pro indication and user-assignable motor, multilingual display, e.g. values, status information or fa	V, seven LEDs for e buttons for cont g. for indication of	r status rolling the measured						
3UF7210-1.A01-0	 English/German/French/Spa Italian/Polish/Finnish 	nish/Portuguese/		•	3UF7210-1AA01-0		1	1 unit	42J
3UF121U-1.AU1-U	• English/Chinese/Russian/Ko	rean		>	3UF7210-1BA01-0		1	1 unit	42J

Expansion modules

Selection and ordering data

Version	SD	Screw terminals	(1)	PU (UNIT,	PS*	PG
	d	Article No.	Price per PU	SET, M)		

Expansion modules for SIMOCODE pro V

With SIMOCODE pro V, it is possible to expand the type and number of inputs and outputs in steps. Each expansion module has two system interfaces on the front. Through the one system interface the expansion module is connected to the system interface of the SIMOCODE pro V using a connection cable; through the second system interface, further expansion modules or the operator panel can be connected. The power supply for the expansion modules is provided by the connection cable through the basic unit.

Notes

The SIMOCODE pro V PN GP basic unit can be used with the 3UF7300-1A.00-0 monostable digital module, the 3UF7510-1AA00-0 ground-fault module, or the 3UF7700-1AA0-0 temperature module.

Please order connection cable separately, see page 10/22.



3UF7300-1AB00-0

Digital modules

Up to two digital modules can be used to add additional binary inputs and relay outputs to the basic unit. The input circuits of the digital modules are supplied from an external power supply.

Four binary inputs and two relay outputs, up to two digital modules can be connected

Relay outputs	Input voltage					
Monostable	24 V DC	>	3UF7300-1AB00-0	1	1 unit	42J
	110 240 V AC/DC	>	3UF7300-1AU00-0	1	1 unit	42J
Bistable	24 V DC	>	3UF7310-1AB00-0	1	1 unit	42J
	110 240 V AC/DC	▶	3UF7310-1AU00-0	1	1 unit	42J
Analog modules						

3UF7400-1AA00-0

3UF7510-1AA00-0



3UF7400-1AA00-0

(0/4 ... 20 IIIA).

Two inputs (passive) for input and one output for output of 0/4 ... 20 mA signals, max. one analog module can be connected per pro V PB/MB RTU basic unit and max. two analog modules per pro V PN/EIP basic unit

By means of the analog module, the basic unit can

be optionally expanded by analog inputs and outputs

Ground-fault modu
Craunal fault manita

Ground-fault monitoring using 3UL23 residual-current transformers and ground-fault modules is used in cases where precise detection of the ground-fault current is required or power systems with high impedance are grounded.

With the ground-fault module, it is possible to determine the precise fault current as a measured value, and to define freely selectable warning and trip limits in a wide range from 30 mA ... 40 A.

One input for connecting a 3UL23 residual-current transformer, up to one ground-fault module can be connected

Note:

For corresponding residual-current transformers, see page 10/94.



3UF7510-1AA00-0

3UF7700-1AA00-0

Temperature modules

Irrespective of the thermistor motor protection of the basic units, up to an additional three analog temperature sensors can be evaluated using a temperature module.

Sensor types: Pt100/Pt1000, KTY83/KTY84 or NTC

Three inputs for connecting up to three analog temperature sensors, up to one temperature module can be connected per pro V PB/MB RTU basic unit and up to two temperature modules per pro V PN/EIP basic unit

3UF7700-1AA00-0

1 unit 42J

1 unit

1 unit

42J

42J

Siemens IC 10 · 2019

Expansion modules

	Version	SD	Screw terminals	PU (UNIT,		PS*	PG
		d	Article No. Price per PU	SÈT, M)			
Expansion modules t	for SIMOCODE pro S						
	With SIMOCODE pro S, it is possible to expand the type and number of inputs and outputs. The expansion module has two system interfaces on the front. Through the one system interface the expansion module is connected to the system interface of the SIMOCODE pro S using a connection cable; through the second system interface, the operator panel can be connected. The power supply for the expansion module is provided by the connection cable through the basic unit. Note: Please order connection cable separately, see page 10/22.						
	N. D. C.						
3UF7600-1AU01-0	Multifunction modules The multifunction module is the expansion module of the SIMOCODE pro S device series with the following functions: Digital module function with four digital inputs and two monostable relay outputs Ground-fault module function with an input for the connection of a 3UL23 residual-current transformer with freely selectable warning and trip limits in a wide zone of 30 mA 40 A Temperature module function with an input for connecting an analog temperature sensor Pt100, Pt1000, KTY83, KTY84. or NTC						
	Max. one multifunction module can be connected per pro S basic unit						
	Input voltage of the digital inputs:						
	• 24 V DC	>	3UF7600-1AB01-0	1	1	1 unit	42J
	• 110 240 V AC/DC	>	3UF7600-1AU01-0	1	1	1 unit	42J

Fail-safe expansion modules

Colootion and codesi	u a data						
Selection and orderi	ng data						
	Version	SD	Screw terminals	((PU JNIT,	PS*	PG
		d	Article No. Price per PU	3	T, M)		
Fail-safe expansion r	nodules for SIMOCODE pro V						
	Thanks to the fail-safe expansion modules, SIMOCODE pro V can be expanded with the function of a safety relay for the fail-safe disconnection of motors. A maximum of one fail-safe digital module can be connected; it can be used instead of a digital module.						
	The fail-safe expansion modules are equipped likewise with two system interfaces at the front for making the connection to other system components. Unlike other expansion modules, power is supplied to the modules through a separate terminal connection.						
	Note: Please order connection cable separately, see page 10/22.						
A Company of the Comp	DM-F Local fail-safe digital modules						
ccccc	For fail-safe disconnection using a hardware signal						
M M	Two relay enabling circuits, joint switching; two relay outputs, common potential disconnected fail-safe; inputs for sensor circuit, start signal, cascading and feedback circuit, safety function adjustable using DIP switches						
	Rated control supply voltage U_s :						
eeecee.	• 24 V DC	>	3UF7320-1AB00-0		1	1 unit	42J
3UF7320-1AB00-0	• 110 240 V AC/DC	•	3UF7320-1AU00-0		1	1 unit	42J
	DM-F PROFIsafe fail-safe digital modules ¹⁾						
000000	For fail-safe disconnection using PROFIBUS/PROFIsafe or PROFINET/PROFIsafe						
SUMMERS SER PROPERTY	Two relay enabling circuits, joint switching; two relay outputs, common potential disconnected fail-safe; one input for feedback circuit; three binary standard inputs						
are de la companya de	Rated control supply voltage U_s :						
	• 24 V DC		3UF7330-1AB00-0		1	1 unit	42J
01157000 145000	• 110 240 V AC/DC		3UF7330-1AU00-0		1	1 unit	42J

¹⁾ Cannot be used in conjunction with SIMOCODE pro V for Modbus RTU or EtherNet/IP communication.

3UF7330-1AB00-0

Accessories

Selection and orderi	ng data							
	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
-			d					
Connection cables (e	• • • • • • • • • • • • • • • • • • • •							
	In different lengths for connecting I measuring module, current/voltage operator panel or expansion modu	measuring module,						
	Version	Length						
3UF7932-0AA00-0	Flat	0.025 m 0.1 m 0.15 m 0.3 m 0.5 m	* * * *	3UF7930-0AA00-0 3UF7931-0AA00-0 3UF7934-0AA00-0 3UF7935-0AA00-0 3UF7932-0AA00-0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42J 42J 42J 42J 42J
	Round	0.5 m	▶	3UF7932-0BA00-0		1	1 unit	42J
		1.0 m 2.5 m		3UF7937-0BA00-0 3UF7933-0BA00-0		1 1	1 unit 1 unit	42J 42J
PC cables and adapte	are	2.5 111		30F7933-0DA00-0		'	i uiiit	420
r c cables and adapte	USB PC cables		>	3UF7941-0AA00-0		1	1 unit	42J
3UF7941-0AA00-0	For connecting to the USB interfactor communication with SIMOCODI the system interface			0017341 UAA00 0		, ,	Turne	720
	USB/serial adapters		5	3UF7946-0AA00-0		1	1 unit	42J
	For connecting an RS 232 PC cable the USB interface of a PC	e to						
Memory modules								
N F N S	Enable transmission to a new syste is replaced, without the need for ad knowledge of the device.							
S S S S S S S S S S S S S S S S S S S	Memory modules for SIMOCODE	pro C		3UF7900-0AA01-0		1	1 unit	42J
3UF7901-0AA01-0	For saving the complete parameter SIMOCODE pro C system, titanium							
	Memory modules for SIMOCODE	pro S and pro V	>	3UF7901-0AA01-0		1	1 unit	42J
	For saving the complete parameter SIMOCODE pro system, titanium g							
Interface covers								
3RA6936-0B	For system interface, titanium gray		10	3RA6936-0B		1	5 units	42F
Addressing plugs								
	For assigning the PROFIBUS or Mo without using a PC/PG to SIMOCOl system interface		•	3UF7910-0AA00-0		1	1 unit	42J
3UF7910-0AA00-0								

							Access	ories
	Version		SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
					p	SET, M)		
			d					
Accessories for moto								
	With the draw-out technology ofter centers it is possible to integrate a							
	initialization module in the switchb	oard on a permanent						
	basis. Feeder-related parameter at then be permanently assigned to t							
	Initialization modules	nis leedel.	>	3UF7902-0AA00-0		1	1 unit	42J
3UF7902-0AA00-0	For automatic parameterization of	SIMOCODE pro S		301 7302-0AA00-0		'	T CITIL	420
001 7002 07 0700 0	and SIMOCODE pro V basic units basic units from product version El	(pro V PROFIBUS						
	Y connection cables	59)						
	For use in conjunction with the initi	alization module:						
	connects the basic unit, current me							
	current/voltage measuring module module	, and initialization						
	System interface length	Open cable end						
	0.1 m	1.0 m		3UF7931-0CA00-0		1	1 unit	42J
	0.5 m	1.0 m		3UF7932-0CA00-0		1	1 unit	42J
	1.0 m	1.0 m		3UF7937-0CA00-0		1	1 unit	42J
Bus connection termi		1.0 111	_	COLLEGE COMOCO		•	1 Gritt	120
1	For shield support and strain relief	of the PROFIBUS cable	>	3UF7960-0AA00-0		1	1 unit	42J
	on a SIMOCODE pro S							
A had								
4-6								
3UF7960-0AA00-0								
Door adapters								
	For external connection of the syst e.g. outside a control cabinet	em interface,		3UF7920-0AA00-0		1	1 unit	42J
	e.g. outside a control capinet							
3UF7920-0AA00-0								
Adapters for operator	[•] panel							
	The adapter enables the smaller 3 from SIMOCODE pro to be used in			3UF7922-0AA00-0		1	1 unit	42J
	which previously, e.g. after a change							
1 11 11	3UF52 operator panel from SIMOC	ODE-DP had been						
	used, degree of protection IP54							
3UF7922-0AA00-0								
Labeling strips								
	• For pushbuttons of the 3UF720 of	perator panel	>	3UF7925-0AA00-0		100	400 units	42J
SEMENS	For pushbuttons of the 3UF721 of the display.	perator panel	>	3UF7925-0AA01-0		100	600 units	42J
SOMES	with display	rnanal	•	21157025 04 400 0		100	1 200	42J
20 20 20 20 20 20 20 20 20 20 20 20 20 2	For LEDs of the 3UF720 operator	panei		3UF7925-0AA02-0		100	1 200 units	42J
In the second								
Differences and								
01/57005-07-1-5								
3UF7925-0AA02-0								
Push-in lugs	For earny fixing a second in	ploto						
	For screw fixing, e.g. on mounting 2 units required per device	piale,						
	• Can be used for 3UF71.0, 3UF71	.1 and 3UF71.2	2	3RV2928-0B		100	10 units	41E
W.	• Can be used for 3UF700, 3UF701		5	3RP1903		1	10 units	41H
3RV2928-0B	and 3UF77							
0117727C0-0D	 Can be used for 3UF7020, 3UF7 	600	2	3ZY1311-0AA00		1	10 units	41L

Accessories

Version SD Article No. Price per PU (UNIT, SET, M) PU (UNIT, SET, M) Price (UNIT, SET, M) Pu (UNIT, SET, M) Price (UNIT, SET, M) Price per PU (UNIT, SET, M) Pr	
Terminal covers Covers for cable lugs and busbar connections Length 100 mm, can be used for 3UF71.3-1BA00 Length 120 mm, can be used for 3UF71.3-1BA00 Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA1 1 1 u RT1956-4EA2 1 1 u	unit 41B
Covers for cable lugs and busbar connections Length 100 mm, can be used for 3UF71.3-1BA00 SRT1956-4EA1 1 1 u Length 120 mm, can be used for 3UF71.4-1BA00 2 3RT1966-4EA1 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u Covers for box terminals Length 25 mm, can b	
Covers for cable lugs and busbar connections Length 100 mm, can be used for 3UF71.3-1BA00 SIEMENS	
Covers for cable lugs and busbar connections	
• Length 100 mm, can be used for 3UF71.3-1BA00 • Length 120 mm, can be used for 3UF71.4-1BA00 • Length 120 mm, can be used for 3UF71.4-1BA00 Covers for box terminals • Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA1 1 1 u 3RT1956-4EA1 1 1 u 1 1 u 3RT1956-4EA1 1 1 u 1 u	
• Length 120 mm, can be used for 3UF71.4-1BA00 2 3RT1966-4EA1 1 1 under the state of the stat	
Covers for box terminals • Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u	
• Length 25 mm, can be used for 3UF71.3-1BA00 3RT1956-4EA2 1 1 u	ınit 41B
• Length 30 mm, can be used for 3UF71.4-1BA00 2 3RT1966-4EA2 1 1 u	ınit 41B
	ınit 41B
3RT1956-4EA1 Covers for screw terminals	
Between contactor and current measuring module or	
Current/voltage measuring module for direct mounting	
• Can be used for 3UF71.3-1BA00 3RT1956-4EA3 1 1 u	ınit 41B
3RT1956-4EA2	ınit 41B
Terminal parts kit	
Can be used for current and/or current/voltage measuring	
modules with standard mounting rail connection, complete for one contactor	
• M 8 x 25 5 3RT1955-4PA00 1 1 u	ınit 41B
• M 10 x 30 5 3RT1966-4PA00 1 1 u	
Box terminal blocks	
For round and ribbon cables	
• Up to 70 mm ² , can be used for 3UF71.3-1BA00 3RT1955-4G 1 1 ur	nit 41B
• Up to 120 mm ² , can be used for 3UF71.3-1BA00 3RT1956-4G 1 1 ur	nit 41B
• Up to 240 mm ² , can be used for 3UF71.4-1BA00 3RT1966-4G 1 1 ur	ınit 41B
3RT1954G	
Bus termination modules	
With separate control supply voltage for bus termination	
following the last unit on the bus line	
Supply voltage:	
• 115/230 V AC 5 3UF1900-1KA00 1 1 u	
• 24 V DC 5 3UF1900-1KB00 1 1 u	ınit 42J
CE REPRODUCED	
3UF1900-1KA00	
Software	
Software SIMOCODE ES (TIA Portal) NEW	
Software SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and	
Software SIMOCODE ES (TIA Portal) NEW	
Software SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal,	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12.	
Software SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal,	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12.	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12.	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12.	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12. SIMOCODE pro block library for SIMATIC PCS 7 The PCS 7 block library can be used for simple and easy	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12. SIMOCODE pro block library for SIMATIC PCS 7 The PCS 7 block library can be used for simple and easy integration of SIMOCODE pro into the SIMATIC PCS 7	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12. SIMOCODE pro block library for SIMATIC PCS 7 The PCS 7 block library can be used for simple and easy integration of SIMOCODE pro into the SIMATIC PCS 7 process control system,	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12. SIMOCODE pro block library for SIMATIC PCS 7 The PCS 7 block library can be used for simple and easy integration of SIMOCODE pro into the SIMATIC PCS 7	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12. SIMOCODE pro block library for SIMATIC PCS 7 The PCS 7 block library can be used for simple and easy integration of SIMOCODE pro into the SIMATIC PCS 7 process control system,	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12. SIMOCODE pro block library for SIMATIC PCS 7 The PCS 7 block library can be used for simple and easy integration of SIMOCODE pro into the SIMATIC PCS 7 process control system, see page 14/16.	
SIMOCODE ES (TIA Portal) NEW Software for configuring, commissioning, operating and diagnosing SIMOCODE pro based on the TIA Portal, see page 14/12. SIMOCODE pro block library for SIMATIC PCS 7 The PCS 7 block library can be used for simple and easy integration of SIMOCODE pro into the SIMATIC PCS 7 process control system, see page 14/16.	

SIMOCODE 3UF Motor Management and Control Devices

3UF18 current transformers for overload protection

Overview

More information

Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3UF18

The 3UF18 current transformers are protection transformers and are used for actuating overload relays. Protection transformers are designed to ensure proportional current transfer up to a multiple of the primary rated current. The 3UF18 current transformers convert the maximum current of the corresponding operating range into the standard value of 1 A secondary.

Selection and ordering data

	Type of mounting	Operating range	SD	Screw terminals		PU (UNIT,	PS*	PG
		A	d	Article No.	Price per PU	SET, M)		
For mounting onto conta	ctors and stand-alone instal	lation						
3UF1868	Screw fixing	205 820	X	3UF1868-3GA00		1	1 unit	42J

Accessories

	For contactor type	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Terminal covers							
	For transformer/contactor combinations and stand-alone installation for 3UF1868-3GA00 transformer	5	3TX7696-0A		1	1 unit	41B
	Note: One cover required per connection side.						

General data

Overview



LOGO! logic modules

More information

Homepage, see www.siemens.com/LOGO

Industry Mall, see www.siemens.com/product?logo

LOGO!, see Catalog ST 70

To download brochures, see www.siemens.com/simatic/printmaterial

- The compact, user-friendly, and low-cost solution for simple control tasks
- Compact, user-friendly, can be used universally without accessories
- All in one: The display and operator panel are integrated
- 36 different functions can be linked at a press of a button or with PC software; up to 130 times in total
- LOGO! 8: 38/43 different functions can be linked at a press of a button or with PC software; up to 200/400 times in total
- Functions can be changed simply with the press of a button.
 No complicated rewiring

Application

The LOGO! logic module is the user-friendly, low-cost solution for simple control tasks.

LOGO! is universally applicable, e.g.:

- Building installation and wiring (lighting, shutters, awnings, doors, access control, barriers, ventilation systems, etc.)
- · Control cabinet installation
- Machine and device construction (pumps, small presses, compressors, hydraulic lifts, conveyors, etc.)
- Special controls for conservatories and greenhouses
- Signal preprocessing for other controllers

LOGO! Modular logic modules can be expanded easily for each application.

Marine approvals

American Bureau of Shipping, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd, Lloyds Register of Shipping, Polski Rejestr Statków, etc.

LOGO! basic modules with display

Overview



LOGO! basic module with display

- The space-saving basic versions
- Interface for connecting expansion modules, max. 24 digital inputs, 20 digital outputs, 8 analog inputs and 8 analog outputs can be addressed
- All basic units with integrated web server
- Enclosure width 72 mm (4 MW)
- All basic units with Ethernet interface for communication with LOGO! 8, LOGO! TDE, SIMATIC Controllers, SIMATIC Panels and PCs
- Use of standard micro SD cards

Selection and ordering data

Version	SD	Screw terminals	(1)	PU (UNIT,	PS*	PG
	d	Article No.	Price per PU	SÈT, M)		
LOGO! 8 logic modules						
LOGO! logic modules 24CE	1	6ED1052-1CC08-0BA0		1	1 unit	200
Control supply voltage 24 V DC, 8 digital inputs 24 V DC, of which 4 can be used as analog inputs (0 10 V), 4 digital outputs 24 V DC, 0.3 A, with integrated time switch, Ethernet interface, 400 function blocks can be combined, modular expandability						
LOGO! logic modules 12/24RCE	1	6ED1052-1MD08-0BA0		1	1 unit	200
Control supply voltage 12 24 V DC, 8 digital inputs 12/24 V DC, of which 4 can be used as analog inputs (0 10 V), 4 relay outputs 10 A, integrated time switch, Ethernet interface, 400 function blocks can be combined, modular expandability						
LOGO! logic modules 24RCE	1	6ED1052-1HB08-0BA0		1	1 unit	200
Control supply voltage 24 V AC/DC, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integrated time switch, Ethernet interface, 400 function blocks can be combined, modular expandability						
LOGO! logic modules 230RCE	1	6ED1052-1FB08-0BA0		1	1 unit	200
Control supply voltage 115 230 V AC/DC, 8 digital inputs 115 230 V AC/DC, 4 relay outputs 10 A, integrated time switch, Ethernet interface, 400 function blocks can be combined, modular expandability						

LOGO! basic modules without display

Overview



LOGO! basic module without display

- The cost-optimized basic versions
- Interface for connecting expansion modules, max. 24 digital inputs, 20 digital outputs, 8 analog inputs and 8 analog outputs can be addressed
- With connection option for LOGO! TDE text display
- All basic units with integrated web server
- Enclosure width 72 mm (4 MW)
- All basic units with Ethernet interface for communication with LOGO! 8, LOGO! TDE, SIMATIC Controllers, SIMATIC Panels and PCs
- Use of standard micro SD cards

Selection and ordering data

Version	SD	Screw terminals		PU (UNIT,	PS*	PG
	d	Article No.	Price per PU	SET, M)		
LOGO! 8 logic modules						
LOGO! logic modules 24CEo	1	6ED1052-2CC08-0BA0		1	1 unit	200
Control supply voltage 24 V DC, 8 digital inputs 24 V DC, of which 4 can be used as analog inputs (0 10 V), 4 digital outputs 24 V DC, 0.3 A; integrated time switch, Ethernet interface, without display or keyboard, 400 function blocks can be combined, modular expandability						
LOGO! logic modules 12/24RCEo	1	6ED1052-2MD08-0BA0		1	1 unit	200
Control supply voltage 12 24 V DC, 8 digital inputs 12 24 V DC, of which 4 can be used as analog inputs (0 10 V), 4 relay outputs 10 A, integrated time switch, Ethernet interface, without display or keyboard, 400 function blocks can be combined, modular expandability						
LOGO! logic modules 24RCEo	1	6ED1052-2HB08-0BA0		1	1 unit	200
Control supply voltage 24 V AC/DC, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integrated time switch, Ethernet interface, without display or keyboard, 400 function blocks can be combined, modular expandability						
LOGO! logic modules 230RCEo	1	6ED1052-2FB08-0BA0		1	1 unit	200
Control supply voltage 115 230 V AC/DC, 8 digital inputs 115 230 V AC/DC, 4 relay outputs 10 A, integrated time switch, Ethernet interface, without display or keyboard, 400 function blocks can be combined, modular expandability						

LOGO! expansion modules

Overview



- Expansion modules for connection to LOGO! basic modules
- With digital inputs and outputs, analog inputs or analog outputs

LOGO! expansion modules

Selection and ordering data

Version	SD	Screw terminals	+	PU (UNIT,	PS*	PG
	d	Article No.	Price per PU	SÈT, M)		
LOGO! 8 expansion modules						
LOGO! DM8 24	1	6ED1055-1CB00-0BA2		1	1 unit	200
Control supply voltage 24 V DC, 4 digital inputs 24 V DC, 4 digital outputs 24 V DC, 0.3 A						
LOGO! DM16 24	1	6ED1055-1CB10-0BA2		1	1 unit	200
Control supply voltage 24 V DC, 8 digital inputs 24 V DC, 8 digital outputs 24 V DC, 0.3 A						
LOGO! DM8 12/24R	1	6ED1055-1MB00-0BA2		1	1 unit	200
Control supply voltage 12 24 V DC, 4 digital inputs 12 24 V DC, 4 relay outputs 5 A						
LOGO! DM8 24R	1	6ED1055-1HB00-0BA2		1	1 unit	200
Control supply voltage 24 V AC/DC, 4 digital inputs 24 V AC/DC, 4 relay outputs 5 A						
LOGO! DM16 24R	1	6ED1055-1NB10-0BA2		1	1 unit	200
Control supply voltage 24 V DC, 8 digital inputs 24 V DC, 8 relay outputs 5 A						
LOGO! DM8 230R	1	6ED1055-1FB00-0BA2		1	1 unit	200
Control supply voltage 115 230 V AC/DC, 4 digital inputs 115 230 V AC/DC, 4 relay outputs 5 A						
LOGO! DM16 230R	1	6ED1055-1FB10-0BA2		1	1 unit	200
Control supply voltage 115 230 V AC/DC, 8 digital inputs 115 230 V AC/DC, 8 relay outputs 5 A						
LOGO! AM2	1	6ED1055-1MA00-0BA2		1	1 unit	200
Control supply voltage 12 24 V DC, 2 analog inputs 0 10 V or 0 20 mA, 10-bit resolution						
LOGO! AM2 PT 100	1	6ED1055-1MD00-0BA2		1	1 unit	200
Control supply voltage 12 24 V DC, 2 analog inputs Pt100, temperature range -50 °C +200 °C						
LOGO! AM2 AQ	1	6ED1055-1MM00-0BA2		1	1 unit	200
Control supply voltage 24 V DC, 2 analog outputs 0 10 V, 0/4 20 mA						

LOGO! Communication Modules

LOGO! CMK2000 communication modules

Overview



LOGO! CMK2000 communication modules

- Expansion module for the LOGO! 8 basic versions
- For integration of LOGO! 8 in KNX installations
- 24 digital inputs, 20 digital outputs and 8 analog inputs and outputs each for processing of process signals via KNX

Information regarding compatibility:

LOGO! CMK2000 communication modules can be used with LOGO! \dots 0BA8.

Application

With the LOGO! CMK2000 communication modules, the LOGO! 8 logic module series can be integrated in the KNX building system bus.

Designed for small-scale automation solutions, LOGO! 8 can be used in combination with the new communication module for building automation tasks, for example for monitoring, access control, air conditioning, lighting, shading and watering, even extending to pump control.

Selection and ordering data

Version	SD	Screw terminals		PU (UNIT,	PS*	PG
	d	Article No.	Price per PU	SET, M)		
LOGO! CMK2000 communication modules						
For integration of LOGO! 8 in the KNX building system bus, max. 50 communication objects can be configured; RJ45 port for Ethernet; supply voltage 24 V DC/40 mA	1	6BK1700-0BA20-0AA0		1	1 unit	470

LOGO! Logic Modules LOGO! Communication Modules

LOGO! CSM unmanaged

Overview



LOGO! CSM unmanaged

The module is used for the connection of a LOGO! and up to three additional nodes to an Industrial Ethernet network with 10/100 Mbps in an electrical line, tree or star structure.

Key features of the LOGO! CSM are:

- Unmanaged 4-port switch, of which one port on the front side is for simple diagnostics access
- Two versions for the voltage ranges 12/24 V DC or 230 V AC/DC
- It is easy to connect via four RJ45 standard plug-in connections
- Space-saving, optimized for connection to LOGO!
- Economical solution for creating small, local Ethernet networks
- Stand-alone use for networking any number of Ethernet devices

Information regarding compatibility:

LOGO! CSM 12/24 communication modules can be used with LOGO! ...0BA7/...0BA8.

Benefits

- Savings on installation costs and installation space compared to using external network components
- Fast commissioning since configuring is not necessary
- Fast and uncomplicated diagnostics access in the control cabinet
- Flexible expansion of the network thanks to simple connection of the CSM

Application

LOGO! CSM is an Industrial Ethernet switch in a compact, modular design for use in devices of the new LOGO! generation with Industrial Ethernet connection. With the LOGO! CSM, the Ethernet interface of the SIMATIC LOGO! can be multiplied to enable simultaneous communication with control panels, programming devices, other controllers, or the office world.

External access (e.g. for diagnostics purposes) is possible without problems via the four Ethernet ports.

Product versions

LOGO!CSM 12/24 (now in LOGO! 8 design)

For operation with direct current at 12 and 24 volts

Selection and ordering data

Version	SD	Screw terminals		PU (UNIT,	PS*	PG
	d	Article No.	Price per PU	SET, M)		
LOGO! CSM compact switch modules						
Unmanaged switch for connection to a LOGO! and up to three additional nodes in the Industrial Ethernet with 10/100 Mbps; 4 x RJ45 ports; LED diagnostics, LOGO! module						
LOGO! CSM 12/24 External 12 V DC or 24 V DC power supply; for LOGO!0BA7/0BA8	1	6GK7177-1MA20-0AA0		1	1 unit	5P1

For accessories, see page 10/34 onwards.

More information

Selection Tools:

To assist in selecting the right Industrial Ethernet switches as well as in the configuration of modular variants, the SIMATIC NET Selection Tool and the TIA Selection Tool are available.

SIMATIC NET Selection Tool, see

www.siemens.com/snst-standalone

TIA Selection Tool, see www.siemens.com/tia-selection-tool

LOGO! Communication Modules

LOGO! CMR (mobile wireless communication)

Overview



LOGO! CMR

LOGO! CMR is suitable in combination with the LOGO! logic module as a low-cost remote signaling system for monitoring and controlling distributed plants and systems via text messages or email.

LOGO! CMR can send text messages or emails to predefined mobile network numbers and also receive text messages from predefined mobile network numbers.

Sending a text message/email can be initiated by events in the LOGO! basic module as well as by the two digital alarm inputs of the LOGO! CMR. The values in the LOGO! logic module can be directly influenced by receiving a text message.

The LOGO! CMR offers convenient commissioning and diagnostics via web-based management, via local and/or remote access.

The two digital outputs can also be connected remotely via incoming text messages/emails.

The LOGO! CMR determines the current position of the module using the GPS signal received via the GPS antenna. In addition, the LOGO! 8 logic module can also be synchronized by means of the time-of-day included in the GPS signal.

Further options for synchronizing the LOGO! BM with the current time-of-day are calculation of the time-of-day via an NTP server or from the data of the mobile wireless service provider.

Product versions

- LOGO! CMR2020 for use in GSM/GPRS mobile wireless networks
- LOGO! CMR2040 for use in LTE mobile wireless networks Information regarding compatibility:

LOGO! CMR2020 and LOGO! CMR2040 can be used with LOGO! ...0BA8.

Caution! Observance of national mobile wireless approvals is mandatory:

- DE: www.siemens.de/mobilfunkzulassungen
- EN: www.siemens.com/mobilenetwork-approvals

Benefits

- Low-cost alarm signaling system low investment and operating outlay for the monitoring and control of small systems via text message and/or email
- Reduction of travel/maintenance costs thanks to remote access via OpenVPN and HTTP for configuring the LOGO! CMR or LOGO! 8 logic module
- Easy-to-use thanks to intuitive text messaging syntax with alias text messaging function or assignment and use of symbolic names
- Simple configuration process via Web Based Management without the need for special knowledge of radio communications
- Internationally deployable thanks to communication via GSM, UMTS, and LTE networks
- Time synchronization of the LOGO! 8 logic module using the time determined from the GPS signal, an NTP server or the time from the mobile radio provider
- Harmonizes with LOGO! 8 series with regard to functioning, design and structure
- · Fast installation thanks to standard rail mounting

Application

In industrial environments

- Simple remote diagnostics and remote control tasks in LOGO! applications in the plant and machine environment, e.g. gate controls, ventilation systems, industrial water pumps, automatic dry feeders in agriculture
- Simple building automation including building equipment, e.g. for HVAC (Heating, Ventilation and Air Conditioning), pump controller
- Remote control and monitoring of, e.g. level, pressure, temperature, flow, and valve control in the water/wastewater industry
- Position monitoring in the logistics industry, e.g. for vehicles, refrigeration transporters, containers
- Simplest possible metering and energy management systems in distributed buildings controlled with LOGO!
- Design of systems for monitoring and controlling simple telecontrol stations
- Remote connection of distributed local controllers via LOGO!

 Remote control and monitoring of low-end machine controls (usually discrete logic)

In non-industrial environments

- Remote control and monitoring of automation tasks in domestic building and installation systems, e.g.
 - Stairway lighting
 - External lighting
 - Awnings, shutters
- Shop window lighting
- Remote control of HVAC in dwellings, greenhouses, etc.

LOGO! Logic Modules LOGO! Communication Modules

LOGO! CMR (mobile wireless communication)

Selection and ordering data

Version	SD	Screw terminals	(1)	PU (UNIT,	PS*	PG
	d		Price er PU	SET, M)		
LOGO! CMR Communication Module Radio						
Communication modules for connecting LOGO!0BA8 to a GSM/GPRS or LTE network; 1 x RJ45 port for Industrial Ethernet connection; 2 x digital input; 2 x digital output; read/write access to LOGO! variables; sending/receiving text messages; GPS position detection; time-of-day synchronization/forwarding with real-time clock; configuration and diagnostics via WEB interface; observe national approval!						
LOGO! CMR2020 For connecting LOGO!0BA8 to GSM/GPRS networks	1	6GK7142-7BX00-0AX0		1	1 unit	5P1
LOGO! CMR2040 For connecting LOGO!0BA8 to LTE network	5	6GK7142-7EX00-0AX0		1	1 unit	5P1

For accessories, see page 10/34 onwards.

More information

Selection Tools

To assist in selecting the right Industrial Ethernet switches as well as in the configuration of the LOGO! logic module, the TIA Selection Tool is available.

TIA Selection Tool, see www.siemens.com/tia-selection-tool

Accessories

Selection and ordering data						
Version	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	d			SET, M)		
Accessories for LOGO! 8						
LOGO! TDE text display 6-line text display, can be connected to all LOGO! 8 versions with and without display, with 2 Ethernet interfaces; including installation accessories Note: Requires additional 12 V DC power supply or 24 V AC/DC power supply.	1	6ED1055-4MH08-0BA0		1	1 unit	200
LOGO! Software						
LOGO!Soft Comfort V8 For programming on the PC in LAD/FBD; runs on Windows 8, 7, XP, Linux and Mac OSX; on DVD	1	6ED1058-0BA08-0YA1		1	1 unit	200
LOGO! 8 Starter Kits						
In TANOS box, with LOGO! 8, LOGO!Soft Comfort V8, WinCC Basic, Ethernet cable						
LOGO! Starter Kit 12/24 RCE With LOGO! 12/24 RCE, power supply, screwdriver, in Systainer	30	6ED1057-3BA01-0AA8		1	1 unit	2SP
LOGO! Starter Kit 230 RCE With LOGO! 230 RCE, power supply, screwdriver, in Systainer	30	6ED1057-3BA03-0AA8		1	1 unit	2SP
LOGO! Starter Kit 12/24 RCEO With LOGO! 12/24 RCEO, LOGO! TD, power supply, screwdriver, in Systainer	30	6ED1057-3BA11-0AA8		1	1 unit	2SP
LOGO! 8 KP300 Basic Starter Kit With LOGO! 12/24 RCE, LOGO! Power 24 V 1.3 A, KP300 Basic mono PN	1	6AV2132-0HA00-0AA1		1	1 unit	2SP
LOGO! 8 KP400 Basic Starter Kit With LOGO! 12/24 RCE, LOGO! Power 24 V 1.3 A, KTP400 Basic	1	6AV2132-0KA00-0AA1		1	1 unit	2SP
LOGO! 8 KTP700 Basic Starter Kit With LOGO! 12/24 RCE, LOGO! Power 24 V 1.3 A, KTP700 Basic	1	6AV2132-3GB00-0AA1		1	1 unit	2SP
Front panel assembly kits						
Front panel assembly kits • Width: 4 MW, with pushbuttons • Width: 8 MW, with pushbuttons	22 22	6AG1057-1AA00-0AA3 6AG1057-1AA00-0AA2		1 1	1 unit 1 unit	470 470
Accessories for LOGO! CSM unmanaged						
SIMATIC NET cables						
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors • 0.5 m • 1 m • 2 m • 6 m • 10 m	1 1 1 1	6XV1870-3QE50 6XV1870-3QH10 6XV1870-3QH20 6XV1870-3QH60 6XV1870-3QN10		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	5K1 5K1 5K1 5K1 5K1
IE FC Outlet RJ45 For connection of Industrial Ethernet FC cables and TP cords; scaled pricing from 10 and 50 units	1	6GK1901-1FC00-0AA0		1	1 unit	5K1

Α	•	. 57	-	-	-	lω.	41	11.0	4

						301163
Version	SD	Article No.	Price er PU	PU (UNIT, SET, M)	PS*	PG
	d			02.,,		
Accessories for LOGO! CMR						
Mobile wireless antennas		•				
ANT794-4MR	1	6NH9860-1AA00		1	1 unit	5T1
Resistant in the indoor and outdoor areas; 5 m connection cable permanently						
connected to the antenna; SMA connector, including mounting bracket, screws, plugs ANT896-4MA	1	6GK5896-4MA00-0AA3		1	1 unit	5M2
Rod antenna for mounting directly on the device; SMA male connector ANT896-4ME	1	6GK5896-4ME00-0AA0		1	1 unit	5M2
Cylindrical antenna for detached mounting, e.g. on a control cabinet; N-Connect female connector						
GPS antennas						
ANT895-6ML	1	6GK5895-6ML00-0AA0		1	1 unit	5M2
GPS/Glonass antenna for detached mounting in the indoor and outdoor areas, magnetic holder or screw holder, cable 30 cm with N-Connect female connector				·		
Antenna adapter cables						
N-Connect/SMA male/male flexible connection cable, pre-assembled connecting cable; suitable from 0 6 GHz, IP68		CVV4.075 51 500			4	5MO
• 0.3 m • 1 m	1	6XV1875-5LE30 6XV1875-5LH10		1	1 unit 1 unit	5M2 5M2
• 2 m	1	6XV1875-5LH20		1	1 unit	5M2
• 5 m	1	6XV1875-5LH50		1	1 unit	5M2
IWLAN RCoax/antenna N-Connect male/male flexible connection cables						
Flexible connection cable for connecting an RCoax cable or an antenna to a SCALANCE W-700 access point with N-Connect terminals; assembled with two connectors N-Connect male; suitable from 0 6 GHz, IP68						
• 1 m • 2 m	1	6XV1875-5AH10 6XV1875-5AH20		1	1 unit 1 unit	5W3 5W3
• 5 m	i	6XV1875-5AH50		i	1 unit	5W3
• 10 m	1	6XV1875-5AN10		1	1 unit	5W3
Control cabinet bushing	1	6GK5798-2PP00-2AA6		1	1 unit	5W3
IWLAN RCOAX N-Connect/N-Connect female/female panel feedthrough; cabinet bushing for panel thicknesses up to 4.5 mm; 2.4 GHz and 5 GHz, suitable from 0 6 GHz, IP67						
LP798-2N lightning protector	1	6GK5798-2LP00-2AA6		1	1 unit	5W3
Lightning protector with N/N female/female connector for the antennas ANT 790, IP67 (-40 +85 °C), frequency range: 0 6 GHz						
Patch cables						
IE TP Cord RJ45/RJ45						
TP cable 4 x 2 with 2 RJ45 connectors	_	0004070 00550			4 9	EIZA
• 0.5 m • 1 m	1	6XV1870-3QE50 6XV1870-3QH10		1	1 unit 1 unit	5K1 5K1
• 2 m	1	6XV1870-3QH20		1	1 unit	5K1
• 6 m • 10 m	1	6XV1870-3QH60 6XV1870-3QN10		1	1 unit 1 unit	5K1 5K1
IE FC Outlet RJ45	1	6GK1901-1FC00-0AA0		1	1 unit	5K1
For connection of Industrial Ethernet FC cables and TP cords; scaled pricing from 10 and 50 units	'	OURTSOI-II COO-DAAG		,	T driit	SICI
Stainless steel enclosure in IP68 degree of protection NEW	1	6NH3112-3BA00-1XX1		1	1 unit	5T1
Stainless steel enclosure in IP68 degree of protection; suitable for SIMATIC RTU3030C; temperature range -60 +135 °C; matte surface; cover with Pin Torx screws and padlock; 7 cable openings and opening for mobile radio antenna prepared						
Please order cable glands and sealing plugs separately in the necessary quantity.						
Aluminum enclosure in IP68 degree of protection NEW	1	6NH3112-3BA00-1XX3		1	1 unit	5T1
Aluminum enclosure in IP68 degree of protection; suitable for SIMATIC RTU3030C; temperature range -40 +80 °C; cover with Pin Torx screws; 7 cable openings and opening for mobile radio antenna prepared						
Please order cable glands and sealing plugs separately in the necessary quantity.	-	CNILI0110 0D 100 13/3/1			4 9	F-7.
Cable gland PG16 F for IP68 enclosure WEW Cable gland, M16, IP68, -40 +100 °C, nickel-plated brass, suitable for enclosures with article numbers 6NH3112-3BA00-1XX1 and 6NH3112-3BA00-1XX3 Pack quantity = 2 units	1	6NH3112-3BA00-1XX4		1	1 unit	5T1
M16 sealing plugs for IP68 enclosure NEW	1	6NH3112-3BA00-1XX5		1	1 unit	5T1
Sealing plug, M16, IP68, -40 to +100 °C; nickel-plated brass, suitable for enclosures with article numbers 6NH3112-3BA00-1XX1 and 6NH3112-3BA00-1XX3 pack quantity = 2 units						

LOGO!Contact

Overview



Switching module for switching resistive loads and motors directly

LOGO!Contact

Application

LOGO!Contact is a switching module for direct switching of resistive loads (up to 20 A) and motors (up to 4 kW). LOGO!Contact operates hum-free without noise pollution.

LOGO!Contact is universally applicable:

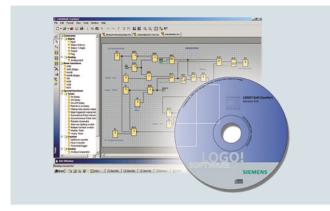
- Buildings/electrical installations
- Industry and commerce

Selection and ordering data

Version	SD	Screw terminals		PU (UNIT,	PS*	PG
	d	Article No.	Price per PU	SET, M)		
LOGO!Contact						
Switching module for direct switching of resistive loads up to 20 A and motors up to 4 kW						
Switching voltage:						
• 24 V	1	6ED1057-4CA00-0AA0		1	1 unit	200
• 230 V	1	6ED1057-4EA00-0AA0		1	1 unit	200

LOGO! Software

Overview



LOGO!Soft Comfort

- The user-friendly software for switching program generation on the PC for single mode and network mode
- Switching program generation for function diagrams (FBD) or contact diagrams (LAD)
- Additional testing, simulation, online testing and archiving of the switching programs
- Professional documentation with the help of various comment and print functions

The connection between LOGO! and the PC is made with the LOGO! PC cable (serial interface) or the LOGO! USB PC cable (USB interface).

With LOGO! 0BA7 and LOGO! 8, the connection is made via the integrated Ethernet interface.

Minimum system requirements

Windows XP (32-bit), 7 (32/64-bit) or 8 (32/64-bit)

- PC Pentium IV
- 150 MB free on hard disk
- 256 MB RAM
- SVGA graphics card with minimum resolution of 800 x 600 (256 colors)
- DVD ROM

Mac OS X

• Mac OS X 10.4

Linux

- Tested with SUSE Linux 11.3 SP2, Kernel 3.0.76
- Runs on all Linux distributions on which Java 2 runs.
- For hardware requirements, please consult your Linux distribution.

Application

LOGO!Soft Comfort is the multilingual software for switching program generation with LOGO! on the PC. LOGO!Soft Comfort can be used to program all devices of the LOGO! family.

Selection and ordering data

•						
Version	SD	Article No.	Price per PU		PS*	PG
	d			SET, M)		
LOGO!Soft Comfort						
LOGO!Soft Comfort V8	1	6ED1058-0BA08-0YA1		1	1 unit	200
For programming on the PC in LAD/FBD; runs on Windows 8, 7, XP, Linux and Mac OSX; on DVD						

Relays Timing Relays

General data

Overview



7PV15, SIRIUS 3RP25 and SIRIUS 3RP20 timing relays

More information

Homepage, see www.siemens.com/relays
Industry Mall, see www.siemens.com/product?3RP

Electronic timing relays are used in control, starting, and protective circuits for all switching operations involving time delays.

Their fully developed concept and space-saving, compact design make the SIRIUS 3RP timing relays ideal timer modules for control cabinet, switchgear and control manufacturers in the industry.

With their narrow design, the 7PV15 timing relays are ideal in particular for use in heating, ventilation and air-conditioning systems and in compressors. All 7PV15 timing relays in this enclosure version are suitable for snap-on mounting onto TH 35 standard mounting rails according to IEC 60175. The enclosure complies with DIN 43880.

The SIRIUS 3RA28 function modules enable the assembly of starters and contactor assemblies for direct-on-line and wye-delta starting. They include the key control functions required for the particular feeder, e.g. timing and electrical interlocking. The function modules that function as timing relays are mounted quickly and simply on SIRIUS contactors – without any great wiring effort.

The SIRIUS 3RA28 solid-state time-delay auxiliary switches which can be mounted onto contactors are designed for contactor coil voltages in the range from 24 to 240 V AC/DC (wide voltage range). Auxiliary switches for control and alarm signals are used specially for switching the smallest signals for electronics applications. They are used, for example, for allowing a pump or fan to run on, or for the delayed activation of a gate drive.

Simply by being plugged in place, the SIRIUS 3RT19 timing relays enable different functionalities required for the assembly of starters to be realized in the feeder. At the same time the timing relays for mounting onto contactors reduce the wiring work required within the feeder and save space in the control cabinet.

Device series

SIRIUS timing relays for standard rail mounting

- SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm, see page 10/39
- SIRIUS 3RP20 timing relays, 45 mm, see page 10/51
- 7PV15 timing relays, 17.5 mm, see page 10/57

SIRIUS timing relays for mounting onto contactors

- SIRIUS 3RA28 solid-state time-delay auxiliary switch blocks for mounting onto 3RT2 contactors and 3RH2 contactor relays, see page 3/101
- SIRIUS 3RA28 function modules for mounting onto 3RT2 contactors and 3RH2 contactor relays, see page 3/106
- SIRIUS 3RT19 timing relays for mounting onto 3RT1 contactors, see page 3/102

Benefits

- The right design for every application
- Clear-cut basic range with five basic units in the case of the 7PV15 timing relays, and up to seven basic units in the case of the 3RP timing relays
- Considerable logistical advantages thanks to versions with wide voltage and wide time setting range
- No tools required for assembly or disassembly on standard mounting rails
- · Cadmium-free relay contacts
- Recyclable, halogen-free enclosure
- Optimum price/performance ratio

- Versions with logical separation
- Low variance: One design for distribution boards and for control cabinets
- Compliance with EMC requirements for buildings
- Environmentally friendly laser inscription instead of printing containing solvents
- Versions as snap-on modules for reducing wiring and saving space in the control cabinet
- Versions with screw terminals or alternatively with spring-type terminals

Application

Timing relays with ON-delay

- Interference pulse suppression (gating of interference pulses)
- Gradual startup of motors so as not to overload the power supply

Timing relays with OFF-delay

- Generation of overtravel functions following removal of voltage
- Gradual, delayed shutdown, e.g. of motors or fans, to allow a plant to be shut down selectively

Clock-pulse relay

• Flashing, asymmetrical

Wye-delta timing relays

 Switching over motors from Wye to delta with a dead interval of 50 ms to prevent phase-to-phase short circuits

Multifunctional timing relays

- Maximum flexibility, with a device for every application
- Available with relay and semiconductor output
- Versions for railway applications for more exacting requirements (e.g. temperature range, vibration/shock resistance and EMC)

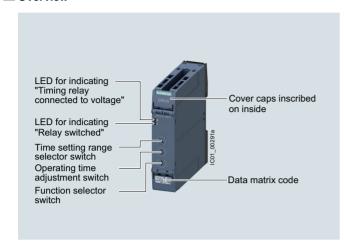
Watchdog function

· Monitoring of cyclic events

Relays Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Overview



SIRIUS 3RP25 timing relays

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3RP25 For the conversion tool, e.g. from 3RP15 to 3RP25, see www.siemens.com/sirius/conversion-tool

Electronic timing relays for general use in control systems and mechanical engineering with:

- 1 or 2 CO, 1 NO (semiconductor) or 3 NO
- Monofunction or multifunction
- Combination voltage or wide voltage range
- Single or selectable time setting ranges
- Switch position indication and voltage indication by LED

Article No. scheme

Product versions		Article number			
Timing relays		3RP25 □ □ -		□ 0	
Product function/	Multifunction	0 5			7 time ranges 0.05 s 100 h
time setting ranges	ON-delay	1 1			1 time range 0.5 10 s
		1 2			1 time range 1 3 s
		1 3			1 time range 5 100 s
		2 5			7 time ranges 0.05 s 100 h
		2 7			4 time ranges 0.05 s 240 s
	OFF-delay with control signal	3 5			7 time ranges 0.05 s 100 h
	OFF-delay without control signal, non-volatile, passing make contact	4 0			7 time ranges 0.05 s 600 s
	Clock-pulse relay, flashing, asymmetrical	5 5			7 time ranges 0.05 s 100 h
	Wye-delta function with coasting function (idling)	6 0			Wye-delta 1 20 s, coasting time (idling) 600 s
	Wye-delta function	7 4			1 time range 1 20 s
		7 6			1 time range 3 60 s
Connection type	Screw terminals		1		
	Spring-type terminals (push-in)		2		
Contacts	1 CO		Α		
	2 CO		В		
	Semiconductors (transistor NPN)		С		
	Semiconductors (thyristor), two-wire		E		
	1 NO + 1 NO (SD)		N		
	2 CO positively driven		R		
	3 NO		S		
Control supply voltage	24 V AC/DC		Е	3 3	
	200 240 V/380 440 V AC		N	12	
	400 440 V AC		Т	2	
	12 240 V AC/DC or 24 240 V AC/DC (3RP2505RW30)		٧	V 3	
Example		3RP25 0 5 -	1 A E	3 3 0)

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Relays

Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

3RP2505 multifunctional timing relays

Two setting options for implementing the multifunctions (A-M):



- 1 Determination of 13 functions by the setting A to M, with 1 CO, 1 NO, 2 CO that switch in parallel.
- ② Extended function variance by selecting the time range and determining, whether 2 CO switch in parallel or whether 1 CO switches with delay + 1 CO switches immediately (1 CO + 1 CO)

Setting the functions on the device

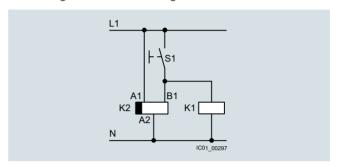
The functions of the 3RP2505 multifunctional timing relays can be set by means of the function selector switch. Whether both CO contacts are switched in parallel or one CO contact with a delay and one instantaneously and the choice of time setting range are set by means of the time setting range selector switch. The exact operating time can be adjusted with the operating time switch.

With a set of foil labels the timing relay can be legibly marked with the functions which can be selected on the timing relay. This is supplied together with the multifunctional timing relay.

The same potential must be applied to terminals A. and B.

Note:

The activation of loads parallel to the start input is permissible when using AC/DC control voltage.



Diagram

Overview of functions

Identifica- tion letter	13 functions	27 functions
	1 CO contact (1 CO), 1 NO contact (1 NO) semiconductor, 2 CO contacts switched in parallel (2 CO) or 2 CO contacts positively driven and switched in parallel with delay (2 CO)	13 functions (A - M) 2 CO contacts switched in parallel (2 CO) + 13 functions (A - M) 1 delayed CO contact + 1 instantaneous CO contact (1 CO + 1 CO) and wye-delta function
Α	ON-delay	ON-delay and instantaneous contact
В	OFF-delay with control signal	OFF-delay with control signal and instantaneous contact
С	ON-delay/OFF-delay with control signal	ON-delay/OFF-delay with control signal and instantaneous contact
D	Flashing, symmetrical, starting with interval	Flashing, symmetrical, starting with interval and instantaneous contact
E	Passing make contact, interval relay	Passing make contact, interval relay and instantaneous contact
F	Retriggerable interval relay with deactivated control signal (passing break contact with control signal)	Retriggerable interval relay with deactivated control signal (passing break contact with control signal) and instantaneous contact
G	Passing make contact, with control signal, not retriggerable (pulse-forming with control signal)	Passing make contact, with control signal, not retriggerable, (pulse-forming with control signal) and instantaneous contact
Н	Additive ON-delay, instantaneous OFF with control signal	Additive ON-delay, instantaneous OFF with control signal and instantaneous contact
I	Additive ON-delay with control signal	Additive ON-delay with control signal and instantaneous contact
J	Flashing, symmetrical, starting with pulse	Flashing, symmetrical, starting with pulse and instantaneous contact
K	Pulse-delayed (fixed pulse (at 1 s) and settable pulse delay)	Pulse-delayed (fixed pulse (at 1 s) and settable pulse delay) and instantaneous contact
L	Pulse-delayed with control signal (fixed pulse (at 1 s) and settable pulse delay)	Pulse-delayed with control signal (fixed pulse (at 1 s) and settable pulse delay) and instantaneous contact
М	Retriggerable interval relay with activated control signal (watchdog)	Retriggerable interval relay with activated control signal and instantaneous contact (watchdog)
	-	Wye-delta function

Relays Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Benefits

- Easy stock keeping and logistics thanks to low variance of devices
- Reduced space requirement in the control cabinet thanks to variants in width 17.5 mm and 22 mm
- Consistent for all functions thanks to wide voltage range from 12 to 240 V AC/DC
- Up to 27 functions according to IEC 61812 in the multifunctional timing relay with wide voltage range
- Multifunctional timing relay with semiconductor output for high switching frequencies, bounce-free and wear-free switching

Standards and approvals

- IEC 60721-3-3 "Classification of environmental conditions"
- IEC 61812-1/DIN VDE 0435 Part 2021 "Specified time relays for industrial use"
- IEC 61000-6-2, IEC 61000-6-3 and IEC 61000-6-4 "Electromagnetic compatibility"
- IEC 60947-5-1 "Low-voltage switchgear and controlgear Electromechanical control circuit devices"

Application

Timing relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

Enclosure version

All timing relays are suitable for snap-on mounting onto TH 35 standard mounting rails according to IEC 60715 or for screw fixing.

Relays

Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Technical specifications

More information	
	Internal circuit diagrams, see CAx Download Manager https://support.industry.siemens.com/my/ww/en/CAxOnline#CAxOnline
Manual, see https://support.industry.siemens.com/cs/ww/en/view/103532830	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16354/faq

Article number		3RP2505A, 3RP2505C, 3RP251., 3RP2525A, 3RP2527, 3RP253., 3RP255.	3RP2505B, 3RP2505R, 3RP2525B, 3RP254-, 3RP256., 3RP257.
Width x height x depth	mm	17.5 x 100 x 90	22.5 x 100 x 90

Article number		3RP25AB30, 3RP25AW30, 3RP25BB30, 3RP25BW30, 3RP25NW30, 3RP25SW30	3RP25BT20, 3RP25NM20	3RP25CW30	3RP25EW30	3RP25RW30
General technical specification	s:					
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3, rated value	VAC	300	500	300		300
Ambient temperature • During operation • During storage	°C °C	-25 +60 -40 +85				-40 +70 -40 +85
Operating range factor of the control supply voltage, rated value • At AC						
- At 50 Hz - At 60 Hz • At DC		0.85 1.1 0.85 1.1 0.85 1.1	0.85 1.1 0.85 1.1 	0.85 1.1 0.85 1.1 0.85 1.1	0.85 1.1 0.85 1.1 0.85 1.1	0.7 1.1 0.7 1.1 0.7 1.1
Switching capacity current with inductive load	Α	0.01 3	0.01 3	0.01 1	0.01 0.6	0.01 3
Operational current of the auxiliary contacts • At AC-15						
- At 24 V - At 250 V - At 400 V • At DC-12	A A A	3 3 	3 3 3	1 1 	 	3 3
- At 24 V - At 125 V - At 250 V • At DC-13	A A A	 		1 1 1	 	
- At 24 V - At 125 V - At 250 V	A A A	1 0.2 0.1	1 0.2 0.1	 	 	1 0.2 0.1
Thermal current	Α	5	5	1	0.6	5
Mechanical endurance (operating cycles)		10 000 000				
Electrical endurance (operating cycles) for AC-15 at 230 V	,	100 000		300 000	100 000	

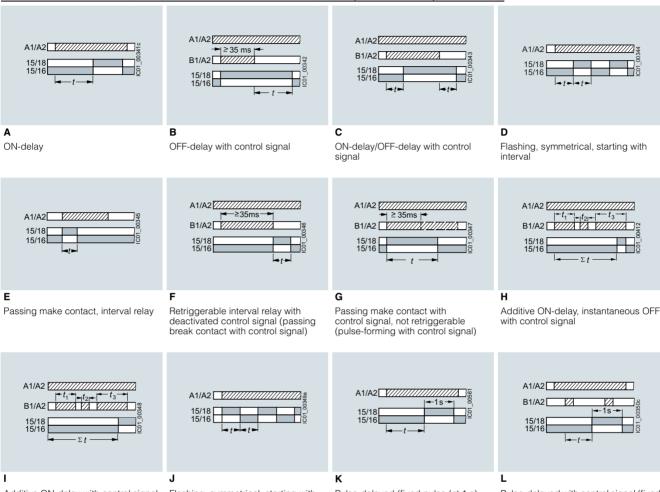
Article number		3RP2510	3RP2520
Type of electrical connection for auxiliary and control circuits		Screw terminals	Spring-type terminals (push-in)
Design of thread of connection screw		M3	-
Tightening torque	Nm	0.6 0.8	
Type of connectable conductor cross-sections Solid Finely stranded with end sleeve For AWG cables		1x (0.5 4 mm²), 2 x (0.5 2.5 mm²) 1x (0.5 4 mm²), 2 x (0.5 1.5 mm²)	1x (0.5 4 mm²) 1x (0.5 2.5 mm²)
For AWG cablesSolidStranded		1x (20 12), 2 x (20 14) 1x (20 12), 2 x (20 14)	1x (20 12) 1x (20 12)

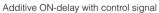
Relays Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

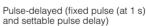
3RP25 function diagrams

Multifunction 3RP2505-.A, 1 CO, 13 functions and 3RP2505-.C, 1 NO (semiconductor), 13 functions

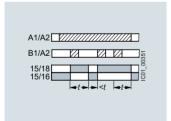




Flashing, symmetrical, starting with pulse



Pulse-delayed with control signal (fixed pulse (at 1 s) and settable pulse delay)



М

Retriggerable interval relay with activated control signal (watchdog)

Legend

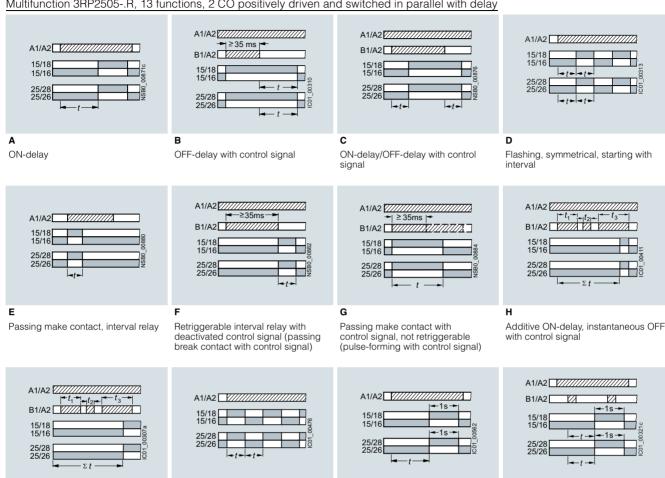
- A ... M Identification letters
- Timing relay energized
- Contact closed
- Contact open

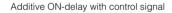
Relays

Timing Relays

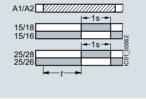
SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Multifunction 3RP2505-.R, 13 functions, 2 CO positively driven and switched in parallel with delay

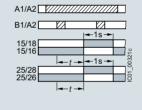




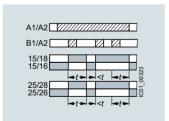




Pulse-delayed (fixed pulse at 1 s and settable pulse delay)



Pulse-delayed with control signal (fixed pulse at 1 s and settable pulse delay)



Retriggerable interval relay with activated control signal (watchdog)

Legend

A ... M Identification letters

ZZZ Timing relay energized

Contact closed

Contact open

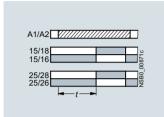
Relavs **Timing Relays**

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Multifunction 3RP2505-.B, 27 functions, 2 CO

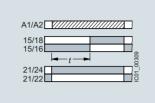


2 CO switched in parallel



ON-delay

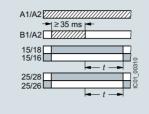
1 delayed CO contact + 1 instantaneous CO contact



ON-delay and instantaneous contact

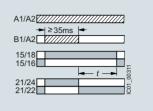
В

2 CO switched in parallel



OFF-delay with control signal

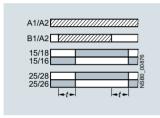
1 delayed CO contact + 1 instantaneous CO contact



OFF-delay with control signal and instantaneous contact

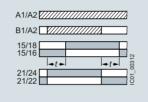
С

2 CO switched in parallel



ON-delay/OFF-delay with control signal

1 delayed CO contact + 1 instantaneous CO contact



ON-delay/OFF-delay with control signal and instantaneous contact

D

2 CO switched in parallel



Flashing, symmetrical, starting with interval

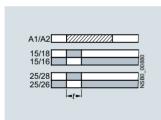
1 delayed CO contact + 1 instantaneous CO contact



Flashing, symmetrical, starting with interval and instantaneous contact

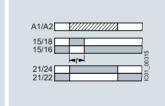
Ε

2 CO switched in parallel



Passing make contact, interval relay

- 1 delayed CO contact +
- 1 instantaneous CO contact



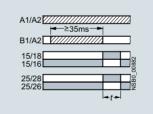
Passing make contact, interval relay

1 delayed CO contact +

1 instantaneous CO contact

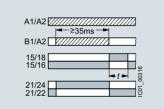
≥35ms |**~**

2 CO switched in parallel



Retriggerable interval relay with deactivated control signal (passing break contact with control signal)

1 delayed CO contact + 1 instantaneous CO contact

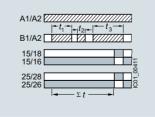


Retriggerable interval relay with deactivated control signal (passing break contact with control signal) and instantaneous contact

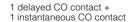
and instantaneous contact

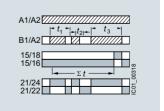


2 CO switched in parallel



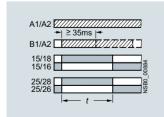
Additive ON-delay, instantaneous OFF with control signal





Additive ON-delay, instantaneous OFF with control signal and instantaneous

2 CO switched in parallel



Passing make contact with control signal, not retriggerable (pulse-forming with control signal)

Passing make contact with control signal, not retriggerable (pulse-forming with control signal) and instantaneous contact

21/24 ___ 21/22 ___

Legend

- A ... H Identification letters ZZZ Timing relay energized
- Contact closed
- Contact open

Relays

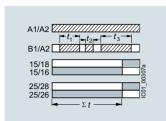
Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Multifunction 3RP2505-.B, 27 functions, 2 CO (continued)

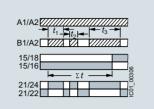
- 1

2 CO switched in parallel



Additive ON-delay with control signal

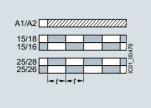
1 delayed CO contact + 1 instantaneous CO contact



Additive ON-delay with control signal and instantaneous contact

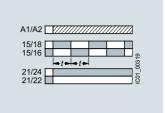
J

2 CO switched in parallel



Flashing, symmetrical, starting with

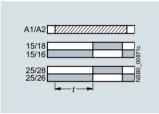
1 delayed CO contact + 1 instantaneous CO contact



Flashing, symmetrical, starting with pulse and instantaneous contact

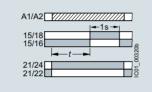
Κ

2 CO switched in parallel



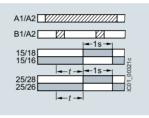
Pulse-delayed (fixed pulse at 1 s and settable pulse delay)

1 delayed CO contact + 1 instantaneous CO contact



Pulse-delayed (fixed pulse at 1 s and settable pulse delay) and instantaneous contact L

2 CO switched in parallel



Pulse-delayed with control signal (fixed pulse at 1 s and settable pulse delay)

1 delayed CO contact + 1 instantaneous CO contact



Pulse-delayed with control signal (fixed pulse at 1 s and settable pulse delay) and instantaneous contact

M

2 CO switched in parallel

1 delayed CO contact + 1 instantaneous CO contact

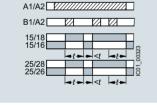


Retriggerable interval relay with activated control signal and instantaneous contact (watchdog) $Y\Delta$

2 CO contacts switched in parallel or

1 delayed CO contact + 1 instantaneous CO contact

Wye-delta function



Retriggerable interval relay with activated control signal (watchdog)

Legend

I ... M Identification letters

ZZZ Timing relay energized

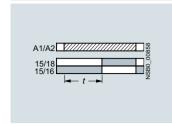
Contact closed

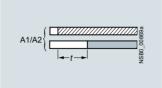
Contact open

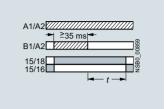
Relays **Timing Relays**

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Monofunctions 3RP251. to 3RP257. 1)





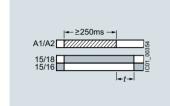


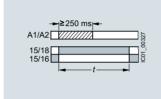
3RP251.-.AW30, 1 CO, ON-delay

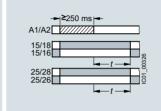
3RP2525-..W30, 2 CO, ON-delay

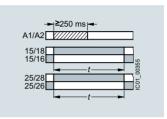
3RP2527-.EW30, 1 NO (semiconductor), ON-delay

3RP2535-.AW30, 1 CO, OFF-delay with control signal







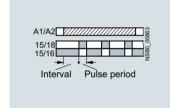


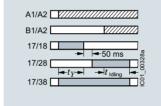
3RP2540-.A.30, 1 CO, OFF-delay (N)¹⁾

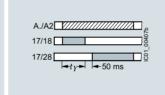
3RP2540-.A.30, 1 CO, positive passing make contact (O)1)

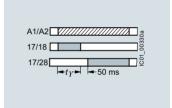
3RP2540-.B.30, 2 CO, OFF-delay (N)¹⁾

3RP2540-.B.30, 2 CO, positive passing make contact (O)¹⁾









3RP2555-.AW30, 1 CO, flashing, asymmetrical, starting with interval (clock-pulse relay)

3RP2560-.SW30, 3 NO, wye-delta function with overtravel function (idling)

3RP257.-.NM20, 2 NO, wye-delta function

3RP257.-.NM30, 2 NO, wye-delta function

Legend

- ZZZ Timing relay energized
- Contact closed
- Contact open
- 3RP2540 has a double function:
 Function N = OFF-delay
 Function O = Positive passing make contact

Relays

Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

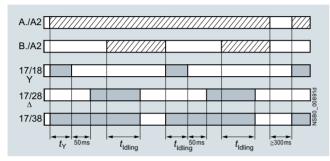
Possibilities of operation of the 3RP2560-.SW30 timing relay

Operation 1: Start contact B./A2 is open when control supply voltage A./A2 is applied

The control supply voltage is applied to A./A2 and there is no control signal on B./A2. This starts the Ya timing. The idling time (coasting time) is started by applying a control signal to B./A2. When the set time $t_{\rm Idling}$ (30 ... 600 s) has elapsed, the output relays (17/38 and 17/28) are reset. If the control signal on B./A2 is switched off (minimum OFF period 270 ms), a new timing is started

Note:

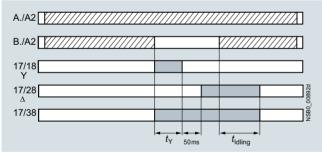
Observe response time (dead time) of 400 ms on energizing control supply voltage until contacts 17/18 and 17/38 close.



Operation 1

Operation 2: Start contact B./A2 is closed when control supply voltage A./A2 is applied

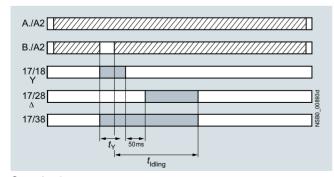
If the control signal B./A2 is already present when the control supply voltage A./A2 is applied, **no** timing is started. The timing is only started when the control signal B./A2 is switched off.



Operation 2

Operation 3: Start contact B./A2 closes while star time is running

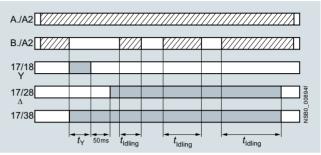
If the control signal B./A2 is applied again during the star time, the idling time starts and the timing is terminated normally.



Operation 3

Operation 4: Start contact B./A2 opens while delta time is running and is applied again

If the control signal on B./A2 is applied and switched off again during the delta time, although the idling time has not yet elapsed, the idling time (coasting time) is reset to zero. If the control signal is re-applied to B./A2, the idling time is restarted.



Operation 4

Legend

Timing relay energized

Contact closed

Contact open

 $t_Y =$ Star time 1 ... 20 s

 t_{Idling} = Idling time (coasting time) 30 ... 600 s

Note:

The following applies to all operations: The pressure switch controls the timing via B./A2.

Application example based on standard operation (operation 1): For example, use of 3RP2560 for compressor control

Frequent starting of compressors strains the network, the machine, and the increased costs for the operator. The new timing relay prevents frequent starting at times when there is high demand for compressed air. A special control circuit prevents the compressor from being switched off immediately when the required air pressure in the tank has been reached. Instead, the valve in the intake tube is closed and the compressor runs in "Idling" mode, i.e. in no-load operation for a specific time which can be set from 30 ... 600 s.

If the pressure falls within this time, the motor does not have to be restarted again, but can return to nominal load operation from no-load operation.

If the pressure does not fall within this idling time, the motor is switched off.

The pressure switch controls the timing via B./A2.

The control supply voltage is applied to A./A2 and the start contact B./A2 is open, i.e. there is no control signal on B./A2 when the control supply voltage is applied. The pressure switch signals "too little pressure in system" and starts the timing by way of terminal B./A2. The compressor is started, enters $\Upsilon\Delta$ operation, and fills the pressure tank.

When the pressure switch signals "sufficient pressure", the control signal B./A2 is applied, the idling time (coasting time) is started, and the compressor enters no-load operation for the set period of time from 30 ... 600 s. The compressor is then switched off. The compressor is only restarted if the pressure switch responds again (low pressure).

Relays Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Selection and ordering data













ETHE			TO SEC.		ETHE		THE .		ETACE		200		
3RP25	05-2AB30) ;	3RP2505-2	2BB30	3RP2525-2	AW30 3	RP2540-2AW	/30	3RP2555-2AW30	3	RP2576-2N	W30	
Numbe	er of NO ts	Number		Semi- con- ductor	Adjustable time	Control supp	ly voltage	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Instan- tane- ous switch- ing	switch- ing	Instan- tane- ous switch- ing	Delayed switch- ing			At 50/60 Hz AC	At DC				OLI, IVI)		
						V	V	d					
13 fu	nctions						_						
0	0	0	1	No	0.05 s 100 h	24 12 240	24 12 240	>	3RP2505-□AB30 3RP2505-□AW30		1 1	1 unit 1 unit	41H 41H
0	1	0	0	Yes	0.05 s 100 h	12 240	12 240	2	3RP2505-□CW30		1	1 unit	41H
13 fui	nctions,	suitable	e for rail	way ap	plications								
0	0	0	2 ¹⁾	No	0.05 s 100 h	24 240	24 240	•	3RP2505-□RW30		1	1 unit	41H
27 fur	nctions												
0	0	0	2 ²⁾	No	0.05 s 100 h	24	24	>	3RP2505-□BB30		1	1 unit	41H
						400 440 12 240	 12 240	>	3RP2505-□BT20 3RP2505-□BW30		1 1	1 unit 1 unit	41H 41H
ON-d	elav					12 2 .0	12 2 10				<u> </u>		
0	0	0	1	No	0.5 10 s	12 240	12 240		3RP2511-□AW30		1	1 unit	41H
					1 30 s	12 240	12 240	>	3RP2512-□AW30		1	1 unit	41H
					5 100 s 0.05 s 100 h	12 240 12 240	12 240 12 240	>	3RP2513-□AW30 3RP2525-□AW30		1 1	1 unit 1 unit	41H 41H
0	0	0	2	No	0.05 s 100 h	24	24	2	3RP2525-□BB30		1	1 unit	41H
0	O	O	_	140	0.00 3 100 11	12 240	12 240	>	3RP2525-□BW30		i	1 unit	41H
0	1	0	0	Yes	0.05 s 240 s	12 240	12 240	2	3RP2527-□EW30		1	1 unit	41H
OFF-0	delay wit	th contr	rol signa	ı									
0	0	0	1	No	0.05 s 100 h	12 240	12 240	>	3RP2535-□AW30		1	1 unit	41H
OFF-c	delay wit	hout co	ontrol siç	gnal, no	n-volatile, pass	sing make co	ontact						
0	0	0	1	No	0.05 s 600 s	24	24	2	3RP2540-□AB30		1	1 unit	41H
						12 240	12 240	•	3RP2540-□AW30		1	1 unit	41H
0	0	0	2	No	0.05 s 600 s	24 12 240	24 12 240	2	3RP2540-□BB30 3RP2540-□BW30		1	1 unit 1 unit	41H 41H
011		-l fl-	- h '		Auto at	12 240	12 240		0111 2040 BB1100		1	1 driit	7111
	c-puise r	• • •	ashing, a			10 010	10 010		ODDOSES CAMOO			4 11	4411
0		0	1	No	0.05 s 100 h	12 240	12 240	<u> </u>	3RP2555-□AW30		1	1 unit	41H
wye-	deita fun 2	O			nction (idling)	10 040	10 040		appared Device			4 . mit	4411
•		-	0	No	1 20 s	12 240	12 240	2	3RP2560-□SW30		1	1 unit	41H
	delta fun		0	Nie	1 00 -	200 4403)			ODDOETA CHIMOS			4	441
1	1	0	0	No	1 20 s	380 440 ³⁾ 12 240	 12 240	2	3RP2574-□NM20 3RP2574-□NW30		1 1	1 unit 1 unit	41H 41H
1	1	0	0	No	3 60 s	380 440 ³⁾		2	3RP2576-□NM20		1	1 unit	41H
				-		12 240	12 240	>	3RP2576-□NW30		i	1 unit	41H

Type of electrical connection

- Screw terminals
- Spring-type terminals (push-in)
- 1) Positively-driven contacts.
- 2) Optionally 1 CO delayed + 1 CO instantaneous.
- 3) With 3RP2574-.NM20 and 3RP2576-.NM20, connection of 200 ... 240 V AC, 50/60 Hz control voltage is also possible.

Notes:

For accessories, see page 10/50.

2

In the case of 3RP2505, the functions can be adjusted by means of function selector switches on the device. With a set of foil labels the timing relay can be legibly marked with the functions which can be selected on the timing relay. This is included in the scope of supply. The same potential must be applied to terminals A. and B.

For functions, see the overview of functions on page 10/40.

Relays

Timing Relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

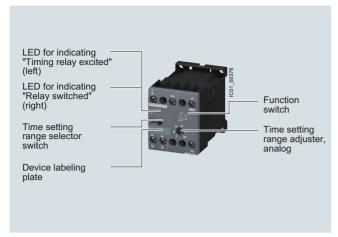
Accessories

More information

You can find information on configuring and dimensioning the accessories in the manual, see https://support.industry.siemens.com/cs/ww/en/view/103532830

	v. :	0.0	A 11 1 A1	D :	DU	D0*	500
	Version	SD	Article No.	Price er PU	PU (UNIT,	PS*	PG
					SET, M)		
Accessories for en	closuras	d					
Accessories for en	Sealing covers						
	• 17.5 mm	2	3ZY1321-1AA00		1	5 units	41L
	• 22.5 mm	2	3ZY1321-2AA00		1	5 units	41L
3ZY1321-2AA00							
	Push-in lugs For wall mounting	2	3ZY1311-0AA00		1	10 units	41L
	1 or wall mounting						
3ZY1311-0AA00							
021101101100	Coding pins	2	3ZY1440-1AA00		1	12 units	41L
	For removable terminals of SIRIUS devices in the industrial standard mounting rail enclosure;						
	they enable the mechanical coding of terminals						
3ZY1440-1AA00							
SIRMENS	Hinged cover WEW Replacement cover, without terminal labeling, titanium gray						
	• 17.5 mm wide	2	3ZY1450-1AA00		1	5 units	41H
	• 22.5 mm wide	2	3ZY1450-1AB00		1	5 units	41H
3ZY1450-1AB00							
	IS devices in the industrial standard mounting rail						
enclosure							
	Removable terminals		Screw terminals	(1)			
	• 2-pole, 1 x 4 mm ²	2	3ZY1122-1BA00		1	6 units	41L
•							
07)/4100 10100							
3ZY1122-1BA00			Spring-type	~			
			terminals (push-in)	$\stackrel{\infty}{\square}$			
	• 2-pole, 1 x 4 mm ²	2	3ZY1122-2BA00		1	6 units	41L
3ZY1122-2BA00							
	spring-type terminals						
	Screwdrivers		Spring-type terminals(push-in)	$\overset{\circ}{\square}$			
	For all SIRIUS devices with spring-type terminals; 3.0 mm x 0.5 mm;		. ,	ш			
	length approx. 200 mm, titanium gray/black, partially insulated	d 2	3RA2908-1A		1	1 unit	41B
3RA2908-1A							

Overview



SIRIUS 3RP20 timing relays

SIRIUS 3RP20 electronic timing relays for use in control systems and mechanical engineering with:

- 1 or 2 CO contacts
- Multifunction or monofunction
- · Wide voltage range or combination voltage
- Single or selectable time setting ranges
- Switch position indication and voltage indication by LED

Standards

The timing relays comply with:

- IEC 60721-3-3 "Classification of environmental conditions"
- IEC 61812-1 "Specified time relays for industrial use"
- IEC 61000-6-2 and IEC 61000-6-4 "Electromagnetic compatibility"
- IEC 60947-5-1 "Low-voltage switchgear and controlgear Electromechanical control circuit devices"
- IEC 60947-1, Appendix N "Protective separation"

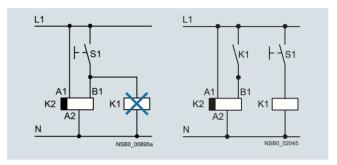
Multifunction

The functions of the 3RP2005 multifunctional timing relays can be set by means of the function selector switch. Insert labels can be used to adjust different functions of the timing relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.

For functions, see 3RP2901 label set, page 10/56.

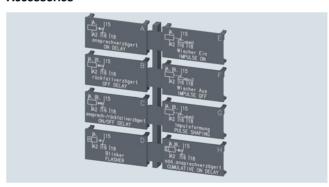
Note:

The activation of loads parallel to the start input is not permissible when using AC control voltage.



Diagrams

Accessories



Label set for marking the multifunctional relay

Article No. scheme

Product versions		Article number	Article number					
SIRIUS timing relays,	45 mm enclosure	3RP20 🗆 🗆 – 🗆 🗆 3 0						
Product function/	Multifunction	0 5 15 time ranges 0.05 s 100 h						
time setting ranges	ON-delay	2 5 15 time ranges 0.05 s 100 h						
Connection type	Screw terminals	1						
	Spring-type terminals	2						
Contacts	1 CO	A						
	2 CO	В						
Control supply voltage	24 V AC/DC/100 127 V AC	Q Combination voltage						
	24 V AC/DC/200 240 V AC	P Combination voltage						
	24 240 V AC/DC	W Wide voltage range						
Example		3RP20 0 5 - 1 A P 3 0						

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Relays

Timing Relays

SIRIUS 3RP20 timing relays, 45 mm

Benefits

- Suitable for 3RT miniature contactors
- Uniform design
- Ideal for small distance between standard mounting rails and/or for low mounting depth, e.g. in control boxes

 Labels are used on the multifunctional timing relay to document the function that has been set

Application

Timing relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

Technical specifications

More information					
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16356/td	Internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/11647144				
Operating instructions, see https://support.industry.siemens.com/cs/ww/en/view/11647144	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16356/faq				

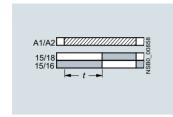
Туре		3RP2005, 3RP2025
Dimensions (W x H x D)	mm	45 x 57 x 73
Rated insulation voltage Pollution degree 3 Overvoltage category III	V AC	300
Permissible ambient temperature • During operation • During storage Operating range of expiration 1)	°C °C	-25 +60 -40 +85
Operating range of excitation ¹⁾		0.85 1.1 x $U_{\rm s}$ at AC; 0.8 1.25 x $U_{\rm s}$ at DC; 0.95 1.05 times the rated frequency
Mechanical endurance	Operating cycles	10 x 10 ⁶
Electrical endurance at I_{e}	Operating cycles	1 x 10 ⁵
Connection type		Screw terminals
Terminal screw Solid Finely stranded with end sleeve Stranded AWG cables Tightening torque	mm ² mm ² AWG AWG Nm	M3 (for standard screwdriver, size 2 and Pozidriv 2) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (18 14) 0.8 1.2
Connection type		Spring-type terminals
 Solid Finely stranded with end sleeve Finely stranded without end sleeve AWG cables, solid or stranded Max. external diameter of the conductor insulation 	mm ² mm ² mm ² AWG mm	2 x (0.25 2.5) 2 x (0.25 1.5) 2 x (0.25 2.5) 2 x (24 14) 3.6

¹⁾ If nothing else is stated.

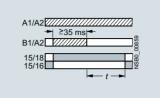
²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

3RP20 function diagrams and 3RP2901 label set

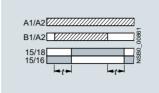
1 CO contact



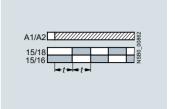
A 3RP2005-.A, 3RP2025 ON-delay



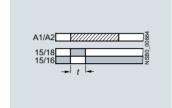
B¹⁾
3RP2005-.A
OFF-delay with control signal



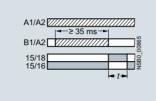
 $C^{1)}$ 3RP2005-.A ON and OFF-delay with control signal ($t = t_{on} = t_{off}$)



3RP2005-.A Flashing, starting with interval (pulse/interval 1:1)



E 3RP2005-.A Passing make contact

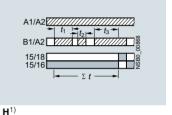


3RP2005-.A Passing break contact with control signal



3RP2005-.A Pulse-forming with control signal (pulse generation at the output does not depend on duration of energizing)

 $G^{1)}$



3RP2005-.A Additive ON-delay with control signal

Legend

A... H Identification letters for 3RP2005

ZZZ Timing relay energized

Contact closed

Contact open

¹⁾ Note on function with start contact: A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable). This does not apply to G, G● and H●, which are not retriggerable.

Timing Relays

SIRIUS 3RP20 timing relays, 45 mm

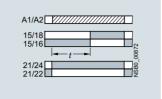
2 CO contacts

Α

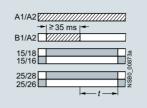
3RP2005-.B

ON-delay

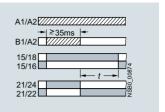




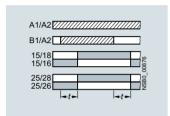
3RP2005-.B ON-delay and instantaneous contact



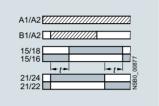
 $B^{1)}$ 3RP2005-.B OFF-delay with control signal



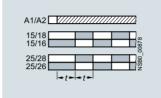
B•1) 3RP2005-.B OFF-delay with control signal and instantaneous contact



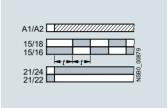
C¹⁾ 3RP2005-.B ON and OFF-delay with control signal ($t = t_{on} = t_{off}$)



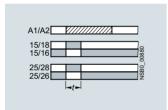
C•1) 3RP2005-.B ON and OFF-delay with control signal and instantaneous contact $(t = t_{on} = t_{off})$



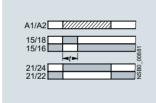
3RP2005-.B Flashing, starting with interval (pulse/interval 1:1)



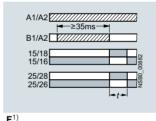
D● 3RP2005-.B Flashing, starting with interval (pulse/interval 1:1) and instantaneous contact



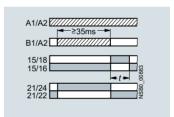
Е 3RP2005-.B Passing make contact



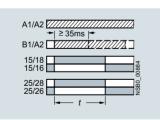
Е∙ 3RP2005-.B Passing make contact and instantaneous contact



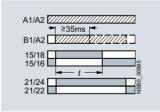
3RP2005-.B Passing break contact with control signal



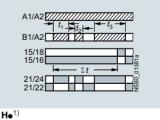
F●¹⁾ 3RP2005-.B Passing break contact with control signal and instantaneous contact



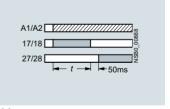
 $G^{1)}$ 3RP2005-.B Pulse-forming with control signal (pulse generation at the output does not depend on duration of energizing)



G●¹⁾ 3RP2005-.B Pulse-forming with control signal and instantaneous contact (pulse generation at the output does not depend on duration of energizing)



3RP2005-.B Additive ON-delay with control signal and instantaneous contact



3RP2005-.B Wye-delta function

A ... H Identification letters for 3RP2005

ZZZ Timing relay energized

Contact closed

Contact open

1) Note on function with start contact: A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable). This does not apply to G, G• and H•, which are not retriggerable.

SIRIUS 3RP20 timing relays, 45 mm

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit = 41H









3RP2005-	1AP30
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3RP2005-1BW30

3RP2005-2AP30

3RP2025-2BW30

3NF2003-1AF30	3111	P2005-16W30	3RP2005-	ZAFJU	3111 20	25-264430			
Version	Time setting range <i>t</i>	Rated control supp	, ,	SD	Screw terminals	(1)	SD	Spring-type terminals	•••
		50/60 Hz AC	DC						
		V	V	d	Article No.	Price per PU	d	Article No.	Price per PU
3RP2005 timing	relays, multifu	nction, 15 time se	etting ranges						
be used to adjust d unmistakably. The c	ifferent functions o corresponding labe must be applied to	ans of rotary switches of the 3RP2505 timing els can be ordered as terminals A. and B. page 10/56.	relay clearly and						
With LED and 1 CO contact ¹⁾ , 8 functions	0.05 1 s 0.15 3 s 0.5 10 s	24/100 127 24/200 240	24 24	>	3RP2005-1AQ30 3RP2005-1AP30		2	3RP2005-2AQ30 3RP2005-2AP30	
With LED and 2 CO contacts, 16 functions	1.5 30 s 0.05 1 min 5 100 s 0.15 3 min 0.5 10 min 1.5 30 min 0.05 1 h 5 100 min 0.15 3 h 0.5 10 h 1.5 30 h 5 100 h	24 240 ³⁾	24 240 ⁴⁾	>	3RP2005-1BW30		2	3RP2005-2BW30	
		lay, 15 time settin	<u> </u>						
With LED and 1 CO contact ¹⁾	0.05 1 s 0.15 3 s 0.5 10 s 1.5 30 s 0.05 1 min 5 100 s 0.15 3 min 0.5 10 min 1.5 30 min 0.05 1 h 5 100 min 0.15 3 h 0.5 10 h 1.5 30 h 5 100 h	24/100 127 24/200 240	24 24	>	3RP2025-1AQ30 3RP2025-1AP30		5	3RP2025-2AQ30 3RP2025-2AP30	

For accessories, see page 10/56.

- 1) Units with protective separation.
- 2) With ∞ switch position no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.
- ³⁾ Operating range 0.8 to 1.1 x $U_{\rm s}$.
- 4) Operating range 0.7 to 1.1 x U_s.

SIRIUS 3RP20 timing relays, 45 mm

Acce	esso	ries

Accessories										
	Version	Function	Identifi- cation letter	Use	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Label sets for 3RF	220				d					
Easer sets for our	Accessorie: The label se	s for 3RP20 (not included in the sco et can be used to label timing relays and German.								
3RP2901-0A	(1 unit) with	ON-delay OFF-delay with control signal ON-delay and OFF-delay with control signal Flashing, starting with interval Passing make contact Passing break contact with control signal Pulse-forming with control signal Additive ON-delay with control signal	A B C D E F G	For devices with 1 CO	10	3RP2901-0A		1	5 units	41H
A STATE OF THE STA	1 label set (1 unit) with 16 functions	ON-delay OFF-delay with control signal ON-delay and OFF-delay with control signal Flashing, starting with interval Passing make contact Passing break contact with control signal Pulse-forming with control signal ON-delay and instantaneous contact OFF-delay with control signal and instantaneous contact ON-delay and OFF-delay with control signal and instantaneous contact Flashing, starting with interval, and instantaneous contact Passing make contact and instantaneous contact Passing break contact with control signal and instantaneous contact Passing break contact with control signal and instantaneous contact Pulse-forming with control signal and instantaneous contact Wye-delta function	A• B• C• D• E•	For devices with 2 CO	10	3RP2901-0B		1	5 units	41H
Blank inscription	labels for	3RP20								

Blank inscription labels, 20 mm x 7 mm, pastel turquoise¹⁾

For 3RP20 20

3RT1900-1SB20

100 340 units

41B

PC labeling system for individual inscription of unit labeling plates available from: Conta-Clip Verbindungstechnik GmbH, see page 16/16.

7PV15 timing relays, 17.5 mm

Overview



7PV15 timing relay

Electronic timing relays for general use and in control systems, mechanical engineering and infrastructure with:

- 1 or 2 CO contacts
- Multifunction or monofunction
- Wide voltage range or combination voltage
- Single or selectable time setting ranges
- · Switch position indication and voltage indication by LED

Standards

The timing relays comply with:

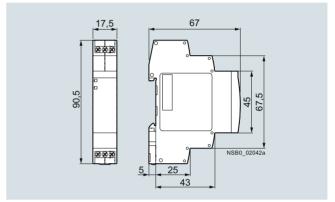
- IEC 60721-3-3 "Classification of environmental conditions"
- IEC 61812-1 "Specified time relays for industrial use"
- IEC 61000-6-2 and IEC 61000-6-4 "Electromagnetic compatibility"
- IEC 60947-5-1 "Low-voltage switchgear and controlgear Electromechanical control circuit devices"
- DIN 43880 "Built-in equipment for electrical installations; overall dimensions and related mounting dimensions"

Multifunction

The functions of the 7PV1508-1A multifunctional timing relay can be set by means of rotary switches. The identification letters A to G are printed on the front alongside the rotary selector switch of the unit. The related function can be found in the form of a bar graph on the side of the device.

Enclosure version

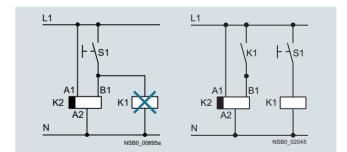
All timing relays are suitable for snap-on mounting onto TH 35 standard mounting rails according to IEC 60715. The enclosure complies with DIN 43880, 1 MW.



Dimensions

Note:

The activation of loads parallel to the start input is not permissible when using AC control voltage.



Diagrams

Timing Relays

7PV15 timing relays, 17.5 mm

Article No. scheme

Product versions		Article number	
Timing relays in indu	ustrial enclosure, 17.5 mm	7PV15 □ □ − 1 □ □ 3	0
Product function/	Multifunction	0 8	7 time ranges 0.05 s 100 h
time setting ranges	ON-delay	1 1	1 time range 0.05 1 s
		1 2	1 time range 0.5 10 s
		1 3	1 time range 5 100 s
		1 8	7 time ranges 0.05 s 100 h
	OFF-delay with control signal	3 8	7 time ranges 0.05 s 100 h
	OFF-delay without control signal	4 0	7 time ranges 0.05 s 100 s
	Clock-pulse relay	5 8	7 time ranges 0.05 s 100 h
	Wye-delta function	7 8	7 time ranges 0.05 s 100 h
Contacts	e.g. A = 1 CO contact		
Control supply voltage	e e.g. W = 12 240 V AC/DC		Combination voltage
Example		7PV15 0 8 - 1 A W 3	0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Wide voltage range 12 to 240 V AC/DC
- High switching capacity, e.g. AC-15 at 230 V, 3 A
- Combination voltage, e.g. 24 V AC/DC and 200 to 240 V AC
- Changes to the time setting range during operation
- Changes to the function in the de-energized state
- High level of functionality and a high repeat accuracy of timer settings
- Integrated surge suppressor
- Function charts printed on the side of the device for reliable device adjustment

Application

Timing relays are used in control, starting and protective circuits for all switching operations involving time delays, e.g. in functional buildings, airports, building industry, etc.

Technical specifications

More information		
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16358/td		Operating instructions and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/35210295
Туре		7PV15
Rated insulation voltage Pollution degree 2, overvoltage category III	V AC	300
Permissible ambient temperature • During operation • During storage	°C °C	-25 +55 -40 +70
Operating range of excitation ¹⁾		0.85 1.1 x $U_{\rm S}$ at V AC/DC, 50/60 Hz 0.8 1.25 x $U_{\rm S}$ at 24 V DC; 0.95 1.05 times the rated frequency
Rated operational current I _e • AC-15 at 24 240 V, 50 Hz • DC-13 at	A	3
- 24 V - 125 V	A A	0.2
Uninterrupted thermal current I_{th}	Α	5
Mechanical endurance	Operating cycles	1 x 10 ⁷
Electrical endurance at I_{e}	Operating cycles	1 x 10 ⁵
Connection type		Screw terminals
Terminal screw Solid Finely stranded with end sleeve Finely stranded without end sleeve AWG cables, solid or stranded Tightening torque	mm ² mm ² mm ² AWG Nm	M3 (for standard screwdriver, size 2 and Pozidriv 2) 1 × (0.2 2.5) 1 × (0.25 1.5) 1 × (0.2 1.5) 1 × (0.2 1.5) 1 × (24 14) 0.4 0.5

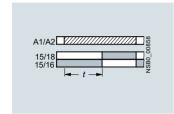
¹⁾ If nothing else is stated.

7PV15 timing relays, 17.5 mm

7PV15 function diagrams

1 CO contact

ON-delay

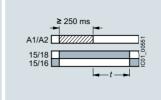


A7PV1508-1A, 7PV1511, 7PV1512, 7PV1513, 7PV1518

A1/A2 235 ms = B1/A2 255 ms = B1/A2

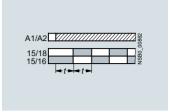
B¹⁾ 7PV1508-1A, 7PV1538

OFF-delay with control signal



7PV1540

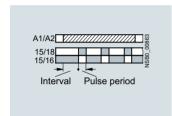
OFF-delay without control signal



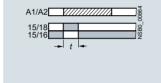
С

7PV1508-1A

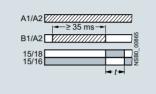
Flashing, starting with interval (pulse/interval 1:1)



7PV1558 Clock-pulse, starting with interval (dead period, pulse time, and time setting ranges each separately



D 7PV1508-1A Passing make contact



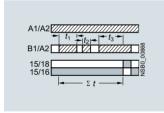
7PV1508-1A

Passing break contact with control signal



 $\mathbf{F}^{1)}$

7PV1508-1A Pulse-forming with control signal (pulse generation at the output does not depend on duration of energizing)



 $G^{1)}$

adjustable)

7PV1508-1A Additive ON-delay with control signal

Legend

A ... G Identification letters for 7PV1508

- ZZZ Timing relay energized
- Contact closed
- Contact open

 1) Note on function with
- Note on function with start contact: A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable). This does not apply to E, F and G, which are not retriggerable.

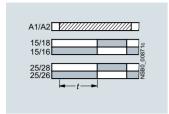
Note:

With the 7PV1508-1A multifunctional timing relay the identification letters A to G are printed on the front alongside the rotary selector switch of the unit. The related function can be found in the form of a bar graph on the side of the device.

Timing Relays

7PV15 timing relays, 17.5 mm

2 CO contacts



A1/A2 ~| ≥ 35 ms |* 25/26

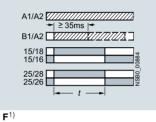
A1/A2 25/28

Α 7PV1508-1B ON-delay

 $B^{1)}$ 7PV1508-1B OFF-delay with control signal

С 7PV1508-1B Flashing, starting with interval (pulse/interval 1:1)

D 7PV1508-1B Passing make contact



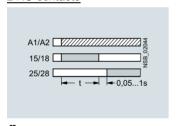
 $H^{1)}$

-0,5 s

7PV1508-1B Pulse-forming with control signal (pulse generation at the output does not depend on duration of energizing) 7PV1508-1B ON-delay and OFF-delay with control Fixed pulse after ON-delay signal

7PV1508-1B

2 NO contacts



7PV1578 Wye-delta function²⁾

Legend

A ... D, F, H, I Identification letters for 7PV1508

- ZZZ Timing relay energized
- Contact closed
- Contact open
- 1) Note on function with start contact: A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable). This does not apply to E, F and G, which are not retriggerable.
- 2) With 7PV1578 the contacts 16 and 26 are not needed for the wye-delta function.

Note:

With the 7PV1508-1B multifunctional timing relay the identification letters A to D, F, H, I are printed on the front alongside the rotary selector switch of the unit. The related function can be found in the form of a bar graph on the side of the device.

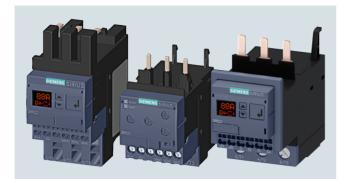
7PV15 timing relays, 17.5 mm

Selection and ord	ering data	EXX	Si .	•		No.				
@ @ @	G .	()	@ @		(A)				⊕	
7PV1508-1AW30	7PV1512-1AP30	7PV1518-1	AW30 7PV	1538-1AW30	7P'	V1540-1AW30	7PV1558-1A	W30	7PV1578-1	BW30
Version	Time setting adjustable by switch to		Rated control su voltage $U_{\rm S}$	upply	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PC
			50/60 Hz AC V	DC V	d	Article No.	Price per PU			
7PV1508 timing re	lays, multifunction	, 7 time se	tting ranges				'			
	adjusted by means of r	otary switche	<u>'</u>				d B.			
With LED and 1 CO contact, 7 functions	0.05 1 s 0.5 10 s 5 100 s		12 240	12 240	•	7PV1508-1AW30		1	1 unit	411
With LED and 2 CO contacts, 7 functions	30 s 10 mi 3 min 1 h 30 min 10 5 100 h		12 240	12 240	•	7PV1508-1BW30		1	1 unit	411
7PV151. timing rel	ays, ON-delay, 1 tiı	me setting	range							
With LED and 1 CO contact	0.05 1 s		24/200 240	24	>	7PV1511-1AP30		1	1 unit	411
1 CO Comaci	0.5 10 s		24/100 127 24/200 240	24 24	>	7PV1512-1AQ30 7PV1512-1AP30		1 1	1 unit 1 unit	41I 41I
	5 100 s		24/100 127 24/200 240	24 24	>	7PV1513-1AQ30 7PV1513-1AP30		1 1	1 unit 1 unit	41I 41I
7PV1518 timing re	lays, ON-delay, 7 ti	ime setting			_	77 77010 1741 00		'	1 dilit	
With LED and	0.05 1 s		12 240	12 240		7PV1518-1AW30		1	1 unit	411
1 CO contact	0.5 10 s 5 100 s		90 127	90 127	>	7PV1518-1AJ30		1	1 unit	411
	30 s 10 mi 3 min 1 h 30 min 10 5 100 h		180 240	180 240	•	7PV1518-1AN30		1	1 unit	411
7PV1538 timing re	lays, OFF-delay, w	ith control	signal, 7 time	setting rang	ges					
With LED and 1 CO contact	0.05 1 s 0.5 10 s 5 100 s 30 s 10 mi 3 min 1 h 30 min 10 5 100 h		12 240	12 240	•	7PV1538-1AW30		1	1 unit	411
	ays, OFF-delay, wi	thout contr			nges					
With LED and 1 CO contact	0.05 1 s 0.15 3s 0.3 6 s 0.5 10 s 1.5 30 s 3 60 s 5 100 s		12 240	12 240	•	7PV1540-1AW30		1	1 unit	411
	lays, clock-pulse r	elay, 7 time		es						
With LED and 1 CO contact	0.05 1 s 0.5 10 s 5 100 s 30 s 10 mi 3 min 1 h 30 min 10 5 100 h		12 240	12 240	•	7PV1558-1AW30		1	1 unit	411
	lays, wye-delta fun	ction, 7 tin								
With LED and 2 NO contacts, dead interval 0.05 1 s adjustable	0.05 1 s 0.5 10 s 5 100 s 30 s 10 mi 3 min 1 h 30 min 10 5 100 h		12 240	12 240	•	7PV1578-1BW30		1	1 unit	411

SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring

Overview



SIRIUS 3RR2242, 3RR2142, 3RR2243 current monitoring relays

More information

Homepage, see www.siemens.com/relays

Industry Mall, see www.siemens.com/product?3RR21

The SIRIUS 3RR2 current monitoring relays are suitable for load monitoring of motors or other loads. In two or three phases they monitor the rms value of AC currents for overshooting or undershooting of set threshold values.

Whereas apparent current monitoring is used above all in connection with the rated torque or in case of overload, the active current monitoring option can be used to observe and evaluate the load factor over a motor's entire torque range.

The 3RR2 current monitoring relays can be integrated directly in the feeder by mounting onto the 3RT2 contactor; separate wiring of the main circuit is therefore superfluous. No separate transformers are required.

For a line-oriented configuration or simultaneous use of an overload relay, terminal supports for stand-alone installation are available for separate standard rail mounting.

Versions

Basic versions

The basic versions with two-phase apparent current monitoring, a CO contact output and analog adjustability provide a high level of monitoring reliability especially in the rated and overload range.

Standard versions

The standard versions monitor the current in three phases with selectable active current monitoring. They have additional diagnostics options such as residual-current monitoring and phase sequence monitoring, and they are also suitable for monitoring motors below the rated torque. These devices have an additional independent semiconductor output, an actual value indicator, and are digitally adjustable.

Both versions are available optionally with screw or spring-type terminals, in each case for sizes S00 and S0. With variants of size S2 the main current paths always have screw terminals; the control current side can have screw or spring-type terminals.

Note:

In addition to the features of the standard versions, the 3RR24 monitoring relays for mounting onto 3RT2 contactors for IO-Link also offer the possibility of transmitting the measured values and diagnostics data to a controller via an IO-Link. Furthermore, the devices can be parameterized on the devices themselves or via IO-Link.

For more information, see page 10/70 onwards.

3RR21 and 3RR22 overview table





Features	3RR21	3RR22	Benefits
General data			
Sizes Dimensions in mm (W x H x D)	S00, S0, S2	S00, S0, S2	 Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, soft starters, etc.)
Screw terminals	S00: 45 x 79 x 80, S0: 45 x 87 x 91, S2: 55 x 99 x 112	S00: 45 x 79 x 80, S0: 45 x 87 x 91, S2: 55 x 99 x 112	 Permit the mounting of slim-line and compact load feeders in widths of 45 mm (S00 and S0) and 55 mm (S2) Simplify configuration
Spring-type terminals	S00: 45 x 90 x 80, S0: 45 x 109 x 92, S2: 55 x 99 x 112	S00: 45 x 90 x 80, S0: 45 x 109 x 92, S2: 55 x 99 x 112	
Current range	S00: 1.6 16 A S0: 4 40 A S2: 8 80 A	S00: 1.6 16 A S0: 4 40 A S2: 8 80 A	 Is adapted to the other devices in the SIRIUS modular system Just a single version per size with a wide setting range enables easy configuration
Permissible ambient temperature			
During operation	-25 +60 °C	-25 +60 °C	 Suitable for applications in the control cabinet, worldwide

Relays SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring





Features	3RR21	3RR22	Benefits
Monitoring functions			
Current overshoot	(Two-phase)	(Three-phase)	 Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload Enables detection of filter blockages or pumping against closed gate valves Enables drawing conclusions about wear, poor lubrication or other maintenance-relevant phenomena
Current undershoot	(Two-phase)	✓ (Three-phase)	Enables detection of overload due to a slipping or torn belt Guarantees protection of pumps against dry running Facilitates monitoring of the functions of resistive loads such as heaters Permits energy savings through monitoring of no-load operation
Apparent current monitoring	√	✓ (Selectable)	 Precision current monitoring especially in a motor's rated and upper torque range
Active current monitoring	-	✓ (Selectable)	 Optimum current monitoring over a motor's entire torque range through the patented combination of power factor and apparent current monitoring
Range monitoring	✓ (Two-phase)	✓ (Three-phase)	 Simultaneous monitoring of current overshoot and undershoot with a single device
Phase failure, open circuit	✓ (Two-phase)	✓ (Three-phase)	Minimizes heating of three-phase motors during phase failure through immediate disconnection Prevents operation of hoisting equipment with reduced load carrying capacity
Phase sequence monitoring		✓ (Selectable)	 Prevents starting of motors, pumps or compressors in the wrong direction of rotation
Internal ground-fault detection (residual-current monitoring)	-	(Selectable)	 Provides optimum protection of loads against high-resistance short circuits or ground faults due to moisture, condensed water, damage to the insulation material, etc. Eliminates the need for additional special equipment and thus space in the control cabinet Reduces wiring overhead and costs
Blocking current monitoring		✓ (Selectable)	 Minimizes heating of three-phase motors when blocked during operation through immediate disconnection Minimizes mechanical loading of the system by acting as an electronic shear pin
Features			
RESET function	✓	✓	 Allows manual or automatic resetting of the relay Resetting directly on the device or by switching the control supply voltage off and on (remote RESET)
ON-delay time	0 60 s	0 99 s	Enables motor starting without evaluation of the starting current Can be used for monitoring motors with lengthy start up
Tripping delay time	0 30 s	0 30 s	 Permits brief threshold value violations during operation Prevents frequent warnings and disconnections with currents near the threshold values
Operating and indicating elements	LEDs and rotary potentiometers	Displays and buttons	 For setting the threshold values and delay times and for fast and targeted diagnostics For selectable functions Displays for permanent display of measured values
Integrated contacts	1 CO contact	1 CO contact, 1 semiconductor output	 Enable disconnection of the system or process when there is an irregularity Can be used to output signals

- ✓ Available
- -- Not available

SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring





Features	3RR21	3RR22	Benefits
Design of load feeders			
Short-circuit strength up to 100 kA at 690 V (in conjunction with the corresponding fuses or the corresponding motor starter protector)	✓	V	 Provides optimum protection of the loads and operating personnel in the event of short circuits due to insulation faults or faulty switching operations
Electrical and mechanical matching to 3RT2 contactors	/	/	Simplifies configuration Reduces wiring overhead and costs Enables stand-alone installation as well as space-saving direct mounting
Spring-type terminals for main circuit (with S00, S0) and auxiliary circuits	✓ (optional)	(optional)	Enables fast connectionsPermits vibration-resistant connectionsEnables maintenance-free connections
Other features			
Suitable for single- and three-phase loads	1	✓	 Enables the monitoring of single-phase systems through parallel infeed at the contactor or looping the current through the three phase connections
Wide setting ranges	✓	✓	 Reduce the number of variants Minimize the configuration overhead and costs Minimize storage overhead, storage costs, tied-up capital
Wide-voltage supply range	✓ (optional)	(optional)	 Reduces the number of versions Minimizes the configuring overhead and costs Minimizes storage overhead, storage costs, tied-up capital

✓ Available

Possible combinations of 3RR21/3RR22 monitoring relays with 3RT2 contactors

Monitoring relays	Current range	Contactors (type, size, rating)		
		3RT201	3RT202	3RT203
		S00	S0	S2
Type	Α	3/4/5.5/7.5 kW	5.5/7.5/11/15/18.5 kW	18.5/22/30/37 kW
3RR2.41				
3RR2141	1.6 16	✓	With stand-alone installation support	With stand-alone installation support
3RR2241	1.6 16	✓	With stand-alone installation support	With stand-alone installation support
3RR2.42				
3RR2142	4 40	With stand-alone installation support	✓	With stand-alone installation support
3RR2242	4 40	With stand-alone installation support	/	With stand-alone installation support
3RR2.43				
3RR2143	8 80	With stand-alone installation support	With stand-alone installation support	✓
3RR2243	8 80	With stand-alone installation support	With stand-alone installation support	✓

✓ Available

Relays SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring

Article No. scheme

Product versions		Article n	umb	er				
Monitoring relays		3RR2] 4 I	-	- [3
Type of setting	Analogically adjustable, two-phase	1						
	Digitally adjustable, three-phase	2						
Size	S00			1				
	S0		2	2				
	S2			3				
Connection type	Screw terminals				1			
	Spring-type terminals				2	2		
Number and type of	1 CO contact					Α		
outputs	1 CO contact + 1 semiconductor					F		
Rated control supply	24 V AC/DC						Α	
voltage	24 240 V AC/DC						W	1
Example		3RR2 1	4	1 –	- 1	Α	Α	3

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Can be mounted directly on 3RT2 contactors and 3RA23 reversing contactor assemblies, in other words, there is no need for additional wiring in the main circuit
- Optimally coordinated with the technical characteristics of the 3RT2 contactors
- · No separate current transformer required
- Versions with wide voltage supply range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response

- Display of ACTUAL value and status messages
- All versions with removable control current terminals
- All versions with screw terminals or spring-type terminals
- Simple determination of the threshold values through direct reference to actually measured values for setpoint loading
- Range monitoring and selectable active current measurement mean that only one device for monitoring a motor is required along the entire torque curve
- In addition to current monitoring it is also possible to monitor for broken cables, phase failure, phase sequence, residual current and motor blocking

Application

- Monitoring for current overshoot and undershoot
- Monitoring of broken conductors
- Monitoring of no-load operation and load shedding, e.g. in the event of a torn V-belt or no-load operation of a pump
- Monitoring of overload, e.g. on conveyor belts or cranes due to an excessive load
- Monitoring the functionality of electrical loads such as heaters
- Monitoring of wrong phase sequence on mobile equipment such as compressors or cranes
- Monitoring of high-impedance faults to ground, e.g. caused by damaged insulation or moisture

SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16205/td

Configuration Manual "Load Feeders – SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188

System Manual "SIRIUS - System Overview", see

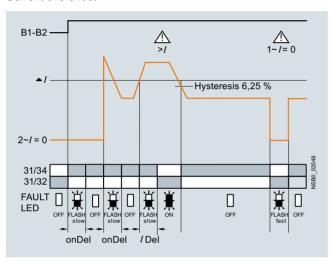
https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual, see https://support.industry.siemens.com/cs/ww/en/view/54397927 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16205/faq

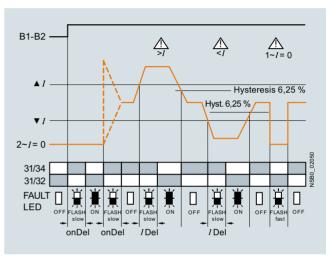
Function diagrams of 3RR214.-.A.30 basic versions, analogically adjustable

Closed-circuit principle upon application of the control supply voltage

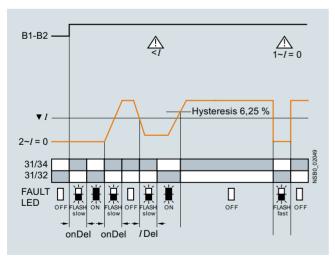
Current overshoot



Range monitoring



Current undershoot



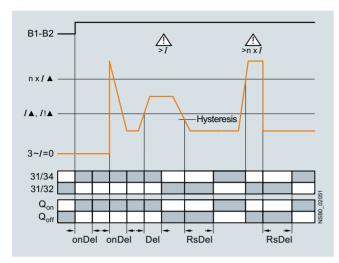
SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring

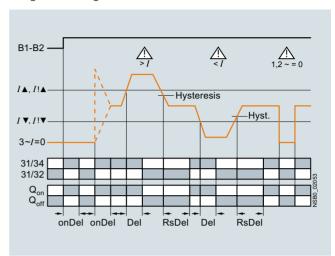
Function diagrams of 3RR224.-.F.30 standard versions, digitally adjustable

With the closed-circuit principle selected upon application of the control supply voltage

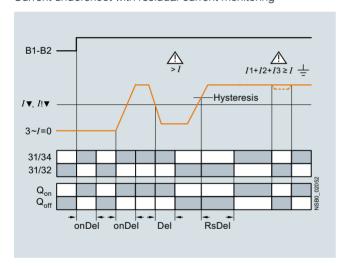
Current overshoot



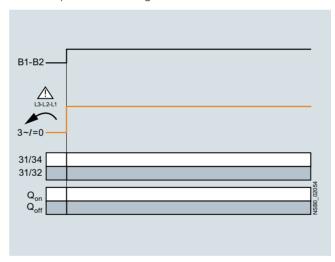
Range monitoring



Current undershoot with residual-current monitoring



Phase sequence monitoring



SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring

Selection and ordering data













3RR2141-1AW30

3RR2142-1AW30

3RR2241-1FW30

3RR2242-2FW30

2

2

2

2

2

3RR2141-2AA30

3RR2243-2FW30

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

41H

41H

41H

41H

41H

41H

							011112		
Size	Measuring range	Hysteresis	Supply voltage U _s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	А	А	V	d					
Basic	versions								
Close1 COTwo-pAppaiStart-i	gically adjustable d-circuit principle contact hase current monitoring ent current monitoring up delay 0 60 s ng delay 0 30 s	g							
S00	1.6 16	6.25% of	24 AC/DC	2	3RR2141-□AA30		1	1 unit	41H
		threshold value	24 240 AC/DC	2	3RR2141-□AW30		1	1 unit	41H
S0	4 40	6.25% of	24 AC/DC	2	3RR2142-□AA30		1	1 unit	41H
		threshold value	24 240 AC/DC	2	3RR2142-□AW30		1	1 unit	41H
S2	8 80	6.25% of	24 AC/DC	2	3RR2143-□AA30		1	1 unit	41H
		threshold value	24 240 AC/DC	2	3RR2143-□AW30		1	1 unit	41H
Standa	ard versions								
LC disOpen-1 CO,ThreeActivePhaseResidBlockiRecloStart-ISepar	Illy adjustable splay or or closed-circuit princ 1 semiconductor outpuphase current monitoric current or apparent or sequence monitoring ual-current monitoring ng current monitoring sing delay time 0 300 up delay 0 99 sate settings for warning delay 0 30 s	ut ng urrent monitoring O min	s ·						

8 ... 80 Type of electrical connection

1.6 ... 16

4 ... 40

0.1 ... 3

0.1 ... 8

0.2 ... 16

24 AC/DC

24 AC/DC

24 AC/DC

24 ... 240 AC/DC

24 ... 240 AC/DC

24 ... 240 AC/DC

Screw terminals

S00

S0

S2

• Spring-type terminals

3RR2241-□FA30

3RR2241-□FW30

3RR2242-□FA30

3RR2242-□FW30

3RR2243-□FA30

3RR2243-□FW30

Relays SIRIUS 3RR21, 3RR22 Monitoring Relays for Mounting onto 3RT2 Contactors

Current and active current monitoring

Accessories									
	Use	Version	Size	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Terminal supports		-alone installation ¹⁾							
V413/12543	For 3RR21, 3RR22	For separate mounting of the overload re or monitoring relays; screw and snap-on onto TH 35 standard mounting rail according to IEC 60715	lays mounting		Screw terminals	+			
2121		Screw connection	S00 S0 S2	> >	3RU2916-3AA01 3RU2926-3AA01 3RU2936-3AA01		1 1 1	1 unit 1 unit 1 unit	41F 41F 41F
3RU2916-3AA01									
3RU2936-3AA01									
A M M					Spring-type terminals	<u>~</u>			
		Spring-type connection	S00 S0	•	3RU2916-3AC01 3RU2926-3AC01		1 1	1 unit 1 unit	41F 41F
3RU2926-3AC01									
Blank labels									
3RT2900-1SB20	For 3RR21, 3RR22	Unit labeling plates²⁾ For SIRIUS devices, 20 mm x 7 mm, titan	ium gray	20	3RT2900-1SB20		100 (340 units	41B
Sealable covers	5 appar	•							
=(3)	For 3HR21, 3RR22	Sealable covers For securing against unintentional or una adjustment of settings	uthorized	2	3RR2940		1	5 units	41H
3RR2940	o se vi se este de la cons	as towningle							
Tools for opening		se terminals Screwdrivers			Spring type	\sim			
	For auxil- iary circuit connec-	For all SIRIUS devices with spring-type to 3.0 mm x 0.5 mm; length approx. 200 mm		Ć.	Spring-type terminals	<u></u>			4.5
	tions	gray/black, partially insulated		2	3RA2908-1A		1	1 unit	41B
3RA2908-1A									

¹⁾ The accessories are exactly the same as the accessories for the 3RU21 thermal overload relay and the 3RB3 electronic overload relay, see page 7/96 onwards

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

SIRIUS 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link

Current and active current monitoring

Overview



SIRIUS 3RR2441, 3RR2442 and 3RR2443 current monitoring relays

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3RR24

The SIRIUS 3RR24 current monitoring relays for IO-Link are suitable for the load monitoring of motors or other loads. In three phases they monitor the rms value of AC currents for overshooting or undershooting of set threshold values.

Whereas apparent current monitoring is used above all in connection with the rated torque or in case of overload, the active current monitoring option, which is also selectable, can be used to observe and evaluate the load factor over a motor's entire torque range.

The 3RR24 current monitoring relays for IO-Link can be integrated directly in the feeder by mounting onto the 3RT2 contactor; separate wiring of the main circuit is therefore superfluous. No separate transformers are required.

For a line-oriented configuration or simultaneous use of an overload relay, terminal supports for stand-alone installation are available for separate standard rail mounting.

The SIRIUS 3RR24 current monitoring relays for IO-Link also offer many other options based upon the monitoring functions of the conventional SIRIUS 3RR2 monitoring relays:

- Measured value transmission to a controller, including resolution and unit, may be parameterizable as to which value is cyclically transmitted
- Transmission of alarm flags to a controller
- Full diagnosis capability by inquiry as to the cause of the fault in the diagnosis data record
- Remote parameterization is also possible, in addition to or instead of local parameterization

- Rapid parameterization of the same devices by duplication of the parameterization in the controller
- Parameter transmission through upload to a controller by IO-Link call or by parameter server (if IO-Link master from IO-Link Specification V1.1 and higher is used)
- Consistent central data storage in the event of parameter change locally or via a controller
- · Automatic reparameterizing when devices are exchanged
- · Blocking of local parameterization via IO-Link possible
- Faults are saved in parameterizable and non-volatile fashion to prevent an automatic start-up after voltage failure and make sure diagnosis data is not lost
- Integration into the automation level provides the option of parameterizing the monitoring relays at any time via a display unit, or displaying the measured values in a control room or locally at the machine/control cabinet

Even without communication via IO-Link the devices continue to function fully autonomously:

- Parameterization can take place locally at the device, independently of a controller.
- In the event of failure or before the controller becomes available the monitoring relays work as long as the control supply voltage (24 V DC) is present.
- If the monitoring relays are operated without the controller, the 3RR24 monitoring relays for IO-Link have, thanks to the integrated SIO mode, an additional semiconductor output, which switches when the adjustable warning threshold is exceeded.

Thanks to the combination of autonomous monitoring relay function and integrated IO-Link communication, redundant sensors and/or analog signal converters – which previously took over the transmission of measured values to a controller, leading to considerable extra cost and wiring overhead – are no longer needed.

Because the output relays are still present, the monitoring relays increase the functional reliability of the system, since only the controller can fulfill the control tasks if the current measured values are available, whereas the output relays can also be used for the disconnection of the system if limit values that cannot be reached during operation are exceeded.

For more information on the IO-Link communication system, see page 2/97 onwards.

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information on Industrial Security, see www.siemens.com/industrialsecurity.

Relays SIRIUS 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link

Current and active current monitoring

3RR24 overview table



F		OPPO4	Devette
Features		3RR24	Benefits
General data		000 00 00	
Sizes Dimensions in mm (W x H x D) • Screw terminals	T W O	S00, S0, S2 S00: 45 x 79 x 80, S0: 45 x 87 x 91, S2: 55 x 99 x 112	 Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, soft starters, etc.) Permit the mounting of slim-line and compact load feeders in widths of 45 mm (S00 and S0) and 55 mm (S2) Simplify configuration
Spring-type terminals		S00: 45 x 90 x 80, S0: 45 x 109 x 92, S2: 55 x 99 x 112	
Current range		S00: 1.6 16 A S0: 4 40 A S2: 8 80 A	 Is adapted to the other devices in the SIRIUS modular system Just a single version per size with a wide setting range enables easy configuration
Permissible ambient temperature	•		
During operation		-25 +60 °C	Suitable for applications in the control cabinet, worldwide
Monitoring functions			
Current overshoot		(Three-phase)	 Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload Enables detection of filter blockages or pumping against closed gate valves Enables drawing conclusions about wear, poor lubrication or other maintenance-relevant phenomena
Current undershoot		(Three-phase)	 Enables detection of overload due to a slipping or torn belt Guarantees protection of pumps against dry running Facilitates monitoring of the functions of resistive loads such as heaters Permits energy savings through monitoring of no-load operation
Apparent current monitoring		✓ (Selectable)	 Precision current monitoring especially in a motor's rated and upper torque range
Active current monitoring		✓ (Selectable)	 Optimum current monitoring over a motor's entire torque range through the patented combination of power factor and apparent current monitoring
Range monitoring		✓ (Three-phase)	 Simultaneous monitoring of current overshoot and undershoot with a single device
Phase failure, open circuit		✓ (Three-phase)	 Minimizes heating of three-phase motors during phase failure through immediate disconnection Prevents operation of hoisting equipment with reduced load carrying capacity
Phase sequence monitoring		✓ (Selectable)	 Prevents starting of motors, pumps or compressors in the wrong direction of rotation
Internal ground-fault detection (residual-current monitoring)		(Selectable)	 Provides optimum protection of loads against high-resistance short circuits or ground faults due to moisture, condensed water, damage to the insulation material, etc. Eliminates the need for additional special equipment Saves space in the control cabinet Reduces wiring overhead and costs
Blocking current monitoring		(Selectable)	 Minimizes heating of three-phase motors when blocked during operation through immediate disconnection Minimizes mechanical loading of the system by acting as an electronic shear pin
Operating hours counter		/	 Gives the time during which there was a measurable current in at least 2 current paths As an indicator for upcoming maintenance or replacement of machine and system components
Operating cycles counter		/	 Is incremented by one each time a breaking operation is detected, in other words a transition from three-phase current flow to no measurable current flow As an indicator for upcoming maintenance or replacement of contact blocks

✓ Available

SIRIUS 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link

Current and active current monitoring



Features	3RR24	Benefits
Features		
RESET function	1	Allows manual or automatic resetting of the relay Resetting directly on the device, by switching the control supply voltage off and on or via IO-Link (remote RESET)
ON-delay time	0 999.9 s	 Enables motor starting without evaluation of the starting current Can be used for monitoring motors with lengthy start up
Tripping delay time	0 999.9 s	 Permits brief threshold value violations during operation Prevents frequent warnings and disconnections with currents near the threshold values
Operating and indicating elements	Displays and buttons	 For setting the threshold values and delay times For selectable functions For quick and selective diagnostics Displays for permanent display of measured values
Integrated contacts	1 CO contact, 1 semiconductor output (in SIO mode)	 Enable disconnection of the system or process when there is an irregularity Can be used to output signals
Design of load feeders		
Short-circuit strength up to 100 kA at 690 V (in conjunction with the corresponding fuses or the corresponding motor starter protector)	✓	Provides optimum protection of the loads and operating personnel in the event of short circuits due to insulation faults or faulty switching operations
Electrical and mechanical matching to 3RT2 contactors	/	 Simplifies configuration Reduces wiring overhead and costs Enables stand-alone installation as well as space-saving direct mounting
Spring-type terminals for main circuit (with S00, S0) and auxiliary circuits	✓ (optional)	 Enables fast connections Permits vibration-resistant connections Enables maintenance-free connections
Other features		
Suitable for single- and three-phase loads	✓	 Enables the monitoring of single-phase systems through parallel infeed at the contactor or looping the current through the three phase connections
Wide setting ranges	✓	 Reduce the number of variants Minimize the configuration overhead and costs Minimize storage overhead, storage costs, tied-up capital
Power supply	24 V DC	Direct via IO-Link master or via an external auxiliary voltage independent of the IO-Link Minimizes the configuring overhead and costs

✓ Available

Possible ways of combining the 3RR24 monitoring relay with the 3RT2 contactor for IO-Link

Monitoring relays	Current range	Contactors (type, size, rating)				
		3RT201	3RT202	3RT203		
		S00	S0	S2		
Туре	Α	3/4/5.5/7.5 kW	5.5/7.5/11/15/18.5 kW	18.5/22/30/37 kW		
3RR2441	1.6 16	✓	With stand-alone installation support	With stand-alone installation support		
3RR2442	4 40	With stand-alone installation support	/	With stand-alone installation support		
3RR2443	8 80	With stand-alone installation support	With stand-alone installation support	✓		

✓ Available

Notes:

Devices required for the communication via IO-Link:

- Any controller that supports the IO-Link (e.g. ET 200SP with CPU or S7-1200); see Catalog ST 70.
 IO-Link master (e.g. CM 4xIO-Link for SIMATIC ET 200SP, see page 2/105 or SM 1278 for S7-1200, see page 2/104).

Each monitoring relay requires an IO-Link channel.

Relays SIRIUS 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link

Current and active current monitoring

Article No. scheme

Product versions		Article number
3RR24 monitoring r	elay, digitally adjustable with IO-Link	3RR2 4 4 🗆 – 🗆 A A 4 0
Size	S00	1
	S0	2
	S2	3
Connection type	Screw terminals	1
	Spring-type terminals	2
Example		3RR2 4 4 1 - 1 A A 4 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Can be mounted directly on 3RT2 contactors and 3RA23 reversing contactor assemblies, in other words, there is no need for additional wiring in the main circuit
- Optimally coordinated with the technical characteristics of the 3RT2 contactors
- · No separate current transformer required
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Display of ACTUAL value and status messages
- · All versions with removable control current terminals
- · All versions with screw or spring-type terminals
- Simple determination of the threshold values through direct reference to actually measured values for setpoint loading
- Range monitoring and selectable active current measurement mean that only one device for monitoring a motor is required along the entire torque curve

- In addition to current monitoring it is also possible to monitor for current unbalance, broken cables, phase failure, phase sequence, residual current and motor blocking
- Integrated counter for operating cycles and operating hours to support requirements-based maintenance of the monitored machine or application
- Simple cyclical transmission of the current measured values, relay switching states and events to a controller
- · Remote parameterization
- Automatic reparameterizing when devices are exchanged
- Simple duplication of identical or similar parameterizations
- Reduction of control current wiring
- · Elimination of testing costs and wiring errors
- Reduction of configuration overhead
- Integration in TIA means clear diagnostics if a fault occurs
- Cost saving and space saving in control cabinet due to the elimination of AI and IO modules as well as analog signal converters and duplicated sensors

Application

- · Monitoring for current overshoot and undershoot
- Monitoring of broken conductors
- Monitoring of no-load operation and load shedding, e.g. in the event of a torn V-belt or no-load operation of a pump
- Monitoring of overload, e.g. on pumps due to a dirty filter system
- Monitoring the functionality of electrical loads such as heaters
- Monitoring of wrong phase sequence on mobile equipment such as compressors or cranes
- Monitoring of high-impedance faults to ground, e.g. caused by damaged insulation or moisture

The use of SIRIUS monitoring relays for IO-Link is particularly recommended for machines and plants in which these relays, in addition to their monitoring function, are to be connected to the automation level for the rapid, simple and fault-free provision of the current measured values and/or for remote parameterization.

The monitoring relays can either relieve the controller of monitoring tasks or, as a second monitoring entity in parallel to and independent of the controller, increase the reliability in the process or in the system. In addition, the elimination of AI and IO modules allows the width of the controller to be reduced despite significantly expanded functionality.

SIRIUS 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link

Current and active current monitoring

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16206/td

Configuration Manual "Load Feeders – SIRIUS Modular System", see https://support.industry.siemens.com/cs/ww/en/view/39714188

System Manual "SIRIUS - System Overview", see

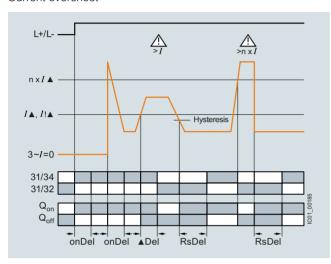
https://support.industry.siemens.com/cs/ww/en/view/60311318

Manual, see https://support.industry.siemens.com/cs/ww/en/view/54375430 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16206/faq

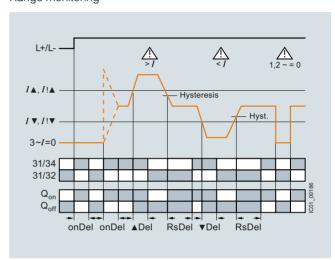
Function diagrams of 3RR24 for IO-Link, digitally adjustable

With the closed-circuit principle selected upon application of the control supply voltage

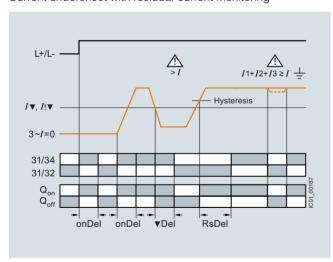
Current overshoot



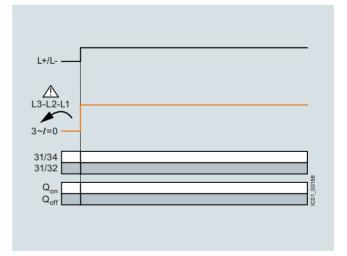
Range monitoring



Current undershoot with residual-current monitoring



Phase sequence monitoring



Relays SIRIUS 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link

Current and active current monitoring

Selection and ordering data

SIRIUS 3RR24 current monitoring relays for IO-Link













3RR2441-1AA40

3RR2442-1AA40

3RR2441-2AA40

3RR2442-2AA40

3RR2443-1AA40

3RR2443-2AA40

Size	Measuring range	Hysteresis	Supply voltage U _s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	А	А	V	d					
LC di Open 1 CO 1 sen Three Active Curre Phase Resic Block Open Gere Curre Tripp Sepa	ally adjustable splay - or closed-circuit princ contact niconductor output (in Si-phase current monitor e current or apparent or the sequence monitoring lual-current monitoring ing current monitoring ating hours counter ating cycles counter sing delay time 0 300 up delay 0 999.9 s rate settings for warning or Manual RESET	O mode) Jurent monitoring g	holds						
S00	1.6 16	0.1 3	24 DC	2	3RR2441-□AA40		1	1 unit	41H
S0	4 40	0.1 8	24 DC	2	3RR2442-□AA40		1	1 unit	41H
S2	8 80	0.2 16	24 DC	2	3RR2443-□AA40		1	1 unit	41H

Type of electrical connection

- Screw terminals
- Spring-type terminals



SIRIUS 3RR24 Monitoring Relays for Mounting onto 3RT2 Contactors for IO-Link

Current and active current monitoring

Accessories									
	Use	Version	Size	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tayminal aumoute	for stond	alone installation1)		d					
Terminal supports		-alone installation ¹⁾			0	_			
VA13/12543	For 3RR24	For separate mounting of the overload re or monitoring relays; screw and snap-on onto TH 35 standard mounting rail accor IEC 60715	mounting		Screw terminals	+			
20.30		Screw connection	S00 S0 S2	* *	3RU2916-3AA01 3RU2926-3AA01 3RU2936-3AA01		1 1 1	1 unit 1 unit 1 unit	41F 41F 41F
3RU2916-3AA01									
3RU2936-3AA01									
					Spring-type	8			
		Spring-type connection	S00 S0	>	3RU2916-3AC01 3RU2926-3AC01		1 1	1 unit 1 unit	41F 41F
Start .									
3RU2926-3AC01									
Blank labels		0)							
0.01_00181	For 3RR24	Unit labeling plates ²⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray		20	3RT2900-1SB20		100 (340 units	41B
3RT2900-1SB20									
Sealable covers									
. [S≥	For 3RR24	Sealable covers For securing against unintentional or una adjustment of settings	authorized	2	3RR2940		1	5 units	41H
3RR2940									
Tools for opening					_				
No.	For auxiliary circuit con- nections	Screwdrivers For all SIRIUS devices with spring-type to 3.0 mm x 0.5 mm; length approx. 200 mr gray/black, partially insulated	erminals; n, titanium	2	Spring-type terminals 3RA2908-1A		1	1 unit	41B
3RA2908-1A									

The accessories are exactly the same as the accessories for the 3RU21 thermal overload relay and the 3RB3 electronic overload relay, see page 7/96 onwards.

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.



SIRIUS 3UG4 monitoring relay

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3UG45 For the conversion tool, e.g. from 3UG3 to 3UG4, see www.siemens.com/sirius/conversion-tool

The field-proven SIRIUS monitoring relays for electrical and mechanical variables enable constant monitoring of all important characteristic quantities that provide information about the functional capability of a plant. Both sudden disturbances and gradual changes, which may indicate the need for maintenance, are detected. Thanks to their relay outputs, the monitoring relays permit direct disconnection of the affected system components as well as alerting (e.g. by switching a warning lamp).

Thanks to adjustable delay times the monitoring relays can respond very flexibly to brief faults such as voltage dips or load changes. This avoids unnecessary alarms and disconnections while enhancing plant availability.

The individual 3UG4 monitoring relays offer the following functions in various combinations:

- Undershooting and/or overshooting of liquid levels
- Phase sequence
- Phase failure, neutral conductor failure
- Phase asymmetry
- Undershooting and/or overshooting of limit values for voltage
- Undershooting and/or overshooting of limit values for current
- Undershooting and/or overshooting of limit values for power factor.
- Monitoring of the active current or the apparent current
- Monitoring of the residual current
- · Monitoring of the insulation resistance
- Undershooting and/or overshooting of limit values for speed

Article No. scheme

Product versions		Article number
Monitoring relays		3UG4 🗆 🗆 🗆 🗆 🗆 0
Type of setting	e. g. 5 = analogically adjustable	
Functions	e.g. 11 = line monitoring	
Connection type	Screw terminals	1
	Spring-type terminals	2
Contacts	e.g. A = 1 CO contact	
Supply voltage	e.g. N2 = 160 260 V AC	
Example		3UG4 5 1 1 - 1 A N 2 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

General data

Benefits

- Customary screw and spring-type terminals for quick and reliable wiring
- Fast commissioning thanks to menu-guided parameterization and actual value display for limit value determination
- Reduced space requirement in the control cabinet thanks to a consistent width of 22.5 mm
- Parameterizable monitoring functions, delay times, RESET response, etc.
- Reduced stockkeeping thanks to minimized variance and large measuring ranges
- · Wide-voltage power supply units for global applicability
- Device replacement without renewed wiring thanks to removable terminals
- Reliable system diagnostics thanks to actual value display and connectable fault memory
- Rapid diagnostics thanks to unambiguous error messages on the display

Application

The SIRIUS 3UG4 monitoring relays monitor the most diverse electrical and mechanical quantities in the feeder, and provide reliable protection against damage in the plant. For this purpose, they offer freely parameterizable limit values and diverse options for adapting to the respective task, and in the event of a fault, they provide clear diagnostics information.

The digitally adjustable products also display the current measured values direct on the device. This not only facilitates the display of valuable plant status information during operation, it also enables adjustment of the monitored limit values in accordance with the actual conditions.

The positive result: More selective avoidance of production faults – sustained increases in availability and productivity.

The 3UG4 monitoring relays are available for the following applications:

- Line and single-phase voltage monitoring
- Single-phase current monitoring or power factor and active current monitoring
- · Residual-current monitoring
- Insulation monitoring
- · Level monitoring
- · Speed monitoring

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16367/td

Manual and internal circuit diagrams, see

https://support.industry.siemens.com/cs/ww/en/view/54397927

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16367/faq

Туре		3UG
General data		
Dimensions (W x H x D)		
For 2 terminal blocks Screw terminals Spring-type terminals	mm mm	22.5 x 83 x 91 22.5 x 84 x 91
 For 3 terminal blocks Screw terminals Spring-type terminals 	mm mm	22.5 x 92 x 91 22.5 x 94 x 91
For 4 terminal blocksScrew terminalsSpring-type terminals	mm mm	22.5 x 103 x 91 22.5 x 103 x 91
Permissible ambient temperature • During operation	°C	-25 +60
Connection type		Screw terminals
 Terminal screw Solid Finely stranded with end sleeve AWG cables, solid or stranded 	mm ² mm ² AWG	M3 (for standard screwdriver, size 2 and Pozidriv 2) 1 x (0.5 4)/2 x (0.5 2.5) 1 x (0.5 2.5)/2 x (0.5 1.5) 2 x (20 14)
Connection type		Spring-type terminals □
 Solid Finely stranded, with end sleeve acc. to DIN 46228 Finely stranded AWG cables, solid or stranded 	mm ² mm ² mm ² AWG	2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.6)

Relavs



SIRIUS 3UG4615 monitoring relay

Electronic line monitoring relays provide maximum protection for mobile machines and plants or for unstable networks. Network and voltage faults can thus be detected early and rectified before far greater damage ensues.

Depending on the version, the relays monitor phase sequence, phase failure with and without N conductor monitoring, phase asymmetry, undervoltage or overvoltage.

Phase asymmetry is evaluated as the difference between the greatest and the smallest phase voltage relative to the greatest phase voltage. Undervoltage or overvoltage exists when at least one phase voltage deviates by 20% from the set rated system voltage or the directly set limit values are overshot or undershot. The rms value of the voltage is measured.

With the 3UG4617 or 3UG4618 relay, a wrong direction of rotation can also be corrected automatically.

Benefits

- Can be used without auxiliary voltage in any network from 160 to 630 V AC worldwide thanks to wide voltage range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Permanent display of actual value and line fault type on the digital versions
- Automatic correction of the direction of rotation by distinguishing between power system faults and wrong phase sequence
- · All versions with removable terminals
- All versions with screw or spring-type terminals

Application

The relays are used above all for mobile equipment, e.g. air conditioning compressors, refrigerating containers, building site compressors and cranes.

Function	Application
Phase sequence	Direction of rotation of the drive
Phase failure	A fuse has trippedFailure of the control supply voltageBroken cable
Phase asymmetry	Overheating of the motor due to asymmetrical voltage Detection of asymmetrically loaded networks
Undervoltage	Increased current on a motor with corresponding overheating Unintentional resetting of a device Network collapse, particularly with battery power
Overvoltage	Protection of a plant against destruction due to overvoltage

Technical specifications

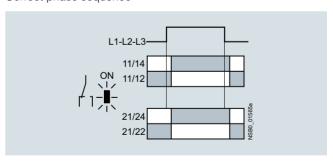
3UG4511 monitoring relays

The 3UG4511 phase sequenced relay monitors the phase sequence in a three-phase network. No adjustments are required for operation. The device has an internal power supply and works using the closed-circuit principle. If the phase sequence at the terminals L1-L2-L3 is correct, the output relay picks up after the delay time has elapsed and the LED is lit. If the phase sequence is wrong, the output relay remains in its rest position.

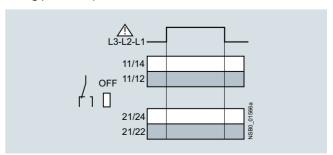
Note:

When one phase fails, connected loads (motor windings, lamps, transformers, coils, etc.) create a feedback voltage at the terminal of the failed phase due to the network coupling. Because the 3UG4511 relays are not resistant to voltage feedback, such a phase failure is not detected. Should this be required, then the 3UG4512 monitoring relay must be used.

Correct phase sequence



Wrong phase sequence



SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Line monitoring

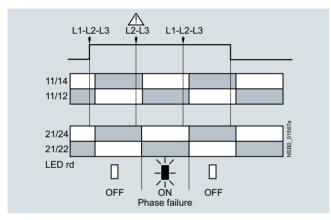
3UG4512 monitoring relays

The 3UG4512 line monitoring relay monitors three-phase networks with regard to phase sequence, phase failure and phase unbalance of 10%. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V AC and feedback through the load of up to 90%. The device has an internal power supply and works using the closed-circuit principle. No adjustments are required. If the line voltage is switched on, the green LED will light up. If the phase sequence at the terminals L1-L2-L3 is correct, the output relay picks up. If the phase sequence is wrong, the red LED flashes and the output relay remains in its rest position. If a phase fails, the red LED is permanently lit and the output relay drops.

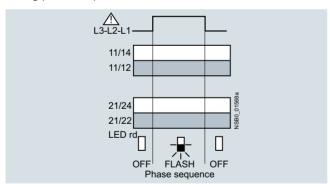
Note:

The red LED is a fault diagnostic indicator and does not show the current relay status. The 3UG4512 monitoring relay is suitable for line frequencies of 50/60 Hz.

Phase failure



Wrong phase sequence



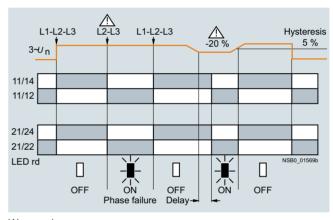
3UG4513 monitoring relays

The 3UG4513 line monitoring relay monitors three-phase networks with regard to phase sequence, phase failure, phase asymmetry and undervoltage of 20%. The device has an internal power supply and works using the closed-circuit principle. The hysteresis is 5%. The integrated response delay time T is adjustable from 0 to 20 s and responds to undervoltage. If the direction is incorrect, the device switches off immediately. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V and feedback through the load of up to 80%. If the line voltage is switched on, the green LED will light up. If the phase sequence at the terminals L1-L2-L3 is correct, the output relay picks up. If the phase sequence is wrong, the red LED flashes and the output relay remains in its rest position. If a phase fails, the red LED is permanently lit and the output relay drops.

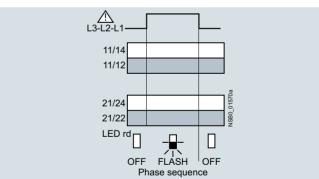
Note:

The red LED is a fault diagnostic indicator and does not show the current relay status. The 3UG4513 monitoring relay is suitable for line frequencies of 50/60 Hz.

Phase failure and undervoltage



Wrong phase sequence

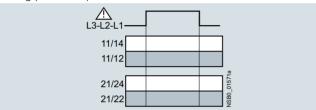


The 3UG4614 line monitoring relay has a wide voltage range input and an internal power supply. The device is equipped with a display and is parameterized using three buttons. The unit monitors three-phase networks with regard to phase asymmetry from 5 to 20%, phase failure, undervoltage and phase sequence. The hysteresis is adjustable from 1 to 20 V. In addition the device has a response delay and ON-delay from 0 to 20 s in each case. The integrated response delay time responds to phase asymmetry and undervoltage. If the direction is incorrect, the device switches off immediately. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V and feedback through the load of up to 80%.

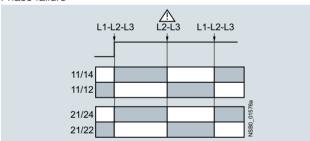
The 3UG4614 monitoring relay can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET.

With the closed-circuit principle selected

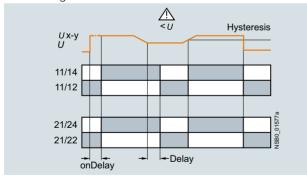
Wrong phase sequence



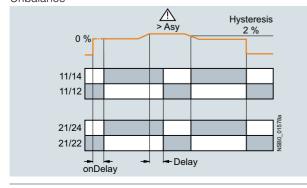
Phase failure



Undervoltage



Unbalance



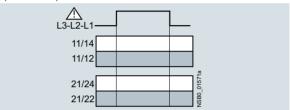
3UG4615/3UG4616 monitoring relays

The 3UG4615/3UG4616 line monitoring relay has a wide voltage range input and an internal power supply. The device is equipped with a display and is parameterized using three buttons. The 3UG4615 device monitors three-phase networks with regard to phase failure, undervoltage, overvoltage and phase sequence. The 3UG4616 monitoring relay monitors the neutral conductor as well. The hysteresis is adjustable from 1 to 20 V. In addition the device has two separately adjustable delay times for overvoltage and undervoltage from 0 to 20 s in each case. If the direction of rotation is incorrect, the device switches off immediately. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V and feedback through the load of up to 80%.

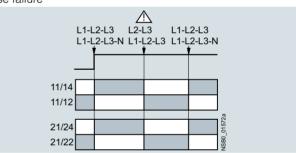
The 3UG4615/3UG4616 monitoring relay can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET.

With the closed-circuit principle selected

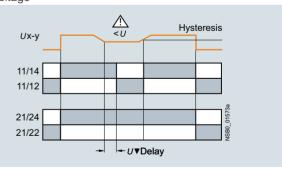
Wrong phase sequence



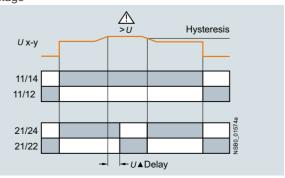
Phase failure



Undervoltage



Overvoltage



SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

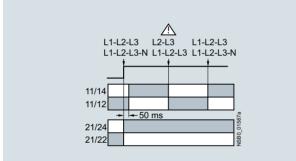
Line monitoring

3UG4617/3UG4618 monitoring relays

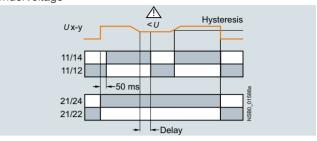
The 3UG4617/3UG4618 line monitoring relay has an internal power supply and can automatically correct a wrong direction of rotation. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V AC and feedback through the load of up to 80%. The device is equipped with a display and is parameterized using three buttons. The 3UG4617 line monitoring relay unit monitors three-phase networks with regard to phase sequence, phase failure, phase unbalance, undervoltage and overvoltage. The 3UG4618 monitoring relay monitors the neutral conductor as well. The hysteresis is adjustable from 1 to 20 V. In addition the device has delay times from 0 to 20 s in each case for overvoltage, undervoltage, phase failure and phase unbalance. The 3UG4617/3UG4618 monitoring relay can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET. The one changeover contact is used for warning or disconnection in the event of power system faults (voltage, asymmetry), the other responds only to a wrong phase sequence. In conjunction with a contactor reversing assembly it is thus possible to change the direction automatically.

With the closed-circuit principle selected

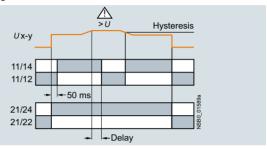
Phase failure



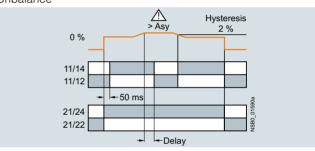
Undervoltage



Overvoltage



Unbalance



Туре		3UG4511 3UG4513, 3UG4614 3UG4618
General data		
Rated insulation voltage U _i Pollution degree 3 Overvoltage category III acc. to VDE 0110	V	690
Rated impulse withstand voltage U _{imp}	kV	6
Control circuit		
Load capacity of the output relay • Thermal current I _{th}	А	5
Rated operational current <i>I</i> _e at • AC-15/24 400 V • DC-13/24 V • DC-13/125 V • DC-13/250 V	A A A A	3 1 0.2 0.1
Minimum contact load at 17 V DC	mA	5
Electrical endurance AC-15	Million oper- ating cycles	0.1
Mechanical endurance	Million oper- ating cycles	10

Relavs

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Line monitoring

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unit = 41H

















ЗU	G45	11	-1	AH	20

R20

3UG4511-1A	NP20	3UG46	15-1CR20	3UG461	6-1CR20	3UG4617-1	CR20	3UG4618-1CR20	3U0	34511	1-2BP20	3UG4512-2BR20
Adjustable hysteresis	Under- voltage detec- tion	Over- voltage detec- tion	Stabiliza- tion time adjust- able stDEL	Tripping delay time adjustable Del	Version of auxiliary contacts	Measurable line voltage ¹⁾	SD	Screw terminals	+	SD	Spring-type terminals	<u></u>
			S	S	CO contact	V	d	Article No.	Price per PU	d	Article No.	Price per PU
Monitorin	g of pha	ase seq	uence									
Auto RESET												
					1 2	160 260 AC	2	3UG4511-1AN20 3UG4511-1BN20		2 2	3UG4511-2A 3UG4511-2B	
					1 2	320 500 AC	2	3UG4511-1AP20 3UG4511-1BP20		2 2	3UG4511-2A 3UG4511-2B	
					1 2	420 690 AC	2	3UG4511-1AQ20 3UG4511-1BQ20		5 5	3UG4511-2A 3UG4511-2B	
Monitoring of phase sequence, phase failure and phase unbalance												
Auto RESET,	closed-	circuit pri	nciple, unb	alance thresh	old perma	nently 10%						
					1 2	160 690 AC	2	3UG4512-1AR20 3UG4512-1BR20		2 2	3UG4512-2A 3UG4512-2B	
Monitoring of phase sequence, phase failure, unbalance and							·		•			

Analogically adjustable, Auto RESET, closed-circuit principle, asymmetry and undervoltage threshold permanently 20%

5% of 0.1 ... 20 2 set value

Digitally adjustable, Auto RESET or Manual RESET, open-circuit or closed-circuit principle, asymmetry threshold 0 or 5 ... 20%

adjustable 0.1 ... 20 0.1 ... 20 2 1 ... 20 V

160 ... 690 AC 2

3UG4513-1BR20

3UG4616-1CR20

3UG4617-1CR20

3UG4513-2BR20

3UG4615-2CR20

3UG4616-2CR20

3UG4617-2CR20

3UG4614-1BR20 3UG4614-2BR20 160 ... 690 AC 2 2

Monitoring of phase sequence, phase failure, overvoltage and undervoltage

Digitally adjustable, Auto RESET or Manual RESET, open-circuit or closed-circuit principle 0.1 ... 20²⁾ 2²⁾ adjustable 🗸 160 ... 690 AC 2 3UG4615-1CR20 2

Monitoring of phase sequence, phase and N conductor failure, overvoltage and undervoltage

Digitally adjustable, Auto RESET or Manual RESET, open-circuit or closed-circuit principle $0.1 \dots 20^{2)} \quad 2^{2)}$ adjustable 🗸 90... 400 AC against N 1 ... 20 V

Automatic correction of the direction of rotation in case of wrong phase

sequence, phase failure, unbalance, overvoltage and undervoltage Digitally adjustable, Auto RESET or Manual RESET, open-circuit or closed-circuit

principle, asymmetry threshold 0 or 5 ... 20% 0.1 ... 20 2³⁾ 160 ... 690 AC 2

Automatic correction of the direction of rotation in case of wrong phase sequence, phase and N conductor failure, phase unbalance, overvoltage and undervoltage

Digitally adjustable, Auto RESET or Manual RESET, open-circuit or closed-circuit principle, asymmetry threshold 0 or 5 ... 20%

0.1 ... 20 2³⁾ adjustable 🗸 1 ... 20 V

90 ... 400 AC against N

3UG4618-1CR20

3UG4618-2CR20

✓ Function available

For accessories, see page 10/108.

Function not available

¹⁾ Absolute limit values. $^{2)}$ 1 CO contact each and one tripping delay time each for U_{\min} and U_{\max}

^{3) 1} CO contact each for power system fault and phase sequence correction.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Voltage monitoring

Overview



SIRIUS 3UG4631 monitoring relay

The relays monitor single-phase AC voltages (rms value) and DC voltages against the set threshold value for overshoot and undershoot. The devices differ with regard to their power supply (internal or external).

Benefits

- Versions with wide voltage supply range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display of ACTUAL value and status messages
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- Protection of a plant against destruction due to overvoltage
- Switch-on of a plant at a defined voltage and higher
- Protection from undervoltage due to overloaded control supply voltages, particularly with battery power
- Threshold switch for analog signals from 0.1 to 10 V

Technical specifications

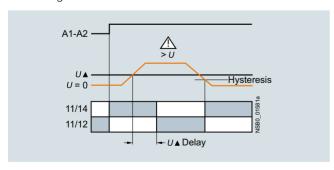
3UG4631/3UG4632 monitoring relays

The 3UG4631/3UG4632 voltage monitoring relay is supplied with an auxiliary voltage of 24 V AC/DC or 24 to 240 V AC/DC and performs overshoot, undershoot or range monitoring of the voltage depending on parameterization. The device is equipped with a display and is parameterized using three buttons.

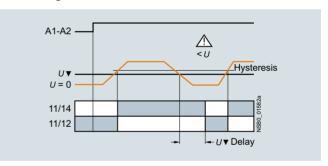
The measuring range extends from 0.1 to 60 V or 10 to 600 V AC/DC. The threshold values for overshoot or undershoot can be freely configured within this range. If one of these threshold values is reached, the output relay responds according to the set principle of operation as soon as the delay time has elapsed. This delay time $U_{\rm Del}$ can be set from 0.1 to 20 s. The hysteresis can be set from 0.1 to 30 V or 0.1 to 300 V. The device can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET. One output changeover contact is available as signaling contact.

With the closed-circuit principle selected

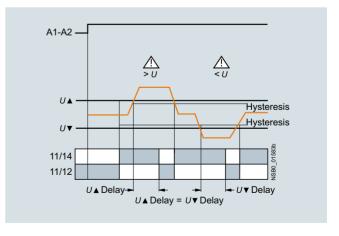
Overvoltage



Undervoltage



Range monitoring



SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Voltage monitoring

3UG4633 monitoring relay

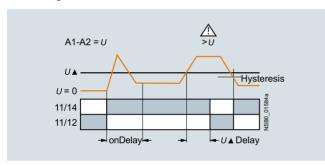
The 3UG4633 voltage monitoring relay has an internal power supply and performs overshoot, undershoot or range monitoring of the voltage depending on parameterization. The device is equipped with a display and is parameterized using three buttons.

The operating and measuring range extends from 17 to 275 V AC/DC. The threshold values for overshoot or undershoot can be freely configured within this range. If one of these threshold values is reached, the output relay responds according to the set principle of operation as soon as the tripping delay time has elapsed. This delay time $U_{\rm Del}$ can also be adjusted, just like the ON-delay time on_Del, from 0.1 to 20 s.

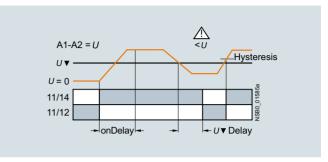
The hysteresis is adjustable from 0.1 to 150 V. The device can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET. One output changeover contact is available as signaling contact.

With the closed-circuit principle selected

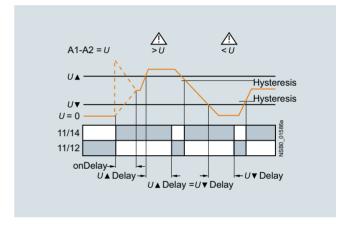
Overvoltage



Undervoltage



Range monitoring



Туре		3UG4631	3UG4632	3UG4633
General data				
Rated insulation voltage U _i	V	690		
Pollution degree 3				
Overvoltage category III acc. to VDE 0110				
Rated impulse withstand voltage U_{imp}	kV	6		
Measuring circuit				
Permissible measuring range single-phase AC/DC voltage	V	0.1 68	10 650	17 275
Measuring frequency	Hz	40 500		
Setting range single-phase voltage	V	0.1 60	10 600	17 275
Control circuit				
Load capacity of the output relay				
 Thermal current I_{th} 	Α	5		
Rated operational current I _e at				
• AC-15/24 400 V	Α	3		
• DC-13/24 V	Α	1		
• DC-13/125 V	Α	0.2		
• DC-13/250 V	Α	0.1		
Minimum contact load at 17 V DC	mA	5		

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Voltage monitoring

Selection and ordering data

Digitally adjustable, with illuminated LCD
Auto or Manual RESET
Open- or closed-circuit principle
1 CO contact

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41H





3UG4631-1AA30

3UG4633-2AL30

Measuring range	Adjustable hysteresis	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	4	SD	Spring-type terminals	<u> </u>
V	V	V	d	Article No.	Price per PU	d	Article No.	Price per PU
Internal power supp separately adjustable		ry voltage, ripping delay 0.1 20 s						
17 275 AC/DC	0.1 150	17 275 AC/DC ¹⁾	2	3UG4633-1AL30		2	3UG4633-2AL30	
Externally supplied tripping delay adjus								
0.1 60 AC/DC 10 600 AC/DC	0.1 30 0.1 300	24 AC/DC	2 2	3UG4631-1AA30 3UG4632-1AA30		2 2	3UG4631-2AA30 3UG4632-2AA30	
0.1 60 AC/DC 10 600 AC/DC	0.1 30 0.1 300	24 240 AC/DC	2	3UG4631-1AW30 3UG4632-1AW30		2 2	3UG4631-2AW30 3UG4632-2AW30	

¹⁾ Absolute limit values.

For accessories, see page 10/108.



SIRIUS 3UG4622 monitoring relay

The relays monitor single-phase AC currents (rms value) and DC currents against the set threshold value for overshoot and undershoot. They differ with regard to their measuring ranges and control supply voltage types.

Benefits

- Versions with wide voltage supply range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display of ACTUAL value and status messages
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- Overcurrent and undercurrent monitoring
- Monitoring the functionality of electrical loads
- · Open-circuit monitoring
- Threshold switch for analog signals from 4 to 20 mA

Technical specifications

3UG4621/3UG4622 monitoring relays

The 3UG4621 or 3UG4622 current monitoring relay is supplied with an auxiliary voltage of 24 V AC/DC or 24 to 240 V AC/DC and performs overshoot, undershoot or range monitoring of the current depending on parameterization. The device is equipped with a display and is parameterized using three buttons.

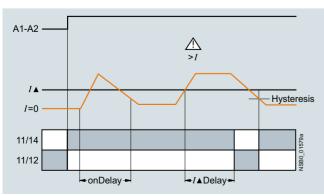
The measuring range extends from 3 to 500 mA or 0.05 to 10 A. The rms value of the current is measured. The threshold values for overshoot or undershoot can be freely configured within this range. If one of these threshold values is reached, the output relay responds according to the set principle of operation as soon as the tripping delay time $I_{\rm Del}$ has elapsed. This time and the ON-delay time on_{\rm Del} are adjustable from 0.1 to 20 s.

The hysteresis is adjustable from 0.1 to 250 mA or 0.01 to 5 A. The device can be operated with Manual or Auto RESET and on the basis of either the open-circuit or closed-circuit principle. You can decide here whether the output relay is to respond when the supply voltage $U_{\rm S}={\rm ON}$ is applied, or not until the lower measuring range limit of the measuring current (I>3 mA/50 mA) is reached. One output changeover contact

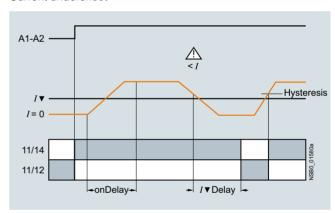
With the closed-circuit principle selected upon application of the control supply voltage

is available as signaling contact.

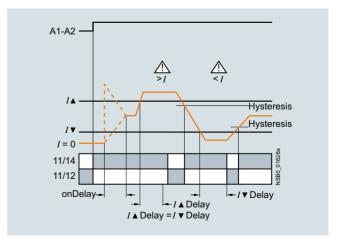
Current overshoot



Current undershoot



Range monitoring



SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Current monitoring

Туре		3UG4621AA	3UG4621AW	3UG4622AA	3UG4622AW
General data					
Rated insulation voltage $U_{\rm i}$ Pollution degree 3; overvoltage category III according to VDE 0110	V	690			
Rated impulse withstand voltage U _{imp}	kV	6			
Measuring circuit					
Measuring range for single-phase AC/DC current	Α	0.003 0.6		0.05 15	
Measuring frequency	Hz	40 500			
Setting range for single-phase current	Α	0.003 0.5		0.05 10	
Load supply voltage	V	24	Max. 300 ¹⁾ Max. 500 ²⁾	24	Max. 300 ¹⁾ Max. 500 ²⁾
Control circuit					
Load capacity of the output relay • Thermal current I _{th}	А	5			
Rated operational current I _e at • AC-15/24 400 V • DC-13/24 V	A	3			
• DC-13/24 V • DC-13/125 V • DC-13/250 V	A A A	0.2 0.1			
Minimum contact load at 17 V DC	mA	5			

¹⁾ With protective separation.

Selection and ordering data

• Digitally adjustable, with illuminated LCD

Auto or Manual RESET

Open- or closed-circuit principle

• 1 CO contact

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41 \text{H} \end{array}$





3UG4621-1AA30

3UG4622-2AW30

Measuring range	Adjustable hysteresis	Rated control supply voltage U_s	SD	Screw terminals	+	SD	Spring-type terminals	$\overset{\infty}{\square}$
		V	d	Article No.	Price per PU	d	Article No.	Price per PU
Monitoring of underco		rent, start up delay and t 0.1 20 s	ripping					
3 500 mA AC/DC 0.05 10 A AC/DC	0.1 250 mA 0.01 5 A	24 AC/DC ¹⁾	2 2	3UG4621-1AA30 3UG4622-1AA30		2 2	3UG4621-2AA30 3UG4622-2AA30	
3 500 mA AC/DC 0.05 10 A AC/DC	0.1 250 mA 0.01 5 A	24 240 AC/DC ²⁾	2 2	3UG4621-1AW30 3UG4622-1AW30		2 2	3UG4621-2AW30 3UG4622-2AW30	

 $^{^{\}rm 1)}$ No electrical separation. Load supply voltage 24 V.

For accessories, see page 10/108.

For AC currents I > 10 A it is possible to use 4NC current transformers as an accessory, see Catalog LV 10.

²⁾ With simple separation.

²⁾ Electrical separation between control circuit and measuring circuit. Load supply voltage for protective separation max. 300 V, for simple separation max. 500 V.



SIRIUS 3UG4641 monitoring relay

The 3UG4641 power factor and active current monitoring device enables the load monitoring of motors.

Whereas power factor (p.f.) monitoring is used above all for monitoring no-load operation, the active current monitoring option can be used to observe and evaluate the load factor over the entire torque range.

Benefits

- Can be used worldwide thanks to wide voltage range from 90 to 690 V (absolute limit values)
- Monitoring of even small single-phase motors with a no-load supply current below 0.5 A
- Simple determination of threshold values by the direct collection of measured variables on motor loading
- Range monitoring and active current measurement enable detection of cable breaks between control cabinets and motors, as well as phase failures
- Power factor (p.f.) or I_{res} (active current) can be selected as the measurement principle
- Width 22.5 mm
- All versions with removable terminals

Application

- No-load monitoring and load shedding, such as in the event of a V-belt tear
- Underload monitoring in the low-end performance range, e.g. in the event of pump no-load operation
- Monitoring of overload, e.g. due to a dirty filter system
- Simple power factor monitoring in power systems for control of compensation equipment
- Broken cable between control cabinet and motor

Technical specifications

3UG4641 monitoring relay

The 3UG4641 monitoring relay is self-powered and serves the single-phase monitoring of the power factor or performs overshoot, undershoot or range monitoring of the active current depending on how it is parameterized. The load to be monitored is connected upstream of the IN terminal. The load current flows through the terminals IN and Ly/N. The setting range for the power factor is 0.1 to 0.99 and for the active current I_{res} it is 0.2 to 10 A. If the control supply voltage is switched on and no load current flows, the display will show I < 0.2 and a symbol for overrange, underrange or range monitoring. If the motor is now switched on and the current exceeds 0.2 A, the set ON-delay time begins. During this time, if the set limit values are undershot or exceeded, this does not lead to a relay reaction of the changeover contact. If the operational flowing active current and/or the power factor value falls below or exceeds the respective set threshold value, the spike delay begins. When this time has expired, the relay changes its switch position. The relevant measured variables for overshooting and undershooting in the display flash. If monitoring for active current undershoot is switched off ($I_{res} \nabla = OFF$), and if the load current undershoots the lower measuring range threshold (0.2 A), the CO contacts remain unchanged. If a threshold value is set for the monitoring of active current undershooting, then undershooting of the measuring range threshold (0.2 A) will result in a response of the CO contacts.

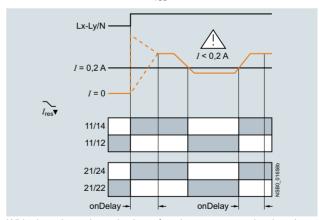
The relay operates either according to the open-circuit or closed-circuit principle. If the device is set to Auto RESET (Memory = No), depending on the set principle of operation, the switching relay returns to its initial state and the flashing ends when the hysteresis threshold is reached.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured value and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2 seconds, or by switching the supply voltage off and back on again.

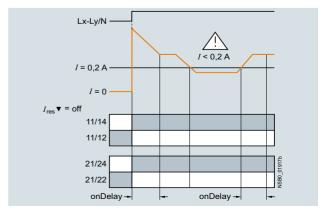
With the closed-circuit principle selected

Response in the event of undershooting the measuring range limit

With activated monitoring of I_{res}▼



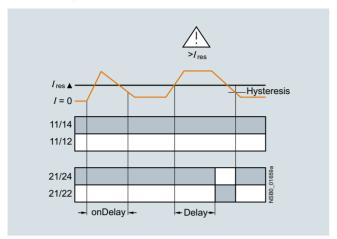
• With deactivated monitoring of active current undershooting



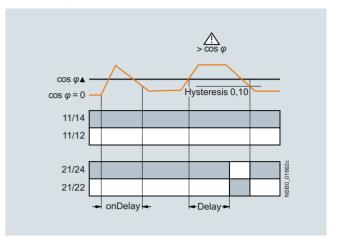
SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Power factor and active current monitoring

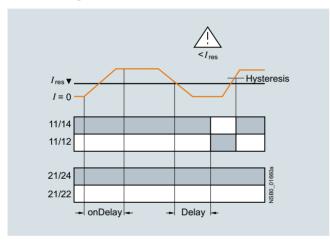
Overshooting of active current



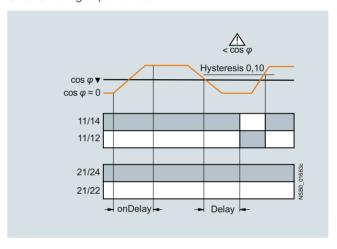
Overshooting of power factor



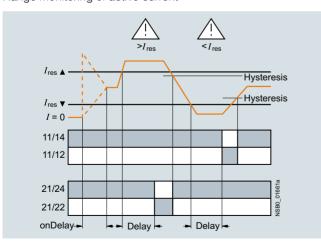
Undershooting of active current



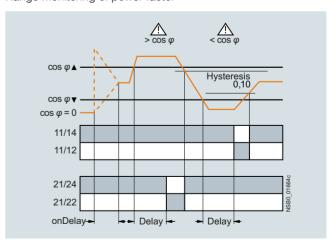
Undershooting of power factor



Range monitoring of active current



Range monitoring of power factor



per PU

Relays SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Power factor and active current monitoring

Туре		3UG4641
General data		
Rated insulation voltage <i>U</i> _i Pollution degree 3 Overvoltage category III acc. to VDE 0110	V	690
Rated impulse withstand voltage U_{imp}	kV	6
Control circuit		
Number of CO contacts for auxiliary contacts		2
Load capacity of the output relay ■ Thermal current I _{th}	А	5
Rated operational current <i>I</i> _e at • AC-15/24 400 V • DC-13/24 V • DC-13/125 V • DC-13/250 V	A A A	3 1 0.2 0.1
Minimum contact load at 17 V DC	mA	5

Selection and ordering data

- ullet For monitoring the power factor and the active current $I_{\rm res}$
- Suitable for single- and three-phase currents
- Digitally adjustable, with illuminated LCD
- Overshoot, undershoot or range monitoring adjustable
- Upper and lower threshold value can be adjusted separately
- Permanent display of actual value and tripping state
 1 changeover contact each for undershoot/overshoot

• I chang	eover cor	naci ea	ach ior un	dershoot/	oversnooi							
Measuring r For power factor	For active current		For active current		Tripping delay time adjustable $I \triangle Del/I = I \triangle Del/I$	Rated control supply voltage $U_{\rm S}^{1)}$ 50/60 Hz AC	SD	Screw terminals	+	SD	Spring-type terminals	
								Article No.	Price		Article No.	Price

0.1 ... 20.0 90 ... 690

PS*

PU (UNIT, SET, M) = 1

3UG4641-1CS20

= 1 unit

per PU d

3UG4641-2CS20

= 41H

1) Absolute limit values.

0.10 ... 0.99 0.2 ... 10.0 0.1

For accessories, see page 10/108.

For AC active currents $I_{\rm res}$ > 10 A it is possible to use 4NC current transformers as an accessory, see Catalog LV 10.

0.1 ... 2.0 0 ... 99

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation Residual-Current Monitoring

Residual-current monitoring relays

Overview



SIRIUS 3UG4625 monitoring relay

The 3UG4625 residual-current monitoring relays are used in conjunction with the 3UL23 residual-current transformers for monitoring plants in which higher residual currents are increasingly expected due to ambient conditions. Monitoring encompasses pure AC residual currents or AC residual currents with a pulsating DC fault current component (transformer type A in accordance with DIN VDE 0100-530/IEC TR 60755).

Benefits

- Worldwide use thanks to wide voltage range from 24 to 240 V AC/DC
- High measuring accuracy of ± 7.5%
- · Permanent self-monitoring
- Variable threshold values for warning and disconnection
- Freely configurable delay times and RESET response
- Permanent display of the actual value and fault diagnostics via the display
- High level of flexibility and space saving through installation of the transformer inside or outside the control cabinet
- Width 22.5 mm
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

Monitoring of plants in which residual currents can occur, e.g. due to dust deposits or moisture, porous cables and leads, or capacitive residual currents.

Technical specifications

3UG4625 monitoring relays

The main conductor, and any neutral conductor to which a load is connected, are routed through the opening of the annular ring core of a residual-current transformer. A secondary winding is placed around this annular ring core to which the monitoring relay is connected.

If operation of a plant is fault-free, the sum of the inflowing and outward currents equals zero. No current is then induced in the secondary winding of the residual-current transformer.

However, if an insulation fault occurs downstream of the residual-current-operated circuit breaker, the sum of the inflowing currents is greater than that of the outward currents. The differential current – i.e. the residual current – induces a secondary current in the secondary winding of the transformer. This current is evaluated in the monitoring relay and is used on the one hand to display the actual residual current and on the other, to switch the relay if the set warning or tripping threshold is overshot.

If the measured residual current exceeds the set warning value, the associated changeover contact instantly changes the switching state and an indication appears on the display.

If the measured residual current exceeds the set tripping value, the set delay time begins and the associated relay symbol flashes. On expiry of this time, the associated changeover contact changes the switching state.

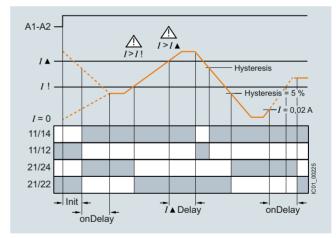
ON-delay time for motor start

To be able to start a drive when a residual current is detected, the output relays switch to the OK state for an adjustable ON-delay time depending on the selected open-circuit principle or closed-circuit principle.

The changeover contacts do not react if the set threshold values are overshot during this period.

With the closed-circuit principle selected

Residual-current monitoring with Auto RESET (Memory = no)



If the device is set to Auto RESET, the relay switches back to the OK state for the tripping value once the value falls below the set hysteresis threshold and the display stops flashing.

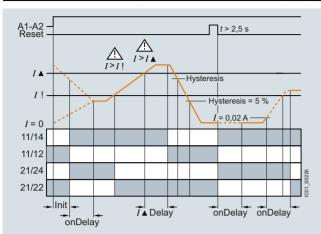
The associated relay changes its switching state if the value falls below the fixed hysteresis value of 5% of the set warning value.

Any overshoots are therefore not stored.

Relays SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation Residual-Current Monitoring

Residual-current monitoring relays

Residual-current monitoring with Manual RESET (Memory = yes)



If Manual RESET is selected in the menu, the output relays remain in their current switching state and the current measured value and the symbol for overshooting continue to flash, even when the measured residual current returns to a permissible value. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for > 2 seconds, or by switching the supply voltage off and back on again.

Note:

Do not ground the neutral conductor downstream of the residualcurrent transformer as otherwise residual-current monitoring functions can no longer be ensured.

Туре		3UG4625-1CW30, 3UG4625-2CW30
General data		
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3, rated value	V	300
Impulse withstand voltage, rated value U_{imp}	kV	4
Control circuit		
Number of CO contacts for auxiliary contacts		2
Thermal current of the non-solid-state contact blocks, maximum	А	5
Current carrying capacity of the output relay • At AC-15 at 250 V at 50/60 Hz • At DC-13 - At 24 V - At 125 V - At 250 V	A A A	3 1 0.2 0.1
Operational current at 17 V, minimum	mA	5

Selection and ordering data

- For monitoring residual currents from 0.03 to 40 A, from 16 to 400 Hz
- For 3UL23 residual-current transformers with feed-through opening from 35 to 210 mm
- Permanent self-monitoring
- Certified in accordance with IEC 60947, functionality corresponds to IEC 62020
- Digitally adjustable, with illuminated LCD

- Permanent display of actual value and tripping state
- Separately adjustable limit value and warning threshold
- 1 changeover contact each for warning threshold and tripping threshold

$$PU$$
 (UNIT, SET, M) = 1
 PS^* = 1 unit
 PG = 41H





3UG4625-1CW30

3UG4625-2CW30

Measur- able	response value	Switching hysteresis	ON-delay	Control supply voltag		y voltage SI		I supply voltage		Screw terminals		SD	Spring-type terminals	<u>~</u>
current	current		time	For AC at 50 Hz rated value	For AC at 60 Hz rated value	At DC rated value		Article No.	Price per PU		Article No.	Price per PU		
Α	А	%	S	V	V	V	d			d				
0.01 43	0.03 40	0 50	0 20	24 240	24 240	24 240	2	3UG4625-1CW30		2	3UG4625-2CW30			

For accessories, see page 10/108.

For the 3UL23 residual-current transformers, see page 10/94.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation Residual-Current Monitoring

3UL23 residual-current transformers

Overview



SIRIUS 3UL23 residual-current transformer

The 3UL23 residual-current transformers detect residual currents in machines and plants. They are suitable for pure AC residual currents or AC residual currents with a pulsating DC fault current component (transformer type A in accordance with DIN VDE 0100-530/IEC TR 60755).

Together with the 3UG4625, 3UG4825 residual-current monitoring relays for IO-Link or the SIMOCODE 3UF motor management and control device they enable residual-current and ground-fault monitoring.

The 3UL2302-1A and 3UL2303-1A residual-current transformers with a feed-through opening from 35 to 55 mm can be mounted in conjunction with the 3UL2900 accessories on a TH 35 standard mounting rail according to IEC 60715.

Selection and ordering data

Diameter of the bushing opening	Connectable cross-section of the connecting terminal	SD	Screw terminals	(PU (UNIT, SET, M)	PS*	PG
mm	mm^2	d	Article No.	Price per PU			
Residual-current transformers (essential accessories for 3UG4625,	3UG4825)						
35 55 80	2.5 2.5 2.5	2 2 2	3UL2302-1A 3UL2303-1A 3UL2304-1A		1 1	1 unit 1 unit 1 unit	41H 41H 41H
110	2.5	2	3UL2305-1A		1	1 unit	41H
140 210	2.5 4	2	3UL2306-1A 3UL2307-1A		1 1	1 unit 1 unit	41H 41H

Accessories

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Adapters							
-4	Adapters	2	3UL2900		1	2 units	41H
	For mounting onto standard rail for 3UL23 to diameter 55 mm						
3UL2900							

Relays 16 Manitoring Rolays for Stand Along Installation

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation Insulation Monitoring

General data

Overview



SIRIUS 3UG458. insulation monitor

Insulation monitoring relays are used for monitoring the insulation resistance between ungrounded single- or three-phase AC supplies and a protective conductor.

Ungrounded, i.e. isolated networks (IT networks) are always used where high demands are placed on the reliability of the power supply, e.g. emergency lighting systems. IT systems are supplied via an isolating transformer or by power supply sources such as batteries or a generator. While an initial insulation fault between a phase conductor and the ground effectively grounds the conductor, as a result no circuit has been closed, so it is possible to continue work in safety (single-fault safety). However, the fault must be rectified as quickly as possible before a second insulation fault occurs (e.g. according to DIN VDE 0100-410). For this purpose insulation monitoring relays are used, which constantly measure the resistance to ground of the phase conductor and the neutral conductor, reporting a fault immediately if insulation resistance falls below the set value so that either a controlled shutdown can be performed or the fault can be rectified without interrupting the power supply.

Two device series

- 3UG4581 insulation monitoring relays for ungrounded AC networks
- 3UG4582 and 3UG4583 insulation monitoring relays for ungrounded DC and AC networks

Benefits

- Devices for AC and DC systems
- All devices have a wide control supply voltage range
- Direct connection to networks with mains voltages of up to 690 V AC and 1 000 V DC by means of a voltage reducer module
- For AC supply systems: Frequency range 15 to 400 Hz
- · Monitoring of broken conductors
- Monitoring of setting errors
- Safety in use thanks to integrated system test after startup
- Option of resetting and testing (by means of button on front or using control contact)
- New predictive measurement principle allows very fast response times

Application

IT networks are used, for example:

- In emergency power supplies
- In safety lighting systems
- In industrial production facilities with high availability requirements (chemical industry, automobile manufacturing, printing plants)
- In shipping and railways
- For mobile generators (aircraft)
- For renewable energies, such as wind energy and photovoltaic power plants
- In the mining industry

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation **Insulation Monitoring**

General data

Technical specifications

More information

For manuals, see

- https://support.industry.siemens.com/cs/ww/en/view/54382552
 https://support.industry.siemens.com/cs/ww/en/view/54382528

Туре		3UG4581-1AW30	3UG4582-1AW30	3UG4583-1CW30
General data				
Setting range for the setpoint response v • 1 100 $k\Omega$ • 2 200 $k\Omega$	alues	✓ 	✓ 	<i>'</i>
Rated voltage of the network being monit 0 250 V AC 0 440 V AC 0 690 V AC 0 300 V DC 0 600 V DC	ored		/ /	
• 0 1 000 V DC Max. leakage capacitance of the system				V ''
 10 μF 20 μF 		✓ 	✓ 	-
Output contacts • 1 CO • 2 CO or 1 CO + 1 CO, adjustable		✓ 	<i>/</i>	/
Number of limit values 1 1 1 2, adjustable	✓ 	✓ 	-,	
Principle of operation	Closed-circuit principle	Closed-circuit principle	Open-circuit/closed- circuit principle, adjustable	
Rated control supply voltage • 24 240 V AC/DC		✓	✓	/
Rated frequency		 /	/	✓
Auto or Manual RESET		✓ Adjustable	✓ Adjustable	✓ Adjustable
Remote RESET		✓ Via control input	✓ Via control input	✓ Via control input
Non-volatile error memory				✓ Adjustable
Broken wire detection				✓ Adjustable
Replacement for				
Rated control supply voltage $U_{\rm S}$	Voltage range of the network being monitored			
3UG3081-1AK20 110 130/220 240 V AC/DC	3 x 230/400 V AC	✓		-
3UG3081-1AW30 24 240 V AC/DC	3 x 230/400 V AC	/		
3UG3082-1AW30 24 240 V AC/DC	24 240 V DC		✓	
/ Available				

[✓] Available

⁻⁻ Not available

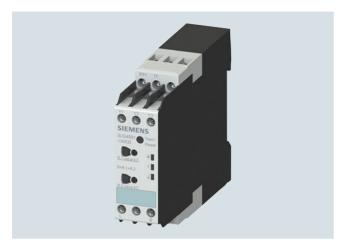
¹⁾ With voltage reducer module.

Relays S 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation Insulation Monitoring

For ungrounded AC networks

Overview



SIRIUS 3UG4581 insulation monitor

The 3UG4581 insulation monitoring relays are used to monitor insulation resistance according to IEC 61557-8 in ungrounded AC networks with rated voltages of up to 400 V.

These devices can monitor control circuits (single-phase) and main circuits (three-phase).

They measure insulation resistances between system cables and system ground. If the value falls below the threshold value, the output relays are switched to fault status.

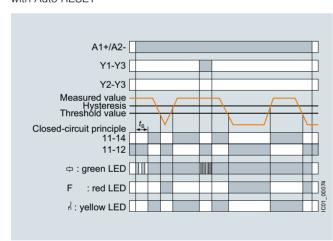
In the case of 3UG4581 a higher-level DC measuring signal is used. The higher-level DC measuring signal and the resulting current are used to determine the value of the insulation resistance of the network which is to be measured.

Technical specifications

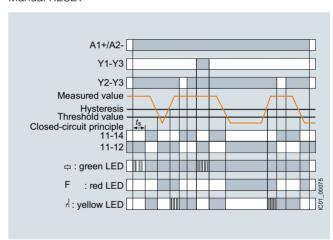
3UG4581 monitoring relay

With the closed-circuit principle selected

Insulation resistance monitoring without fault storage, with Auto RESET



Insulation resistance monitoring with fault storage and Manual RESET



SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation **Insulation Monitoring**

For ungrounded AC networks

Туре		3UG4581
Dimensions (W x H x D)	mm	22.5 x 100 x 100
Connection type		Screw terminals
SolidFinely stranded with end sleeveAWG cables, solid or stranded	mm ² mm ² AWG	2 × (0.5 4) 2 × (0.75 2.5) 2 × (20 14)
General data		
Rated insulation voltage <i>U</i> _i Pollution degree 3 Overvoltage category III acc. to IEC 60664	V	400 supply circuit/measuring circuit 300 supply circuit/output circuit
Rated impulse withstand voltage $U_{\rm imp}$	kV	6
Rated control supply voltage	V	24 240 AC/DC
Rated frequency	Hz	15 400
Measuring circuit		
Rated line voltage of the network being monitored	V	0 400
Rated frequency of the network being monitored	Hz	50 60
Setting range for insulation resistance	kΩ	1 100
Control circuit		
Load capacity of the output relay ◆ Thermal current I _{th}	Α	4
Rated operational current I _e at • AC-15/24 400 V • DC-13/24 V	A A	3 2
Minimum contact load at 24 V DC	mA	10

Selection and ordering data

- Auto or Manual RESET
- Closed-circuit principle1 CO contact

- Fault memory adjustable using control input (Y2-Y3)
 Reset by means of button on front or using control input
- Test by means of button on front or using control input (Y1-Y3)

	Rated line voltage $U_{\rm n}$	Measuring range $U_{\rm e}$	Rated control supply voltage $U_{\rm S}$	System leakage capaci- tance	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	VAC	kΩ	V	μF	d	Article No.	Price per PU			
Insulation monitors for un	grounded	AC networ	·ks							
3UG4581-1AW30	0 400	1 100	24 240 AC/DC	Max. 10	5	3UG4581-1AW30		1	1 unit	41H

For accessories, see page 10/108.

Relays SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation Insulation Monitoring

For ungrounded DC and AC networks

Overview



SIRIUS 3UG4582 and 3UG4583 insulation monitors

The 3UG4582 and 3UG4583 insulation monitoring relays are used to monitor insulation resistance in ungrounded IT AC or DC networks according to IEC 61557-8.

They measure insulation resistances between system cables and system ground. If the value falls below the threshold value, the output relays are switched to fault status. With these devices, which are suitable for both AC and DC networks, a pulsed test signal is fed into the network to be monitored and the isolation resistance is determined.

The pulsed test signal changes its form according to insulation resistance and network loss capacitance. The changed form is used to predict the changed insulation resistance.

If the predicted insulation resistance matches the insulation resistance calculated in the next measurement cycle, and is lower than the threshold value, the output relays are activated or deactivated, depending on the device configuration. This measurement principle is also suitable for identifying symmetrical insulation faults.

3UG4983 voltage reducer module

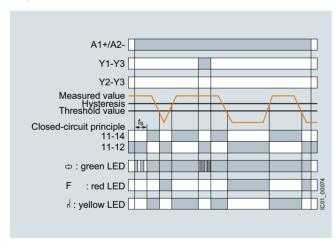
The 3UG4983 passive voltage reducer module can be used to allow the 3UG4583 insulation monitoring relay to be used for insulation monitoring of IT networks with rated voltages of up to 690 V AC and 1 000 V DC.

Technical specifications

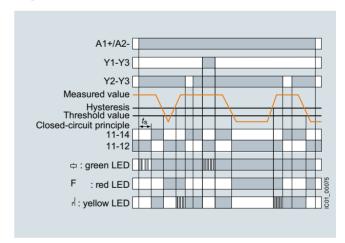
3UG4582 monitoring relays

With the closed-circuit principle selected

Insulation resistance monitoring without fault storage, with Auto RESET



Insulation resistance monitoring with fault storage and Manual RESET



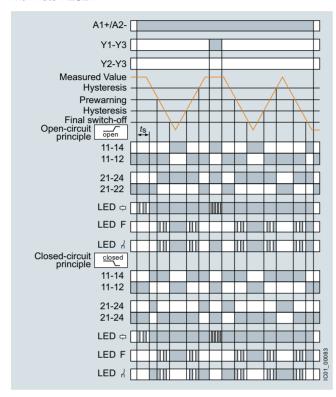
SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation Insulation Monitoring

For ungrounded DC and AC networks

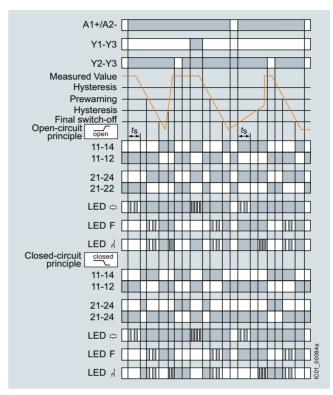
3UG4583 monitoring relays

With the closed-circuit principle selected

Insulation resistance monitoring without fault storage, with Auto RESET



Insulation resistance monitoring with fault storage and Manual RESET



Туре		3UG4582	3UG4583
Dimensions (W x H x D)	mm	22.5 x 100 x 100	45 x 100 x 100
Connection type		Screw terminals	
SolidFinely stranded with end sleeveAWG cables, solid or stranded	mm ² mm ² AWG	2 x (0.5 4) 2 x (0.75 2.5) 2 x (20 14)	
General data			
Rated insulation voltage <i>U</i> _i Pollution degree 3 Overvoltage category III acc. to IEC 60664	V	400 supply circuit/measuring circuit, 300 supply circuit/output circuit	400 supply circuit/measuring circuit 300 supply circuit/output circuit, 300 output circuit 1/output circuit 2
Rated impulse withstand voltage U _{imp}	kV	6	
Rated control supply voltage	V AC/DC	24 240	
Rated frequency	Hz	15 400	
Measuring circuit			
Rated line voltage of the network being monitored	V V	0 250 AC, 0 300 DC	0 300 AC, 0 690 AC with 3UG49 83 0 600 DC, 0 1 000 DC with 3UG49 83
Rated frequency of the network being monitored	Hz	DC or 15 400	
Setting range for insulation resistance	kΩ	1 100	1 100, 2 200 for 2nd limit value (disconnectable)
Control circuit			
Number of CO contacts for auxiliary contacts		1	2 or 1 + 1, adjustable
Load capacity of the output relay • Thermal current $I_{\rm th}$	А	4	
Rated operational current I _e at • AC-15/24 400 V • DC-13/24 V	A A	3 2	
Minimum contact load at 24 V DC	mA	10	

9

Relays SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation **Insulation Monitoring**

For ungrounded DC and AC networks

Selection and ordering data

- Auto or Manual RESET

- Rated control supply voltage U_s 24 ... 240 V AC/DC
 3UG4582: Closed-circuit principle
 3UG4583: Open-circuit or closed-circuit principle, adjustable
- 1 or 2 CO contacts
- Fault memory adjustable using control input (Y2-Y3)
 Reset by means of button on front or using control input
- Test by means of button on front or using control input (Y1-Y3) 3UG4583: Non-volatile fault storage can be configured
- 3UG4583: 2 separate limit values (e.g. for warning and disconnection) or 2 CO contacts for one limit value (e.g. for a local alarm and signaling to the PLC via separate circuits) can be configured

Note:

With the 3UG4983-1A coupling unit, connection to networks with voltages of up to 690 V AC and 1 000 V DC is possible,

can be configured											
	Rated line voltage $U_{\rm n}$	System leakage capaci- tance	Output relays	Measuring range U _e	Broken wire detection in the measur- ing range	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V			kΩ		-1	Article No.	Price			
3UG4582 insulation n		μF		KΩ		d		per PU			
3UG4582-1AW30	0 250 AC, 0 300 DC	Max. 10	100	1 100	√	5	3UG4582-1AW30		1	1 unit	41H
3UG4583 insulation monitors											
3UG4583-1CW30	0 400 AC, 0 600 DC ¹)	Max. 20	2 CO or 1 CO + 1 C O, adjust- able	1 100, 2 200 for 2nd limit value, adjustable	✓ Adjustable	5	3UG4583-1CW30		1	1 unit	41H
	Voltage reduce	er module	for 3UG4583								
3UG4983-1A ✓ Available	For extending the max. 690 V AC	ne network and 1 000	voltage rang V DC	e to		5	3UG4983-1A		1	1 unit	41H

¹⁾ With 3UG4983-1A voltage reducer module suitable also for the insulation monitoring of IT networks of up to 690 V AC and 1 000 V DC

For accessories, see page 10/108.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Level monitoring

Overview



SIRIUS 3UG4501 monitoring relay

The 3UG4501 level monitoring relay is used in combination with 2- or 3-pole sensors to monitor the levels of conductive liquids.

Benefits

- Can be used worldwide thanks to wide voltage range from 24 to 240 V (absolute limit values)
- Individually shortenable 2- and 3-pole wire electrodes for easy mounting from above/below
- Bow electrodes for installation from the side, for larger filling levels and minimum space requirements
- Can be flexibly adapted to different conductive liquids through analog setting of the sensitivity from 2 to 200 k Ω
- Compensation for wave movements through tripping delay times from 0.1 to 10 s
- Upstream or downstream function selectable
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- Single-point and two-point level monitoring
- Overflow protection
- Dry run protection
- · Leak monitoring

Technical specifications

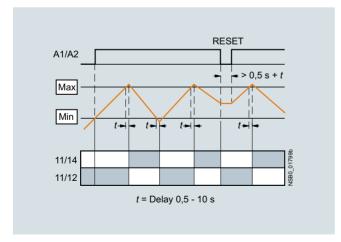
3UG4501 monitoring relays

The principle of operation of the 3UG4501 level monitoring relay is based on measuring the electrical resistance of the liquid between two immersion sensors and a reference terminal. If the measured value is lower than the sensitivity set at the front, the output relay changes its switching state. In order to preclude active current undershooting of the liquid, the sensors are supplied with alternating current.

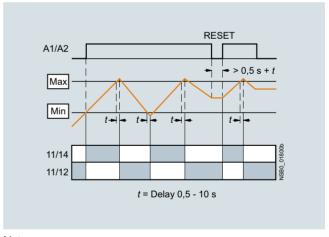
Two-point control

The output relay changes its switching state as soon as the liquid level reaches the maximum sensor, while the minimum sensor is submerged. The relay returns to its original switching state as soon as the minimum sensor no longer has contact with the liquid.

OVER, two-point control



UNDER, two-point control



Note:

It is also possible to connect other resistance sensors to the Min and Max terminals in the range 2 to 200 k Ω , e.g. photoresistors, temperature sensors, encoders based on resistance, etc. The monitoring relay can therefore also be used for other applications as well as for monitoring the levels of liquids.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Level monitoring

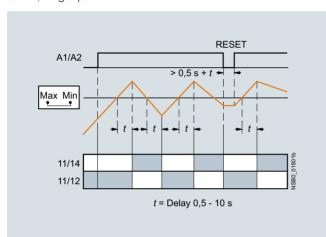
Single-point control

If only one level is being controlled, the terminals for Min and Max on the monitoring relay are bridged. The output relay changes its switching state as soon as the liquid level is reached and returns to its original switching state once the sensor no longer has contact with the liquid.

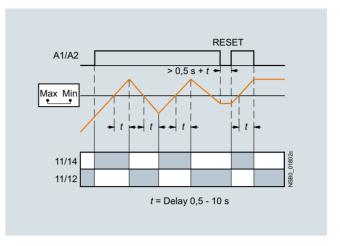
In order to prevent premature tripping of the switching function caused by wave motion or frothing, even though the set level has not been reached, it is possible to delay this function by 0.5 to 10 s.

For safe resetting, the control supply voltage must be interrupted for at least the set delay time of +0.5 s.

OVER, single-point control



UNDER, single-point control



Туре		3UG4501
General data		
Rated insulation voltage <i>U</i> _i Pollution degree 3 Overvoltage category III acc. to VDE 0110	V	300
Rated impulse withstand voltage U _{imp}	kV	4
Measuring circuit		
Electrode current, max. (typ. 70 Hz)	mA	1
Electrode voltage, max. (typ. 70 Hz)	V	15
Sensor feeder cable	m	Max. 100
Conductor capacitance of sensor cable ¹⁾	nF	Max. 10
Control circuit		
Load capacity of the output relay Thermal current <i>I</i> _{th}	А	5
Rated operational current <i>I</i> _e at • AC-15/24 400 V • DC-13/24 V • DC-13/125 V • DC-13/250 V	A A A	3 1 0.2 0.1
Minimum contact load at 17 V DC	mA	5

¹⁾ The sensor cable does not necessarily have to be shielded, but we do not recommend installing this cable parallel to the power supply lines. It is also possible to use a shielded cable, whereby the shield has to be connected to the M terminal.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Level monitoring

Selection and ordering data

• For level monitoring of electrically conductive liquids

 Control principle: inlet or sequence control adjustable per rotary switch

Single-point and two-point control possible

 Analogically adjustable sensitivity (specific resistance of the liquid)

Analogically adjustable tripping delay time

• 1 yellow LED for displaying the relay state

1 green LED for displaying the applied control supply voltage

• 1 ČO contact

PU (UNIT, SET, M)	=	1
PS*	=	1 unit
PG	=	41H

Sensitivity	Tripping delay time	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	SD	Spring-type terminals
kΩ	S	V AC/DC	d	Article No. Price per PU		Article No. Price per PU
2 200	0.5 10	24 ¹⁾	2	3UG4501-1AA30	2	3UG4501-2AA30
		24 240	2	3UG4501-1AW30	2	3UG4501-2AW30

The rated control supply voltage and the measuring circuit are <u>not</u> electrically separated.

For accessories, see page 10/108.

Note:

Level monitoring sensors are available from various providers. We recommend sensors made by Jacob GmbH (see "External partners", page 16/16). The previous 3UG3 level sensors are also available from here.

Relavs

Overview



SIRIUS 3UG4651 monitoring relay

The 3UG4651 monitoring relay is used in combination with a sensor to monitor motor drives for overspeed and/or underspeed.

Furthermore, the monitoring relay is ideal for all functions where a continuous pulse signal needs to be monitored (e.g. belt travel monitoring, completeness monitoring, passing monitoring, clock-time monitoring).

Benefits

- Can be used worldwide thanks to wide voltage range from 24 to 240 V (absolute limit values)
- · Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Permanent display of actual value and fault type
- Use of up to 10 sensors per rotation for extremely slowly rotating motors
- 2- or 3-wire sensors and sensors with a mechanical switching output or semiconductor output can be connected
- Auxiliary voltage for sensor integrated
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- Slip or tear of a belt drive
- · Overload monitoring
- Transport monitoring for completeness

Technical specifications

3UG4651 monitoring relay

The speed monitoring relay operates according to the principle of period duration measurement.

In the monitoring relay, the time between two successive rising edges of the pulse encoder is measured and compared to the minimum and/or maximum permissible period duration calculated from the set limit values for the speed.

Thus, the period duration measurement recognizes any deviation in speed after just two pulses, even at very low speeds or in the case of extended pulse gaps.

By using up to ten pulse encoders evenly distributed around the circumference, it is possible to shorten the period duration, and in turn the response time. By taking into account the number of sensors in the monitoring relay, the speed continues to be indicated in rpm.

ON-delay time for motor start

To be able to start a motor drive, and depending on whether the open-circuit or closed-circuit principle is selected, the output relay switches to the GO state during the ON-delay time, even if the speed is still below the set value

The ON-delay time is started by either switching on the auxiliary voltage or, if the auxiliary voltage is already applied, by actuating the respective NC contact (e.g. auxiliary contact).

Speed monitoring with Auto RESET (Memory = no)

If the device is set to Auto RESET, the output relay switches to the GO state, once the adjustable hysteresis threshold is reached in the range of 0.1 to 99.9 rpm and the flashing stops. Any overshoots or undershoots are therefore not stored.

Speed monitoring with Manual RESET (Memory = yes)

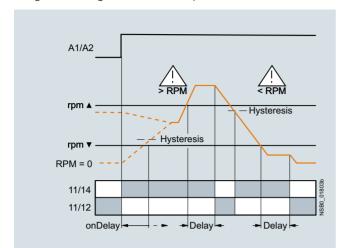
If Manual RESET is selected in the menu, the output relay remains in its current switching state and the current measured value and the symbol for overshooting/undershooting continue to flash, even when the speed returns to a permissible value. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ buttons for > 2 s, by connecting the RESET device terminal to 24 V DC or by switching the control supply voltage off and back on again.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

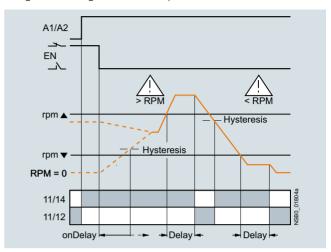
Speed monitoring

With the closed-circuit principle selected

Range monitoring without enable input



Range monitoring with enable input



Туре		3UG4651
General data		
Rated insulation voltage <i>U</i> _i	V	300
Pollution degree 3 Overvoltage category III acc. to VDE 0110		
Rated impulse withstand voltage U _{imp}	kV	4
Measuring circuit		
Sensor supply • For 3-wire sensor (24 V/0 V) • For 2-wire NAMUR sensor (8V2)	mA mA	Max. 50 Max. 8.2
Signal input IN1 IN2	kΩ kΩ	16, 3-wire sensor, pnp operation 1, floating contact, 2-wire NAMUR sensor
Voltage level • For level 1 at IN1 • For level 0 at IN1	V	4.5 30 0 1
Current level • For level 1 at IN2 • For level 0 at IN2	mA mA	> 2.1 < 1.2
Minimum pulse duration of signal	ms	5
Minimum interval between 2 pulses	ms	5
Control circuit		
Number of CO contacts for auxiliary contacts		1
Load capacity of the output relay Thermal current $I_{\rm th}$	А	5
Rated operational current <i>I</i> _e at • AC-15/24 400 V • DC-13/24 V • DC-13/125 V • DC-13/250 V	A A A	3 1 0.2 0.1
Minimum contact load at 17 V DC	mA	5

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Speed monitoring

Selection and ordering data

For speed monitoring in revolutions per minute (rpm)
Two- or three-wire sensor with mechanical or electronic

Two- or triree-wire sensor with mechanical or enswitching output can be connected
Two-wire NAMUR sensor can be connected
Sensor supply 24 V DC/50 mA integrated
Input frequency 0.1 to 2 200 pulses per minute (0.0017 to 36.7 Hz)

(U.0017 to 36.7 Hz)
With or without enable signal for the drive to be monitored
Digitally adjustable, with illuminated LCD
Overshoot, undershoot or range monitoring adjustable
Number of pulses per revolution can be adjusted
Upper and lower threshold value can be adjusted separately

Auto, Manual or remote RESET options after tripping

Permanent display of actual value and tripping state

• 1 CO contact

Measuring range	Hysteresis	ON-delay time	Tripping delay time	Pulses per revolution	Rated control supply voltage $U_{\rm S}$ AC/DC	SD	Screw terminals	+	SD	Spring-type terminals	
rpm	rpm	S	S		V	d	Article No.	Price per PU	d	Article No.	Price per PU
0.1 2 200	OFF 0.1 99.9	0 900	0.1 99.9	1 10	24 ¹⁾	2	3UG4651-1AA30		2	3UG4651-2AA30	
					24 240	2	3UG4651-1AW30		2	3UG4651-2AW30	

¹⁾ The rated control supply voltage and the measuring circuit are not electrically separated.

For accessories, see page 10/108.

SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

Accessories

Selection and orderi	ng data						
	Use	Version	SD	Article No. Price per PU		PS*	PG
			d				
Blank labels							
	For 3UG4	Unit labeling plates For SIRIUS devices 20 mm x 7 mm, pastel turquoise ¹⁾	20	2DT1000 1CD20	100	240 unito	41D
	For 3UG4	Adhesive labels for SIRIUS devices	20	3RT1900-1SB20	100	340 units	41B
	F01 30G4		4.5	0DT1000 10DC0	100	0.000	440
010000000000000000000000000000000000000		• 19 mm x 6 mm, pastel turquoise	15	3RT1900-1SB60		3 060 units	41B
1		• 19 mm x 6 mm, zinc yellow	15	3RT1900-1SD60	100	3 060 units	41B
3RT1900-1SB20							
Push-in lugs and cov	/ers						
3RP1903	For 3UG4	Push-in lugs For screw fixing, 2 units are required for each device	5	3RP1903	1	10 units	41H
	For 3UG4	Sealable covers For securing against unauthorized adjustment of setting knobs	5	3RP1902	1	5 units	41H
3RP1902							
Covers for insulation	n monitoring	relays					
	For 3UG4581 and 3UG4582	Sealable, transparent covers	5	3UG4981-0C	1	1 unit	41H
1600							
3UG4981-0C		_					
10202	For 3UG4583		5	3UG4983-0C	1	1 unit	41H
3UG4983-0C							
Tools for opening sp	ring-type <u>te</u>	rminals					
	For auxiliary circuit	Screwdrivers For all SIRIUS devices with spring-type		Spring-type terminals			
3RA2908-1A	connections	terminals; 3.0 mm x 0.5 mm; length approx. 200 mm, titanium gray/black, partially insulated	2	3RA2908-1A	1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

Note:

For products for mechanical bearing monitoring, e.g. condition monitoring systems, see www.siemens.com/siplus-cms.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

General data

Overview



SIRIUS 3UG48 monitoring relays

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3UG48 For the conversion tool, e.g. from 3UG3 to 3UG4, see www.siemens.com/sirius/conversion-tool

The SIRIUS 3UG4 monitoring relays for electronic and mechanical variables monitor all important characteristics that allow conclusions to be drawn about the functionality of a plant. Both sudden disturbances and gradual changes, which may indicate the need for maintenance, are detected.

Thanks to their relay outputs, the monitoring relays permit direct disconnection of the affected system components and alerting, e.g. by the triggering of a warning light. Thanks to adjustable delay times the 3UG4 monitoring relays can respond very flexibly to brief faults such as voltage dips or load changes and can thus avoid unnecessary alarms and disconnections and increase system availability.

3UG48 monitoring relays for IO-Link

The SIRIUS 3UG48 monitoring relays for IO-Link also offer many other options based upon the monitoring functions of the tried-and-tested SIRIUS 3UG4 monitoring relays:

- Measured value transmission to a controller, including resolution and unit, may be parameterizable as to which value is cyclically transmitted
- Transmission of alarm flags to a controller
- Full diagnosis capability by inquiry as to the cause of the fault in the diagnosis data record
- Remote parameterization is also possible, in addition to or instead of local parameterization
- Rapid parameterization of the same devices by duplication of the parameterization in the controller
- Parameter transmission through uploading to a controller by IO-Link call or by parameter server (if IO-Link master from IO-Link Specification V1.1 and higher is used)
- Consistent central data storage in the event of parameter change locally or via a controller
- · Automatic reparameterizing when devices are exchanged
- Blocking of local parameterization via IO-Link possible
- Faults are saved in parameterizable and non-volatile fashion to prevent an automatic start up after voltage failure and to make sure diagnostics data is not lost
- Integration into the automation level provides the option of parameterizing the monitoring relays at any time via a display unit, or displaying the measured values in a control room or locally at the machine/control cabinet

Even without communication via IO-Link the devices continue to function fully autonomously:

- Parameterization can take place locally at the device, independently of a controller.
- In the event of failure or before the controller becomes available the monitoring relays work as long as the control supply voltage (24 V DC) is present.
- If the monitoring relays are operated without the controller, the 3UG48 monitoring relays have, thanks to the integrated SIO mode, an additional semiconductor output, which switches when the adjustable warning threshold is exceeded.

Thanks to the combination of autonomous monitoring relay function and integrated IO-Link communication, redundant sensors and/or analog signal converters – which previously took over the transmission of measured values to a controller, leading to considerable extra cost and wiring overhead – are no longer needed.

Because the output relays are still present, the monitoring relays increase the functional reliability of the system, since only the controller can fulfill the control tasks if the current measured values are available, whereas the output relays can also be used for the disconnection of the system if limit values that cannot be reached during operation are exceeded.

The individual 3UG48 monitoring relays for IO-Link offer the following functions in different combinations:

- Phase sequence
- Phase failure, neutral conductor failure
- Phase asymmetry
- Undershooting and/or overshooting of limit values for voltage
- Undershooting and/or overshooting of limit values for current
- Undershooting and/or overshooting of power factor limit values
- Monitoring of the active current or the apparent current
- · Monitoring of the residual current
- Undershooting and/or overshooting of limit values for speed

Note:

For more information on the IO-Link bus system, see page 2/97 onwards.

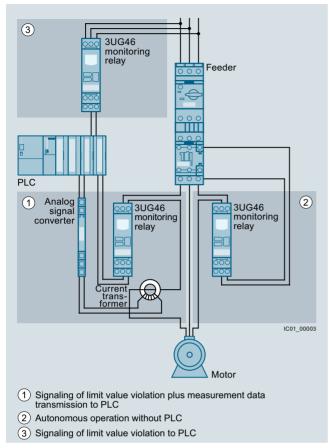
Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information on Industrial Security, see www.siemens.com/industrialsecurity.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

General data

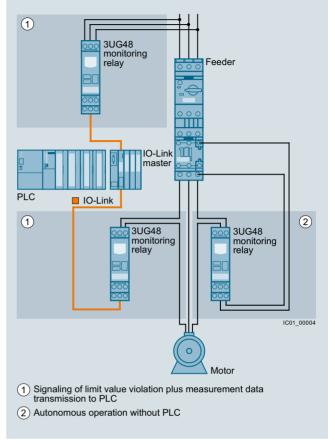


Use of conventional monitoring relays

Notes:

Devices required for the communication via IO-Link:

- Any controller that supports IO-Link (e.g. ET 200SP with CPU or S7-1200), see Catalog ST 70.
- IO-Link master (e.g. CM 4xIO-Link for SIMATIC ET 200SP, see page 2/105 or SM 1278 for S7-1200, see page 2/104).



Monitoring relays for IO-Link

Each monitoring relay requires an IO-Link channel.

Article No. scheme

Product versions		Article number	
3UG4 monitoring rela	ay with IO-Link	3UG4 □ □ □ - □	
Type of setting	e. g. 8 = analogically adjustable		
Functions	e.g. 15 = line monitoring		
Connection type	Screw terminals	1	
	Spring-type terminals (push-in)	2	
Contacts	e.g. A = 1 CO contact		
Supply voltage	e.g. A4 = 160 690 V AC		
Example		3UG4 8 1 5 - 1	A A 4

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Simple cyclical transmission of the current measured values, relay switching states and events to a controller
- · Remote parameterization
- · Automatic reparameterizing when devices are exchanged
- Simple duplication of identical or similar parameterizations
- · Reduction of control current wiring

- Elimination of testing costs and wiring errors
- Reduction of configuration overhead
- Integration in TIA means clear diagnostics if a fault occurs
- Cost saving and space saving in control cabinet due to the elimination of AI and IO modules as well as analog signal converters and duplicated sensors

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

General data

Application

The use of SIRIUS monitoring relays for IO-Link is particularly recommended for machines and plants in which these relays, in addition to their monitoring function, are to be connected to the automation level for the rapid, simple and fault-free provision of the current measured values and/or for remote parameterization.

The monitoring relays can either relieve the controller of monitoring tasks or, as a second monitoring entity in parallel to and independent of the controller, increase the reliability in the process or in the system. In addition, the elimination of Al and IO modules allows the width of the controller to be reduced despite significantly expanded functionality.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16368/td Manual and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/54375430	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16368/faq

Туре		3UG48
General technical specifications		
Dimensions (W x H x D)		
 For 3 terminal blocks Screw terminals Spring-type terminals 	mm mm	22.5 x 92 x 91 22.5 x 94 x 91
 For 4 terminal blocks Screw terminals Spring-type terminals 	mm mm	22.5 x 103 x 91 22.5 x 103 x 91
Permissible ambient temperature • During operation	°C	-25 +60
Connection type		Screw terminals
 Terminal screw Solid Finely stranded with end sleeve AWG cables, solid or stranded Tightening torque 	mm ² mm ² AWG Nm	M3 (for standard screwdriver, size 2 and Pozidriv 2) 1 x (0.5 4), 2 x (0.5 2.5) 1 x (0.5 2.5), 2 x (0.5 1.5) 2 x (20 14) 0.8 1.2
Connection type		Spring-type terminals
 Solid Finely stranded, with end sleeve acc. to DIN 46228 Finely stranded AWG cables, solid or stranded 	mm ² mm ² mm ² AWG	2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (24 16)

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Line monitoring

Overview



SIRIUS 3UG4815 monitoring relay

Solid-state line monitoring relays provide maximum protection for mobile machines, plants and hoisting equipment or for unstable networks. Network and voltage faults can thus be detected early and rectified before far greater damage ensues.

The line monitoring relays with IO-Link monitor phase sequence, phase failure (with or without N conductor monitoring), phase asymmetry and undervoltage and/or overvoltage.

Phase asymmetry is evaluated as the difference between the greatest and the smallest phase voltage relative to the greatest phase voltage. Undervoltage or overvoltage exist if the set limit values for at least one phase voltage are overshot or undershot. The rms value of the voltage is measured.

Benefits

- Can be used in any network from 160 to 630 V AC worldwide thanks to wide voltage range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display and transmission of actual value and network fault type to controller
- · All versions with removable terminals
- All versions with screw or spring-type terminals

Application

The relays are used above all for mobile equipment, e.g. air conditioning compressors, refrigerating containers, building site compressors and cranes.

Function	Application
Phase sequence	Direction of rotation of the drive
Phase failure	A fuse has tripped
	Failure of the control supply voltage
	Broken cable
Phase asymmetry	Overheating of the motor due to asymmetrical voltage
	Detection of asymmetrically loaded networks
Undervoltage	Increased current on a motor with corresponding overheating
	Unintentional resetting of a device
	Network collapse, particularly with battery power
Overvoltage	Protection of a plant against destruction due to overvoltage

Relavs

Technical specifications

3UG4815/3UG4816 monitoring relays

The 3UG4815 and 3UG4816 line monitoring relays have a wide voltage range input and are supplied with power through IO-Link or from an external 24 V DC source.

The device is equipped with a display and is parameterized using three buttons. The 3UG4815 monitoring relay monitors three-phase networks with regard to phase sequence, phase failure, phase asymmetry, undervoltage and overvoltage. The 3UG4816 monitoring relay monitors the neutral conductor as well. The hysteresis is adjustable from 1 to 20 V.

The device has two separately adjustable delay times for overvoltage and undervoltage and for line stabilization. If the direction of rotation is incorrect or a phase fails, the device switches off immediately. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from and potentially high feedback through the load.

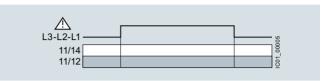
The 3UG4815 and 3UG4816 monitoring relays can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured value and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2.5 s.

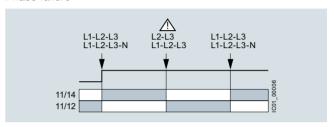
With Manual RESET through IO-Link it is possible in addition to set whether error signals are to be deleted when the control supply voltage is switched off and on (as remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

With the closed-circuit principle selected

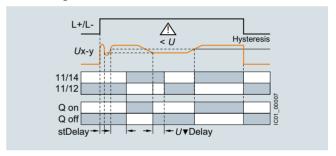
Wrong phase sequence



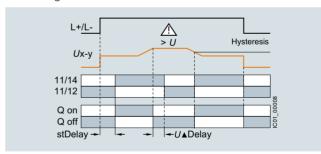
Phase failure



Undervoltage



Overvoltage



Туре		3UG4815, 3UG4816
General technical specifications		
Rated insulation voltage U _i	V	690
Pollution degree 2		
Overvoltage category III acc. to VDE 0110		
Rated impulse withstand voltage U_{imp}	kV	6
Control circuit		
Load capacity of the output relay		
Thermal current I _{th}	Α	5
Rated operational current I _e at		
• AC-15/24 400 V	Α	3
• DC-13 at		
- 24 V	Α	1
- 125 V	Α	0.2
- 250 V	Α	0.1
Minimum contact load at 17 V DC	mA	5
Electrical endurance AC-15	Million	0.1
	operating	
	cycles	
Mechanical endurance	Million	10
	operating	
	cycles	
	•	

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Line monitoring

Selection and ordering data

- Adjustable via IO-Link and locally, with illuminated LCD
 Power supply with 24 V DC via IO-Link or external
- auxiliary voltage

 Auto or Manual RESET
- Open- or closed-circuit principle
- 1 CO contact, 1 semiconductor output (in SIO mode)











3UG4815-1AA40

3UG4816-1AA40 3UG4815-2AA40

3UG4816-2AA40

Adjust- able hys- teresis		Over- voltage detection	Stabilization time adjustable stDEL	Tripping delay time adjustable Del	Version of auxiliary contacts	Measurable line volt- age ¹⁾	SD	Screw terminals		SD	Spring-type terminals	
V			S	S		V AC	d	Article No.	Price per PU	d	Article No.	Price per PU
Monitoring of phase sequence, phase failure, phase asymmetry, overvoltage and undervoltage												
1 20	✓	1	0.1 999.9	0.1 999.9	1 CO + 1 Q ²⁾	160 690	2	3UG4815-1AA40		2	3UG4815-2AA40	
	Monitoring of phase sequence, phase and N conductor failure, phase asymmetry, overvoltage and undervoltage											
1 20	1	1	0.1 999.9	0.1 999.9	1 CO + 1 Q ²⁾	90 400 to N	2	3UG4816-1AA40		2	3UG4816-2AA40	

[✓] Function available

For accessories, see page 10/131.

¹⁾ Absolute limit values.

²⁾ In SIO mode.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Voltage monitoring

Overview



SIRIUS 3UG4832 monitoring relays

The relays monitor single-phase AC voltages (rms value) and DC voltages against the set limit value for overshoot and undershoot.

Benefits

- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display and transmission of actual value and status messages to controller
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- Protection of a plant against destruction due to overvoltage
- Switch-on of a plant at a defined voltage and higher
- Protection from undervoltage due to overloaded control supply voltages, particularly with battery power

Technical specifications

3UG4832 monitoring relays

The 3UG4832 voltage monitoring relays are supplied with power through IO-Link or with an external auxiliary voltage of 24 V DC and perform overshoot, undershoot or range monitoring of the voltage depending on parameterization. The devices are equipped with a display and are parameterized by means of three buttons or through IO-Link.

The measuring range extends from 10 to 600 V AC/DC. The limit values for overshoot or undershoot can be freely configured within this range. If one of these limit values is reached, the output relay responds according to the set principle of operation as soon as the delay time has elapsed. This tripping delay time $U \triangle Del/U \nabla Del$ can be set from 0 to 999.9 s, as can the ON-delay time onDel. The hysteresis is adjustable from 0.1 to 300 V.

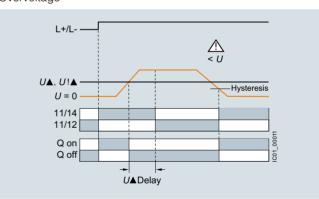
The device can be operated on the basis of either the opencircuit or closed-circuit principle and with Manual or Auto RESET. One output changeover contact is available as a signaling contact, and a semiconductor output is available in addition in SIO mode.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured value and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2.5 s.

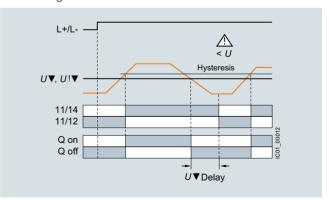
With Manual RESET through IO-Link it is possible in addition to set whether error signals are to be deleted when the control supply voltage is switched off and on (as remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

With the closed-circuit principle selected

Overvoltage



Undervoltage

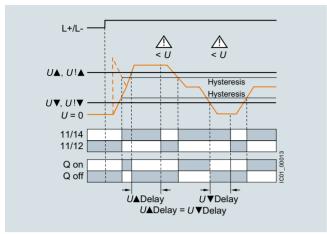


SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Voltage monitoring

With the closed-circuit principle selected

Range monitoring



Туре		3UG4832
General technical specifications		
Rated insulation voltage <i>U</i> _i Pollution degree 2 Overvoltage category III acc. to VDE 0110	V	690
Rated impulse withstand voltage U _{imp}	kV	6
Measuring circuit		
Permissible measuring range single-phase AC/DC voltage	V	10 690
Measuring frequency	Hz	40 500
Setting range single-phase voltage	V	10 600
Control circuit		
Load capacity of the output relay \bullet Thermal current $I_{\rm th}$	Α	5
Rated operational current I_e at • AC-15/24 400 V • DC-13 at	А	3
- 24 V - 125 V - 250 V	A A A	1 0.2 0.1
Minimum contact load at 17 V DC	mA	5

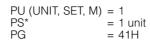
SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Voltage monitoring

Selection and ordering data

- Adjustable via IO-Link and locally, with illuminated LCD
 Power supply with 24 V DC via IO-Link or external auxiliary voltage

 • Auto or Manual RESET
- Open- or closed-circuit principle
- 1 CO contact, 1 semiconductor output (in SIO mode)







3UG4832-1AA40

3UG4832-2AA40

Measuring range	Adjustable hysteresis	ON-delay time adjustable onDel	Tripping delay time separately adjustable U▲Del/U▼Del	SD	Screw terminals	SD	Spring-type terminals	<u> </u>
V AC/DC	V	s	S	d	Article No. Price per PL		Article No.	Price per PU
Monitoring of vo	oltage for oversho	ot or undershoot						
10 600	0.1 300	0 999.9	0 999.9	2	3UG4832-1AA40	2	3UG4832-2AA40	

For accessories, see page 10/131.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Current monitoring

Overview



SIRIUS 3UG4822 monitoring relays

The relays monitor single-phase AC (rms value) and DC currents against the set limit value for overshoot and undershoot.

Benefits

- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display and transmission of actual value and status messages to controller
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- Overcurrent and undercurrent monitoring
- Monitoring the functionality of electrical loads
- Monitoring for broken conductors

Technical specifications

3UG4822 monitoring relays

The 3UG4822 current monitoring relays are supplied with power through IO-Link or with an external voltage of 24 V DC and perform overshoot, undershoot or range monitoring of the current depending on the parameterization. The devices are equipped with a display and are parameterized using three buttons.

The measuring range extends from 0.05 to 10 A. For larger AC currents the measuring range can be extended by using commercially available current transformers. Using the adjustable transformer factor, the display of the measured primary currents up to 750 A instead of the secondary currents (max. 1 A or 5 A) is possible.

The rms value of the current is measured. The limit values for overshoot or undershoot can be freely configured within this range. If one of these limit values is reached, the output relay responds according to the set principle of operation as soon as the delay time $I \triangle Del/I \nabla Del$ has elapsed. This time and the ON-delay time onDel are adjustable from 0 to 999.9 s.

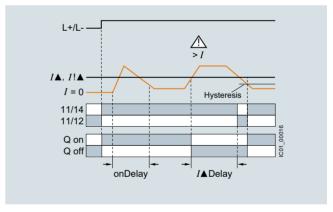
The hysteresis is adjustable from 0.01 to 5 A. The device can be operated with Manual or Auto RESET and on the basis of either the open-circuit or closed-circuit principle. You can decide here whether the output relay is to respond when the supply voltage $U_{\rm S}={\rm ON}$ is applied, or not until the lower measuring range limit of the measuring current (I>50 mA) is reached. One output changeover contact is available as a signaling contact, and a semiconductor output is available in addition in SIO mode.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured value and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2.5 s.

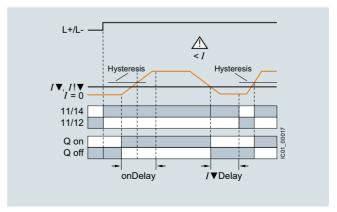
With Manual RESET through IO-Link it is possible in addition to set whether error signals are to be deleted when the control supply voltage is switched off and on (as remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

With the closed-circuit principle selected upon application of the control supply voltage

Current overshoot



Current undershoot

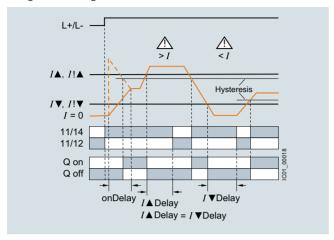


SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Current monitoring

With the closed-circuit principle selected upon application of the control supply voltage

Range monitoring



Туре		3UG4822
General technical specifications		
Rated insulation voltage <i>U</i> _i Pollution degree 2 Overvoltage category III acc. to VDE 0110	V	690
Rated impulse withstand voltage $U_{\rm imp}$	kV	6
Measuring circuit		
Measuring range for single-phase AC/DC current	Α	0.05 15
Measuring frequency	Hz	40 500
Setting range for single-phase current	А	0.05 10
Load supply voltage	V	Max. 300 (with protective separation) Max. 500 (with simple separation)
Control circuit		
Load capacity of the output relay ■ Thermal current <i>I</i> _{th}	А	5
Rated operational current I_e at • AC-15/24 400 V • DC-13 at	А	3
- 24 V	Α	1
- 125 V - 250 V	A A	0.2 0.1
Minimum contact load at 17 V DC	mA	5

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Current monitoring

Selection and ordering data

Adjustable via IO-Link and locally, with illuminated LCD
Power supply with 24 V DC via IO-Link or external auxiliary voltage

 Adjustable converter factor to display the measured primary current when an external current transformer is used

Auto or Manual RESET
Open- or closed-circuit principle

• 1 CO contact, 1 semiconductor output (in SIO mode)

PU (UNIT, SET, M) = 1 PS* = 1 unit = 41H





3UG4822-1AA40

3UG4822-2AA40

Measuring range	Adjustable hysteresis	ON-delay time adjustable onDel	Tripping delay time separately adjustable <i>I</i> ▲Del/ <i>I</i> ▼Del	SD	Screw terminals	+	SD	Spring-type terminals	
A AC/DC	А	S	S	d	Article No.	Price per PU	d	Article No.	Price per PU
Monitoring of c	urrent for over	shooting and und	dershooting						
0.05 10	0.01 5	0.1 999.9	0.1 999.9	2	3UG4822-1AA40		2	3UG4822-2AA40	

For accessories, see page 10/131.

For AC currents I > 10 A it is possible to use commercially available current transformers, e.g. the Siemens 4NC current transformer, as accessories, see Catalog LV 10.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Power factor and active current monitoring

Overview



SIRIUS 3UG4841 monitoring relay

The 3UG4841 power factor and active current monitoring devices enable the load monitoring of motors.

Whereas power factor (p.f.) monitoring is used above all for monitoring no-load operation, the active current monitoring option can be used to observe and evaluate the load factor over the entire torque range.

Benefits

- Monitoring of even small single-phase motors with a no-load supply current below 0.5 A
- Simple determination of threshold values by the direct collection of measured variables on motor loading
- Range monitoring and active current measurement enable detection of cable breaks between control cabinets and motors, as well as phase failures
- Power factor (p.f.) and/or I_{res} (active current) can be selected as the measurement principle
- Width 22.5 mm
- Display and transmission of actual value and status messages to controller
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- No-load monitoring and load shedding, such as in the event of a V-belt tear
- Underload monitoring in the low-end performance range, e.g. in the event of pump no-load operation
- Monitoring of overload, e.g. due to a dirty filter system
- Power factor monitoring in networks for control of compensation equipment
- Broken cable between control cabinet and motor

Technical specifications

3UG4841 monitoring relays

The 3UG4841 monitoring relays are supplied with power through IO-Link or with an external auxiliary voltage of 24 V DC and are used for performing overshoot, undershoot or range monitoring of the power factor and/or the resulting active current, depending on parameterization. The load to be monitored is connected upstream of the IN terminal. The load current flows through the terminals IN and Ly/N. The setting range for the power factor is 0 to 0.99 and for the active current I_{res} it is 0.2 to 10 A. If the control supply voltage is switched on and no load current flows, the display will show I < 0.2 and a symbol for overrange, underrange or range monitoring. If the motor is now switched on and the current exceeds 0.2 A, the set ON-delay time onDel begins. During this time, if the set limit values are undershot or exceeded, this does not lead to a relay reaction of the changeover contact. If the operational flowing active current and/or the p.f. value falls below or exceeds the respective set threshold value, the tripping delay time begins. When this time has expired, the relay changes its switch position. The relevant measured variables for overshooting and undershooting in the display flash. If monitoring for active current undershoot is switched off ($I_{res} \nabla = OFF$), and if the load current undershoots the lower measuring range threshold (0.2 A), the CO contacts remain unchanged. If a threshold value is set for the monitoring of active current undershooting, then undershooting of the measuring range threshold (0.2 A) will result in a response of the CO contacts.

The relay operates either according to the open-circuit or closed-circuit principle.

If the device is set to Auto RESET (Memory = No), depending on the set principle of operation, the switching relay returns to its initial state and the flashing ends when the hysteresis threshold is reached.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured value and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2.5 s.

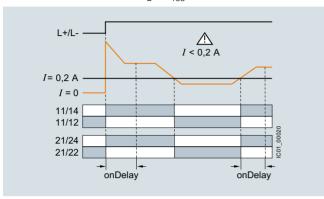
With Manual RESET through IO-Link it is possible in addition to set whether error signals are to be deleted when the control supply voltage is switched off and on (as remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

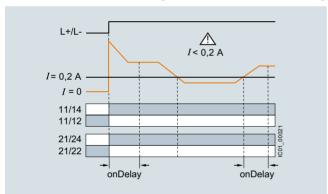
Power factor and active current monitoring

With the closed-circuit principle selected

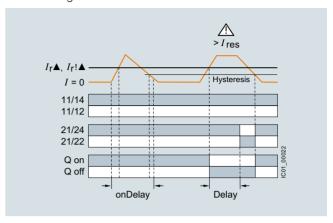
Response in the event of undershooting the measuring range limit with activated monitoring of $I_{\rm res} \mathbf{V}$



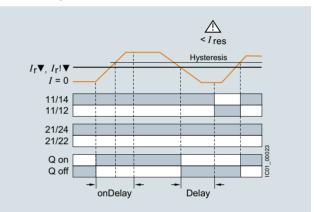
Response in the event of undershooting the measuring range limit with deactivated monitoring of active current undershooting



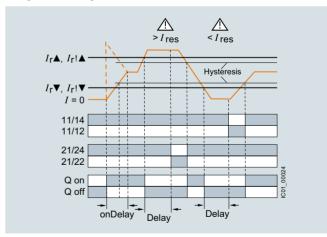
Overshooting of active current



Undershooting of active current



Range monitoring of active current

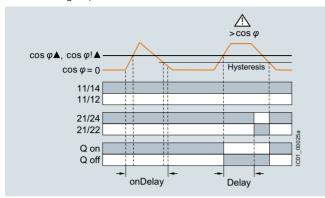


Relays SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

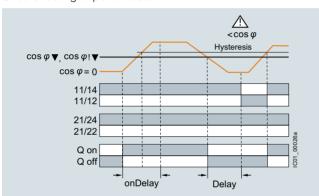
Power factor and active current monitoring

With the closed-circuit principle selected

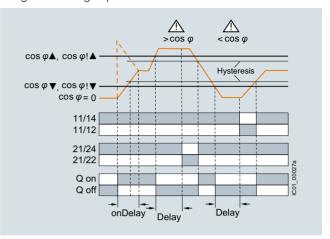
Overshooting of power factor



Undershooting of power factor



Range monitoring of power factor



Туре		3UG4841
General technical specifications		
Rated insulation voltage <i>U_i</i> Pollution degree 2 Overvoltage category III according to IEC 60664-1	V	690
Rated impulse withstand voltage $U_{\rm imp}$	kV	6
Control circuit		
Number of CO contacts for auxiliary contacts		2
	А	5
Rated operational current I _e at		
• AC-15/24 400 V • DC-13 at	А	3
- 24 V	Α	1
- 125 V	A	0.2
- 250 V	A	0.1
Minimum contact load at 17 V DC	mA	5

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Power factor and active current monitoring

Selection and ordering data

For monitoring the power factor and the active current I_{res} (p.f. × I)

• Suitable for single- and three-phase currents

Adjustable via IO-Link and locally, with illuminated LCD

 Power supply with 24 V DC via IO-Link or external auxiliary voltage

• Overshoot, undershoot or range monitoring adjustable

Upper and lower limit values can be adjusted separately

Permanent display of actual value and tripping state

1 CO contact each for undershoot and overshoot,
 1 semiconductor output (in SIO mode)

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41 \text{H} \end{array}$





3UG4841-1CA40

3UG4841-2CA40

Measuring For power factor	For active current I_{res}	Voltage range of the measuring voltage ¹⁾ 50/60 Hz AC	Adjust- able for power factor	Adjust- able for active current $I_{\rm res}$	ON-delay time adjustable onDel	Tripping delay time separately adjustable $U \triangle Del/U \nabla Del, \varphi \triangle Del/\varphi \nabla Del$		Screw terminals	⊕	SD	Spring-type terminals	
P.f.	Α	V	P.f.	А	S	S	d	Article No.	Price per PU		Article No.	Price per PU

Monitoring of power factor and active current for overshooting or undershooting

0.1 ... 0.99 0.2 ... 10 90 ... 690 0.1 ... 0.2 0.1 ... 3 0 ... 999.9 0 ... 999.9 2

3UG4841-1CA40

3UG4841-2CA40

For accessories, see page 10/131.

For AC active currents $I_{\rm res}$ > 10 A it is possible to use commercially available current transformers, e.g. Siemens 4NC current transformers, as accessories, see Catalog LV 10.

¹⁾ Absolute limit values.

Relays SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link Residual-Current Monitoring

Residual-current monitoring relays

Overview



SIRIUS 3UG4825 monitoring relay

The 3UG4825 residual-current monitoring relays are used in conjunction with the 3UL23 residual-current transformers for monitoring plants in which higher residual currents are increasingly expected due to ambient conditions. Monitoring encompasses pure AC residual currents or AC residual currents with a pulsating DC fault current component (transformer type A in accordance with DIN VDE 0100-530/IEC TR 60755).

Benefits

- High measuring accuracy of ± 7.5%
- Permanent self-monitoring
- Parameterization of the devices locally or via IO-Link possible
- Variable threshold values for warning and disconnection
- Freely configurable delay times and RESET response
- Display and transmission of actual value and status messages to controller
- High level of flexibility and space saving through installation of the transformer inside or outside the control cabinet
- Width 22.5 m
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

Monitoring of plants in which residual currents can occur, e.g. due to dust deposits or moisture, porous cables and leads, or capacitive residual currents.

Technical specifications

3UG4825 monitoring relays

The main conductor, and any neutral conductor to which a load is connected, are routed through the opening of the annular ring core of a residual-current transformer. A secondary winding is placed around this annular ring core to which the monitoring relay is connected.

If operation of a plant is fault-free, the sum of the inflowing and outward currents equals zero. No current is then induced in the secondary winding of the residual-current transformer.

However, if an insulation fault occurs downstream of the residual-current-operated circuit breaker, the sum of the inflowing currents is greater than that of the outward currents. The differential current – the residual current – induces a secondary current in the secondary winding of the transformer. This current is evaluated in the monitoring relay and is used on the one hand to display the actual residual current and on the other, to switch the relay if the set warning or tripping threshold is overshot.

If the measured residual current exceeds the set warning value, the associated changeover contact instantly changes the switching state and an indication appears on the display.

If the measured residual current exceeds the set tripping value, the set delay time begins and the associated relay symbol flashes. On expiry of this time, the associated changeover contact changes the switching state.

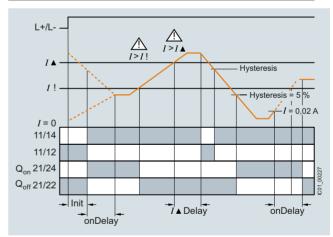
ON-delay time for motor start

To be able to start a drive when a residual current is detected, the output relays switch to the OK state for an adjustable ON-delay time depending on the selected open-circuit principle or closed-circuit principle.

The changeover contacts do not react if the set threshold values are overshot during this period.

With the closed-circuit principle selected

Residual-current monitoring with Auto RESET (Memory = no)



If the device is set to Auto RESET, the relay switches back to the OK state for the tripping value once the value falls below the set hysteresis threshold and the display stops flashing.

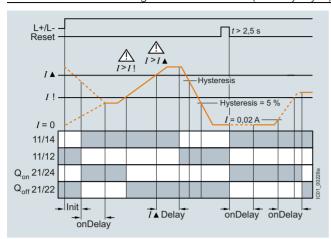
The associated relay changes its switching state if the value falls below the fixed hysteresis value of 5% of the warning value.

Any overshoots are therefore not stored.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link Residual-Current Monitoring

Residual-current monitoring relays

Residual-current monitoring with Manual RESET (Memory = yes)



If Manual RESET is selected in the menu, the output relays remain in their current switching state and the current measured value and the symbol for overshooting continue to flash, even when the measured residual current returns to a permissible value. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for > 2 seconds, or by switching the supply voltage off and back on again.

Note:

The neutral conductor must not be grounded downstream of the summation current transformer as this may impair the function of the residual-current monitoring device.

Туре		3UG4825-1CA40, 3UG4825-2CA40
General data		
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3 rated value	V	300
Impulse withstand voltage, rated value $U_{\rm imp}$	kV	4
Control circuit		
Number of CO contacts for auxiliary contacts		2
Thermal current of the non-solid-state contact blocks, maximum	А	5
Current carrying capacity of the output relay • At AC-15 at 250 V at 50/60 Hz • At DC-13 - At 24 V	A A	3 1
- At 125 V - At 250 V	A A	0.2 0.1
Operational current at 17 V, minimum	mA	5

PS*

PG

Relays SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link Residual-Current Monitoring

= 1 unit

= 41H

PU (UNIT, SET, M) = 1

Residual-current monitoring relays

Selection and ordering data

 For monitoring residual currents from 0.03 to 40 A, from 16 to 400 Hz

 For 3UL23 residual-current transformers with feed-through opening from 35 to 210 mm

Permanent self-monitoring

 Certified in accordance with IEC 60947, functionality corresponds to IEC 62020

• Digitally adjustable, with illuminated LCD

Permanent display of actual value and tripping state

· Separately adjustable limit value and warning threshold

1 changeover contact each for warning threshold and tripping threshold



MUNICIPAL DE LA CONTRACTOR DE LA CONTRAC



3UG4825-2CA40

Measurable current	Adjustable response value	Switching hysteresis	Adjustable ON-delay time	Control supply voltage	SD	Screw terminals	+	SD	Spring-type terminals	$\stackrel{\circ}{\square}$
	current			At DC rated value		Article No.	Price per PU		Article No.	Price per PU
Α	Α	%	S	V	d			d		
0.01 43	0.03 40	0 50	0 999.9	24	2	3UG4825-1CA40		2	3UG4825-2CA40	

For accessories, see page 10/131.

For 3UL23 residual-current transformers and accessories for 3UL23, see page 10/94.

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Speed monitoring

Overview



SIRIUS 3UG4851 monitoring relay

3UG4851 monitoring relays are used in combination with a sensor to monitor drives for overspeed and/or underspeed.

Furthermore, the monitoring relays are ideal for all functions where a continuous pulse signal needs to be monitored (e.g. belt travel monitoring, completeness monitoring, passing monitoring, clock-time monitoring).

Benefits

- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Display and transmission of actual value and fault type to controller
- Use of up to 10 sensors per rotation for extremely slowly rotating motors
- 2- or 3-wire sensors and sensors with a mechanical switching output or semiconductor output can be connected
- · Auxiliary voltage for sensor integrated
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

- · Slip or tear of a belt drive
- · Overload monitoring
- Transport monitoring for completeness

Technical specifications

3UG4851 monitoring relays

The speed monitoring relay operates according to the principle of period duration measurement.

In the monitoring relay, the time between two successive rising edges of the pulse encoder is measured and compared to the minimum and/or maximum permissible period duration calculated from the set limit values for the speed.

Thus, the period duration measurement recognizes any deviation in speed after just two pulses, even at very low speeds or in the case of extended pulse gaps.

By using up to ten pulse encoders evenly distributed around the circumference, it is possible to shorten the period duration, and in turn the response time. By taking into account the number of sensors in the monitoring relay, the speed continues to be indicated in rpm.

ON-delay time for motor start

To be able to start a motor drive, and depending on whether the open-circuit or closed-circuit principle is selected, the output relay switches to the GO state during the ON-delay time, even if the speed is still below the set value.

The ON-delay time is started by either switching on the auxiliary voltage or, if the auxiliary voltage is already applied, by actuating the respective NC contact (e.g. auxiliary contact).

Speed monitoring with Auto RESET (Memory = no)

If the device is set to Auto RESET, the output relay switches to the GO state, once the adjustable hysteresis threshold is reached in the range of 1 to 99.9 rpm and the flashing stops. Any overshoots or undershoots are therefore not stored.

Speed monitoring with Manual RESET (Memory = yes)

If Manual RESET is selected in the menu, the output relay remains in its current switching state and the current measured value and the symbol for overshooting/undershooting continue to flash, even when the speed returns to a permissible value. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ buttons for > 2.5 s or by connecting the RESET device terminal to 24 V DC.

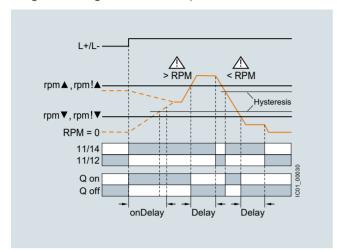
With Manual RESET through IO-Link it is possible in addition to set whether error signals are to be deleted when the control supply voltage is switched off and on (as remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

Speed monitoring

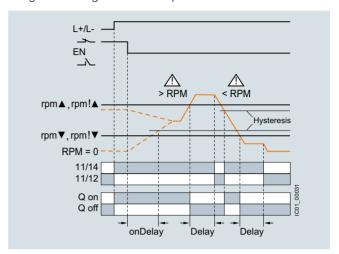
SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

With the closed-circuit principle selected

Range monitoring without enable input



Range monitoring with enable input



Туре		3UG4851
General technical specifications		
Rated insulation voltage U _i	V	300
Pollution degree 2 Overvoltage category III acc. to VDE 0110		
Rated impulse withstand voltage U_{imp}	kV	4
Measuring circuit	N.V	4
<u> </u>		
Sensor supply • For 3-wire sensor (24 V/0 V)	mA	Max. 50
• For 2-wire NAMUR sensor (8V2)	mΑ	Max. 8.2
Signal input		
• IN1	kΩ	16, 3-wire sensor, pnp operation
• IN2	kΩ	1, floating contact, 2-wire NAMUR sensor
Voltage level	.,	45.00
For level 1 at IN1 For level 0 at IN1	V	4.5 30 0 1
Current level	V	V I
• For level 1 at IN2	mA	> 2.1
• For level 0 at IN2	mA	< 1.2
Minimum pulse duration of signal	ms	5
Minimum interval between 2 pulses	ms	5
Control circuit		
Number of CO contacts for auxiliary contacts		1
Load capacity of the output relay		
Thermal current I _{th}	А	5
Rated operational current I_e at		
• AC-15/24 250 V	Α	3
• DC-13 at - 24 V	Α	1
- 125 V	Ā	0.2
- 250 V	Α	0.1
Minimum contact load at 17 V DC	mA	5

PU (UNIT, SET, M) = 1

= 1 unit

= 41H

Relavs

SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Speed monitoring

Selection and ordering data

• For speed monitoring in revolutions per minute (rpm)

• Two- or three-wire sensor with mechanical or electronic switching output can be connected

Two-wire NAMUR sensor can be connected
 Sensor supply 24 V DC/50 mA integrated

Input frequency 0.1 to 2 200 pulses per minute (0.0017 to 36.7 Hz)

• With or without enable signal for the drive to be monitored

Adjustable via IO-Link and locally, with illuminated LCD
Power supply with 24 V DC via IO-Link or external auxiliary voltage

Overshoot, undershoot or range monitoring adjustable

Number of pulses per revolution can be adjusted

• Upper and lower limit values can be adjusted separately

Auto, Manual or remote RESET options after tripping

Permanent display of actual value and tripping state
1 CO contact, 1 semiconductor output (in SIO mode)





3UG4851-1AA40

3UG4851-2AA40

Measuring range	Adjustable hysteresis	ON-delay time adjustable onDel	Tripping delay time separately adjustable rpm▲Del/rpm▼Del	Pulses per revolution	SD	Screw terminals	+	SD	Spring-type terminals	<u></u>
rpm	rpm	S	S		d	Article No.	Price er PU	d	Article No.	Price per PU
Speed monitor	ring for oversho	oting and u	ndershooting							
0.1 2 200	OFF 1 99.9	0 999.9	0 999.9	1 10	2	3UG4851-1AA40		2	3UG4851-2AA40	

For accessories, see page 10/131.

Relays SIRIUS 3UG48 Monitoring Relays for Stand-Alone Installation for IO-Link

Accessories

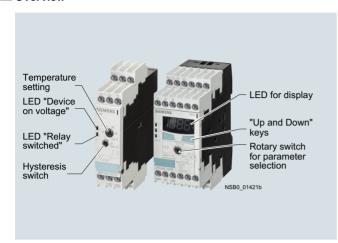
Selection and orderi	ng data							
	Use	Version	SD		Price er PU	PU (UNIT, SET, M)	PS*	PG
			d					
Blank labels								
	For 3UG48	Unit labeling plates For SIRIUS devices						
붜붜붜붜		20 mm x 7 mm, titanium gray ¹⁾	20	3RT2900-1SB20		100	340 units	41B
붜붜붜붜	For 3UG48	Adhesive labels for SIRIUS devices						
		 19 mm x 6 mm, pastel turquoise 	15	3RT1900-1SB60		100	3 060 units	41B
		• 19 mm x 6 mm, zinc yellow	15	3RT1900-1SD60		100	3 060 units	41B
3RT2900-1SB20								
Push-in lugs and cov	ers							
	For 3UG48	Push-in lugs For screw fixing, 2 units are required for each device	5	3RP1903		1	10 units	41H
3RP1903		·						
	For 3UG48	Sealable covers For securing against unauthorized adjustment of setting knobs	5	3RP1902		1	5 units	41H
3RP1902	ring type ter	minala						
Tools for opening sp				0	000			
No.	For auxiliary circuit con- nections	Screwdrivers For all SIRIUS devices with spring-type terminals		Spring-type terminals				
3RA2908-1A		3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	2	3RA2908-1A		1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

General data

Overview



SIRIUS 3RS temperature monitoring relays

More information

Homepage, see www.siemens.com/relays
Industry Mall, see www.siemens.com/product?3RS10

The 3RS10, 3RS11, 3RS20 and 3RS21 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperatures are acquired by means of sensors in the medium, evaluated by the device and monitored for overshoot, undershoot or location within a specified range (window function).

The range comprises adjustable analog units with one or two threshold values, digital units for 1 sensor, which are also a good alternative to temperature controllers for the low-end range, and digital units for up to 3 sensors which have been optimized for monitoring large motors.

Article No. scheme

Product versions		Articl	e number
Temperature monitoring rela	ys	3RS	
Device type	e.g. 10 = analogically adjustable, 1 sensor		
Version and type of sensor	e.g. 00 = one threshold value, Pt100 sensor	r	
Connection type	Screw terminals		1
	Spring-type terminals (push-in)		2
Number and type of outputs	e.g. C = 1 NO + 1 NC		
Control supply voltage	e.g. D = 24 V AC/DC		
Measuring range	e.g. 0 = -50 +50 °C		
Example		3RS	1 0 0 0 - 1 C D 0 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

General data

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16369/td

Manual and internal circuit diagrams, see

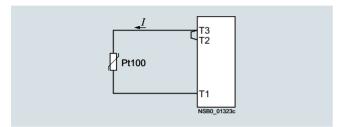
https://support.industry.siemens.com/cs/ww/en/view/54999309

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16369/faq

Connection of resistance-type thermometers

Two-wire measurement

When two-wire temperature sensors are used, the resistances of the sensor and wiring are added. The resulting systematic error must be taken into account when the signal evaluation unit is calibrated. A jumper must be clamped between terminals T2 and T3 for this purpose.



Wiring errors

The errors that are generated by the wiring comprise approximately 2.5 K/ Ω . If the resistance of the cable is not known and cannot be measured, the wiring errors can also be estimated using the following table.

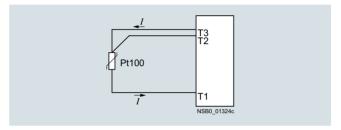
Temperature drift dependent on the length and cross-section of the cable with Pt100 sensors and an ambient temperature of 20 $^{\circ}$ C, in K:

Cable length in m	Cross-section mm ²	1		
	0.5	0.75	1	1.5
	Temperature d	rift in K:		
0	0	0	0	0
10	1.8	1.2	0.9	0.6
25	4.5	3.0	2.3	1.5
50	9.0	6.0	4.5	3.0
75	13.6	9.0	6.8	4.5
100	18.1	12.1	9.0	6.0
200	36.3	24.2	18.1	12.1
500	91.6	60.8	45.5	30.2

Example: On a Pt100 sensor with a cable length of 10 m and a conductor cross-section of 1 $\rm mm^2$ the temperature drift equals 0.9 K.

Three-wire measurement

To minimize the effects of the line resistances, a three-wire circuit is often used. Using the additional cable, two measuring circuits can be formed of which one is used as a reference. The signal evaluation unit can then automatically calculate the line resistance and take it into account.



Connection of thermocouples

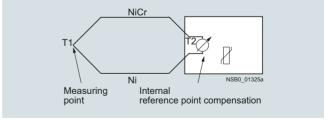
Based on the thermo-electrical effect, a differential temperature measurement will be performed between the measuring point and the signal evaluation unit.

This principle assumes that the signal evaluation unit knows the temperature at the clamping point (T2). For this reason, the 3RS11 temperature monitoring relay has an integral compensator that determines this comparison temperature and builds it into the result of the measurement. The thermal sensors and cables must be insulated therefore.

The absolute temperature is therefore calculated from the ambient temperature of the signal evaluation unit and the temperature difference measured by the thermocouple.

Temperature detection is therefore possible (T1) without needing to know the precise ambient temperature of the clamping point at the signal evaluation unit (T2).

The connecting cable is only permitted to be extended using connecting leads that are made from the same material as the thermocouple. If a different type of conductor is used, an error will result in the measurement.



For more information, see

- www.ephv-mess.com
- Page 16/16

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

General data

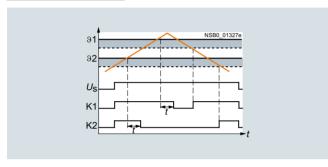
Principle of operation

Once the temperature has reached the set threshold value $\vartheta 1$, the output relay K1 changes its switching state as soon as the set time t has elapsed (K2 responds in the same manner to $\vartheta 2$). The delay time can only be adjusted with digital units (on analog units t=0).

The relays return to their original state as soon as the temperature reaches the set hysteresis value.

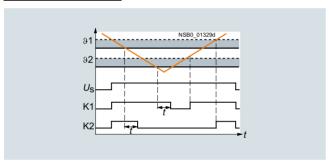
Temperature overshoot

Closed-circuit principle



Temperature undershoot

Closed-circuit principle

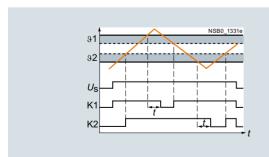


Range monitoring (digital units only)

Once the temperature has reached the upper threshold value ϑ 1, the output relay K1 changes its switching state as soon as the set time t has elapsed. The relay returns to its original state as soon as the temperature reaches the set hysteresis value.

K2 responds in the same manner to the lower threshold value of $\vartheta 2$.

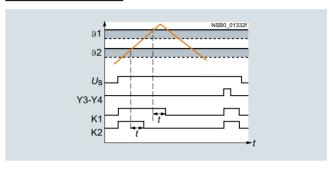
Closed-circuit principle



Principle of operation with memory function (3RS1042, 3RS1142) based on the example of temperature overshoot

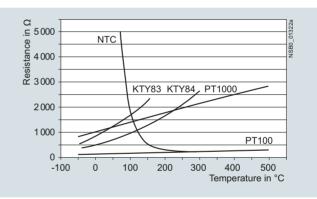
Once the temperature has reached the set threshold value $\vartheta 1$, the output relay K1 changes its switching state as soon as the set time t has elapsed (K2 responds in the same manner to $\vartheta 2$). The relays only return to the original state when the temperature falls below the set hysteresis value and when terminals Y3-Y4 have been briefly jumpered.

Closed-circuit principle



Characteristic curves

For resistance sensors



The short-circuit and open-circuit detection as well as the measuring range is limited, depending on the sensor type.

Measuring ranges in °C for resistance sensors

Sensor type	Short circuit	Open circuit	3RS1040/ 3RS1041 Measuring range in °C	3RS1042 Measuring range in °C
Pt100	✓	✓	-50 +500	-50 +750
Pt1000	✓	✓	-50 +500	-50 +500
KTY83-110	✓	✓	-50 +175	-50 +175
KTY84	✓	✓	-40 +300	-40 +300
NTC ¹⁾	✓		80 160	80 160

- ✓ Detection possible
- -- Detection not possible

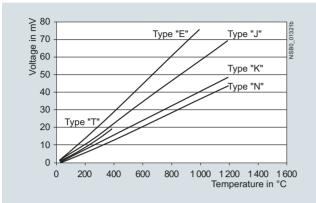
¹⁾ NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

Relays SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

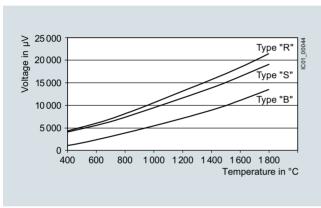
General data

Characteristic curves

For thermocouples



Characteristic curves for sensor types J, K, T, E, N



Characteristic curves for sensor types S, R and B

Measuring range in °C for thermocouples

Sensor type	Short circuit	Open circuit	3RS1140 Measuring range in °C	3RS1142 Measuring range in °C
J		✓	-99 +999	-99 +1 200
K		✓	-99 +999	-99 +1 350
T		✓	-99 +400	-99 +400
E		✓	-99 +999	-99 +999
Ν		✓	-99 +999	-99 +999
S		✓		0 1 750
R		✓		0 1 750
В		✓		400 1 800

- ✓ Detection possible
- -- Detection not possible

Туре		3RS10, 3RS11 analog	3RS10, 3RS11, 3RS20, 3RS21 digital
General technical specifications			
Dimensions (W x H x D)			
Screw terminals	mm	22.5 x 102 x 91	45 x 106 x 91
Spring-type terminals	mm	22.5 x 103 x 91	45 x 108 x 91
Permissible ambient temperature • During operation	°C	-25 +60	
Connection type		Screw terminals	
Terminal screw	2	M3 (for standard screwdriver, size 2 a	nd Pozidriv 2)
SolidFinely stranded with end sleeve	mm ² mm ²	1 x (0.5 4)/2 x (0.5 2.5) 1 x (0.5 2.5)/2 x (0.5 1.5)	
AWG cables, solid or stranded	AWG	2 x (20 14)	
Connection type		Spring-type terminals	
• Solid	mm_2^2	2 x (0.25 1.5)	
 Finely stranded, with end sleeve acc. to DIN 46228 Finely stranded 	mm ² mm ²	2 x (0.25 1.5) 2 x (0.25 1.5)	
AWG cables, solid or stranded	AWG	2 x (24 16)	

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

Relays, analogically adjustable for 1 sensor

Overview



SIRIUS 3RS analog temperature monitoring relays for 1 sensor

The 3RS10, 3RS11 analog temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is detected by the sensors in the medium, evaluated by the device and monitored for overshoot or undershoot. When the threshold values are reached, the output relay switches on or off depending on the parameterization.

Benefits

- All devices except for 24 V AC/DC feature electrical separation
- Extremely easy operation using a rotary potentiometer
- · Adjustable hysteresis
- Adjustable working principle for devices with 2 threshold values
- All versions with removable terminals
- All versions with screw terminals, many versions alternatively with spring-type terminals

Application

The analogically adjustable SIRIUS 3RS10, 3RS11 temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Motor and system protection
- Control cabinet temperature monitoring
- Freeze monitoring
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- · Motor, bearing and gear oil monitoring
- · Monitoring of coolants

Technical specifications

Туре		3RS1000, 3RS1010	3RS1100, 3RS1101	3RS1020, 3RS1030	3RS1120, 3RS1121
Auxiliary circuit					
Rated operational currents <i>I</i> _e • AC-15/24 250 V • DC-13 at - 24 V - 125 V - 250 V	A A A	3 1 0.2 0.1			
Measuring accuracy at 20 °C ambient temperature (T20)		$<\pm5\%$ of full-scale value			
Reference point accuracy	K		$<\pm5$		$< \pm 5$
Deviations due to ambient temperature In % of the measuring range		< 2	< 3	< 2	< 3
Hysteresis settings • For temperature 1 • For temperature 2	%	2 20 from upper limit of 5 from upper limit of scale			
Sensor circuit					
Typical sensor current • Pt100	mA	1		1	
Open-circuit detection		No			
Short-circuit detection		No			
Three-wire conductor connection ¹⁾		Yes		Yes	
Enclosure					
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	300			

Two-wire connection of resistance sensors with wire jumper between T2 and T3.

Relavs SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

Relays, analogically adjustable for 1 sensor

Selection and ordering data

• For temperature monitoring with resistance sensors or thermocouples

Temperature range -55 °C to +1 000 °C, depending on the sensor type

Wide voltage range versions are electrically separated

Analogically adjustable, setting accuracy ± 5%
Versions with 2 separately adjustable threshold values and

adjustable open/closed-circuit principle

Hysteresis for threshold value 1 is adjustable (2 to 20%), hysteresis for threshold value 2 is non-adjustable (5%)

1 NC + 1 NO for versions with one threshold value
1 CO for threshold value 1 and 1 NO for threshold value 2

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41H

	Sensors	Function	Measuring range	Rated control supply voltage $U_{\rm S}$ 50/60 Hz AC	SD	Screw terminals	+	SD	Spring-type terminals	<u> </u>
			°C	V	d	Article No.	Price per PU	d	Article No.	Price per PU
Analogically acclosed-circuit										
222	Pt100 (resistance	Overshoot	- 50 + 50	24 AC/DC 110/230 AC	10 10	3RS1000-1CD00 3RS1000-1CK00		10 10	3RS1000-2CD00 3RS1000-2CK00	
DOG.	sensor)		0 + 100	24 AC/DC 110/230 AC	10 2	3RS1000-1CD10 3RS1000-1CK10		10 2	3RS1000-2CD10 3RS1000-2CK10	
			0 + 200	24 AC/DC 110/230 AC	10 2	3RS1000-1CD20 3RS1000-1CK20		10 10	3RS1000-2CD20 3RS1000-2CK20	
000		Undershoot	- 50 + 50	24 AC/DC 110/230 AC	10 10	3RS1010-1CD00 3RS1010-1CK00			-	
BRS1000-1CD10			0 + 100	24 AC/DC 110/230 AC	10 10	3RS1010-1CD10 3RS1010-1CK10			<u>-</u>	
0000			0 + 200	24 AC/DC 110/230 AC	10 10	3RS1010-1CD20 3RS1010-1CK20			-	
	Type J (thermo-	Overshoot	0 + 200	24 AC/DC 110/230 AC	10 10	3RS1100-1CD20 3RS1100-1CK20		10	3RS1100-2CD20	
	couple)		0 + 600	24 AC/DC 110/230 AC	10 10	3RS1100-1CD30 3RS1100-1CK30			- -	
BRS1000-2CD10	Type K (thermo-	Overshoot	0 + 200	24 AC/DC 110/230 AC	10 10	3RS1101-1CD20 3RS1101-1CK20			-	
51101000 20210	couple)		0 + 600	24 AC/DC 110/230 AC	10 10	3RS1101-1CD30 3RS1101-1CK30			- -	
			+ 500 + 1 000	24 AC/DC 110/230 AC	10 10	3RS1101-1CD40 3RS1101-1CK40			- -	
Analogically ac (2 threshold va switchable; wit	ilues), 22.5	mm width	; open/close	nection d-circuit principle						
222	Pt100 (resistance	• /	- 50 + 50	24 AC/DC 24 240 AC/DC	10 10	3RS1020-1DD00 3RS1020-1DW00			-	
0-	sensor)		0 + 100	24 AC/DC 24 240 AC/DC	10 10	3RS1020-1DD10 3RS1020-1DW10			<u>-</u>	
			0 + 200	24 AC/DC 24 240 AC/DC	10 2	3RS1020-1DD20 3RS1020-1DW20		10	 3RS1020-2DW20	
100		Undershoot	-50 + 50	24 AC/DC 24 240 AC/DC	10 10	3RS1030-1DD00 3RS1030-1DW00			-	
RS1020-1DD00			0 + 100	24 AC/DC 24 240 AC/DC	10 10	3RS1030-1DD10 3RS1030-1DW10			<u>-</u>	
000000			0 + 200	24 AC/DC 24 240 AC/DC	10 10	3RS1030-1DD20 3RS1030-1DW20		10	3RS1030-2DD20 	
o- 0	Type J (thermo-	Overshoot	0 + 200	24 AC/DC 24 240 AC/DC	10 10	3RS1120-1DD20 3RS1120-1DW20		10	3RS1120-2DD20 	
	couple)		0 + 600	24 AC/DC 24 240 AC/DC	10 10	3RS1120-1DD30 3RS1120-1DW30			 	
	Type K	Overshoot	0 + 200	24 240 AC/DC	10	3RS1121-1DW20				
BRS1120-2DD20	(thermo- couple)		0 + 600 + 500 + 1 000	24 240 AC/DC 24 AC/DC	10 10	3RS1121-1DW30 3RS1121-1DD40			-	

For accessories, see page 10/142.

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

Relays, digitally adjustable for 1 sensor

Overview



SIRIUS 3RS digital temperature monitoring relay for 1 sensor

The 3RS10, 3RS11, 3RS20 and 3RS21 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperatures are acquired by means of sensors in the medium, evaluated by the device and monitored for overshoot, undershoot or location within a specified range (window function). The 3RS10 and 3RS11 units indicate the measured temperature in °C, the 3RS20 and 3RS21 units in °F.

The units are also an excellent alternative to temperature controllers in the low-end performance range (two- or three-point control).

Benefits

- Very simple operation without complicated menu selections
- Two- or three-point control can be parameterized quickly
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

The temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Temperature limits for district heating plants
- Exhaust temperature monitoring
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- · Monitoring of coolants

Technical specifications

Туре		3RS1040, 3RS1042, 3RS2040	3RS1140, 3RS2140	3RS1142
Auxiliary circuit				
Rated operational currents <i>I</i> _e • AC-15/24 250 V • DC-13 at:	А	3		
- 24 V - 125 V - 250 V	A A A	1 0.2 0.1		
Evaluation unit				
Measuring accuracy at 20 °C ambient temperature (T20)		< ± 2 K, ± 1 digit	$< \pm 5 \text{ K}, \pm 1 \text{ digit}$	$<\pm$ 7 K, \pm 1 digit
Reference point accuracy			< ± 5 K	
Deviations due to ambient temperature In % of measuring range	%	0.05 °C per K deviation	from T20	
Measuring cycle	ms	500		
Hysteresis settings for temperature	K	1 99, for both values		
Adjustable delay time	S	0 999		
Sensor circuit				
Typical sensor current • Pt100 • Pt1000/KTY83/KTY84/NTC	mA mA	1 0.2		
Open-circuit detection		Yes ¹⁾	Yes	Yes
Short-circuit detection		Yes	No	No
Three-wire conductor connection		Yes ²⁾		
Enclosure				
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V AC	300		

 $^{^{1)}}$ Not for NTC type B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).

 $^{^{\}rm 2)}$ Two-wire connection of resistance sensors with wire jumper between T2 and T3.

Relavs SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

Relays, digitally adjustable for 1 sensor

Selection and ordering data

• For temperature monitoring with resistance sensors or thermocouples

Temperature range dependent on sensor type

Wide voltage range versions are electrically separated

Short-circuit and open-circuit detection in sensor circuit
Digitally adjustable, with illuminated LCD

Overshoot, undershoot or range monitoring adjustable

• Exact sensor type can be set

• 2 separately adjustable threshold values

1 hysteresis applies to both thresholds (0 to 99 K)
1 delay time applies to both thresholds (0 to 999 s)

Adjustable open/closed-circuit principle

Adjustable Manual/remote RESET

Permanent display of actual value in °C or °F and tripping state

1 CO contact each per threshold value

• 1 NO for sensor monitoring

PU (UNIT, SET, M)	= 1
PS*	= 1 unit
PG	= 41H

	Sensors	Measuring range (measuring range limit depends on the sensor)	Rated control supply voltage $U_{\rm S}$ 50/60 Hz AC	SD	Screw terminals	+	SD	Spring-type terminals	
			V	d	Article No.	Price per PU	d	Article No.	Price per PU
Temperature monit width 45 mm, 1 CO external jumper, de	+ 1 CO + 1 NO,	memory functio	n possible with	ies,					
000000	Pt100/1000; KTY83/84; NTC	- 50 + 500 °C	24 AC/DC 24 240 AC/DC	2	3RS1040-1GD50 3RS1040-1GW50		2	3RS1040-2GD50 3RS1040-2GW50	
200000	(resistance sensors) ¹⁾	- 58 + 932 °F	24 AC/DC 24 240 AC/DC	10 10	3RS2040-1GD50 3RS2040-1GW50		10 10	3RS2040-2GD50 3RS2040-2GW50	
3RS1040-1GD50	TYPE J, K, T, E, N (thermocouple)	- 99 + 999 °C	24 AC/DC 24 240 AC/DC	2 2	3RS1140-1GD60 3RS1140-1GW60		10 10	3RS1140-2GD60 3RS1140-2GW60	
		- 99 + 1 830 °F	24 AC/DC 24 240 AC/DC	10 10	3RS2140-1GD60 3RS2140-1GW60		15 15	3RS2140-2GD60 3RS2140-2GW60	
3RS1040-2GW50 Temperature monit									
2 threshold values tripping state and of									
	Pt100/1000; KTY83/84; NTC (resistance sensors) ¹⁾	- 50 + 750 °C	24 AC/DC 24 240 AC/DC	10 2	3RS1042-1GD70 3RS1042-1GW70		10 10	3RS1042-2GD70 3RS1042-2GW70	
	TYPE J, K, T, E, N, R, S, B (thermocouple)	- 99 +1 800 °C	24 AC/DC 24 240 AC/DC	10 2	3RS1142-1GD80 3RS1142-1GW80		10 10	3RS1142-2GD80 3RS1142-2GW80	

 $^{^{1)}}$ NTC type: B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).

For accessories, see page 10/142.

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

Relays, digitally adjustable for up to 3 sensors

Overview



SIRIUS 3RS digital temperature monitoring relay for up to 3 sensors

The 3RS10, 3RS20 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is detected by the sensor in the medium, evaluated by the device and monitored for overshoot or undershoot or for staying within an operating range (window function). The 3RS10 units indicate the measured temperature in °C, the 3RS20 units in °F. The evaluation unit can evaluate up to 3 resistance sensors at the same time and is specially designed for monitoring motor windings and bearings.

Benefits

- Very simple operation without complicated menu selections
- · Space-saving with 45 mm width
- Two- or three-point control can be parameterized quickly
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

The 3RS10, 3RS20 temperature monitoring relays can be used in almost any application in which several temperatures have to be monitored simultaneously for overshoot or undershoot or within a range.

Monitoring of set temperature limits and output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- · Motor, bearing and gear oil monitoring
- Monitoring of coolants

Technical specifications

Туре		3RS1041, 3RS2041
Auxiliary circuit		
Rated operational currents <i>I</i> _e • AC-15/24 250 V	А	3
• DC-13 at - 24 V - 125 V	A A	1 0.2
- 250 V	А	0.1
DIAZED fuse protection • Operational class gG	Α	4
Evaluation unit		
Measuring accuracy at 20 °C ambient temperature (T20)		$<\pm 2$ K, ± 1 digit
Deviations due to ambient temperature In % of measuring range	%	0.05 per K deviation from T20
Measuring cycle	ms	500
Hysteresis settings for temperature 1		1 99 K, for both values
Adjustable delay time	S	0 999
Sensor circuit		
Typical sensor current • Pt100	mA	1
• Pt1000/KTY83/KTY84/NTC	mA	0.2
Open-circuit detection		Yes ¹⁾
Short-circuit detection		Yes
Three-wire conductor connection		Yes ²⁾
Enclosure		
Rated insulation voltage U_i (pollution degree 3)	V AC	300

¹⁾ Not for NTC type B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).

²⁾ Two-wire connection of resistance sensors with wire jumper between T2 and T3.

Relavs SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

Relays, digitally adjustable for up to 3 sensors

Selection and ordering data

• For temperature monitoring of solids, liquids, and gases

For two- and three-conductor resistance sensors or thermocouples

Temperature range dependent on sensor type

- for 3RS10: - 50 to + 500 °C

- for 3RS20: - 58 to + 932 °F

• Wide voltage range versions are electrically separated

Non-volatile

Short-circuit and open-circuit detection in sensor circuit

· Digitally adjustable, with illuminated LCD

Overshoot, undershoot or range monitoring adjustable
Exact sensor type and number of sensors can be set

2 separately adjustable threshold values

• 1 hysteresis; applies to both thresholds (0 to 99 K)

• 1 delay time; applies to both thresholds (0 to 999 s)

Adjustable open-/closed-circuit principle
With connectable and disconnectable error memory

• Permanent display of actual value in °C or °F and tripping state

1 CO contact each per threshold value

• 1 NO for sensor monitoring

PU (UNIT, SET, M)	= 1
PS*	= 1 unit
PG	= 41H

	Sensors		Measuring range (limit of measuring range dependent on sensor)	Rated control supply voltage $U_{\rm s}$	SD	Screw terminals		SD	Spring-type terminals	
				V	d		rice PU	d	Article No.	Price per PU
Motor monitoria width 45 mm; 1			justable for u _l	p to 3 sensors,						
Acceptan	Pt100/1000;			24240 AC/DC	2	3RS1041-1GW50		2	3RS1041-2GW50	
3RS1041-1GW50	KTY83/84; NTC (resistance sensors) ¹⁾	sensors	-58 +932 °F	24240 AC/DC	10	3RS2041-1GW50		15	3RS2041-2GW50	

 $^{^{1)}}$ NTC type: B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).

For accessories, see page 10/142.

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays

Accessories

Selection and ordering	ng data							
	Use	Version	SD	SD Article No. Price per PU		PU (UNIT, SET, M)	PS*	PG
			d					
Blank labels								
	For 3RS10, 3RS11,	Unit labeling plates For SIRIUS devices						
	3RS20, 3RS21	20 mm x 7 mm, pastel turquoise ¹⁾	20	3RT1900-1SB20		100	340 units	41B
	For 3RS10,	Adhesive labels for SIRIUS devices						
	3RS11, 3RS20,	 19 mm x 6 mm, pastel turquoise 	15	3RT1900-1SB60		100	3 060 units	41B
<u>∭∭∭∭</u> 3RT1900-1SB20	3RS21	• 19 mm x 6 mm, zinc yellow	15	3RT1900-1SD60		100	3 060 units	41B
Push-in lugs and cov	ers							
	For 3RS10, 3RS11, 3RS20,	Push-in lugs For screw fixing, 2 units are required for each device	5	3RP1903		1	10 units	41H
3RP1903	3RS21		_					
3RP1902	For 22.5 mm wide 3RS10, 3RS11, 3RS20, 3RS21	Sealable covers For securing against unauthorized adjustment of setting knobs	5	3RP1902		1	5 units	41H
Tools for opening sp								
	For auxiliary circuit Screwdrivers For all SIRIUS devices with spring-type			Spring-type terminals	$\stackrel{\infty}{\square}$			
	connections	terminals; 3.0 mm x 0.5 mm; length approx. 200 mm, titanium gray/black, partially insulated	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A		partially insulated						

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

For matching sensors, see www.siemens.com/temperature.

Relavs



SIRIUS 3RS14, 3RS15 temperature monitoring relay

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3RS14

The temperature monitoring relays for IO-Link are used to measure temperatures in solid, liquid and gas media.

The temperatures are acquired by means of sensors in the medium, evaluated by the device and monitored up to two limit values for overshooting or undershooting a working range (window function).

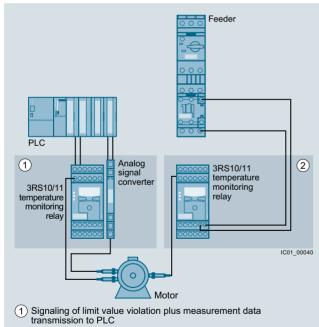
In addition to warnings and disconnection in case of temperature deviations, the devices can also be used as a temperature controller (one-point, two-point or three-point control).

The devices differ from one another in terms of the type and number of connectable temperature sensors.

- 3RS14: Connection for resistance sensor
- 3RS15: Connection for thermocouples

Function	Temperature monitoring relays						
	3RS1440	3RS1441	3RS1540				
Connectable sensor type							
Number of sensors monitored	1	3	1				
Resistance sensor	✓	✓					
Thermocouples			✓				
Temperature monitoring							
Temperature monitoring – overshoot	✓	✓	1				
Temperature monitoring – undershoot	1	1	✓				
Number of adjustable limit values	2	2	2				

- ✓ Function supported
- Function not supported



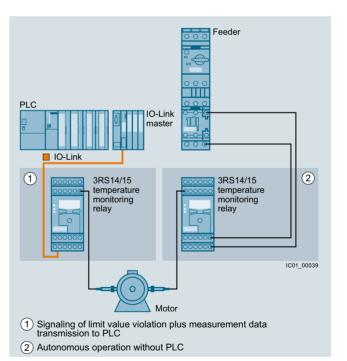
- (2) Autonomous operation without PLC

Conventional temperature monitoring relays

Devices required for the communication via IO-Link:

- Any controller that supports IO-Link (e.g. ET 200SP with CPU or S7-1200), see Catalog ST 70
- IO-Link master (e.g. CM 4xIO-Link for SIMATIC ET 200SP. see page 2/105 or SM 1278 for S7-1200, see page 2/104).

Each monitoring relay requires an IO-Link channel.



Temperature monitoring relays for IO-Link

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information on Industrial Security, see www.siemens.com/industrialsecurity.

SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

General data

Article No. scheme

Product versions			Article number				
Temperature monitoring relays		3RS	0000-0000				
Device type	e.g. 14 = digitally adjustable, 1 sensor						
Version and type of sensor	e.g. 40 = one threshold value, Pt100/Pt1000, KTY83/KTY84, NTC						
Connection type	Screw terminals		1				
	Spring-type terminals (push-in)		2				
Number and type of outputs	e.g. H = 1 CO						
Control supply voltage	e.g. B = 24 V DC						
Measuring range	e.g. 5 = -50 +750 °C						
Example		3RS	1 4 4 0 - 1 H B 5 0				

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

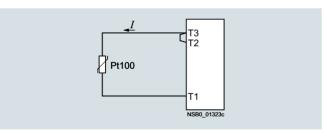
Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16370/td	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16370/faq
Manual and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/54375463	

Connection for resistance sensors

Two-wire measurement

When two-wire temperature sensors are used, the resistances of the sensor and wiring are added. The resulting systematic error must be taken into account when the signal evaluation unit is calibrated. A jumper must be clamped between terminals T2 and T3 for this purpose.



Wiring errors

The errors that are generated by the wiring comprise approximately 2.5 K/ Ω . If the resistance of the cable is not known and cannot be measured, the wiring errors can also be estimated using the following table.

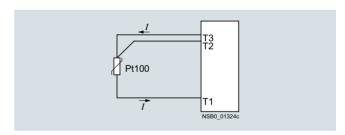
Temperature drift dependent on the length and cross-section of the cable with Pt100 sensors and an ambient temperature of 20 °C, in K:

Cable length in m	Cross-section mm²					
	0.5	0.75	1	1.5		
	Temperature d	rift in K:				
0	0	0	0	0		
10	1.8	1.2	0.9	0.6		
25	4.5	3.0	2.3	1.5		
50	9.0	6.0	4.5	3.0		
75	13.6	9.0	6.8	4.5		
100	18.1	12.1	9.0	6.0		
200	36.3	24.2	18.1	12.1		
500	91.6	60.8	45.5	30.2		

Example: On a Pt100 sensor with a cable length of 10 m and a conductor cross-section of 1 $\,{\rm mm}^2$ the temperature drift equals 0.9 K.

Three-wire measurement

To minimize the effects of the line resistances, a three-wire circuit is often used. Using the additional cable, two measuring circuits can be formed of which one is used as a reference. The signal evaluation unit can then automatically calculate the line resistance and take it into account.



SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

General data

Connection of thermocouples

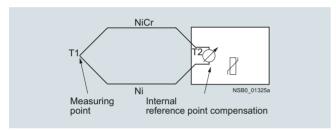
Based on the thermo-electrical effect, a differential temperature measurement will be performed between the measuring point and the signal evaluation unit.

This principle assumes that the signal evaluation unit knows the temperature at the clamping point (T2). For this reason, the 3RS15 temperature monitoring relay has an integral compensator that determines this comparison temperature and builds it into the result of the measurement. The thermal sensors and cables must be insulated therefore.

The absolute temperature is therefore calculated from the ambient temperature of the signal evaluation unit and the temperature difference measured by the thermocouple.

Temperature detection is therefore possible (T1) without needing to know the precise ambient temperature of the clamping point at the signal evaluation unit (T2).

The connecting cable is only permitted to be extended using connecting leads that are made from the same material as the thermocouple. If a different type of conductor is used, an error will result in the measurement.



For more information, see

- www.ephy-mess.com
- Page 16/16

Principle of operation

When the temperature has reached the set upper limit value $\vartheta 1$, the K1 output relay changes its switching state after the configured time t has expired. The delay time can be adjusted. The K2 output relay responds in the same manner to the lower limit value of $\vartheta 2$.

The output relays return immediately to their original state (the RESET response is configured at Auto RESET) once the temperature reaches the respective hysteresis value.

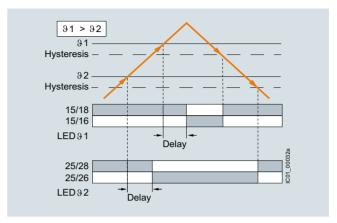
Both thresholds $\vartheta 1$ and $\vartheta 2$ can be parameterized for overshooting or undershooting. This makes it possible to use a limit value for issuing an alarm signal to announce that a limit value is about to be overshot or undershot. The other limit value can be used for disconnection or to implement two-point or three-point control.

Note:

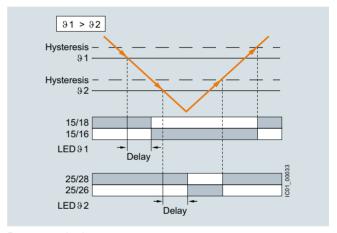
The "Temperature monitoring mode" parameter can be used to set the desired type of monitoring (monitoring for overshooting or undershooting or range monitoring).

With the closed-circuit principle selected

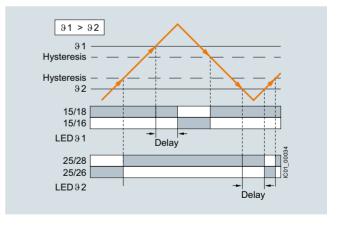
Temperature overshoot



Temperature undershoot



Range monitoring



SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

General data

Memory function

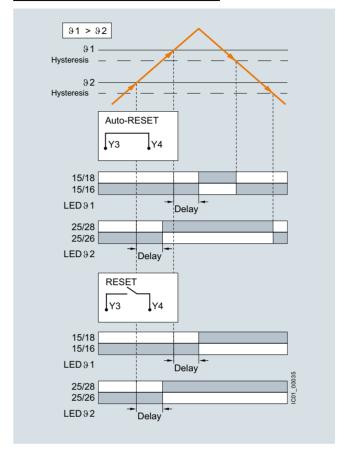
The digitally adjustable temperature monitoring relays for IO-Link have a memory function. The memory function is illustrated below by the example of a temperature overshoot.

When the temperature has reached the set limit value $\vartheta 1$, the output relay K1 changes its switching state after the configured time t has expired (output relay K2 responds to $\vartheta 2$ in the same way).

The temperature monitoring relays for IO-Link respond as described below:

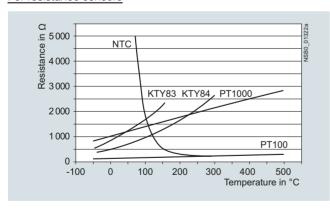
- With temperature monitoring relays for IO-Link the memory function is activated as standard (RESET). The output relays only return to the original state when the temperature falls below the set hysteresis value and when one of the following steps is performed:
 - Brief jumpering of the Y3/Y4 terminals
 - Set the rotary knob to "RUN" position and press the right-hand arrow key
 - Perform a RESET via IO-Link
- If the Y3/Y4 terminals are permanently jumpered, the memory function is deactivated (Auto RESET). The output relays return immediately to their original state once a previously occurred fault has been rectified and the temperature falls below the respective hysteresis value.

With the closed-circuit principle selected



Characteristic curves

For resistance sensors



The short-circuit and open-circuit detection as well as the measuring range is limited, depending on the sensor type. Measuring ranges for resistance sensors

Sensor type	Short circuit	Open circuit	3RS1440, 3RS1441 Measuring range in °C	Measuring range in °F
Pt100	✓	✓	-50 +750	-58 +1 382
Pt1000	✓	✓	-50 +500	-58 +932
KTY83-110	1	1	-50 +175	-58 +347
KTY84	✓	✓	-40 +300	-40 +572
NTC ¹⁾	1		+80 +160	+176 +320

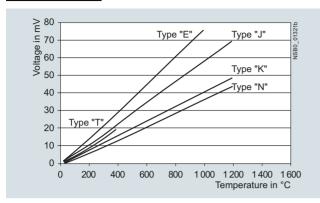
- ✓ Detection possible
- -- Detection not possible

¹⁾ NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

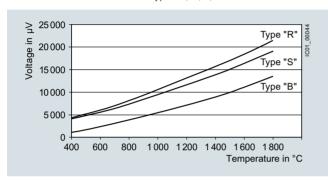
SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

General data

For thermocouples



Characteristic curves for sensor types K, N, J, E and T



Characteristic curves for sensor types S, R and B

Measuring ranges for thermocouples

Sensor type		Open	3RS1540	
	circuit	circuit	Measuring range in °C	Measuring range in °F
K		✓	-99 +1 350	-146.2 +2 462
N		✓	-99 +1 300	-146.2 +2 372
J		✓	-99 +1 200	-146.2 +2 192
E		✓	-99 +999	-146.2 +1 830.2
Т		✓	-99 +400	-146.2 +752
S		✓	0 1 750	32 3 182
R		✓	0 1 750	32 3 182
В		1	400 1 800	752 3 272

- ✓ Detection possible
- -- Detection not possible

Туре		3RS14, 3RS15
General technical specifications		
Dimensions (W x H x D)		
Screw terminals	mm	45 x 106 x 91
Spring-type terminals	mm	45 x 108 x 91
Permissible ambient temperature		
During operation	°C	-25 +60
Connection type		Screw terminals
Terminal screw	2	M3 (for standard screwdriver, size 2 and Pozidriv 2)
SolidFinely stranded with end sleeve	mm ² mm ²	1 x (0.5 4), 2 x (0.5 2.5) 1 x (0.5 2.5), 2 x (0.5 1.5)
AWG cables, solid or stranded	AWG	2 x (20 14)
Tightening torque	Nm	0.8 1.2
Connection type		Spring-type terminals
• Solid	mm ²	2 x (0.25 1.5)
Finely stranded, with end sleeve acc. to DIN 46228 Finely stranded, with end sleeve acc. to DIN 46228	mm ² mm ²	2 x (0.25 1.5)
Finely strandedAWG cables, solid or stranded	mm- AWG	2 x (0.25 1.5) 2 x (24 16)
, in a daylog, cond or ordinada		Z . (Z · · · · ·)

SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

Relays, digitally adjustable for 1 sensor

Overview



SIRIUS 3RS1440 digital monitoring relay for 1 sensor

The 3RS14 and 3RS15 temperature monitoring relays for IO-Link are used to measure temperatures in solid, liquid and gas media. The temperatures are acquired by means of sensors in the medium, evaluated by the device and monitored for overshooting or undershooting a working range (window function). The digital temperature monitoring relays have two separately adjustable limit values, are non-volatile and can be operated as desired using the open- or closed-circuit principle.

The devices differ in terms of the number of temperature sensors which can be evaluated. The 3RS1440 and 3RS1540 for IO-Link temperature monitoring relays can be digitally adjusted for one sensor and represent an alternative to temperature controllers in the low-end range (two-point or three-point control).

The devices with two-point control can, for example, be used as a thermostat. The devices with three-point control can, for example, independently switch between heating and cooling.

The 3RS1441 temperature monitoring relays for IO-Link can be digitally adjusted to evaluate up to three resistance sensors at one time. The devices were designed specifically for monitoring motor windings and positions.

The temperature monitoring relays are powered through the control supply voltages IO-Link (L+) and ground (L-) or via an external 24 V DC power supply.

Monitoring

When the temperature has reached the set limit value $\vartheta 1$, the output relay K1 changes its switching state after the configured time t has expired (output relay K2 responds to $\vartheta 2$ in the same way). The delay time can be adjusted.

The output relays return immediately to their original state once the temperature reaches the respective hysteresis value.

When the temperature has reached the upper limit value $\vartheta 1$, the output relay K1 changes its switching state after the configured time t has expired. The output relay returns immediately to its original state once the temperature reaches the respective hysteresis value.

The K2 output relay responds in the same manner to the lower limit value of $\vartheta 2$. Both thresholds $\vartheta 1$ and $\vartheta 2$ can be parameterized for overshooting or undershooting. This makes it possible to use a limit value for issuing an alarm signal to announce that a limit value is about to be overshot or undershot.

Note:

The "Temperature monitoring mode" parameter can be used to set the desired type of monitoring (monitoring for overshooting or undershooting or range monitoring).

Benefits

- Very simple operation without complicated menu selections
- Two- or three-point control can be parameterized quickly
- · All versions with removable terminals
- All versions with screw or spring-type terminals

Application

The temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Temperature limits for district heating plants
- Exhaust temperature monitoring
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- · Motor, bearing and gear oil monitoring
- · Monitoring of coolants

Relays SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

Relays, digitally adjustable for 1 sensor

Technical specifications

Туре		3RS1440	3RS1540	
Auxiliary circuit				
Rated operational currents I _e				
• AC-15/24 250 V	Α	3		
• DC-13 at				
- 24 V	A	1		
- 125 V	A	0.2		
- 250 V	Α	0.1		
Evaluation unit				
Measuring accuracy at 20 °C ambient temperature (T20)		$<\pm 2$ K, ± 1 digit	$<\pm$ 5 K, \pm 1 digit	
Reference point accuracy			< ± 5 K	
Deviations due to ambient temperature	%	0.05 °C per K deviation from T20		
In % of measuring range				
Measuring cycle	ms	500		
Hysteresis settings for temperature	K	1 99, for both values		
Adjustable delay time	S	0 999.9		
Sensor circuit				
Typical sensor current				
• Pt100	mA	1		
• Pt1000/KTY83/KTY84/NTC	mA	0.2		
Open-circuit detection		✓ ¹⁾	✓	
Short-circuit detection		✓		
Three-wire conductor connection		√ ²⁾		
Enclosure				
Rated insulation voltage <i>U</i> _i Pollution degree 2	V AC	300		

[✓] Available

⁻⁻ Not available

 $^{^{1)}}$ Not for NTC type B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).

Two-wire connection of resistance sensors with wire jumper between T2 and T3.

Relavs

SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

Relays, digitally adjustable for 1 sensor

Selection and ordering data

• To monitor temperatures with a resistance sensor or thermocouple

Temperature range dependent on sensor type - 99 to + 1 800 °C or - 146.2 to + 3 272 °F

• Short-circuit and open-circuit detection in sensor circuit

Adjustable via IO-Link and locally, with illuminated LCD
Power supply with 24 V DC via IO-Link or external auxiliary voltage

· Overshoot, undershoot or range monitoring adjustable

• Exact sensor type can be set

• 2 limit values, can be adjusted separately

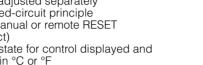
Adjustable open-/closed-circuit principle

Can be adjusted by Manual or remote RESET (via an external contact)

· Actual value, tripping state for control displayed and conveyed, adjustable in °C or °F

1 CO contact per limit value

• 1 CO contact for monitoring sensors and devices









3RS1540-1HB80



3RS1440-2HB50



PU (UNIT, SET, M) = 1

= 1 unit

= 41H

3RS1540-2HB80

Sensors	Measuring range (limit of measuring range dependent on sensor)	Adjustable hysteresis for $\vartheta1$ and $\vartheta2$	Tripping delay time adjustable for $\vartheta1$ and $\vartheta2$ DELAY	Supply voltage $U_{\rm s}$	SD	Screw terminals	+		Spring-type terminals	<u></u>
		K	S	V DC	d	Article No.	Price per PU	d	Article No.	Price per PU
	nitoring relay, digit storage can be se		table for a se	ensor,						
Pt100/Pt1000, KTY83/KTY84, NTC (resistance sensor) ¹⁾	- 50 + 750 °C or - 58 +1 382 °F	0 99	0 + 999.9	24	2	3RS1440-1HB50		2	3RS1440-2HB50	
Type B, E, J, K, N, R, S, T (thermocouples)	- 99 + 1 800 °C or - 146.2 + 3 272 °F	0 99	0 + 999.9	24	2	3RS1540-1HB80		2	3RS1540-2HB80	

¹⁾ NTC type B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).

For accessories, see page 10/153.

SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

Relays, digitally adjustable for up to 3 sensors

Overview



SIRIUS 3RS1441 digital temperature monitoring relay for up to 3 sensors

The 3RS14 temperature monitoring relays can be used to measure temperatures in solid, liquid and gas media. The temperatures are acquired by means of sensors in the medium, evaluated by the device and monitored for overshooting or undershooting a working range (window function).

The devices can be parameterized to indicate the measured temperature in °C or °F. The 3RS1441 evaluation unit can evaluate up to 3 resistance sensors at the same time.

Benefits

- Very simple operation without complicated menu selections
- · Space-saving with 45 mm width
- Two- or three-point control can be parameterized quickly
- All versions with removable terminals
- All versions with screw or spring-type terminals

Application

The 3RS1441 temperature monitoring relays can be used almost anywhere where several temperatures must be monitored at one time for overshooting, undershooting or staying within a certain range.

Monitoring of set temperature limits and output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- Monitoring of coolants

Technical specifications

Туре		3RS1441
Auxiliary circuit		
Rated operational currents I_e		
• AC-15/24 250 V • DC-13 at	Α	3
- 24 V	Α	1
- 125 V	Α	0.2
- 250 V	Α	0.1
DIAZED fuse protection		
Operational class gG	Α	4
Evaluation unit		
Measuring accuracy at 20 °C ambient temperature (T20)		$<\pm2$ K, ±1 digit
Deviations due to ambient temperature	%	0.05 per K deviation from T20
In % of measuring range		
Measuring cycle	ms	500
Hysteresis settings for temperature 1	K	1 99, for both values
Adjustable delay time	S	0 999.9
Sensor circuit		
Typical sensor current		
• Pt100	mA	1
• Pt1000/KTY83/KTY84/NTC	mA	0.2
Open-circuit detection		✓ ¹⁾
Short-circuit detection		✓
Three-wire conductor connection		$\mathcal{I}^{(2)}$
Enclosure		
Rated insulation voltage U _i	V AC	300
Pollution degree 2		

- ✓ Available
- 1) Not for NTC type B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).
- 2) Two-wire connection of resistance sensors with wire jumper between T2 and T3.

PS*

PG

PU(UNIT, SET, M) = 1

= 1 unit

= 41H

Relavs

SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

Relays, digitally adjustable for up to 3 sensors

Selection and ordering data

• For temperature monitoring with up to 3 resistance sensors

• Temperature range dependent on sensor type - 50 to + 750 °C or - 58 to + 1 382 °F

Short-circuit and open-circuit detection in sensor circuit

Adjustable via IO-Link and locally, with illuminated LCD
Power supply with 24 V DC via IO-Link or external auxiliary voltage

Overshoot, undershoot or range monitoring adjustable

Exact sensor type and number of sensors can be set

• 2 limit values, can be adjusted separately

Adjustable open-/closed-circuit principle

• Can be adjusted by manual or remote RESET (via an external contact)

· Actual value, tripping state for control displayed and conveyed, adjustable in °C or °F

1 CO contact per limit value

• 1 CO contact for monitoring sensors and devices





3RS1441-1HB50

3RS1441-2HB50

Sensors	of sensors that can	Measuring range (limit of measuring range dependent on sensor)	able hystere- sis for	delay time	Supply voltage $U_{\rm s}$	SD	Screw terminals	(1)	SD	Spring-type terminals	
			K	S	V DC	d	Article No.	Price per PU	d	Article No.	Price per PU

3RS1441-1HB50

Temperature monitoring relay, digitally adjustable for up to 3 sensors, non-volatile fault storage can be selected

-50 ... +750 °C or 0 ... 99 0 ... 999.9 Pt100/Pt1000. KTY83/KTY84, sensors -58 ... +1 382 °F

(resistance sensor)1)

For accessories, see page 10/153.

* You can order this quantity or a multiple thereof. Illustrations are approximate

3RS1441-2HB50

¹⁾ NTC type: B57227-K333-A1 (100 °C: 1.8 k Ω ; 25 °C: 32.762 k Ω).

Relays SIRIUS 3RS14, 3RS15 Temperature Monitoring Relays for IO-Link

Accessories

Selection and ordering	ng data							
	Use	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Blank labels								
	For 3RS14 and 3RS15	Unit labeling plates For SIRIUS devices						
붸붸붸붸		20 mm x 7 mm, titanium gray ¹⁾	20	3RT2900-1SB20		100	340 units	41B
	For 3RS14 and 3RS15	Adhesive labels for SIRIUS devices						
		• 19 mm x 6 mm, pastel turquoise	15	3RT1900-1SB60		100	3 060 units	41B
<u>" </u>		• 19 mm x 6 mm, zinc yellow	15	3RT1900-1SD60		100	3 060 units	41B
Push-in lugs and cov	ers							
3RP1903	For 3RS14 and 3RS15	Push-in lugs For screw fixing, 2 units are required for each device	5	3RP1903		1	10 units	41H
Tools for opening spi	ring-type term	inals						
No.	For auxiliary circuit connections	Screwdrivers For all SIRIUS devices with spring-type terminals		Spring-type terminals				
3RA2908-1A		3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	2	3RA2908-1A		1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

For matching sensors, see www.siemens.com/temperature.

SIRIUS 3RN2 thermistor motor protection

Overview



SIRIUS 3RN2 thermistor motor protection

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3RN2 For the conversion tool, e.g. from 3RN1 to 3RN2, see

www.siemens.com/sirius/conversion-tool

Thermistor motor protection devices are used for direct monitoring of the motor winding temperature. For this purpose, the motors are equipped with temperature-dependent resistors (PTC) that are directly installed in the motor winding and abruptly change their resistance at their temperature limit.

Versions

SIRIUS 3RN2 thermistor motor protection relays are available in the following versions:

- 3RN2000 compact evaluation unit
- 3RN2010 compact/standard evaluation unit
- 3RN2012-.BW31 bistable evaluation unit
- 3RN2011, 3RN2012-...30, 3RN2013 standard evaluation unit with ATEX approval
- 3RN2023 evaluation unit with ATEX approval and 2 sensor circuits for warning and disconnection

They comply with

- IEC 60947-8. Low-voltage switchgear and controlgear Part 8: "Control units for built-in thermal protection (PTC) for rotating electrical machines"
- IEC 61000-6-2, IEC 61000-6-4. "Electromagnetic compatibility for industrial-process measurement and control equipment"

The 3RN2 thermistor motor protection relays with ATEX approval fulfill SIL1 in compliance with EN 50495.

The terminals of the auxiliary contacts are designated in accordance with EN 60947-1.

3RN2 evaluation units are suitable for snap-on mounting onto TH 35 standard mounting rails according to IEC 60715 or for screw fixing using an adapter (accessory).

Article No. scheme

Product versions		Article num	nber			
Thermistor motor protection	relay with PTC sensor, type A	3RN20 □ □	3 – [
Number and version	1 sensor circuit, supply voltage = root voltage	0				
of the sensor circuits	1 sensor circuit	1				
	2 sensor circuits for warning and disconnection	2				
RESET	Auto RESET	0)			
	Manual RESET, with open-circuit and short-circuit detection	1				
	Manual/Auto/remote RESET, non-volatile, with open-circuit and short-circuit detection	2	2	П		
	Manual/Auto/remote RESET, non-volatile, with open-circuit and short-circuit detection, with protective separation	า	3	П		
Connection method	Screw terminals			1		
	Spring-type terminals (push-in)			2		
Auxiliary switches	1 CO			Α		
	2 CO			В		
	1 NO + 1 NC			С		
	1 NO + 1 CO			D		
	2 CO, hard gold-plated			G		
Rated control supply voltage	24 V AC/DC			1	4 3	
	24 240 V AC/DC			1	N 3	
Response to failure	Monostable					0
	Bistable					1
Example		3RN20 0 0) –	1 A A	A 3	0

Note

The Article No. scheme is presented here merely for information purposes and for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Relavs

SIRIUS 3RN2 thermistor motor protection

Benefits

- Thanks to direct motor protection, overdimensioning of the motors is not necessary
- No settings on the device are necessary
- Semiconductor compatible output thanks to versions with hard gold-plated contacts
- Rapid error diagnosis thanks to versions that indicate open and short circuits in the sensor circuit
- All versions with removable terminals
- All versions with screw or spring-type terminals with push-in functionality

Application

Direct motor protection through temperature monitoring of the motor winding offers 100% motor protection even under the most difficult ambient conditions, without the need to make adjustments on the device. Versions with hard gold-plated contacts ensure, in addition, a high switching reliability that is even higher than an electronic control.

Direct motor protection

- At increased ambient temperatures
- · When switching frequency is too high
- · When start up and braking procedures are too long

ATEX approval for operation in hazardous areas

The SIRIUS 3RN2011, 3RN2012-...30, 3RN2013 and 3RN2023 thermistor motor protection relays for PTC sensors are certified according to ATEX Ex II (2) G and D for environments with explosive gas or dust loads.

Motor protection using current- and temperature-dependent protective devices

IEC 60204 stipulates that motors must be protected from overheating at a rating of 0.5 kW and higher. The protection can take the form of overload protection, overtemperature protection or current limiting.

For motors with frequent starting and braking and in environments where cooling may be impaired (e.g. by dust), it is recommended to use the overtemperature protection option in the form of a protective device coordinated with this mode of operation. A good choice in this case is the use of 3RN2 thermistor motor protection devices.

On rotor-critical motors, overtemperature detection in the stator windings can lead to delayed and hence inadequate protection. In this case the standards stipulate additional protection, e.g. by means of an overload relay.

This combination of thermistor motor protection and an overload relay is recommended for full motor protection in case of frequent starting and braking of motors, irregular intermittent duty or excessive switching frequency. To prevent premature tripping of the overload relay in such operating conditions, a higher setting than that normally required for the operational current is chosen. The overload relay then performs stall protection, and the 3RN2 thermistor motor protection relay monitors the temperature of the motor windings.

Application	Motor protection					
	Only current dependent, e.g. with overload relay	Temperature dependent only, e.g. with thermistor motor protection relay	Current and tempera- ture dependent			
Motor protection in case of	_					
Overloading in uninterrupted duty	√	1	1			
Long start up and braking operations	0	1	1			
Irregular intermittent duty	0	1	/			
Excessively high switching frequency	0	1	1			
Single-phase operation and current unbalance	1	1	1			
Voltage and frequency fluctuations	1	1	1			
Stalling of the rotor	1	1	/			
Switching on a stalled rotor of a stator-critical motor	1	1	1			
Switching on a stalled rotor of a rotor-critical motor	1	0	1			
Elevated ambient temperature		1	1			
Impeded cooling		/	1			

- ✓ Full protection
- O Conditional protection
- -- No protection

SIRIUS 3RN2 thermistor motor protection

Technical specifications

More information

Technical specifications, see

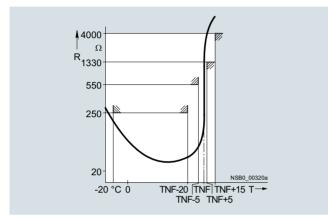
https://support.industry.siemens.com/cs/ww/en/ps/24302/td

Operating instructions and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/ps/24302/man

Type A PTC temperature sensor

If a Type A temperature sensor is connected to a Type A evaluation unit, compliance with the operating temperatures is assured (on pick-up and reset) according to IEC 60947-8.

The characteristic curves of the Type A temperature sensors are described in IEC 60947-8, EN 44081 and EN 44082 standards.



Characteristic curve of the 3RN2 evaluation unit

Bimetallic switch

In some applications, bimetallic switches (e.g. Klixon, Thermoclick) are used as sensors instead of PTC temperature sensors. Bimetallic switches are temperature- and current-dependent NC contacts and are available for different temperature ranges. Because bimetallic switches have practically no resistance below their opening temperature, short-circuit detection is not possible when using bimetallic switches. A bimetallic switch can be used for versions 3RN2000 and 3RN2010 on the SIRIUS thermistor motor protection relay.

Note:

Never use bimetallic switches in applications subject to an explosion hazard! Because of their non-standardized tripping characteristic, bimetallic switches must not be used in applications where there is an explosion hazard. Use Type A PTC sensors instead!

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/24302/faq

For more information on explosion protection (ATEX), see

Use in hazardous areas

Increased danger in hazardous areas means it is necessary to observe the following notes and standards carefully:

- EN 60079-14/VDE 0165-1 for electrical apparatus for explosive gas atmospheres
- EN 60079-17 Explosive atmospheres Electrical installations inspection and maintenance
- EN 50495 Safety devices required for the safe functioning of equipment with respect to explosion risks

The following SIRIUS 3RN2 thermistor motor protection relays with short-circuit detection are approved for Equipment Group II, Category (2) in Area "G" (areas in which potentially explosive gas, vapor, mist, or air mixtures are present) and are additionally approved for Area "D" (areas containing combustible dust):

- 3RN2011
- 3RN2012-...30
- 3RN2013
- 3RN2023

PTB 15 ATEX 3011 ex II (2) G (Ex E) (EX d) (Ex px) PTB 15 ATEX 3011 ex II (2) D (Ex T) (Ex p)

For 3RN2 thermistor motor protection relays, the EC type examination certificate is available for Group II, Category (2) G [Ex e] [Ex d] [Ex px] and D [Ex t] [Ex p]. The number is PTB 15 ATEX 3011.

SIRIUS 3RN2 thermistor motor protection relays are not intended for installation in hazardous areas. If they are installed in a potentially explosive atmosphere, the SIRIUS 3RN2 thermistor motor protection relays must be adapted to the applicable type of protection.

The machine or plant must shut down immediately if the SIRIUS 3RN2 thermistor motor protection relay is tripped, even if connected through a frequency converter. This must be implemented with circuitry.

SIRIUS 3RN2 thermistor motor protection relays with functional safety in accordance with EN 50495 are suitable for protecting explosion-proof motors/machines.

On evaluation units with a supply voltage of 24 V AC/DC, you must ensure electrical separation with a battery network or a power supply unit with electrical separation (e.g. isolating transformer) (does not apply to 3RN2013-.BA30).

A SIRIUS 3RN2 thermistor motor protection relay set to "automatic RESET" mode will be reset automatically after the recovery time has elapsed, without the RESET button being pressed. An additional ON button has to be used to ensure that the motor does not start up automatically following tripping. "Automatic RESET" mode must not be used in applications where there is a risk of personal injury or damage to property if the motor restarts unexpectedly.

SIRIUS 3RN2 thermistor motor protection

△ NOTICE!

When used in a hazardous area, the thermistor motor protection relay must not be operated with automatic RESET (terminal Y1 and Y2 permanently jumpered).

A risk analysis must be performed for the complete plant or machine. If this analysis yields a lower hazard potential (Category 1), all SIRIUS 3RN2 thermistor motor protection relays can be used, provided the safety regulations are observed.

△ WARNING!

All work involved in connecting, commissioning and maintenance must be carried out by qualified, responsible personnel. Improper handling may result in serious personal injury and considerable damage to property.

Cable routing

The measuring circuit leads must be routed as separate control cables. It is not permitted to use cores from the supply line of the motor or any other main supply cables. If extreme inductive or capacitive interference is expected as a result of power lines routed in parallel, shielded control cables must be used.

Maximum length of sensor circuit cables for evaluation units without short-circuit detection in the sensor circuit:

Cable cross-section	3RN2000, 3RN2010
2.5 mm ²	2 x 2 800 m
1.5 mm ²	2 x 1 500 m
0.5 mm ²	2 x 500 m

Maximum length of sensor circuit cables for evaluation units with short-circuit detection 1)

Cable cross-section	3RN2011, 3RN2012, 3RN2013, 3RN2023
2.5 mm ²	2 x 250 m
1.5 mm ²	2 x 150 m
0.5 mm ²	2 x 50 m

¹⁾ A short circuit in the sensor circuit will be detected up to this maximum cable length.

Principle of operation

SIRIUS 3RN2 thermistor motor protection relays are thermal protection devices that are suitable, in combination with Type A PTC thermistors, for monitoring temperatures of electrical drives, transformer windings, oils, bearings, air, etc.

The most frequent application is monitoring of three-phase motors in which the motor manufacturer has fitted a PTC sensor into every winding overhang and in which these PTC sensors are connected in series.

The SIRIUS 3RN2 thermistor motor protection relays operate in accordance with the closed-circuit principle and therefore monitor themselves for loss of supply voltage. The exceptions are the warning output on 3RN2023, which always works on the open-circuit principle and the bistable relays of the 3RN2012-BW31, which always retain the last switching state.

A micro-interruption in the power supply of less than 30 ms does not change the status of the output relays.

For devices with the "Manual RESET" function, the test function can be activated and a trip simulated by pressing the blue Test/RESET button for > 2 seconds.

The 3RN2011, 3RN2012, 3RN2013 and 3RN2023 devices are additionally equipped with open-circuit and short-circuit detection in the sensor circuit. The unit will trip in the event of a short circuit (resistance in sensor circuit < 10 Ω) or open circuit in the sensor circuit (dynamic open-circuit detection). Tripping as the result of a short circuit in the sensor circuit is indicated by a flickering red LED (TRIPPED). In the event of a short circuit in the sensor circuit for warning on the 3RN2023, the yellow warning LED (WARNING) flickers. The devices with dynamic open-circuit detection evaluate the rise time of the sensor circuit resistance. If the sensor circuit resistance rises from 3 300 Ω to 12 k Ω within 200 ms, the unit will not only trip, but also indicate the open circuit via a flashing red LED (TRIPPED). In the event of an open circuit in a sensor circuit, the yellow warning LED (WARNING) flashes for the 3RN2023.

All evaluation units (except for the 3RN2000 compact evaluation unit) feature electrical separation between the control circuit and the sensor circuit. The relay outputs are also electrically separated from all other circuits. The 3RN2013 and 3RN2023 evaluation units incorporate protective electrical separation between all circuits up to $U_{\rm i}$ = 300 V.

3RN2000 compact evaluation unit

The compact unit, which is only 17.5 mm wide, is equipped with a red LED (TRIPPED) for the tripped indicator and a changeover contact. After the unit has tripped, it is automatically reset once the thermistors have cooled down. The root of the changeover contact is connected to the control voltage (terminal 11 is connected to terminal A1). This unit is particularly suitable in circuits in which the control circuit and signaling circuit have the same potential, e.g. in local control boxes.

3RN2010, 3RN2011, 3RN2012 and 3RN2013 compact/standard evaluation units

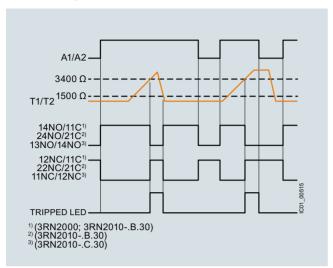
The units are equipped with two LEDs (READY and TRIPPED) for an operating and tripped display and are available with either 1 NO + 1 NO contacts (3RN2010, overall width 17.5 mm) or with 2 CO contacts. Depending on the version, they are available with Auto RESET (3RN2010), Manual/remote RESET (3RN2011) or Manual/Auto and remote RESET (3RN2012 and 3RN2013). Remote RESET can be achieved by connecting an external pushbutton with a normally-open function to terminals Y1 and Y2. If terminals Y1 and Y2 are jumpered, the unit is automatically reset once the thermistors have cooled down (Auto RESET). 3RN2012 and 3RN2013 are non-volatile. This means a previous trip remains stored in the event of a control supply voltage failure - the thermistor motor protection relay remains in the safe state with an opened output relay until it is intentionally reset by pressing the TEST/RESET button of the unit or an external pushbutton.

3RN2023 "warning and disconnection" evaluation units

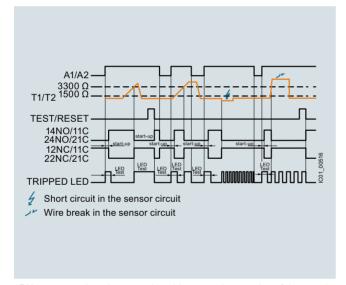
Two sensor circuits can be connected to one 3RN2023 evaluation unit that act on two separate output relays with 1 NO contact for warning and 1 CO contact for disconnection. Thermistors with different rated response temperatures TNF are used to implement the "Warning" and "Disconnection" functions. When sensor circuit 2 for "Warning" responds, a yellow LED is lit and when the "Disconnection" circuit responds, a red LED is lit. The sensor circuits have a different reset response and operating behavior: The "Warning" thermistor sensor circuit 2 (terminals 2T1, T2) works only with Auto RESET and according to the open-circuit principle (output relay K2, NO contact). The "Disconnection" thermistor sensor circuit 1 (terminals 1T1, T2) can be changed from Manual RESET to Auto RESET by jumpering terminals Y1 and Y2. Remote RESET is implemented by connecting an external pushbutton with a normally-open function to these terminals.

SIRIUS 3RN2 thermistor motor protection

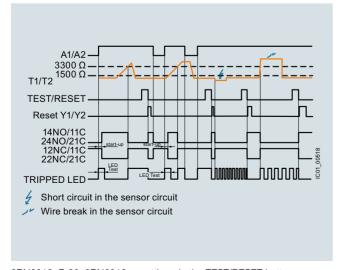
Function diagrams



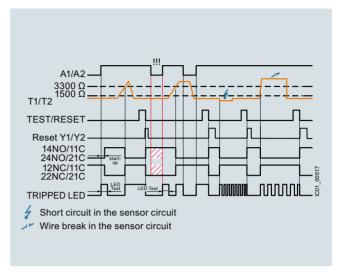
3RN2000, 3RN2010



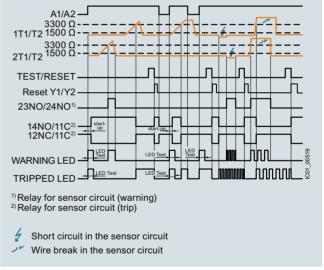
3RN2011: resetting via external pushbutton or interruption of the supply voltage



 $3RN2012\text{--}.B.30,\,3RN2013\text{:}$ resetting via the TEST/RESET button or external pushbutton



3RN2012-.BW31: resetting via the TEST/RESET button or external pushbutton $% \left(1\right) =\left(1\right) \left(1\right)$



3RN2023: resetting via the TEST/RESET button or external pushbutton

SIRIUS 3RN2 thermistor motor protection

Article number		3RN2000A, 3RN2010C	3RN201B, 3RN2013G, 3RN2023D
Width x height x depth	mm	17.5 x 100 x 90	22.5 × 100 × 90

Article number		3RN2000- .AA30	3RN2000- .AW30, 3RN2010- .BW30, 3RN2010- .CW30	.BA30,	3RN2011- .BA30, 3RN2012- .BA30	3RN2011- .BW30, 3RN2012- .BW30	3RN2012- .BW31	3RN2013- .BA30	3RN2013- .BW30, 3RN2013- .GW30	3RN2023 .DW30
General technical specifications):		.01750							
Type of electrical isolation		None	Isolated					Protective s	separation	
Electrical endurance (operating cycles) for AC-15 at 230 V		100 000								
Mechanical endurance (operating cycles)		10 000 000)							
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3 rated value	V	300								
Impulse withstand voltage, rated value	kV	4 6						6		
Minimum mains failure buffering time	e ms	40								30
Pollution degree		3								
Degree of protection		IP20								
Shock resistance acc. to IEC 60068-2-27		11 <i>g</i> /15 ms								
Vibration resistance acc. to IEC 60068-2-6		10 55 Hz	z: 0.35 mm							
Type of mounting Mounting position Installation altitude at height above sea level, maximum	m	For screw-fixing and snap-on mounting to 35 mm standard mounting rail Any 2 000								
Ambient temperature during operation	°C	-25 +60								
Relative humidity during operation, maximum	%	70								
ATEX										
Ex device group and Ex category according to ATEX product directive 2014/34/EU					II 2G, II 2D			II 2G, II 2D		
Safety device type according to IEC 61508-2					Туре В			Туре В		
Safety integrity level (SIL) according to IEC 61508					SIL1			SIL1		
Performance level (PL) according to EN ISO 13849-1					С			С		
T1 value for proof test interval or service duration according to IEC 61508	У				3			3		
Measuring circuit:										
Number of measuring circuits		1								2
Relative measuring accuracy	%	9			2					
Maximum number of sensors in series		6								
Cable length of sensor, maximum	m	2 800			250					
Thermistor resistance response value	Ω	1 500 1 650								
Thermistor resistance return value	Ω	3 400 3 6	600		3 300 3 3	350				

SIRIUS 3RN2 thermistor motor protection

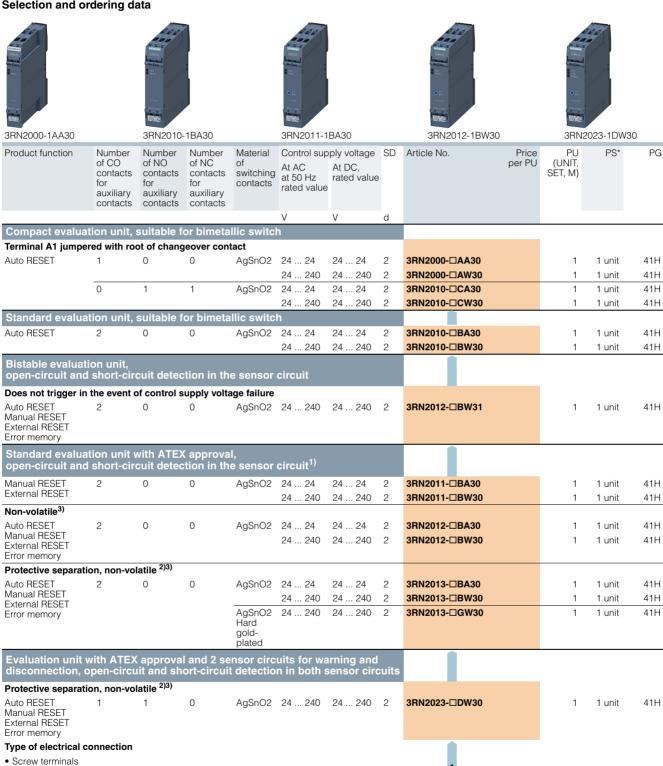
Article number		3RN2000- .AA30	3RN2000- .AW30, 3RN2010- .BW30, 3RN2010- .CW30	3RN2010- .BA30, 3RN2010- .CA30	3RN2011- .BA30, 3RN2012- .BA30	3RN2011- .BW30, 3RN2012- .BW30	3RN2012- .BW31	3RN2013- .BA30	3RN2013- .BW30, 3RN2013- .GW30	3RN2023- .DW30
Control circuit:										
Current carrying capacity of the output relay • At AC-15 at 250 V at 50/60 Hz	А	3								
 At DC-13 at 24 V At DC-13 at 125 V At DC-13 at 250 V 	A A A	1 0.2 0.1								
Thermal current of the non-solid-state contact blocks, maximum	А	5								
Continuous current of the output relay's DIAZED fuse link	А	6								
Supply voltage:										
Control supply voltage • At AC										
 At 50 Hz rated value At 60 Hz rated value At DC, rated value 	V V V	24 24 24 24 24 24	24 240 24 240 24 240	24 24 24 24 24 24		24 240 24 240 24 240		24 24 24 24 24 24	24 240 24 240 24 240	
Operating range factor of the control supply voltage, rated value • At AC at 50 Hz • At AC at 60 Hz • At DC		0.85 1.1 0.85 1.1 0.85 1.1								

Article number		3RN201	3RN202
Type of electrical connection		Screw terminals	Spring-type terminals (push-in)
Tightening torque	Nm	0.6 0.8	
Type of connectable conductor cross-sections • Solid • Finely stranded with end sleeve • For AWG cables - Solid - Stranded	mm ² mm ² AWG AWG	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²) 1x (0.5 4 mm²), 2x (0.5 1.5 mm²) 1x (20 12), 2x (20 14)	1x (0.5 4 mm²) 1x (0.5 2.5 mm²) 1x (20 12) 1x (20 12)

Relavs

SIRIUS 3RN2 thermistor motor protection

Selection and ordering data



- Spring-type terminals (push-in)

¹⁾ For 3RN2011: The unit can be reset with the RESET button or by disconnecting the control supply voltage.

²⁾ Protective separation up to 300 V acc. to DIN/VDE 0160, IEC 60947-1.

³⁾ Protection against voltage failure or non-volatile fault storage means that previous tripping due to a fault remains stored even if the control supply voltage fails. The monitoring device is not reset if the voltage fails. With an active fault, meaning a fault which has not been manually confirmed, an automatic restart of the plant upon recovery of the power is prevented therefore and plant safety increased as the result.

SIRIUS 3RN2 thermistor motor protection

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			, ,		
Terminals for SIR enclosure	US devices in the industrial standard mounting rail						
-7	Removable terminals		Screw terminals	+			
d	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	2	3ZY1122-1BA00		1	6 units	41L
			Spring-type terminals (push-in)	8			
3ZY1122-1BA00	 2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² 	2	3ZY1122-2BA00		1	6 units	41L
Accessories for e	nclosures						
P	Push-in lugs For wall mounting	2	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00							
	Coding pins For removable terminals of SIRIUS devices in the industrial standard mounting rail enclosure; they enable the mechanical coding of terminals	2	3ZY1440-1AA00		1	12 units	41L
3ZY1440-1AA00							
SIEMENS SIRIUS	Hinged cover NEW Replacement cover, without terminal labeling, titanium gray						
	• 17.5 mm wide	2	3ZY1450-1AA00		1	5 units	41H
	• 22.5 mm wide	2	3ZY1450-1AB00		1	5 units	41H
3ZY1450-1AB00							
Tools for opening	spring-type terminals						
	Screwdrivers For all SIRIUS devices with spring-type terminals		Spring-type terminals (push-in)				
0DA0000 44	3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black,	2	3RA2908-1A		1	1 unit	41B
3RA2908-1A	partially insulated						

Coupling Relays and Signal Converters/Interface Converters

SIRIUS 3RS70 signal converters

Overview



SIRIUS 3RS70 signal converters

More information

Homepage, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3RS70

For the conversion tool, e.g. from 3RS17 to 3RS70, see

Signal converters perform the coupling function for analog signals on both the input side and the output side. They are indispensable when processing analog values with electronic controls. Under harsh industrial conditions in particular, it is often necessary to transmit analog signals over long distances. Electrical separation is then needed as a result of the different power supplies. The resistance of the wiring causes potential differences and losses which must be prevented.

Electromagnetic disturbance and overvoltages can affect the signals on the input side in particular or even destroy the analog modules. All terminals of the 3RS70 signal converters are safe up to a voltage of 30 V DC and protected against switching poles. Short-circuit protection is an especially important function for the outputs.

The devices are EMC-tested according to

- IEC 61000-6-4 (generic standard for emitted interference)
- IEC 61000-6-2 (generic standard for interference immunity)

The analog signals comply with

• IEC 60381-1/2

Article No. scheme

Product versions		Article numb	er			
Signal converters		3RS70 □ □	- 0			0 0
Product function/type	Single-range converters, active	0 0				3-way separation, input 0 10 V
of input signal		0 2				3-way separation, input 0 20 mA,
		0 3				3-way separation, input 4 20 mA,
	Switchable multi-range converters, active	0 5				3-way separation, 3 standard signals can be switched 0 10 V, 0/4 20 mA
	Switchable universal converters, active	0 6				3-way separation, 16 signals can be switched
	Single-range converters, passive	2 0				2-way separation, 4 20 mA
	Switchable multi-range converters, active	2 5				3-way separation, with manual/automatic switch and setting potentiometer
Connection type	Screw terminals		1			
	Spring-type terminals (push-in)		2			
Type of output signal	0 10 V			Α		
	0 20 mA			С		
	4 20 mA			D		
	Loop power isolator 4 20 mA			Е		
	3 standard signals can be switched			F		
	4 frequencies can be switched			Κ		
Supply voltage	24 V AC/DC				E	
	None				Т	
	24 240 V AC/DC				W	
Example		3RS70 0 0	- 1	Α	E 0	0 0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Coupling Relays and Signal Converters/Interface Converters

SIRIUS 3RS70 signal converters

Benefits

- · Narrow width
- Easy-to-set universal converters
- Converters with frequency output
- · All ranges are fully calibrated

- Universal family of devices the perfect solution for every application
- Integrated manual/automatic switch with a setpoint generator
- · Outputs are short-circuit-proof
- Up to 30 V protected against damage caused by wiring errors

Application

Signal converters are used in analog signal processing for

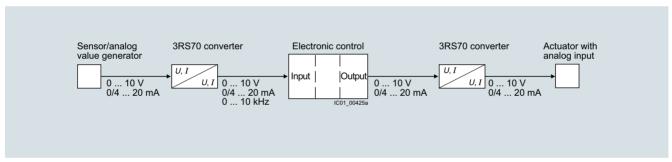
- Electrical separation
- · Conversion of normalized and non-normalized signals
- · Amplification and impedance adaptation
- Conversion to a frequency for processing by a digital input
- Overvoltage and EMC protection
- Short-circuit protection of the outputs

3RS7025 manual/automatic converter

For special applications in which analog signals have to be simulated, or during plant commissioning when the actual process value is not yet available, the 3RS7025 devices feature an adjustable potentiometer for manual setpoint selection and a manual/automatic switch.

The potentiometer for the 3RS7025 devices is used to simulate analog output signals when the changeover switch is set to "Manual" and the control supply voltage is applied, without the need for an analog input signal. The scale ranges from 0 ... 100%.

Example: When it is set for an output of 4 ... 20 mA, the left stop on the potentiometer represents an output current of 4 mA and the right stop represents an output current of 20 mA. In the "Auto" switch position, the output signal follows the input signal proportionally regardless of the potentiometer setting.



Application example of analog signal processing

Coupling Relays and Signal Converters/Interface Converters

SIRIUS 3RS70 signal converters

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16691/td	Circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/109475738
Operating instructions, see https://support.industry.siemens.com/cs/ww/en/view/109475738	

Article number		3RS7000AE00		3RS7000CE00, 3RS7000DE00	3RS7002CE00, 3RS7002DE00, 3RS7003CE00, 3RS7003DE00	3RS7020ET00
Product designation Product version		Single-range con active	verters,			Single-range converters, passive
General data:						
Width x height x depth	mm	6.2 × 93 × 72.5				6.2 × 93 × 71
	°C °C	-25 +60 -40 +80				
Relative humidity during operation	%	10 95				
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3 rated value	V	50				
Active power input	W	0.29				-
Degree of protection		IP20				
Input:						
Input voltage • Max.	V	30				
	Ω kΩ	 330	100	 330	100	
Output:	_					
	Ω kΩ	 2		500		1 000
Relative measuring accuracy	%	0.1				
Short-circuit-proof		Yes				No

Coupling Relays and Signal Converters/Interface Converters

SIRIUS 3RS70 signal converters

Article number		3RS7005- .FE00	3RS7005- .KE00	3RS7005- .FW00	3RS7005- .KW00	3RS7025- .FE00	3RS7025- .FW00
Product designation Product version		Switchable n active	nulti-range con	Switchable multi-range converters, active, with manual/automatic switch and setting potentiometer			
General data:							
Width x height x depth	mm	6.2 × 93 × 72	2.5	17.5 × 93 ×	72.5	17.5 × 93 ×	75
Ambient temperature • During operation • During storage	°C °C	-25 +60 -40 +80					
Relative humidity during operation	%	10 95					
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3 rated value	V	50		300		50	300
Active power input	W	0.29		0.5	0.34	0.5	
Degree of protection		IP20					
Input:							
Input voltage • Max.	V	30					
Input impedance Of current input, maximum Of voltage input, minimum	Ω kΩ	100 330					
Output:							
Load Maximum at current output Minimum at voltage output	Ω k Ω	500 2		500 2		500 2	
Relative measuring accuracy	%	0.1					
Short-circuit-proof		Yes					

Relays Coupling Relays and Signal Converters/Interface Converters

SIRIUS 3RS70 signal converters

Article number		3RS7006FE00	3RS7006FW00
Product designation Product version		Switchable universal converters, active	
General data:			
Width x height x depth	mm	17.5 × 93 × 72.5	
Ambient temperature	°C °C	-25 +60 -40 +80	
Relative humidity during operation	%	10 95	
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3 rated value	V	50	300
Active power input	W	0.5	
Degree of protection		IP20	
Input:			
Input voltage • Max.	V	30	
Input impedance Of current input, maximum Of voltage input, minimum Output:	Ω kΩ	100 330	
Load			
Maximum at current output Minimum at voltage output	$_{k\Omega}^{\Omega}$	500 2	
Relative measuring accuracy	%	0.1	
Short-circuit-proof		Yes	

Article number	3RS701	3RS702
Type of electrical connection	Screw terminals	Spring-type terminals (push-in)
Type of connectable conductor cross-sectionsSolidFinely stranded	1x (0.25 2.5 mm²)	1x (0.25 2.5 mm²)
Without end sleevesWith end sleevesSolid for AWG cables	 1x (0.25 1.5 mm²) 1x (20 14)	1x (0.25 2.5 mm²) 1x (0.25 1.5 mm²) 1x (20 14)

Coupling Relays and Signal Converters/Interface Converters

SIRIUS 3RS70 signal converters

Selection and o	rdering data									
	Signal type		Supply voltage	Width	SD	Article No.		PU (UNIT,	PS*	PG
	At the input	At the output					per PU	SET, M)		
0. 1				mm	d					
Single-range co										
	Passive	rical isolation, 2-	way							
	4 20 mA	4 20 mA		6.2	2	3RS7020-□ET00		1	1 unit	41F
Single-range co		4 20 1171		0.2		01107020 = 1100			1 dilit	711
	Active									
	Type of elect	rical isolation, 3-	way							
	0 10 V	0 10 V	24 V AC/DC	6.2	2	3RS7000-□AE00		1	1 unit	41F
	0 20 mA	0 10 V	24 V AC/DC	6.2	2	3RS7002-□AE00		1	1 unit	41F
	4 20 mA	0 10 V	24 V AC/DC	6.2	2	3RS7003-□AE00		1	1 unit	41F
	0 10 V	0 20 mA	24 V AC/DC	6.2	2	3RS7000-□CE00		1	1 unit	41F
	0 20 mA	0 20 mA	24 V AC/DC	6.2	2	3RS7002-□CE00		1	1 unit	41F
State of the last	4 20 mA	0 20 mA	24 V AC/DC	6.2	2	3RS7003-□CE00		1	1 unit	41H
RS7000-1AE00	0 10 V	4 20 mA	24 V AC/DC	6.2	2	3RS7000-□DE00		1	1 unit	41F
	0 20 mA 4 20 mA	4 20 mA 4 20 mA	24 V AC/DC 24 V AC/DC	6.2	2	3RS7002-□DE00 3RS7003-□DE00		1	1 unit 1 unit	41F
RS7000-2AE00										
Multi-range con	verters									
-	Active, swit	tchable								
	Type of elect	rical isolation, 3-	way							
	0 10 V,	0 10 V,	24 V AC/DC	6.2	2	3RS7005-□FE00		1	1 unit	41⊢
	0 20 mA, 4 20 mA	0 20 mA, 4 20 mA	24 240 V AC/DC	17.5	2	3RS7005-□FW00		1	1 unit	41F
	20	0 50 Hz	24 V AC/DC	6.2	2	3RS7005-□KE00		1	1 unit	41H
		0 100 Hz 0 1 kHz 0 10 kHz	24 240 V AC/DC	17.5	2	3RS7005-□KW00		1	1 unit	41
RS7005-1FW00										
Multi-range con	verters									
	Active, with potentiome		natic switch and set	ting						
	•	rical isolation, 3-	wav							
	0 10 V,	0 10 V,	24 V AC/DC	17.5	2	3RS7025-□FE00		1	1 unit	41 ⊢
	0 20 mA,	0 20 mA,	24 240 V AC/DC	17.5	2	3RS7025-□FW00		1	1 unit	41H
Iniversal conve	4 20 mA	4 20 mA								
amversar conve	Active, swi	tchable								
	•		way							
		rical isolation, 3-	•	17.5	2	2D67006 □EE00		1	1 unit	/1L
RS7006-1FE00	0 60 mV, 0 100 mV, 0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V, 0 10 V, 0 20 V,	0 10 V, 0 20 mA, 4 20 mA	24 V AC/DC 24 240 V AC/DC	17.5 17.5	2	3R\$7006-□FE00 3R\$7006-□FW00		1	1 unit 1 unit	41F 41F
ype of electrical c	0 5 mA, 0 10 mA, 0 20 mA, 4 20 mA, -5 +5 mA, -20 +20 mA	A								
Screw terminalsSpring-type terminals						1				

• Spring-type terminals (push-in)

Relays Coupling Relays and Signal Converters/Interface Converters

SIRIUS 3RS70 signal converters

Accessories						
	Version	SD	Article No. Price per PU		PS*	PG
		d		, ,		
Galvanic isolation	າ plates					
4	Galvanic isolation plates	2	3RQ3900-0A	1	10 units	41H
	For electrical separation of different potentials when devices of different types are installed side by side					
3RQ3900-0A						
Connecting comb	os					
	Connecting combs					
2-2-2-2-	For linking the same potentials, current carrying capacity for infeed max. 6 A					
3RQ3901-0B	• 2-pole	2	3RQ3901-0A	1	10 units	41H
	• 4-pole	2	3RQ3901-0B	1	10 units	41H
	• 8-pole	2	3RQ3901-0C	1	10 units	41H
	• 16-pole	2	3RQ3901-0D	1	10 units	41H
Clip-on labels						
	Clip-on labels					
	For terminal marking and equipment labeling, white					
	• 5 x 5 mm ¹⁾	2	3RQ3902-0A	100	2 000 units	41H
Tools for opening	g spring-type terminals			_		
			Spring-type terminals (push-in)			
3RA2908-1A	Screwdrivers For all SIRIUS devices with spring-type terminals; 3.0 mm x 0.5 mm; length approx. 200 mm, titanium gray/black, partially insulated	2	3RA2908-1A	1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: Conta-Clip Verbindungstechnik GmbH, see page 16/16.

Coupling Relays and Signal Converters/Interface Converters

Notes



PG 4N1, 41B, 41H, 41L, 42B, 42C, 42F, 42J Introduction Safety relays SIRIUS 3SK safety relays General data Basic units - SIRIUS 3SK1 Standard basic units - SIRIUS 3SK1 Advanced basic units - SIRIUS 3SK2 basic units Expansion units - Output expansions - Input expansions Accessories **NEW** SIRIUS 3TK28 safety relays With special functions Accessories SIRIUS 3RK3 Modular Safety System

Price groups

Note:

General data 3RK31 central units

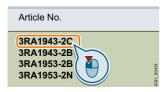
Conversion tool, e.g. from 3TK28 to 3SK, see www.siemens.com/sirius/conversion-tool

3RK32, 3RK33 expansion modules

3RK35 interface modules
Accessories **NEW**

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Introduction

Overview

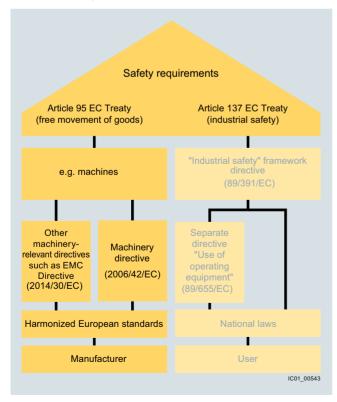
Functional safety of machines and plants – Basic safety requirements in the manufacturing industry

In order to protect people and the environment in many industrial applications in the manufacturing and process industries, machines and plants must meet the fundamental safety requirements of the EU Directives, particularly the Machinery Directive. In addition to design solutions, automation systems and components are also expected to perform safety-related tasks. This means that the life and health of people and the physical integrity of capital goods and the environment depend on the proper operation of these systems and components, on "functional safety".

With the introduction of the uniform European Single Market, national standards and regulations affecting the technical realization of machines were consistently harmonized. This involved defining basic safety requirements which address, on the one hand, machine manufacturers in terms of the free movement of goods (Article 95) and, on the other hand, machine operators in terms of industrial safety (Article 137).

The EU directives:

- Define requirements which must be met by plants and their operating companies in order to protect the health of people and the quality of the environment
- Include standards for health & safety at work (minimum requirements)
- Define product requirements (e.g. for machines) to protect the health and safety of consumers
- Differentiate between the requirements which must be met by the implementation of products in order to ensure the free movement of goods and the requirements which must be met for the use of products



Safety requirements imposed on machines and plants

Objective of the standards

It is the objective of safety technology to minimize as far as possible the hazards from technical facilities for people and the environment while restricting no more than absolutely necessary the scope of industrial production, the use of machines or the production of chemical products.

Production automation is governed in particular by the following standards:

- IEC 61508 or IEC 62061 and
- EN ISO 13849-1

The IEC 62061 standard

The IEC 62061 standard "Safety of machines – Functional safety of electrical, electronic and programmable electronic control systems" defines comprehensive requirements. It includes recommendations for the development, integration and validation of safety-related electrical, electronic and programmable electronic control systems (SRECS) for machines. With the implementation of EN 62061, for the first time, one standard covers the entire safety chain, from the sensor to the actuator. The Safety Integrity Level, or SIL for short, is defined as the application parameter for this standard.

Requirements placed on the capacity of non-electrical – e.g. hydraulic, pneumatic, or electromechanical – safety-related control elements for machines are not specified by the standard.



Safety of machines and systems

The EN ISO 13849-1 standard

EN ISO 13849-1 "Safety of machines – Safety-related components of controls, Part 1: General principles" replaced EN 954-1 at the end of 2011. It considers the complete range of safety functions with all the devices which are involved in their performance. EN ISO 13849-1 also makes a quantitative analysis of the safety functions. The standard describes how to determine the performance level (PL) for safety-relevant parts of control systems on the basis of architectures specified for the intended service life.

When combining several safety-related parts to form a complete system, the standard explains how to determine the resulting PL. It can be applied to safety-related parts of control systems (SRP/CS) and all types of machines, regardless of the technology and energy used, e.g. electrical, hydraulic, pneumatic or mechanical.

Introduction

Safety Integrated – Integrated safety technology from a single source



Safety Integrated

The following applies equally for machine manufacturers and the companies which operate their machines: Maximum possible safety for personnel and machines. The solution: our Safety Integrated concept based on Totally Integrated Automation. Whether for simple safety functions or highly complex tasks – our portfolio offers you maximum safety.

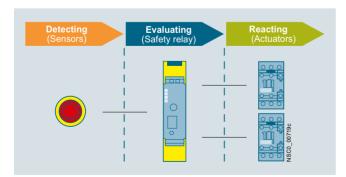
Safety Integrated is a unique, complete and consistent range of safety products covering all safety-related tasks – from detecting, evaluating and reacting, from switches and control systems to operating mechanisms (see graphic on page 11/4). Our products meet the safety requirements in force in industry, including IEC, ISO, NFPA and UL, and are certified in accordance with the latest safety standards.

All Safety Integrated products or systems can be seamlessly integrated in the standard automation environment. They are therefore particularly flexible and economical, reduce engineering time, increase plant availability and enable practice-related machine operation.

Designing a safety function

A safety chain normally comprises the following functions: detect, evaluate and react. In detail this means:

- Detect = the detection of a safety requirement with corresponding sensors, such as EMERGENCY STOP or position switches
- Evaluate = the detection of a safety requirement and the reliable initiation of a reaction, e.g. shutting down the enabling circuits
- React = Shutting down the hazard using contactors or fail-safe motor starters.



Designing a safety function

Our offering

As a partner for all safety requirements, we not only support you with the respective safety-related products and systems, but also consistently provide you with the most current know-how on international standards and regulations. Machine manufacturers and plant managers are offered a comprehensive training portfolio as well as services for the entire lifecycle of safety-related systems and machines.

- A uniform, certified product range
- Courses on CE marking, risk assessment and standards, see www.siemens.com/sitrain-safetyintegrated
- Worldwide service and support, see http://support.industry.siemens.com
- More information, see www.siemens.com/safety-integrated

Safety Evaluation Tool



Safety Evaluation Tool

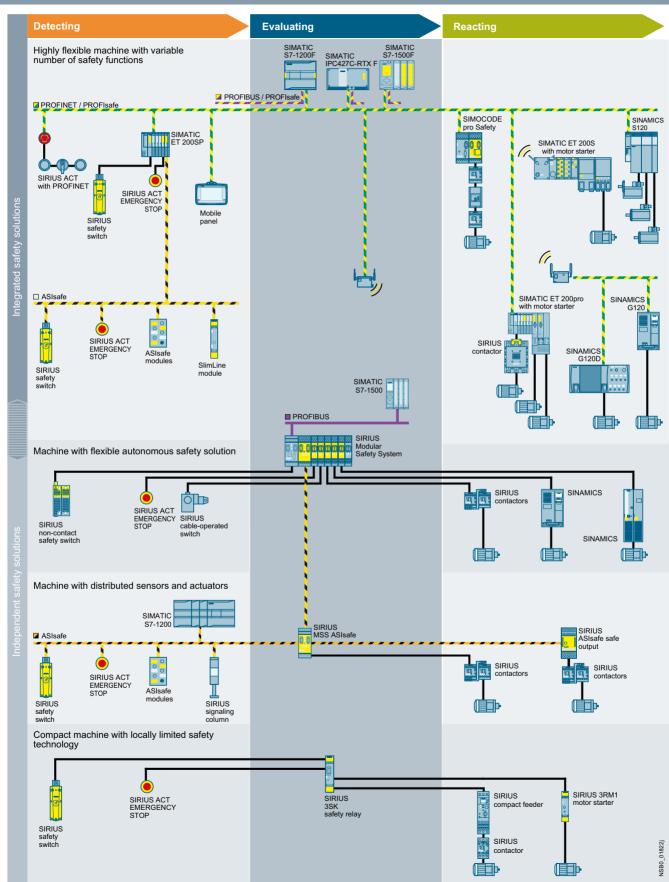
The Safety Evaluation Tool for the IEC 62061 and EN ISO 13849-1 standards guides you quickly and safely through all the calculation steps involved in implementing safety functions on a machine, from definition of the safety system structure through to selection of the components, all the way through to determination of the achieved safety integrity level (SIL/PL). You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

Your advantages at a glance:

- Reliability when dealing with the standards: TÜV-certified tool
- Free use of the online tool
- Automatic calculation in accordance with current standards
- Fast results: Standards-compliant report
- Less time needed to evaluate the safety functions
- Fast access to the latest product data
- User-friendly archiving: Projects can be saved and called up again as required
- Fast and easy handling: comprehensive, predefined libraries of examples
- Selection menus for calculating the DC and CCF
- Different switching cycles can be input when used in a two-channel configuration
- Failure rate calculation
- Selection wizard for drive components.

For more information, see www.siemens.com/safety-evaluation-tool.

Introduction



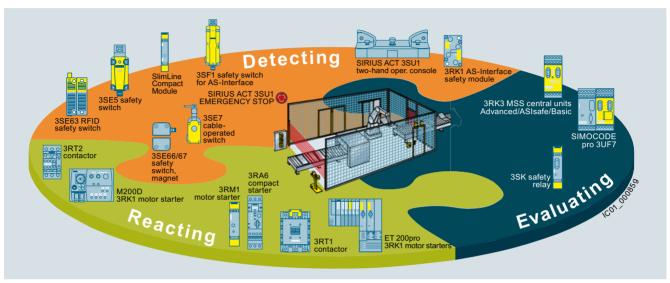
Safety Integrated

SIRIUS Safety Integrated

Our SIRIUS Safety Integrated controls are a central element of the Siemens Safety Integrated concept. Whether for fail-safe detecting, commanding and signaling, monitoring and evaluating or starting and reliable shutting down – our SIRIUS Safety Integrated controls are experts at performing safety tasks in your plant.

SIRIUS Safety Integrated uses fail-safe communication via standard fieldbus systems, such as ASIsafe via AS-Interface and PROFIsafe via PROFIBUS and PROFINET, to solve even networked safety tasks of greater complexity. This opens the door for flexible safety solutions for compact machines or large-scale plants.

Implementation of many typical safety applications, see Application Manual "SIRIUS Safety Integrated".



SIRIUS Safety Integrated

Monitoring with fail-safe evaluation units from the 3SK and 3RK3 series

Position monitoring with non-contact safety switches:

Safe evaluation units

Maximum achievable safety level according to type of switch

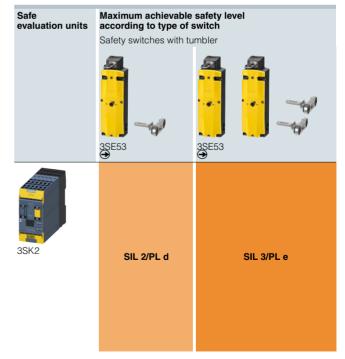
Magnetically operated switches

2 NC/2 NC + 1 NC (signaling contact) 3SE66/3SE67

3SK1, 3SK2

SIL 3/PL e

Safe protective door tumbler with safety switches and separate actuator, in accordance with EN ISO 14119:



Notes:

For more information, see FAQ article. For information on safety switches, see page 12/1.

Introduction

Using SIRIUS 3RT contactors with fail-safe controllers and safety relays

Safety relays and fail-safe controllers work perfectly with SIRIUS contactors optimized for safety application regardless of their size:

- For sizes S00 and S0 we recommend 3RT2 contactors with DC operating mechanism
- 3RT2 coupling contactors with electronic operating mechanisms are available in sizes S2 and S3
- The innovative 3RT1 versions with electronic operating mechanism and fail-safe control input are ideal for higher power ranges, such as sizes S6 to S12

They offer the following advantages:

- Reduced current load on the controller outputs
- Minimization of wear for mechanical relays on controllers or safety relays
- Coupling elements between controllers and contactors are no longer required



Combination of SIRIUS 3RT contacts with fail-safe controllers and safety relays

Introduction

		Туре	Page
SIRIUS Safety Integrated			
Title .	3SK safety relays		
177	Key modules of a consistent and cost-effective safety chain		
	 Can be used for all safety applications thanks to compliance with the highest safety requirements (PL e according to EN ISO 13849-1 or SIL 3 according to IEC 61508) 		
	 Suitable for use all over the world through compliance with all globally established certifications 		
	SIRIUS 3SK1 Standard basic units	3SK111	11/19
3SK111	Simple, compact devices for all important requirements for monitoring safety sensors and actuators		
	SIRIUS 3SK1 Advanced basic units	3SK112	11/20
	 Multifunctional series of safety relays with safe relay outputs, semiconductor outputs or time-delayed outputs for: 		
	- EMERGENCY STOP monitoring		
	- Protective door monitoring		
	- Monitoring of non-floating sensors such as light arrays, laser scanners, etc.		
3SK112	- Monitoring of two-hand operation consoles		
OOKTIZ	- Monitoring of equivalent (NC/NC) and antivalent (NO/NC) sensors		
	Setting by means of DIP switch		
	SIRIUS 3SK2 basic units	3SK2	11/21
- Table	 Series of safety relays that can be parameterized by software, with semiconductor outputs and independent output functions for: 		
	- EMERGENCY STOP monitoring		
	- Protective door monitoring		
3SK2	- Protective door monitoring with tumbler		
331\2	- Monitoring of non-floating sensors such as light arrays, laser scanners, etc.		
AHH!	- Monitoring of two-hand operation consoles		
	- Monitoring of equivalent (NC/NC) and antivalent (NO/NC) sensors		
The state of the s	- Muting		
	Expansion units	3SK121,	11/22,
	 3RO and 4RO output expansions for SIRIUS 3SK1 Standard basic units, SIRIUS 3SK1 Advanced basic units and SIRIUS 3SK2 basic units 	3SK122, 3SK123	11/23
201121	 Input expansion for SIRIUS 3SK1 Advanced basic units 		
3SK121	 Power supply for SIRIUS 3SK1 Advanced basic units 		
	 Integration of 3RM1 motor starters possible and simple integration of a main circuit component in a system configuration of the safety relays. There is no need for complex wiring between the safety evaluation unit and the actuator. 		
	Expansion of the Standard device series by means of wiring		
	 Expansion of the SIRIUS 3SK1 Advanced and SIRIUS 3SK2 device series by means of wiring or without wiring outlay by means of 3ZY12 device connectors 		
	3TK2810 safety relays		
22222	• Further modules of a consistent and cost-effective safety chain		
100000 100000	 Can be used for all safety applications thanks to compliance with the highest safety requirements (PL e according to EN ISO 13849-1 or SIL 3 according to IEC 61508) 		
100	 Suitable for use all over the world through compliance with all globally established certifications 		
3TK2810-1BA41	Safe standstill monitoring with 3TK2810-0	3TK2810	11/27
	Monitoring without external sensors		
	Universal use in applications possible		
	Safe speed monitoring with 3TK2810-1		
	 Monitoring of speed with encoders and proximity switches possible 		
	Easy diagnostics options via display		

• Integrated monitoring of a spring-type locking protective door



Introduction

		Туре	Page
SIRIUS Safety Integrated ((continued)	,,	J
	3RK3 Modular Safety System (MSS)	3RK3	11/30
**************************************	Freely configurable modular safety relays		
T CO CHIMINE	 Safety-related applications up to PL e according to EN ISO 13849-1 or SIL 3 according to IEC 62061 can be implemented 		
200 000 000 000	High flexibility and planning reliability thanks to a modular design		
3RK3	More space in the control cabinet and lower costs thanks to highly modular project data		
	More functionality and time savings thanks to a software-configurable system		
	 Comprehensive on-site diagnostics with the SIRIUS Safety ES software and diagnostics display 		
	 Improved plant diagnostics and higher plant availability thanks to exchange of data using PROFIBUS 		
	• Automatic creation of plant documentation with regard to MSS and software parameterization	1	
	 Up to 9 expansion modules can be plugged in for standard I/Os and fail-safe I/Os – optionally electronic or relay-based fail-safe outputs 		
	 Graphic parameterization of the logic, online diagnostics, and automatic creation of documentation using SIRIUS Safety ES 		
	 Consistent further development of the safety monitors with the Advanced and ASIsafe central units of the SIRIUS 3RK3 Modular Safety System (MSS) 		
	Additionally with AS-Interface (ASIsafe):		
AND STREET, STREET,	Modularly expandable and freely configurable safety monitor		
91.00 (A) (A) (A) (A)	 With MSS Advanced/ASIsafe up to 50 two-channel, fail-safe outputs (38 central outputs and 12 outputs via AS-i) 		
	 Safety-related and standard communication between multiple MSS devices and/or safety monitors 		
000000	• Distributed detection of sensors and disconnection of actuators through AS-Interface		
3RK3 MSS ASIsafe	 Much more space is available without wiring outlay using AS-Interface 		
	 Ready-to-use function blocks (e.g. muting or protective door with tumbler) can also be used on AS-i 		
	AS-Interface safety modules	3RK1	2/29
	Complete portfolio of ASIsafe modules		
	 For connection of safety switches with contacts (e.g. position switches) as well as solid-state safety sensors (ESPE) 		
	 Degree of protection IP65/IP67 or IP20 		
(a):	 Especially compact dimensions, with widths from 17.5 mm 		
	Up to four safe inputs per module		
K45F SC17.5F	Up to one safe output per module		
	 Standard outputs are available on the module in addition 		
	 Up to Category 4, PL e, SIL 3 		
	Advantage: Easy integration of safe signals both in the control cabinet or in the field		
Same Statement Co. 1 Sec. 19	AS-i Master and AS-i Safety module for ET 200SP	6ES7	2/36, 2/40
	The CM AS-i Master ST and F-CM AS-i Safety ST modules are plugged into an ET 200SP configuration and connect an AS-i network, including safety-related inputs and outputs, with the controller.		2,10
Et a Maria and a maria	Single, double and multiple masters possible		
The second secon	 Per CM AS-i Master ST up to 496 DI/496 DQ/124 AI/124 AQ possible 		
	 Up to 31 safe input signals (two-channel)/16 safe output channels possible per F-CM AS-i Safety ST module 		
	 Configuration from STEP 7 V5.5 or from V15 (TIA Portal) and higher 		
CM AS-i Master ST and F-CM AS-i Safety ST	 Plant-wide safety programming of the F-CPU via SIMATIC Distributed Safety/ Safety Advanced 		
	Integrated diagnostics		
	No other programming tools required		
	Advantage: Modular connection of fail-safe AS-i networks with system-wide programming in SIMATIC and SINUMERIK controllers.		
	SIRIUS 3RT contactors, 3-pole, 55 to 250 kW	3RT10,	3/72,
A A D	 Solid-state operating mechanism with fail-safe control input for safety-related applications to SIL 2 with a contactor or SIL 3 with two contactors 	3RT14	4/16
	3RT10 for motor loads or 3RT14 for resistive loads		
HERE .	 Version with removable lateral auxiliary switches or permanently mounted auxiliary switches and additional approval according to SUVA on request 		
3RT1S.36			
OH 1 0.00			

Introduction

Type Page SIRIUS Safety Integrated (continued) 3RM1 3RM1 Failsafe motor starters • Motor starters for safety-related shutdown as 3RM11 direct-on-line starters or 3RM13 reversing • Compact devices with 22.5 mm width comprising combinations of relay contacts and power semiconductors (hybrid technology) and an electronic overload relay • For switching three-phase motors up to 3 kW (at 400 V) and resistive loads up to 10 A at AC voltages up to 500 V under normal operating conditions • Safety-related shutdown according to PL e or SIL 3 by shutting down the control supply voltage or control inputs possible without additional devices in the main circuit Combination with 3SK safety relay through conventional wiring or 3ZY12 device connectors • Simple wiring and collective shutdown with device connectors in assemblies; there is no further need for complex looping of the connecting cables 3RK1 ET 200SP fail-safe motor starters • Fully integrated into the ET 200SP I/O system (including TIA Selection Tool and TIA Portal) • Fully pre-wired motor starters for switching and protecting any AC loads up to 5.5 kW from 48 V AC to 500 V AC • Less space required in the control cabinet (20 to 80%) as a result of greater functional density (direct-on-line and reversing starters in same width) · Longer service life and reduced heat losses thanks to hybrid technology • Self-assembling 32 A power bus, i.e. the load voltage is only fed in once for a group of motor starters 3RK1308-0CB00-0CP0 • High degree of flexibility when it comes to safety applications via SIMATIC F-CPU or SIRIUS 3SK safety relays up to SIL 3 and PL e Category 4 • Diagnostics capability for active monitoring of the switching and protection functions • Digital inputs can optionally be used via a 3DI/LC module 3RK1 ET 200pro Safety Motor Starter Solutions 9/11 The ET 200pro Safety Motor Starter Solutions comprise: PROFIsafe modules Safety repair switch modules • Disconnecting modules • Standard motor starters ET 200pro Safety • High-Feature motor starters ET 200pro Safety Motor Starter Solutions local Safety Motor Starter Solutions local are preferred from the safety technology point of view for locally restricted safety applications. These motor starters are not dependent on a safe control ET 200pro Safety Motor Starter Solutions PROFIsafe Safety Motor Starter Solutions PROFIsafe are often found by contrast in safety applications of the more complex type that are interlinked. In this case a safe control system is used with the PROFINET or PROFIBUS bus systems with the PROFIsafe profile. 3UF7 SIMOCODE pro motor management and control devices • Flexible, modular motor management system for motors with constant speeds in the low-voltage range • Provides an intelligent interface between the higher-level automation system and the motor • Multi-functional, electronic full motor protection which is independent of the automation system SIMOCODE pro V • Integrated control functions for the motor control · Detailed operating, service and diagnostics data • Open communication via PROFIBUS DP, PROFINET/OPC UA, Modbus RTU or EtherNet/IP • Safety relay function for the fail-safe disconnection of motors up to SIL 3 (IEC 61508/IEC 62061) or PL e with Category 4 (EN ISO 13849-1) Fail-safe digital modules SIMOCODE pro S • DM-F Local for direct assignment between a fail-safe hardware shutdown signal and a motor

• DM-F PROFIsafe for when a fail-safe controller (F-CPU) creates the fail-safe signal for the



disconnection

Introduction

		Туре	Page
SIRIUS Safety Integrated (co	ntinued)		
	Mechanical position switches	3SE51,	12/5
	Easy assembly thanks to modular design	3SE52	
4 Q	• Solid, rugged design		
A	Special versions are easily generated and quickly available, also in combination with standard modules		
Total Control of the	With a 3SE51/3SE52 position switch it is possible to achieve Category 2 according to EN ISO 13849-1 or SIL 1 according to IEC 61508		
3SE51	• Categories 3 and 4 can be achieved by using a second 3SE51/3SE53 position switch		
0.50	Mechanical safety switches	3SE51,	12/47
	With separate actuator, hinge switch, or separate actuator and tumbler	3SE52,	
4	 With a position switch it is possible to achieve Category 3 according to EN ISO 13849-1 or SIL 2 according to IEC 61508 	3SE53	
	Category 4 according to EN ISO 13849-1 or SIL 3 according to IEC 61508 can be achieved by using a second 3SE51 or 3SE52 position switch		
	Version in various sizes made of metal or plastic		
	• In the case of safety switches with tumbler, versions in the high IP69K degree of protection		
3SE53	• Integrated ASIsafe electronics for all enclosure designs		
0000	Non-contact magnetically operated safety switches	3SE66,	12/100
	Small, compact, safe	3SE67	
	Simple installation even in restricted spaces thanks to connector versions		
	Two safety contacts and one signaling contact enable simple diagnostics at the maximum safety level		
3SE66, 3SE67			
	Non-contact RFID safety switches	3SE63	12/106
	Long service life due to non-contact switching		
	 Only one switch required for the maximum safety level PL e or SIL 3 according to EN ISO 13849-1 and IEC 61508 		
3SE63	 Tamper protection better than with mechanical safety switches thanks to switches and actuators with individual coding 		
	 LED status indication including threshold indication for door displacement 		
	 Degree of protection up to IP69K and resistance to cleaning products 		
	 Larger switching displacement than mechanical switches; offers better mounting tolerance and sagging tolerance of the protective door 		
	Command devices	3SU1	13/5
0 11	 Using a special F adapter, EMERGENCY STOP devices according to ISO 13850 can be directly connected through the standard AS-Interface or PROFIsafe with safety-related communication. This F adapter/fail-safe interface module is snapped from the rear onto the EMERGENCY STOP device, enabling the achievement of maximum performance level "e" according to EN ISO 13849-1, or SIL 3 according to IEC 62061. 		
3SU14	Thanks to SIRIUS ACT with PROFINET, commanding and signaling devices can be connected directly via PROFINET to the controller and HMI devices – including with safety functions.		
	 Engineering and commissioning are simplified by the TIA Portal. EMERGENCY STOP devices for disconnecting plants in an emergency situation 		
410			
	 With positive latching function according to EN ISO 13850 and performance level "e" according to EN ISO 13849-1 or SIL 3 according to IEC 62061 		
3SU1 with PROFINET	 Various mushroom diameters (also illuminated), with lock, in plastic/metal, as individual or complete units, and in combination with 3SU1 enclosure or two-hand operation console. The 3SU1 enclosures are also optionally available with ASIsafe interface 		
3SU1			

Introduction

Type Page SIRIUS Safety Integrated (continued) 3SF7 Cable-operated switches • Control functions and EMERGENCY STOP always within reach • More safety over long distances of up to 2 x 100 m length Easy release • Fail-safe applications with SIRIUS Safety Integrated • Status display directly on the switch • Signal display for long distances in innovative LED technology with visibility over 50 m • Cable-operated switches with latching according to ISO 13850 (EN 418) and full EMERGENCY STOP function with positive-opening contacts · Quick and safe mounting using uniform mounting accessories • Versions with 1 NO/2 NC with yellow lid Safety foot switches 3SE2924-3AA20 • Are used wherever manual operation is not possible • With hood, IP65 metal enclosure • With interlock function according to ISO 13850, manual release by pushbutton switch • With 2 NO + 2 NC, NO contacts close by momentary contact, positive-opening NC contacts with independent latching (safety function) 3SE2924-3AA20

Connection methods

The 3SK safety relays are available with screw or spring-type terminals (push-in).

The 3TK2810 safety relays and the 3RK3 Modular Safety System are available with screw or spring-type terminals.

Screw terminals

Spring-type terminals, spring-type terminals (push-in)

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

3SK safety relays: Spring-type terminals (push-in)

Push-in connections are a form of spring-type terminals allowing fast wiring without tools for rigid conductors or conductors equipped with end sleeves.

As with other spring-type terminals, a screwdriver (with 3.0×0.5 mm blade) is required to disconnect the conductor. The same tool can also be used to wire finely stranded or stranded conductors with no end finishing.

The advantages of the push-in terminals are found, as with all spring-type terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals, see video "SIRIUS spring-type terminals – strong, flexible, safe and fast!"

General data

Overview



SIRIUS 3SK safety relays

More information

Homepage, see www.siemens.com/safety-relays Industry Mall, see www.siemens.com/product?3SK Conversion tool, e.g. from 3TK28 to 3SK, see

SIRIUS 3SK safety relays are the key elements of a consistent, cost-effective safety chain. Whether you need EMERGENCY STOP functionality, protective door monitoring, light arrays, laser scanners or the protection of presses or punches – slimline SIRIUS safety relays enable all safety applications to be implemented in the best possible way in terms of engineering and price.

The following safety-related functions are available:

- · Monitoring the safety functions of sensors
- Monitoring the sensor leads
- Monitoring the correct device function of the safety relay
- · Monitoring the actuators in the shutdown circuit
- · Safety-related disconnection when dangers arise

SIRIUS 3SK safety relays are approved for applications up to SIL 3 (IEC 61508/IEC 62061) or PL e (EN ISO 13849-1).

Device series

SIRIUS 3SK safety relays stand out due to their flexibility for both parameterization and system designs with several evaluation units. This reduces device variance, thus bringing advantages in terms of device selection and spare parts management. Optimized solutions when selecting components and reduced spare part inventory requirements are facilitated by a clearly structured component range:

The following device series are available:

- 3SK1 Standard basic units
- 3SK1 Advanced basic units
- 3SK2 basic units
- 3SK1 output expansions
- 3SK1 input expansions
- Accessories

3SK1 Standard basic units

The 3SK1 Standard basic units are characterized by the following features:

- Compact design
- · Simple operation
- Relay and semiconductor outputs
- Economical solution

3SK1 Advanced basic units

The 3SK1 Advanced basic units also offer:

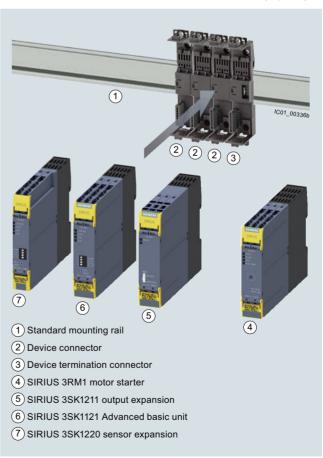
- Universal application possibilities thanks to multifunctionality
- Time-delayed outputs
- Expansion of inputs and outputs

3SK2 basic units

The 3SK2 basic units also offer:

- Up to six fail-safe, independent shutdown functions
- Flexible in use thanks to software parameterization
- Powerful semiconductor outputs
- Convenient diagnostics using diagnostics display and configuration software

In the case of 3SK1 Advanced basic units or 3SK2 basic units, the 3ZY12 device connector allows safety functions involving several sensors and actuators to be constructed very quickly.



System configuration example

General data

The 3SK1 Standard and Advanced and 3SK2 series are a high-quality replacement for the 3TK28 safety relays. In their narrower design, and equipped with greater functionality, they

can replace every 3TK28 device. The only exception to this are the 3TK2810 devices.

Overview of functions of the 3SK series

Туре	3SK1 Standard bas	sic units	3SK1 Advanced ba	asic units	3SK2 basic units	
					22.5 mm	45 mm
	Safe relay outputs	Safe semiconductor outputs	Safe relay outputs	Safe semiconductor outputs	Safe semiconductor outputs	Safe semiconductor outputs
Sensors						
Mechanical	✓	✓	✓	✓	✓	✓
Non-floating	✓ ¹⁾	✓	/	✓	/	✓
 Antivalent 			✓	✓	✓	✓
Expandable		✓ by means of cascading	✓	✓		
Inputs	2 x single-channel, 1 x two-channel	Freely configurable: 10 x single-channel, 5 x two-channel	Freely configurable: 20 x single-channel, 10 x two-channel			
Parameters						
• Start (auto/monitored)	✓	✓	✓	✓	A variety of functions input/output by mean	
 Sensor connection 2 x single-channel/ 1 x two-channel 	✓ by means of wiring	✓	✓	1	parameterization.	
Cross-circuit detection	✓ by means of wiring	1	✓	✓		
 Start test ON/OFF 		✓	✓	✓		
 Monitoring of two-hand operation consoles according to EN 574 			√	✓		
 Pressure-sensitive mat 			✓	✓		
Safe outputs						
 Instantaneous 	✓	/	✓	/	Configurable	Configurable
Time-delayed			✓	✓	Configurable	Configurable
• Expandable with safe relay outputs	✓ by means of wiring	✓ by means of wiring	✓	✓	1	1
 Independent 					✓ ⁴⁾	√ ⁵⁾
 Device connectors 			✓	✓	✓	✓
Options						
• External memory module						✓
 Display on the device 						✓
External diagnostics module can be connected					✓	✓
Control supply voltage						
• 24 V DC	√ ²⁾	✓	✓	1	✓	✓
• 110 240 V AC/DC	✓	√ ⁶⁾	✓ ³⁾	√ ³⁾		

- ✓ Available
- -- Not available

^{1) 24} V basic units only.

²⁾ 24 V AC/DC.

³⁾ Possible using 3SK1230 power supply via device connector.

⁴⁾ Up to four independent safe outputs, two of which via device connectors.

⁵⁾ Up to six independent safe outputs, two of which via device connectors.

⁶⁾ Possible using 3SK1230 power supply by means of wiring.

General data

Parameter assignment

3SK112 and 3SK1112 with DIP switch

The 3SK112 and 3SK1112 safety relays are configurable safety relays. They are used as evaluation units for typical safety chains (detect, evaluate, react). A number of functions can be set using the DIP switches on the front. 3SK112 and 3SK1112 are therefore universally applicable.

DIP switch No.	OFF	Schematic	
1	Sensor input Autostart	Sensor input Monitored start	→ ON
2	Without crossover monitoring	With crossover monitoring	1
3	2 x single-channel sensor connection	1 x two-channel sensor connection	3
4	With start test	Without start test	4

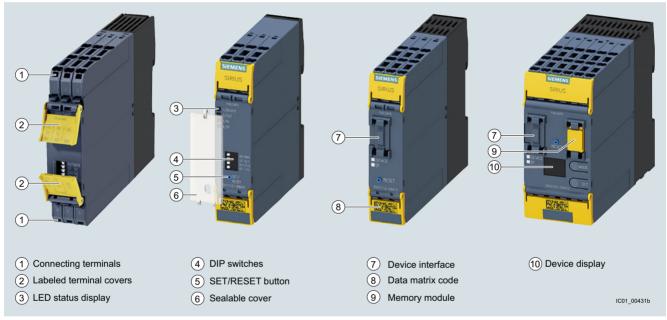
3SK2 with software

The 3SK2 safety relays are configured with the SIRIUS Safety ES software. The behavior of a 3SK2 device as well as the functioning of the individual safe outputs can thus be parameterized simply and conveniently in the logic diagram. In addition, the configuration can be printed out for documentation purposes. The software also supports users in commissioning and trouble-shooting by means of online diagnostics and the option of "forcing" signals in the logic diagram. The 3SK2 safety relays thus offer maximum flexibility and universal application options.

Note:

SIRIUS Safety ES, see page 14/22.

Enclosure concept



Innovative enclosure concept for SIRIUS 3SK safety relays

Connection methods

The 3SK safety relays are available with screw or spring-type terminals (push-in).

Spring-type terminals (push-in)

Push-in connections are a form of spring-type terminals allowing fast wiring without tools for rigid conductors or conductors equipped with end sleeves.

As with other spring-type terminals, a screwdriver (with 3.0 x 0.5 mm blade) is required to disconnect the conductor. The same tool can also be used to wire finely stranded or stranded conductors with no end finishing.

The advantages of the push-in terminals are found, as with all spring-type terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals.

Safety Relays

SIRIUS 3SK Safety Relays



Problem-free integration of functional safety into the main circuit through the simple combination of 3RM1 and 3SK1 devices

Functional safety in the main circuit needs to be both simple and

The unique compatibility of hybrid 3RM1 fail-safe motor starters and 3SK safety relays means that integrated functional safety right through to the main circuit is no longer a problem.

Their compact design allows the motor starters to be installed to the right of the safety relay in a simple manner, just like an output expansion. The wiring of the safety-related signals to the relay can be performed simply, quickly and in an error-free manner using the device connector.

The ergonomically designed enclosure with removable terminals and terminal labeling in the hinged cover allows for the cables to be conveniently diagonally mounted from the front. Either screw or spring-type terminals with push-in technology are available.

Highlights

- Fail-safe disconnection of motors up to 3 kW
- Problem-free combination of fail-safe motor starters and safety
- End-to-end system, simple setup using device connectors
- Ergonomic enclosure

SIRIUS 3RM1 motor starters, see page 8/85.

Article No. scheme

Product versions		Article number
3SK1 safety relays		3SK1
Device version	Basic unit	1
	Expansion unit	2
Device variants	3SK11: Standard; 3SK12: Output expansion	1
	3SK11: Advanced; 3SK12: Input expansion	2
Type of outputs	Relay outputs	1
	Semiconductor outputs	2
	Power outputs	3
Connection type	Screw terminals	1
	Spring-type terminals (push-in)	2
Control circuit/actuation	3SK11: 3 enabling circuits	A
	3SK11: 2 enabling circuits	В
	3SK11: 4 enabling circuits	C
Type of control supply voltage	3SK1213: 24 V AC, 50/60 Hz	В 0
	3SK1: 24 V AC/DC, 50/60 Hz	В 3
	3SK1: 24 V DC	B 4
	3SK1213: 115 V AC, 50/60 Hz	J 2
	3SK1213: 230 V AC, 50/60 Hz	L 2
	3SK1: 110 240 V AC/DC; 50/60 Hz	W 2
Time delay	None	0
	0.05 3 s	1
	0.5 30 s	2
	5 300 s	4
Example		3SK1 1 1 1 - 1 A B 3 0

General data

Product versions		Article number
3SK2 safety relays		3SK2 1 🗆 2 - 🗆 A A 1 0
Device variants	10 F-DI, 2 F-DQ, width 22.5 mm	1
	20 F-DI, 4 F-DQ, width 45 mm	2
Connection type	Screw terminals	1
	Spring-type terminals (push-in)	2
Example		3SK2 1 1 2 - 1 A A 1 0

Note:

The Article No. schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

General

- Approved for all safety applications because of its compliance with the highest safety requirements (SIL 3 and PL e)
- · Universally usable thanks to adjustable parameters
- Usable worldwide thanks to globally valid certificates
- · Compact SIRIUS design
- Device connectors with standard rail mounting for flexible connectability and expandability
- · Removable terminals for greater plant availability
- Yellow terminal covers clearly identify the device as a safety component
- Sensor cable up to 2 000 m long allows it to be used in extensive plants

Relay outputs

- Different voltages can be switched through the floating contacts
- The relay contacts allow currents of up to 5 A at AC-15/DC-13 to be connected

Semiconductor outputs

- · Wear-free
- Suitable for operation in frequently switching applications
- · Insensitive to vibrations and dirt
- Good electrical endurance

Power outputs (3SK1213 output expansion)

- Different voltages can be switched through the floating contacts
- With the power relay contacts currents up to 10 A AC-15/6 A DC-13 can be switched
- High mechanical and electrical endurance
- Protective separation between safe outputs and electronics

Expansion option by adding the 3RM1 motor starter

SIRIUS 3SK safety relays are ideal for combining with the SIRIUS 3RM1 motor starters.

Combinations are made by means of

- SIRIUS 3ZY12 device connectors (in combination with 3SK1 Advanced/3SK2) or
- · Conventional wiring (for all 3SK1 and 3SK2 basic units)

This makes collective shutdown very easy in assemblies. The wiring, and ultimately the shutting down of the control supply voltage for the expansion components in EMERGENCY STOP situations, is performed via the device connector. There is no further need for complex looping of the connecting cables between the safety relay and the motor starters.

The 3RM1 motor starter combines the benefits of semiconductor technology and relay technology. This combination is also known as hybrid technology.

The hybrid technology in the motor starter is characterized by the following features:

- The inrush current in the case of motorized loads is conducted briefly via the semiconductors. Advantages include protection of the relay contacts and a long service life due to low wear.
- The uninterrupted current is conducted via relay contacts.
 Advantages include lower heat losses compared with the semiconductor.
- Shutdown is implemented again via the semiconductor. The contacts are only slightly exposed to arcs, and this results in a longer service life.
- Integrated overload protection

Note:

SIRIUS 3RM1 motor starters, see page 8/85.

3ZY12 device connectors

Using 3ZY12 device connectors to combine devices reduces the time required to configure and wire the components. At the same time errors are avoided during wiring, and this considerably reduces the testing required for the fully-assembled application.

Configuration and stock keeping

Variable setting options by means of DIP switches or software, a wide voltage range (3SK1111) and a special power supply unit (3SK1 only) reduce the cost of keeping stocks and the considerations involved in configuration where the evaluation units to be selected are concerned.

General data

Application

3SK1 safety relays

SIRIUS 3SK1 safety relays are used mainly in autonomous safety applications which are not connected to a safety-related bus system. Their function here is to evaluate the sensors and the safety-related shutdown of hazards. Also they check and monitor the sensors, actuators and safety-related functions of the safety relay.

3SK2 safety relays

SIRIUS 3SK2 safety relays are used primarily in autonomous, more complex safety applications for which the functional scope of the 3SK1 devices is no longer sufficient, such as in the implementation of independent shutdown functions or integration into higher-level control systems for diagnostics via fieldbus. Their function here is to evaluate the sensors and the safety-related shutdown of hazards. Also they check and monitor the sensors, actuators and safety-related functions of the safety relay.

Technical specifications

Manual 3SK1, see https://support.industry.siemens.com/cs/ww/en/view/6758585 Technical specifications 3SK1230, see https://support.industry.siemens.com/cs/ww/en/ps/16388/td Manual 3SK2, see https://support.industry.siemens.com/cs/ww/en/view/109444336 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16388/td

SIRIUS 3SK1 safety relays

Article number		3SK1111- .AB30, 3SK1211- .BB00, 3SK1211- .BB40	3SK1111- .AW20, 3SK1121, 3SK1211- .BW20	3SK1112	3SK1120	3SK1122	3SK1213	3SK1220		
General data:										
Width x height x depth	mm	22.5 x 100 x 12	1.6	22.5 x 100 x 91.6	17.5 x 100 x 121.6	22.5 x 100 x 121.6	90 x 100 x 121.6	17.5 x 100 x 121.6		
Ambient temperature During operation During storage	°C °C	-25 +60 -40 +80								
Installation altitude at height above sea level, maximum	m	2 000								
Air pressure acc. to SN 31205	kPa	90 106								
Shock resistance		10 g /11 ms					5 g /10 ms	10 g/11 ms		
Vibration resistance according to IEC 60068-2-6		5 500 Hz: 0.7	5 500 Hz: 0.75 mm							
Degree of protection of the enclosure		IP20								
Touch protection against electric shock		Finger-safe								
Insulation voltage, rated value	V	300		50			300	50		
Impulse withstand voltage, rated value	V	4 000		800			4 000	800		
Safety integrity level (SIL) according to IEC 61508		3								
Performance level (PL) according to EN ISO 13849-1		е								
T1 value for proof test interval or service duration according to IEC 61508	у	20								
EMC emitted interference		IEC 60947-5-1, class B	IEC 60947-5-1, class A				IEC 60947-5-1, class B	IEC 60947-5-1, class A		
Certificate of suitability • UL certification • TÜV approval		Yes Yes								

General data

Article number		3SK1111, 3SK1121AB40, 3SK1211	3SK1112, 3SK1122	3SK1120	3SK1121CB4.	3SK1213
Switching capacity current of the NO contacts of the relay outputs • At AC-15 at 230 V • At DC-13 at 24 V	A A	5	 		3	10
Switching capacity current of the semiconductor outputs at DC-13 at 24 V	A		2	0.5		

Article number		3SK1111- .AB30, 3SK1211	3SK1111- .AW20	3SK1112, 3SK1220	3SK1120, 3SK1122- .AB40	3SK1121- .AB40	3SK1121- .CB4.	3SK1122- .CB4.	3SK1213
PFHD at high demand rate according to EN 62061	1/h	1.7 x 10 ⁻⁹	1.5 x 10 ⁻⁹	1.0 x 10 ⁻⁹	1.3 x 10 ⁻⁹	2.5 x 10 ⁻⁹	3.7 x 10 ⁻⁹	1.5 x 10 ⁻⁹	1.0 x 10 ⁻⁹
PFDavg at low demand rate according to IEC 61508		1.0 x 10 ⁻⁶		7.0 x 10 ⁻⁶					1.0 x 10 ⁻⁶

SIRIUS 3SK2 safety relays

Article number		3SK2112- .AA10	3SK2122- .AA10
General data:			
Width x height x depth	mm	22.5 x 100 x 124.5	45 x 100 x 124.5
Ambient temperature During operation During storage	°C	-25 +60 -40 +80	
Installation altitude at height above sea level, maximum	m	2 000	
Air pressure acc. to SN 31205	kPa	90 106	
Shock resistance		15 <i>g</i> /11 ms	
Vibration resistance acc. to IEC 60068-2-6		5 500 Hz: 0.75 mm	
Degree of protection of the enclosure		IP20	
Touch protection against electric shock		Finger-safe	
Insulation voltage, rated value	V	50	
Impulse withstand voltage, rated value	V	800	
Safety integrity level (SIL) according to IEC 61508		3	
Performance level (PL) according to EN ISO 13849-1		е	
T1 value for proof test interval or service duration according to IEC 61508	У	20	
EMC emitted interference according to IEC 60947-1		Class A	
Certificate of suitability UL certification TÜV approval		Yes Yes	
Switching capacity current of the semiconductor outputs at DC-13 at 24 V	А	4	
PFHD at high demand rate according to EN 62061	1/h	1.0 x 10 ⁻⁸	1.2 x 10 ⁻⁸
PFDavg at low demand rate according to IEC 61508		1.5 x 10 ⁻⁵	1.8 x 10 ⁻⁵

Overview



The 3SK111 Standard basic units are characterized by simple, variable functionality. These devices are recommended for safety functions requiring only a few sensors and a small number of outputs on the safety relay.

Note:

Use of device connectors not possible.

3SK111 Standard basic units

Selection and ordering data







3SK1111-1AB30

3SK1111-1AW20

3SK1112-1BB40

Control sup	ply voltage	Number of	outputs					SD	Article No.	Price	PU	PS*	PG
at AC at 50 Hz	at DC	as contacti	contacting contact block as contactless semiconductor contact block				p	per PU	(UNIT, SET, M)				
		as NO contact, instanta- neous switching	as NO contact, delayed switching	for signaling function, instanta- neous switching	instan- tane- ous switch- ing	delayed switch- ing	for signaling function, instanta- neous switching						
V	V							d					
Standard	l basic uni	ts											
24	24	3	0	1	0	0	0	>	3SK1111-□AB30		1	1 unit	41L
110 240	110 240	3	0	1	0	0	0	1	3SK1111-□AW20		1	1 unit	41L
	24	0	0	0	2	0	1	2	3SK1112-□BB40		1	1 unit	41L

Type of electrical connection

- Screw terminals
- Spring-type terminals (push-in)

Safety Relays SIRIUS 3SK Safety Relays **Basic Units**

SIRIUS 3SK1 Advanced basic units

Overview



The 3SK112 Advanced basic units form an innovative system landscape that allows even complex safety functions with large numbers of sensors and outputs to be built up using the device connectors. It is possible to increase both the number of inputs for sensors and the number of safe outputs of the basic unit without the need for wiring outlay between the devices.

Note:

Use of device connectors possible.

3SK112 Advanced basic units

Selection and ordering data









3SK1121-1AB40

3SK1120-1AB40

3SK1122-1AB40

3SK1122-1CB41

Control supply voltage at DC	Number of as contact	outputs ing contact	block	as contact	tless semic ock	onductor	Adjust- able OFF-delay time	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
DC	as NO contact, instanta- neous switching	as NO contact, delayed switching	as NC contact for signaling function, instantaneous switching	instanta- neous switching	delayed switching	for signaling function, instanta- neous switching							
V							S	d					
Advanced	d basic un	its											
24	3	0	1	0	0	0		>	3SK1121-□AB40		1	1 unit	41L
	2	2	0	0	0	0	0.05 3	2	3SK1121-□CB41		1	1 unit	41L
							0.5 30	1	3SK1121-□CB42		1	1 unit	41L
							5 300	5	3SK1121-□CB44		1	1 unit	41L
24	0	0	0	1	0	0		2	3SK1120-□AB40		1	1 unit	41L
				3	0	1		2	3SK1122-□AB40		1	1 unit	41L
				2	2	0	0.05 3	5	3SK1122-□CB41		1	1 unit	41L
							0.5 30	2	3SK1122-□CB42		1	1 unit	41L
							5 300	5	3SK1122-□CB44		1	1 unit	41L

Type of electrical connection

- Screw terminals
- Spring-type terminals (push-in)



Overview



3SK2 basic units

The 3SK2 basic units have a large number of inputs and outputs within a narrow width. In addition, demanding safety applications can be implemented simply with several independent safety functions. Flexible application options are enabled by powerful semiconductor outputs, as well as by expandability with additional 3SK output expansions and 3RM1 Failsafe motor starters. Flexible time functions and diagnostics options are available. The 22.5-mm-wide version of the 3SK2 basic units has 10 x single-channel (5 x two-channel) inputs, while the 45-mm-wide 3SK2 version comes with 20 x single-channel (10 x two-channel) inputs.



Starter Kit

Starter Kit

The Starter Kit is a favorably-priced complete package for the simple creation of complex safety applications and comprises:

- 3SK2112-2AA10 basic unit, 22.5 mm wide, with spring-type terminals (push-in)
- SIRIUS Safety ES Standard software for configuring, commissioning, operating and diagnosing
- USB PC cable for easy transmission of the configuration to the device by means of USB

Selection and ordering data



3SK2112

24



3SK2122

Control supply voltage at DC	Number of outputs as contactless semiconductor contact block, safety-related, two-channel	Number of outputs as contactless semiconductor contact block, non-safety-related, two-channel	Number of outputs to the device connector, safety-related	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
V				mm	d					
3SK2 ba	sic units									
24	2	1	2	22.5	2	3SK2112-□AA10		1	1 unit	41L
	4	2	2	45	2	3SK2122-□AA10		1	1 unit	41L
• Screw te	ectrical connection erminals ype terminals (push-in)	1 2								
Control supply voltage	Number of outputs as contactless semiconductor contact	Width	SD	Spring-type terminals (push-in)	<u></u>	PU (UNIT, SET, M)	PS*	PG		
at DC	block, safety-related, two-channel	block, non-safety-related, two-channel	connector, safety-related			Article No.	Price per PU			
V				mm	d					
Starter k	Cit		•		•					
	3SK2112-2AA10 basic unit, 9 0AA00-0 USB PC cable									

22.5 2

3SK2941-2AA10

4N1

1 unit

Safety Relays SIRIUS 3SK Safety Relays Expansion Units

Output expansions

Overview



3SK121 output expansion

The 3SK121 output expansions can be used to expand all 3SK basic units.

3SK1211 output expansion

The 3SK1211 output expansion is used to expand the safe outputs of a basic unit by adding another four safe outputs. These outputs have a switching capacity of AC-15 5 A at a switching voltage of 230 V. The devices can be connected to any 3SK basic unit by means of wiring. In addition, the devices with a 24 V DC control supply voltage can also be connected to 3SK1 Advanced basic units and 3SK2 basic units by means of the 3ZY12 device connectors.

3SK1213 output expansion

The 3SK1213 output expansion is used to expand the safe outputs of a basic unit by adding three safe outputs with high switching capacity. These outputs have a switching capacity of AC-15 10 A at a switching voltage of 230 V. The devices can be connected to any 3SK basic unit by means of wiring. As with the 3SK1211, the devices with a 24 V DC control supply voltage can also be connected to 3SK1 Advanced and 3SK2 basic units by means of the 3ZY12 device connectors.

Note:

It is only possible to expand the Standard basic units by means of wiring. Advanced basic units and 3SK2 basic units can be expanded using the 3ZY12 device connector.

Benefits

- Perfect adaptation of the number of outputs
- Simple expansion of instantaneous and time-delayed safe outputs of the Advanced basic units using device connectors
- When using the device connector the outputs on the terminals of the basic device can still be used
- Another two freely configurable shutdown functions on 3SK2 basic units when using device connectors
- Expansion with power contacts for high AC-15/DC-13 currents in the control circuit
- No wiring of the feedback circuit to the basic units is required when using device connectors
- · Shorter installation times
- · Less configuring and testing required

Selection and ordering data







3SK1213-1AB40

Control sup	ply voltage	ge Number of outputs as contacting contact block				SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
at AC at 50 Hz	at DC	as NO contact, instantaneous switching	as NO contact, delayed switching	as NC contact instantaneous switching for feedback circuit	tors						
V	V					d					
Output ex	cpansions										
24		4	0	1	No	5	3SK1211-□BB00		1	1 unit	41L
	24	4	0	1	Yes	1	3SK1211-□BB40		1	1 unit	41L
110 240	110 240	4	0	1	No	2	3SK1211-□BW20		1	1 unit	41L
	24	3	0	1	Yes	5	3SK1213-□AB40		1	1 unit	41L
115		3	0	1	No	5	3SK1213-□AJ20		1	1 unit	41L
230		3	0	1	No	5	3SK1213-□AL20		1	1 unit	41L

Type of electrical connection

- Screw terminals
- Spring-type terminals (push-in)



3SK1220 sensor expansion

With the input expansions

- 3SK1220 sensor expansion
- 3SK1230 power supply

the 3SK1 Advanced basic units can be made more flexible.

3SK1220 sensor expansion

The 3SK1220 input expansion allows additional sensors to be integrated easily and flexibly. The device monitors two single-channel sensors or one two-channel sensor, whatever their output technology (floating/single-ended).

Note:

The 3SK1220 sensor expansion can only be connected to the 3SK1 Advanced basic units by means of the 3ZY12 device connector, see page 11/24.

3SK1230 power supply

The 3SK1230 power supply makes the 3SK1 devices universally usable, whatever control supply voltage is to be used.

Note:

Alongside the 3ZY12 device connector, the 3SK1230 power supply can also be wired to act as a power supply for 3SK1 devices.

Benefits

- A wide voltage range of 110 ... 240 V AC/DC allows the devices to be used worldwide
- Low stock keeping due to little variance
- Flexible expansion of the number of sensors without the need for additional wiring between the devices
- Perfect adaptation of the number of inputs to suit the application
- Universal use thanks to the wide range of adjustable parameters for sensor expansion (parameters as for 3SK1 Advanced basic units)

Selection and ordering data







3SK1230-1AW20

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					
Sensor expansions						
For safety-related expansion of the 3SK1 Advanced basic units by adding a further two-channel sensor or two single-channel sensors	2	3SK1220-□AB40		1	1 unit	41L
Power supply						
For supplying 3SK1 Advanced basic units via 3ZY12 device connectors at voltages of 110 240 V AC/DC	2	3SK1230-□AW20		1	1 unit	41L
Type of electrical connection						
Screw terminals		1				
• Spring-type terminals (push-in)		2				

Accessories

Overview

Numerous accessories are available for 3SK, such as device connectors, terminals, cables, adapters, covers, memory and diagnostics modules or software.

Device connectors for 3SK112., 3SK12.. and 3SK2

The device connector can be used to connect devices of the 3SK/3RM1 system together, with the last device in a system configuration being placed on a device termination connector. Use of device connectors not possible with 3SK1 standard.

Device connectors are available in various versions specifically for the 3SK safety relays:

For type	Device co	nnectors	Device termination connectors							
	3ZY1212- 1BA00 (for 3SK1, width 17.5 mm)	3ZY1212- 2BA00 (for 3SK1, width 22.5 mm)	2GA00 (for 3SK2, width	3ZY1212- 4GA01 (for 3SK2, width 45 mm)	3ZY1212- 2DA00 (for 3SK1, width 22.5 mm)	set for				
3SK1 Adva	anced basi	c units								
3SK1120	✓									
3SK1121		✓			✓					
3SK1122		✓			✓					
3SK2 basi	c units									
3SK2112			✓							
3SK2122				✓						
Output exp	pansions									
3SK1211		✓			✓					
3SK1213						✓				
Input expa	nsions									
3SK1220	✓									
3SK1230		✓								

[✓] Available

Removable terminals for 3SK

The following removable terminals are available for the 3SK safety relays for pre-wiring of the terminals in the control cabinet, or for replacing terminals:

For type	Removable ter	minals		
	Screw terminals		Spring-type ter (push-in)	minals
	2-pole 3ZY1121- 1BA00	3-pole 3ZY1131- 1BA00	2-pole 3ZY1121- 2BA00	3-pole 3ZY1131- 2BA00
3SK1 basi	c units			
3SK1111		✓		✓
3SK1112	1		✓	
3SK1120		✓		✓
3SK1121		✓		✓
3SK1122	✓ bottom	√ top	✓ bottom	√ top
3SK2 basi	c units			
3SK2112		✓		✓
3SK2122		✓ ¹⁾		✓ ¹⁾
Output ex	pansions			
3SK1211	✓		✓	
3SK1213				
Input expa	insions			
3SK1220		√ top		√ top
3SK1230	✓ bottom		✓ bottom	
✓ Available)			
Not avail	able			

Selection and ordering data

		Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
		or the electrical connection of SIRIUS devices dard mounting rail enclosure						
BESS 1	100	Device connector for 3SK1						
2	2	• Width 17.5 mm	2	3ZY1212-1BA00		1	1 unit	41L
1011	4	• Width 22.5 mm	2	3ZY1212-2BA00		1	1 unit	41L
		Device connector for 3SK2						
	• Width 22.5 mm	2	3ZY1212-2GA00		1	1 unit	41L	
	Width 45 mm	2	3ZY1212-4GA01		1	1 unit	41L	
		Device termination connectors	2	3ZY1212-2DA00		1	1 unit	41L
45	4	For 3SK1, width 22.5 mm						
3ZY1212 -1BA00	3ZY1212 -2DA00	Note: Observe positions of the slide switch, see Manual "3SK1".						
		Device daisy chain connectors	2	3ZY1212-2AB00		1	1 unit	41L
		For 3RM1 and 3SK, 24 V DC, 22.5 mm, for implementation of distances between devices according to the installation guidelines						
		Device connectors	2	3ZY1210-2AA00		1	1 unit	41L
		For height adjustment for devices without electrical connection via device connector, with a width of 22.5 mm or greater	I					
		Device termination connector set	2	3ZY1212-0FA01		1	1 unit	41L
		For 3SK1213, width > 45 mm, comprising 3ZY1212-2FA00 and 3ZY1210-2AA00						

⁻⁻ Not available

¹⁾ Two sets of terminals are required for 3SK2122.

VΑX	e.	a.T	-	8	œ.		м	œ
LmA			-	-	-	_	ш	c

								Access	01103
	Version			SD	Article No.	Price	PU	PS*	PG
						per PU	(UNIT, SET, M)		
				d			J=1,,		
Terminals for SIRIUS	S devices in the in	dustrial standard	mounting rail enclo	sure					,
47	Removable termin	nals			Screw terminals	(1)			
	• 2-pole, up to 2 x	1.5 mm ² or 1 x 2.5 m	m²	2	3ZY1121-1BA00		1	6 units	41L
		1.5 mm ² or 1 x 2.5 m		2	3ZY1131-1BA00		1	6 units	41L
					Spring-type terminals				
3ZY1121-1BA00	• 2-pole, up to 2 x	1.5 mm ²		2	(push-in) 3ZY1121-2BA00		1	6 units	41L
	• 3-pole, up to 2 x			2	3ZY1131-2BA00		1	6 units	41L
PC cables and adap			es)						
~	USB PC cables			>	3UF7941-0AA00-0		1	1 unit	42J
	For connecting to	the USB interface of a with 3SK2 through th	a PC/PG,						
3UF7941-0AA00-0		use in connection wit							
Connecting cables f	or 3SK2 (essentia	al accessory for d	liagnostics module))					
	For connecting dia	agnostics module to 3	SK2 basic unit						
	Central units with expansion	Diagnostics modules with	Length						
	modules	central unit							
3 1	✓	✓	• 0.025 m (flat)	>	3UF7930-0AA00-0		1	1 unit	42J
3UF7932-0AA00-0		✓ ,	• 0.1 m (flat)		3UF7931-0AA00-0		1	1 unit	42J
		1	 0.15 m (flat) NEW 0.3 m (flat) 	>	3UF7934-0AA00-0 3UF7935-0AA00-0		1 1	1 unit 1 unit	42J 42J
		1	• 0.5 m (flat)	>	3UF7932-0AA00-0		1	1 unit	42J
		✓	• 0.5 m (round)	>	3UF7932-0BA00-0		1	1 unit	42J
		✓	• 1.0 m (round)	>	3UF7937-0BA00-0		1	1 unit	42J
Operating and moni		√ 25V2	• 2.5 m (round)	<u> </u>	3UF7933-0BA00-0		1	1 unit	42J
Operating and mon	Diagnostics mod			2	3SK2611-3AA00		1	1 unit	41L
Mary Manua Inc. 302	-	of errors, e.g. of cross	s-circuits						
	Note:								
	The 3RK3611-3AA operated on the 39	.00 MSS diagnostics i	module cannot be						
3SK2611-3AA00		SKE devices.							
Door adapters for 39				Ţ			_		40.1
	control cabinet	ection of the system if	nterface, e.g. outside a		3UF7920-0AA00-0		1	1 unit	42J
3UF7920-0AA00-0									
Interface covers for	3SK2								
	For system interface	ce						- "	
	Titanium gray			10	3RA6936-0B		1	5 units	42F
3RA6936-0B									
3NA0930-UB	Light gray			>	3UF7950-0AA00-0		1	5 units	42J
NE	g g,								
15									
3UF7950-0AA00-0									
Memory modules fo									400
	safety system with	e complete parameter out a PC/PG through	the system interface	2	3RK3931-0AA00		1	1 unit	42C
3									
3RK3931-0AA00									
Software for 3SK2									
	SIRIUS Safety ES								
1::		guring, commissioning	g, operating and						
	diagnosing of 3SK see page 14/22.	∠ ana 3KK3,							
CONTRICET OF LATERS									
3ZS1316C.10-0Y.5									
1) = 001/0400 + +									

¹⁾ For 3SK2122 two terminal sets are required.

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Accessories

Accessories						
	Version	SD	Article No. Price per PU		PS*	PG
		d				
Accessories for er	nclosures					
	Sealing covers					
	• 17.5 mm	2	3ZY1321-1AA00	1	5 units	41L
	(for 3SK1120 and 3SK1220) • 22.5 mm	2	3ZY1321-2AA00	1	5 units	41L
	(for all 3SK1 devices except 3SK1120 and 3SK1220)	_	3211321-2AA00	'	J urills	416
0						
3ZY1321-2AA00						
3211321-2AA00	Push-in lugs	2	3ZY1311-0AA00	1	10 units	41L
	For wall mounting	_				
3ZY1311-0AA00	O. H		077/4440 444400		40 '1	441
	Coding pins For removable terminals of SIRIUS devices	2	3ZY1440-1AA00	1	12 units	41L
	in the industrial standard mounting rail enclosure; they enable the mechanical coding of terminals,					
	see Manual "3SK1"					
3ZY1440-1AA00						
SIRIUS	Hinged cover NEW Replacement cover, without terminal labeling					
	Titanium gray					
•	- 22.5 mm wide	2	3ZY1450-1AB00	1	5 units	41H
	(for 3SK1230) • Yellow					
	- 17.5 mm wide	2	3ZY1450-1BA00	1	5 units	41H
3ZY1450-1AB00	(for 3SK1220, 3SK1120)	_			o di iito	
SIEMENS SIRTUS	 22.5 mm wide (for 3SK11 except 3SK1120, 3SK1211, 3SK2112) 	2	3ZY1450-1BB00	1	5 units	41H
, ,	- 45 mm wide	2	3ZY1450-1BC00	1	5 units	41H
4. 4	(for 3SK2122)					
3ZY1450-1BB00						
Blank labels						
	Unit labeling plates	20	3RT2900-1SB20	100	340 units	41B
	For SIRIUS devices 20 mm x 7 mm, titanium gray ¹⁾					
	20 mm x 7 mm, damam gray					
3RT2900-1SB20						
	spring-type terminals					
			Spring-type terminals (push-in)			
	0	0	u ,		a	4.15
	Screwdrivers For all SIRIUS devices with spring-type terminals;	2	3RA2908-1A	1	1 unit	41B
3RA2908-1A	3.0 mm x 0.5 mm; length approx. 200 mm, titanium gray/black, partially insulated					
	partially illouided					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

Safety Relays SIRIUS 3TK28 Safety Relays

With special functions

Overview



SIRIUS 3TK2810 safety relays

More information

Homepage, see www.siemens.com/safety-relays Industry Mall, see www.siemens.com/product?3TK28

3TK2810-0 standstill monitors

The standstill monitor increases safety in hazardous areas. Without a sensor, it detects motor stoppage from the residual magnetization of the rotating motor. When an adjustable threshold value is undershot, it uses its outputs to allow access to hazardous areas, for example by unlocking a protective door.

3TK2810-1 speed monitors

The speed monitor combines two safety functions in one unit by continuously monitoring machines and plants for standstill and speed.

Through simple parameterization and permanent diagnosis on the display, faults can be quickly remedied at any time – often before they cause plant downtimes.

In addition to standstill and speed monitoring, the unit also features an integrated monitoring function of a protective door with spring-type interlocking. Therefore, an additional evaluation unit is not needed.

Article No. scheme

Product versions		Article number						
Safety relays with special func	3TK2810 -		□ A					
Device version	Standstill monitor		0					
	Speed monitor for NPN/PNP proximity switches and encoders		1					
Type of control supply voltage	24 V DC			В				
	230 V AC, 50/60 Hz			G				
	400 V AC, 50/60 Hz			J				
	120 240 V AC/DC; 50/60 Hz			Κ				
Time delay	0.2 6 s (standstill)				0			
	0 999 s (release delay)				4			
Connection type	Screw terminals					1		
	Spring-type terminals (push-in)					2		
Version	Speed monitor for NAMUR proximity switches and encoders					- 0 A A 0		
Example		3TK2810 -	0	ВА	0	1		

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

3TK2810-0 standstill monitors

- No additional sensors required
- Signaling of faults with diagnostics display
- Standstill time can be set
- Unit can be used with frequency converters

3TK2810-1 speed monitors

- Menu-prompted, easy parameterization
- Direct diagnosis on the display means shorter downtimes thanks to early fault detection
- Integrated protective door monitoring means greater safety because access to the plant is allowed only in the safe state
- Suitable for all standard sensors, i.e. high flexibility

Safety Relays SIRIUS 3TK28 Safety Relays

With special functions

Technical specifications

More information

Operating instructions 3TK2810-0, see

https://support.industry.siemens.com/cs/ww/en/view/25437254

Manual 3TK2810-1, see

https://support.industry.siemens.com/cs/ww/en/view/43707376

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16391/td

FAQs, see

https://support.industry.siemens.com/cs/ww/en/ps/16391/faq

Туре	3TK2810-0 standstill monitors	3TK2810-1 speed monitors
Sensors		
• Inputs	3	4
Electronic		3
With contacts		1
 Without sensors (measuring inputs) 	3	
• Magnetically operated switch (Reed contacts)		
Safety mats		
Start		
• Auto	✓	✓
Monitored		✓
Cascading input 24 V DC		
Key-operated switch		
Enabling circuit, floating		
Stop category 0	3 NO + 1 NC	2
Stop category 1		
Enabling circuit, electronic		
Stop category 0		
Stop category 1		
. Δvailable		

Type	3TK2810-0 standstill monitors	3TK2810-1 speed monitors
Signaling outputs		
 Floating 	1 CO	
Electronic	2	2
Standards	IEC 60204-1, EN ISO 12100, EN ISO 13849-1, IEC 61508	IEC 60947-5-1, EN ISO 13849-1, IEC 60204-1, IEC 61508
Test certificates	TÜV, UL, CSA	TÜV, UL, CSA
SIL level max. acc. to IEC 61508	3	3
Performance level PL acc. to EN ISO 13849-1	е	е
Probability of a dangerous failure per hour (PFH _d)	1.5 x 10 ⁻⁸ 1/h	3.38 x 10 ⁻⁹ 1/h
Rated control supply voltage		
• 24 V DC	✓	✓
• 230 V AC	✓	
• 400 V AC	✓	
• 120 240 V AC/DC		✓

- ✓ Available
- -- Not available

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41L







3TK2810-0BA01

3TK2810-0GA02

3TK2810-1BA41

Rated control supply voltage $U_{\rm S}$	Times	SD	Screw terminals		SD	Spring-type terminals	<u>~</u>
V	s	d	Article No.	Price per PU	d	Article No.	Price per PU
Standstill monitors							
3TK2810-0							
• 24 DC • 230 AC • 400 AC	0.2 6 (standstill) 0.2 6 (standstill) 0.2 6 (standstill)	5 15 15	3TK2810-0BA01 3TK2810-0GA01 3TK2810-0JA01		15 15 15	3TK2810-0BA02 3TK2810-0GA02 3TK2810-0JA02	
Speed monitors							
3TK2810-1 for NPN/PNP prox	imity switches and encoders						
• 24 DC • 120 240 AC/DC	0 999 (release delay) 0 999 (release delay)	2 5	3TK2810-1BA41 3TK2810-1KA41		2 5	3TK2810-1BA42 3TK2810-1KA42	
3TK2810-1 for NAMUR proxin	nity switches and encoders						
• 24 DC • 120 240 AC/DC	0 999 (release delay) 0 999 (release delay)	5 5	3TK2810-1BA41-0AA0 3TK2810-1KA41-0AA0		5 5	3TK2810-1BA42-0AA0 3TK2810-1KA42-0AA0	

Safety Relays SIRIUS 3TK28 Safety Relays

Accessories

Selection and ord	ering data						
	Use	Version	SD	Article No. Price per PU		PS*	PG
			d				
Blank labels							
	For 3TK28	Unit labeling plates For SIRIUS devices					
		20 mm x 7 mm, pastel turquoise ¹⁾	20	3RT1900-1SB20	100	340 units	41B
	For 3TK28	Adhesive labels For SIRIUS devices					
		 19 mm x 6 mm, pastel turquoise 	15	3RT1900-1SB60		3 060 units	41B
3RT1900-1SB20		• 19 mm x 6 mm, zinc yellow	15	3RT1900-1SD60	100	3 060 units	41B
Push-in lugs and	covers						
77	For 3TK28	Push-in lugs For screw fixing,	5	3RP1903	1	10 units	41H
3RP1903	3	2 units required per device					
Adapters and con	nection cables for	speed monitors					
Adapters and con	For 3TK2810-1	Adapters					
	101011120101	For connecting encoders of type Siemens/Heidenhain					
		• 15-pole	2	3TK2810-1A	1	1 unit	41L
3TK2810-1A							
		• 25-pole	2	3TK2810-1B	1	1 unit	41L
3TK2810-1B							
	For 3TK2810-1	Connection cables For connecting the speed monitor to the 3TK2810-1A or 3TK2810-1B adapter	15	3TK2810-0A	1	1 unit	41L
3TK2810-0A							
Tools for opening	spring-type termin	nals					
	7 3 71			Spring-type terminals			
	For auxiliary circuit	Screwdrivers	2	3RA2908-1A	1	1 unit	41B
3RA2908-1A	connections	For all SIRIUS devices with spring-type terminals; 3.0 mm x 0.5 mm; length approx. 200 mm, titanium gray/black, partially insulated	_			, ant	.15
		partially insulated					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/16.

General data

Overview



SIRIUS 3RK3 Modular Safety System

More information

Homepage, see www.siemens.com/sirius-mss Industry Mall, see www.siemens.com/product?3RK3

The 3RK3 Modular Safety System (MSS) is a freely configurable modular safety relay. Depending on the external circuit version, safety-related applications up to performance level e according to EN ISO 13849-1 or SIL 3 according to IEC 62061 can be realized.

The modular safety relay enables the interconnection of several safety applications.

The comprehensive error and status diagnostics provides the possibility of finding errors in the system and localizing signals from sensors. Plant downtimes can be reduced as the result.

The MSS comprises the following system components:

- · Central units
- Expansion modules
- Interface modules
- Diagnostics modules
- · Parameterization software
- Accessories

Central units

MSS Basic

The 3RK3 Basic central unit is used wherever several safety functions need to be evaluated and the wiring parameterization of safety relays would involve significant cost and effort. It reads in inputs, controls outputs and communicates through an interface module with higher-level control systems. An application's entire safety program is processed in the central unit. The 3RK3 Basic central unit is the lowest expansion level and fully functional on its own, without the optional expansion modules.

MSS Advanced

The 3RK3 Advanced central unit is the logical expansion of the Basic central unit with the functionality of an AS-i safety monitor. In addition to having a larger volume of project data and scope of functionality it can be integrated in AS-Interface and therefore make use of the many different possibilities offered by this bus system. The function can be optionally activated in the central unit.

The service-proven insulation piercing method of AS-Interface enables not only the distributed expansion of the project data volume using safe AS-i outputs, safe AS-i sensors and other MSS Advanced or safety monitors (F cross traffic) but also a highly flexible adaptation of the application, e.g. very fast connection of AS-i outputs, EMERGENCY STOP command devices, position switches with and without tumbler, or light curtains.

Safety-related disconnection using MSS or by distributed means using safe AS-i outputs and the formation of switch-off groups can be realized very easily. The same applies for any subsequent modifications. They are now possible by simply readdressing, meaning that rewiring is no longer necessary.

The AS-i bus is connected directly to the central unit.

MSS ASIsafe

The MSS ASIsafe basic and MSS ASIsafe extended central units are a logical development of the AS-i safety monitors based on the 3RK3 Modular Safety System.

Like MSS Advanced, MSS ASIsafe detects – in a comparable way to the safety monitors – safe sensor technology on the AS-i bus and switches actuators off in a safety-related manner via a configurable safety logic. It stands out by virtue of its greater project data volume, wider range of functions and the possibility of increasing the integrated I/O project data volume by means of expansion modules from the MSS system family. In this case the range of functions, such as the number and type of the logic elements that can be interconnected, is equivalent to that of MSS Advanced.

Expansion modules

With the optional expansion modules, both safety-related and standard, the system is flexibly adapted to the required safety applications.

Interface modules

The DP interface module is used for transferring diagnostics data and device status data to a higher-level PROFIBUS network, e.g. for purposes of visualization using HMI. When using the Basic central unit, 32-bit cyclic data can be exchanged with the control system. If an Advanced/ASIsafe central unit is used, the number is doubled to 64-bit cycle data. In acyclic mode, both central units can call up diagnostic data.

Diagnostics modules

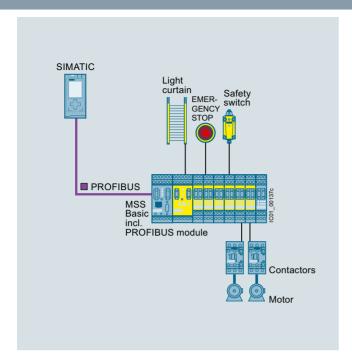
Actuated sensors or faults, e.g. cross-circuit, are indicated directly on the diagnostics display. The fault is diagnosed directly in plain text by the detailed alarm message. The device is fully functional upon delivery. No programming is required.

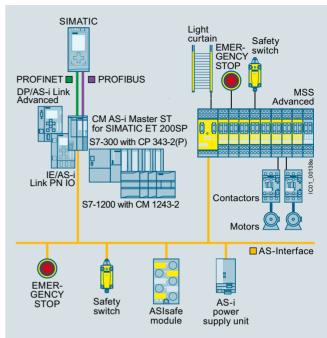
Parameterization software

Using the SIRIUS Safety ES graphical parameterization tool, it is very easy to create the safety functions as well as their logical links on the PC. You can define disconnection ranges, ON-delays, OFF-delays and other dependencies for example.

SIRIUS Safety ES also offers comprehensive functions for diagnostics and commissioning. Documentation of the MSS hardware configuration and the parameterized logic is created automatically.

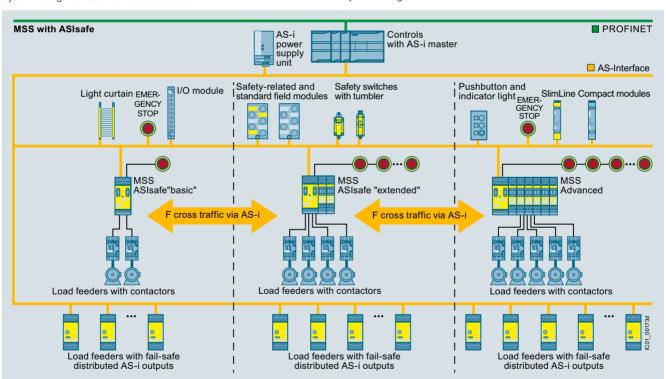
General data





System design of MSS with Basic central unit

System design of MSS with Advanced central unit



System design of MSS as a combination of various central units with AS-Interface

General data

Article No. scheme

Product versions		Article number
Basic units		3RK3 1 🗆 🗆 – 🗆 A 🗆 🗆 0
Device variants	3RK3 Basic	1 1
	3RK3 ASIsafe "basic" variant	2 1
	3RK3 ASIsafe "extended" variant	2 2
	3RK3 Advanced	3 1
Connection type	Screw terminals	1
	Spring-type terminals	2
Communication 1	None	A
	AS-Interface without master	C
Communication 2	3RK3122: max. 2 expansion modules can be connected	0
	3RK3131: max. 9 expansion modules can be connected	1
Example		3RK3 1 1 1 - 1 A A 1 0
Product versions		Article number
Expansion modules with	th safe inputs/outputs	3RK3 2 🗆 🗆 – 🗆 A A 1 0
Device variants	4/8 F-DI	1 1
	2/4 F-DI 1/2 F-RO	2 1
	2/4 F-DI 2 F-DO	3 1
	4 F-DO	4 2
	4/8 F-RO	5 1
Connection type	Screw terminals	1
	Spring-type terminals	2
Example		3RK3 2 1 1 - 1 A A 1 0
Product versions		Article number
Expansion modules wit	th standard inputs/outputs	3RK3 3 🗆 🗆 – 🗆 A A 1 0
Device variants	8 DO	1 1
	8 DI	2 1
Connection type	Screw terminals	1
	Spring-type terminals	2
Example		3RK3 3 1 1 - 1 A A 1 0
Product versions		Article number
DP interface modules		3RK3 5 1 1 − □ B A 1 0
Connection type	Screw terminals	1
	Spring-type terminals	2
Example		3RK3 5 1 1 - 1 B A 1 0

Note:

The Article No. schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

General data

Benefits

- More functionality and flexibility through freely configurable safety logic
- Suitable for all safety applications thanks to compliance with the highest safety standards in production automation
- For use all over the world through compliance with all productrelevant, globally established certifications
- Modular hardware configuration
- Parameterization by means of software instead of wiring
- · Removable terminals for greater plant availability
- Distributed detection of sensors and disconnection of actuators through AS-Interface
- All logic functions can also be used for AS-Interface, e.g. muting, protective door with tumbler
- Up to 12 independent safe switch-off groups on the AS-i bus
- Volume of project data can be greatly increased by means of AS-Interface
- Up to 50 two-channel enabling circuits per system

Communication via PROFIBUS

The 3RK3 Modular Safety System can be connected to PROFIBUS through the DP interface and exchange data with higher-level control systems.

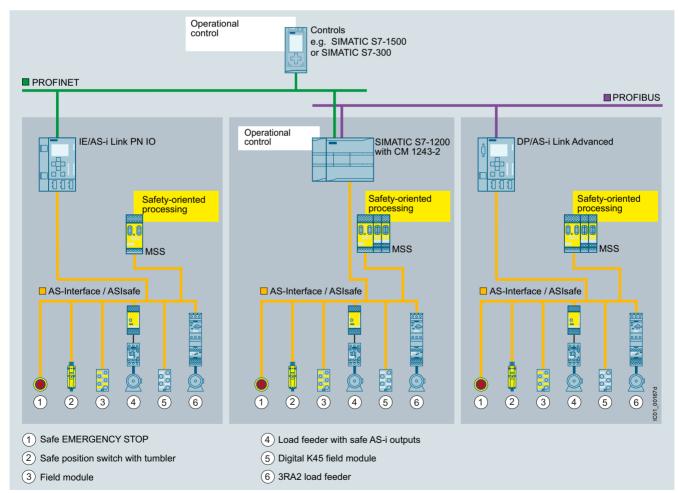
The MSS supports among other things:

- Baud rates up to 12 Mbps
- Automatic baud rate detection
- Cyclic services (DPV0) and acyclic services (DPV1)
- Exchange of 32-bit cyclic data with MSS Basic or 64-bit cyclic data with MSS Advanced/MSS ASIsafe
- Diagnostics using data record invocations

AS-Interface communication

Using the Advanced and ASIsafe "basic" and "extended" central units, the 3RK3 Modular Safety System can be integrated in AS-Interface.

- MSS can read and evaluate the I/O data of up to 31 AS-i modules
- Up to 12 safe output signals per MSS can be placed on the AS-i bus for switching safe AS-i output modules or for fail-safe cross traffic between multiple MSS stations
- Safe cross traffic between multiple MSS stations or between one MSS and AS-i safety monitors
- Standard signals, e.g. for acknowledgment, can also be output on the AS-i bus



Integration of the MSS into AS-Interface

Notes:

MSS with communication function, see page 11/38 onwards. Accessories, see page 11/40 onwards. SIRIUS Safety ES, see page 14/22.

For more information on AS-Interface with ASIsafe, see also page 2/18.

General data

Application

The 3RK3 Modular Safety System can be used for all safety-related requirements in the manufacturing industry and offers the following safety functions:

	Symbol	MSS Basic	MSS Advanced, MSS ASIsafe
Monitoring functions			
Universal monitoring Evaluation of any binary signals from single-channel and two-channel sensors	? -		/
EMERGENCY STOP Evaluation of EMERGENCY STOP devices with positive-opening contacts	•	✓	/
Safety shutdown mat Evaluation of switching mats with NC contacts and/or crossover detection	**	✓	/
Protective door monitoring Evaluation of protective door signals and/or protective flap signals	H	✓	/
Protective door tumbler mechanism Evaluation of protective doors with tumbler and of the actuation/release of this tumbler			/
Approval switches Evaluation of OK buttons with NO contact		√	/
Two-hand operator controls Evaluation of two-hand operator controls	746	✓	/
ESPE monitoring Evaluation of non-contact protective devices, e.g. light curtains and laser scanners	H	✓	/
Muting Temporary bridging of non-contact protective devices, 2/4 sensors in parallel, 4 sensors in sequence	A A		/
Mode selector switches Evaluation of operating mode selector switches with NO contacts	O"	/	/
Monitoring AS-i (AS-i 2F-DI) Logic element for monitoring of AS-i input slaves	AS-I		/

	Symbol	MSS Basic	MSS Advanced, MSS ASIsafe
Logic operation function	s		
AND	&	✓	/
OR	≧1	1	1
XOR	=1	✓	1
NAND	&o	✓	1
NOR	<u>≧</u> 10	✓	1
Negation	10	✓	/
Flip-flop	SR	✓	✓
Counting functions			
Counter 0 -> 1	21	✓	✓
Counter 1 -> 0	21	✓	✓
Counter 0 -> 1/1-> 0	21	1	✓
Timer functions			
With ON-delay	्रा	✓	✓
Passing make contact	©_I	√	✓
With OFF-delay	©	√	✓
Clock-pulsing	<u>Γ</u> Γ	✓	✓
Start functions			
Monitored start	ı.	✓	✓
Manual start	•	1	1
Output functions			
Standard output	Q	1	✓
F output	Q	✓	✓
AS-i output function	Q AS-I		/
Status functions			
Element status	i		✓

✓ Available

-- Not available

General data

Technical specifications

More information
Manual, see https://support.industry.siemens.com/cs/ww/en/view/26493228
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16392/td

FAQs, see

https://support.industry.siemens.com/cs/ww/en/ps/16392/faq

Central units and expansion modules

Туре		Central units Expansion modules										
•		Basic	Advanced	ASIsafe basic	ASIsafe extended	4/8F-DI	2/4 F-DI 1/2 F-RO		4/8 F-RO	4 F-DO	8 DI	8 DO
Dimensions (W x H x D)												
 Screw terminals 	mm	45 x 111	x 124			22.5 x 11	1 x 124		45 x 111 x 124	22.5 x 1	11 x 124	4
 Spring-type terminals 	mm	45 x 113	x 124			22.5 x 11	3 x 124		45 x 113 x 124	22.5 x 1	13 x 12	4
Device data												
Shock resistance (sine pulse)	g/ms	15/11										
Touch protection acc. to IEC 60529		IP20										
Permissible mounting position			nounting surfa mounting po			reduced	ambient ten	nperature				
Minimum distances		For heat	dissipation th	rough conv	ection from t	he device	s 25 mm to	the ventilat	ion openings (top	and bot	tom)	
Permissible ambient temperature • During operation • During storage and transport	°C	-20 +6 -40 +8										
Number of sensor inputs (single-channel) Fail-safe Not fail-safe		8	8	2	4 4	8	4	4	 		 8	
Number of test outputs		2										
Number of outputs Relay outputs Single-channel We channel Electronic outputs Single-channel Two-channel		 1 1	 1 1	 1 1	 1 1	 	2	 2	8 	 4	 	 8
Weight	g	300				160			400	135	125	160
Installation altitude above sea level	m	2 000										
Environmental data EMC interference immunity Vibrations		IEC 6094	7-5-1									
FrequencyAmplitudeClimatic withstand	Hz mm	5 500 0.75 IEC 6006	8-2-78									

General data

Туре		Central uni	entral units Expansion modules									
		Basic	Advanced	ASIsafe basic	ASIsafe extended	4/8 F-DI	2/4 F-DI 1/2 F-RO		4/8 F-RO	4 F-DO	8 DI	8 DO
Electrical specification	ns											
Rated control supply voltage U _s acc. to IEC 61131-2	V	24 DC ± 159	% ¹⁾									
Operating range		0.85 1.15	x 1 1-									
Rated insulation voltage <i>U</i> i	V	300	<u> </u>			50	300	50	300	50		
Rated impulse /oltage <i>U</i> _{imp}	kV	4				0.5	4	0.5	4	0.5		
Total current input	mA	185				60	85		140	8	78	60
Rated power at U _s	W	4.5				1.5	2		3	4.8	1.9	1.5
Utilization category acc. to IEC 60947-5-1 Relay outputs • AC-15 at 230 V • DC-13 at 24 V • DC-13 at 24 V	A A	2 1 1.5				 	2 1	 1.2	2 1	 2	 	 0.5
Mechanical endurance During rated operation		10 x 10 ⁶					10 x 10 ⁶		10 x 10 ⁶			
Switching frequency z At rated operational current	1/h	1 000					1 000		360	1 000		1 000
Conventional thermal current I _{th}	А	2/1.5					1	1.2	3	2		0.5
Protection for output contacts	A A	4 6				 	4 6	 	4 6	 		
Safety specifications												
Probability of a dangerous failure • per hour (PFH _d)	1/h	5.14 x 10 ⁻⁹	3.8 x 10 ⁻⁹ w 2.8 x 10 ⁻⁹ w	ith AS-i, ithout AS-	-i	1.89 x 10 ⁻⁹	3.79 x 10 ⁻⁹	2.7 x 10 ⁻⁹	7.15 x 10 ⁻⁹	3.18 x 10 ⁻⁹		
• On demand (PFD)		1.28 x 10 ⁻⁵ 1.7 x 10 ⁻⁴				4.29 x 10 ⁻⁶	5.85 x 10 ⁻⁶	8.34 x 10 ⁻⁶	4.36 x 10 ⁻⁵	2.2 x 10 ⁻⁵		
Parameters for cables	S											
Line resistance	Ω	100									100	
Cable length from terminal to terminal With Cu 1.5 mm ² and 150 nF/km	m	1 000			-				1 000			
Conductor capacity	nF	330									330	

Device current supply through a power supply unit according to IEC 60536 protection class III (SELV or PELV).

General data

Interface and diagnostics modules

Туре		Interface modules	Diagnostics modules
Dimensions (W x H x D)			
Screw terminals	mm	45 x 111 x 124	96 x 60 x 44
Spring-type terminals	mm	45 x 113 x 124	
Device data			
Shock resistance (sine pulse)	<i>g</i> /ms	15/11	
Touch protection acc. to IEC 60529		IP20	
Permissible mounting position		Vertical mounting surface (+10°/-10°), deviating mounting positions are permitted for	reduced ambient temperature
Minimum distances		For heat dissipation through convection from to (top and bottom)	he devices 25 mm to the ventilation openings
Permissible ambient temperature • During operation • During storage and transport	°C °C	-20 +60 -40 +85	
Weight	g	270	90
Installation altitude above sea level	m	2 000	
Environmental data			
EMC interference immunity		IEC 60947-5-1	
Vibrations • Frequency • Amplitude	Hz mm	5 500 0.75	
Climatic withstand capability		IEC 60068-2-78	
Electrical specifications			
Rated control supply voltage $U_{\rm s}$ acc. to IEC 61131-2	V	24 DC ± 15%	24 DC \pm 15% via connecting cable to the central unit
Operating range		0.85 1.15 x <i>U</i> _S	
Rated insulation voltage <i>U</i> _i	V	50	
Rated impulse voltage U _{imp}	kV	0.5	
Total current input	mA		24
Rated power at <i>U</i> _s	W	-	0.6

3RK31 central units

Selection and ordering data





3RK3111-1AA10

3RK3121-1AC00 3RK3122-1AC00 3RK3131-1AC10

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d			,/		
3RK31 central units						
3RK3 Basic	2	3RK3111-□AA10		1	1 unit	42B
Central units with safety-related inputs and outputs • 8 fail-safe inputs • 1 two-channel relay output • 1 two-channel electronic output Max. 7 expansion modules can be connected						
Note:						
Memory module 3RK3931-0AA00 is included in the scope of supply.						
3RK3 Advanced	2	3RK3131-□AC10		1	1 unit	42B
Central units for connecting to AS-Interface with safety-related inputs and outputs and extended functional scope 8 fail-safe inputs 1 two-channel relay output 1 two-channel electronic output Max. 9 expansion modules can be connected						
Note:						
Memory module 3RK3931-0AA00 is included in the scope of supply.						
3RK3 ASIsafe						
Central units for connecting to AS-Interface with safety-related inputs and outputs and extended functional scope 1 two-channel relay output 1 two-channel electronic output						
 "Basic" version 2 fail-safe inputs 6 non-fail-safe inputs No expansion modules can be connected 	2	3RK3121-□AC00		1	1 unit	42B
 "Extended" version 4 fail-safe inputs 4 non-fail-safe inputs Max. 2 expansion modules can be connected Note: Memory module 3RK3931-0AA00 is included in the scope of supply. 	2	3RK3122-□AC00		1	1 unit	42B
Type of electrical connection						
Screw terminals						
Spring-type terminals (push-in)		1				
oping type terminals (pasir iii)		2				

3RK32, 3RK33 expansion modules, 3RK35 interface modules

Selection and ordering data







3RK3251-1AA10



3RK3311-1AA10 3RK3321-1AA10



3RK3511-1BA10

3RK3242-1AA10						
Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d			OL1, WI)		
3RK32, 3RK33 expansion modules						
4/8 F-DI	2	3RK3211-□AA10		1	1 unit	42B
Safety-related input module • 8 inputs						
2/4 F-DI 1/2 F-RO	2	3RK3221-□AA10		1	1 unit	42B
Safety-related input/output module						
4 inputs2 single-channel relay outputs						
2/4 F-DI 2F-DO	2	3RK3231-□AA10		1	1 unit	42B
Safety-related input/output module						
4 inputs2 two-channel electronic outputs						
4/8 F-RO	2	3RK3251-□AA10		1	1 unit	42B
Safety-related output module • 8 single-channel relay outputs						
4 F-DO	2	3RK3242-□AA10		1	1 unit	42B
Safety-related output module 4 two-channel electronic outputs						
8 DI	2	3RK3321-□AA10		1	1 unit	42B
Standard input module • 8 inputs						
8 DO	2	3RK3311-□AA10		1	1 unit	42B
Standard output module • 8 electronic outputs						
3RK35 interface modules						
DP interface	2	3RK3511-□BA10		1	1 unit	42B
PROFIBUS DP interface, 12 Mbps, RS 485, 32-bit cyclic data exchange with Basic central unit or 64-bit with Advanced and ASIsafe central unit, acyclic exchange of diagnostics data						
Type of electrical connection						
Screw terminals						

- Screw terminals
- Spring-type terminals (push-in)

Notes:

For the required connection cable, see page 11/40.

Accessories

Selection and orderi	ng data								
	Version			SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Connection cables (e		• •							
	For connection of								
	Central units with expansion modules or interface module	modules with central unit or	Length						
3UF7932-0AA00-0	/	/	• 0.025 m (flat)	▶	3UF7930-0AA00-0		1	1 unit	42J
001 7002 07 0 00 0		1	• 0.1 m (flat)	>	3UF7931-0AA00-0		1	1 unit	42J
		1	• 0.15 m (flat) NEW	>	3UF7934-0AA00-0		1	1 unit	42J
		1	• 0.3 m (flat)	>	3UF7935-0AA00-0		1	1 unit	42J
		✓	• 0.5 m (flat)	>	3UF7932-0AA00-0		1	1 unit	42J
		✓	• 0.5 m (round)	>	3UF7932-0BA00-0		1	1 unit	42J
		✓	• 1.0 m (round)	>	3UF7937-0BA00-0		1	1 unit	42J
		✓	• 2.5 m (round)	>	3UF7933-0BA00-0		1	1 unit	42J
Operating and monitor	oring modules f	or 3RK3							
3SK2611-3AA00	. ,	dules v of errors, e.g. of o	cross-circuits	2	3SK2611-3AA00		1	1 unit	41L
PC cables and adapte									
	for communicatio	the USB interface on with 3RK3 through	gh the system interface	.	3UF7941-0AA00-0		1	1 unit	42J
3UF7941-0AA00-0	recommended to	r use in connection	n with 3RK3						
Door adapter									
3UF7920-0AA00-0	For external conn e.g. outside a con	nection of the syste ntrol cabinet	em interface,	•	3UF7920-0AA00-0		1	1 unit	42J
Interface covers									
3UF7950-0AA00-0	For system interfa	ace		•	3UF7950-0AA00-0		1	5 units	42J
Memory modules									
		ne complete paran afety System witho	neterization of the ut a PC/PG through the	2	3RK3931-0AA00		1	1 unit	42C
3RK3931-0AA00									
Push-in lugs	For screw fixing, 2 units required p	e.g. on mounting per device	olate,						
OPP1000	Can be used for 3			5	3RP1903		1	10 units	41H
3RP1903	<u> </u>								
Software for 3RK3	SIRIUS Safety E: Software for of 3Si diagnosing of 3Si see page 14/22.	iguring, commission	oning, operating and						
3ZS1316C.10-0Y.5									
✓ Available			Not	e:					

-- Not available

Note

For more accessories and components that can be combined with MSS, see page 2/31.

5

Position and Safety Switches





		Price groups		Shock and vibration test according to
		PG 41K, 41L, 42A, 42D		railway standard
	12/2	Introduction		SIRIUS 3SE5 mechanical position switches NEW
l		SIRIUS 3SE5 mechanical position	12/72	- 3SE5, plastic enclosures
		switches	12/76	- 3SE5, metal enclosures
	12/5	General data		SIRIUS 3SE5 mechanical safety
		3SE5, plastic enclosures	10/01	switches with separate actuator
	12/12	- Enclosure width 31 mm according to	12/81	- 3SE5, plastic enclosures
		EN 50047 NEW		SIRIUS 3SE5 mechanical safety switches with tumbler NEW
	12/18	- Enclosure width 40 mm according to	12/82	- 3SE5, plastic enclosures
	12/22	EN 50041 - Enclosure width 50 mm		SIRIUS 3SF1 mechanical safety
		3SE5, metal enclosures		switches for AS-Interface
	12/26	- Enclosure width 31 mm according to	12/83	General data
		EN 50047 NEW	12/85	3SF1, plastic enclosures
	12/30	- Enclosure width 40 mm according to	12/87	3SF1, metal enclosures
	10/04	EN 50041 NEW		With separate actuator
	12/34 12/38	- Enclosure width 56 mm - Enclosure width 56 mm, XL	12/91	General data
	12/41	- Compact design NEW	12/92	3SF1, plastic enclosures
		3SE5, open-type design	12/93	3SF1, metal enclosures
	12/43	- Enclosure width 30 mm	12/94	Accessories
	12/44	Accessories and spare parts NEW		With tumbler
j		SIRIUS 3SE5, 3SE2 mechanical safety	12/95	General data
		switches	12/96	3SF1, plastic enclosures
		With separate actuator		with locking force greater than 1 200 N
	12/47	General data	12/97	3SF1, metal enclosures
	12/49	3SE5, plastic enclosures NEW		with locking force greater than 2 000 N
	12/52	3SE5, metal enclosures NEW	10/00	Safety hinge switches
	12/54	Accessories	12/98 12/99	3SF1, plastic enclosures
	12/55	3SE2, plastic enclosures	12/99	3SF1, metal enclosures
		With tumbler		SIRIUS 3SE6 non-contact safety
	12/56	General data		switches
	12/59	3SE5, plastic enclosures with locking	10/100	Magnet
	10/01	force greater than 1 200 N NEW	12/100	3SE66, 3SE67 magnetically operated switches
	12/61	3SE5, metal enclosures with locking force greater than 2 000 N		RFID
	12/62	Accessories	12/106	3SE63 RFID safety switches
l	12,02		12, 100	Social Fill B carety amterior
		SIRIUS 3SE5, 3SE2 mechanical safety		N
				Note:
	12/6/	hinge switches		Note:
	12/64 12/65	General data		Conversion tool,
	12/65	General data 3SE5, plastic enclosures		·
		General data 3SE5, plastic enclosures 3SE5, metal enclosures		Conversion tool, e.g. from 3SE2 to 3SE5, see
	12/65	General data 3SE5, plastic enclosures		Conversion tool, e.g. from 3SE2 to 3SE5, see
	12/65 12/66	General data 3SE5, plastic enclosures 3SE5, metal enclosures 3SE2, plastic enclosures - with integrated hinge		Conversion tool, e.g. from 3SE2 to 3SE5, see
	12/65 12/66	General data 3SE5, plastic enclosures 3SE5, metal enclosures 3SE2, plastic enclosures - with integrated hinge SIRIUS 3SE5 mechanical position switches for ambient temperatures		Conversion tool, e.g. from 3SE2 to 3SE5, see
	12/65 12/66	General data 3SE5, plastic enclosures 3SE5, metal enclosures 3SE2, plastic enclosures - with integrated hinge SIRIUS 3SE5 mechanical position		Conversion tool, e.g. from 3SE2 to 3SE5, see

SIRIUS 3SE5 mechanical position

SIRIUS 3SE5 mechanical safety

SIRIUS 3SE5 mechanical safety hinge

- 3SE5, plastic enclosures

- 3SE5, plastic enclosures

- 3SE5, plastic enclosures

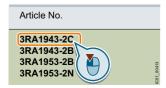
switches with tumbler

switches

switches

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Position and Safety Switches

Introduction

Overview







3SE524., 3SF1244



3SE513., 3SE511., 3SF1114



3SE512., 3SF1124



3SE516.



3SE5413, 3SE5423



3SE5250

	Position swi	tches, standa	ırd			Compact design	Open-type
Enclosure							
Plastic	1	✓	1				1
Metal	1		/	✓	✓	/	
Dimensions (W x H x D) in mm	$31 \times 68 \times 33$	50 × 53 × 33	40 × 78 × 38	56 × 78 × 38	56 × 100 × 38	$30 \times 50 \times 16$ $40 \times 50 \times 16$	30 × 48.5 × 3
Degree of protection	IP65, IP66/IP67	IP66/IP67	IP66/IP67	IP66/IP67	IP66/IP67	IP66/IP67	IP10 or IP20
Standards IEC 60947-5-1	Mounting and operating points acc. to EN 50047	points acc. to	Mounting and operating points acc. to EN 50041	points acc. to	Operating points acc. to EN 50041		Mounting and operating points acc. to EN 50047
Approvals	CE, TÜV, UL, (CSA, CCC	CE, TÜV, UL, (CSA, CCC		CE, UL, CSA, CCC	CE, TÜV, UL, CSA, CCC
Contact blocks							
2 slow-action contacts	1 NO + 1 NC;	2 NC	1 NO + 1 NC;	2 NC	2 × (1 NO + 1 NC)		1 NO + 1 NO
2 snap-action contacts	1 NO + 1 NC		1 NO + 1 NC		2 × (1 NO + 1 NC)	1 NO + 1 NC	1 NO + 1 NO
Short stroke	1 NO + 1 NC		1				✓
 With 2 × 2 mm contact gap 	1 NO + 1 NC		✓				✓
3 slow-action contacts	1 NO + 2 NC;	2 NO + 1 NC	1 NO + 2 NC;	2 NO + 1 NC			1 NO + 2 NO 2 NO + 1 NO
 With make-before-break 	1 NO + 2 NC		1 NO + 2 NC		$2 \times (1 \text{ NO} + 2 \text{ NC})$		1 NO + 2 NO
3 snap-action contacts	1 NO + 2 NC		1 NO + 2 NC				1 NO + 2 NO
Special features							
LED status display	✓		✓				
Increased corrosion protection	✓		✓		✓		
ASIsafe integrated	✓		✓				
Electrical specifications							
Insulation voltage U_{i}	400 V		400 V			400 V	400 V
Conventional thermal current Ith	6 A/10 A (3-/2	-pole)	6 A/10 A (3-/2	-pole)		6 A	6 A
Connections							
Cable entry	1 × M20 × 1.5	2 × M20 × 1.5	1 × M20 × 1.5	3 × M20 × 1.5	3 × M20 × 1.5		
M12 plug, 4-, 5- or 8-pole	/	1	/	✓	/	/	
Plug, 6-pole + PE			/	1			
Molded cables						/	
Actuators						•	
Rounded plungers and roller plungers	✓		/		✓		
Roller levers and angular roller levers	✓		/		/		
Spring rod	1		/				
Twist levers and rod actuators	1		1		/		
Fork lever			1				
Hinge switches							
Plungers, twist levers					/	/	/
Page						-	
Complete units	12/12, 12/26	12/22	12/18, 12/30	12/34	12/38	12/41	12/43
Modular system	12/12, 12/20	12/24	12/10, 12/30	12/34	12/39		
Ambient temperature -40 °C	12/10, 12/20	12/24	12/20, 12/32	12/30	12/79		-
·							
ASIsafe / Available Not available	12/85, 12/87	12/85	12/89	12/89			

✓ Available -- Not available

Position and Safety Switches

Introduction



	3SF12.4	3SF11.4	3SF12.4	3SF11.4	3SF13.4
	Safety hinge switches		Safety switches vactuator	with separate	Safety switches with tumbler
Enclosure					
Plastic	✓	✓	✓	✓	✓
Metal	✓	✓	✓	✓	✓
Dimensions (W x H x D) in mm	31 × 68 × 33	40 × 78 × 38	$31 \times 68 \times 33$, $50 \times 53 \times 33$	$40 \times 78 \times 38$, $56 \times 78 \times 38$	54 × 185 × 44
Degree of protection	IP65, IP66/IP67	IP66/IP67	IP65, IP66/IP67	IP66/IP67	IP66/IP67, IP69K
Standards	Mounting and	Mounting and	Mounting acc. to	Mounting acc. to	EN ISO 14119
IEC 60947-5-1	operating points acc. to EN 50047	operating points acc. to EN 50041	EN 50047	EN 50041	
Approvals	CE, TÜV, UL, CSA, (CCC	CE, TÜV, UL, CSA,	CCC	CE, TÜV, UL, CSA, CCC
Contact blocks/outputs					
2 slow-action contacts			1 NO + 1 NC; 2 NC		
2 snap-action contacts	1 NO + 1 NC				
Short stroke					
• With 2 × 2 mm contact gap					
3 slow-action contacts • With make-before-break			1 NO + 2 NC 		2 × (1 NO + 2 NC)
3 snap-action contacts	1 NO + 2 NC				
Electronic safety outputs					
Special features					
LED status display	✓		/		/
Increased corrosion protection	/		1		1
ASIsafe integrated	· /		,		<i>,</i>
Electrical specifications	•		•		•
Insulation voltage U_i	400 V		400 V		400 V
Conventional thermal current I_{th}	6 A/10 A (3-/2-pole)		6 A		6 A
Connections	0 A, 10 A (0-72-poic)				O A
Cable entry	1 × M20 × 1.5	1 × M20 × 1.5	1 × M20 × 1.5, 2 × M20 × 1.5	1 × M20 × 1.5, 3 × M20 × 1.5	3 × M20 × 1.5
M12 plug, 4-, 5- or 8-pole	/		/	/	/
Molded cables					
AS-Interface			/	/	/
Actuators			•	•	•
Plungers, twist levers					
Separate actuators			/	√	✓
Hinge switches	 •				-
	V				
Page Complete units	12/65	12/65	12/49, 12/52	10/50 10/50	12/59 12/61
Complete units		12/00		12/50, 12/53	12/09 12/01
Modular system	10/71		10/01		10/00
Ambient temperature -40 °C	12/71	10/00	12/81	40/00	12/82
ASIsafe	12/98	12/99	12/92	12/93	12/96, 12/97

- ✓ Available
- -- Not available

Position and Safety Switches

Introduction



[✓] Available

Note:

Safety characteristics, see page 16/6.

⁻⁻ Not available

¹⁾ CCC not required for voltages < 36 V.

General data

Overview

More information

Homepage, see www.siemens.com/sirius-detecting Industry Mall, see www.siemens.com/product?3SE

Configurator, see www.siemens.com/sirius/configurators

System Manual, see

https://support.industry.siemens.com/cs/ww/en/view/43920150

Conversion tool, see www.siemens.com/sirius/conversion-tool

The innovative SIRIUS 3SE5 position switches are modern in design, compact, modular and simple to connect. They save time and increase flexibility during installation of a whole range of switch variants. In principle it is possible to combine any enclosure with any operating mechanism, paying due consideration to the EN 50041 and EN 50047 standards where necessary.

Complete units

Popular versions of the position switches in standard enclosures are available as complete units.



3SE5 position switches with plastic and metal enclosures

Modular system

The 3SE5 series is the modular system comprising different sizes of the basic switch and an actuator which must be ordered separately. Thanks to the modular design of the switch the user can select the right solution for his application from numerous versions and install it himself in a very short time.

Simple plug-in mounting enables fast replacement of the actuator heads.



Examples of selection options in the modular system

Design

All enclosure variants have an integrated chlorinated rubber diaphragm for high functional safety in cold and aggressive environments.

Enclosure sizes

The 3SE5 switches are available in five different enclosure sizes with 2 or 3 contacts and with the XL enclosure:

- Open-type position switch IP20 or IP10
- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Plastic enclosures, 50 mm wide, IP66/IP67, 2 cable entries
- Metal enclosures, 56 mm wide, IP66/IP67, 3 cable entries
- XL metal enclosures with 4 to 6 contacts, 56 mm wide, IP66/IP67, 3 cable entries

Enclosure versions

Various basic switches can be selected for the enclosures of the 3SE5 series:

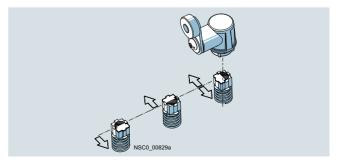
- With contact blocks with two or three contacts (screw terminals) designed as slow-action or snap-action contacts; the slow-action contacts also with make-before-break
- Optional LED status display
- With mounted 4- or 5-pole M12 device plug (available for the wide enclosures as an accessory for self-assembly)
- With 6-pole device plug + PE on the metal enclosures
- Versions with increased corrosion protection
- Versions for operating temperatures down to -40 °C
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/83)

Actuator variants

All operating mechanisms can be rotated around the axis in increments of 22.5°. The following actuator variants are available:

- Plain, rounded and roller plungers
- Roller levers and angular roller levers
- Spring rod
- Twist levers and rod actuators with twist actuator
- · Fork levers with twist actuator

The actuator rollers are available with various materials and diameters.



Twist actuator for twist levers and rod levers, with setting of switching direction to right, left or right/left (standard for all twist actuators except fork levers)

General data

Cover design

The mechanical position switches have a turquoise cover and the mechanical safety switches have a yellow cover.



On request the switches can be delivered ex works with a yellow cover. The cover has no effect on the mode of operation. Both versions can be used in safety applications (see also page 12/14).

Diverse contact types

Exchangeable two- and three-pole contact blocks for all enclosure sizes



The three-pole contact block with snap-action or slow-action contacts is regularly available for all enclosure forms. The same installation space is required as for a two-pole block. The version with 1 NO + 2 NC offers, for example, more safety through redundant shutdowns (2 NC contacts) with simultaneous signaling (NO contact). The three-pole blocks are also available with make-before-break and with 2 NO + 1 NC.

Contact reliability

The contact blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents, e.g. 1 mA at 5 V DC.

Positive opening →

The NC contacts of the switch are forced open mechanically, positively-driven and reliably by the plunger. This is referred to as "positive opening".

Mounting

Easy plug-in method for fast replacement of the actuator heads



Open the cover (1) Actuate the locking lever (2) Replace the head (turnable by 16 x 22.5°) (3) Lock and close the cover (4)

Quick-connect technology

For plastic enclosure with a width of 31 mm



These position switches can be wired quickly and easily as an added customer benefit. The connecting cable is first connected to the terminals of the contact block and then guided through a slit into the cable gland opening. The time saved through this new connection method is approx. 20 to 25%.

A cable gland with seal must be used with the quick-connect method.

Optional LED indicators

LED indicators are available for all enclosure sizes except for XL. The enclosures are supplied with an LED signaling indicator (1 \times green + 1 \times yellow). This is the first time that optical signaling equipment is also available for small standard enclosures according to EN 50047. The LEDs are implemented in 24 V DC and 230 V AC.

General data

Article No. scheme

Product versions		Article	numk	oer									
SIRIUS position and safety switches		3 S E					-						
Series			5										
Standard	EN 50041 EN 50047 with tumbler			1 2 3									
Enclosure material and width	e.g. 1 = metal, narrow												
Connection	Cable entry, device plug					2 4/5							
LEDs	None 24 V DC 115 V AC 230 V AC							0 1 2 3					
Version of contacts	e.g. C = snap-action 1 NO + 1 NC												
Version of operating mechanism	e.g. C02 = rounded plunger												
Example		3 S E	5	1	1	2	_	0	С	С	0	2	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

The 3SE5 position switches differ from the previous series through the following new characteristics:

- The modular design of the product range allows a number of versions with a smaller number of bearing types for enclosures and operating mechanisms.
- All actuators can be turned around the axis in increments of 22.5° (see picture, page 12/6).
- Rounded and roller plungers according to EN 50041 with 3 mm overtravel (total travel 9 mm) for greater tolerance when switching.
- All enclosure sizes now also including the small enclosure 31 mm wide – are optionally available with an LED signaling indicator (see picture, page 12/6).
- All enclosure variants have an integrated chlorinated rubber diaphragm for high functional safety in cold and aggressive environments.
- All contact blocks are replaceable (see page 12/45).

- The three-pole contact blocks are available for all enclosure sizes (see picture, page 12/6).
- Elements with 1 NO + 2 NC slow-action contacts with make-before-break and 2 NO + 1 NC.
- The short-stroke contact block 1 NO + 1 NC improves the precision of the switching operation through a reduced actuation path.
- The contact block with 1 NO + 1 NC snap-action contacts with 2 x 2 mm contact opening is suitable for simultaneous shutdown and signaling, particularly in the elevator industry.
- XL metal enclosures for accommodating two 2- or 3-pole contact blocks.
- The plastic enclosure with a width of 31 mm has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting (see picture, page 12/6).

Application

With the standard position switches, mechanical positions of moving machine parts are converted into electrical signals. Through their modular and uniform design and large number of variants, the devices can comply with practically all requirements in industry.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. And many different actuator variants are available to match the mechanical configuration of the moving machine parts. Dimensions, fixing points and characteristics are largely in accordance with the EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

IEC/EN 60947-5-1

The protective measure of "total insulation" by the molded-plastic enclosure is ensured by the use of molded-plastic screw glands.

Safety position switches

For controls according to IEC/EN 60204-1, the devices can be used as a safety position switch. They comply with the standard EN ISO 14119. A TÜV certificate is available. To secure position switches against changes in their position, keyed techniques must be employed on installation.

Safety circuits

The IEC/EN 60947-5-1 standard requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked in accordance with the standard IEC 60947-5-1 with the symbol Θ .

Category 2 according to EN ISO 13849-1 can be attained with 3SE5 position switches with ⊕, and category 3 or 4 when using an additional position switch, if the corresponding fail-safe evaluation units are selected and correctly connected. Example: 3SK or 3TK28 safety relays or the corresponding devices from the ASIsafe, SIMATIC or SINUMERIK programs. The operating mechanisms (actuators) must also be connected to the enclosure by keyed techniques. The corresponding operating mechanisms are marked in the catalog with ⊕.

General data

Contacts for every application

- Snap-action contacts: NC and NO contacts switch simultaneously regardless of the actuating speed (v_{min} = 0.01 m/s) and contact erosion.
- Slow-action contacts: Difference in travel between "NC contact opens" and "NO contact closes"; the switching speed is the same as or proportional to the actuating speed (v_{min} = 0.4 m/s).
- Slow-action contacts with make-before-break: e.g. suitable for adding a second function to a sequence control.

Operating mechanisms for every application

Standard, rounded and roller plungers

- Operation in direction of the plunger axis or in case of roller plunger with bar at right angles to the plunger axis.
- The roller plunger is recommended for lateral actuation and relatively long overtravel.

Roller levers and angular roller levers

 For actuators made of finely ground steel in the form of cams, straight-edges (approach angle 30°) or cam disks.

Spring rod

- Can be used for undefined actuations and changing starting conditions
- · Starting from any direction is possible

Twist levers and rod actuators

- For high starting speeds (v = 1.5 m/s)
- Variety of starting options
- Insensitive to oil, grinding dust and coarse-grained material
- Adjustment of the lever in increments of 10°
- Can be adjusted with left or right switching

Fork lever

- Switchable in two directions
- Latching actuator
- For reciprocating movements

Monitoring with fail-safe evaluation units from the 3SK and 3RK3 series



Use of only one position/safety switch

Monitoring with 1 contact:

1 x NC contact

Monitoring with 2 contacts:
2 x NC contact or 1 x NC contact + 1 x NO contact

SIL 1/PL c

SIL 2/PL d

Use of a second position/safety switch	
Standard switch	3SE51/3SE52
Safety switch/hinge switch	3SE51/3SE52
Safety switch with separate actuator	3SE51/3SE52
Safety switch with tumbler	3SE53

Note:

Taking account of certain fault exclusions (e.g. actuator breakage), use of just one hinge switch or a switch with separate actuator with or without tumbler up to SIL 2 or PL d is possible as described in the table.

Since the machine manufacturer must provide proof of fault exclusion, the component manufacturer is unable to carry out a definitive assessment of the measures taken.

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/35443942.

The maximum achievable SIL or PL always depends on other assumptions as well. Factors to be taken into account include the DC (declaration), the CCF, and the number of actuations.

SIL 3 / PL e

For information on the safe evaluation units and an introduction to safety systems, see page 11/1 onwards.

General data

Туре		3SE51 ¹⁾ , 3SE52 ¹⁾	3SE541.	3SE542.
General data				
Standards		IEC/EN 60947-5-1, EN ISO 14	1119	
Rated insulation voltage U _i	V	400 ²⁾	400	
Degree of pollution according to IEC 60664-1		Class 3	Class 3	
Rated impulse withstand voltage U _{imp}	kV	6	4	
Rated operational voltage $U_{\rm e}$	V	400 AC; over 300 V AC same potential only ³⁾	300 AC	
Conventional thermal current I _{th}	Α	10	10	
Rated operational current I _e				
 For alternating current 50/60 Hz At 24 V At 120 V 	A A	I _e /AC-15 6 6	I _e /AC-15 6 6	
- At 240 V - At 400 V	A A	6 4	3 	
 For direct current At 24 V At 125 V At 250 V At 400 V 	A A A	I _e / DC-13 3 0.55 0.27 0.12	I _e / DC-13 3 0.55 0.27	
Short-circuit protection ⁴⁾				
With DIAZED fuse links, utilization category gG With miniature circuit breaker, C char. (I _{K< 400A})	A	6	10 3	
Mechanical endurance	^	1	3	
Basic switchWith spring rod, 3SE5R		15×10^6 operating cycles 10×10^6 operating cycles	10 ×10 ⁶ operating cycles	10 ×10 ⁶ operating cycles
With fork lever, 3SE51T		1 ×10 ⁶ operating cycles		
With 3RH.1, 3RT contactors in size S00, S0 For utilization category AC-15 when switching off I _e /AC-15 at 240 V With tillication category AC-10 at 240 V		10 ×10 ⁶ operating cycles 100 000 operating cycles	500 000 operating cycles 100 000 operating cycles	500 000 operating cycles 100 000 operating cycles
With utilization category DC-12/DC-13		For direct current depending	on the loading of the switch	
Switching frequency With 3RH.1, 3RT contactors in size S00, S0		6 000 operating cycles/h	1 800 operating cycles/h	
Switching accuracy				
 For repeated switching, measured at the plunger of the contact block 	mm	0.05	0.05	
With twist actuators		1°	1°	
Rated data according to ©, ® and ¶\ • Rated voltage • Uninterrupted current • Switching capacity	V A	300 6 Heavy duty,	300 10 A 300/Q 300	
Uninterrupted current		6	10	

4) Without any welds according to IEC 60947-5-1.

Pla m 31	astic P66	40 IP66/IP67 ¹⁾	3SE524. 50	Zinc die-cas	3SE511. sting 40	3SE512., 3SE516.	Zn/Al 30/40	3SE525. 30 IP20, IP10		
m 31	65	IP66/IP67 ¹⁾	50		O	56	30/40	30		
m 31	65	IP66/IP67 ¹⁾	50		O	56	30/40	30		
m 31	65	IP66/IP67 ¹⁾	50		O	56	30/40	30		
IP6	65	IP66/IP67 ¹⁾	50	31	40	56				
							IP67	IP20. IP10		
-25	5 +85:-							-,		
-25	5 485.									
	-25 +85; -40+85 for 3SE5*-1AJ0 and 3SE5*-1AY0 versions -25 +85 -25									
-25	·25 +60									
-40	-40 +90 -40 +90									
An	ny									
			2 x (M20 x 1.5)	1 x (M20 x 1.5)		3 × (M20 × 1.5)				
m ² 1 x	x (0.5 1.	5), 2 x (0.5 .	0.75)							
m ² 1 x	x (0.5 1.	5), 2 x (0.5 .	0.75)							
NG 1 x	x (AWG 20) 16), 2 x ((AWG 20 1	18)						
m 0.8	8 1.0									
				M3.5						
n	-2 -4 Ar 1 (M m ² 1: m ² 1: VG 1:	-25 +60 -40 +90 Any 1 x (M20 x 1.5) n ² 1 x (0.5 1. n ² 1 x (0.5 1. VG 1 x (AWG 20	-25 +60 -40 +90 Any 1 x (M20 x 1.5) 1 x (0.5 1.5), 2 x (0.5 1 x (0.5 1.5), 2 x (0.5 1 x (40 x 1.5) x (0.5 1 x (40 x 1.5) x (0.5	-25 +60 -40 +90 Any 1 x (M20 x 1.5) 2 x (M20 x 1.5) 1 x (0.5 1.5), 2 x (0.5 0.75) 1 x (0.5 1.5), 2 x (0.5 0.75) 1 x (AWG 20 16), 2 x (AWG 20 176)	-25 +60 -40 +90 Any 1 x (M20 x 1.5)	-25 +60 -40 +90 Any 1 x (M20 x 1.5)	-25 +60 -40 +90 Any 1 x (M20 x 1.5)	-25 +60 -40 +90 Any 1 x (M20 x 1.5) 2 x (M20 x 1.5) 1 x (M20 x 1.5) 1 x (0.5 1.5), 2 x (0.5 0.75) 1 x (0.5 1.5), 2 x (0.5 0.75) 1 x (AWG 20 16), 2 x (AWG 20 18) 0 8 1.0		

¹⁾ For actuator heads with spring rod and rod actuators: IP65/IP67.

Special versions, see data sheet.
 For slow-action contacts 1 NO + 2 NC with make-before-break ("M") and 2 NO + 1 NC ("P") the following applies: 250 V.

³⁾ For slow-action contacts 1 NO + 2 NC with make-before-break ("M") and 2 NO + 1 NC ("P") the following applies: Over 250 V AC same potential only.

2

SIRIUS 3SE5 Mechanical Position Switches

General data

Circuit diagrams

Enclosure widths 31, 40, 50 and 56 mm

Slow-action contacts 1 NO + 1 NC 3SE5...-.B..., -.R...

Slow-action contacts 1 NO + 2 NC 3SE5...-.K..., -.Q...

Slow-action contacts 2 NO + 1 NC 3SE5...-.P...

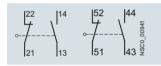
Slow-action contacts 1 NO + 2 NC with make-before-break, 3SE5...-.M...

Snap-action contacts 1 NO + 1 NC 3SE5...-.C..., -.F..., -.G..., -.H..., -.N...

Snap-action contacts 1 NO + 2 NC 3SE5...-.L...

XL enclosures, width 56 mm

Slow-action contacts 2 x (1 NO + 1 NC) 3SE5162-0B...



Slow-action contacts 2 x (1 NO + 2 NC) with make-before-break, 3SE5162-0D...

Slow-action contacts 1 NO + 2 NC with make-before-break, 1 NO + 1 NC 3SE5162-0E...



Snap-action contacts 2 x (1 NO + 1 NC) 3SE5162-0C...

3SE5 pin assignment

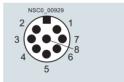
M12 device plug, 4-pole 3SY3127



M12 device plugs, 5-pole 3SY3128



M12 device plugs, 8-pole 3SX5100-1SS08



Device plugs, 6-pole + PE 3SY3131



Туре	Device plugs	Contacts	LEDs	Connect	ions							
	Туре	Version	Version	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	PE
M12 device plug	s, 4-, 5- or 8-	pole										
3SE54-01AC4	3SY3127	1 NO + 1 NC		21	22	13	14					
3SE54-01AL0	3SY3128	1 NO + 1 NC		21	22	13	14	PE				
3SE54-01AE0	3SY3127	2 NC		21	22	31	32					
3SE54-01AE1	3SY3128	2 NC		21	22	31	32	PE				
3SE54-1C1AF5	3SY3128	1 NO + 1 NC snap-action	2 LEDs	21	22	13/ LED gn	14/ LED ye	Ground LED				
3SE54-1B1AF3	3SY3128	1 NO + 1 NC slow-action	2 LEDs	21	22	14/ LED gn	13/ LED ye	Ground LED				
3SE54-1L1AD4	3SY3134	1 NO + 2 NC snap-action	2 LEDs	21	22	13/ LED gn	14/ LED ye	31	32	Ground LED	PE	
3SE54-1K1AD4	3SY3134	1 NO + 2 NC slow-action	2 LEDs	21	22	14/ LED gn	13/ LED ye	31	32	Ground LED	PE	
Device plugs, 6-	pole + PE											
3SE55-01AD0	3SY3131	1 NO + 1 NC		21	22	13	14					1
3SE55-01AD1	3SY3131	1 NO + 2 NC		21	22	13	14	31	32			1
3SE55C1AF2	3SY3131	1 NO + 1 NC snap-action	2 LEDs	21	22	13/ LED gn	14/ LED ye		Ground LED			1
3SE55B1AF2	3SY3131	1 NO + 1 NC slow-action	2 LEDs	21	22	14/ LED gn	13/ LED ye		Ground LED			1
3SE55L1AD2	3SY3131	2 NC snap-action	2 LEDs	21	22	31	32	13/ LED gn	Ground LED			1
3SE55K1AD2	3SY3131	2 NC slow-action	2 LEDs	21	22	31	32	14/ LED gn	Ground LED			1

Legend:

gn = green, ye = yellow

✓ Connected

-- Not available

General data

Options

On the following pages you will find selection tables for complete units as well as components of the modular system.

Complete units

Modular system

The differences between the units are indicated in the selection and ordering data by the symbols shown on orange backgrounds.

Using the modular system you can assemble switch variants which are not available as complete units. Each complete unit can also be supplied as a module.

A basic switch for the modular system comprises an enclosure with a contact block and a cover. Among the basic switches the following versions, for example, can be selected:

- · Basic enclosure with teflon plunger
- Version with increased corrosion protection
- Version with M12 device plug and/or with 2 LEDs
- Version with M12 device plug or 6-pole + PE

Support functions

The 3SE5/3SF1 position and safety switches can also be ordered using an online configurator.

This also enables a complete documentation to be prepared:

- Product data sheets
- Dimension drawings
- Operating travel diagrams
- · CAD data in 2D and 3D model images
- Ordering data
- Product photos

For online configurator, see www.siemens.com/sirius/configurators.

Complete units

Ordering example

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- · Angular roller lever, metal lever and plastic roller

To be ordered:

	Version	Complete units	
•		Article No.	
Complete units	• Enclosure width 31 mm		
	Angular roller lever		
	With metal lever and plastic roller 13 mm		
Manager	Slow-action contacts 1 NO + 1 NC	3SE5232-0BF10	

Modular system

Ordering example 1

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Angular roller lever, metal lever and plastic roller

To be ordered separately:



Ordering example 2

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Twist levers, high-grade steel lever and plastic roller

To be ordered separately

io be ordered se	sparately.	
	Version	Modular system
		Article No.
Basic switches	• Enclosure width 31 mm	
ales.	With teflon plunger	
Garages	Slow-action contacts 1 NO + 1 NC	3SE5232-0BC05
		+
Twist actuators		
	Twist actuators	3SE5000-0AK00
	Twist levers	
	High-grade steel lever, plastic roller	3SE5000-0AA31

3SE5, Plastic Enclosures

Enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units for installation in control cabinets

2 contacts · Degree of protection IP40 · Cable entry by means of a locking plug with Ø 6 mm

	Version	Contacts	LEDs	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU	, ,		
Complete units ¹⁾ • E	Enclosure width 31 mm					p 3 3			
Alba	Control cabinet type, IP40,	rounded pl	ungers,	type B,	acc. to EN 50047				
	Flat cover								
BIEDLESS	Snap-action contacts, integrated ²⁾	1 NO + 1 NO)	→ 5	3SE5232-0HC05-1AB1		1	1 unit	41K
3SE5232-0HC05-1AB1									
	With mounting plate and screws	for attachmen	t profile						
Date of the state	Snap-action contacts, integrated ²⁾	1 NO + 1 NO	>	→ 5	3SE5232-0HC05-1AB2		1	1 unit	41K
3SE5232-0HC05-1AB2									
4lm	Standard cover								
BIESTESS .	Snap-action contacts, integrated ²⁾	1 NO + 1 NC	C	→ 5	3SE5232-0HC05-1AB3		1	1 unit	41K
3SE5232-0HC05-1AB3									
STEVENS .	With mounting plate and screws Snap-action contacts, integrated ²⁾	for attachmen 1 NO + 1 NC		→ 5	3SE5232-0HC05-1AB4		1	1 unit	41K
DOES ON ONE AND A									
3SE5232-0HC05-1AB4 Accessories									
Acocssones	Mounting plate			5	3SX5100-1A		1	1 unit	41K
3 3	Suitable for 3SE523. and 3SE521. position switches with a width of 31 mm			-			·		
3SX5100-1A	ording to IEC 60947-5-1 Appendix	17							

→ Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ The control cabinet types are not basic switches for the modular system.

²⁾ Subsequent replacement of contact blocks is not possible.

SIRIUS 3SE5 Mechanical Position Switches 3SE5, Plastic Enclosures

Enclosure width 31 mm according to EN 50047

Complete units

2 or 3 contacts \cdot Degree of protection IP65 \cdot Cable entry M20 \times 1.5¹⁾

	= :									
	Version	Contacts	LEDs	П	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU	OL1, WI)		
complete units ²⁾	• Enclosure width 31 mm									
	Rounded plungers, type B	, acc. to EN	50047							
	With teflon plunger									
(b)	Slow-action contacts	1 NO + 1 NC		€	>	3SE5232-0BC05		1	1 unit	41
MINISTERNA .	Snap-action contacts	1 NO + 1 NC		€	5	3SE5232-0CC05		1	1 unit	41
	Snap-action contacts, integrated ³⁾	1 NO + 1 NC		→	>	3SE5232-0HC05		1	1 unit	41
SE5232-0HC05-1AE	Snap-action contacts • Short stroke, integrated ³⁾	1 NO + 1 NC		€	5	3SE5232-0FC05		1	1 unit	41
	Snap-action contacts • 2 × 2 mm contact gap	1 NO + 1 NC		→	15	3SE5232-0GC05		1	1 unit	41
	Slow-action contacts	1 NO + 2 NC		\odot	>	3SE5232-0KC05		1	1 unit	41
	Snap-action contacts	1 NO + 2 NC		\odot	>	3SE5232-0LC05		1	1 unit	41
	Slow-action contacts with make-before-break	1 NO + 2 NC		→	2	3SE5232-0MC05		1	1 unit	41
	Slow-action contacts	2 NO + 1 NC		€	2	3SE5232-0PC05		1	1 unit	41
41-	With increased corrosion prote	ection								
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5232-0BC05-1CA0		1	1 unit	41
(1)	Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5232-0CC05-1CA0		1	1 unit	41
TENTENES	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5232-0KC05-1CA0		1	1 unit	41
	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5232-0LC05-1CA0		1	1 unit	41
	Slow-action contacts with make- before-break	1 NO + 2 NC		→	5	3SE5232-0MC05-1CA0		1	1 unit	41
SE5232-0BC05-1CA	Slow-action contacts	2 NO + 1 NC		\odot	5	3SE5232-0PC05-1CA0		1	1 unit	41
	With M12 device plug, 4-pole (2	250 V, 4 A)								
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5234-0BC05-1AC4		1	1 unit	41
	Snap-action contacts, integrated ³⁾	1 NO + 1 NC		→	2	3SE5234-0HC05-1AC4		1	1 unit	41
	Slow-action contacts	2 NC		\odot	5	3SE5234-0KC05-1AE0		1	1 unit	41
	Snap-action contacts	2 NC		\odot	2	3SE5234-0LC05-1AE0		1	1 unit	41
	With 2 LEDs, yellow/green									
	Slow-action contacts	1 NO + 2 NC	24 V DC	\odot	5	3SE5232-1KC05		1	1 unit	41
(b)	Snap-action contacts	1 NO + 2 NC	24 V DC	\odot	5	3SE5232-1LC05		1	1 unit	41
THE PARTY OF THE P	Slow-action contacts	1 NO + 2 NC	230 V AC	\odot	5	3SE5232-3KC05		1	1 unit	41
	Snap-action contacts	1 NO + 2 NC	230 V AC	\odot	5	3SE5232-3LC05		1	1 unit	41
	With M12 device plug, 5-pole (and 2 LEDs	125 V, 4 A),								
SE5232-1KC05	Slow-action contacts	1 NO + 1 NC	24 V DC	\odot	5	3SE5234-1BC05-1AF3		1	1 unit	41
	Snap-action contacts	1 NO + 1 NC	24 V DC	\odot	5	3SE5234-1CC05-1AF3		1	1 unit	41
	With M12 device plug, 5-pole (with pin assignment as for SIN) _{NEW}							
⊕ ⊕	Snap-action contacts	1 NO + 1 NC	24 V DC	€	X	3SE5234-0LC05-1AE2		1	1 unit	41
CE224 OLCOF 14E										



- → Positive opening according to IEC 60947-5-1, Appendix K.
- 1) A cable gland with seal must be used with the quick-connect method.
- ²⁾ Popular versions.
- 3) Subsequent replacement of contact blocks is not possible.
- 4) The 3SE5234-....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

3SE5, Plastic Enclosures

Enclosure width 31 mm according to EN 50047

2 or 3 contacts · [Degree of protection IP65 · Cabl	le entry M20	× 1.5 ¹)						
	Version	Contacts	LEDs	Г	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Complete units ²⁾	• Enclosure width 31 mm						1, -			
A	Roller plungers, type C, acc. With plastic roller 10 mm	. to EN 5004	7			_		l		
	Slow-action contacts	1 NO + 1 NC	:	→	5	3SE5232-0BD03		1	1 unit	41K
Established	Snap-action contacts	1 NO + 1 NC		⊕	>	3SE5232-0HD03		1	1 unit	41K
	• Integrated ³⁾ Snap-action contacts	1 NO + 1 NC		⊕	5	3SE5232-0FD03		1	1 unit	41K
	• Short stroke, integrated ³⁾	1110 1 1110		٠	0	00E0202 01 D00		'	1 dilit	7110
3SE5232-0BD03	Slow-action contacts	1 NO + 2 NO	:	\odot	5	3SE5232-0KD03		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO	:	€	5	3SE5232-0LD03		1	1 unit	41K
	Actuator head rotated by 90°									
	Snap-action contacts	1 NO + 2 NO		€	5	3SE5232-0LD03-1AH0		1	1 unit	41K
	With M12 device plug, 4-pole (25	50 V, 4 A)								
	Snap-action contacts, integrated ³⁾	⁾ 1 NO + 1 NC	:	€	5	3SE5234-0HD03-1AC4		1	1 unit	41K
	With M12 device plug, 5-pole (12 with pin assignment as for SIMA		NEW							
A	Snap-action contacts	1 NO + 2 NO	:	€	Χ	3SE5234-0LD03-1AE2		1	1 unit	41K
	With yellow cover									
(AND MODE)	Snap-action contacts	1 NO + 2 NC		→	5	3SE5232-0LD03-1AG0		1	1 unit	41K
3SE5232-0LD03-1A0	30									
0000002 00000 1710	Roller plungers with central	fixina								
2	With plastic roller 10 mm	lixilig								
3	Snap-action contacts, integrated ³⁾	1 NO + 1 NO		→	5	3SE5232-0HD10		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		⊕		3SE5232-0HD10		1	1 unit	41K
3SE5232-0HD10										
	Roller levers, type E acc. to									
	With metal lever and plastic rolls			_						
	Slow-action contacts	1 NO + 1 NC		→		3SE5232-0BE10		1	1 unit	41K
STEVENS .	Snap-action contacts, integrated ³⁾			_		3SE5232-0HE10		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		→	5	3SE5232-0KE10		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		€	5	3SE5232-0LE10		1	1 unit	41K
3SE5232-0HE10	With increased corrosion protec with high-grade steel lever and p	plastic roller 1								
	Snap-action contacts	1 NO + 1 NC		€	5	3SE5232-0CE12-1CA0		1	1 unit	41K
	With M12 device plug, 4-pole (25			_						
	Snap-action contacts, integrated ³⁾			€	5	3SE5234-0HE10-1AC4		1	1 unit	41K
	With M12 device plug, 5-pole (12 with pin assignment as for SIMA	TIC ET 200 ⁴⁾								
	Snap-action contacts	1 NO + 2 NC		€	Х	3SE5234-0LE11-1AE2		1	1 unit	41K
	With high-grade steel lever and p	•		_						
	Snap-action contacts	1 NO + 2 NC		→	5	3SE5232-0LE12		1	1 unit	41K
	Angular roller lever									
1	With metal lever and plastic rolle			_						
	Slow-action contacts	1 NO + 1 NC		→		3SE5232-0BF10		1	1 unit	41K
STEASEDUS	Snap-action contacts, integrated ³⁾			€		3SE5232-0HF10		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO	:	€	5	3SE5232-0KF10		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		€	5	3SE5232-0LF10		1	1 unit	41K
2005020 00510										
3SE5232-0BF10	"		,	1)						

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ A cable gland with seal must be used with the quick-connect method.

²⁾ Popular versions.

³⁾ Subsequent replacement of contact blocks is not possible.

⁴⁾ The 3SE5234-.....1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

SIRIUS 3SE5 Mechanical Position Switches 3SE5, Plastic Enclosures

Enclosure width 31 mm according to EN 50047

	Version	Contacts	LEDs		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU	OL I, IVI)		
complete unit	ts ²⁾ • Enclosure width 31 mm				u		per FU			
1	Spring rod									
1	Length 142.5 mm, with plastic pl	-								
	Snap-action contacts, integrated ³⁾				2	3SE5232-0HR01		1	1 unit	411
畠	With M12 device plug, 4-pole (25	-								
	Snap-action contacts, integrated ³⁾	1 NO + 1 NC			5	3SE5234-0HR01-1AC4		1	1 unit	41
5 o 2										
	Twist levers, type A, acc. to	EN 50047								
SE5232-0HR01	With metal lever 21 mm and plas		ım							
	Slow-action contacts	1 NO + 1 NC		→	2	3SE5232-0BK21		1	1 unit	411
OR	Snap-action contacts, integrated ³⁾	1 NO + 1 NC		\odot	5	3SE5232-0HK21		1	1 unit	411
9	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5232-0KK21		1	1 unit	411
	Snap-action contacts	1 NO + 2 NC		→	5	3SE5232-0LK21		1	1 unit	41
parameter .	With M12 device plug, 4-pole (25	0 V, 4 A)								
	Snap-action contacts, integrated ³⁾	1 NO + 1 NC		\odot	5	3SE5234-0HK21-1AC4		1	1 unit	41k
	With metal lever 35 mm and plas	tic roller 19 m	ım							
SE5232-0BK21	Snap-action contacts, integrated3)	1 NO + 1 NC		\odot	5	3SE5232-0HK15		1	1 unit	41
	Twist levers, adjustable leng	gth								
Ĭ	With metal lever with grid hole a	nd								
	plastic roller 19 mm				_					
57°	Snap-action contacts, integrated ³⁾	1 NO + 1 NC		€	2	3SE5232-0HK60		1	1 unit	41k
3SE5232-0HK60										
	With metal lever and plastic rolls	er 19 mm								
Ĭ	Slow-action contacts	1 NO + 1 NC			5	3SE5232-0BK50		1	1 unit	411
	Snap-action contacts, integrated ³⁾	1 NO + 1 NC				3SE5232-0HK50		1	1 unit	411
5 P	Snap-action contacts	1 NO + 2 NC			5	3SE5232-0LK50		1	1 unit	411
T	With M12 device plug, 4-pole (25									
	Snap-action contacts, integrated ³⁾	1 NO + 1 NC			5	3SE5234-0HK50-1AC4		1	1 unit	411
3SE5232-0BK50										
35E5232-UBK5U	Rod actuator									
	With aluminum rod, length 200 n	nm								
4	Snap-action contacts, integrated ³⁾				5	3SE5232-0HK80		1	1 unit	41k
1	With plastic rod, length 200 mm	. 140 1 1110			J			<u>'</u>	, and	711
0	Snap-action contacts, integrated ³⁾	1 NO + 1 NC			5	3SE5232-0HK82		1	1 unit	411
	With M12 device plug, 4-pole (25					JULUL VIIIUL		'	i dilit	711
	Snap-action contacts, integrated ³⁾				5	3SE5234-0HK82-1AC4		1	1 unit	41k
1	onap action contacts, integrated	I INO T I INO			J	COLULUT OF INOL-TAUT		'	i dilit	411

[→] Positive opening according to IEC 60947-5-1, Appendix K.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/16.

¹⁾ A cable gland with seal must be used with the quick-connect method.
2) Popular versions.

³⁾ Subsequent replacement of contact blocks is not possible.

3SE5, Plastic Enclosures

Enclosure width 31 mm according to EN 50047

Modular system

2 or 3 contacts \cdot Degree of protection IP65 \cdot Cable entry M20 \times 1.5¹⁾

	•	•								
	Version	Contacts	LEDs		SD	Modular system	PU (U	JNIT, F. M)	PS*	PG
					d		Price er PU	,,		
Basic switches • Er	nclosure width 31 mm (wit	h rounded p	lunger ²⁾)			P	-			
4lb	Teflon plungers									
	Slow-action contacts	1 NO + 1 NO	C	€	>	3SE5232-0BC05		1	1 unit	41K
a	Snap-action contacts	1 NO + 1 NO	C	\odot	5	3SE5232-0CC05		1	1 unit	41K
Significa	Snap-action contacts, integrated ³⁾	1 NO + 1 NO	O	→	•	3SE5232-0HC05		1	1 unit	41K
	Snap-action contacts • Short stroke, integrated ³⁾	1 NO + 1 NO	O	→	5	3SE5232-0FC05		1	1 unit	41K
3SE5232-0BC05	Snap-action contacts • 2 × 2 mm contact gap	1 NO + 1 NO	C	€	15	3SE5232-0GC05		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO	C	\odot	>	3SE5232-0KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO	C	€	>	3SE5232-0LC05		1	1 unit	41K
	Slow-action contacts with make-before-break	1 NO + 2 NO	C	€	2	3SE5232-0MC05		1	1 unit	41K
	Slow-action contacts	2 NO + 1 NO	C	€	2	3SE5232-0PC05		1	1 unit	41K
	Increased corrosion protecti			_						
	Slow-action contacts	1 NO + 1 NO		€	5	3SE5232-0BC05-1CA0		1	1 unit	41K
BURNING	Snap-action contacts	1 NO + 1 NO	C	€	5	3SE5232-0CC05-1CA0		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO		⊕	5	3SE5232-0KC05-1CA0		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		→	5	3SE5232-0LC05-1CA0		1	1 unit	41K
3SE5232-0BC05-1CA0	Slow-action contacts with make-before-break	1 NO + 2 NO	O	→	5	3SE5232-0MC05-1CA0		1	1 unit	41K
33E3232-0BC03-1CA0	Slow-action contacts	2 NO + 1 NO	C	€	5	3SE5232-0PC05-1CA0		1	1 unit	41K
	M12 device plug, 4-pole (250	•		_						
	Slow-action contacts	1 NO + 1 NO		€	5	3SE5234-0BC05-1AC4		1	1 unit	41K
Topapa	Snap-action contacts, integrated ³⁾	1 NO + 1 NO	O	→	2	3SE5234-0HC05-1AC4		1	1 unit	41K
	Slow-action contacts	2 NC		→	5	3SE5234-0KC05-1AE0		1	1 unit	41K
	Snap-action contacts	2 NC		€	2	3SE5234-0LC05-1AE0		1	1 unit	41K
3SE5234-0HC05-1AC4										
4	2 LEDs yellow/green									
	Slow-action contacts	1 NO + 2 NO		€	5	3SE5232-1KC05		1	1 unit	41K
Emorrous	Snap-action contacts	1 NO + 2 NO		€	5	3SE5232-1LC05		1	1 unit	41K
Otto	Slow-action contacts	1 NO + 2 NO			5	3SE5232-3KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO	C 230 V AC	€	5	3SE5232-3LC05		1	1 unit	41K
3SE5232-1KC05										
AD	M12 device plug, 5-pole (125									
	Slow-action contacts	1 NO + 1 NO		€	5	3SE5234-1BC05-1AF3		1	1 unit	41K
0055004 4D005 4A50	Snap-action contacts	1 NO + 1 NO	C 24 V DC	→	5	3SE5234-1CC05-1AF3		1	1 unit	41K
3SE5234-1BC05-1AF3	With M12 device plug, 5-pole	e (125 V, 4 A),	5) (VI=171							
	with pin assignment as for S			€	~	200024 01 005 1450		4	1	4412
	Snap-action contacts	1 NO + 2 NO	24 V DC	•	Х	3SE5234-0LC05-1AE2		1	1 unit	41K

- Positive opening according to IEC 60947-5-1, Appendix K, or positive driven actuator, necessary in safety circuits.
- 1) A cable gland with seal must be used with the quick-connect method.
- 2) For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.
- 3) Subsequent replacement of contact blocks is not possible.
- 4) Use corresponding high-grade steel lever.
- 50 Sections pointing high-grade steel level.
 51 The 3SE5234-....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

For the selection aid, see page 12/11.

SIRIUS 3SE5 Mechanical Position Switches 3SE5, Plastic Enclosures

Enclosure width 31 mm according to EN 50047

	Version	Diameter	SI	D N	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm	d	A	Article No.	Price per PU			
perating me	chanisms					po. 1 0			
<u> </u>	Roller plungers, type C, acc. to EN 50047								
	Plastic rollers	10	→ 2	3	SE5000-0AD03		1	1 unit	411
	High-grade steel rollers	10	→ 5	3	3SE5000-0AD04		1	1 unit	411
SE5000-0AD03									
A	Roller plungers with central fixing								
	Plastic rollers	10	→ 2	3	SE5000-0AD10		1	1 unit	411
	High-grade steel rollers	10	→ 5	3	SE5000-0AD11		1	1 unit	41
SE5000-0AD10									
	Roller levers, type E, acc. to EN 50047	4.0	O •						
	Metal lever, plastic roller	13	→ 2		SE5000-0AE10		1	1 unit	41
	Metal lever, high-grade steel roller	13	→ 5		SE5000-0AE11		1	1 unit	41
055000 04540	High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	13 13	→ 5→ 5		3SE5000-0AE12 3SE5000-0AE13		1	1 unit 1 unit	41 41
SE5000-0AE10		13	9 3	•	35E3000-0AE13		'	1 unit	41
	Angular roller levers Metal lever, plastic roller	13	→ 2	9	SE5000-0AF10		1	1 unit	41
	Metal lever, high-grade steel roller	13	→ 5		SE5000-0AF11		1	1 unit	41
SE5000-0AF10	High-grade steel lever, plastic roller	13	→ 2		SE5000-0AF12		1	1 unit	41
020000 07 11 10	High-grade steel lever, high-grade steel roller	13	→ 5		SE5000-0AF13		1	1 unit	41
•	Spring rods								
	(for switches with snap-action contacts only)								
	Plunger made of plastic, spring of high-grade steel								
	Length 142.5 mm (spring 50 mm, plunger 50 mm)		5		3SE5000-0AR01		1	1 unit	41
	Length 76 mm (spring 23.5 mm, plunger 10 mm		5		3SE5000-0AR03		1	1 unit	41
	• Length 242.5 mm (spring 150 mm, plunger 50	mm)	5	3	3SE5000-0AR04		1	1 unit	41
	Plunger and spring made of high-grade steel:	/	5	,	OCEEOOO OADOO		1	4 unit	44
SE5000-0AR01	Length 142.5 mm (spring 50 mm, plunger 50 m	1111)		,	3SE5000-0AR02		l	1 unit	41
wist actuator									
	Twist actuators, for 31 mm/50 mm, EN 50047 Switching right and/or left, adjustable		→ 2	9	SE5000-0AK00		1	1 unit	411
	Levers		<u> </u>		702000 07H00		'	T GITTE	
	Twist levers 21 mm, straight, type A acc. to EN	l 50047							
SE5000-0AK00	Metal lever, plastic roller	19	→ 2	3	SE5000-0AA21		1	1 unit	41
	Metal lever, high-grade steel roller	19	→ 5		SE5000-0AA22		1	1 unit	41
$lue{lue{lue{lue{lue{lue{lue{lue{$	Metal lever, high-grade steel roller with ball bearing	g 19 30	→ 5→ 5		3SE5000-0AA23 3SE5000-0AA25		1 1	1 unit 1 unit	41 41
	Metal lever, plastic roller High-grade steel lever, plastic roller	19	→ 5		SE5000-0AA25		1	1 unit	41
055000 04404	High-grade steel lever, high-grade steel roller	19	→ 5		3SE5000-0AA32		1	1 unit	41
SE5000-0AA21	Twist levers 30 mm, straight								
3 6	Metal lever, plastic roller	19	→ 5		3SE5000-0AA24		1	1 unit	41
	Metal lever, plastic roller	30	→ 5	3	SE5000-0AA26		1	1 unit	41
8	Twist levers, adjustable length, with grid hole Metal lever, plastic roller	19	→ 5	3	SE5000-0AA60		1	1 unit	41
-	Metal lever, high-grade steel roller	19	⊙ 5		SE5000-0AA61		1	1 unit	41
1	Metal lever, plastic roller	50	→ 5		SE5000-0AA67		1	1 unit	41
8	Metal lever, rubber roller	50	→ 5		SE5000-0AA68		1	1 unit	41
	High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	19 19	→ 5 → 5		3SE5000-0AA62 3SE5000-0AA63		1	1 unit 1 unit	41 41
SE5000-0AA60 SE5000-0AA50		19	9 3	3	3E5000-0AA63		<u>I</u>	i unit	41
1	Metal lever, plastic roller	19	2	3	SE5000-0AA50		1	1 unit	41
	Metal lever, high-grade steel roller	19	5		SE5000-0AA51		1	1 unit	41
	Metal lever, plastic roller	30	5		SE5000-0AA55		1	1 unit	41
Ü	Metal lever, plastic roller	50	5		3SE5000-0AA57		1	1 unit	41
	Metal lever, rubber roller High-grade steel lever, plastic roller	50 19	5 5		3SE5000-0AA58 3SE5000-0AA52		1 1	1 unit 1 unit	41 41
	High-grade steel lever, high-grade steel roller	19	5		SE5000-0AA52		1	1 unit	41
1	Rod actuator								
	Aluminum rod, length 200 mm	6	5	3	SE5000-0AA80		1	1 unit	41
SE5000-0AA80		6	5 5	3	3SE5000-0AA81 3SE5000-0AA82		1 1	1 unit 1 unit	41k 41k

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

3SE5, Plastic Enclosures

Enclosure width 40 mm according to EN 50041

Selection and ordering data

Complete units

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

astic plunger tion contacts btion contacts tion contacts btion contacts btion contacts tion contacts	1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 RB, acc. to EN 50 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 NO + 1 NC	 0041 	••••	5 5 5 5 5 5 5 5	3SE5132-0BB01 3SE5132-0CB01 3SE5132-0KB01 3SE5132-0LB01 3SE5132-0PB01 3SE5132-0PC03 3SE5132-0CC03 3SE5132-0KC03	Price per PU	SET, M)	1 unit	41K 41K 41K 41K 41K
plungers gh-grade steel plung tion contacts beion contacts beion contacts tion contacts tion contacts tion contacts tion contacts tion contacts teled plungers, type astic plunger tion contacts beion contacts tion contacts	1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 RB, acc. to EN 50 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 NO + 1 NC	 0041 		5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3SE5132-0CB01 3SE5132-0KB01 3SE5132-0LB01 3SE5132-0PB01 3SE5132-0BC03 3SE5132-0CC03	P3112	1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41K 41K 41K 41K
gh-grade steel plung tion contacts betion contacts	1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 RB, acc. to EN 50 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC	 0041 		5 5 5 5 5 5 5 5	3SE5132-0CB01 3SE5132-0KB01 3SE5132-0LB01 3SE5132-0PB01 3SE5132-0BC03 3SE5132-0CC03		1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41K 41K 41K 41K
tion contacts betion contacts	1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 RB, acc. to EN 50 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC	 0041 		5 5 5 5 5 5 5 5	3SE5132-0CB01 3SE5132-0KB01 3SE5132-0LB01 3SE5132-0PB01 3SE5132-0BC03 3SE5132-0CC03		1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41K 41K 41K 41K
etion contacts tion contacts	1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 B, acc. to EN 50 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC	 0041 		5 5 5 5 5 5 5 5	3SE5132-0CB01 3SE5132-0KB01 3SE5132-0LB01 3SE5132-0PB01 3SE5132-0BC03 3SE5132-0CC03		1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41K 41K 41K 41K
tion contacts ction contacts tion contacts tion contacts ted plungers, type astic plunger tion contacts ction contacts ction contacts tion contacts ction contacts tion contacts tion contacts	1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 B, acc. to EN 50 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 NO + 1 NC	 0041 		5 5 5 2 5 5	3SE5132-0KB01 3SE5132-0LB01 3SE5132-0PB01 3SE5132-0BC03 3SE5132-0CC03		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41K 41K 41K
etion contacts tion contacts led plungers, type astic plunger tion contacts etion contacts tion contacts plungers, type C, astic roller 13 mm tion contacts tion contacts	1 NO + 2 NC 2 NO + 1 NC 9 B, acc. to EN 50 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC	 0 041 	••••••	5 5 5 2 5 5	3SE5132-0LB01 3SE5132-0PB01 3SE5132-0BC03 3SE5132-0CC03		1 1 1	1 unit 1 unit 1 unit 1 unit	41K 41K 41K
tion contacts Ted plungers, type astic plunger tion contacts ction contacts ction contacts ction contacts tion contacts tion contacts tion contacts tion contacts tion contacts tion contacts plungers, type C, astic roller 13 mm tion contacts ction contacts	2 NO + 1 NC 2 B, acc. to EN 50 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC	 0 041 	•••••	5 5 2 5 5	3SE5132-0PB01 3SE5132-0BC03 3SE5132-0CC03		1 1 1	1 unit 1 unit 1 unit	41K
ded plungers, type astic plunger tion contacts tion contacts tion contacts tion contacts tion contacts tion contacts plungers, type C, astic roller 13 mm tion contacts	1 NO + 1 NC 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC	 	••••	5 2 5 5	3SE5132-0BC03 3SE5132-0CC03		1	1 unit 1 unit	41K
astic plunger tion contacts ction contacts tion contacts tion contacts tion contacts tion contacts tion contacts plungers, type C, astic roller 13 mm tion contacts tion contacts	1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 4 acc. to EN 50041	 	→→→	2 5 5	3SE5132-0CC03		1	1 unit	
tion contacts ction contacts tion contacts tion contacts tion contacts tion contacts plungers, type C, astic roller 13 mm tion contacts tion contacts	1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 2 Acc. to EN 50041	 	→→→	2 5 5	3SE5132-0CC03		1	1 unit	
ction contacts tion contacts tion contacts tion contacts tion contacts plungers, type C, astic roller 13 mm tion contacts tion contacts	1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC 4 acc. to EN 50041	 	→→→	2 5 5	3SE5132-0CC03		1	1 unit	
tion contacts btion contacts tion contacts plungers, type C, astic roller 13 mm tion contacts btion contacts	1 NO + 2 NC 1 NO + 2 NC 2 NO + 1 NC , acc. to EN 50041	 	⊕	5 5					41K
ction contacts tion contacts plungers, type C, astic roller 13 mm tion contacts ction contacts	1 NO + 2 NC 2 NO + 1 NC , acc. to EN 50041		\odot	5	3SE5132-0KC03				
plungers, type C, astic roller 13 mm tion contacts	2 NO + 1 NC , acc. to EN 50041						1	1 unit	41K
plungers, type C, astic roller 13 mm tion contacts tion contacts	, acc. to EN 50041		→	5	3SE5132-0LC03		1	1 unit	41K
astic roller 13 mm tion contacts ction contacts		1			3SE5132-0PC03		1	1 unit	41K
astic roller 13 mm tion contacts ction contacts		1							
tion contacts	1 NO . 1 NO								
ction contacts			→	E	20E5120 0BD05		4	4 unit	441/
	1 NO + 1 NC				3SE5132-0BD05		1	1 unit	41K
tion contacts	1 NO + 1 NC			2	3SE5132-0CD05		1	1 unit	41K
	1 NO + 2 NC			5	3SE5132-0KD05		1	1 unit	41K
ction contacts	1 NO + 2 NC			5 5	3SE5132-0LD05		1	1 unit	41K
tion contacts	2 NO + 1 NC		€	5	3SE5132-0PD05		1	1 unit	41K
levers									
etal lever and plastic	c roller 22 mm								
tion contacts	1 NO + 1 NC		→	5	3SE5132-0BE05		1	1 unit	41K
ction contacts	1 NO + 1 NC		€		3SE5132-0CE05		1	1 unit	41K
tion contacts	1 NO + 2 NC			5	3SE5132-0KE05		1	1 unit	41K
ction contacts	1 NO + 2 NC			5	3SE5132-0LE05		1	1 unit	41K
tion contacts	2 NO + 1 NC			5	3SE5132-0PE05		1	1 unit	41K
			Ü						
ar roller lever									
etal lever and plastic	c roller 22 mm								
tion contacts	1 NO + 1 NC		\odot	5	3SE5132-0BF05		1	1 unit	41K
ction contacts	1 NO + 1 NC		\odot	5	3SE5132-0CF05		1	1 unit	41K
ction contacts	1 NO + 2 NC		€	5	3SE5132-0LF05		1	1 unit	41K
	. •			_					
							1		41K
ction contacts	1 NO + 2 NC			5	3SE5132-0LR01		1	1 unit	41K
9	ction contacts ction contacts ction contacts	ction contacts 1 NO + 1 NC ction contacts 1 NO + 2 NC g rod 142.5 mm, with plastic plunger 50 mm ction contacts 1 NO + 1 NC	ction contacts 1 NO + 1 NC ction contacts 1 NO + 1 NC ction contacts 1 NO + 2 NC grod 142.5 mm, with plastic plunger 50 mm ction contacts 1 NO + 1 NC	tion contacts 1 NO + 1 NC ction contacts 1 NO + 1 NC ction contacts 1 NO + 2 NC grod 142.5 mm, with plastic plunger 50 mm ction contacts 1 NO + 1 NC	totion contacts 1 NO + 1 NC 5 ction contacts 1 NO + 1 NC 5 ction contacts 1 NO + 2 NC 5 ction contacts 1 NO + 2 NC 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	tition contacts 1 NO + 1 NC 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 3 SE5132-0F05 tition contacts 1 NO + 1 NC 1 NO + 1 NC 1 NO + 1 NC 1 NO + 2 NC 1 NO + 2 NC 3 SE5132-0F05 tition contacts 1 NO + 1 NC 1 NO + 1 NC 1 S 3SE5132-0BF05 1 totion contacts 1 NO + 1 NC 3 SE5132-0CF05 1 totion contacts 1 NO + 2 NC 3 SE5132-0LF05 1 totion contacts 1 NO + 2 NC 3 SE5132-0LF05 1 totion contacts 1 NO + 1 NC 5 3SE5132-0CR01 1 totion contacts	tition contacts 1 NO + 1 NC ⇒ 5 3SE5132-0BF05 1 1 unit ction contacts 1 NO + 1 NC ⇒ 5 3SE5132-0CF05 1 1 unit ction contacts 1 NO + 2 NC ⇒ 5 3SE5132-0LF05 1 1 unit 1 unit 2 rod 142.5 mm, with plastic plunger 50 mm ction contacts 1 NO + 1 NC 5 3SE5132-0CR01 1 1 unit		

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Popular versions.

SIRIUS 3SE5 Mechanical Position Switches 3SE5, Plastic Enclosures

Enclosure width 40 mm according to EN 50041

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

			-						
	Version	Contacts	LEDs	S	Complete unit	ts	PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
omplete un	its ¹⁾ • Enclosure width 40	mm				par i a			
	Twist levers, type A, ac	c. to EN 50041							
	With metal lever 27 mm and	d plastic roller 19 m	m						
9	Slow-action contacts	1 NO + 1 NC		→ 2	3SE5132-0BJ	01	1	1 unit	41K
6	Snap-action contacts	1 NO + 1 NC		→ 2	3SE5132-0CJ	01	1	1 unit	41K
EXAMPLE .	Slow-action contacts	1 NO + 2 NC		→ 5	3SE5132-0KJ	01	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		→ 5	3SE5132-0LJ0)1	1	1 unit	41K
	Slow-action contacts	2 NO + 1 NC		→ 5	3SE5132-0PJ0)1	1	1 unit	41K
5132-0BJ01		lanameth							
ł	Twist levers, adjustable	•							
	With metal lever with grid he plastic roller 19 mm	iole and							
	Snap-action contacts	1 NO + 1 NC		→ 5	3SE5132-0CJ6	50	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		→ 5	3SE5132-0LJ6	60	1	1 unit	41K
5132-0CJ60	With metal lever and plasti	o rollor 10 mm							
	Snap-action contacts	t roller 19 mm 1 NO + 1 NC		2	3SE5132-0CJ5	=0	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		5	3SE5132-0CJ		1	1 unit	41K
		1 NO + 2 NC	-	3	3323132-0203			i uiiit	4110
E5132-0CJ50		t- FN 50044							
	Rod actuators, type D, a With aluminum rod, length								
da 💮	Snap-action contacts	1 NO + 1 NC		5	3SE5132-0CJ8	30	1	1 unit	41K
	With plastic rod, length 200) mm							
	Snap-action contacts	1 NO + 1 NC		2	3SE5132-0CJ8	32	1	1 unit	41K
E5132-0CJ80)								
Positive open	ing according to IEC 60947-5-1	, Appendix K.		Note:					

igotimesPositive opening according to IEC 60947-5-1, Appendix K

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/20.

¹⁾ Popular versions.

3SE5, Plastic Enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switches • E	nclosure width 40 mm									
4 b	Connecting thread M20 x 1.5									
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5132-0BA00		1	1 unit	41K
LATERITY CO.	Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5132-0CA00		1	1 unit	41K
	 Gold-plated contacts 			\odot	5	3SE5132-0CA00-1AC1		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5132-0KA00		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5132-0LA00		1	1 unit	41K
3SE5132-0BA00	Slow-action contacts with make-before-break	1 NO + 2 NC		→	5	3SE5132-0MA00		1	1 unit	41K
	Slow-action contacts	2 NO + 1 NC		\odot	5	3SE5132-0PA00		1	1 unit	41K
4100	Increased corrosion protection	n ¹⁾								
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5132-0BA00-1CA0		1	1 unit	41K
LATERING CO.	Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5132-0CA00-1CA0		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5132-0KA00-1CA0		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5132-0LA00-1CA0		1	1 unit	41K
	Slow-action contacts with make-before-break	1 NO + 2 NC		→	5	3SE5132-0MA00-1CA0		1	1 unit	41K
3SE5132-0BA00-1CA0	Slow-action contacts	2 NO + 1 NC		\odot	5	3SE5132-0PA00-1CA0		1	1 unit	41K
410	M12 device plug, 4-pole (250 V	/, 4 A)								
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5134-0BA00-1AC4		1	1 unit	41K
AND NO.	Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5134-0CA00-1AC4		1	1 unit	41K
	Slow-action contacts	2 NC		\odot	5	3SE5134-0KA00-1AE0		1	1 unit	41K
	Snap-action contacts	2 NC		€	5	3SE5134-0LA00-1AE0		1	1 unit	41K
3SE5134-0BA00-1AC4										
400	2 LEDs, yellow/green									
e	Slow-action contacts	1 NO + 2 NC		€	5	3SE5132-1KA00		1	1 unit	41K
Lamanage	Snap-action contacts	1 NO + 2 NC			5	3SE5132-1LA00		1	1 unit	41K
10a)	Slow-action contacts	1 NO + 2 NC		_		3SE5132-3KA00		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC	230 V AC	€	5	3SE5132-3LA00		1	1 unit	41K
3SE5132-1KA00										

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

Note

For the selection aid, see page 12/11.

¹⁾ Use corresponding high-grade steel lever.

SIRIUS 3SE5 Mechanical Position Switches 3SE5, Plastic Enclosures

Enclosure width 40 mm according to EN 50041

	Version	Diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PC
		mm	d	Article No.	Price per PU	5_1,,		
Operating med	chanisms		-		la av v			
	Plain plungers		_					
055000 04504	High-grade steel plunger	10	→ 2	3SE5000-0AB01		1	1 unit	41k
3SE5000-0AB01	Rounded plungers, type B, acc. to EN 50041							
	Plastic plungers	10	→ 5	3SE5000-0AC03		1	1 unit	411
	Roller plungers, type C, acc. to EN 50041	10	О г	0055000 04505			at consta	441
	Plastic plunger, plastic roller Plastic plunger, high-grade steel roller	13 13	→ 5→ 5	3SE5000-0AD05 3SE5000-0AD06		1 1	1 unit 1 unit	41 41
3SE5000-0AC03 3SE5000-0AD05			0 -			·		
	Roller levers							
	Metal lever with plastic roller, plastic base	22	→ 5	3SE5000-0AE05		1	1 unit	41
40)								
SE5000-0AE05								
020000 0/1200	Angular roller levers							
	Metal lever with plastic roller, plastic base	22	→ 5	3SE5000-0AF05		1	1 unit	41
SE5000-0AF05		1. \						
1	Spring rods (for switches with snap-action contacts or Plunger made of plastic, spring of high-grade steel:	niy) 7						
ı	• Length 142.5 mm (spring 50 mm, plunger 50 mm)	•	5	3SE5000-0AR01		1	1 unit	41
	• Length 76 mm (spring 23.5 mm, plunger 10 mm)		5	3SE5000-0AR03		1	1 unit	41
	• Length 242.5 mm (spring 150 mm, plunger 50 mm)	7	5	3SE5000-0AR04		1	1 unit	41
.	Plunger and spring made of high-grade steel: • Length 142.5 mm (spring 50 mm, plunger 50 mm)	7	5	3SE5000-0AR02		1	1 unit	41
	. 3 (-)							
SE5000-0AR01								
Twist actuator	rs							
	Twist actuators, for 40 mm, EN 50041		_					
6	 For twist levers and rod actuators, switching right and/or left, adjustable 		→ 2	3SE5000-0AH00		1	1 unit	41
	Levers							
SE5000-0AH00	Twist levers, offset, type A, acc. to EN 50041							
	Metal lever 27 mm, plastic roller	19	→ 2	3SE5000-0AA01		1	1 unit	41
	Metal lever 27 mm, high-grade steel roller Metal lever 27 mm, high-grade steel roller with ball bearing	19	25	3SE5000-0AA02 3SE5000-0AA03		1 1	1 unit 1 unit	41 41
	Metal lever 27 mm, 2 plastic rollers	19	→ 5	3SE5000-0AA04		1	1 unit	41
	Metal lever 27 mm, plastic roller	30	→ 5	3SE5000-0AA05		1	1 unit	41
SE5000-0AA01	Metal lever 27 mm, rubber roller	50	→ 5	3SE5000-0AA08		1	1 unit	41
	High-grade steel lever 27 mm, plastic roller	19	→ 5	3SE5000-0AA11		1	1 unit	41
5 6	High-grade steel lever 27 mm, high-grade steel roller Metal lever 35 mm, plastic roller	19 19	◆ 5◆ 5	3SE5000-0AA12 3SE5000-0AA15		1 1	1 unit 1 unit	41 41
	High-grade steel lever 35 mm, plastic roller	19	⊙ 5⊙ 5	3SE5000-0AA16		1	1 unit	41
	riigir-grade steer iever 33 min, plastic roller							
8	Twist levers 30 mm, straight							41
	Twist levers 30 mm, straight Metal lever, plastic roller	19	→ 5	3SE5000-0AA24		1	1 unit	
ŢŢ	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller					1 1	1 unit 1 unit	41
	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole	19 30	◆ 5◆ 5	3SE5000-0AA24 3SE5000-0AA26		1	1 unit	
SE5000-0AA60	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller	19 30	◆ 5◆ 5◆ 5	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60			1 unit	41
SE5000-0AA60 SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole	19 30	◆ 5◆ 5	3SE5000-0AA24 3SE5000-0AA26		1	1 unit	41 41
SE5000-0AA60 SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, high-grade steel roller Metal lever, rubber roller High-grade steel lever, plastic roller	19 30 19 19 50	 → 5 → 5 → 5 → 5 → 5 → 5 	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA68 3SE5000-0AA62		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41 41 41 41
SE5000-0AA60 SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, high-grade steel roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	19 30 19 19 50	 → 5 → 5 → 5 → 5 → 5 	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA68		1 1 1	1 unit 1 unit 1 unit 1 unit	41 41 41 41
SE5000-0AA60 SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, high-grade steel roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller Twist levers, adjustable length	19 30 19 19 50 19	 5 6 7 8 9 5 9 5 5 6 7 8 9 5 9 5 9 5 6 7 8 9 9 9<	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA68 3SE5000-0AA62 3SE5000-0AA63		1 1 1 1 1 1	1 unit	41 41 41 41
SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, high-grade steel roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	19 30 19 19 50	 → 5 → 5 → 5 → 5 → 5 → 5 	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA68 3SE5000-0AA62		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41 41 41 41 41
SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller Twist levers, adjustable length Metal lever, plastic roller Metal lever, high-grade steel roller Metal lever, plastic roller Metal lever, plastic roller	19 30 19 19 50 19 19 19 19 30	 5 6 7 8 9 9 5 6 7 8 9 9<	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA50 3SE5000-0AA50 3SE5000-0AA51 3SE5000-0AA55		1 1 1 1 1 1 1 1 1	1 unit	41 41 41 41 41 41
SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, plastic roller Twist levers, adjustable length Metal lever, plastic roller Metal lever, rubber roller	19 30 19 19 50 19 19 19 19 30 50	 5 6 7 8 9 9<	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA68 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA50 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA55 3SE5000-0AA58		1 1 1 1 1 1 1 1 1 1	1 unit	4- 4- 4- 4- 4- 4- 4- 4- 4-
SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, plastic roller Twist levers, adjustable length Metal lever, plastic roller Metal lever, plastic roller Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller Metal lever, rubber roller Metal lever, rubber roller High-grade steel lever, plastic roller	19 30 19 19 50 19 19 19 19 30 50 19	⊕ 555555555555555555555555555555555555555555555555555555555555555555566789999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999<td>3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA50 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA58 3SE5000-0AA58</td><td></td><td>1 1 1 1 1 1 1 1 1 1 1 1</td><td>1 unit 1 unit</td><td>4- 4- 4- 4- 4- 4- 4- 4- 4-</td>	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA50 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA58 3SE5000-0AA58		1 1 1 1 1 1 1 1 1 1 1 1	1 unit	4- 4- 4- 4- 4- 4- 4- 4- 4-
SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, plastic roller Twist levers, adjustable length Metal lever, plastic roller Metal lever, plastic roller Metal lever, pigh-grade steel roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	19 30 19 19 50 19 19 19 19 30 50	 5 6 7 8 9 9<	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA68 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA50 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA55 3SE5000-0AA58		1 1 1 1 1 1 1 1 1 1	1 unit	41 41 41 41 41 41 41 41
SE5000-0AA50	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, plastic roller Twist levers, adjustable length Metal lever, plastic roller Metal lever, plastic roller Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller Metal lever, rubber roller Metal lever, rubber roller High-grade steel lever, plastic roller	19 30 19 19 50 19 19 19 19 30 50 19	⊕ 555555555555555555555555555555555555555555555555555555555555555555566789999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999<td>3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA50 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA58 3SE5000-0AA58</td><td></td><td>1 1 1 1 1 1 1 1 1 1 1 1</td><td>1 unit 1 unit</td><td>41 41 41 41 41 41 41 41 41</td>	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA50 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA58 3SE5000-0AA58		1 1 1 1 1 1 1 1 1 1 1 1	1 unit	41 41 41 41 41 41 41 41 41
3SE5000-0AA60 3SE5000-0AA50 3SE5000-0AA80	Twist levers 30 mm, straight Metal lever, plastic roller Metal lever, plastic roller Twist levers, adjustable length, with grid hole Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller Twist levers, adjustable length Metal lever, plastic roller Metal lever, plastic roller Metal lever, plastic roller Metal lever, plastic roller Metal lever, rubber roller High-grade steel lever, plastic roller High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller Rod actuators, type D, acc. to EN 50041	19 30 19 19 50 19 19 19 19 30 50 19 19	⊕ 555555555555555555555555555555555555555555555555555555555555555555555666789999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999999<td>3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA62 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA51 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA58 3SE5000-0AA52 3SE5000-0AA52</td><td></td><td>1 1 1 1 1 1 1 1 1 1 1</td><td>1 unit 1 unit</td><td>41 41 41 41 41 41 41 41 41 41 41 41 41</td>	3SE5000-0AA24 3SE5000-0AA26 3SE5000-0AA60 3SE5000-0AA61 3SE5000-0AA62 3SE5000-0AA62 3SE5000-0AA63 3SE5000-0AA51 3SE5000-0AA51 3SE5000-0AA55 3SE5000-0AA58 3SE5000-0AA52 3SE5000-0AA52		1 1 1 1 1 1 1 1 1 1 1	1 unit	41 41 41 41 41 41 41 41 41 41 41 41 41

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

3SE5, Plastic Enclosures

Enclosure width 50 mm

Selection and ordering data

Complete units

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry 2 \times (M20 \times 1.5)

	Version	Contacts	LEDs		SD	Complete units	PU (UNIT, SET, M)	PS*	PG
					d	Article No. Price per PU			
Complete units ¹⁾ • I	Enclosure width 50 mm								
	Rounded plungers								
THE PROPERTY OF THE PROPERTY O	With teflon plunger								
	Slow-action contacts	1 NO + 1 NC		\odot	2	3SE5242-0BC05	1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5242-0CC05	1	1 unit	41K
	Snap-action contacts, integrated ²⁾	1 NO + 1 NC		€	>	3SE5242-0HC05	1	1 unit	41K
3SE5242-0BC05	Snap-action contacts • Short stroke, integrated ²⁾	1 NO + 1 NC		€	15	3SE5242-0FC05	1	1 unit	41K
	Snap-action contacts • 2 × 2 mm contact gap	1 NO + 1 NC		€	30	3SE5242-0GC05	1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5242-0KC05	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5242-0LC05	1	1 unit	41K
	Slow-action contacts with make-before-break	1 NO + 2 NC		€	5	3SE5242-0MC05	1	1 unit	41K
	Slow-action contacts	2 NO + 1 NC		€	2	3SE5242-0PC05	1	1 unit	41K
THE STORY	With increased corrosion prot	ection							
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5242-0BC05-1CA0	1	1 unit	41K
	Snap-action contacts, integrated ²⁾	1 NO + 1 NC		€	30	3SE5242-0HC05-1CA0	1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5242-0KC05-1CA0	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		€	5	3SE5242-0LC05-1CA0	1	1 unit	41K
3SE5242-0BC05-1CA0	Slow-action contacts with make-before-break	1 NO + 2 NC		€	5	3SE5242-0MC05-1CA0	1	1 unit	41K
	Slow-action contacts	2 NO + 1 NC		€	5	3SE5242-0PC05-1CA0	1	1 unit	41K
THE LAND TO SERVICE THE PARTY OF THE PARTY O	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 2 NC	24 V DC	€	5	3SE5242-1KC05	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		€	5	3SE5242-1LC05	1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC	230 V AC	€	5	3SE5242-3KC05	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC	230 V AC	€	5	3SE5242-3LC05	1	1 unit	41K
3SE5242-1KC05									
A	Roller plunger								
	With plastic roller 10 mm								
SHEATSPACE .	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5242-0BD03	1	1 unit	41K
	Snap-action contacts, integrated ²⁾	1 NO + 1 NC		→	5	3SE5242-0HD03	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5242-0LD03	1	1 unit	41K
3SE5242-0BD03									

[→] Positive opening according to IEC 60947-5-1, Appendix K.

 Popular versions.

²⁾ Subsequent replacement of contact blocks is not possible.

Enclosure width 50 mm

or 3 contacts	Degree of protection IP66/IF	P67 · Cable	entry 2 × 1	(M20 >	< 1.5	5)				
	Version	Contacts	LEDs		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
omplete unit	s ¹⁾ • Enclosure width 50 mm									
	Roller levers									
	With metal lever and plastic rolle	r 13 mm								
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5242-0BE10		1	1 unit	41K
(a)	Snap-action contacts, integrated ²⁾	1 NO + 1 NC		\odot	2	3SE5242-0HE10		1	1 unit	41K
SHEMENS	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5242-0LE10		1	1 unit	41K
	With M12 device plug, 4-pole righ	nt (250 V, 4 A)								
5242-0BE10	Snap-action contacts	2 NC		\odot	5	3SE5244-0LE10-1AE0		1	1 unit	41K
	Twist levers									
	With metal lever 21 mm and plast	tic roller 19 m	m							
3	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5242-0BK21		1	1 unit	41K
(4) (B. B.	Snap-action contacts, integrated ²⁾	1 NO + 1 NC		\odot	5	3SE5242-0HK21		1	1 unit	41K
ATENS	Snap-action contacts	1 NO + 2 NC		€	5	3SE5242-0LK21		1	1 unit	41K
242-0BK21										
	Twist levers, adjustable leng With metal lever and plastic rolle									
	With metal lever and plastic rolle Snap-action contacts, integrated ²⁾		-		5	3SE5242-0HK50		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

3SE5242-0HK50

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/24.

Popular versions.
 Subsequent replacement of contact blocks is not possible.

3SE5, Plastic Enclosures

Enclosure width 50 mm

Modular system

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry 2 \times (M20 \times 1.5)

	Version	Contacts	LEDs	П	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switches • I	Enclosure width 50 mm (with	rounded p	lunger ¹⁾)			·				
	Teflon plungers									
	Slow-action contacts	1 NO + 1 N	C	\odot	2	3SE5242-0BC05		1	1 unit	41K
⊕ € 8	Snap-action contacts	1 NO + 1 N	C	\odot	5	3SE5242-0CC05		1	1 unit	41K
STRATEMS	Snap-action contacts, integrated ²⁾	1 NO + 1 N	C	\odot	>	3SE5242-0HC05		1	1 unit	41K
	Snap-action contacts • Short stroke, integrated ²⁾	1 NO + 1 N	C	€	15	3SE5242-0FC05		1	1 unit	41K
3SE5242-0BC05	Snap-action contacts • 2 × 2 mm contact gap	1 NO + 1 N	C	€	30	3SE5242-0GC05		1	1 unit	41K
	Slow-action contacts	1 NO + 2 N	C	\odot	5	3SE5242-0KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 N	C	\odot	5	3SE5242-0LC05		1	1 unit	41K
	Slow-action contacts with make-before-break	1 NO + 2 N	C	→	5	3SE5242-0MC05		1	1 unit	41K
	Slow-action contacts	2 NO + 1 N	C	\odot	2	3SE5242-0PC05		1	1 unit	41K
	Increased corrosion protection	1 ³⁾								
	Slow-action contacts	1 NO + 1 N	C	\odot	5	3SE5242-0BC05-1CA0		1	1 unit	41K
O	Snap-action contacts, integrated ²⁾	1 NO + 1 N	C	\odot	30	3SE5242-0HC05-1CA0		1	1 unit	41K
SHEATENS.	Slow-action contacts	1 NO + 2 N	C	\odot	5	3SE5242-0KC05-1CA0		1	1 unit	41K
	Snap-action contacts	1 NO + 2 N	C	€	5	3SE5242-0LC05-1CA0		1	1 unit	41K
3SE5242-0BC05-1CA	0									
	Slow-action contacts with make-before-break	1 NO + 2 N	C	→	5	3SE5242-0MC05-1CA0		1	1 unit	41K
	Slow-action contacts	2 NO + 1 N	C	\odot	5	3SE5242-0PC05-1CA0		1	1 unit	41K
	2 LEDs yellow/green									
	Slow-action contacts	1 NO + 2 N	C 24 V DC	€	5	3SE5242-1KC05		1	1 unit	41K
(a)	Snap-action contacts	1 NO + 2 N	C 24 V DC	€	5	3SE5242-1LC05		1	1 unit	41K
STEATERS	Slow-action contacts	1 NO + 2 N	C 230 V AC	€ :	5	3SE5242-3KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 N	C 230 V AC	€ (5	3SE5242-3LC05		1	1 unit	41K
3SE5242-1KC05										
Positive opening ac	cording to IEC 60947-5-1. Appendi	x K. or positi	velv	Note	ż.					

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

 For enclosures with widths of 50 mm, the basic switch is a complete unit with rounded plungers.

2) Subsequent replacement of contact blocks is not possible.

Note:

For the selection aid, see page 12/11.

	Version	Diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm	d	Article No.	Price per PU			
Operating mecha	nisms							
	Roller plungers, type C, acc. to EN 50047							
	Plastic rollers	10	→ 2	3SE5000-0AD03		1	1 unit	41K
	High-grade steel rollers	10	→ 5	3SE5000-0AD04		1	1 unit	41K
3SE5000-0AD03								
A	Roller plungers with central fixing							
	Plastic rollers	10	→ 2	3SE5000-0AD10		1	1 unit	41K
	High-grade steel rollers	10	→ 5	3SE5000-0AD11		1	1 unit	41K
3SE5000-0AD10								

→ Positively driven actuator, necessary in safety circuits.

³⁾ Use corresponding high-grade steel lever.

Enclosure width 50 mm

	Version	Diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PC
		mm	d	Article No.	Price per PU	. ,		
Operating me	chanisms							
	Roller levers, type E, acc. to EN 50047							
	Metal lever, plastic roller	13	→ 2	3SE5000-0AE10		1	1 unit	41k
	Metal lever, high-grade steel roller	13	→ 5	3SE5000-0AE11		1	1 unit	41k
	High-grade steel lever, plastic roller	13	→ 5	3SE5000-0AE12		1	1 unit	41k
SE5000-0AE10	High-grade steel lever, high-grade steel roller	13	→ 5	3SE5000-0AE13		1	1 unit	41k
	Angular roller levers							
	Metal lever, plastic roller	13	→ 2	3SE5000-0AF10		1	1 unit	411
	Metal lever, high-grade steel roller	13	→ 5	3SE5000-0AF11		1	1 unit	41
	High-grade steel lever, plastic roller	13	→ 2	3SE5000-0AF12		1	1 unit	41
SE5000-0AF10	High-grade steel lever, high-grade steel roller	13	→ 5	3SE5000-0AF13		1	1 unit	41
ı	Spring rods							
	(for switches with snap-action contacts only)							
J	Plunger made of plastic, spring of high-grade steel:	7						
	• Length 142.5 mm (spring 50 mm, plunger 50 mm	m)	5	3SE5000-0AR01		1	1 unit	41
	• Length 76 mm (spring 23.5 mm, plunger 10 mm	1)	5	3SE5000-0AR03		1	1 unit	41
<u> </u>	• Length 242.5 mm (spring 150 mm, plunger 50 n	nm)	5	3SE5000-0AR04		1	1 unit	41
A	Plunger and spring made of high-grade steel:	7						
	• Length 142.5 mm (spring 50 mm, plunger 50 mm	m)	5	3SE5000-0AR02		1	1 unit	41
SE5000-0AR01								
wist actuato	rs							
	Twist actuators, for 31 mm/50 mm, EN 50047							
49	Switching right and/or left, adjustable		→ 2	3SE5000-0AK00		1	1 unit	41
	Levers							
SE5000-0AK00	Twist levers 21 mm, straight, type A acc. to EN	50047						
	Metal lever, plastic roller	19	→ 2	3SE5000-0AA21		1	1 unit	41
4	Metal lever, high-grade steel roller	19	→ 5	3SE5000-0AA22		1	1 unit	41
	Metal lever, high-grade steel roller with ball bearing	19	→ 5	3SE5000-0AA23		1	1 unit	41
\supset	Metal lever, plastic roller	30	→ 5	3SE5000-0AA25		1	1 unit	41
SE5000-0AA21	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA31		1	1 unit	41
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA32		1	1 unit	41
9 9	Twist levers 30 mm, straight							
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA24		1	1 unit	41
8 11	Metal lever, plastic roller	30	→ 5	3SE5000-0AA26		1	1 unit	41
8 11	Twist levers, adjustable length, with grid hole							
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA60		1	1 unit	41
	Metal lever, high-grade steel roller	19	→ 5	3SE5000-0AA61		1	1 unit	41
	Metal lever, plastic roller	50	→ 5	3SE5000-0AA67		1	1 unit	41
SE5000-0AA60	Metal lever, rubber roller	50	→ 5	3SE5000-0AA68		1	1 unit	41
SE5000-0AA24	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA62		1	1 unit	41
1	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA63		1	1 unit	41
1	Twist levers, adjustable length					·		
	Metal lever, plastic roller	19	2	3SE5000-0AA50		1	1 unit	41
_	Metal lever, high-grade steel roller	19	5	3SE5000-0AA51		1	1 unit	41
II.	Metal lever, plastic roller	30	5	3SE5000-0AA55		1	1 unit	41
	Metal lever, plastic roller	50	5	3SE5000-0AA57		1	1 unit	41
1	Metal lever, rubber roller	50	5	3SE5000-0AA58		1	1 unit	41
1	High-grade steel lever, plastic roller	19	5	3SE5000-0AA50		1	1 unit	41
055000 04455	High-grade steel lever, high-grade steel roller	19	5	3SE5000-0AA52 3SE5000-0AA53		1	1 unit	41
SE5000-0AA50	Rod actuator	10	J	COLOUGO GAAGG		<u>'</u>	i uiiit	4
	Aluminum rod, length 200 mm	6	5	3SE5000-0AA80		1	1 unit	41
	Spring rod, length 200 mm	6	5	3SE5000-0AA80		1	1 unit	41
	Plastic rod, length 200 mm	6	5	3SE5000-0AA81		1	1 unit	41
	LIGORO TOU, ICHUIH ZOO HIIH	U	:	JJEJUUU-UAA0Z		1	ı ullıl	41

3SE5, Metal Enclosures

Enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

2 5. 0 00111a010 DC	gree or protection if oon or	34510 011	y 1V120 ^	. 1.0						
	Version	Contacts	LEDs		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU	. ,		
Complete units ¹⁾ • I	Enclosure width 31 mm									
	Rounded plungers, type B,	acc. to EN	50047			-				
	With plunger									
(a)	Slow-action contacts	1 NO + 1 No	C	\odot	2	3SE5212-0BC05		1	1 unit	41K
Energials	Snap-action contacts	1 NO + 1 No	C	\odot	2	3SE5212-0CC05		1	1 unit	41K
	Slow-action contacts	1 NO + 2 No	C	_	5	3SE5212-0KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 No	C		2	3SE5212-0LC05		1	1 unit	41K
3SE5212-0BC05	Slow-action contacts with make-before-break	1 NO + 2 N	C	€	2	3SE5212-0MC05		1	1 unit	41K
	Slow-action contacts	2 NO + 1 N	C	€	5	3SE5212-0PC05		1	1 unit	41K
	With increased corrosion prote	ection								
	Slow-action contacts	1 NO + 1 N	C	\odot	5	3SE5212-0BC05-1CA0		1	1 unit	41K
⊕ €	Snap-action contacts	1 NO + 1 N	C	\odot	5	3SE5212-0CC05-1CA0		1	1 unit	41K
ENTERN EDIS	Slow-action contacts	1 NO + 2 No	C	\odot	5	3SE5212-0KC05-1CA0		1	1 unit	41K
	Snap-action contacts	1 NO + 2 No	C	\odot	5	3SE5212-0LC05-1CA0		1	1 unit	41K
0055040 00005 4040	Slow-action contacts with make-before-break	1 NO + 2 N	C	€	5	3SE5212-0MC05-1CA0		1	1 unit	41K
3SE5212-0BC05-1CA0	Slow-action contacts	2 NO + 1 N	C	\odot	5	3SE5212-0PC05-1CA0		1	1 unit	41K
	With M12 device plug, 5-pole (1	25 V, 4 A)								
	Slow-action contacts	1 NO + 1 N	C	\odot	5	3SE5214-0BC05-1AC5		1	1 unit	41K
	Snap-action contacts	1 NO + 1 No	C	\odot	5	3SE5214-0CC05-1AC5		1	1 unit	41K
	Slow-action contacts	2 NC		\odot	5	3SE5214-0KC05-1AE1		1	1 unit	41K
	Snap-action contacts	2 NC		€	5	3SE5214-0LC05-1AE1		1	1 unit	41K
	With 2 LEDs, yellow/green									
	Slow-action contacts	1 NO + 2 N	C 24 V DC	\odot	5	3SE5212-1KC05		1	1 unit	41K
(1)	Snap-action contacts	1 NO + 2 No	C 24 V DC	\odot	2	3SE5212-1LC05		1	1 unit	41K
000	Slow-action contacts	1 NO + 2 No	C 230 V AC	\odot	5	3SE5212-3KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 N	C 230 V AC	€	5	3SE5212-3LC05		1	1 unit	41K
	With M12 device plug, 5-pole (1	25 V, 4 A), a	nd 2 LEDs							
3SE5212-1KC05	Slow-action contacts	1 NO + 1 N	C 24 V DC	\odot	5	3SE5214-1BC05-1AF3		1	1 unit	41K
	Snap-action contacts	1 NO + 1 N	C 24 V DC	€	5	3SE5214-1CC05-1AF3		1	1 unit	41K
	Plain plungers									
	With high-grade steel plunger									
● ■	Slow-action contacts	1 NO + 1 No	C	_	5	3SE5212-0BB01		1	1 unit	41K
\$244A18268	Snap-action contacts	1 NO + 1 No	C		5	3SE5212-0CB01		1	1 unit	41K
	Slow-action contacts	1 NO + 2 No	C	_	5	3SE5212-0KB01		1	1 unit	41K
2055242 20024	Snap-action contacts	1 NO + 2 N	C	€	5	3SE5212-0LB01		1	1 unit	41K
3SE5212-0BB01		. =11=0								
	Roller plungers, type C, acc With plastic roller 10 mm	C. TO EN 50	047							
	Slow-action contacts	1 NO + 1 No	C	\odot	2	3SE5212-0BD03		1	1 unit	41K
PARTON	Snap-action contacts	1 NO + 1 No	C	\odot	5	3SE5212-0CD03		1	1 unit	41K
	Slow-action contacts	1 NO + 2 No	C	\odot		3SE5212-0KD03		1	1 unit	41K
	Snap-action contacts	1 NO + 2 No	C	\odot		3SE5212-0LD03		1	1 unit	41K
3SE5212-0BD03										

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Popular versions.

Enclosure width 31 mm according to EN 50047

2 or 3 contacts	s · Degree of protection IP6	66/IP67 · Cable	entry M2	0×1.5					
	Version	Contacts	LEDs	SE	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Complete uni	ts ¹⁾ • Enclosure width 31 m	ım				•			
4	Roller plungers with cent	ral fixing							
2	With plastic roller 10 mm								
A	Slow-action contacts	1 NO + 2 NO	;	→ 5	3SE5212-0KD10		1	1 unit	41K
PERSTRUM									
3SE5212-0KD10									
	Roller levers, type E acc.								
	With metal lever and plastic i								
	Slow-action contacts	1 NO + 1 NO		→ 5	3SE5212-0BE10		1	1 unit	41K
ESTRATEDUS .	Snap-action contacts	1 NO + 1 NO		→ 5	3SE5212-0CE10		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO		→ 5	3SE5212-0KE10		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO	;	→ 5	3SE5212-0LE10		1	1 unit	41K
3SE5212-0BE10									
	Angular roller lever						ı		
	With metal lever and plastic			O 5	2055242 20542			4 0	4417
	Slow-action contacts	1 NO + 1 NO		→ 5→ 5	3SE5212-0BF10		1	1 unit	41K 41K
ESTRATIONS	Snap-action contacts Slow-action contacts	1 NO + 1 NO 1 NO + 2 NO		9 5 ⊕ 5	3SE5212-0CF10 3SE5212-0KF10		1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 2 NC		→ 5	3SE5212-0KF10		1	1 unit	41K
	Shap-action contacts	1110 + 2110	,	9 3	33E3212-0LF10		· '	i uiiit	4110
3SE5212-0BF10		to EN 50047							
On	Twist levers, type A, acc. With metal lever 21 mm and p		- m						
9	Slow-action contacts	1 NO + 1 NC		→ 5	3SE5212-0BK21		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC		⊙ 5	3SE5212-0BK21		1	1 unit	41K
Sumanne	Slow-action contacts	1 NO + 2 NO		⊙ 5	3SE5212-0CK21		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		⊙ 5	3SE5212-0LK21		1	1 unit	41K
3SE5212-0BK21				0 0			·		
	Twist levers, adjustable le	ength							
1	With metal lever with grid ho plastic roller 19 mm	-							
	Snap-action contacts	1 NO + 1 NO)	→ 5	3SE5212-0CK60		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO		→ 5	3SE5212-0KK60		1	1 unit	41K
U	Snap-action contacts	1 NO + 2 NO)	→ 5	3SE5212-0LK60		1	1 unit	41K
	With metal lever and plastic	oller 19 mm							
3SE5212-0CK60	Slow-action contacts	1 NO + 1 NO	·	5	3SE5212-0BK50		1	1 unit	41K
33L32 12-00R00	Snap-action contacts	1 NO + 1 NO		5	3SE5212-0CK50		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		5	3SE5212-0LK50		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/28.

¹⁾ Popular versions.

3SE5, Metal Enclosures

Enclosure width 31 mm according to EN 50047

Modular system

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switches • Er	closure width 31 mm (w	ith rounded plu	unger ¹⁾)				'			
	Plunger									
	Slow-action contacts	1 NO + 1 NO	C	\odot	2	3SE5212-0BC05		1	1 unit	41K
⊕ (tropped)	Snap-action contacts	1 NO + 1 NO	C	\odot	2	3SE5212-0CC05		1	1 unit	41K
ENANTES	Slow-action contacts	1 NO + 2 NO	C	\odot	5	3SE5212-0KC05		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NO	C	\odot	2	3SE5212-0LC05		1	1 unit	41k
3SE5212-0BC05	Slow-action contacts with make-before-break	1 NO + 2 NO	C	€	2	3SE5212-0MC05		1	1 unit	41k
J3L32 12-0DC03	Slow-action contacts	2 NO + 1 NO	C	\odot	5	3SE5212-0PC05		1	1 unit	41k
	Increased corrosion protect	tion ²⁾								
	Slow-action contacts	1 NO + 1 NO	C	\odot	5	3SE5212-0BC05-1CA0		1	1 unit	41k
+	Snap-action contacts	1 NO + 1 NO	C	\odot	5	3SE5212-0CC05-1CA0		1	1 unit	41k
ENANTORS	Slow-action contacts	1 NO + 2 NO	C	\odot	5	3SE5212-0KC05-1CA0		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NO	C	\odot	5	3SE5212-0LC05-1CA0		1	1 unit	41k
SSE5212-0BC05-1CA0	Slow-action contacts with make-before-break	1 NO + 2 NO	C	€	5	3SE5212-0MC05-1CA0		1	1 unit	411
33L3212-0D000-10A0	Slow-action contacts	2 NO + 1 NO	C	\odot	5	3SE5212-0PC05-1CA0		1	1 unit	41k
/clas	M12 device plug, 5-pole (12	5 V, 4 A)								
	Slow-action contacts	1 NO + 1 NO	C	\odot	5	3SE5214-0BC05-1AC5		1	1 unit	41k
EMENTENS .	Snap-action contacts	1 NO + 1 NO	C	\odot	5	3SE5214-0CC05-1AC5		1	1 unit	41k
	Slow-action contacts	2 NC		\odot	5	3SE5214-0KC05-1AE1		1	1 unit	411
	Snap-action contacts	2 NC		€	5	3SE5214-0LC05-1AE1		1	1 unit	411
SE5214-0BC05-1AC5										
6 5	2 LEDs yellow/green									
	Slow-action contacts	1 NO + 2 NO		€		3SE5212-1KC05		1	1 unit	411
STEATEDES .	Snap-action contacts	1 NO + 2 NO				3SE5212-1LC05		1	1 unit	411
One	Slow-action contacts	1 NO + 2 NO		_		3SE5212-3KC05		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NO	C 230 V AC	; →	5	3SE5212-3LC05		1	1 unit	411
SE5212-1KC05										
65	M12 device plug, 5-pole (12			_						
4	Slow-action contacts	1 NO + 1 NO		_		3SE5214-1BC05-1AF3		1	1 unit	41k
<u>Ennounces</u>	Snap-action contacts	1 NO + 1 NO		→		3SE5214-1CC05-1AF3		1	1 unit	41k
Un.	Snap-action contacts	<u>VEW</u> 1 NO + 1 NO	C 24 V DC	€	5	3SE5114-1CA00-1AF5		1	1 unit	41k
BSE5214-1BC05-1AF3										

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

For the selection aid, see page 12/11.

	Version	Diameter		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm		d	Article No.	Price per PU			
Operating me	chanisms								
(3)	Plain plungers								
	High-grade steel plunger	10	→	2	3SE5000-0AB01		1	1 unit	41K
3SE5000-0AB01									
	Roller plungers, type C, acc. to EN 50047								
	Plastic rollers	10	\odot	2	3SE5000-0AD03		1	1 unit	41K
	High-grade steel rollers	10	\odot	5	3SE5000-0AD04		1	1 unit	41K
3SE5000-0AD03									

[→] Positively driven actuator, necessary in safety circuits.

¹⁾ For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

²⁾ Use corresponding high-grade steel lever.

Enclosure width 31 mm according to EN 50047

	Version	Diameter		SD	Modular system	PU (UNIT, SET, M)	PS*	PG
		mm	,	d	Article No. Price per PU			
Operating med	chanisms	111111		<u> </u>	porto			
	Roller plungers with central fixing							
	Plastic rollers	10	→ 2	2	3SE5000-0AD10	1	1 unit	41K
	High-grade steel rollers	10	€ :	5	3SE5000-0AD11	1	1 unit	41K
3SE5000-0AD10								
	Roller levers, type E, acc. to EN 50047							
	Metal lever, plastic roller	13	→ 2	2	3SE5000-0AE10	1	1 unit	41K
	Metal lever, high-grade steel roller	13	€ :	5	3SE5000-0AE11	1	1 unit	41K
	High-grade steel lever, plastic roller	13	€ !	5	3SE5000-0AE12	1	1 unit	41K
3SE5000-0AE10	High-grade steel lever, high-grade steel roller	13	€ :	5	3SE5000-0AE13	1	1 unit	41K
	Angular roller levers							
3	Metal lever, plastic roller	13	→ 2	2	3SE5000-0AF10	1	1 unit	41K
	Metal lever, high-grade steel roller	13	€ :	5	3SE5000-0AF11	1	1 unit	41K
3SE5000-0AF10	High-grade steel lever, plastic roller	13	→ 2		3SE5000-0AF12	1	1 unit	41K
	High-grade steel lever, high-grade steel roller	13	€ :	5	3SE5000-0AF13	1	1 unit	41K
1	Spring rods (for switches with snap-action contacts on							
ı	Plunger made of plastic, spring of high-grade steel:	7	,		20E5000 04 D01		1 . mit	441/
	 Length 142.5 mm (spring 50 mm, plunger 50 mm) Length 76 mm (spring 23.5 mm, plunger 10 mm) 			5 5	3SE5000-0AR01 3SE5000-0AR03	1	1 unit 1 unit	41K 41K
1	• Length 242.5 mm (spring 150 mm, plunger 50 mm)			5	3SE5000-0AR04	1	1 unit	41K
高	Plunger and spring made of high-grade steel:	7						
•	• Length 142.5 mm (spring 50 mm, plunger 50 mm)		į	5	3SE5000-0AR02	1	1 unit	41K
3SE5000-0AR01								
Twist actuator								
	Twist actuators, for 31 mm/50 mm, EN 50047		\sim					
6	Switching right and/or left, adjustable		→ 2	2	3SE5000-0AK00	1	1 unit	41K
	Levers							
3SE5000-0AK00	Twist levers, straight, type A, acc. to EN 50047	4.0		_				
	Metal lever 21 mm, plastic roller	19	→ 2		3SE5000-0AA21	1	1 unit	41K
	Metal lever 21 mm, high-grade steel roller	19	→ !		3SE5000-0AA22	1	1 unit	41K
	Metal lever 21 mm, high-grade steel roller with ball bearing	30	→ !		3SE5000-0AA23	1	1 unit	41K
	Metal lever 21 mm, plastic roller High-grade steel lever 21 mm, plastic roller	19	→ :		3SE5000-0AA25 3SE5000-0AA31	1	1 unit 1 unit	41K 41K
3SE5000-0AA21	High-grade steel lever 21 mm, high-grade steel roller	19	⊕ ;		3SE5000-0AA31	1	1 unit	41K
	Twist levers 30 mm, straight	19	• .	J	33E3000-0AA32	!	i unit	4111
	Metal lever, plastic roller	19	€ :	5	3SE5000-0AA24	1	1 unit	41K
	Metal lever, plastic roller	30	⊕ !		3SE5000-0AA26	1	1 unit	41K
	Twist levers, adjustable length, with grid hole							
00	Metal lever, plastic roller	19	→ 5	5	3SE5000-0AA60	1	1 unit	41K
3 1	Metal lever, high-grade steel roller	19	€ :		3SE5000-0AA61	1	1 unit	41K
8	Metal lever, plastic roller	50	€ :		3SE5000-0AA67	1	1 unit	41K
3 ST	Metal lever, rubber roller	50	€ !	5	3SE5000-0AA68	1	1 unit	41K
8	High-grade steel lever, plastic roller	19	€ :	5	3SE5000-0AA62	1	1 unit	41K
3 U	High-grade steel lever, high-grade steel roller	19	€ :	5	3SE5000-0AA63	1	1 unit	41K
3SE5000-0AA60	Twist levers, adjustable length							
3SE5000-0AA50	Metal lever, plastic roller	19	2	2	3SE5000-0AA50	1	1 unit	41K
	Metal lever, high-grade steel roller	19	į	5	3SE5000-0AA51	1	1 unit	41K
	Metal lever, plastic roller	30	į	5	3SE5000-0AA55	1	1 unit	41K
	Metal lever, plastic roller	50	į	5	3SE5000-0AA57	1	1 unit	41K
	Metal lever, rubber roller	50		5	3SE5000-0AA58	1	1 unit	41K
	High-grade steel lever, plastic roller	19		5	3SE5000-0AA52	1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	Į	5	3SE5000-0AA53	1	1 unit	41K
	Rod actuators, type D, acc. to EN 50041			_				
	Aluminum rod, length 200 mm	6		5	3SE5000-0AA80	1	1 unit	41K
वा	Spring rod, length 200 mm	6		5	3SE5000-0AA81	1	1 unit	41K
	Plastic rod, length 200 mm	6		5	3SE5000-0AA82	1	1 unit	41K
	Plastic rod, length 330 mm	6		5	3SE5000-0AA83	1	1 unit	41K
I								
3SE5000-0AA80								
Positivaly drive	n actuator, necessary in safety circuits							

 $oldsymbol{\Theta}$ Positively driven actuator, necessary in safety circuits.

3SE5, Metal Enclosures

Enclosure width 40 mm according to EN 50041

Selection and ordering data

Complete units

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

	Version	Contacts	LEDs		SD	Complete units	PU (UNIT, SET, M)	PS*	PG
					d	Article No. Price per PU			
Complete units	s ¹⁾ • Enclosure width 40 mm								
	Plain plungers						_		
e e	With high-grade steel plunger								
Laurence	Slow-action contacts	1 NO + 1 NO	C	\odot	2	3SE5112-0BB01	1	1 unit	41K
	Snap-action contacts	1 NO + 1 NO	O	\odot	2	3SE5112-0CB01	1	1 unit	41k
	Slow-action contacts	1 NO + 2 NO	C	\odot	5	3SE5112-0KB01	1	1 unit	41k
3SE5112-0BB01	Snap-action contacts	1 NO + 2 NO	0	€	5	3SE5112-0LB01	1	1 unit	41k
4	Rounded plungers, type B, acc. t	o EN 50041	'						
	With high-grade steel plungers, with 3	mm overtra	vel						
Lineary	Slow-action contacts	1 NO + 1 NO	C	\odot	5	3SE5112-0BC02	1	1 unit	41k
	Snap-action contacts	1 NO + 1 NO	C	\odot		3SE5112-0CC02	1	1 unit	41k
	Snap-action contacts ²⁾	1 NO + 1 NO	C	\odot	5	3SE5112-0CC02-1AA7	1	1 unit	41k
3SE5112-0BC02	Slow-action contacts	1 NO + 2 NO	O	\odot	5	3SE5112-0KC02	1	1 unit	41k
	Snap-action contacts	1 NO + 2 NO	0	\odot	5	3SE5112-0LC02	1	1 unit	41K
	Snap-action contacts with M12 device plug, 4-pole	1 NO + 1 NO	C	€	5	3SE5114-0CC02-1AC4	1	1 unit	41k
<u>a</u>	Roller plungers, type C, acc. to E	N 50041							
	With high-grade steel roller 13 mm, wi	th 3 mm ove	rtravel						
0	Slow-action contacts	1 NO + 1 NO	C	\odot	5	3SE5112-0BD02	1	1 unit	41K
Linaston	Snap-action contacts	1 NO + 1 NO	C	\odot	>	3SE5112-0CD02	1	1 unit	41K
	Snap-action contacts ²⁾	1 NO + 1 NO	C	\odot	5	3SE5112-0CD02-1AA7	1	1 unit	41k
3SE5112-0BD02	Slow-action contacts	1 NO + 2 NO	C	\odot	5	3SE5112-0KD02	1	1 unit	41K
0020112 02202	Snap-action contacts	1 NO + 2 NO	O	\odot	5	3SE5112-0LD02	1	1 unit	41K
	Snap-action contacts ²⁾	1 NO + 2 NO	C	\odot	5	3SE5112-0LD02-1AA7	1	1 unit	41K
	Slow-action contacts ²⁾	2 NO + 1 NO	C	\odot	5	3SE5112-0PD02-1AA7	1	1 unit	41K
	With M12 device plug, 5-pole (125 V, 4	A)							
	Snap-action contacts with 2 LEDs	1 NO + 1 NO	C 24 V DC	; ⊕	5	3SE5114-1CD02-1AF3	1	1 unit	41K
	Snap-action contacts with 2 LEDs NEW	1 NO + 1 NO	C 24 V DC	: ⊕	5	3SE5114-1CD02-1AF5	1	1 unit	41K
	Snap-action contacts without LED	1 NO + 1 NO	C 24 V DC	; ⊕	5	3SE5114-0CD02-1AC5	1	1 unit	41K
	Snap-action contacts without LED ²⁾³⁾	1 NO + 1 NO	C 24 V DC	; ⊕	5	3SE5114-0CD02-1AL0	1	1 unit	41K
	With M12 device plug, 5-pole (125 V, 4 with pin assignment as for SIMATIC E	A), T 200 ³⁾							
	Snap-action contacts without LED MAW	1 NO + 2 NO	C 24 V DC	; ⊕	Χ	3SE5114-0LD02-1AE3	1	1 unit	41K
	Roller levers						_		
	With metal lever and plastic roller 22 r	nm							
0	Slow-action contacts	1 NO + 1 NO	C	_	5	3SE5112-0BE01	1	1 unit	41K
	Snap-action contacts	1 NO + 1 NO	O	€		3SE5112-0CE01	1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO		€	5	3SE5112-0KE01	1	1 unit	41K
3SE5112-0BE01	Snap-action contacts	1 NO + 2 NO	C	€	5	3SE5112-0LE01	1	1 unit	41K
	Angular roller lever								
100	With metal lever and plastic roller 22 r	nm							
D a @	Slow-action contacts	1 NO + 1 NO	C	\odot	5	3SE5112-0BF01	1	1 unit	41K
Leanne	Snap-action contacts	1 NO + 1 NO	O	\odot	2	3SE5112-0CF01	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO	0	\odot	5	3SE5112-0LF01	1	1 unit	41K
3SE5112-0BF01									
1	Spring rod								
	Length 142.5 mm, with plastic plunger	50 mm							
1	Snap-action contacts	1 NO + 1 NO	0		•	3SE5112-0CR01	1	1 unit	41K
	onap action contacts	1110 1 1110	5			0020112 001101	·	T WITH	7110
3SE5112-0CR01									

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Popular versions.

²⁾ Increased operation or restoring force 30 N; only available as complete unit, no modular design

The 3SE5114-.....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

Enclosure width 40 mm according to EN 50041

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

	Version	Contacts	LEDs		SD	Complete units	PU (UNIT, SET, M)	PS*	PG
					d	Article No. Pric			
Complete unit	ts ¹⁾ • Enclosure width 40 ։	nm				·			
^	Twist levers, type A, acc	. to EN 50041							
6	With metal lever 27 mm and	plastic roller 19	mm						
	Slow-action contacts	1 NO + 1 NO)	\odot	5	3SE5112-0BH01	1	1 unit	41K
Linkings	Snap-action contacts	1 NO + 1 NO)	\odot		3SE5112-0CH01	1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO)	\odot	5	3SE5112-0KH01	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO	C	\odot	5	3SE5112-0LH01	1	1 unit	41K
3SE5112-0BH01	With M12 device plug, 5-pol	e (125 V, 4 A)							
OOLOTTE OBITOT	Snap-action contacts	1 NO + 1 NO)	\odot	2	3SE5114-0CH01-1AC5	1	1 unit	41K
	With M12 device plug, 5-pol with pin assignment as for \$	e (125 V, 4 A), SIMATIC ET 200 ³⁾	NEW						
	Snap-action contacts	1 NO + 2 NO)	\odot	Χ	3SE5114-0LH01-1AE3	1	1 unit	41K
	With M12 device plug, 5-pol	e (125 V, 4 A), and	d 2 LEDs						
	Snap-action contacts	1 NO + 1 NO	24 V DC	\odot	5	3SE5114-1CH01-1AF3	1	1 unit	41K
	With metal lever 27 mm and	high-grade steel	roller 19 mm	1					
	Slow-action contacts	1 NO + 1 NO)	\odot	5	3SE5112-0BH02	1	1 unit	41K
	Snap-action contacts	1 NO + 1 NO)	\odot	2	3SE5112-0CH02	1	1 unit	41K
0	With M12 device plug, 5-pol	e (125 V, 4 A), and	d 2 LEDs						
8	Snap-action contacts	1 NO + 1 NO)	€	5	3SE5114-1CH02-1AF3	1	1 unit	41K
37	With metal lever 30 mm and	plastic roller 19	mm						
	Snap-action contacts	1 NO + 1 NO)	€	>	3SE5112-0CH24	1	1 unit	41K
	Twist levers, adjustable	length					_		
	Metal lever, grid hole and pl	astic roller 19 mn	n	_					
3SE5112-0BH60	Slow-action contacts	1 NO + 1 NO		→		3SE5112-0BH60	1	1 unit	41K
	Snap-action contacts	1 NO + 1 NO		_		3SE5112-0CH60	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		€	5	3SE5112-0LH60	1	1 unit	41K
	Metal lever, grid hole with h								
	Snap-action contacts	1 NO + 1 NO)		Χ	3SE5114-0CH61-1AC5	1	1 unit	41K
•	With metal lever and plastic				_				
	Slow-action contacts	1 NO + 1 NO			5	3SE5112-0BH50	1	1 unit	41K
9 <u>7</u>	Snap-action contacts	1 NO + 1 NO			_	3SE5112-0CH50	1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO			5	3SE5112-0LH50	1	1 unit	41K
	With M12 device plug, 5-pol				_				
	Snap-action contacts	1 NO + 1 NO			5	3SE5114-1CH60-1AF3	1	1 unit	41K
3SE5112-0BH50	With M12 device plug, 8-pol				_	00554444111504454			4417
	Snap-action contacts	1 NO + 2 NO			5	3SE5114-1LH50-1AD4	1	1 unit	41K
	With metal lever and high-g				5	20EE110 00UE1		4 . mit	441/
	Snap-action contacts	1 NO + 1 NO	,		5	3SE5112-0CH51	1	1 unit	41K
0,	Fork levers, latching With metal lever and 2 plast	ia vallava 10 mam							
⊕ Lancaron	Snap-action contacts	1 NO + 1 NO)	→	5	3SE5112-0CT11	1	1 unit	41K
3SE5112-0CT11									
	Rod actuators, type D, a		1						
4	With aluminum rod, length 2					29EE112.00H90	4	1 unit	111/
	Snap-action contacts With plastic rod, length 200	1 NO + 1 NO	,			3SE5112-0CH80	1	1 unit	41K
Line		mm 1 NO + 1 NO			5	3SE5112-0CH82	1	1 unit	111/
	Snap-action contacts Nagara switch ²⁾ With M12 do (125 V, 4 A) NEW				J	33E3112-001102	'	1 unit	41K
3SE5112-0CH80	Snap-action contacts, short-st	roke 1 NO ± 1 NC	·		5	3SE5114-0NH82-1AM2	1	1 unit	41K
A Poolitive anari-			•	N I - ±		COLDINION INITE		, ann	FIIX
→ rosilive openir	ng according to IEC 60947-5-1,	Appendix K.		Note	<u>:</u>				

 $[\]in$

If the device you require is not available as a complete unit, see Modular system, page 12/32.

¹⁾ Popular versions.

²⁾ Start switch triggerable via one-hand operation (during operation)

⁵ Staff Switch triggerable via one-hand operation (during operation)
3 The 3SE5114-....-1AE3 position switches, prewired with an M12 plug,
5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN,
ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

3SE5, Metal Enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PC
					d	Article No.	Price per PU			
asic switches • Er	nclosure width 40 mm									
41-	Connecting thread M20 x 1.	5								
	Slow-action contacts	1 NO + 1 N	C	€	5	3SE5112-0BA00		1	1 unit	41ŀ
NEUPA	Snap-action contacts	1 NO + 1 N	C	€	2	3SE5112-0CA00		1	1 unit	411
	Gold-plated contacts				5	3SE5112-0CA00-1AC1		1	1 unit	411
	Slow-action contacts	1 NO + 2 N	C	→	2	3SE5112-0KA00		1	1 unit	411
	Snap-action contacts	1 NO + 2 N		€		3SE5112-0LA00		1	1 unit	41
E5112-0BA00	Slow-action contacts with make-before-break	1 NO + 2 N		€	2	3SE5112-0MA00		1	1 unit	41
	Slow-action contacts	2 NO + 1 N	C	€	2	3SE5112-0PA00		1	1 unit	41
€ €	Increased corrosion protect	ion ¹⁾								
THOTOSA	Slow-action contacts	1 NO + 1 N	C	€	5	3SE5112-0BA00-1CA0		1	1 unit	41
	Snap-action contacts	1 NO + 1 N		€		3SE5112-0CA00-1CA0		1	1 unit	41
	Slow-action contacts	1 NO + 2 N			5	3SE5112-0KA00-1CA0		1	1 unit	41
55440 00400 4040	Snap-action contacts	1 NO + 2 N			5	3SE5112-0LA00-1CA0		1	1 unit	41
E5112-0BA00-1CA0	Slow-action contacts with	1 NO + 2 N		€	5	3SE5112-0MA00-1CA0		1	1 unit	41
	make-before-break									
NED FEDER	Slow-action contacts	2 NO + 1 N	U	€	5	3SE5112-0PA00-1CA0		1	1 unit	41
	M12 device plug, 5-pole (12		_		_					
	Slow-action contacts	1 NO + 1 N	-	→		3SE5114-0BA00-1AC5		1	1 unit	41
	Snap-action contacts	1 NO + 1 N	C	→		3SE5114-0CA00-1AC5		1	1 unit	41
E5114-0BA00-1AC5	Slow-action contacts	2 NC		→	5	3SE5114-0KA00-1AE1		1	1 unit	41
E0114 0B/100 1/100	Snap-action contacts	2 NC		€	5	3SE5114-0LA00-1AE1		1	1 unit	411
6	With M12 device plug, 5-pol with pin assignment as for \$	e (125 V, 4 A), SIMATIC ET 200	²⁾ NEW							
N. A. S.	Snap-action contacts	1 NO + 2 N	C	€	Χ	3SE5114-0LA00-1AE3		1	1 unit	411
	Device plug, 6-pole + PE (25	60 V, 10 A)								
	Slow-action contacts	1 NO + 2 N	C	\odot	5	3SE5115-0KA00-1AD1		1	1 unit	41
	Snap-action contacts	1 NO + 2 N	C	\odot	5	3SE5115-0LA00-1AD1		1	1 unit	41
E5115-0KA00-1AD1	Device plug, 6-pole + PE (25 release device	60 V, 10 A), and	quick-							
	Snap-action contacts	1 NO + 1 N	C	€	5	3SE5115-0CA00-1AD0		1	1 unit	41
	2 LEDs, yellow/green									
	Slow-action contacts	1 NO + 2 N	C 24 V DC	\odot	5	3SE5112-1KA00		1	1 unit	41
HAMES A	Snap-action contacts	1 NO + 2 N	C 24 V DC	\odot	5	3SE5112-1LA00		1	1 unit	41
One Control	Slow-action contacts	1 NO + 2 N	C 230 V A	⊙	5	3SE5112-3KA00		1	1 unit	41
	Snap-action contacts	1 NO + 2 N	C 230 V A	⊙	5	3SE5112-3LA00		1	1 unit	41
E5112-1KA00										
	M12 device plug, 5-pole (12	5 V, 4 A), and 2	LEDs							
	Slow-action contacts	1 NO + 1 N	C 24 V DC	€	5	3SE5114-1BA00-1AF3		1	1 unit	41H
THE PARTY OF THE P	Snap-action contacts	1 NO + 1 N	C 24 V DC	\odot	5	3SE5114-1CA00-1AF3		1	1 unit	41ŀ
One	M12 device plug, 8-pole (30	V. 2 A). and 2 L	EDs							
	Snap-action contacts	1 NO + 2 N		→	5	3SE5114-1LA00-1AD4		1	1 unit	411
SE5114-1BA00-1AF3										
-	Device plug, 6-pole + PE (10	A), and 2 LED	S							
	Slow-action contacts	1 NO + 1 N		→	5	3SE5115-1BA00-1AF2		1	1 unit	41
SCIENT.	Snap-action contacts	1 NO + 1 N				3SE5115-1CA00-1AF2		1	1 unit	41
	Snap-action contacts	2 NC	24 V DC 24 V DC	_		3SE5115-1LA00-1AD2		1	1 unit	411
	onap-action collacts	ZINU	24 V DC	9	J	JOEST IS-TEAUU-TAD2		1	ı urnı	411
SE5115-1BA00-1AF2										

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

Note

For the selection aid, see page 12/11.

¹⁾ Use corresponding high-grade steel lever.

²⁾ The 3SE5114-....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

Enclosure width 40 mm according to EN 50041

	Version	Diameter		SD	Modular system	PU (UNIT, SET, M)	PS*	PG
		mm		d	Article No. Pric	е		
Operating med	chanisms				port			
60	Plain plungers							
	High-grade steel plunger	10	€	2	3SE5000-0AB01	1	1 unit	41K
	Rounded plungers, type B, acc. to EN 50041 High-grade steel plungers, with 3 mm overtravel	10	→	5	3SE5000-0AC02	1	1 unit	41K
	Roller plungers, type C, acc. to EN 50041	10	•	J	33E3000-0AC02	'	T UI III	4111
3SE5000-0AC02 3SE5000-0AD02	High-grade steel roller, with 3 mm overtravel	13	€	5	3SE5000-0AD02	1	1 unit	41K
33E3000-0AD02	Roller levers							
	Metal lever, plastic roller	22	→		3SE5000-0AE01	1	1 unit	41K
	Metal lever, high-grade steel roller High-grade steel lever, plastic roller	22 22	→		3SE5000-0AE02 3SE5000-0AE03	1	1 unit 1 unit	41K 41K
	High-grade steel lever, high-grade steel roller	22	⊕		3SE5000-0AE04	1	1 unit	41K
3SE5000-0AE01	Angular roller levers							
	Metal lever, plastic roller	22	\odot		3SE5000-0AF01	1	1 unit	41K
	Metal lever, high-grade steel roller	22	→		3SE5000-0AF02	1	1 unit	41K
	High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	22 22	→		3SE5000-0AF03 3SE5000-0AF04	1	1 unit 1 unit	41K 41K
3SE5000-0AF01	Spring rods (for switches with snap-action contacts or		•	J	33E3000-0AF04	'	1 unit	4111
1	Plunger made of plastic, spring of high-grade steel:	7						
1	• Length 142.5 mm (spring 50 mm, plunger 50 mm)			5	3SE5000-0AR01	1	1 unit	41K
1	• Length 76 mm (spring 23.5 mm, plunger 10 mm)			5	3SE5000-0AR03	1	1 unit	41K
1	• Length 242.5 mm (spring 150 mm, plunger 50 mm) Plunger and spring made of high-grade steel:	7		5	3SE5000-0AR04	1	1 unit	41K
1	• Length 142.5 mm (spring 50 mm, plunger 50 mm)	,		5	3SE5000-0AR02	1	1 unit	41K
3SE5000-0AR01	,, ,							
Twist actuator	'S							
	Twist actuators, for 40/56/56 XL mm EN 50041							
	• For twist levers and rod actuators,		\odot	2	3SE5000-0AH00	1	1 unit	41K
	switching right and/or left, adjustableFor fork levers, latching		€	5	3SE5000-0AT10	1	1 unit	41K
	Levers		•		002000 0A110		1 dine	1111
3SE5000-0AH00	Twist levers, offset, type A, acc. to EN 50041							
	Metal lever 27 mm, plastic roller	19	→		3SE5000-0AA01	1	1 unit	41K
	Metal lever 27 mm, high-grade steel roller	19	→		3SE5000-0AA02	1	1 unit	41K
	Metal lever 27 mm, high-grade steel roller with ball bearing Metal lever 27 mm, 2 plastic rollers	19	→		3SE5000-0AA03 3SE5000-0AA04	1	1 unit 1 unit	41K 41K
	Metal lever 27 mm, plastic roller	30	⊕		3SE5000-0AA05	1	1 unit	41K
3SE5000-0AA01	Metal lever 27 mm, rubber roller	50	\odot	5	3SE5000-0AA08	1	1 unit	41K
	High-grade steel lever 27 mm, plastic roller	19	⊕		3SE5000-0AA11	1	1 unit	41K
	High-grade steel lever 27 mm, high-grade steel roller Metal lever 35 mm, plastic roller	19 19	→		3SE5000-0AA12 3SE5000-0AA15	1	1 unit 1 unit	41K 41K
	High-grade steel lever 35 mm, plastic roller	19	⊕		3SE5000-0AA16	1	1 unit	41K
	Twist levers 30 mm, straight							
T. T	Metal lever, plastic roller	19	\odot		3SE5000-0AA24	1	1 unit	41K
8	Metal lever, plastic roller	30	€	5	3SE5000-0AA26	1	1 unit	41K
	Twist levers, adjustable length, with grid hole	19	→	5	3SE5000-0A A60	1	1 unit	41K
3SE5000-0AA60 3SE5000-0AA50	Metal lever, plastic roller Metal lever, high-grade steel roller	19	→	5	3SE5000-0AA60 3SE5000-0AA61	1	1 unit 1 unit	41K 41K
102000000000000000000000000000000000000	Metal lever, rubber roller	50	\odot	5	3SE5000-0AA68	1	1 unit	41K
	High-grade steel lever, plastic roller	19	€		3SE5000-0AA62	1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→	5	3SE5000-0AA63	1	1 unit	41K
	Twist levers, adjustable length Metal lever, plastic roller	19		2	3SE5000-0AA50	1	1 unit	41K
3SE5000-0AT01	Metal lever, high-grade steel roller	19		5	3SE5000-0AA51	1	1 unit	41K
35E5000-0A101	Metal lever, plastic roller	30		5	3SE5000-0AA55	1	1 unit	41K
	Metal lever, rubber roller	50		5	3SE5000-0AA58	1	1 unit	41K
	High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	19 19		5 5	3SE5000-0AA52 3SE5000-0AA53	1	1 unit 1 unit	41K 41K
O.	Fork levers (for switches with snap-action contacts on			J	COLUCIO UARGO	1	i uilli	7111
	2 metal levers, 2 plastic rollers	19	€		3SE5000-0AT01	1	1 unit	41K
	2 metal levers, 2 high-grade steel rollers	19	\odot	5	3SE5000-0AT02	1	1 unit	41K
	2 high-grade steel levers, 2 plastic rollers	19	→	5	3SE5000-0AT03	1	1 unit	41K
	Rod actuators, type D, acc. to EN 50041	6		5	3SE5000-04 A90	4	1 unit	/11 L/
3SE5000-0AA80	Aluminum rod, length 200 mm Spring rod, length 200 mm	6		5 5	3SE5000-0AA80 3SE5000-0AA81	1	1 unit 1 unit	41K 41K
	Plastic rod, length 200 mm	6		5	3SE5000-0AA82	1	1 unit	41K

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

3SE5, Metal Enclosures

Enclosure width 56 mm

Selection and ordering data

Complete units

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry 3 \times (M20 \times 1.5)

	Version	Contacts	LEDs	S	D	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	I	Article No.	Price per PU	- , ,		
Complete unit	s ¹⁾ • Enclosure width 56 mm									
	Plain plungers									
	With high-grade steel plunger									
I SHOWN	Slow-action contacts	1 NO + 1 NC		→ 5		3SE5122-0BB01		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC		→ 5		3SE5122-0CB01		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		→ 5		3SE5122-0KB01		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		→ 5		3SE5122-0LB01		1	1 unit	41K
3SE5122-0BB01	Slow-action contacts	2 NO + 1 NC		→ 5	,	3SE5122-0PB01		1	1 unit	41K
.m.	Rounded plungers									
	With high-grade steel plungers, with	3 mm overtrav	vel							
	Slow-action contacts	1 NO + 1 NC		→ 5	,	3SE5122-0BC02		1	1 unit	41K
Tailoune C	Snap-action contacts	1 NO + 1 NC		→ ▶	-	3SE5122-0CC02		1	1 unit	41K
	Snap-action contacts ²⁾	1 NO + 1 NC		→ 5	,	3SE5122-0CC02-1AA7		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		→ 5	,	3SE5122-0KC02		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		→ 5	,	3SE5122-0LC02		1	1 unit	41K
3SE5122-0BC02	Slow-action contacts	2 NO + 1 NC		→ 5	,	3SE5122-0PC02		1	1 unit	41K
a	Roller plunger									
	With high-grade steel roller 13 mm, v	vith 3 mm over	rtravel							
	Slow-action contacts	1 NO + 1 NC		→ 5		3SE5122-0BD02		1	1 unit	41K
•	Snap-action contacts	1 NO + 1 NC		→ 2		3SE5122-0CD02		1	1 unit	41K
Laronos	Snap-action contacts ²⁾	1 NO + 1 NC		→ 5	,	3SE5122-0CD02-1AA7		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		→ 5	,	3SE5122-0KD02		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		→ 5	,	3SE5122-0LD02		1	1 unit	41K
3SE5122-0BD02										
	Roller levers									
	With metal lever and plastic roller 22	mm								
	Slow-action contacts	1 NO + 1 NC		→ 5		3SE5122-0BE01		1	1 unit	41K
G	Snap-action contacts	1 NO + 1 NC		→ 2		3SE5122-0CE01		1	1 unit	41K
I STORMS	Slow-action contacts	1 NO + 2 NC		→ 5		3SE5122-0KE01		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		→ 5		3SE5122-0LE01		1	1 unit	41K
	Slow-action contacts	2 NO + 1 NC		→ 5	,	3SE5122-0PE01		1	1 unit	41K
	With metal lever and high-grade stee	l roller 22 mm								
3SE5122-0BE01	Snap-action contacts	1 NO + 1 NC		→ 5	i	3SE5122-0CE02		1	1 unit	41K
	Angular roller lever									
-0	With metal lever and plastic roller 22			_						
	Slow-action contacts	1 NO + 1 NC		→ 5		3SE5122-0BF01		1	1 unit	41K
•	Snap-action contacts	1 NO + 1 NC		→ 5		3SE5122-0CF01		1	1 unit	41K
Control Control	Slow-action contacts	2 NO + 1 NC	-	→ 5	i	3SE5122-0PF01		1	1 unit	41K
3SE5122-0BF01										
Positive energia	a according to IEC COO 47 E 1 Appendi	. V								

[→] Positive opening according to IEC 60947-5-1, Appendix K.

Popular versions.
 Increased operation or restoring force 30 N; only available as complete unit, no modular design

Enclosure width 56 mm

	Version	Contacts	LEDs	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU	SET, IVI)		
omplete unit	ts ¹⁾ • Enclosure width 56	mm		<u>u</u>		регто			
1	Spring rod								
	Length 142.5 mm, with plas	. •							
	Snap-action contacts	1 NO + 1 NC		5	3SE5122-0CR01		1	1 unit	41k
<u> </u>									
Contract Con									
E5122-0CR01									
0-	Twist levers								
9	With metal lever 27 mm and	•		O 5					
0	Slow-action contacts	1 NO + 1 NC		→ 5	3SE5122-0BH01		1	1 unit	41k
Lincolne	Snap-action contacts	1 NO + 1 NC			3SE5122-0CH01		1	1 unit	41k
	Slow-action contacts	1 NO + 2 NC		→ 5→ 5	3SE5122-0KH01		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NC		→ 5→ 5	3SE5122-0LH01		1	1 unit	41k
E5122-0BH01	Slow-action contacts	2 NO + 1 NC			3SE5122-0PH01		1	1 unit	411
	With metal lever 27 mm and Snap-action contacts	a nign-grade steel n 1 NO + 1 NC		ı - → 5	3SE5122-0CH02		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NC		→ 5	3SE5122-0CH02		1	1 unit	411
	Twist levers, adjustable				OOLS ILL OLITOL		'	Tunit	711
0	With metal lever with grid h	•							
	plastic roller 19 mm	iolo ana							
67	Slow-action contacts	1 NO + 1 NC		→ 5	3SE5122-0BH60		1	1 unit	41k
A	Snap-action contacts	1 NO + 1 NC		→ 5	3SE5122-0CH60		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NC		→ 5	3SE5122-0LH60		1	1 unit	41k
	With metal lever and plastic	c roller 19 mm							
	Slow-action contacts	1 NO + 1 NC		5	3SE5122-0BH50		1	1 unit	41k
E5122-0BH60		1 NO + 1 NC		2	3SE5122-0CH50		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		5	3SE5122-0LH50		1	1 unit	41k
0-	Fork levers, latching								
10	With metal lever and 2 plas			O -					
	Snap-action contacts	1 NO + 1 NC		→ 5	3SE5122-0CT11		1	1 unit	41k
Lancon Co.									
SE5122-0CT11									
1	Rod actuator								
	With aluminum rod, length	200 mm							
44	Snap-action contacts	1 NO + 1 NC		5	3SE5122-0CH80		1	1 unit	41K
्य	With plastic rod, length 200) mm							
Loren Co.	Snap-action contacts	1 NO + 1 NC		5	3SE5122-0CH82		1	1 unit	41k

 $[\]begin{tabular}{l} \begin{tabular}{l} \begin{tabu$

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/36.

¹⁾ Popular versions.

3SE5, Metal Enclosures

Enclosure width 56 mm

Modular system

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry 3 \times (M20 \times 1.5)

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
asic switches	Enclosure width 56 mm									
	With 3 × connection thread	M20 × 1.5								
	Slow-action contacts	1 NO + 1 NC		\odot	2	3SE5122-0BA00		1	1 unit	411
Lanning	Snap-action contacts	1 NO + 1 NC		\odot	2	3SE5122-0CA00		1	1 unit	411
	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5122-0KA00		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NC		\odot	2	3SE5122-0LA00		1	1 unit	41k
SE5122-0BA00	Slow-action contacts with make-before-break	1 NO + 2 NC		→	2	3SE5122-0MA00		1	1 unit	411
	Slow-action contacts	2 NO + 1 NC		\odot	2	3SE5122-0PA00		1	1 unit	41k
	With increased corrosion pr	otection ¹⁾								
	Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5122-0BA00-1CA0		1	1 unit	41k
I STENSON	Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5122-0CA00-1CA0		1	1 unit	411
	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5122-0KA00-1CA0		1	1 unit	411
	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5122-0LA00-1CA0		1	1 unit	411
SE5122-0BA00-1C	Slow-action contacts with MAO make-before-break	1 NO + 2 NC		→	5	3SE5122-0MA00-1CA0		1	1 unit	411
	Slow-action contacts	2 NO + 1 NC		\odot	5	3SE5122-0PA00-1CA0		1	1 unit	41k
	With 2 LEDs, yellow/green									
a	Slow-action contacts	1 NO + 2 NC	24 V DC	\odot	5	3SE5122-1KA00		1	1 unit	41k
Tanana C	Snap-action contacts	1 NO + 2 NC	24 V DC	\odot	5	3SE5122-1LA00		1	1 unit	41h
tran .	Slow-action contacts	1 NO + 2 NC	230 V AC	\odot	5	3SE5122-3KA00		1	1 unit	41k
SE5122-1KA00	Snap-action contacts	1 NO + 2 NC	230 V AC	→	5	3SE5122-3LA00		1	1 unit	41k

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

1) Use corresponding high-grade steel lever.

Note:

For the selection aid, see page 12/11.

	Version	Diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm	d	Article No.	Price per PU			
Operating med	chanisms							
Gui	Plain plungers							
	High-grade steel plungers	10	→ 2	3SE5000-0AB01		1	1 unit	41K
	Rounded plungers, type B, acc. to EN 50041							
	High-grade steel plungers, with 3 mm overtravel	10	→ 5	3SE5000-0AC02		1	1 unit	41K
0055000 04000	Roller plungers, type C, acc. to EN 50041							
3SE5000-0AC02 3SE5000-0AD02	High-grade steel roller, with 3 mm overtravel	13	→ 5	3SE5000-0AD02		1	1 unit	41K
0020000 0/1202	Roller levers							
	Metal lever, plastic roller	22	→ 2	3SE5000-0AE01		1	1 unit	41K
	Metal lever, high-grade steel roller	22	→ 5	3SE5000-0AE02		1	1 unit	41K
	High-grade steel lever, plastic roller	22	→ 5	3SE5000-0AE03		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	22	→ 5	3SE5000-0AE04		1	1 unit	41K
3SE5000-0AE01	Angular roller levers							
	Metal lever, plastic roller	22	→ 2	3SE5000-0AF01		1	1 unit	41K
	Metal lever, high-grade steel roller	22	→ 5	3SE5000-0AF02		1	1 unit	41K
40	High-grade steel lever, plastic roller	22	→ 5	3SE5000-0AF03		1	1 unit	41K
2055222 24524	High-grade steel lever, high-grade steel roller	22	→ 5	3SE5000-0AF04		I	1 unit	41K
3SE5000-0AF01	Spring rods (for switches with snap-action contact							
	Plunger made of plastic, spring of high-grade steel:		5	3SE5000-0AR01		4	1 unit	41K
	 Length 142.5 mm (spring 50 mm, plunger 50 mr Length 76 mm (spring 23.5 mm, plunger 10 mm 	,	5 5	3SE5000-0AR01		1	1 unit	41K 41K
I	 Length 76 mm (spring 23.5 mm, plunger 16 mm Length 242.5 mm (spring 150 mm, plunger 50 m 	•	5	3SE5000-0AR04		1	1 unit	41K
	Plunger and spring made of high-grade steel:	7	3	33L3000-0A1104		'	1 Ullit	4110
<u> </u>	• Length 142.5 mm (spring 50 mm, plunger 50 mr	n)	5	3SE5000-0AR02		1	1 unit	41K
		• • •	Ü			·	. 2	
3SE5000-0AR01								
SSESUUU-UARU I								

Enclosure width 56 mm

						inologaro		
	Version	Diameter	SD	Modular system		PU (UNIT,	PS*	PG
		mm	d		rice PU	SET, M)		
Twist actuator	'e	111111	<u>u</u>	per	10			
I Wist actuator								
	Twist actuators, for 40/56/56 XL mm EN 50041		(A)	OCETOOD OALLOO			4	441/
	 For twist levers and rod actuators, switching right and/or left, adjustable 		→ 2	3SE5000-0AH00		1	1 unit	41K
	• For fork levers, latching		→ 5	3SE5000-0AT10		1	1 unit	41K
	Levers		O 0	COLOGO DAT TO		,	1 driit	7117
3SE5000-0AH00								
	Twist levers 27 mm, offset, type A, acc. to EN 500		(A)	0055000 04 404			4	441/
	Metal lever, plastic roller	19	→ 2	3SE5000-0AA01		1	1 unit	41K
	Metal lever, high-grade steel roller	19	→ 2→ 5	3SE5000-0AA02		1	1 unit	41K
2000	Metal lever, high-grade steel roller with ball bearing	19		3SE5000-0AA03		1 1	1 unit	41K
	Metal lever, 2 plastic rollers	19	◆ 5◆ 5	3SE5000-0AA04			1 unit	41K
3SE5000-0AA01	Metal lever, plastic roller	30	→ 5	3SE5000-0AA05		1	1 unit	41K
	Metal lever, plastic roller	50 50	→ 5	3SE5000-0AA07 3SE5000-0AA08		1 1	1 unit 1 unit	41K 41K
	Metal lever, rubber roller		→ 5			1	1 unit	41K 41K
	High-grade steel lever, plastic roller	19		3SE5000-0AA11 3SE5000-0AA12		1		
	High-grade steel lever, high-grade steel roller	19	→ 5	33E3000-0AA12		'	1 unit	41K
	Twist levers 35 mm, offset	40	O 5	0055000 04445		,	a 11	4417
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA15		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA16		1	1 unit	41K
	Twist levers 30 mm, straight (can be mounted rotation							
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA24		1	1 unit	41K
	Metal lever, plastic roller	30	→ 5	3SE5000-0AA26		1	1 unit	41K
	Twist levers, adjustable length, with grid hole							
9 9	Metal lever, plastic roller	19	→ 5	3SE5000-0AA60		1	1 unit	41K
0 0	Metal lever, high-grade steel roller	19	→ 5	3SE5000-0AA61		1	1 unit	41K
	Metal lever, plastic roller	50	→ 5	3SE5000-0AA67		1	1 unit	41K
O TO	Metal lever, rubber roller	50	→ 5	3SE5000-0AA68		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA62		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA63		1	1 unit	41K
8	Twist levers, adjustable length							
3SE5000-0AA60	Metal lever, plastic roller	19	2	3SE5000-0AA50		1	1 unit	41K
3SE5000-0AA60	Metal lever, high-grade steel roller	19	5	3SE5000-0AA51		1	1 unit	41K
0020000 0/ 1/ 100	Metal lever, plastic roller	30	5	3SE5000-0AA55		1	1 unit	41K
	Metal lever, plastic roller	50	5	3SE5000-0AA57		1	1 unit	41K
	Metal lever, rubber roller	50	5	3SE5000-0AA58		1	1 unit	41K
	High-grade steel lever, plastic roller	19	5	3SE5000-0AA52		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	5	3SE5000-0AA53		1	1 unit	41K
	Fork levers (for switches with snap-action contacts		_					
	2 metal levers, 2 plastic rollers	19	→ 5	3SE5000-0AT01		1	1 unit	41K
	2 metal levers, 2 high-grade steel rollers	19	→ 5	3SE5000-0AT02		1	1 unit	41K
	2 high-grade steel levers, 2 plastic rollers	19	→ 5	3SE5000-0AT03		1	1 unit	41K
2055222 24524	2 high-grade steel levers, 2 high-grade steel rollers	19	→ 5	3SE5000-0AT04		1	1 unit	41K
3SE5000-0AT01								
	Rod actuators, type D, acc. to EN 50041	0	-	0055000 04450		,	4 9	4417
	Aluminum rod, length 200 mm	6	5	3SE5000-0AA80		1	1 unit	41K
	Spring rod, length 200 mm	6	5	3SE5000-0AA81		1	1 unit	41K
at .	Plastic rod, length 200 mm	6	5	3SE5000-0AA82		1	1 unit	41K
2055000 04400								
3SE5000-0AA80								

[→] Positively driven actuator, necessary in safety circuits.

3SE5, Metal Enclosures

Enclosure width 56 mm, XL

Selection and ordering data

Complete units

4 or 5 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry 3 \times (M20 \times 1.5)

	Version	Contacts	LEDs	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price	SEI, IVI)		
Complete unit	ts ¹⁾ • Enclosure width 56 mm,	ΧI		u		per PU			
- D	Plain plungers	AL			•				
	With high-grade steel plunger								
Laconer C	Snap-action contacts	2 × (1 NO + 1 I	NC)	→ 5	3SE5162-0CB01		1	1 unit	41K
3SE5162-0CB01									
4	Rounded plungers								
	With high-grade steel plungers,		ravel						
E INDUCES	Slow-action contacts Slow-action contacts with make-before-break 2 mm travel difference	1 NO + 1 NC 1 NO + 2 NC		→ 5	3SE5162-0EC02		1	1 unit	41K
3SE5162-0EC02									
<u> </u>	Roller plunger								
	With high-grade steel roller 13 n	•							
6	Slow-action contacts	2 × (1 NO + 1 I	*	→ 5	3SE5162-0BD02		1	1 unit	41K
Lineway	Snap-action contacts	2 × (1 NO + 1 I	NC)	→ 2	3SE5162-0CD02		1	1 unit	41K
3SE5162-0BD02	Roller levers								
	With metal lever and plastic roll		NO)	O 5	0055400 00504			4 9	4417
6	Slow-action contacts	2 × (1 NO + 1 I	,	→ 5	3SE5162-0BE01		1	1 unit	41K
Linea	Snap-action contacts With motal lover and high grade	2 × (1 NO + 1 I		→ 2	3SE5162-0CE01		1	1 unit	41K
	With metal lever and high-grade Snap-action contacts	2 × (1 NO + 11		→ 5	3SE5162-0CE02		1	1 unit	41K
3SE5162-0BE01	onap-action contacts	2 / (1110 + 11	110)	© 3	3323102-00202		, i	T GITT	4110
	Angular roller lever								
	With metal lever and plastic roll	er 22 mm							
C Interest	Snap-action contacts	2 × (1 NO + 1 I	NC)	→ 5	3SE5162-0CF01		1	1 unit	41K
3SE5162-0CF01									
0-	Twist levers						_		
6	With metal lever 27 mm and plas	stic roller 19 mm							
Limitana C	Snap-action contacts With high-grade steel lever 27 m			→ 2	3SE5162-0CH01		1	1 unit	41K
	19 mm, increased corrosion pro Snap-action contacts	tection 2 × (1 NO + 1 l	NC)	→ 5	3SE5162-0CH12-1CC	ı	1	1 unit	41K
2055425-52111	(gold contacts) Twist levers, adjustable length	ath							
3SE5162-0CH01	High-grade steel lever with grid roller 19 mm, increased corrosic Adapter 3SX5100-3B included	hole and high-gra	ade steel						
	Snap-action contacts (gold contacts)	2 × (1 NO + 1 I	NC)	→ 5	3SE5162-0CH63-1AN	1	1	1 unit	41K
Positive opening	ng according to IEC 60947-5-1, App	ondiy K		Note:					

Positive opening according to IEC 60947-5-1, Appendix K.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/39.

¹⁾ Popular versions.

Enclosure width 56 mm, XL

Modular system

4 or 6 contacts · Degree of protection IP66/IP67 · Cable entry 3 × (M20 × 1.5)

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switche	s • Enclosure width 56 mr	n, XL								
	With 3 × connection thread M	/120 × 1.5								
	Slow-action contacts	2 × (1 NO + 1 NC)	\odot	2	3SE5162-0BA00		1	1 unit	41K
Language C	Snap-action contacts	2 × (1 NO + 1 NC))	\odot	2	3SE5162-0CA00		1	1 unit	41K
	Slow-action contacts with make-before-break	2 × (1 NO + 2 NC))	→	30	3SE5162-0DA00		1	1 unit	41K
	With increased corrosion pro	otection ¹⁾								
	Slow-action contacts	2 × (1 NO + 1 NC)	\odot	5	3SE5162-0BA00-1CA0		1	1 unit	41K
3SE5162-0BA00	Snap-action contacts	2 × (1 NO + 1 NC))	\odot	5	3SE5162-0CA00-1CA0		1	1 unit	41K
	Slow-action contacts with make-before-break	2 × (1 NO + 2 NC))	€	30	3SE5162-0DA00-1CA0		1	1 unit	41K
driven actuator	g according to IEC 60947-5-1, necessary in safety circuits. ding high-grade steel lever.	Appendix K, or posit	ively	Note For t		election aid, see page 1	2/11.			

	v ·	D: 1	0.0			DI L /L IN II T	DO#	PG
	Version	Diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm	d	Article No.	Price per PU			
Operating med	chanisms							
(%)	Plain plungers							
	High-grade steel plunger	10	→ 2	3SE5000-0AB01		1	1 unit	41K
3SE5000-0AB01								
	Rounded plungers, type B, acc. to EN 50041							
	High-grade steel plungers, with 3 mm overtravel	10	→ 5	3SE5000-0AC02		1	1 unit	41K
3SE5000-0AC02								
33L3000-0AC02	Roller plungers, type C, acc. to EN 50041							
(a)	High-grade steel roller, with 3 mm overtravel	13	→ 5	3SE5000-0AD02		1	1 unit	41K
3SE5000-0AD02	Bullion							
	Roller levers Metal lever, plastic roller	22	→ 2	3SE5000-0AE01		1	1 unit	41K
	Metal lever, high-grade steel roller	22	→ 5	3SE5000-0AE02		'1	1 unit	41K
	High-grade steel lever, plastic roller	22	→ 5	3SE5000-0AE03		1	1 unit	41K
3SE5000-0AE01	High-grade steel lever, high-grade steel roller	22	→ 5	3SE5000-0AE04		1	1 unit	41K
	Angular roller levers							
	Metal lever, plastic roller	22	→ 2	3SE5000-0AF01		1	1 unit	41K
	Metal lever, high-grade steel roller	22	→ 5	3SE5000-0AF02		1	1 unit	41K
3SE5000-0AF01	High-grade steel lever, plastic roller High-grade steel lever, high-grade steel roller	22 22	→ 5 → 5	3SE5000-0AF03 3SE5000-0AF04		1	1 unit 1 unit	41K 41K
_	Spring rods (for switches with snap-action conta		→ 3	35E3000-0AF04		ı	1 UIIIL	41N
	Plunger made of plastic, spring of high-grade steel:	,,						
	 Length 142.5 mm (spring 50 mm, plunger 50 m 		5	3SE5000-0AR01		1	1 unit	41K
I	• Length 76 mm (spring 23.5 mm, plunger 10 mm		5	3SE5000-0AR03		1	1 unit	41K
	• Length 242.5 mm (spring 150 mm, plunger 50 r		5	3SE5000-0AR04		1	1 unit	41K
1	Plunger and spring made of high-grade steel:	7						
1	• Length 142.5 mm (spring 50 mm, plunger 50 m	m)	5	3SE5000-0AR02		1	1 unit	41K
3SE5000-0AR01								

[→] Positively driven actuator, necessary in safety circuits.

Enclosure width 56 mm, XL

	Version	Diameter	SE	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm	d	Article No.	Price per PU	, ,		
Twist actuator	'S							
	Twist actuators, for 40/56/56 XL mm EN 50041							
	 For twist levers and rod actuators, 		→ 2	3SE5000-0AH00		1	1 unit	41K
	switching right and/or left, adjustableFor fork levers, latching		→ 5	3SE5000-0AT10		1	1 unit	41K
	Toriork levers, latering		9 3	33E3000-0A110		1	1 unit	4110
3SE5000-0AH00								
	Levers							
	Twist levers 27 mm, offset, type A, acc. to EN 500	41						
	Metal lever, plastic roller	19	→ 2	3SE5000-0AA01		1	1 unit	41K
()	Metal lever, high-grade steel roller	19	→ 2	3SE5000-0AA02		1	1 unit	41K
3SE5000-0AA01	Metal lever, high-grade steel roller with ball bearing	19	→ 5	3SE5000-0AA03		1	1 unit	41K
33E3000-0AA01	Metal lever, 2 plastic rollers	19	→ 5	3SE5000-0AA04		1	1 unit	41K
	Metal lever, plastic roller	30	→ 5	3SE5000-0AA05		1	1 unit	41K
	Metal lever, plastic roller	50	→ 5	3SE5000-0AA07		1	1 unit	41K
	Metal lever, rubber roller	50	→ 5	3SE5000-0AA08		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA11		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA12		1	1 unit	41K
	Twist levers 35 mm, offset		o -	- 				
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA15		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA16		1	1 unit	41K
	Twist levers 30 mm, straight		O -					
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA24		1	1 unit	41K
	Metal lever, plastic roller	30	→ 5	3SE5000-0AA26		1	1 unit	41K
	Twist levers, adjustable length, with grid hole		O -					
9 9	Metal lever, plastic roller	19	→ 5	3SE5000-0AA60		1	1 unit	41K
8 0	Metal lever, high-grade steel roller	19	→ 5	3SE5000-0AA61		1	1 unit	41K
5	Metal lever, plastic roller	50 50	→ 5→ 5	3SE5000-0AA67 3SE5000-0AA68		1	1 unit 1 unit	41K 41K
	Metal lever, rubber roller High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA62		1	1 unit	41K
1	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA62		1	1 unit	41K
8	Twist levers, adjustable length	10	0 0	0020000 074700		'	1 dilit	
	Metal lever, plastic roller	19	2	3SE5000-0AA50		1	1 unit	41K
3SE5000-0AA60	Metal lever, high-grade steel roller	19	5	3SE5000-0AA51		1	1 unit	41K
3SE5000-0AA50	Metal lever, plastic roller	30	5	3SE5000-0AA55		1	1 unit	41K
	Metal lever, plastic roller	50	5	3SE5000-0AA57		1	1 unit	41K
	Metal lever, rubber roller	50	5	3SE5000-0AA58		1	1 unit	41K
	High-grade steel lever, plastic roller	19	5	3SE5000-0AA52		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	5	3SE5000-0AA53		1	1 unit	41K
	Fork levers (for switches with snap-action contacts	only)						
	2 metal levers, 2 plastic rollers	19	→ 5	3SE5000-0AT01		1	1 unit	41K
	2 metal levers, 2 high-grade steel rollers	19	→ 5	3SE5000-0AT02		1	1 unit	41K
	2 high-grade steel levers, 2 plastic rollers	19	→ 5	3SE5000-0AT03		1	1 unit	41K
3SE5000-0AT01	2 high-grade steel levers, 2 high-grade steel rollers	19	→ 5	3SE5000-0AT04		1	1 unit	41K
1	Rod actuators, type D, acc. to EN 50041							
	Aluminum rod, length 200 mm	6	5	3SE5000-0AA80		1	1 unit	41K
	Spring rod, length 200 mm	6	5	3SE5000-0AA81		1	1 unit	41K
্ৰা	Plastic rod, length 200 mm	6	5	3SE5000-0AA82		1	1 unit	41K
	Plastic rod, length 330 mm	6	5	3SE5000-0AA83		1	1 unit	41K
1								
3SE5000-0AA80								

[→] Positively driven actuator, necessary in safety circuits.

Compact design

Overview



Compact design in width 30 mm

Particularly in harsh environments or on equipment with limited space, the small 3SE54 position switches in compact design with a depth of 16 mm and a weight of only 80 g (without cable) are ideal. Above all the versions with molded cable can be mounted in the most confined spaces.

3SE54 compact position switches are available in two different widths as complete units:

- The 3SE5413 series complies with the EU standard and features a 30-mm-wide enclosure with drilled holes at a distance of 20 mm.
- The 3SE5423 series meets the requirements of the US market and features a 40-mm-wide enclosure with drilled holes at a spacing of 25 mm.

Both the enclosure and the actuator head are made of metal and comply with the high IP67 degree of protection. The following actuators are available:

- · Rounded plungers
- Rounded plungers with central fixing
- Rounded plungers with external seal
- Roller plungers
- Roller plungers with central fixing
- Twist levers

The contact block is designed with snap-action contacts 1 NO + 1 NC. The NC contact complies with the requirements for positive opening acc. to IEC 60947-5-1.

Use in safety circuits up to category 4 according to EN ISO 13849-1.

Connection:

- With molded cable, 2 m or 5 m long
- With M12 device plug

Benefits

- Very compact yet with the same rating as the 3SE51 standard switches, for notable space savings in confined installation conditions
- Various actuator versions available
- Roller plungers can be rotated through 90°
- Twist levers can be rotated through 180°; twist levers can be adjusted in 15° increments
- Time is saved when mounting the fully assembled unit
- With metal enclosure of degree of protection IP67, ideal for use in rough industrial environments
- Insensitive to electromagnetic interference

3SE5, Metal Enclosures

Compact design

Selection and ordering data

2 snap-action contacts 1 NO + 1 NC · Degree of protection IP67 · With connecting cable or M12 device plug

	Operating mechanism	Enclosure wid	th	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm		d		,	. ,		
Complete units • Er	closure width 30 or 40 mm								
	Rounded plungers								
	Standard mounting								
	- With 2 m cable $5 \times 0.75 \text{ mm}^2$	30	€	2	3SE5413-0CC20-1EA2		1	1 unit	41K
2		40	⊕	2	3SE5423-0CC20-1EA2		1	1 unit	41K
SIEMENS	- With 5 m cable 5 x 0.75 mm ²	30	→	5	3SE5413-0CC20-1EA5		1	1 unit	41K
	- With M12 device plug, 5-pole	30	→	2	3SE5413-0CC20-1EB1		1	1 unit	41K
3SE5413-0CC20-1EA2		40	€	5	3SE5423-0CC20-1EB1		1	1 unit	41K
n	With central fixing M12 x 1								
	- With 2 m cable 5 x 0.75 mm ²	30	€	2	3SE5413-0CC21-1EA2		1	1 unit	41K
		40	€	5	3SE5423-0CC21-1EA2		1	1 unit	41K
SIEMENS									
3SE5413-0CC21-1EA2	• With outpund and								
<u> </u>	 With external seal With 2 m cable 5 x 0.75 mm² 	30		5	3SE5413-0CC22-1EA2		1	4 . mit	41K
	- With 2 m cable 5 x 0.75 mm	40	→	5 5	3SE5423-0CC22-1EA2		1	1 unit 1 unit	41K
SIEMENS		40	•	5	33E3423-00022-1EM2		, 	T UTIL	4110
3SE5413-0CC22-1EA2									
	Roller plungers								
	Standard mounting								
0	- With 2 m cable $5 \times 0.75 \text{ mm}^2$	30	\odot	2	3SE5413-0CD20-1EA2		1	1 unit	41K
SIEMENS		40	€	2	3SE5423-0CD20-1EA2		1	1 unit	41K
SIEMENS	- With 5 m cable 5 x 0.75 mm ²	30	€	5	3SE5413-0CD20-1EA5		1	1 unit	41K
	- With M12 device plug, 5-pole	30	€	2	3SE5413-0CD20-1EB1		1	1 unit	41K
3SE5413-0CD20-1EA2		40	€	2	3SE5423-0CD20-1EB1		1	1 unit	41K
	With central fixing M12 x 1								
_ith	- With 2 m cable 5 x 0.75 mm ²	30	→	2	3SE5413-0CD21-1EA2		1	1 unit	41K
		40	€	5	3SE5423-0CD21-1EA2		1	1 unit	41K
S 6	Actuator head rotated 90°		_						
3SE5413-0CD23-1EA2	- With 2 m cable 5 x 0.75 mm ²	30	→	2	3SE5413-0CD23-1EA2		1	1 unit	41K
	Twist levers								
	Standard mounting						ı		
1112	- With 2 m cable 5 x 0.75 mm ²	30	→	2	3SE5413-0CN20-1EA2		1	1 unit	41K
(3)	- With 2 III cable 3 x 0.73 IIIIII	40	⊕	5	3SE5423-0CN20-1EA2		1	1 unit	41K
0	- With 5 m cable 5 x 0.75 mm ²	30		2	3SE5413-0CN20-1EA5		1	1 unit	41K
SIEMENS	- With M12 device plug, 5-pole	30	⊕	2	3SE5413-0CN20-1EB1		1	1 unit	41K
	Z dovido pidg, o polo	40	⊕	5	3SE5423-0CN20-1EB1		1	1 unit	41K
3SE5413-0CN20-1EA2	Twist levers with a smaller mounting depth and lower height	.0	J	Ŭ			<u>'</u>	. Jilit	1110
	- With 2 m cable 5 x 0.75 mm ²	30	€	5	3SE5413-0CP20-1EA2		1	1 unit	41K
	Twist levers, adjustable length	N	EW						
	- With 2 m cable 5 x 0.75 mm ²	30	€	Χ	3SE5413-0CQ20-1EA2		1	1 unit	41K
O	ording to IEC 60947-5-1, Appendix K.								

SIRIUS 3SE5 Mechanical Position Switches 3SE5, Open-Type Design

Enclosure width 30 mm

Overview



Their compact design makes these switches particularly suitable for use in confined conditions. The fixing dimensions and operating points are according to EN 50047.

The switches are equipped with two or three contacts in snap-action, slow-action or slow-action with make-before-break versions. The stroke is 6 mm.

The empty enclosure can be equipped with all contact block versions (see page 12/45).

Improved version

The switches have a robust metal plunger with increased abrasion resistance (instead of the teflon plunger). This enables the switch to be approached from a 30° angle.

Open-type design

Selection and ordering data

2 or 3 contacts · Degree of protection IP20 (2 contacts), IP10 (3 contacts)

	Version	Contacts		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d		po o	02.,)		
Plastic enclos	ures • Enclosure width 30 mm								
	With metal plunger								
	Slow-action contacts	1 NO + 1 NC	\odot	2	3SE5250-0BC05		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC	\odot		3SE5250-0CC05		1	1 unit	41K
3SE5250-0BC05									
a.	Slow-action contacts	1 NO + 2 NC	_	5	3SE5250-0KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC	_		3SE5250-0LC05		1	1 unit	41K
	Slow-action contacts with make-before-break	1 NO + 2 NC	_	2	3SE5250-0MC05		1	1 unit	41K
5 5 5 5 5 5 5	Slow-action contacts	2 NO + 1 NC	→	2	3SE5250-0PC05		1	1 unit	41K
3SE5250-0KC05									
3SE5250-0AC05	Empty enclosures without contact block		→	5	3SE5250-0AC05		1	1 unit	41K
1120200 0, 1000	Contact blocks with 2 contacts								
	For open-type design ¹⁾								
	Slow-action contacts	1 NO + 1 NC	\odot	5	3SE5050-0BA00		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC							
S 6	- Standard		_	5	3SE5050-0CA00		1	1 unit	41K
SV C	 2 x 2 mm switching interval 		_	30	3SE5050-0GA00		1	1 unit	41K
3SE5050-0BA00	- Short stroke		\odot	30	3SE5050-0NA00		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Contact blocks with 3 contacts, see page 12/45.

Accessories and spare parts

Selection and ordering data

The quick-release devices and plug-in connections are used for fast installation and replacement of position switches.

		Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d		регто	OL1, IVI)		
Quick-relea	ise devices for end	closure width 40 mm						
		Adapter plates with screws	5	3SY3110		1	1 unit	41K
		Base plate with locking lever	5	3\$Y3027		1	1 unit	41K
3SY3110	3SY3027							
		× 1.5 connecting threads						
11		Device plugs (6-pole + PE), for M20 × 1.5	5	3SY3131		1	1 unit	41K
W		For max. 250 V, 10 A With connecting cable 0.75 mm ² , plastic, degree of protection IP65, ambient temperature -40 +90 °C						
	3SY3136	Cable box (6-pole + PE) ¹⁾ With terminal compartment, can be pre-assembled, plastic, degree of protection IP65	2	3SY3136		1	1 unit	41K
3SY3131								
		Device plugs (4-pole), M12, for M20 \times 1.5, fixed For max. 250 V, 4 A, $U_{\rm imp}$ = 2 500 V With 4 connecting cables 0.25 mm², plastic, degree of protection IP67, ambient temperature -40 +85 °C	5	3SY3127		1	1 unit	41K
		Device plugs (5-pole), M12, for M20 \times 1.5, fixed For max. 125 V, 4 A, $U_{\rm imp}$ = 1 500 V With 5 connecting cables 0.25 mm ² , plastic, degree of protection IP67, ambient temperature -40 +85 °C	5	3SY3128		1	1 unit	41K
3SY3127	3SX5100-1SS51	Device plugs (8-pole), M12, for M20 x 1.5, fixed, plastic version ²) For max. 30 V, 1.5 A, U _{Imp} = 800 V With 8 connecting cables 0.25 mm ² , metal, degree of protection IP67, ambient temperature -25 +85 °C	NEW X	3\$X5100-1\$\$51		1	1 unit	41K
		M12 cable box, angled, 4-pole For AS-Interface, max. 4 A With cabling box, max. 0.75 mm ²	5	3RK1902-4CA00-4A	A0	1	1 unit	42D
3RK1902-4CA								
Adapters a	nd cable glands fo	or M20 × 1.5 connecting threads						
		Adapters acc. to @ , @ and % , For cable entry from M20 × 1.5 to NPT 1/2	_					
		MetalPlastic	5 30	3SX9917 3SX9918		1 1	1 unit	41K
3SX9917	3SX9918		30	3373310		<u>'</u>	1 unit	41K
		Cable glands M20 × 1.5 Plastic						
		 Plastic, degree of protection IP67 High degree of protection IP69, IEC 60529 	2 5	3SX9926 3SX5601-1A		1 1	1 unit 1 unit	41K 41K
3SX9926	a crimpina tool is nece		2) 0	for wiring sensors to				
For Wiring a	a communa tool is nece	PSSALV	 Suitable 	TOT WITING SENSORS TO	ne connected	io ali compac	: DIOCK	

For wiring, a crimping tool is necessary, max. conductor cross-section 1 mm².

²⁾ Suitable for wiring sensors to be connected to all compact block I/O modules in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series.

Accessories and spare parts

							orics and	оро о	p
	Version	Color/		SD	Article No.		PU (UNIT,	PS*	PG
		contacts		d	р	er PU	SET, M)		
Optional accessories	s for 3SE51, 3SE52								
	Protective caps	Black		2	3SE5000-0AC30		1	1 unit	41K
	For rounded plungers acc. to								
	EN 50047, 3SE5C05								
3SE5000-0AC30									
a	Adapters with screw ¹⁾			5	3SX5100-3B		1	1 unit	41K
	For an increase in the mounting depth on the 3SE5000-0AH00 twist actuator,								
	in combination with twist lever with								
3SX5100-3B	adjustable length or rod actuator								
2	Mounting plate			5	3SX5100-1A		1	1 unit	41K
÷ 1	Suitable for 3SE523, and 3SE521.								
	position switches with a width of 31 mm (in particular for control cabinet types)								
00)/5100.11									
3SX5100-1A Spare parts for 3SE5	1 20EE2								
Spare parts for 35Es		Turquoino							
	Empty enclosures, plastic Enclosure width 31 mm	Turquoise		5	3SE5232-0AC05		1	1 unit	41K
	With increased corrosion protection			5	3SE5232-0AC05 3SE5232-0AC05-1CA0		1	1 unit	41K
ESTERATERIS	Enclosure width 40 mm			5	3SE5132-0AA00		1	1 unit	41K
	Enclosure width 50 mm			5	3SE5242-0AC05		1	1 unit	41K
	With increased corrosion protection			5	3SE5242-0AC05-1CA0		1	1 unit	41K
	- With increased corresion protection			0	000001000			1 dilit	7110
3SE5232-0AC05									
6	Empty enclosures, metal	Turquoise		_					
a la	Enclosure width 31 mm			5	3SE5212-0AC05		1	1 unit	41K
ESTRATEGIS	With increased corrosion protection			5	3SE5212-0AC05-1CA0		1	1 unit	41K
	Enclosure width 40 mm			5 5	3SE5112-0AA00		1	1 unit	41K
	 With increased corrosion protection Enclosure width 56 mm 			5	3SE5112-0AA00-1CA0 3SE5122-0AA00		1 1	1 unit	41K 41K
	With increased corrosion protection			5	3SE5122-0AA00-1CA0		1	1 unit 1 unit	41K
3SE5212-0AC05	Enclosure width 56 mm, XL ²⁾			5	3SE5162-0AA00		1	1 unit	41K
	Contact blocks with 2 contacts ³⁾			J	33L3102-0AA00			Turnt	4111
	Slow-action contacts	1 NO + 1 NC	→	5	3SE5000-0BA00		1	1 unit	41K
3 3	Snap-action contacts	1 NO + 1 NC	0	0	0020000 0DA00		'	1 dilit	1111
	- Standard		€	5	3SE5000-0CA00		1	1 unit	41K
5 3	- Gold-plated contacts			5	3SE5000-0CA00-1AC1		1	1 unit	41K
	- 2 × 2 mm switching interval		_	30	3SE5000-0GA00		1	1 unit	41K
3SE5000-0BA00	- Short stroke		→	5	3SE5000-0NA00		1	1 unit	41K
	Contact blocks with 3 contacts								
	Slow-action contacts	1 NO + 2 NC	\odot	5	3SE5000-0KA00		1	1 unit	41K
6	 Snap-action contacts 	1 NO + 2 NC	\odot	5	3SE5000-0LA00		1	1 unit	41K
5 E	 Slow-action contacts with make-before-break 	1 NO + 2 NC	→	2	3SE5000-0MA00		1	1 unit	41K
3SE5000-0KA00	Slow-action contacts	2 NO + 1 NC	€	2	3SE5000-0PA00		1	1 unit	41K
	Contact blocks for XL enclosure ²⁾								
	Slow-action contacts	1 NO + 1 NC	\odot	5	3SE5060-0BA00		1	1 unit	41K
3	Snap-action contacts	1 NO + 1 NC	\odot	5	3SE5060-0CA00		1	1 unit	41K
	Slow-action contacts with	1 NO + 2 NC	\odot	30	3SE5060-0MA00		1	1 unit	41K
8 8	make-before-break								
3SE5060-0BA00									

igoplus Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Possibly required for the conversion from 3SE21 to 3SE51.

Equip XL enclosures only with contact combinations, see pages 12/10, 12/38 and 12/39.

³⁾ Unsuitable for open-type position switches, see page 12/43.

Accessories and spare parts

	Version	Rated voltage LED	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V	d		p 3	0=1,1		
Spare parts for 3SE	51, 3SE52							
	Covers for plastic enclos	ures, width 31 mm						
- 6	 Turquoise with LED 	24 DC	5	3SE5230-1AA00		1	1 unit	41K
STRATERS		230 AC	5	3SE5230-3AA00		1	1 unit	41K
000	 Yellow 		5	3SE5230-0AA00-1AG0		1	1 unit	41K
	 Yellow with LED 	24 DC	5	3SE5230-1AA00-1AG0		1	1 unit	41K
		230 AC	5	3SE5230-3AA00-1AG0		1	1 unit	41K
3SE5230-1AA00								
	Covers for plastic enclos	ures, width 40 mm						
Ф	 Turquoise with LED 	24 DC	5	3SE5130-1AA00		1	1 unit	41K
STEATER		230 AC	5	3SE5130-3AA00		1	1 unit	41K
000	 Yellow 		5	3SE5130-0AA00-1AG0		1	1 unit	41K
	 Yellow with LED 	24 DC	5	3SE5130-1AA00-1AG0		1	1 unit	41K
		230 AC	5	3SE5130-3AA00-1AG0		1	1 unit	41K
3SE5130-1AA00-1AG0								
0020100 177000 17700	Covers for plastic enclos	ures, width 50 mm						
	Turquoise with LED	24 DC	5	3SE5240-1AA00		1	1 unit	41K
8	rai quoico mai 223	230 AC	5	3SE5240-3AA00		1	1 unit	41K
SIEMENS	Yellow		5	3SE5240-0AA00-1AG0		1	1 unit	41K
aaa	Yellow with LED	24 DC	5	3SE5240-1AA00-1AG0		1	1 unit	41K
	- TOHOW WITH LLD	230 AC	5	3SE5240-3AA00-1AG0		1	1 unit	41K
2055242.44.422		230 AC	5	33L3240-3AA00-1AG0		'	T UTIL	4111
3SE5240-1AA00	Covers for metal enclosu	ros width 21 mm						
	Turquoise with LED	24 DC	5	3SE5210-1AA00		1	1 unit	41K
STRATEMS	Turquoise with LLD	230 AC	5	3SE5210-3AA00		1	1 unit	41K
UOII	Yellow	230 AC	5			1		41K
	Yellow with LED	 24 DC	5	3SE5210-0AA00-1AG0		1	1 unit 1 unit	41K
	• reliow with LED		5 5	3SE5210-1AA00-1AG0				
		230 AC	5	3SE5210-3AA00-1AG0		1	1 unit	41K
3SE5210-1AA00								
	Covers for metal enclosu	•	_					
0	Turquoise with LED	24 DC	5	3SE5110-1AA00		1	1 unit	41K
STRATEAUS		230 AC	5	3SE5110-3AA00		1	1 unit	41K
Oth	• Yellow		5	3SE5110-0AA00-1AG0		1	1 unit	41K
	 Yellow with LED 	24 DC	5	3SE5110-1AA00-1AG0		1	1 unit	41K
		230 AC	5	3SE5110-3AA00-1AG0		1	1 unit	41K
3SE5110-1AA00								
	Covers for metal enclosu	,	F	0055400 4 4 4 00			4	4417
SHANDIS	 Turquoise with LED 	24 DC	5	3SE5120-1AA00		1	1 unit	41K
THE	V 11	230 AC	5	3SE5120-3AA00		1	1 unit	41K
	• Yellow		5	3SE5120-0AA00-1AG0		1	1 unit	41K
	Yellow with LED	24 DC	5	3SE5120-1AA00-1AG0		1	1 unit	41K
		230 AC	5	3SE5120-3AA00-1AG0		1	1 unit	41K
3SE5120-0AA00-1AG0								
	Covers for XL metal enclo	osures, width 56 mm						
	 Yellow 		5	3SE5160-0AA00-1AG0		1	1 unit	41K

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Separate Actuator

General data

Overview

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

3SE5 safety switches with separate actuator have the same enclosures as the 3SE5 position switches (modular system).



3SE5 safety switches with head for separate actuator

Desian

Enclosure sizes

The 3SE5 safety switches are available in four different enclosure sizes:

- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Plastic enclosures, 50 mm wide, IP66/IP67, 2 cable entries
- Metal enclosures, 56 mm wide, IP66/IP67, 3 cable entries

Also available are safety switches in the 3SE2 series which have been developed in this form according to general market requirements:

 Molded-plastic enclosures outside of the standards, enclosure width 52 mm, IP67

Enclosure versions

Various basic versions can be selected for the enclosures of the 3SE5 series:

- Available with two- or three-pole contact blocks designed as slow-action contacts
- Optional LED status display
- With mounted four or five-pole M12 device plug (available for the wide enclosures as an accessory for self-assembly)
- With 6-pole device plug + PE on the metal enclosures
- · Similarly with a combination of plug and LED indicators
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/91)

For a description of the basic switches, see page 12/5.

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^\circ$. The switches can also be approached from above.

The actuator heads of the 3SE2243 and 3SE2257 switches with special enclosures cannot be changed. The switches can be approached from the two broad sides and from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/54).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The safety switches with radius actuators are particularly suitable for rotary protective devices. The movable actuation key allows even small radii to be approached. Damage to the switch and the actuator due to inaccurate approach is prevented.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/54).



Blocking inserts with padlock

Dust protection

For use in dusty environments, a rubber cap is offered that protects the actuator entries of the actuator head from contamination (see page 12/54).

Contact reliability

The contact blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents, e.g. 1 mA at 5 V DC.

Positive opening →

The NC contacts of the switch are forced open mechanically, positively-driven and reliably by the plunger. This is referred to as "positive opening".

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches

With Separate Actuator

General data

Benefits

The 3SE5 safety switches with separate actuator differ from the previous series through the following new properties:

- All enclosure sizes with increased corrosion protection are optionally available with an LED signaling indicator.
- The three-pole contact block 1 NO + 2 NC is available for all enclosure sizes.
- The plastic enclosure has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting.
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see page 12/91); an additional adapter is not required.

Application

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

The safety switch can only be operated with the matching coded actuator. Simple overruling by hand or auxiliary devices is impossible.

Devices are available with enclosure versions to suit the particular ambient conditions. The high-grade steel actuator IP69K with optimized geometry is suitable for extreme environmental conditions as low as -40 °C. Different control tasks can be performed with the best contact blocks suited for the particular purpose. Dimensions and fixing points of the enclosure are in accordance with EN 50041 or EN 50047 standards. The devices are suitable for use in any climate.

Standards

IEC/EN 60947-5-1

The protective measure of "total insulation" by the molded-plastic enclosure is ensured by the use of molded-plastic screw glands.

Safety position switches

For controls according to IEC/EN 60204-1, the devices can be used as a safety position switch. They comply with the standard EN ISO 14119. A TÜV certificate is available. To secure position switches against changes in their position, keyed techniques must be employed on installation.

Safety circuits

The IEC/EN 60947-5-1 standard requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked in accordance with the standard IEC 60947-5-1 with the symbol Θ .

Category 3 according to EN ISO 13849-1 can be attained with a safety switch with separate actuator if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK, 3TK28 safety relays or matching units from the ASI-safe, SIMATIC or SINUMERIK product ranges.

Category 4 can be achieved when using an additional 3SE5 safety switch.

Technical specifications

Туре		3SE51V, 3SE52V	3SE2257XX	C. .	3SE2243XX	C
General data						
Standards		IEC 60947-5-1, EN 60947-5-	1, EN ISO 14119			
Rated insulation voltage <i>U</i> _i	V	400	500			
Degree of pollution according to IEC 60664-1		Class 3	Class 3			
Rated impulse withstand voltage <i>U</i> _{imp}	kV	6				
Rated operational voltage <i>U</i> _e	V	400 AC; over 300 V AC same potential only	500 AC; over 380 V A same potentia			
Conventional thermal current Ith	Α	6	10			
Rated operational current I _e			1-pole		3-pole	
 With alternating current 50/60 Hz At 24 V At 120 V At 240 V At 400 V At 500 V 	A A A A	I _e /AC-15 6 6 4 4	I _e /AC-12 10 10 10 10 10	I _e /AC-15 10 10 6 4 3	I _e /AC-12 10 10 10 10 10	I _e /AC-15 10 10 4 4 3
• For direct current - At 24 V - At 125 V - At 250 V	A A A	I _e / DC-13 3 0.55 0.27	I _e / DC-12 10 	I _e / DC-13 10 	I _e / DC-12 10 	I _e / DC-13 10
- At 110 V - At 220 V - At 400 V - At 440 V	A A A	 0.12	4 1 0.5	1 0.4 0.2	4 1 0.5	1 0.4 0.2
Short-circuit protection						
 With DIAZED fuse links, operational class gG 	Α	6	6			
With fuse links, quick	Α		10			
• With miniature circuit breaker, C char. ($I_{\text{K}< 400\text{A}}$)	Α	1				
Mechanical endurance		1 ×10 ⁶ operating cycles				
Electrical endurance			0			
 With 3RH.1, 3RT contactors in size S00, S0 For utilization category AC-15 when switching off I_e/AC-15 at 240 V 		1 ×10 ⁶ operating cycles 100 000 operating cycles	> 1 ×10 ⁶ ope 500 000 oper	0 ,		
Switching frequency With 3RH.1, 3RT contactors in size S00, S0		6 000 operating cycles/h				
Minimum pull-out force for positive opening	N	20	10		30	

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Separate Actuator

3SE5, plastic enclosures, enclosure width 31 mm according to EN 50047

Selection and ordering data

2 or 3 contacts \cdot 5 directions of approach \cdot Degree of protection IP65 \cdot Cable entry M20 \times 1.5

	Version ¹⁾	Contacts	LEDs	S	D	Complete units		PU (UNIT, SET, M)	PS*	PG
				d		Article No.	Price per PU			
Enclosure width	31 mm according to EN 50	047					•			
	Slow-action contacts	1 NO + 1 N	C	→ 5		3SE5232-0RV40		1	1 unit	41K
	Slow-action contacts	1 NO + 2 N	C	→ ▶		3SE5232-0QV40		1	1 unit	41K
	With increased minimum p	oull-out force 30 I	N							
(MICHICAN)	Slow-action contacts	1 NO + 2 N	C	→ 5		3SE5232-0QV40-1AA1		1	1 unit	41K
3SE5232-0RV40										
	With M12 device plug, 4-pe	ole (250 V, 4 A)								
	Slow-action contacts	1 NO + 1 N	C	→ 5		3SE5234-0RV40-1AC4		1	1 unit	41K
to the second	Slow-action contacts	2 NC		→ 5		3SE5234-0QV40-1AE0		1	1 unit	41K
3SE5234-0RV40-1AC	24									
	With M12 device plug, 5-po with pin assignment as for	ole (125 V, 4 A), r SIMATIC ET 200	²⁾ NEW							
	Slow-action contacts	2 NC		→ X		3SE5234-0QV40-1AE2		1	1 unit	41K
	With 2 LEDs, yellow/green									
	Slow-action contacts	1 NO + 1 N	C 24 V DC	→ 5		3SE5232-1RV40		1	1 unit	41K
	Slow-action contacts	1 NO + 1 N	C 230 V AC	→ 5		3SE5232-3RV40		1	1 unit	41K
	With M12 device plug, 5-po and 2 LEDs	ole (125 V, 4 A),								
TUD	Slow-action contacts	1 NO + 1 N	C 24 V DC	→ 5		3SE5234-1RV40-1AF3		1	1 unit	41K
3SE5232-1RV40										

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/54).

²⁾ The 3SE5234-....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches

With Separate Actuator

3SE5, plastic enclosures, enclosure width 40 mm according to EN 50041

Selection and ordering data 2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry M20 × 1.5 Version¹⁾ Contacts PU (UNIT, LEDs Complete units PS* PG SÈT, M) Price per PU Article No. d Enclosure width 40 mm acc. to EN 50041 1 NO + 2 NC --3SE5132-0QV20 Slow-action contacts → 5 1 unit 41K 3SE5132-0QV20 With 2 LEDs, yellow/green 1 NO + 2 NC 24 V DC → 5 3SE5132-1QV20 41K Slow-action contacts 1 unit Slow-action contacts 1 NO + 2 NC 230 V AC **→** 5 3SE5132-3QV20 41K 1 unit

3SE5132-1QV20

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/54).

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Separate Actuator

3SE5, plastic enclosures, enclosure width 50 mm

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

Version ¹⁾	Contacts	LEDs		SD	Complete units	PU (UNIT, SET, M)	PS*	PG
				d				
dth 50 mm								
Slow-action contacts	1 NO + 2 NC		€	5	3SE5242-0QV40	1	1 unit	41K
With increased minimum pull-out	t force 30 N							
Slow-action contacts	1 NO + 1 NC		\odot	5	3SE5242-0RV40-1AA1	1	1 unit	41K
			\sim					
						1		41K
Slow-action contacts	1 NO + 2 NC	230 V AC	•	5	3SE5242-3QV40	1	1 unit	41K
	Slow-action contacts With increased minimum pull-out Slow-action contacts With 2 LEDs, yellow/green Slow-action contacts Slow-action contacts Slow-action contacts	Slow-action contacts 1 NO + 2 NC With increased minimum pull-out force 30 N Slow-action contacts 1 NO + 1 NC With 2 LEDs, yellow/green Slow-action contacts 1 NO + 2 NC	Slow-action contacts 1 NO + 2 NC With increased minimum pull-out force 30 N Slow-action contacts 1 NO + 1 NC With 2 LEDs, yellow/green Slow-action contacts 1 NO + 2 NC 24 V DC Slow-action contacts 1 NO + 2 NC 230 V AC	Slow-action contacts 1 NO + 2 NC With increased minimum pull-out force 30 N Slow-action contacts 1 NO + 1 NC With 2 LEDs, yellow/green Slow-action contacts 1 NO + 2 NC 24 V DC Slow-action contacts 1 NO + 2 NC 230 V AC 1 NO + 2 NC 230 V AC	dith 50 mm Slow-action contacts 1 NO + 2 NC → 5 With increased minimum pull-out force 30 N Slow-action contacts 1 NO + 1 NC → 5 With 2 LEDs, yellow/green Slow-action contacts 1 NO + 2 NC 24 V DC → 5 Slow-action contacts 1 NO + 2 NC 230 V AC → 5	Article No. Pric per Pt Slow-action contacts 1 NO + 2 NC	Article No. Price Per PU	Article No. Price per PU SIow-action contacts 1 NO + 2 NC → 5 SE5242-0QV40 1 1 unit With increased minimum pull-out force 30 N Slow-action contacts 1 NO + 1 NC → 5 SE5242-0RV40-1AA1 1 1 unit With 2 LEDs, yellow/green Slow-action contacts 1 NO + 2 NC 24 V DC → 5 SIow-action contacts 1 NO + 2 NC 230 V AC → 5 SE5242-3QV40 1 1 unit

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/54).

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches

With Separate Actuator

3SE5, metal enclosures, enclosure width 31 mm according to EN 50047

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

		- 0 1				- · · · · · · · · · · · · · · · · · · ·				
	Version ¹⁾	Contacts	LEDs		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Enclosure wid	oth 31 mm according to EN 50	047								
	Slow-action contacts	1 NO + 1 NC		€	2	3SE5212-0RV40		1	1 unit	41K
3SE5212-0RV40	Slow-action contacts	1 NO + 2 NC		→	5	3SE5212-0QV40		1	1 unit	41K
	With 2 LEDs, yellow/green									
	Slow-action contacts	1 NO + 1 NC	24 V DC	\odot	5	3SE5212-1RV40		1	1 unit	41K
PORTO TANGE	Slow-action contacts	1 NO + 1 NC	230 V AC	→	5	3SE5212-3RV40		1	1 unit	41K
3SE5212-1RV40										

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/54).

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Separate Actuator

3SE5, metal enclosures, enclosure width 40 mm according to EN 50041 / 56 mm

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version ¹⁾	Contacts	LEDs		SD	Complete units		PU (UNIT,	PS*	PG
						Article No.	Price	SET, M)		
					d	7 11 11 10 10 1 10 1	per PU			
Enclosure width	40 mm acc. to EN 50041									
	Slow-action contacts	1 NO + 2 NO		€		3SE5112-0QV10		1	1 unit	41K
	With increased minimum p				_					
	Slow-action contacts	1 NO + 2 NO	U	€	5	3SE5112-0QV10-1AA7		1	1 unit	41K
6 6										
LAIDING										
3SE5112-0QV10										
	With M12 device plug, 5-po	ole (125 V, 4 A)								
	Slow-action contacts	1 NO + 1 NO	C	€	5	3SE5114-0RV10-1AC5		1	1 unit	41K
	Slow-action contacts	2 NC		\odot	5	3SE5114-0QV10-1AE1		1	1 unit	41K
6 6	With M12 device plug, 5-po	ole (125 V, 4 A),	0)							
Laterren	with pin assignment as for		²⁾ NEW							
	Slow-action contacts	2 NC		€	Χ	3SE5114-0QV10-1AE3		1	1 unit	41K
	With device plug, 6-pole +		_		_	0055445 00040 4404			4 0	4417
	Slow-action contacts	1 NO + 2 NO	U	€	5	3SE5115-0QV10-1AD1		1	1 unit	41K
3SE5114-0RV10-1A										
	With 2 LEDs, yellow/green				_					
	Slow-action contacts	1 NO + 2 NO		. ⊙		3SE5112-1QV10		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO		. →	5	3SE5112-3QV10		1	1 unit	41K
• (With M12 device plug, 5-po Slow-action contacts	1 NO + 1 NO		€	=	3SE5114-1RV10-1AF3		1	1 unit	41K
U.O.	With device plug, 6-pole +				5	33E3114-1HV10-1AF3			1 unit	411
	Slow-action contacts	1 NO + 1 N		• •	5	3SE5115-1RV10-1AF2		1	1 unit	41K
	Slow-action contacts	1110 + 1111	0 24 V DO	G	J	33E3113-111V10-1A12		'	1 unit	4110
3SE5112-1QV10										
Enclosure width	56 mm									
	Slow-action contacts	1 NO + 2 NO	0	€	5	3SE5122-0QV10		1	1 unit	41K
	With increased minimum p	ull-out force 30 h	N							
	Slow-action contacts	1 NO + 2 NO	C	\odot	5	3SE5122-0QV10-1AA7		1	1 unit	41K
0										
[MINION										
3SE5122-0QV10	Will all ED. III. /									
	With 2 LEDs, yellow/green	4 110 0 11	0.041/.00		_	0055400 400440			a 0	4417
	Slow-action contacts	1 NO + 2 NO		→		3SE5122-1QV10		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO	5 230 V AC	. →	5	3SE5122-3QV10		1	1 unit	41K
•										
Stores										
3SE5122-1QV10										
1110.11										

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/54).

²⁾ The 3SE5114-....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all compact block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN, ET 200eco PN-F and ET 200AL series with IP65/IP67 degree of protection for cabinet-free installation directly at the machine.

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches

With Separate Actuator

Accessories

Selection and order	ing data					
	Version	SD		PU (UNIT,	PS*	PG
		d	per PU	SÈT, M)		
IP66/IP67						
	Standard actuator					
-	• Length 75.6 mm	•	3SE5000-0AV01	1	1 unit	41K
3SE5000-0AV01						
	With vertical fixing, length 53 mm	5	3SE5000-0AV02	1	1 unit	41K
3SE5000-0AV02						
	With transverse fixing, length 47 mm	5	3SE5000-0AV03	1	1 unit	41K
3SE5000-0AV03						
1	• With transverse fixing, plastic ¹⁾ , length 40 mm	5	3SE5000-0AW11	1	1 unit	41K
3SE5000-0AW11						
55E5000-0AW11	High-grade steel actuator, IP69K ²⁾					
	• Length 75.6 mm	5	3SE5000-0AW51	1	1 unit	41K
3SE5000-0AW51						
ù	Radius actuator, length 51 mm					
24	Direction of approach from the left	2	3SE5000-0AV04	1	1 unit	41K
3SE5000-0AV06	Direction of approach from the right	5	3SE5000-0AV06	1	1 unit	41K
n	Universal radius actuator					
	 Length 77 mm Length 77 mm, tab rotated 90° 	5 5	3SE5000-0AV05 3SE5000-0AV05-1AA6	1	1 unit 1 unit	41K 41K
3SE5000-0AV05-1AA6						
N	Universal radius actuator, heavy duty					
3	Length 67 mm	2	3SE5000-0AV07-1AK2	1	1 unit	41K
	• Length 77 mm	5	3SE5000-0AV07	1	1 unit	41K
3SE5000-0AV07						
Optional accessories			2077222 241/22 4442		a 0	4417
0055000 0 1/00 1/100	Protective caps, black rubber For the actuator head, to protect the actuator openings from contamination (Only for enclosure width 40 or 56 mm)	5	3SE5000-0AV08-1AA2	1	1 unit	41K
3SE5000-0AV08-1AA2	Blocking inserts, high-grade steel, for actuator head	5	3SE5000-0AV08-1AA3	1	1 unit	41K
3SE5000-0AV08-1AA3	For up to eight padlocks					
Connections for 3SE	5, 3SE2					
\\ /	Device plugs (4-pole), M12, fixed					
	for M20 x 1.5 With connecting cable 0.25 mm ² , plastic, degree of protection IP67, ambient temperature -40 to +85 °C					
	For max. 250 V, 4 A	5	3SY3127	1	1 unit	41K
3SY3127	For max. 125 V, 4 A	5	3SY3128	1	1 unit	41K
	Cable glands M20 × 1.5 Plastic	2	3SX9926	1	1 unit	41K
3SX9926	2)					

¹⁾ Not suitable for safety switches with tumbler.

 $^{^{2)}}$ With optimized geometry and suitable for extreme environmental conditions such as -40 $^{\circ}\mathrm{C}$

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Separate Actuator

3SE2, plastic enclosures, special width 52 mm

Selection and ordering data

1 or 3 contacts · 3	3 directions of approach · Degree o	f protection IP67						
	Version	Operation	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
			d	Article No.	Price per PU			
Plastic enclosure	es in special width of 52 mm		<u>u</u>		porro			
	Lateral and front-end actuation ¹⁾	6 mm stroke						
	\bullet With connecting thread M20 \times 1.5							
0	- Slow-action contacts	Holding force 5 N	→ 2	3SE2243-0XX40		1	1 unit	41K
BEST OF THE PARTY	1 NO + 2 NC	Holding force 30 N	→ 2	3SE2243-0XX		1	1 unit	41K
		With automatic ejection	→ 2	3SE2243-0XX30		1	1 unit	41K
	 Slow-action contacts 1 NC 	Holding force 5 N	→ 15	3SE2257-6XX40		1	1 unit	41K
	TNC	Holding force 30 N	→ 15	3SE2257-6XX		1	1 unit	41K
3SE2243		With automatic ejection	→ 5	3SE2257-6XX30		1	1 unit	41K
	• With connecting thread M16 × 1.5							
	- Slow-action contacts 1 NO + 2 NC	Holding force 30 N	→ 10	3SE2243-0XX18		1	1 unit	41K
Accessories								
	Actuators							
3SX3218	• Standard actuators ($r_{min} = 150 \text{ mm}$), length 28 mm		2	3SX3218		1	1 unit	41K
3SX3228	• Universal radius actuator (r _{min} = 45 mm), length 34 mm		2	3SX3228		1	1 unit	41K
3SX3256	 Radius actuator, adjustable radius, length 34 mm 		10	3SX3256		1	1 unit	41K
3SX3217	Ball locating, force adjustable up to max. 100 N by 2 adjustable screws, length 28 mm		2	3SX3217		1	1 unit	41K
3SX3234	Actuator, length 34 mm, with dust protection and slit cover		30	3SX3234		1	1 unit	41K
	Accessories							-
	• Slit cover (1 set = 3 units)		30	3SX3233		1	3 units	41K

igoplus Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator.

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Tumbler

General data

Overview

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. follow-on motion of the switched-off machine).



3SE5 safety switch with tumbler

The safety switches with tumbler are comprised of a switch part with electromechanical tumbler and a mechanical actuator which has to be ordered separately.

They are rugged protective devices that enable the greatest possible safety for man and machine.

The safety switches with tumbler are offered in plastic or metal enclosures

Dimensions (W \times H \times D): 54 mm \times 185 mm \times 43.5 mm

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4\times90^\circ$. The switches can also be approached from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/62).

Actuation data:

- Maximum actuating speed $v_{\text{max}} = 1.5 \text{ m/s}$
- Minimum actuating speed $v_{min} = 0.4$ mm/s
- Minimum force in the direction of actuation $F_{min} = 30 \text{ N}$

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The safety switches with radius actuators are particularly suitable for rotary protective devices. The movable actuation key allows even small radii to be approached. Damage to the switch and the actuator due to inaccurate approach is prevented.

Locking devices

A high-grade steel locking device for attaching up to eight padlocks is available for even more security (see page 12/63).

Dust protection

A rubber cap to protect the actuator entry of the actuator head from contamination is available for operation in dusty environments (see page 12/63).

Tumbler

There are two versions for interlocking the actuator:

- Spring-actuated lock (closed-circuit principle) with various release mechanisms
- Solenoid-locked (open-circuit principle)

The spring-actuated lock switch is equipped with an auxiliary release for emergency situations or setup mode. Available as options:

- Escape release or
- Emergency release

Contact blocks

The safety switches with tumbler have one switching block each for:

- Monitoring the actuator or the position of the protective door
- Monitoring the position of the solenoid

The mechanical design of the switches corresponds to the requirements of the fail-safe principle according to EN ISO 14119.

Optical signaling equipment

The safety switches with tumbler are available with an optional optical signaling device.

The signaling device indicates the switch position of the interlock and the protective device optically by means of 2 LEDs on the front.

Protective device	Tumbler	Display	Meaning
Closed	Released	* *	Actuator able to be pulled
Closed	Locked	\	Actuator locked
Open	Released	\	Actuator pulled

Internal wiring:

- The yellow LED is pre-wired to the solenoid monitoring NO contact.
- The green LED is pre-wired to the actuator monitoring NC contact.
- LED ground is pre-wired to the ground of the solenoid.

Note:

- The operational voltage must be connected to the corresponding contacts by the customer.
- This voltage for the LEDs must match the operational voltage of the solenoid (same potential).

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Tumbler

General data

Benefits

The new generation of 3SE53 safety switches offers:

- More safety through higher locking forces:
- 1 300 N with plastic enclosure
- 2 600 N with metal enclosure
- Various release mechanisms: lock release, escape release and emergency release
- Two contact blocks each with three contacts as standard equipment, hence fewer versions needed
- Same dimensions for all enclosure versions: Plastic, metal or with integrated ASIsafe
- · An extensive range of actuators
- An optional LED status display 24 V DC, 115 V or 230 V AC for all switch versions
- Devices with ASIsafe electronics integrated in the enclosure/ wired to 8-pole M12 device plug (see page 12/95)
- 3SE5322-1S.21-1AG4 series with high degree of protection IP69, IP69K in accordance with IEC 60529, cover with foamed seal

Application

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. follow-on motion of the switched-off machine).

The safety position switches with tumbler have the following functions:

- Enabling the machine or process with closed and locked protective device
- Locking the machine or process with opened protective device
- · Position monitoring of the protective device and tumbler

Standards

The switches comply with the standards IEC 60947-1 (Low-Voltage Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Devices).

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to EN ISO 14119.

Approvals

The switches are approved for use with locking devices according to EN ISO 14119 and EN 292, Parts 1 and 2.

Category 3 according to EN ISO 13849-1 can be attained with a safety switch with tumbler if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK or 3TK28 safety relays or matching units from the ASIsafe, SIMATIC or SINUMERIK product ranges.

Category 4 can be achieved when using an additional 3SE5 safety switch.

These switches are approved according to UL 508, UL 50 and UL 746-C.

Tumbler

The separate actuator works like a key using coding and protects against manipulation. It transmits the locking force to the protective device and helps to monitor its position.

There are two versions of locking:

Spring-actuated lock (closed-circuit principle)

- In the standard version, the safety switch locks by means of spring force and releases by means of electromagnetic force.
 In the case of voltage failure, it reliably prevents the protective device from opening when machine parts are still moving.
- The switch is equipped with an auxiliary release for emergency situations or setup mode.
- An auxiliary release which can be secured with a lock to prevent misuse is available as a version.





Auxiliary release

Auxiliary release with lock

The 3SE5 3 safety switches are also available with an escape release or emergency release.

- Personnel working inside the hazard zone can use the escape release feature to manually release the tumbler without tools from the escape side (hazardous area side) so that they can exit the hazard area. An intentional act (in this case pulling the gray actuator) is required to release the locking mechanism and restore the normal operating state.
- The emergency release enables someone in an emergency situation to manually release the tumbler without tools from the access side (outside the hazardous area). Releasing the lock and restoring the normal operating state must require effort which is comparable to repair activity: in this case disassembly of the red actuator and resetting of the mechanical lock.





Escape release from the front

Emergency release from the back

Solenoid-locked (open-circuit principle)

 The second version offers locking by means of electromagnetic force and release by means of spring force. This version has an advantage when it is necessary to quickly access the machine after a power failure occurs, or in the case of very short coasting times.

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches

With Tumbler

General data

Examples of door interlocking



X-Lock door interlocking from Axelent

For the addresses of the door interlock manufacturers, see page 16/16.



Door interlocking from Brühl

Technical specifications

Туре		3SE5322	3SE5312
General data			
Standards		IEC/EN 60947-	5-1, EN ISO 14119
Rated insulation voltage <i>U</i> _i	V	250	
Degree of pollution according to IEC 60664-1		Class 3	
Rated impulse withstand voltage U_{imp}	kV	4	
Rated operational voltage $U_{\rm e}$			
• DC	V	24	
• 50/60 Hz AC	V	230	
Conventional thermal current I_{th}	Α	6	
Rated operational current I_e			
 With alternating current 50/60 Hz 		$I_{\rm e}$ /AC-15 or B	300
- At 24 V	A	6	
- At 120 V - At 240 V	A A	6	
For direct current	,	$I_{\rm p}$ /DC-13 or C	3300
- At 24 V	Α	3	
- At 125 V	Α	0.55	
- At 250 V	A	0.27	
Solenoid			
 Locking force, max. 	N	1 300	2 600
 Locking force acc. to EN ISO 14119 	N	1 000	2 000
 Power consumption at U_c 	W	3.5	
Short-circuit protection ¹⁾			
 With DIAZED fuse links, utilization category gG 	Α	6	
With miniature circuit breaker, C char.	Α	0.5	
Mechanical endurance	Operating cycles	1 ×10 ⁶	
Electrical endurance			
 With 3RH.1, 3RT contactors in size S00, S0 	Operating cycles	1 ×10 ⁶	
For utilization category AC-15 when switching off $I_{\rm e}$ /AC-15 at 230 V	Operating cycles	100 000	
With utilization category DC-12/DC-13		For direct curre	ent depending on the loading of the switch
Switching frequency With 3RH.1, 3RT contactors in size S00, S0	Operating cycles/h	6 000	
Shock resistance acc. to IEC 60068-2-27	g/ms	30/11	

¹⁾ Without any welds according to IEC 60947-5-1.

Circuit diagrams

Monitoring the actuator

Slow-action contacts 1 NO + 2 NC



Monitoring the solenoid

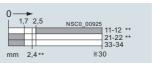
Slow-action contacts 1 NO + 2 NC



Operating travel

Monitoring the actuator

Slow-action contacts 1 NO + 2 NC



SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Tumbler

3SE5, plastic enclosures with locking force greater than 1 200 N

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 × M20 × 1.5 · Locking force 1 300 N

	Tumbler ¹⁾	LEDs	Solenoid, rated operationa voltage	al	SD	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC	Deice	PU (UNIT, SET, M)	PS*	PG
					_1	Article No.	Price per PU			
1 300 N locking	g force · Enclosure width 5	4 mm	V		d					
T 000 It looking	Spring-actuated lock	* 111111								
	With auxiliary release		24 DC	→	>	3SE5322-0SD21		1	1 unit	41K
· ·			115 AC	→	5	3SE5322-0SD22		1	1 unit	41K
Limited			230 AC		5	3SE5322-0SD23		1	1 unit	41K
° • •		Yellow/Green	24 DC	→	2	3SE5322-1SD21		1	1 unit	41K
		Yellow/Green		→	5	3SE5322-2SD22		1	1 unit	41K
A		Yellow/Green	230 AC	€	5	3SE5322-3SD23		1	1 unit	41K
3SE5322-0SD21										
	 With auxiliary release with lock 		24 DC		5 5	3SE5322-0SE21		1	1 unit	41K
			115 AC 230 AC		5	3SE5322-0SE22 3SE5322-0SE23		1 1	1 unit 1 unit	41K 41K
Laurence -		Yellow/Green			5	3SE5322-0SE23		1	1 unit	41K
· 🙈 •		Yellow/Green		⊕	5	3SE5322-2SE22		1	1 unit	41K
		Yellow/Green			5	3SE5322-3SE23		1	1 unit	41K
3SE5322-0SE21										
	With escape release		24 DC	€	5	3SE5322-0SF21		1	1 unit	41K
	from the front		115 AC		5	3SE5322-0SF22		1	1 unit	41K
a •			230 AC		5	3SE5322-0SF23		1	1 unit	41K
Limina		Yellow/Green		→	5	3SE5322-1SF21		1	1 unit	41K
		Yellow/Green		→	5	3SE5322-2SF22		1	1 unit	41K
	- \A/\(\frac{1}{2}\)	Yellow/Green		<u>→</u>	5	3SE5322-3SF23		1	1 unit	41K
3SE5322-0SF21	 With escape release from the front and emergency release from the back 		24 DC	•	5	3SE5322-0SL21		1	1 unit	41K
	 With escape release from the back and auxiliary 		24 DC		5	3SE5322-0SG21		1	1 unit	41K
	release from the front		115 AC		5	3SE5322-0SG22		1	1 unit	41K
			230 AC		5	3SE5322-0SG23		1	1 unit	41K
9 9 9		Yellow/Green Yellow/Green		→	5 5	3SE5322-1SG21 3SE5322-2SG22		1 1	1 unit 1 unit	41K 41K
		Yellow/Green		_	5	3SE5322-2SG22 3SE5322-3SG23		1	1 unit	41K
2055200 20004		renow, areen	200710	O .	J	0010022 00020		'	1 dillic	7110
3SE5322-0SG21	With escape release from the		24 DC	→	5	3SE5322-0SH21		1	1 unit	41K
	back and auxiliary release with lock from the front									
	 With emergency release from the back and auxiliary 		24 DC		5	3SE5322-0SJ21		1	1 unit	41K
	release from the front		115 AC	_	5	3SE5322-0SJ22 3SE5322-0SJ23		1	1 unit	41K
Design		 Yellow/Green	230 AC		5	3SE5322-0SJ23 3SE5322-1SJ21		1	1 unit	41K 41K
P		Yellow/Green			5	3SE5322-1SJ21		1	1 unit	41K
		Yellow/Green			5	3SE5322-3SJ23		1	1 unit	41K
		,		_						
3SE5322-0SJ21										
	Solenoid-locked		24 DC	•	>	3SE5322-0SB21		1	1 unit	41K
			115 AC		5	3SE5322-0SB22		1	1 unit	41K
• e =			230 AC		5	3SE5322-0SB23		1	1 unit	41K
I mensus.	 With device plug, 8-pole Head rotated clockwise 	Yellow/Green		NEW 🕒		3SE5334-0SB21-1AC8		1	1 unit	41K
	by 90°	Yellow/Green	24 DC	NEW →	5	3SE5324-0SB21-1AP0		1	1 unit	41K
		Yellow/Green			2	3SE5322-1SB21		1	1 unit	41K
3SE5322-1SB21		Yellow/Green			5	3SE5322-2SB22		1	1 unit	41K
00L0022-10D21		Yellow/Green	230 AC	€	5	3SE5322-3SB23		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/62).

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Tumbler

3SE5, plastic enclosures with locking force greater than 1 200 N

6 slow-action contacts \cdot 5 directions of approach \cdot **Degree of protection IP69K** \cdot Cable entry $3 \times M20 \times 1.5 \cdot Locking$ force 1 300 N

• With foamed seal and special cover

• With loanled seal	and special cover									
	Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage		SD	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
			V		d	Article No.	Price per PU			
1 300 N locking forc	e · Enclosure width 54 m	m · Degree o	of protection							
	Spring-actuated locks									
trans.	With auxiliary release	Yellow/Green	24 DC	→	5	3SE5322-1SD21-1AG4		1	1 unit	41K
3SE5322-1SD21-1AG4										
	With auxiliary release with lock	Yellow/Green	24 DC	•	5	3SE5322-1SE21-1AG4		1	1 unit	41K
3SE5322-1SE21-1AG4										
	With escape release from the front	Yellow/Green	24 DC	→	5	3SE5322-1SF21-1AG4		1	1 unit	41K
3SE5322-1SF21-1AG4	1464	\/ II	0.1.00		_					
3SE5322-1SG21-1AG4	With escape release from the back and auxiliary release from the front	Tellow/Green	Z4 DC	→	S	3SE5322-1SG21-1AG4		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

Accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Accessories							
3SX5601-1A	Cable glands M20 x 1.5 Plastic High degree of protection IP69, IEC 60529	5	3SX5601-1A		1	1 unit	41K

¹⁾ Supplied without actuator. Please order separately (see page 12/62).

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Tumbler

3SE5, metal enclosures with locking force greater than 2 000 N

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 × M20 × 1.5 · Locking force 2 600 N

	Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage		SD	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
			V		d	Article No.	Price per PU			
ckina	force · Enclosure width 54	mm			Ĭ		po o			
	Spring-actuated locks									
	With auxiliary release		24 DC	\odot		3SE5312-0SD11		1	1 unit	41K
			115 AC	\odot	5	3SE5312-0SD12		1	1 unit	41K
			230 AC	\odot	5	3SE5312-0SD13		1	1 unit	41K
		Yellow/Green	24 DC	€	5	3SE5312-1SD11		1	1 unit	41K
		Yellow/Green	115 AC	\odot	5	3SE5312-2SD12		1	1 unit	41K
		Yellow/Green	230 AC	\odot	5	3SE5312-3SD13		1	1 unit	41K
	With auxiliary release		24 DC	€	5	3SE5312-0SE11		1	1 unit	41K
	with lock		115 AC	\odot	5	3SE5312-0SE12		1	1 unit	41K
			230 AC		5	3SE5312-0SE13		1	1 unit	41K
		Yellow/Green	24 DC		5	3SE5312-1SE11		1	1 unit	41K
		Yellow/Green	115 AC		5	3SE5312-2SE12		1	1 unit	41K
		Yellow/Green	230 AC	\odot	5	3SE5312-3SE13		1	1 unit	41K
				_						
	 With escape release from the front 		24 DC	→		3SE5312-0SF11		1	1 unit	41K
	from the front		115 AC		5	3SE5312-0SF12		1	1 unit	41K
			230 AC		5	3SE5312-0SF13		1	1 unit	41K
		Yellow/Green			5	3SE5312-1SF11		1	1 unit	41K
		Yellow/Green			5	3SE5312-2SF12		1	1 unit	41K
		Yellow/Green	230 AC	€	5	3SE5312-3SF13		1	1 unit	41K
	With escape release from the		24 DC	→	5	3SE5312-0SG11		1	1 unit	41K
	back and auxiliary release		115 AC		5	3SE5312-0SG12		1	1 unit	41K
	from the front		230 AC	_	5	3SE5312-0SG13		1	1 unit	41K
		Yellow/Green			5	3SE5312-1SG11		1	1 unit	41K
		Yellow/Green			5	3SE5312-2SG12		1	1 unit	41K
		Yellow/Green	230 AC		5	3SE5312-3SG13		1	1 unit	41K
	With escape release from the back and auxiliary release		24 DC	€	5	3SE5312-0SH11		1	1 unit	41K
	with lock from the front									
	With emergency release		24 DC		5	3SE5312-0SJ11		1	1 unit	41K
	from the back and auxiliary release from the front		115 AC		5	3SE5312-0SJ12		1	1 unit	41K
			230 AC	→		3SE5312-0SJ13		1	1 unit	41K
		Yellow/Green			5	3SE5312-1SJ11		1	1 unit	41K
		Yellow/Green			5	3SE5312-2SJ12		1	1 unit	41K
		Yellow/Green	230 AC	€	5	3SE5312-3SJ13		1	1 unit	41K
	Solenoid-locked		24 DC	→		3SE5312-0SB11		1	1 unit	41K
			115 AC		5	3SE5312-0SB12		1	1 unit	41K
			230 AC		5	3SE5312-0SB13		1	1 unit	41K
		Yellow/Green			5	3SE5312-1SB11		1	1 unit	41K
		Yellow/Green			5	3SE5312-2SB12		1	1 unit	41K
		Yellow/Green	230 AC	€	5	3SE5312-3SB13		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/62).

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches

With Tumbler

Accessories

Selection and orderi	ng data					
	Version	SD	Article No. Pric	e PU (UNIT, J SET, M)	PS*	PG
IP66/IP67		d				
3\$E5000-0AV01	Standard actuator • Length 75.6 mm	>	3SE5000-0AV01	1	1 unit	41K
355500-04-01	With vertical fixing, length 53 mm	5	3SE5000-0AV02	1	1 unit	41K
3SE5000-0AV02 3SE5000-0AV03	With transverse fixing, length 47 mm	5	3SE5000-0AV03	1	1 unit	41K
	High-grade steel actuator, IP69K¹¹) • Length 75.6 mm	5	3SE5000-0AW51	1	1 unit	41K
3SE5000-0AW51	With vertical fixing, length 53 mm	5	3SE5000-0AW52	1	1 unit	41K
3SE5000-0AW52 3SE5000-0AW53	With transverse fixing, length 47 mm	5	3SE5000-0AW53	1	1 unit	41K
	Radius actuator, length 51 mm • Direction of approach from the left • Direction of approach from the right	2 5	3SE5000-0AV04 3SE5000-0AV06	1 1	1 unit 1 unit	41K 41K
3SE5000-0AV06						
3SE5000-0AV05-1AA6	 Universal radius actuator Length 77 mm Length 77 mm, tab rotated 90° 	5 5	3SE5000-0AV05 3SE5000-0AV05-1AA6	1 1	1 unit 1 unit	41K 41K
3SE5000-0AV07	Universal radius actuator, heavy duty • Length 67 mm • Length 77 mm	2 5	3SE5000-0AV07-1AK2 3SE5000-0AV07	1 1	1 unit 1 unit	41K 41K

For further plug versions, see page 12/44.

¹⁾ With optimized geometry and suitable for extreme environmental conditions such as -40 °C

SIRIUS 3SE5, 3SE2 Mechanical Safety Switches With Tumbler

					Access	sories
	Version	SD	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
		d				
Optional accessories	for 3SE5					
	Protective caps , black rubber For the actuator head, to protect the actuator openings from contamination	5	3SE5000-0AV08-1AA2	1	1 unit	41K
3SE5000-0AV08-1AA2						
2000	Blocking inserts , high-grade steel, for actuator head For up to eight padlocks	5	3SE5000-0AV08-1AA3	1	1 unit	41K
3SE5000-0AV08-1AA3						
Spare parts for 3SE5						
	Spare keys	5	3SX5100-1F	1	1 unit	41K
Connection for 3SE5						
	Device plugs (4-pole), M12, fixed for M20 x 1.5 For max. 250 V, 4 A With connecting cable 0.25 mm ² , plastic, degree of protection IP67, ambient temperature -40 to +85 °C	5	3SY3127	1	1 unit	41K
3SY3127	Device plugs (5-pole), M12, fixed for M20 x 1.5 For max. 125 V, 4 A With connecting cable 0.25 mm ² , plastic, degree of protection IP67, ambient temperature -40 to +85 °C	5	3SY3128	1	1 unit	41K
	Cable glands M20 x 1.5 Plastic					
	Degree of protection IP67	2	3SX9926	1	1 unit	41K
	• High degree of protection IP69, IEC 60529	5	3SX5601-1A	1	1 unit	41K
3SX9926						

For further plug versions, see page 12/44.

SIRIUS 3SE5, 3SE2 Mechanical Safety Hinge Switches

General data

Overview

3SE5 hinge switches have the same enclosures as the 3SE5 position switches (modular system).



Hinge switches

Design

Enclosure sizes

The 3SE5 switches are available as complete units in two enclosure sizes:

- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry

Enclosure versions

Various basic versions can be selected for the enclosures:

- With two or three-pole switching elements designed as snap-action contacts
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/98)

For a description of the basic switches, see page 12/5.

Operating mechanism

The hinge switches are provided for mounting on hinges. The actuator head is included in the scope of supply. There are two versions:

- Operating mechanism with hollow shaft, inner diameter 8 mm, outer 12 mm
- Operating mechanism with solid shaft, diameter 10 mm

3SE2283 hinge switches

The 3SE2283 hinge switches with integrated hinge are available in a special design. They are particularly suitable for use in machine doors and flaps.

Benefits

The 3SE5 hinge switches differ from the previous series through the following new characteristics:

- All actuators can be turned around the axis in increments of 22.5° (see picture, page 12/6).
- The new three-pole contact block 1 NO + 2 NC is available for all enclosure sizes (see picture, page 12/6).
- The plastic enclosure with a width of 31 mm has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting (see picture, page 12/6).
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see page 12/83); an additional adapter is not required.

Application

The hinge switches are used in those areas where the position of swiveling protective devices such as doors or flaps must be monitored. With these switches, the position of the doors and flaps is converted into electric signals. The switches allow shutdown and signaling without delay in the event of a small opening angle through the snap-action contacts with an operating angle of 10°.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and fixing points of the enclosures are in accordance with EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

IEC/EN 60947-5-1

The protective measure of "total insulation" by the plastic enclosure is ensured by the use of molded-plastic screw glands.

Safety position switches

For controls according to IEC/EN 60204-1, the devices can be used as a safety position switch. To secure position switches against changes in their position, keyed techniques must be employed on installation.

Safety circuits

The IEC/EN 60947-5-1 standard requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked in accordance with IEC 60947-5-1 with the symbol \oplus .

Category 4 according to EN ISO 13849-1 can be attained with the 3SE5 hinge switches with ⊕ if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK or 3TK28 safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges.

SIRIUS 3SE5, 3SE2 Mechanical Safety Hinge Switches 3SE5, Plastic Enclosures

Enclosure width 31 mm acc. to EN 50047 / 40 mm according to EN 50041

Technical specifications

The technical specifications are the same as for the standard switches (see page 12/9).

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP65 (31 mm) or IP67/IP68 (40 mm) · Cable entry M20 × 1.5

	Version	Snap-action contacts		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Plastic enclosures · E	Enclosure width 31 mm acc. to E	N 50047				•			
	With hollow shaft								
	Operating angle 10°	1 NO + 1 NC ¹⁾	€ :	5	3SE5232-0HU21		1	1 unit	41K
BTERES	Operating angle 10°	1 NO + 2 NC	→ :	5	3SE5232-0LU21		1	1 unit	41K
3SE5232-0HU21									
	With solid shaft								
	Operating angle 10°	1 NO + 1 NC ¹⁾	→ :		3SE5232-0HU22		1	1 unit	41K
3SE5232-0HU22	Operating angle 10°	1 NO + 2 NC	→ :	5	3SE5232-0LU22		1	1 unit	41K
	Enclosure width 40 mm acc. to E	N 50041							
T Idollo onorodurod	With hollow shaft								
Lancace	Operating angle 10°	1 NO + 2 NC	→ :	5	3SE5132-0LU21		1	1 unit	41K
3SE5132-0LU21	1								
	With solid shaft			_	- -				
3SE5132-0LU22	Operating angle 10°	1 NO + 2 NC	→ !	b	3SE5132-0LU22		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

Spare parts

	Version	SD	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
		d				
Actuator heads						
	With hollow shaft					
	Operating angle 10°	5	3SE5000-0AU21	1	1 unit	41K
3SE5000-0AU21	MCH P. L. L. 6					
	With solid shaft					
	Operating angle 10°	5	3SE5000-0AU22	1	1 unit	41K
3SE5000-0AU22						

Note:

The respective actuators are included in the scope of supply for the complete units.

¹⁾ Contact blocks permanently integrated, replacement not available.

SIRIUS 3SE5, 3SE2 Mechanical Safety Hinge Switches 3SE5, Metal Enclosures

Enclosure width 31 mm acc. to EN 50047 / 40 mm according to EN 50041

Selection and ordering data

Complete units

3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry M20 \times 1.5

	Version	Snap-action contacts	5	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
			(b	Article No.	Price per PU			
Metal enclosures · I	Enclosure width 31 mm acc.	to EN 50047				1			
	With hollow shaft								
to the latest of	Operating angle 10°	1 NO + 2 NC	→ 5	5	3SE5212-0LU21		1	1 unit	41K
3SE5212-0LU21									
	With solid shaft								
DESCRIPTION	Operating angle 10°	1 NO + 2 NC	→ 5	5	3SE5212-0LU22		1	1 unit	41K
3SE5212-0LU22									
Metal enclosures · I	Enclosure width 40 mm acc.	to EN 50041							
	With hollow shaft								
3SE5112-0LU21	Operating angle 10°	1 NO + 2 NC	→ !	5	3SE5112-0LU21		1	1 unit	41K
	With solid shaft								
3SE5112-0LU22	Operating angle 10°	1 NO + 2 NC	→ 5	5	3SE5112-0LU22		1	1 unit	41K
	ording to IEC 60947-5-1, Appendix	K.					ı		

Spare parts

Spare parts							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Actuator heads							
	With hollow shaft						
	Operating angle 10°	5	3SE5000-0AU21		1	1 unit	41K
3SE5000-0AU21	WEN - P. L. L. G						
	With solid shaft						
3SE5000-0AU22	Operating angle 10°	5	3SE5000-0AU22		1	1 unit	41K

Note:

The respective actuators are included in the scope of supply for the complete units.

2

SIRIUS 3SE5, 3SE2 Mechanical Safety Hinge Switches 3SE2, Plastic Enclosures

With integrated hinge

Overview

The 3SE2283 hinge switches with built-in hinge are particularly suitable for use in doors and flaps of machines that must be closed to ensure the safety of operating personnel. Their thin profile and the compact design allow them to be directly mounted on a hinged protective cover and the stable frame.

Benefits

- Easy mounting through use of versions with integrated hinge
- Versions with small operating angle of 4° or 8°
- Protection against personal injury provided by positively driven NC contacts according to IEC 60947-5-1
- Simultaneous shutdown and signaling by 1 NO + 2 NC contacts

Technical specifications

Туре		3SE2283
Rated insulation voltage U _i	V	250
Conventional thermal current Ith	Α	2.5
Rated operational current I _e		
• At AC-15, 120 V	Α	4.2
• At AC-15, 250 V	Α	2
• At DC-13, 24 V	Α	1
Min. make-break capacity		> 5 V/1 mA
Short-circuit protection		
 Operational class gG 	Α	2
Mechanical endurance		> 1 × 10 ⁶ operating cycles
Switching frequency		1 200 operating cycles/h
Positive opening		2 mm after opening point
Enclosure material		Plastic
Degree of protection		IP65
Ambient temperature	°C	-25 +65
Shock resistance		30 g /18 ms
Resistance to vibrations		20 g /10 200 Hz
Cable entry		2 × (M20 × 1.5)
Screw terminals		0.5 1.5 mm ² / AWG 15

SIRIUS 3SE5, 3SE2 Mechanical Safety Hinge Switches 3SE2, Plastic Enclosures

With integrated hinge

Selection and ordering data

3 contacts \cdot Degree of protection IP65 \cdot Cable entry 2 \times (M20 \times 1.5)

	Version	Slow-action contacts	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
			d	Article No.	Price per PU			
Plastic enclosur	es with integrated hinge							
	With integrated hinge							
	(Scope of supply includes additional hinge and fixing accessories)							
N. Carlo	Aluminum hinge							
	- 4° actuating angle	1 NO + 2 NC	→ 15	3SE2283-0GA43		1	1 unit	41K
	- 4° actuating angle	3 NC	→ 5	3SE2283-6GA43		1	1 unit	41K
0050000	- 8° actuating angle	1 NO + 2 NC	→ 10	3SE2283-0GA53		1	1 unit	41K
3SE2283	- 8° actuating angle	3 NC	→ 15	3SE2283-6GA53		1	1 unit	41K
	High-grade steel hinge							
	- 4° actuating angle	1 NO + 2 NC	→ 5	3SE2283-0GA44		1	1 unit	41K
On	I' I IFO 000 47 F 4 A I' I'							

→ Positive opening according to IEC 60947-5-1, Appendix K.

Accessories/spare parts

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Assessation		d					
Accessories	A 1.00 11.0				ı		
	Additional hinge (Scope of supply includes fixing accessories) • Made of aluminum	10	3SX3225		1	1 unit	41K
3SX3225							

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test SIRIUS 3SE5 Mechanical Position Switches

3SE5, plastic enclosures, enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units

2 or 3 contacts · De	egree of protection IP65 or IP66/IP6	67 · Cable ent	try M	20 ×	1.5, with increased co	rrosion	protection		
	Version	Contacts		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU	5_1,,		
Complete units ¹⁾ •	Enclosure width 31 mm			<u>u</u>		perro			
DIXTORES .	Twist levers, 21 mm long, acc. to With plastic roller 19 mm Snap-action contacts	EN 50047 1 NO + 2 NC	⊕	5	3SE5232-0LK21-1AY0		1	1 unit	41K
3SE5232-0LK21-1AY0									
Paranya	Roller levers, acc. to EN 50047 With plastic roller 13 mm Snap-action contacts	1 NO + 2 NC	→	5	3SE5232-0LE10-1AY0		1	1 unit	41K
3SE5232-0LE10-1AY0	Rod actuators, acc. to EN 50047 Plastic rod, length 200 mm Snap-action contacts	1 NO + 1 NC		30	3SE5232-0HK82-1AY0		1	1 unit	41K
3SE5232-0HK82-1AY0									
3SE5232-0HR01-1AY0	Spring rod Snap-action contacts	1 NO + 1 NC		30	3SE5232-0HR01-1AY0		1	1 unit	41K
	ording to IEC 60947-5-1 Appendix K or								

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 $^{\circ}$ C Shock and Vibration Test

SIRIUS 3SE5 Mechanical Safety Switches with Tumbler

3SE5, plastic enclosures, enclosure width 54 mm

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 × M20 × 1.5 · Locking force 1 300 N

	Tumbler ¹⁾	Solenoid, rated operational voltage	SD	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
		V	d	Article No.	Price per PU			
1 300 N locking for	rce · Enclosure width 54 mm							
	Spring-actuated locks							
	With front auxiliary release	24 DC	◆ 5	3SE5322-0SD21-1AY0		1	1 unit	41K

igoplus Positive opening according to IEC 60947-5-1, Appendix K.

Accessories/spare parts

3SE5322-0SD21-1AY0

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d		po o	02.,,		
Accessories							
	Standard actuator		3SE5000-0AV01		1	1 unit	41K
	• Length 75.6 mm						
3SE5000-0AV01							
	High-grade steel actuator, standard, IP69K ¹⁾						
	• Length 75.6 mm	5	3SE5000-0AW51		1	1 unit	41K
3SE5000-0AW51							
	With vertical fixing, length 53 mm	5	3SE5000-0AW52		1	1 unit	41K
3SE5000-0AW52							
3SE5000-0AW53	With transverse fixing, length 47 mm	5	3SE5000-0AW53		1	1 unit	41K

 $^{^{1)}}$ With optimized geometry and suitable for extreme environmental conditions such as -40 $^{\circ}\mathrm{C}$

¹⁾ Supplied without actuator. Please order separately.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test SIRIUS 3SE5 Mechanical Safety Hinge Switches

3SE5, plastic enclosures, enclosure width 31 mm according to EN 50047

d corrosion protection								
Version	Contacts	S	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
		d	d	Article No.	Price per PU			
ts ¹⁾ • Enclosure width 31 mm								
With hollow shaft D = 8 mn	n,							
Snap-action contacts	1 NO + 1 NC	→ 3	80	3SE5232-0HU21-1AY0		1	1 unit	41K
	Version ts ¹⁾ • Enclosure width 31 mm <i>Hinge switches, acc. to</i> With hollow shaft D = 8 mn operating angle 10 degrees	Version Contacts ts ¹⁾ • Enclosure width 31 mm Hinge switches, acc. to EN 50047 With hollow shaft D = 8 mm, operating angle 10 degrees,	Version Contacts Sts 1) • Enclosure width 31 mm Hinge switches, acc. to EN 50047 With hollow shaft D = 8 mm, operating angle 10 degrees,	d corrosion protection Version Contacts SD d ts ¹⁾ • Enclosure width 31 mm Hinge switches, acc. to EN 50047 With hollow shaft D = 8 mm, operating angle 10 degrees,	Version Contacts SD Complete units Article No. d ts ¹⁾ • Enclosure width 31 mm Hinge switches, acc. to EN 50047 With hollow shaft D = 8 mm, operating angle 10 degrees,	Version Contacts SD Complete units Article No. Price per PU ts 1) • Enclosure width 31 mm Hinge switches, acc. to EN 50047 With hollow shaft D = 8 mm, operating angle 10 degrees,	Version Contacts SD Complete units Version Contacts SD Complete units Article No. Price per PU ts 1) • Enclosure width 31 mm Hinge switches, acc. to EN 50047 With hollow shaft D = 8 mm, operating angle 10 degrees,	Version Contacts SD Complete units PU (UNIT, SET, M) PS* Article No. Price per PU ts 1) • Enclosure width 31 mm Hinge switches, acc. to EN 50047 With hollow shaft D = 8 mm, operating angle 10 degrees,

With optimized geometry and suitable for extreme environmental conditions such as -40 °C

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard

SIRIUS 3SE5 Mechanical Position Switches

3SE5, plastic enclosures, enclosure width 31 mm according to EN 50047 / 50 mm

Selection and ordering data

Complete units

2 or 3 contacts \cdot Degree of protection IP65 or IP66/IP67 \cdot Cable entry M20 \times 1.5, with increased corrosion protection

	Version	Contacts	LEDs	SE			PU (UNIT,	PS*	PG
					Article No.	Price	SÉT, M)		
				d	7 11 11 11 11 11 11 11 11 11 11 11 11 11	per PU			
Complete units ¹⁾	• Enclosure width 31 mm								
	Roller plungers, type C	, acc. to EN 5004	17						
	With plastic roller 10 mm, with M12 device plug, 4-po	le (250 V. 4 A)							
Parameters	Snap-action contacts	1 NO + 1 NC		→ 5	3SE5234-0CD03-1AJ1		1	1 unit	41K
3SE5234-0CD03-1AJ	1								
0020201 00200 1710	Roller plungers with ce	ntral fixing							
	Snap-action contacts	1 NO + 1 NC		→ 5	3SE5232-0CD10-1AJ0		1	1 unit	41K
3SE5232-0CD10-1AJ									
33L3232-0CD 10-1A3	Twist levers, type A, ac	c to EN 50047							
	With high-grade steel level		c roller 19	9 mm					
G decreases	Snap-action contacts	1 NO + 1 NC		→ 2	3SE5232-0CK31-1AJ0		1	1 unit	41K
3SE5232-0CK31-1AJ									
<u></u>	Twist levers, adjustable	•							
8	With high-grade steel level and plastic roller 19 mm	with grid noie							
	Snap-action contacts	1 NO + 1 NC		→ 5	3SE5232-0CK62-1AJ0		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC	: 	→ 5	3SE5232-0LK62-1AJ0		1	1 unit	41K
3SE5232-0CK62-1AJ									
Complete units ¹⁾	• Enclosure width 50 mm								
	Twist levers	4 . 1 11 12							
	With metal lever 21 mm an			△ -	2055040 0111/04 4 5 10		,	4	4417
	Snap-action contacts, integra			→ 5	3SE5242-0HK21-1AJ0		1	1 unit	41K
	Twist levers, adjustable With high-grade steel level								
STEVENS	and plastic roller 19 mm	with grid fible							
	Snap-action contacts, integra	ated ²⁾ 1 NO + 1 NC		→ 5	3SE5242-0HK62-1AJ0		1	1 unit	41K
3SE5242-0HK21-1AJ	0								
(A) D	l' IEO 000 47 E 4 A	11 12 12 11 1					_		

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

Note:

If the device you require is not available as a complete unit, see Modular system, page 12/73.

¹⁾ Popular versions.

²⁾ Subsequent replacement of contact blocks is not possible.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Position Switches

3SE5, plastic enclosures, enclosure width 31 mm according to EN 50047 / 50 mm

Modular system

2 or 3 contacts · Degree of protection IP65 or IP66/IP67 · Cable entry M20 × 1.5, with increased corrosion protection

	<u> </u>					·				
	Version	Contacts	LEDs	П	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switches • I	Enclosure width 31 mm (with re	ounded plur	ıger ¹⁾)							
	With teflon plunger									
	Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5232-0CC05-1AJ0		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5232-0KC05-1AJ0		1	1 unit	41K
STRATIONS	Snap-action contacts	1 NO + 2 NC		\odot	5	3SE5232-0LC05-1AJ0		1	1 unit	41K
3SE5232-0CC05-1AJ Basic switches • I	0 Enclosure width 50 mm (with re	ounded plur	nger ¹⁾)							
	With teflon plunger									
	Slow-action contacts	1 NO + 1 NC		\odot		3SE5242-0BC05-1AJ0		1	1 unit	41K
STENENS.	Snap-action contacts, integrated ²⁾	1 NO + 1 NC		→	5	3SE5242-0HC05-1AJ0		1	1 unit	41K
3SE5242-0BC05-1AJ	U									
Positive opening ac	cording to IEC 60947-5-1. Appendix	K or positively	, 1	Note	٠.					

Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/11.

¹⁾ For enclosures with widths of 31 and 50 mm, the basic switch is a complete unit with rounded plungers.

²⁾ Subsequent replacement of contact blocks is not possible.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Position Switches

3SE5, plastic enclosures, enclosure width 31 mm according to EN 50047 / 50 mm

Version Diameter SD Modular system Po (UNIT, SET, M) PS* PG									
Poperating mechanisms Roller plungers, type C, acc. to EN 50047 Plastic roller 10		Version	Diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
Roller plungers, type C, acc. to EN 50047 Plastic roller			100.000	d			,		
Roller plungers, type C, acc. to EN 50047 Plastic roller 10	Operating mechani	sms	mm	u		per PU			
Plastic roller	operating meenan								
Roller levers, type E, acc. to EN 50047 Metal lever, plastic roller 13			10	→ 5	3SE5000-0AD03-1AJ0		1	1 unit	41K
Roller levers, type E, acc. to EN 50047 Metal lever, plastic roller 13									
Metal lever, plastic roller	3SE5000-0AD03-1AJ0								
High-grade steel lever, plastic roller 13		Roller levers, type E, acc. to EN 50047							
High-grade steel lever, high-grade steel roller 13		Metal lever, plastic roller	13	→ 5	3SE5000-0AE10-1AJ0		1	1 unit	41K
Angular roller levers Metal lever, plastic roller High-grade steel lever, plastic roller Twist actuators Twist actuators Twist actuators, for 31 mm/50 mm, EN 50047 Switching right and/or left, adjustable Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19 5 3SE5000-0AA60-1AJ0 1 1 unit 41K Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 5 3SE5000-0AA60-1AJ0 1 1 unit 41K Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 5 3SE5000-0AA60-1AJ0 1 1 unit 41K		High-grade steel lever, plastic roller	13	→ 5	3SE5000-0AE12-1AJ0		1	1 unit	41K
Metal lever, plastic roller High-grade steel lever, plastic roller 13		High-grade steel lever, high-grade steel roller	13	→ 5	3SE5000-0AE13-1AJ0		1	1 unit	41K
High-grade steel lever, plastic roller 13		Angular roller levers							
Twist actuators Twist actuators, for 31 mm/50 mm, EN 50047 Switching right and/or left, adjustable Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19		Metal lever, plastic roller	13	→ 5	3SE5000-0AF10-1AJ0		1	1 unit	41K
Twist actuators Twist actuators, for 31 mm/50 mm, EN 50047 Switching right and/or left, adjustable Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19		High-grade steel lever, plastic roller	13	→ 5	3SE5000-0AF12-1AJ0		1	1 unit	41K
Twist actuators Twist actuators, for 31 mm/50 mm, EN 50047 Switching right and/or left, adjustable Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19	3SE5000-0AF10-1AJ0								
Switching right and/or left, adjustable									
Switching right and/or left, adjustable		Twist actuators, for 31 mm/50 mm, EN 50047							
Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19 5 3SE5000-0AA21-1AJ0 1 1 unit 41K High-grade steel lever, plastic roller 19 5 3SE5000-0AA31-1AJ0 1 1 unit 41K High-grade steel lever, high-grade steel roller 19 5 3SE5000-0AA32-1AJ0 1 1 unit 41K Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 5 3SE5000-0AA60-1AJ0 1 1 unit 41K		Switching right and/or left, adjustable		→ 5	3SE5000-0AK00-1AJ0		1	1 unit	41K
Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19 5 3SE5000-0AA21-1AJ0 1 1 unit 41K High-grade steel lever, plastic roller 19 5 3SE5000-0AA31-1AJ0 1 1 unit 41K High-grade steel lever, high-grade steel roller 19 5 3SE5000-0AA32-1AJ0 1 1 unit 41K Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 5 3SE5000-0AA60-1AJ0 1 1 unit 41K									
Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19 5 3SE5000-0AA21-1AJ0 1 1 unit 41K High-grade steel lever, plastic roller 19 5 3SE5000-0AA31-1AJ0 1 1 unit 41K High-grade steel lever, high-grade steel roller 19 5 3SE5000-0AA32-1AJ0 1 1 unit 41K Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 5 3SE5000-0AA60-1AJ0 1 1 unit 41K									
Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller 19 5 3SE5000-0AA21-1AJ0 1 1 unit 41K High-grade steel lever, plastic roller 19 5 3SE5000-0AA31-1AJ0 1 1 unit 41K High-grade steel lever, high-grade steel roller 19 5 3SE5000-0AA32-1AJ0 1 1 unit 41K Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 5 3SE5000-0AA60-1AJ0 1 1 unit 41K	3SE5000-0AK00-1AJ0								
Metal lever, plastic roller 19		Levers							
High-grade steel lever, plastic roller 19		Twist levers straight, 21 mm, type A acc. to E	N 50047						
3SE5000-0AA21-1AJ0 High-grade steel lever, high-grade steel roller 19 \odot 5 3SE5000-0AA32-1AJ0 1 1 unit 41K Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 \odot 5 3SE5000-0AA60-1AJ0 1 1 unit 41K		Metal lever, plastic roller	19	→ 5	3SE5000-0AA21-1AJ0		1	1 unit	41K
Twist levers, adjustable length, with grid hole Metal lever, plastic roller 19 ⊕ 5 3SE5000-0AA60-1AJ0 1 1 unit 41K		High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA31-1AJ0		1	1 unit	41K
Metal lever, plastic roller 19 → 5 3SE5000-0AA60-1AJ0 1 1 unit 41K	3SE5000-0AA21-1AJ0	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA32-1AJ0		1	1 unit	41K
		Twist levers, adjustable length, with grid hole	е						
High-grade steel lever, plastic roller 19 → 5 3SE5000-0AA62-1AJ0 1 1 unit 41K	•	Metal lever, plastic roller	19	→ 5	3SE5000-0AA60-1AJ0		1	1 unit	41K
		High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA62-1AJ0		1	1 unit	41K
T. A. C.									
	-								
	8								
3SE5000-0AA60-1AJ0	3SE5000-0AA60-1AJ0								

 $[\]begin{cal} \bigodot \end{cal}$ Positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Position Switches

3SE5, plastic enclosures, enclosure width 40 mm according to EN 50041

Selection and ordering data

Modular system

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU	02.,)		
Basic switches	• Enclosure width 40 mm				u		регто			
400	With connecting thread M2	0 × 1.5								
	Snap-action contacts	1 NO + 1 NO)		5	3SE5132-0CA00-1AJ0		1	1 unit	41k
STRUCK	Slow-action contacts	1 NO + 2 NO		→		3SE5132-0KA00-1AJ0		1	1 unit	41k
	Snap-action contacts	1 NO + 2 NO)	→	5	3SE5132-0LA00-1AJ0		1	1 unit	41k
SE5132-0CA00-1	AJ0									
	according to IEC 60947-5-1, App actuator, necessary in safety circ			Note For t	_	election aid, see pag	e 12/11.			
	Version		Diame	eter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		d	Article No.	Price per PU			
perating mech	nanisms				<u>.</u>		po. 1 0			
•	Rounded plungers, type B, Plastic plungers	acc. to EN 50041	10	€	5	3SE5000-0AC03-1AJ0		1	1 unit	41K
SE5000-0AC03-1	AJO									
ì	Roller plungers, type C, ac Plastic plunger, plastic roller	c. to EN 50041	13	•	5	3SE5000-0AD05-1AJ0		1	1 unit	41K
SE5000-0AD05-1	AJ0									
	Roller levers Metal lever with plastic roller,	plastic base	22	•	5	3SE5000-0AE05-1AJ0		1	1 unit	41K
SE5000-0AE05-1A	AJO									
wist actuators										
9	Twist actuators, for 31 mm. • For twist levers and rod ac switching right and/or left,	tuators,		•	5	3SE5000-0AH00-1AJ0		1	1 unit	41K
SE5000-0AH00-1/	AJ0									
	Levers	EN 50041								
	Twist levers, type A, acc. to Metal lever, plastic roller	, EN 30041	19	•	5	3SE5000-0AA01-1AJ0		1	1 unit	41K
SE5000-0AA01-1A	High-grade steel lever, plasti	c roller	19	⊕		3SE5000-0AA11-1AJ0		1	1 unit	41K
SE5000-0AA01-17	Twist levers, adjustable len	ath with arid hole								
•	Metal lever, plastic roller	g, man grid note	19	€	5	3SE5000-0AA60-1AJ0		1	1 unit	41K
	High-grade steel lever, plasti	c roller	19	•		3SE5000-0AA62-1AJ0		1	1 unit	41K

[→] Positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Bailway Standard

Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Position Switches

3SE5, metal enclosures, enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5, with increased corrosion protection

	Version	Contacts	LEDs		SD	Modular system Article No.	Price	PU (UNIT, SET, M)	PS*	PG
					d	ATTIOIC IVO.	per PU			
Complete units • E	nclosure width 31 mm									
	Rounded plungers, type B,	acc. to EN	50047							
	Snap-action contacts	1 NO + 1 NO		_	5	3SE5212-0CC05-1AJ0		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO		\odot	5	3SE5212-0KC05-1AJ0		1	1 unit	41K
STEATERS	Snap-action contacts	1 NO + 2 NC)	→	5	3SE5212-0LC05-1AJ0		1	1 unit	41K
3SE5212-0CC05-1AJ0										
	Twist levers, type A, acc. to With metal lever 21 mm and hig 19 mm, twist actuator for 40 mm	h-grade steel	roller							
3SE5212-0CH22-1AJ0	Snap-action contacts	1 NO + 1 NC	·	→	5	3SE5212-0CH22-1AJ0		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, necessary in safety circuits.

Note:

If the device you require is not available as a complete unit, see Modular system on page 12/75.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Position Switches

3SE5, metal enclosures, enclosure width 31 mm according to EN 50047

For the selection aid, see page 12/11.

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5, with increased corrosion protection

			-							
	Version	Contacts	LEDs	г	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switches	• Enclosure width 31 mm (with rounded pl	lunger ¹⁾)							
	With plunger									
	Snap-action contacts	1 NO + 1 NO	O	\odot	5	3SE5212-0CC05-1AJ0		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NO	O	\odot	5	3SE5212-0KC05-1AJ0		1	1 unit	41K
STRATEGES	Snap-action contacts	1 NO + 2 NO	0	\odot	5	3SE5212-0LC05-1AJ0		1	1 unit	41K
3SE5212-0CC05-1	1AJ0									
	g according to IEC 60947-5-1, Approcessary in safety circuits.	pendix K, or positiv	,	Note	-	alastian aid ass nage	10/11			

1) For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers. PG Version Modular system PU (UNIT, Diameter SD PS* SÈT. M) Price per PU Article No. mm d Operating mechanisms Roller plungers, type C, acc. to EN 50047 → 5 3SE5000-0AD03-1AJ0 Plastic roller 10 1 unit 41K 3SE5000-0AD03-1AJ0 Roller levers, type E, acc. to EN 50047 Metal lever, plastic roller 13 **→** 5 3SE5000-0AE10-1AJ0 1 unit 41K **→** 5 High-grade steel lever, plastic roller 13 3SE5000-0AE12-1AJ0 1 unit 41K **→** 5 3SE5000-0AE13-1AJ0 High-grade steel lever, high-grade steel roller 13 1 unit 41K 3SE5000-0AE10-1AJ0 Angular roller levers **→** 5 Metal lever, plastic roller 13 3SE5000-0AF10-1AJ0 41K 1 unit High-grade steel lever, plastic roller 13 **→** 5 3SE5000-0AF12-1AJ0 41K 1 unit 3SE5000-0AF10-1AJ0 Twist actuators Twist actuators, for 31 mm/50 mm, EN 50047 → 5 Switching right and/or left, adjustable 3SE5000-0AK00-1AJ0 1 unit 41K 3SE5000-0AK00-1AJ0 Levers Twist levers straight, 21 mm, type A acc. to EN 50047 Metal lever, plastic roller **→** 5 3SE5000-0AA21-1AJ0 19 1 unit 41K High-grade steel lever, plastic roller 19 **→** 5 3SE5000-0AA31-1AJ0 1 unit 41K 3SE5000-0AA21-1AJ0 Twist levers, adjustable length, with grid hole **→** 5 3SE5000-0AA60-1AJ0 Metal lever, plastic roller 19 1 unit 41K **→** 5 High-grade steel lever, plastic roller 19 3SE5000-0AA62-1AJ0 1 unit 41K

3SE5000-0AA60-1AJ0

Positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard

SIRIUS 3SE5 Mechanical Position Switches

3SE5, metal enclosures, enclosure width 40 mm according to EN 50041 / 56 mm, XL

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5, with increased corrosion protection

	Version	Contacts	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
			d	Article No.	Price per PU			
Complete units •	Enclosure width 40 mm		-		1			
ın.	Rounded plungers, type	B, acc. to EN 50041						
	With high-grade steel plunge	ers, with 3 mm overtravel						
E INDUSTRY	Snap-action contacts	1 NO + 1 NC	→ 5	3SE5112-0CC02-1AJ0		1	1 unit	41K
3SE5112-0CC02-1A	JO							
ക	Roller plungers, type C, a	acc. to EN 50041						
	With high-grade steel plunge							
Sterry N. P. C. A. A.	Snap-action contacts	1 NO + 2 NC	⊕ 5	3SE5112-0LD02-1AJ0		1	1 unit	41K
3SE5112-0LD02-1A		to EN 50041						
0_	Twist levers, type A, acc. With high-grade steel lever 27		m					
6	Snap-action contacts	1 NO + 2 NC	⊕ 5	3SE5112-0LH11-1AJ0		1	1 unit	41K
Estapa	With high-grade steel lever 2 high-grade steel roller 19 mn							
	Snap-action contacts	2 × (1 NO + 1 NC) NEV	☑ \varTheta 10	3SE5162-0CH12-1AN5		1	1 unit	41K
3SE5112-0LH11-1A	10							
<u></u>	Twist levers, adjustable l	ength						
	With high-grade steel lever wand plastic roller 19 mm	vith grid hole						
	Snap-action contacts	1 NO + 1 NC	→ 5	3SE5112-0CH62-1AJ0		1	1 unit	41K
3SE5112-0CH62-1A	JO							
Complete units •	Enclosure width 56 mm, XL	, 3 x M20 x 1.5						
•	Twist levers, adjustable l	•						
	With metal lever with grid ho plastic roller 19 mm	le and						
	Snap-action contacts With high-grade steel lever a		→ 5	3SE5162-0CH60-1AJ0		1	1 unit	41K
	high-grade steel roller 19 mn Snap-action contacts	1 2 × (1 NO + 1 NC) <u>NEV</u>	₩ 👄 10	3SE5162-0CH63-1AN6		1	1 unit	41K
3SE5162-0CH60-1A	IO							
-								

Positive opening according to IEC 60947-5-1, Appendix K or positively driven actuator, necessary in safety circuits.

Note:

If the device you require is not available as a complete unit, see Modular system on page 12/79.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Position Switches

3SE5, metal enclosures, enclosure width 40 mm according to EN 50041 / 56 mm / 56 mm, XL

Selection and ordering data

Modular system

2, 3 or 4 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5, with increased corrosion protection

Version Contacts LEDs SD Modular system PU (UNIT, SET, M) PS* PG										_	
Basic switches • Enclosure width 40 mm		Version	Contacts	LEDs		SD	Modular system			PS*	PG
With connecting thread M20 x 1.5						d	Article No.				
Snap-action contacts	Basic switches •	Enclosure width 40 mm						•			
Slow-action contacts	4100	With connecting thread Ma	20 × 1.5								
Snap-action contacts 1 NO + 2 NC		Snap-action contacts	1 NO + 1 NC		\odot	5	3SE5112-0CA00-1AJ0		1	1 unit	41K
3SE5112-0CA00-1AJ0 Basic switches • Enclosure width 56 mm With 3 x connecting thread M20 x 1.5 Snap-action contacts 1 NO + 1 NC ⊕ 5 Snap-action contacts 1 NO + 2 NC ⊕ 5 Snap-action contacts 1 NO + 2 NC ⊕ 5 Snap-action contacts 1 NO + 2 NC ⊕ 5 Snap-action contacts 1 NO + 2 NC ⊕ 5 Snap-action contacts 1 NO + 2 NC ⊕ 5 SSE5122-0CA00-1AJ0 1 1 unit 41K Snap-action contacts 2 × (1 NO + 1 NC) ⊕ 5 Snap-action contacts 2 × (1 NO + 1 NC) ⊕ 5 Snap-action contacts 2 × (1 NO + 1 NC) ⊕ 5 Snap-action contacts 2 × (1 NO + 1 NC) ⊕ 5 SSE5162-0CA00-1AJ0 1 1 unit 41K	6 6	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5112-0KA00-1AJ0		1	1 unit	41K
Basic switches • Enclosure width 56 mm	1302008	Snap-action contacts	1 NO + 2 NC		→	5	3SE5112-0LA00-1AJ0		1	1 unit	41K
With 3 x connecting thread M20 x 1.5 Snap-action contacts 1 NO + 1 NC ⊕ 5 3SE5122-0CA00-1AJ0 1 1 unit 41K Slow-action contacts 1 NO + 2 NC ⊕ 5 3SE5122-0KA00-1AJ0 1 1 unit 41K 3SE5122-0CA00-1AJ0 1 1 unit 41K Basic switches • Enclosure width 56 mm, XL With 3 x connection thread M20 x 1.5 Slow-action contacts 2 x (1 NO + 1 NC) ⊕ 5 3SE5162-0BA00-1AJ0 1 1 unit 41K Snap-action contacts 2 x (1 NO + 1 NC) ⊕ 5 3SE5162-0CA00-1AJ0 1 1 unit 41K	3SE5112-0CA00-1AJ	JO									
Snap-action contacts 1 NO + 1 NC	Basic switches •	Enclosure width 56 mm									
Slow-action contacts		With 3 x connecting threa	d M20 × 1.5								
Snap-action contacts 1 NO + 2 NC		Snap-action contacts	1 NO + 1 NC			5	3SE5122-0CA00-1AJ0		1	1 unit	41K
3SE5122-0CA00-1AJ0 Basic switches • Enclosure width 56 mm, XL With 3 × connection thread M20 × 1.5 Slow-action contacts 2 × (1 NO + 1 NC) ⊕ 5 Snap-action contacts 2 × (1 NO + 1 NC) ⊕ 5 Snap-action contacts 2 × (1 NO + 1 NC) ⊕ 5 SSE5162-0BA00-1AJ0 1 1 unit 41K 1 1 unit 41K	TANDERS CO.	Slow-action contacts	1 NO + 2 NC		\odot	5	3SE5122-0KA00-1AJ0		1	1 unit	41K
Basic switches • Enclosure width 56 mm, XL With 3 × connection thread M20 × 1.5 Slow-action contacts 2 × (1 NO + 1 NC) Snap-action contacts 2 × (1 NO + 1 NC) 5 3SE5162-0BA00-1AJ0 1 1 unit 41K 1 1 unit 41K		Snap-action contacts	1 NO + 2 NC		→	5	3SE5122-0LA00-1AJ0		1	1 unit	41K
With 3 x connection thread M20 x 1.5 Slow-action contacts 2 x (1 NO + 1 NC) ⊕ 5 3SE5162-0BA00-1AJ0 1 1 unit 41K Snap-action contacts 2 x (1 NO + 1 NC) ⊕ 5 3SE5162-0CA00-1AJ0 1 1 unit 41K	3SE5122-0CA00-1AJ	JO									
Slow-action contacts 2 × (1 NO + 1 NC) ⊕ 5 Snap-action contacts 2 × (1 NO + 1 NC) ⊕ 5 Sseption contacts	Basic switches •	Enclosure width 56 mm, 2	XL								
Snap-action contacts 2 × (1 NO + 1 NC) → 5 3SE5162-0CA00-1AJ0 1 1 unit 41K		With 3 × connection threa	d M20 × 1.5								
		Slow-action contacts	2 × (1 NO + 1 NC)		\odot	5	3SE5162-0BA00-1AJ0		1	1 unit	41K
3SE5162-0BA00-1AJ0	[money	·	2 × (1 NO + 1 NC)		→	5	3SE5162-0CA00-1AJ0		1	1 unit	41K
	3SE5162-0BA00-1AJ	JO									

[→] Positive opening according to IEC 60947-5-1, Appendix K or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/11.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Position Switches

3SE5, metal enclosures, enclosure width 40 mm according to EN 50041 / 56 mm / 56 mm, XL

		D: 1	00			DI L (LINUT	DO#	DO.
	Version	Diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm	d	Article No.	Price per PU			
Operating mechani	isms							
	Rounded plungers, type B, acc. to EN 50	041						
	High-grade steel plunger, with 3 mm overtravel	10	→ 5	3SE5000-0AC02-1AJ0		1	1 unit	41K
3SE5000-0AC02-1AJ0								
	Roller plungers, type C, acc. to EN 50041							
	High-grade steel roller, with 3 mm overtravel	10	→ 5	3SE5000-0AD02-1AJ0		1	1 unit	41K
3SE5000-0AD02-1AJ0								
	Roller levers							
	Metal lever, plastic roller	13	→ 5	3SE5000-0AE01-1AJ0		1	1 unit	41K
	High-grade steel lever, plastic roller	13	→ 5	3SE5000-0AE03-1AJ0		1	1 unit	41K
3SE5000-0AE01-1AJ0								
	Angular roller levers	10	6 5	0055000 04504 44 10			at country	441/
	Metal lever, plastic roller	13 13	→ 5 → 5	3SE5000-0AF01-1AJ0 3SE5000-0AF03-1AJ0		1 1	1 unit 1 unit	41K 41K
	High-grade steel lever, plastic roller	13	9 3	35E3000-0AF03-1AJ0		ı	i uniit	41K
3SE5000-0AF01-1AJ0								
Twist actuators								
	Twist actuators, for 40/56/56 XL mm EN 5	0041	_					
9	Switching right and/or left, adjustable		⊕ 5	3SE5000-0AH00-1AJ0		1	1 unit	41K
3SE5000-0AH00-1AJ0								
	Levers							
	Twist levers, type A, acc. to EN 50041							
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA01-1AJ0		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA11-1AJ0		1	1 unit	41K
3SE5000-0AA01-1AJ0								
	Twist levers, adjustable length, with grid		_					
•	Metal lever, plastic roller	19	→ 5	3SE5000-0AA60-1AJ0		1	1 unit	41K
	High-grade steel lever, plastic roller	19	⊕ 5	3SE5000-0AA62-1AJ0		1	1 unit	41K
3SE5000-0AA60-1AJ0								

 $igoplus {
m Positively}$ driven actuator, necessary in safety circuits.

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Safety Switches with Separate Actuator

3SE5, plastic enclosures, enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units

2 or 3 contacts · 5 directions of approach · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · Cable entry M20 × 1.5

	Version	Contacts	LEDs	SE) (Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Δ	Article No.	Price per PU			
Enclosure width 31	mm according to EN 5004	7								
	Ambient temperature down With increased corrosion pro									
eticusos	Slow-action contacts	1 NO + 1 NC		→ 5	3	3SE5232-0RV40-1AJ0		1	1 unit	41K
3SE5232-0RV40-1AJ0										

Accessories/spare parts

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d		po o	02.,,		
Accessories							
	Standard actuator						
	With transverse fixing, plastic, length 40 mm	5	3SE5000-0AW11		1	1 unit	41K
3SE5000-0AW11							
	High-grade steel actuator ¹⁾						
	Length 75.6 mm	5	3SE5000-0AW51		1	1 unit	41K
3SE5000-0AW51							
	With vertical fixing, length 53 mm	5	3SE5000-0AW52		1	1 unit	41K
3SE5000-0AW52							
	With transverse fixing, length 47 mm	5	3SE5000-0AW53		1	1 unit	41K
3SE5000-0AW53							

 $^{^{1)}}$ With optimized geometry and suitable for extreme environmental conditions such as -40 $^{\circ}\text{C}$

SIRIUS 3SE5 Mechanical Position Switches for Ambient Temperatures down to -40 °C Shock and Vibration Test according to Railway Standard SIRIUS 3SE5 Mechanical Safety Switches with Tumbler

3SE5, plastic enclosures

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 × M20 × 1.5 · Locking force 1 300 N

	Tumbler ¹⁾	Solenoid, rated operation voltage		SD	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
		V		d	Article No.	Price per PU			
1 300 N locking ford	e • Enclosure width 54 mm								
	Spring-actuated locks								
	 With escape release from the front and emergency release from the back 	24 DC	•	5	3SE5322-0SL21-1AJ0		1	1 unit	41K
3SE5322-0SL21-1AJ0	With auxiliary release		NEW	5	3SE5322-0SD21-1AJ0		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

Accessories/spare parts

	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Accessories								
	Standard actuator	I	>	3SE5000-0AV01		1	1 unit	41K
- KEO	• Length 75.6 mm							
3SE5000-0AV01								
	High-grade steel actuator ¹⁾							
	• Length 75.6 mm	ţ	5	3SE5000-0AW51		1	1 unit	41K
3SE5000-0AW51								
	With vertical fixing, length 53 mm	NEW	5	3SE5000-0AW52		1	1 unit	41K
3SE5000-0AW52								
2005000 AAW52	With transverse fixing, length 47 mm		5	3SE5000-0AW53		1	1 unit	41K
3SE5000-0AW53								

 $^{^{1)}}$ With optimized geometry and suitable for extreme environmental conditions such as -40 $^{\circ}\mathrm{C}$

¹⁾ Supplied without actuator. Please order separately.

General data

Overview

The 3SF1 position switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 position switches the ASIsafe electronics are integrated in the switch enclosure.



Examples of selection options in the modular system

Modular system

The position switches of the 3SF11.4 and 3SF12.4 series are designed as a modular system comprising different versions of the basic switch and an actuator which must be ordered separately. Thanks to the modular design of the switch the end users can select the right solution for their application from numerous versions and install it themselves in a very short time.

Design

The 3SF1 switches are available in four different enclosure sizes:

- Plastic and metal enclosures according to EN 50047, 31 mm wide, with M12 device plug
- Metal enclosures according to EN 50041, 40 mm wide, with M12 device plug
- Plastic enclosures, 50 mm wide, with M12 device plug and M12 socket
- Metal enclosures, 56 mm wide, with M12 device plug and M12 socket

Display

The switches have a status display with three LEDs:

LED 1 (yellow): F-IN1
LED 2 (yellow): F-IN2
LED 3 (green/red):AS-i/FAULT

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable.

The wide enclosures (50 or 56 mm) also have an M12 socket for connecting a second position switch. Category 4 according to EN ISO 13849-1 is thus achieved.

Benefits

The new generation of 3SF1 position switches offers:

- ASIsafe electronics integrated in the enclosure, with low power consumption < 60 mA
- An extensive range of actuators
- Status display with three LEDs
- Can be integrated easily via TIA Portal

Application

With the standard position switches, mechanical positions of moving machine parts are converted into electrical signals. Through their modular and uniform design and large number of variants, the devices can comply with practically all requirements in industry.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. And many different actuator variants are available to match the mechanical configuration of the moving machine parts. Dimensions, fixing points and characteristics are largely in accordance with the EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with the standards IEC 60947-1 (Low-Voltage Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Devices).

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to EN ISO 14119.

Approvals

AS-Interface according to EN 50295 and IEC 62026-2.

With a 3SF1 position switch it is possible to achieve Category 2 according to EN ISO 13849-1 or SIL 1 according to IEC 61508.

Categories 3 or 4 according to EN ISO 13849-1 or SIL 2 or 3 according to IEC 61508 can be achieved by using a second 3SE5 position switch.

The 3SF1 position switches are approved according to UL 508, UL 50 and UL 746-C.

General data

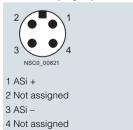
Technical specifications

Туре		3SF11, 3SF12
General data		
Standards		IEC/EN 60947-5-1, EN ISO 14119
According to AS-Interface specification		
 I/O configuration/ID configuration 		0/B
• ID1 code/ID2 code (Hex)		F/F
 Power consumption, overall 	mA	≤ 60
Inputs		
Low signal range		Contact open
High signal range		Contact closed, I_{in} dynamic ($I_{peak} \ge 5 \text{ mA}$)
Status display		Green/red dual LED
Rated impulse withstand voltage U _{imp}	kV	0.6
EMC strength		
• IEC 61000-1-2	kV	4
• IEC 61000-4-3	V/m	10
• IEC 61000-4-4 (A/B)	kV	1/2
Mechanical endurance		
Basic switch		15×10^6 operating cycles
 With separate actuator, 3SF1V 		1×10^6 operating cycles
PFH value		
Probability of failure upon request of the safety function, with 1 actuation per hour and $B10=5\times10^6$		
Basic switch	1/h	4×10 ⁻⁹
• With separate actuator, 3SF1V	1/h	2×10 ⁻⁹
Hinge switches, 3SF1U	1/h	2×10 ⁻⁹
Shock resistance acc. to IEC 60068-2-27		30 <i>g</i> /11 ms

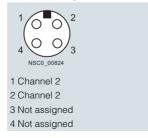
Туре		3SF1234	3SF1134	3SF1244	3SF1214	3SF1114	3SF1124
Enclosure							
Enclosure							
Material		Ultramid A3X2	2G7		Zinc die cast	ing GD Zn Al4 C	u1
• Width	mm	31	40	50	31	40	56
 Dimensions according to EN 		EN 50047	EN 50041		EN 50047	EN 50041	
Degree of protection acc. to IEC 60529		IP65	IP66/IP67				
Ambient temperature							
During operation	°C	-25 +60					
Storage, transport	°C	-40 +80					
Mounting position		Any					

Pin assignment

M12 device plug, 4-pole



M12 socket, 4-pole



LEDs

Status display (operating state)

LED	No voltage on AS-Interface chip	Communica- tion OK	Communica- tion failed	Slave has address "0"
ASi/Fault (GN/RD)		\	*	*

Safe inputs

LED	Not actuated	Actuated	
F-IN1 (YE)		\\	
F-IN2 (YE)	0	\	

3SF1, plastic enclosures, enclosure width 31 mm according to EN 50047 / 50 mm

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

1 or 2 contacts · 3 LEDs · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · M12 device plug

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switches (with acc. to EN 50047	rounded plunger ¹⁾) • End	losure width	31 mm							
4lb	With teflon plunger									
	With M12 device plug, 4-pol channel 1 on NC contact, channel 2 on NC contact	e,								
STRATEGIS	Slow-action contacts	2 NC	24 V DC	\odot	5	3SF1234-1KC05-1BA1		1	1 unit	42A
	Snap-action contacts	2 NC	24 V DC	→	5	3SF1234-1LC05-1BA1		1	1 unit	42A
3SF1234-1KC05-1BA1 Basic switches (with	rounded plunger ¹⁾) • End	closure width	50 mm							
Duote envioled (min	With teflon plunger	noodio mati								
	With M12 device plug, 4-pol channel 1 on NC contact, channel 2 on M12 socket, rig									
STEMENS	Slow-action contacts	1 NC	24 V DC	\odot	5	3SF1244-1KC05-1BA2		1	1 unit	42A
111	Snap-action contacts	1 NC	24 V DC	→	5	3SF1244-1LC05-1BA2		1	1 unit	42A
3SF1244-1KC05-1BA2										
Positive opening accord	ding to IEC 60947-5-1, Append	dix K, or positive	ely <u> </u>	Note:	<u>.</u>			-		

driven actuator, for use in safety circuits.

For the selection aid, see page 12/11.

¹⁾ For enclosures with widths of 31 mm and 50 mm, the basic switch is a complete unit with rounded plungers.

3SF1, plastic enclosures, enclosure width 31 mm according to EN 50047 / 50 mm

	Version	Roller diameter	SD	Modular system	PU (UNIT, SET, M)	PS*	PG
		mm	d	Article No. Pr	ce		
Operating mecl	hanisms		.	, and the second			
	Roller plungers, type C, acc. to EN 50047						
	Plastic roller	10	→ 2	3SE5000-0AD03	1	1 unit	41K
AU III	High-grade steel roller	10	→ 5	3SE5000-0AD04	1	1 unit	41K
3SE5000-0AD03							
<u> </u>	Roller plungers with central fixing						
	Plastic roller	10	→ 2	3SE5000-0AD10	1	1 unit	41K
	High-grade steel roller	10	→ 5	3SE5000-0AD11	1	1 unit	41K
3SE5000-0AD10							
	Roller levers, type E, acc. to EN 50047						
	Metal lever, plastic roller	13	→ 2	3SE5000-0AE10	1	1 unit	41K
	Metal lever, high-grade steel roller	13	→ 5	3SE5000-0AE11	1	1 unit	41K
	High-grade steel lever, plastic roller	13	→ 5	3SE5000-0AE12	1	1 unit	41K
3SE5000-0AE10	High-grade steel lever, high-grade steel roller	13	→ 5	3SE5000-0AE13	1	1 unit	41K
	Angular roller levers						
	Metal lever, plastic roller	13	→ 2	3SE5000-0AF10	1	1 unit	41K
40	Metal lever, high-grade steel roller	13	→ 5	3SE5000-0AF11	1	1 unit	41K
	High-grade steel lever, plastic roller	13	→ 2	3SE5000-0AF12	1	1 unit	41K
3SE5000-0AF10	High-grade steel lever, high-grade steel roller	13	→ 5	3SE5000-0AF13	1	1 unit	41K
Twist actuators	s with lever				_		
	Twist actuators, for 31 mm/50 mm, EN 50047						
	Switching right or left, adjustable		→ 2	3SE5000-0AK00	1	1 unit	41K
3SE5000-0AK00	Lavara						
	Levers						
	Twist levers, type A, acc. to EN 50047	10	→ 2	200000000000000000000000000000000000000	4	4 . mit	4412
	Metal lever, plastic roller	19	_	3SE5000-0AA21	1	1 unit	41K
	Metal lever, high-grade steel roller	19	→ 5	3SE5000-0AA22	1	1 unit	41K
3SE5000-0AA21	Metal lever, high-grade steel roller with ball bearing		→ 5	3SE5000-0AA23	1	1 unit	41K
	Metal lever, plastic roller	30	→ 5→ 5	3SE5000-0AA25	1	1 unit	41K
	High-grade steel lever, plastic roller	19	_	3SE5000-0AA31	1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA32	1	1 unit	41K
	Twist levers 30 mm, straight ¹⁾	10	© 5	0055000 04 404		at comple	4417
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA24	1	1 unit 1 unit	41K 41K
_	Metal lever, plastic roller	30	→ 5	3SE5000-0AA26	<u>'</u>	1 dilit	
	Twist levers, adjustable length, with grid hole	10	⇔	200000000000000000000000000000000000000	4	4 . mit	4412
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA60	1	1 unit	41K
6	Metal lever, high-grade steel roller	19 50	→ 5	3SE5000-0AA61	1	1 unit	41K
8	Metal lever, plastic roller	50	→ 5	3SE5000-0AA67	1	1 unit	41K
	Metal lever, rubber roller	50	→ 5	3SE5000-0AA68	1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA62	1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA63	1	1 unit	41K
200000000000000000000000000000000000000							
3SE5000-0AA60							

[→] Positively driven actuator, for use in safety circuits.

¹⁾ Can be clinch mounted (turned through 180°, rear of lever).

3SF1, metal enclosures, enclosure width 31 mm according to EN 50047

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug



[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, for use in safety circuits.

Note:

For the selection aid, see page 12/11.

¹⁾ For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

3SF1, metal enclosures, enclosure width 31 mm according to EN 50047

	Version	Roller	SD	Modular system		PU (UNIT,	PS*	PG
		diameter				SÈT, M)		
		mm	d	Article No.	Price per PU			
Operating mecha	nisms	111111			perio			
	Plain plungers							
	High-grade steel plunger	10	→ 2	3SE5000-0AB01		1	1 unit	41K
	riigii grade steel platigei	10	0 2	00E0000 0AB01		'	1 dilit	7110
3SE5000-0AB01								
33E3000-0AB01	Roller plungers, type C, acc. to EN 50047							
	Plastic roller	10	→ 2	3SE5000-0AD03		1	1 unit	41K
All	High-grade steel roller	10	→ 5	3SE5000-0AD04		1	1 unit	41K
	riigir grado dioorrollor	10	0 0	0020000 0AB01			i dilit	1110
3SE5000-0AD03								
_	Roller plungers with central fixing							
	Plastic roller	10	→ 2	3SE5000-0AD10		1	1 unit	41K
	High-grade steel roller	10	→ 5	3SE5000-0AD11		1	1 unit	41K
3SE5000-0AD10								
	Roller levers, type E, acc. to EN 50047							
	Metal lever, plastic roller	13	→ 2	3SE5000-0AE10		1	1 unit	41K
	Metal lever, high-grade steel roller	13	→ 5	3SE5000-0AE11		1	1 unit	41K
	High-grade steel lever, plastic roller	13	→ 5	3SE5000-0AE12		1	1 unit	41K
3SE5000-0AE10	High-grade steel lever, high-grade steel roller	13	→ 5	3SE5000-0AE13		1	1 unit	41K
	Angular roller levers		O 0					
	Metal lever, plastic roller	13	→ 2	3SE5000-0AF10		1	1 unit	41K
	Metal lever, high-grade steel roller	13	→ 5	3SE5000-0AF11		1	1 unit	41K
3SE5000-0AF10	High-grade steel lever, plastic roller	13	→ 2→ 5	3SE5000-0AF12		1	1 unit	41K
Twist actuators w	High-grade steel lever, high-grade steel roller	13	少 5	3SE5000-0AF13		1	1 unit	41K
TWIST actuators w	Twist actuators, for 31 mm/50 mm, EN 50047		_					
	Switching right or left, adjustable		→ 2	3SE5000-0AK00		1	1 unit	41K
	Switching right or left, adjustable		© 2	33L3000-0AR00		· '	1 UIII	4110
3SE5000-0AK00								
0020000 07 11 00	Levers							
	Twist levers, type A, acc. to EN 50047							
	Metal lever, plastic roller	19	→ 2	3SE5000-0AA21		1	1 unit	41K
	Metal lever, high-grade steel roller	19	→ 5	3SE5000-0AA22		1	1 unit	41K
()	Metal lever, high-grade steel roller with ball bearing	19	→ 5	3SE5000-0AA23		1	1 unit	41K
3SE5000-0AA21	Metal lever, plastic roller	30	→ 5	3SE5000-0AA25		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA31		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA32		1	1 unit	41K
	Twist levers 30 mm, straight ¹⁾							
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA24		1	1 unit	41K
	Metal lever, plastic roller	30	→ 5	3SE5000-0AA26		1	1 unit	41K
	Twist levers, adjustable length, with grid hole							
9	Metal lever, plastic roller	19	→ 5	3SE5000-0AA60		1	1 unit	41K
8	Metal lever, high-grade steel roller	19	→ 5	3SE5000-0AA61		1	1 unit	41K
8	Metal lever, plastic roller	50	→ 5	3SE5000-0AA67		1	1 unit	41K
	Metal lever, rubber roller	50	→ 5	3SE5000-0AA68		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA62		1	1 unit	41K
8	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA63		1	1 unit	41K
000000000000000000000000000000000000000								
3SE5000-0AA60								

[→] Positively driven actuator, for use in safety circuits.

 $^{^{1)}}$ Can be clinch mounted (turned through 180°, rear of lever).

3SF1, metal enclosures, enclosure width 40 mm according to EN 50041 / 56 mm

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

1 or 2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug

	Version	Contacts	LEDs	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Basic switches	Enclosure width 40 mm ac	c. to EN 50041							
	With M12 device plug, 4-pol channel 1 on NC contact, channel 2 on NC contact	e,							
STEDITORS	Slow-action contacts	2 NC	24 V DC	→ 5	3SF1114-1KA00-1BA1		1	1 unit	42A
000	Snap-action contacts	2 NC	24 V DC	→ 5	3SF1114-1LA00-1BA1		1	1 unit	42A
3SF1114-1KA00-1B	A1 - Enclosure width 56 mm								
Dusio switchies	With M12 device plug, 4-pol	Δ							
	channel 1 on NC contact, channel 2 on M12 socket, rig								
SECTION CO.	Slow-action contacts	1 NC	24 V DC	→ 5	3SF1124-1KA00-1BA2		1	1 unit	42A
	Snap-action contacts	1 NC	24 V DC	→ 5	3SF1124-1LA00-1BA2		1	1 unit	42A
3SF1124-1KA00-1B									

[→] Positive opening according to IEC 60947-5-1, Appendix K, or positively driven actuator, for use in safety circuits.

For the selection aid, see page 12/11.

	Version	Roller diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
		mm	d	Article No.	Price per PU			
Operating mecha	anisms							
(3)	Plain plungers							
	High-grade steel plunger	10	→ 2	3SE5000-0AB01		1	1 unit	41K
3SE5000-0AB01								
(1)	Rounded plungers, type B, acc. to EN	50041						
	High-grade steel plunger, with 3 mm overtravel	10	→ 5	3SE5000-0AC02		1	1 unit	41K
3SE5000-0AC02								
<u>a</u>	Roller plungers, type C, acc. to EN 500	041						
4	High-grade steel roller, with 3 mm overtravel	13	→ 5	3SE5000-0AD02		1	1 unit	41K
3SE5000-0AD02								

[→] Positively driven actuator, for use in safety circuits.

3SF1, metal enclosures, enclosure width 40 mm according to EN 50041 / 56 mm

	Version	Roller diameter	SD	Modular system		PU (UNIT, SET, M)	PS*	PG
		diameter		Article No.	Price	SEI, IVI)		
		mm	d	Alticle No.	per PU			
Operating mecha	anisms							
	Roller levers							
	Metal lever, plastic roller	22	→ 2	3SE5000-0AE01		1	1 unit	41K
	Metal lever, high-grade steel roller	22	→ 5	3SE5000-0AE02		1	1 unit	41K
	High-grade steel lever, plastic roller	22	→ 5	3SE5000-0AE03		1	1 unit	41K
3SE5000-0AE01	High-grade steel lever, high-grade steel roller	22	→ 5	3SE5000-0AE04		1	1 unit	41K
	Angular roller levers							
• •	Metal lever, plastic roller	22	→ 2	3SE5000-0AF01		1	1 unit	41K
40	Metal lever, high-grade steel roller	22	→ 5	3SE5000-0AF02		1	1 unit	41K
	High-grade steel lever, plastic roller	22	→ 5	3SE5000-0AF03		1	1 unit	41K
3SE5000-0AF01	High-grade steel lever, high-grade steel roller	22	→ 5	3SE5000-0AF04		1	1 unit	41K
Twist actuators v	with lever							
	Twist actuators, for 40/56/56 XL mm EN 5004	1						
	• For twist levers,							
	switching right or left, adjustable		(A) a			_	4 0	4417
	- For enclosure width 40 and 56 mm		→ 2	3SE5000-0AH00		1	1 unit	41K
3SE5000-0AH00	For fork levers, latching		→ 5	3SE5000-0AT10		1	1 unit	41K
	Levers							
	Twist levers 27 mm, offset, type A, acc. to EN	I 50041						
	Metal lever, plastic roller	19	→ 2	3SE5000-0AA01		1	1 unit	41K
	Metal lever, high-grade steel roller	19	→ 2	3SE5000-0AA02		1	1 unit	41K
3SE5000-0AA01	Metal lever, high-grade steel roller with ball bearing	g 19	→ 5	3SE5000-0AA03		1	1 unit	41K
	Metal lever, 2 plastic rollers	19	→ 5	3SE5000-0AA04		1	1 unit	41K
	Metal lever, plastic roller	30	→ 5	3SE5000-0AA05		1	1 unit	41K
	Metal lever, plastic roller	50	→ 5	3SE5000-0AA07		1	1 unit	41K
	Metal lever, rubber roller	50	→ 5	3SE5000-0AA08		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA11		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA12		1	1 unit	41K
	Twist levers 35 mm, offset							
	Metal lever, plastic roller	19	→ 5	3SE5000-0AA15		1	1 unit	41K
	High-grade steel lever, plastic roller	19	→ 5	3SE5000-0AA16		1	1 unit	41K
	Twist levers 30 mm, straight ¹⁾	40	O 5			_	4 9	4417
	Metal lever, plastic roller	19	→ 5→ 5	3SE5000-0AA24		1	1 unit	41K
	Metal lever, plastic roller	30	9 5	3SE5000-0AA26		1	1 unit	41K
	Twist levers, adjustable length, with grid hole Metal lever, plastic roller	. 19	→ 5	3SE5000-0AA60		1	1 unit	41K
	Metal lever, high-grade steel roller	19	⊙ 5	3SE5000-0AA61		1	1 unit	41K
Š	Metal lever, plastic roller	50	⊙ 5	3SE5000-0AA67		1	1 unit	41K
8	Metal lever, rubber roller	50	⊙ 5	3SE5000-0AA68		1	1 unit	41K
	High-grade steel lever, plastic roller	19	⊙ 5<!--</td--><th>3SE5000-0AA62</th><td></td><td>1</td><td>1 unit</td><td>41K</td>	3SE5000-0AA62		1	1 unit	41K
	High-grade steel lever, high-grade steel roller	19	→ 5	3SE5000-0AA63		1	1 unit	41K
8	riigir grade steeriever, riigir grade steerioner	10	0 0	OOLSOOD VAAGO			1 dilit	7110
3SE5000-0AA60								
	Fork levers (for switches with snap-action cont	acts only)						
	Metal lever, 2 plastic rollers	19	→ 5	3SE5000-0AT01		1	1 unit	41K
	Metal lever, 2 high-grade steel rollers	19	→ 5	3SE5000-0AT02		1	1 unit	41K
	High-grade steel lever, 2 plastic rollers	19	→ 5	3SE5000-0AT03		1	1 unit	41K
3SE5000-0AT01	High-grade steel lever, 2 high-grade steel roller	s 19	→ 5	3SE5000-0AT04		1	1 unit	41K
O								

[→] Positively driven actuator, for use in safety circuits.

¹⁾ Can be clinch mounted (turned through 180°, rear of lever).

SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface With Separate Actuator

General data

Overview

The 3SF1 safety switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 safety switches the ASIsafe electronics are integrated in the switch enclosure.



3SF1 safety switches with head for separate actuator and with integrated ASIsafe electronics

3SF1 safety switches with separate actuator have the same enclosures as the 3SF1 position switches.

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4\times90^\circ$. The switches can also be approached from above.

The actuators are not included in the scope of supply of the safety switch and must be ordered separately from a choice of different versions to suit the application (see page 12/94).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more safety.

A rubber cap to protect the actuator head from contamination is available for operation in dusty environments.

Display

The switches have a status display with three LEDs:

LED 1 (yellow): F-IN1
LED 2 (yellow): F-IN2
LED 3 (green/red): AS-i/FAULT

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable.

The wide enclosures (50 or 56 mm) also have an M12 socket for connecting a second safety switch. Category 4 according to EN ISO 13849-1 is thus achieved.

Benefits

The new generation of 3SF1 safety switches with separate actuator offers

- ASIsafe electronics integrated in the enclosure, with low power consumption < 60 mA
- · An extensive range of actuators
- Status display with three LEDs

Application

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

The safety switch can only be operated with the matching coded actuator. Simple overruling by hand or auxiliary devices is impossible.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and fixing points of the enclosure are in accordance with EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with the standards IEC 60947-1 (Low-Voltage Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Devices).

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to EN ISO 14119.

Approvals

AS-Interface according to EN 50295 and IEC 62026-2.

With a 3SF1 safety switch it is possible to achieve Category 3 according to EN ISO 13849-1 or SIL 2 according to IEC 61508.

Category 4 according to EN ISO 13849-1 or SIL 3 according to IEC 61508 can be achieved by using an additional 3SE5 safety switch.

The 3SF1 safety switches are approved according to UL 508, UL 50 and UL 746-C.

SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface With Separate Actuator

3SF1, plastic enclosures, enclosure width 31 mm according to EN 50047 / 50 mm

Overview

- Contacts: 1 or 2 slow-action contacts
- Status display with 3 LEDs 24 V DC; 1: F–IN1, 2: F–IN2, 3: AS-i/FAULT
- Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm)

Selection and ordering data

ociconon and orde	ing data							
	Version ¹⁾	Contacts	SD	Complete units		PU (UNIT, SET, M)	PS*	PG
			d	Article No.	Price per PU			
Enclosure width 31	mm according to EN 50047							
	5 directions of approach							
	With M12 device plug, 4-pole, channel 1 on NC contact, channel 2 on NC contact							
3SF1234-1QV40-1BA1	Slow-action contacts	2 NC	→ 5	3SF1234-1QV40-1BA1		1	1 unit	42A
Enclosure width 50	mm							
3SF1244-1QV40-1BA2	5 directions of approach With M12 device plug, 4-pole, channel 1 on NC contact, channel 2 on M12 socket, right Slow-action contacts	1 NC	⊕ 5	3SF1244-1QV40-1BA2		1	1 unit	42A
001 1244-1QV40-1DAZ								

[→] Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/94).

SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface With Separate Actuator

3SF1, metal enclosures, enclosure width 31 mm according to EN 50047 / 40 mm according to EN 50041 / 56 mm

Overview

- Contacts: 1 or 2 slow-action contacts
- Status display with 3 LEDs 24 V DC; 1: F–IN1, 2: F–IN2, 3: AS-i/FAULT
- Degree of protection IP66/IP67

Selection and ordering data

Selection and order	ing data								
	Version ¹⁾	Contacts		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Enclosure width 31	mm acc. to EN 50047								
3SF1214-1QV40-1BA1	5 directions of approach With M12 device plug, 4-pole, channel 1 on NC contact, channel 2 on NC contact Slow-action contacts	2 NC	€	5	3SF1214-1QV40-1BA1		1	1 unit	42A
	mm acc. to EN 50041								
3SF1114-1QV10-1BA1	5 directions of approach With M12 device plug, 4-pole, channel 1 on NC contact, channel 2 on NC contact Slow-action contacts	2 NC	€	5	3SF1114-1QV10-1BA1		1	1 unit	42A
Enclosure width 56	mm								
3SF1124-1QV10-1BA2	5 directions of approach With M12 device plug, 4-pole, channel 1 on NC contact, channel 2 on M12 socket, right Slow-action contacts	1 NC	→	5	3SF1124-1QV10-1BA2		1	1 unit	42A

igoplus Positive opening according to IEC 60947-5-1, Appendix K.

¹⁾ Supplied without actuator. Please order separately (see page 12/94).

With Separate Actuator

Accessories

Selection and order	ing data					
	Version	SD	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuators		d				
Actuators	Standard actuator			ı		
- Lee	• Length 75.6 mm	•	3SE5000-0AV01	1	1 unit	41K
3SE5000-0AV01						
	With vertical fixing, length 53 mm	5	3SE5000-0AV02	1	1 unit	41K
3SE5000-0AV02	Men	-	2055200 241/22	,		4417
6	With transverse fixing, length 47 mm	5	3SE5000-0AV03	1	1 unit	41K
3SE5000-0AV03		_				
3SE5000-0AW11	 With transverse fixing, plastic¹⁾, length 40 mm 	5	3SE5000-0AW11	1	1 unit	41K
35E5000-0AW11	Radius actuators					
1	Length 51 mm, direction of approach from the left	2	3SE5000-0AV04	1	1 unit	41K
3SE5000-0AV04	Length 51 mm, direction of approach from the right	5	3SE5000-0AV06	1	1 unit	41K
3SE5000-0AV06						
0020000 0/1000	Universal radius actuator					
	• Length 77 mm	5	3SE5000-0AV05	1	1 unit	41K
3SE5000-0AV05-1AA6	• Length 77 mm, tab rotated 90°	5	3SE5000-0AV05-1AA6	1	1 unit	41K
33L3000-0AV03-1AA0	Universal radius actuator, heavy duty					
lii	• Length 67 mm	2	3SE5000-0AV07-1AK2	1	1 unit	41K
	• Length 77 mm	5	3SE5000-0AV07	1	1 unit	41K
3SE5000-0AV07						
Optional accessorie	s					
	Protective caps, black rubber For the actuator head, to protect the actuator openings from contamination (Only for enclosure width 40 mm or 56 mm)	5	3SE5000-0AV08-1AA2	1	1 unit	41K
3SE5000-0AV08-1AA2			0055000 041/00 4440		4 9	4417
3SE5000-0AV08-1AA3	Blocking inserts, high-grade steel, for actuator head For up to eight padlocks	5	3SE5000-0AV08-1AA3	1	1 unit	41K

¹⁾ Not suitable for safety switches with tumbler.

SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface With Tumbler

General data

Overview

The 3SF1 safety switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 safety switches the ASIsafe electronics are integrated in the switch enclosure.



3SF1 safety switch with tumbler and with integrated ASIsafe electronics

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^{\circ}$. The switches can also be approached from above.

The actuators are not included in the scope of supply of the safety switch and must be ordered separately from a choice of different versions to suit the application (see page 12/94).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more safety.

A rubber cap to protect the actuator entry of the actuator head from contamination is available for operation of the enclosures in dusty environments.

Tumbler

There are two versions for interlocking the actuator:

- Spring-actuated lock (closed-circuit principle) with various release mechanisms
- Solenoid-locked (open-circuit principle)

For more explanations, see page 12/57.

Display

The switches have a status display with four LEDs:

LED 1 (green): AS-i
LED 2 (red): FAULT
LED 3 (yellow): F-IN1
LED 4 (yellow): F-IN2

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable (no additional supply of auxiliary power is required thanks to the low current consumption of the solenoid of max. 170 mA).

Benefits

The new generation of 3SF13 safety switches with tumbler offers:

- More safety through higher locking forces:
 - 1 300 N for the plastic version
 - 2 600 N for the metal version
- Various release mechanisms: lock release, escape release and emergency release
- ASIsafe electronics integrated in the enclosure; connected through 4-pole M12 device plug
- Current consumption of the solenoid no more than 170 mA
- Two contact blocks as standard equipment, hence fewer versions needed
- Same dimensions for all enclosure versions: plastic, metal
- An extensive range of actuators
- Status display with four LEDs
- 3SF1324-1S.21-1BK4 series with high degree of protection IP69K, IP69 in accordance with IEC 60529, cover with foamed seal

Application

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. follow-on motion of the switched-off machine).

The safety switches with tumbler have the following functions:

- Enabling the machine or process with closed and locked protective device
- Locking the machine or process with opened protective device
- Position monitoring of the protective device and tumbler

Standards

The switches comply with the standards IEC 60947-1 (Low-Voltage Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Devices).

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to EN ISO 14119.

Approvals

AS-Interface according to EN 50295 and IEC 62026-2

The switches are approved for use with locking devices according to EN ISO 14119 and EN 292, Parts 1 and 2.

3SF13 safety switches with tumbler have a VDE test mark.

With a 3SF13 safety switch with tumbler it is possible to achieve Category 3 according to EN ISO 13849-1 or SIL 2 according to IEC 61508.

Category 4 according to EN ISO 13849-1 or SIL 3 according to IEC 61508 can be achieved by using an additional 3SE5 safety switch.

The 3SF1 safety switches are approved according to UL 508, UL 50 and UL 746-C.

SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface With Tumbler

3SF1, plastic enclosures with locking force greater than 1 200 N

Overview

Versions

- 1BA1: ASIsafe channel 1 on 1 NC contact from the actuator, and channel 2 on 1 NC contact from the solenoid
- 1BA3: ASIsafe channel 1 on the first NC contact from the actuator and channel 2 on the second NC contact from the actuator
- 1BA4: ASIsafe channel 1 on 2 NC contacts (two-channel) from the actuator, and channel 2 on 1 NC contact from the solenoid. The position switch transfers the information of actuators to a transfer channel because the discrepancy of the two actuator contacts is already evaluated in the switch.

The 3SF1324-1S.21-1BA4 safety switches are also recommended where there are several protective door tumblers and reliable diagnostics and quick restart capability of equipment is required.

- A response is received from the solenoid.
- No opening of the doors required after the solenoid is unlocked.

In connection with an ASIsafe MSS modular safety system or an ET 200SP F-CM AS-i Safety ST module, it is possible to achieve SIL 2 according to IEC 61508 or PL d according to ISO 13849-1. They comply with the standard EN ISO 14119. A TÜV certificate is available.

Features:

- Slow-action contacts
- 5 directions of approach
- Solenoid: Rated operational voltage 24 V DC
- 1 300 N locking force
- Degree of protection IP66/IP67 (IP69K)
- Status display with 4 LEDs 24 V DC;
 1: AS-i, 2: FAULT, 3: F-IN1, 4: F-IN2

Comparison of versions

Safety switches	Contacts	Achievable safety level	Diagnostics	Reclosing condition after unlocking the solenoid
Type	Actuator/solenoid		Feedback from the solenoid	(depending on the type of evaluation)
3SF1324-1S.21-1BA1	1 NC/1 NC	SIL 1/PL c	✓	Door does not have to be opened
	1 NC/1 NC	SIL 2/PL d	✓	Door must be opened
3SF1324-1S.21-1BA3	2 NC/	SIL 2/PL d		Door does not have to be opened
3SF1324-1S.21-1BA4	2 NC/1 NC	SIL 2/PL d	✓	Door does not have to be opened
3SF1324-1S.21-1BK4 (IP69K)	2 NC/1 NC	SIL 2/PL d	✓	Door does not have to be opened

[✓] Available -- Not available

Selection and ordering data

	Tumbler ¹⁾	Contacts Actuator/ solenoid		SD	Complete units		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
1 300 N locking for	ce · Enclosure width 54 mm								_
	Spring-actuated locks								
	With auxiliary release	1 NC/1 NC	\odot	5	3SF1324-1SD21-1BA1		1	1 unit	42A
		2 NC/	\odot	5	3SF1324-1SD21-1BA3		1	1 unit	42A
D CO		2 NC/1 NC	\odot	5	3SF1324-1SD21-1BA4		1	1 unit	42A
	 Degree of protection IP69 acc. to 60529; IP69K acc. to DIN 40050 	2 NC/1 NC	€	5	3SF1324-1SD21-1BK4		1	1 unit	42A
	With auxiliary release with lock	1 NC/1 NC	\odot	5	3SF1324-1SE21-1BA1		1	1 unit	42A
3SF1324-1SD21-1BA1									
	With escape release from the front	1 NC/1 NC	\odot	5	3SF1324-1SF21-1BA1		1	1 unit	42A
		2 NC/1 NC	\odot	5	3SF1324-1SF21-1BA4		1	1 unit	42A
Command Command	- Degree of protection IP69 acc. to 60529; IP69K acc. to DIN 40050	2 NC/1 NC	€	5	3SF1324-1SF21-1BK4		1	1 unit	42A
	With escape release from the back	1 NC/1 NC	\odot	5	3SF1324-1SG21-1BA1		1	1 unit	42A
	and auxiliary release from the front	2 NC/1 NC	\odot	5	3SF1324-1SG21-1BA4		1	1 unit	42A
3SF1324-1SF21-1BA1	 Degree of protection IP69 acc. to 60529; IP69K acc. to DIN 40050 	2 NC/1 NC	€	5	3SF1324-1SG21-1BK4		1	1 unit	42A
	With emergency release from the back and auxiliary release from the from	1 NC/1 NC t	€	5	3SF1324-1SJ21-1BA1		1	1 unit	42A
	Solenoid-locked	1 NC/1 NC	\odot	5	3SF1324-1SB21-1BA1		1	1 unit	42A
		2 NC/	\odot	5	3SF1324-1SB21-1BA3		1	1 unit	42A
3SF1324-1SB21-1BA1									

[→] Positive opening according to IEC 60947-5-1, Appendix K.

Supplied without actuator. Please order separately. For actuators and optional accessories, see page 12/62.

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SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface With Tumbler

3SF1, metal enclosures with locking force greater than 2 000 N

Overview

Version

• 1BA1: ASIsafe channel 1 on 1 NC contact from the actuator, and channel 2 on 1 NC contact from the solenoid

Features

- Slow-action contacts
- Solenoid: Rated operational voltage 24 V DC
- 2 600 N locking force
- Degree of protection IP66/IP67
- Status display with 4 LEDs 24 V DC;
 1: AS-i, 2: FAULT, 3: F-IN1, 4: F-IN2

Comparison of versions

Safety switches	Contacts	Achievable safety level	Diagnostics	Reclosing condition after unlocking the solenoid
Type	Actuator/solenoid		Feedback from the solenoid	(depending on the type of evaluation)
3SF1314-1S.11-1BA1	1 NC/1 NC	SIL 1/PL c	✓	Door does not have to be opened

[✓] Available

Selection and ordering data

	Tumbler ¹⁾	Contacts		SD	Complete units		PU (UNIT,	PS*	PG
		Actuator/ solenoid					SET, M)		
				d	Article No.	Price per PU			
2 600 N locking ford	ce · Enclosure width 54 mm					·			
	Spring-actuated locks								
	With auxiliary release	1 NC/1 NC	\odot	5	3SF1314-1SD11-1BA1		1	1 unit	42A
	With auxiliary release with lock	1 NC/1 NC	→	5	3SF1314-1SE11-1BA1		1	1 unit	42A
3SF1314-1SD11-1BA1									
	With escape release from the front	1 NC/1 NC	\odot	5	3SF1314-1SF11-1BA1		1	1 unit	42A
	With escape release from the back and auxiliary release from the front	1 NC/1 NC	→	5	3SF1314-1SG11-1BA1		1	1 unit	42A
	With escape release from the back and auxiliary release with lock from the front		€	5	3SF1314-1SH11-1BA1		1	1 unit	42A
	With emergency release from the back and auxiliary release from the front	1 NC/1 NC	→	5	3SF1314-1SJ11-1BA1		1	1 unit	42A
3SF1314-1SF11-1BA1									
	Solenoid-locked	1 NC/1 NC	•	5	3SF1314-1SB11-1BA1		1	1 unit	42A
3SF1314-1SB11-1BA1									
(Ap. :::	l' IEO 000 47 E 4 A I' /		_					10/00	

[→] Positive opening according to IEC 60947-5-1, Appendix K.

For actuators and optional accessories, see page 12/62.

¹⁾ Supplied without actuator. Please order separately.

SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface Safety Hinge Switches

3SF1, plastic enclosures, enclosure width 31 mm according to EN 50047 / 50 mm

Overview

The 3SF1 safety hinge switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 hinge switches the ASIsafe electronics are integrated in the switch enclosure.

The hinge switches are provided for mounting on hinges. There are two actuator variants here:

- Hollow shaft, inner diameter 8 mm, outer 12 mm
- Solid shaft, diameter 10 mm

For the ASIsafe version of the hinge switch, the basic switch and actuator head must be ordered separately. The basic switches correspond to the 3SF1 position switches (use only versions with snap-action contacts).

The provisions and approvals are the same as for the 3SF1 standard switches (see page 12/83).

Selection and ordering data

Modular system

1 or 2 contacts · 3 LEDs · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · M12 device plug

	Version	Contacts	LEDs		SD	Modular system		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Basic switches · Enc	losure width 31 mm acc.	to EN 50047	7							
dispusses the state of the stat	With Teflon plunger, with M12 device plug, 4-pc channel 1 on NC contact, channel 2 on NC contact Snap-action contacts	ole, 2 NC	24 V DC	→	5	3SF1234-1LC05-1BA1		1	1 unit	42A
3SF1234-1LC05-1BA1										
Basic switches · Enc										
THE PROPERTY OF THE PROPERTY O	With Teflon plunger, with M12 device plug, 4-pc channel 1 on NC contact, channel 2 on M12 socket, ri Snap-action contacts		24 V DC	→	5	3SF1244-1LC05-1BA2		1	1 unit	42A
3SF1244-1LC05-1BA2										
Actuator heads										
	With hollow shaft Operating angle 10°				5	3SE5000-0AU21		1	1 unit	41K
3SE5000-0AU21										
	With solid shaft									
	Operating angle 10°				5	3SE5000-0AU22		1	1 unit	41K
3SE5000-0AU22										

Positive opening according to IEC 60947-5-1, Appendix K.

SIRIUS 3SF1 Mechanical Safety Switches for AS-Interface Safety Hinge Switches

3SF1, metal enclosures, enclosure width 31 mm according to EN 50047 / 40 mm according to EN 50041 / 56 mm

Overview

The 3SF1 safety hinge switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 hinge switches the ASIsafe electronics are integrated in the switch enclosure.

The hinge switches are provided for mounting on hinges. There are two actuator variants here:

- Hollow shaft, inner diameter 8 mm, outer 12 mm
- Solid shaft, diameter 10 mm

For the ASIsafe version of the hinge switch, the basic switch and actuator head must be ordered separately. The basic switches correspond to the 3SF1 position switches (use only versions with snap-action contacts).

The provisions and approvals are the same as for the 3SF1 standard switches (see page 12/83).

Selection and ordering data

Modular system

1 or 2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug

	Version	Contacts	LEDs	S	D	Modular system		PU (UNIT, SET, M)	PS*	PG
				d		Article No.	Price per PU	. ,		
Basic switches · Encl	osure width 31 mm acc.	to EN 50047	7							
3SF1214-1LC05-1BA1	With plunger With M12 device plug, 4-pol channel 1 on NC contact, channel 2 on NC contact Snap-action contacts	le, 2 NC	24 V DC	→ 5		3SF1214-1LC05-1BA1		1	1 unit	42A
	osure width 40 mm acc.	to EN 50041	1							
Lancasse	With M12 device plug, 4-pc channel 1 on NC contact, channel 2 on NC contact Snap-action contacts		24 V DC	⊕ 5		3SF1114-1LA00-1BA1		1	1 unit	42A
3SF1114-1LA00-1BA1 Basic switches · Encl	sours width EC mm									
Basic switches - Encl	With M12 device plug, 4-pt channel 1 on NC contact, channel 2 on M12 socket, ris Snap-action contacts		24 V DC	→ 5		3SF1124-1LA00-1BA2		1	1 unit	42A
3SF1124-1LA00-1BA2										
Actuator heads	Hallan abatt							ı		
	Hollow shaft Operating angle 10°			5		3SE5000-0AU21		1	1 unit	41K
3SE5000-0AU21										
3SE5000-0AU22	Solid shaft Operating angle 10°			5		3SE5000-0AU22		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Appendix K.

SIRIUS 3SE6 Non-Contact Safety Switches Magnet

3SE66, 3SE67 magnetically operated switches

Overview



3SE66 contact blocks and 3SE67 switching magnets

A magnetically operated switch comprises a coded switching magnet and a contact block (sensor unit). The switch must be connected to a safety relay, e.g. SIRIUS 3SK1, or a bus system, e.g. SIMATIC ET 200SP, for evaluation. The switches use reed contacts as mechanical contacts. The status of the contacts is monitored using an evaluation unit.



3SE66 contact blocks and 3SE67 switching magnets, supplementary range in new design

Safety relays

3SK safety relays can be used worldwide since they possess all the required certification. Since they satisfy the most exacting safety requirements, they are suitable for all kinds of safety applications.

The following can be selected:

- 3SK1 Standard basic units: simple and compact to satisfy all the essential requirements of safety sensor monitoring systems
- 3SK1 Advanced basic units: multifunctional series with relay enabling circuits, semiconductor outputs or time-delay outputs
- 3SK2 basic units: multifunctional series whose functionality is parameterized using software. The basic units have solid-state outputs. Relay outputs from the 3SK1 portfolio can also be connected via device connectors.
- Expansion units for inputs and outputs

The 3SE6806 safety relay is also available with two floating enabling circuits (safe circuits) as NO contact circuits and one floating signaling circuit as an NC contact circuit.

Benefits

Standard range

- Non-contact round, rectangular, small (25 mm x 33 mm) and larger (25 mm x 88 mm) versions
- Small, compact, safe
- Simple mounting with alignment of sensor and actuator, and concealed installation also easy
- · Suitable for restricted spaces

Supplementary range

- · New design for rectangular shape
- More functionality
- Greater switching intervals and a larger horizontal or vertical displacement
- Various mounting positions possible (e.g. at 90° offset)
- SIL 3 and PL e diagnostics possible because there are two safety contacts and one signaling contact
- LED variant
- · Fast connection possible using plug-in variants

SIRIUS 3SE6 Non-Contact Safety Switches Magnet

3SE66, 3SE67 magnetically operated switches

Application

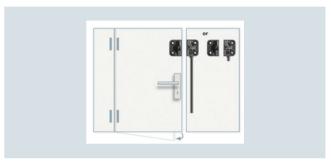
SIRIUS 3SE6 magnetically operated switches are designed for mounting on movable protective guards (hoods, hinged covers, doors, etc.). Evaluation can be performed by means of a safety relay or through connection to a bus system.

The 3SE66 non-contact, magnetically operated safety switches stand out due to their enclosed design with degree of protection IP67. Since they are coded, they do not have to be concealed when installed. They are particularly suitable therefore for areas exposed to contamination, cleaning or disinfecting.

A magnetic monitoring system comprises one or more magnetically operated switches and an evaluation unit, e.g. a safety relay. When contact blocks 1 NO + 1 NC (+ 1 NC signaling contact) or 2 NC (+ 1 NC signaling contact) are used, the 3SK safety relay, for example, provides a high degree of protection against manipulation and can be installed in safety circuits up to SIL 3 according to IEC 62061 and PL e according to EN ISO 13849-1.



Non-contact safety magnetically operated switches (with plug or cable) for right-hinged door



Non-contact safety magnetically operated switches (with plug or cable) for left-hinged door

SIRIUS 3SE6 Non-Contact Safety Switches Magnet

3SE66, 3SE67 magnetically operated switches

Combination of monitoring units and magnetically operated switches

Monitoring units			Magnetically operated	Achievable SIL		
			1 NO + 1 NC 3SE6605BA	2 NC 3SE6604-2BA 1 NO + 2 NC		(IEC 61508, IEC 62061) Performance Level
				3SE6606-2BA04		(EN ISO 13849-1
			3SE6704 BA	3SE6704-2BA		
			1 NO + 1 NC (+ 1 NC signaling contact) 3SE6616-3CA01 3SE6626-3CA01	2 NC; 2 NC (+ 1 NC signaling contact) 3SE6614-4CA01 3SE6624-4CA01 3SE6617-2CA01 3SE6627-2CA01 3SE6617-2CA04 3SE6627-2CA04	2 NC (+ 1 NC signaling contact) 3SE6617-3CA01 3SE6627-3CA01 3SE6617-3CA04 3SE6627-3CA04	
			3SE6714-3CA	3SE6714-2CA	3SE6714-3CA	
			3SE6724-3CA	3SE6724-2CA	3SE6724-3CA	
Relay output SIRIUS safety relays	3SK1121, 3TK2826		/	/	/	SIL 3/PL e
Solid-state outputs SIRIUS safety relays	3SK1112, 3SK1122		/-	/	✓	SIL 3/PL e
	3SK2112, 3SK2122		/	✓	/	SIL 3/PL e
ASIsafe compact safety modules	3RK1205, 3RK1405			/	1	SIL 3/PL e
Modular Safety System (MSS)	3RK3	100000 100000 100000 1000000 1000000	/	✓	/	SIL 3/PL e
SIMATIC S7-1200F	F-DI 16 x 24 V DC		1	1	1	SIL 3/PL e
SIMATIC ET 200SP PROFIsafe	4/8 F-DI, 24 V DC		✓	1	1	SIL 3/PL e
SIMATIC ET 200eco	4/8 F-DI, 24 V DC		✓	✓	1	SIL 3/PL e
SIMATIC ET 200pro	8/16 F-DI, 24 V DC, 4/8 F-DI/4 F-DQ 2 A, 24 V DC, F-Switch		/	1	/	SIL 3/PL e
SIMATIC ET 200SP	8F-DI, 24 V DC F-PM-E 24 V DC		✓	✓	✓	SIL 3/PL e
SIMATIC ET 200MP	16 F-DI, 24 V DC		1	✓	✓	SIL 3/PL e

[✓] Suitable magnetically operated switch

⁻⁻ Not available

SIRIUS 3SE6 Non-Contact Safety Switches Magnet

3SE66, 3SE67 magnetically operated switches

Selection and o	ordering data								
	Version	Size	Contacts	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	
		mm		d		perro	OL1, WI)		
Standard range	- Round sensor units								
	Switching magnet (coded)	M30		2	3SE6704-1BA		1	1 unit	4
3SE6704-1BA	Contact blocks								
	With cable 3 m	M30	1 NO + 1 NC	2	3SE6605-1BA		1	1 unit	_
	With M12 plug, 4-pole	M30	1 NO + 1 NC	2	3SE6605-1BA02		1	1 unit	4
Allman	1 0/ 1								
3SE6505-1BA Standard range	- Rectangular sensor units								
Staridard range	Switching magnet (coded)	25 × 88		2	3SE6704-2BA		1	1 unit	4
	omanig magnet (control)								
3SE6704-2BA	Contact blocks								
	With cable 3 m	25 × 88	1 NO + 1 NC	2	3SE6605-2BA		1	1 unit	
Patrick			2 NC	2	3SE6604-2BA		1	1 unit	
			1 NO + 2 NC	10	3SE6606-2BA04		1	1 unit	
	With cable 10 m	25 × 88	1 NO + 1 NC	5	3SE6605-2BA10 3SE6604-2BA10		1	1 unit	
005000 004	• With M8 plug, 4-pole	25 × 88	2 NC 1 NO + 1 NC	2 2	3SE6605-2BA01		1	1 unit 1 unit	
3SE6602BA	• With No plug, 4-pole	20 X 00	2 NC	2	3SE6604-2BA01		1	1 unit	
	Switching magnet (coded)	25 × 33		2	3SE6704-3BA		1	1 unit	-
	Contact blocks								
	With cable 3 m	25×33	1 NO + 1 NC	2	3SE6605-3BA		1	1 unit	
	• With cable 5 m			2	3SE6605-3BA05		1	1 unit	
3SE6603BA	With cable 10 m range in new design –			2	3SE6605-3BA10		1	1 unit	
	nsor units for left-hinged door								
	Switching magnets (coded)								
	Same level	25 x 88		5	3SE6714-2CA		1	1 unit	
	• 90° offset			5	3SE6724-2CA		1	1 unit	,
3SE6714-2CA									
	Contact blocks	05 00	0.110	_					
	 With M8 plug, 4-pole, with LED 	25 × 88	2 NC	5	3SE6614-4CA01		1	1 unit	
T)	 8 mm Ø, latching connection, plug, 6-pole 		2 NC + 1 NC ¹⁾	5	3SE6617-2CA01		1	1 unit	
	• With cable 3 m		2 NC + 1 NC ¹⁾	5	3SE6617-2CA04		1	1 unit	
0050014.40401									
3SE6614-4CA01	Switching magnets (coded)								
6	• Same level	26 x 36		5	3SE6714-3CA		1	1 unit	
	• 90° offset			5	3SE6724-3CA		1	1 unit	
3SE6714-3CA									
3320, 17 00A	Contact blocks								
•	• 8 mm Ø, latching connection,	26 × 36	1 NO ₁ + 1 NC +	5	3SE6616-3CA01		1	1 unit	4
4	plug, 6-pole		1 NC ¹⁾	E	2000017 20001				
7			2 NC + 1 NC ¹⁾ 2 NC + 1 NC ¹⁾	5	3SE6617-3CA01		1	1 unit	4
	 With cable 3 m 		0 110 - 4 1101)	5	3SE6617-3CA04		1	1 unit	4

 $^{^{\}rm 1)}$ The NC is a signaling contact, not a safety contact.

SIRIUS 3SE6 Non-Contact Safety Switches Magnet

3SE66, 3SE67 magnetically operated switches

	Version	Size	Contacts	SD	Article No.		PU (UNIT,	PS*	PG
		mm		d		per PU	SET, M)		
Supplementary ran	nge in new design –	111111		<u> </u>					
Rectangular senso	or units for right-hinged door								
	Switching magnets (coded) • Same level	0E v 00		5	3SE6714-2CA		1	1 unit	41K
	• 90° offset	25 x 88		5	3SE6724-2CA		1	1 unit	41K
	00 011001			J	002072 7 20A		·	1 dine	1110
3SE6714-2CA	On the stable store								
C	Contact blocksWith M8 plug, 4-pole,	25 × 88	2 NC	5	3SE6624-4CA01		1	1 unit	41K
	with LED								
	 8 mm Ø, latching connection, plug, 6-pole 		2 NC + 1 NC ¹⁾	5	3SE6627-2CA01		1	1 unit	41K
	• With cable 3 m		$2 NC + 1 NC^{1)}$	5	3SE6627-2CA04		1	1 unit	41K
2050004 40404									
3SE6624-4CA01	Switching magnets (coded)								
	Same level	26 x 36		5	3SE6714-3CA		1	1 unit	41K
	• 90° offset			5	3SE6724-3CA		1	1 unit	41K
3SE6714-3CA									
35E6714-3CA	Contact blocks								
•	• 8 mm Ø, latching connection,	26 × 36	1 NO + 1 NC +	5	3SE6626-3CA01		1	1 unit	41K
4	plug, 6-pole		1 NC ¹⁾ 2 NC + 1 NC ¹⁾	5	3SE6627-3CA01		1	1 unit	41K
	• With cable 3 m		2 NC + 1 NC ¹⁾	5	3SE6627-3CA04		1	1 unit	41K
3SE6626-3CA01									
Accessories for sta		0500		0	acyanca			4	441/
F	Spacer	25 × 88		2	3SX3260		1	1 unit	41K
3SX3260									
		25 × 33		5	3SX3261		1	1 unit	41K
B									
0									
3SX3261	Coupling								
	With connecting cable, 5 m								
Accessories for su	 With M8 socket, 4-pole ipplementary range in new de 	sian		5	3SX5601-3GA05		1	1 unit	41K
Accessories for su	Spacer	25 × 88		5	3SX5600-2GA01		1	1 unit	41K
35									
3SX5600-2GA01		00 . 00			00V5000 00 4 00			4	441/
		26 × 36		5	3SX5600-2GA02		1	1 unit	41K
•									
3SX5600-2GA02									
	Coupling With connecting cable, 5 m								
	With M8 socket, 4-pole			5	3SX5601-3GA05		1	1 unit	41K
	• With 8 mm Ø socket, 8 mm,			5	3SX5601-4GA05		1	1 unit	41K
	latching connection, 6-pole								
3SX5601-3GA05									
	signaling contact, not a safety conta								

 $^{^{1)}\,}$ The second NC is a signaling contact, not a safety contact.

SIRIUS 3SE6 Non-Contact Safety Switches Magnet

3SE66, 3SE67 magnetically operated switches

	Version	Rated control voltage	of	Enabling/ signaling circuits	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Monitoring units										
	3SK1 safety relays									
	Standard or Advance	d basic units								
Autoria de la companya della company	With relay output	24 V DC	6 ¹⁾	3 NO/1 NC	>	3SK1121-1AB40		1	1 unit	41L
	With semiconductor output	24 V DC	1	2 x F-DQ/ 1 QM	2	3SK1112-1BB40		1	1 unit	41L
3SK1121-1AB40	3SK2 safety relays									
	Basic units									
	With semiconductor output	24 V DC	5	2 x F-DQ/ 1 QM	2	3SK2112-1AA10		1	1 unit	41L
			10	4 x F-DQ/ 2 QM	2	3SK2122-1AA10		1	1 unit	41L
3SK2112-1AA10	/ 1000 · · · · · · · · · · · · · · · · ·		1.1/00							

¹⁾ Only when up to 5 3SK1220 expansion units are used, see page 11/23.

For more monitoring units, see pages 2/1, 8/1, 9/1 and 11/1, as well as Catalog IK PI.

SIRIUS 3SE6 Non-Contact Safety Switches RFID

3SE63 RFID safety switches

Overview



Non-contact RFID safety switches with maximum tamper resistance

RFID 3SE63 non-contact safety switches comply with the highest safety requirements, SIL 3 or Cat. 4, for monitoring the positions of movable protective devices.

An RFID safety switch consists of a coded RFID switch with an 8-pole M12 connection plug and an identical RFID actuator.

The switch is available in several versions:

- Family coded with M12 plug or with additional 18 N magnetic catch as an option
- Individually coded, programmable once, with M12 plug or with additional 18 N magnetic catch as an option
- Individually coded, programmable more than once (an unlimited number of times), with M12 plug or variant with additional 18 N magnetic catch

The actuator is therefore available in two versions:

- Standard
- With 18 N magnetic catch

The magnetic catch keeps doors and hinge switches closed with permanent magnets.

Mounting and maintenance

Various options for mounting save on enclosure variants:

- Mounting of the switch on the right or left side
- The actuator can be mounted on all sides

Quick and easy mounting thanks to universal mounting holes:

- Standard gauge/holes for 3SE6 magnetically operated switches
- · Fine adjustment thanks to slotted holes

Little adjustment or maintenance required:

- Threshold indication by LED display on the switch for quick and easy adjustment during mounting and maintenance
- Molded switch allows it to be used as an end stop for small and medium-sized doors

Note:

- Keep metal parts and cuttings away from the vicinity of the switch
- Minimum distance between two switches 100 mm

Optional accessories (mounting)

- Covers for sealing mounting holes, also suitable for tamperproofing screw fixings
- Spacers (approx. 3 mm high) to facilitate cleaning under the installation surface when using high-pressure cleaners, for example

Coding

Family coded

These safety switches are delivered ready to use, i. e. no programming is necessary.

Individually coded, programmable once

The assignment of safety switch and actuator thus created is irreversible.

The actuator is programmed simply by routine during startup, thus permanently preventing any form of tampering by means of a replacement actuator.

Individually coded, programmable several times

The procedure for programming a new actuator can be repeated an unlimited number of times. When a new actuator is programmed the previous code becomes invalid. A protected coding process allows new actuators to be programmed for service purposes.

After this, a ten-minute lockout provides increased tamper protection. The green LED flashes until the lockout time has ended and the new actuator has been detected. If the operational voltage is interrupted during this time, the ten-minute quard time is restarted.

Programming procedure for individual coding

- 1. Apply operational voltage to safety sensor
- 2. Move actuator into detection range: red LED lights up, yellow LED flashes (1 Hz)
- 3. After 10 s it changes to a shorter flashing frequency (3 Hz). In this state switch off operational voltage.
- 4. After the next time the operational voltage is switched on, the actuator is detected again to activate the programmed actuator code. The activated code is thus stored permanently.

Diagnostics

The RFID safety switch indicates its operating state including faults by means of the LED indicator in the switch and the short-circuit proof diagnostics output. The signals can then be used for central displays or non-safety-related control tasks.

There are the following diagnostics functions:

- Crossover monitoring
- Open-circuit monitoring
- External voltage monitoring
- · Ambient temperature too high
- Wrong or defective actuator
- Switching interval threshold identification with LED display

The signal combination "diagnostics output switched off" and "safety outputs still switched on" can be used to move the machine into a controlled stop position.

Any crossover or a fault that is not currently compromising the safe function of a safety switch results in the disconnection of the safety channels after a 30-minute delay. However, the diagnostics output switches off instantaneously.

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SIRIUS 3SE6 Non-Contact Safety Switches

3SE63 RFID safety switches

Mode of operation of the diagnostics LEDs

The safety switch indicates not only its operating state, but also faults by means of LEDs in three colors at the ends of the RFID switch.

- The green LED indicates readiness for operation when the control supply voltage is connected.
- The yellow LED indicates that there is an actuator in detection range. If the actuator is in the switching interval threshold, this is indicated by flashing. This flashing can be used to identify a change in the distance between sensor and actuator at an early stage (e.g. as a result of the sagging of a protective door). The installation should be tested before the distance increases further, the safety outputs switch off and the machine stops.
- The red LED indicates the individual causes of the fault by means of defined flashing frequencies.

Benefits

- Maximum tamper resistance by means of individual coding of switches and actuators at the highest safety level
- · Plastic enclosure with integrated plug
- Two solid-state short-circuit proof safety outputs, each 250 mA
- Integrated crossover, open circuit and external voltage monitoring, with series circuit as far as the control cabinet
- Safety and diagnostics signals can be connected in series
- Series connection of safety circuits in Cat. 4/PL e/SIL 3
- LED status indication including switching interval threshold indication for quick and easy adjustment during installation and maintenance
- Short-circuit proof conventional diagnostics output
- Optional version with magnetic catch for interlocking hinge switches or small doors even when de-energized
- Highly rugged thanks to the use of tested enclosure materials, resistant to aggressive cleaning products, with a degree of protection of up to IP69K
 - IP69 does not automatically mean that it can be used outdoors. The devices must be installed with corresponding protection for this purpose. UV radiation additionally affects the enclosure
- · Fine adjustment thanks to slotted holes
- · Little adjustment or maintenance required
- Molded switch allows it to be used as an end stop for small and medium-sized doors

Application

RFID non-contact safety switches are designed for use in safety circuits, and are used to monitor the positions of movable protective devices. They monitor the positions of rotating, laterally sliding or removable protective devices using the coded electronic actuator.

Their high degree of protection (IP69K) and the use of cleaning-product-resistant materials means that these switches are optimized for use under extreme environmental conditions.

Their electronic operating principle makes these switches ideal for metalworking machinery.

The switches have a larger switching interval and switching displacement than mechanical switches, improve the mounting tolerance of the protective door, and offer a wide range of diagnostics options.

The RFID switches can be connected to all standard evaluation units suitable for solid-state inputs and in which the built-in crossover monitoring function can be deactivated, e.g.:

Monitoring units	
Relay output	
SIRIUS safety relays	3SK1111 AB30, 3SK1121
SIRIUS safety relays	3TK2826BB4.
Solid-state outputs	
SIRIUS safety relays	3SK1112, 3SK1122, 3SK2112, 3SK2122
SIRIUS safety relays	3TK2841, 3TK2842, 3TK2845 3TK2853BB40
Modular Safety System (MSS)	3RK3 (safe inputs)
SIMATIC ET 200S	6ES7138-4FA00AB0 6ES7138-4FC00AB0
SIMATIC ET 200M	6ES7326-1BK00AB0
SIMATIC ET 200eco	6ES7148-3FA00-0XB0
SIMATIC ET 200pro	6ES7148-4F.00-0AB0
SIMATIC ET 200SP	6ES7136-6BA00-0CA0 6ES7136-6PA00-0BC0
SIMATIC ET 200MP	6ES7526-3BH00-0AB0
SIMATIC S7-1200F	6ES7226-6BA32-0XB0

These safety categories can be achieved in safety circuits:

- Category 4 according to EN ISO 13849-1
- PL e according to EN ISO 13849-1
- SIL 3 according to IEC 61508

Technical specifications

Туре		3SE63
General data		
Standards		IEC 60947-5-3, IEC 61508, EN ISO 13849-1, EN ISO 14119
Enclosure material		Glass-fiber reinforced thermoplast, self-extinguishing
Degree of protection		IP65/IP67/IP69K
Ambient temperature		
 During operation 	°C	-25 +70
 During storage, transport 	°C	-25 +85
Shock resistance		30 g /11 ms
Vibration resistance		10 55 Hz, amplitude 1 mm

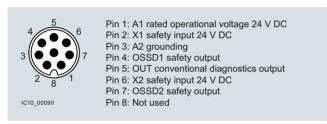
Туре		3SE63
Electrical specifications		
Rated insulation voltage U_i	V	32
Degree of pollution according to IEC 60664-	3	
Rated impulse withstand voltage $U_{\rm imp}$	V	800
Rated conditional short-circuit current	Α	100
Rated operational voltage <i>U</i> _e (PELV acc. to EN 60204-1)	V DC	24 –15/+10%
Protection class		II
Overvoltage category		III
Rated operational current I _e	Α	0.6
Lowest operating current I_{m}	mΑ	0.5
No-load current I ₀	mA	35

SIRIUS 3SE6 Non-Contact Safety SwitchesRFID

3SE63 RFID safety switches

Туре		3SE63
Inputs/outputs		
Safety inputs X1/X2		
Input voltage	V DC	24 -15/+10%
Power consumption per input	mA	5
Safety outputs OSSD1/OSSD2		p operation
 Max. rated operating current I_{e max} 	Α	0.25
• Rated operational current $I_{\rm e}$ /DC-12/DC-13 at $U_{\rm e}$	Α	0.25
 Voltage drop U_e 	V	< 1
Switching frequency	Hz	1
• Response time, max.	ms	100
Risk time, max.	ms	200
• Recovery, max.	S	5
Diagnostics output		p operation
 Max. rated operating current I_{e2 max} 	Α	0.05
• Rated operational current $I_{\rm e}$ /DC-12/DC-13 at $U_{\rm e}$	Α	0.05
 Voltage drop U_e 	V	< 2
Operational current	mA	150
 Conductor capacity, max. 	nF	50

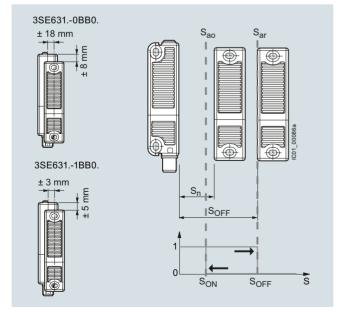
Pin assignment



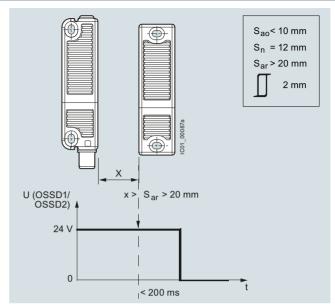
Pin assignment

Directions of approach and switching interval

The side area permits a maximum height offset of the switch and actuator of \pm 8 mm (e.g. mounting tolerance or due to sagging of the protective door). The transverse offset also equals max. \pm 18 mm.



Switching interval: Output signal with hysteresis

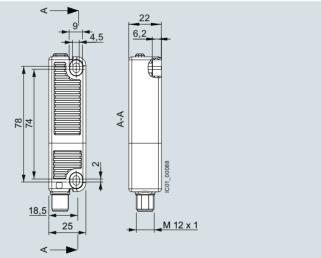


Switching interval: Output signal with OFF delay

Dimension drawings

RFID switch

3SE6315



RFID actuator

3SE6310

6,2

4

4

4

5

6,2

22

22

SIRIUS 3SE6 Non-Contact Safety Switches

3SE63 RFID safety switches

Selection and ordering data

With M12 connection plug, 8-pole

With M12 connection	n plug, 8-pole							
	Version/coding	Latching/length	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Rectangular safety	switches 91 mm x 25 mm ¹⁾							
	RFID safety switch							
	 Family coded 	None	2	3SE6315-0BB01		1	1 unit	41K
		With 18 N magnetic catch	2	3SE6315-1BB01		1	1 unit	41K
	 Individually coded, 	None	2	3SE6315-0BB02		1	1 unit	41K
	programmable several times	With 18 N magnetic catch	5	3SE6315-1BB02		1	1 unit	41K
	 Individually coded, 	None	2	3SE6315-0BB03		1	1 unit	41K
	programmable once	With 18 N magnetic catch	5	3SE6315-1BB03		1	1 unit	41K
3SE6315								
	RFID actuator		_					
	Standard	None With 18 N magnetic catch	2 2	3SE6310-0BC01 3SE6310-1BC01		1	1 unit 1 unit	41K 41K
e								
3SE6310								
Optional accessori								
1	Covers and spacers		2	3SX5600-1G		1	1 unit	41K
00 0000	One pack (1 unit) contains 8 covers and 4 spacers							
3SX5600-1G								
567,6555 14	Connecting cables, 8-pole,	Length 3 m	2	3SX5601-2GA03		1	1 unit	41K
	with 1 straight M12 socket	Length 5 m	2	3SX5601-2GA05		1	1 unit	41K
	Rated voltage 30 V Rated current 2 A	Length 10 m	2	3SX5601-2GA10		1	1 unit	41K
3SX5601-2GA03								

¹⁾ Not connectable via AS-i modules.

For monitoring unit, see pages 8/1, 9/1 and 11/1.

SIRIUS 3SE6 Non-Contact Safety Switches

Notes



Enclosures
General data

Empty enclosures **NEW**

Modules for enclosures
Two-hand operation consoles

the enclosure **NEW**

Accessories
Labels
1115 - Insert labels

120 - Labeling plates

132 - Other labels NEW

Actuators Enclosures

General data
Complete units

Pushbuttons and indicator lights in

Pushbuttons and indicator lights in the enclosure for AS-Interface **NEW**

118 - Label holders for labeling plates **NEW**

Labeling plates for enclosuresLabels for laser printers

Protection/access protection NEW

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

Miscellaneous accessories



	Price groups PG 41J, 41K, 42C	13
10/0		13
13/2	Introduction	13
	SIRIUS ACT pushbuttons and	
10/5	indicator lights	13
13/5	General data	
	Actuators and indicators, 22 mm, round, plastic, black	13
13/20	Complete units	13
13/27	Compact units	
13/30	Actuating and signaling elements	13
	Actuators and indicators, 22 mm,	13
	plastic with metal front ring, matte	13
13/42	Complete units	13
13/48	Compact units	13
13/51	Actuating and signaling elements	13
	Actuators and indicators, 22 mm,	13
	metal, shiny NEW	13
13/63	Complete units	13
13/69	Compact units	13
13/72	Actuating and signaling elements	-1
	Actuators and indicators, flat, 30 mm,	
10/04	metal, matte	
13/84	Actuating and signaling elements	10
	Actuators and indicators, customized designs	10
13/87	Special locks	10
13/88	Laser inscriptions	13
	Holders	4,
13/89	Holders without module	10
13/90	Holders with module	10
	Modules for actuators and indicators	10
13/91	Contact modules NEW	
13/95	LED modules	13
13/97	AS-Interface modules	
13/98	Electronic modules for IO-Link	13
13/98	Support terminals	
13/99	Electronic modules for	
	ID key-operated switches	13
13/100	Interface modules for PROFINET	10
13/100	Terminal modules	13

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.

Article No.	
3RA1943-2C 3RA1943-2B 3RA1953-2B 3RA1953-2N	NC01_00413

Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Actuating and signaling elements Contact blocks and lampholders Accessories and spare parts 154 Insert labels and insert caps Backing plates Mounting parts and components SIRIUS 3SE7 cable-operated switches 3SE7 metal enclosures SIRIUS 3SE2, 3SE3 foot switches Plastic and metal enclosures SIRIUS 8WD4 signaling columns General data 8WD42 signaling columns, 50 mm diameter 8WD44 signaling columns, 70 mm diameter SIRIUS 8WD5 integrated signal lamps 8WD53 integrated signal lamps, 70 mm diameter

Note:

Conversion tool, e.g. from 3SB3 to 3SU1, see www.siemens.com/sirius/conversion-tool

Introduction

Overview





	3SU1.0			3SU1.3		
Pushbuttons and indicator	lights					
Designs						
Nominal diameter Version	22 mm Plastic			22 mm Plastic with metal front rir	ng, matte	
	Complete units	Compact units	Actuating/ signaling elements	Complete units	Compact units	Actuating/ signaling elements
Actuators						
Pushbuttons	✓ see p. 13/20		✓ see p. 13/30	✓ see p. 13/42		✓ see p. 13/51
Illuminated pushbuttons	✓ see p. 13/20		✓ see p. 13/31	✓ see p. 13/42		✓ see p. 13/52
Mushroom pushbuttons	✓ see p. 13/22		✓ see p. 13/33	✓ see p. 13/44		✓ see p. 13/54
EMERGENCY STOP mushroom pushbuttons	✓ see p. 13/22		✓ see p. 13/34	✓ see p. 13/44		✓ see p. 13/55
Selector switches	✓ see p. 13/23		✓ see p. 13/36	✓ see p. 13/45		✓ see p. 13/57
Key-operated switches	✓ see p. 13/24		✓ see p. 13/38	✓ see p. 13/46		✓ see p. 13/59
ID key-operated switches			✓ see p. 13/40			✓ see p. 13/61
Twin pushbuttons			✓ see p. 13/32			✓ see p. 13/53
Toggle switches			✓ see p. 13/35			✓ see p. 13/56
Coordinate switches	✓ see p. 13/25		✓ see p. 13/41	✓ see p. 13/46		✓ see p. 13/62
Sensor switches		✓ see p. 13/28			✓ see p. 13/49	
Potentiometers Pushbuttons with		✓ see p. 13/28 ✓ see p. 13/29			✓ see p. 13/50 ✓ see p. 13/50	
extended stroke		✓ see p. 13/29			✓ see p. 13/50	
Indicators						
Indicator lights	✓ see p. 13/26		✓ see p. 13/41	✓ see p. 13/47		✓ see p. 13/62
Indicator lights in illuminated push-button design			✓ see p. 13/41			✓ see p. 13/62
Indicator lights with "traffic light" LED		✓ see p. 13/27			✓ see p. 13/48	
Acoustic signaling devices		✓ see p. 13/28			✓ see p. 13/49	
Contact modules						
Single-pole	✓ see p. 13/91					
LED modules						
Module with integrated LED	✓ see p. 13/95, 1	3/96, 13/111, 13/112				
Connections						
Screw terminals	/	/	✓	✓	1	/
Spring-type terminals	1		✓	1		1
Solder pins			✓			✓
AS-Interface	✓		✓	✓		✓
IO-Link			✓			✓

- ✓ Available
- -- Not available

Introduction







	3SU1.5			3SU1.6			3SB2
Pushbuttons and indica	tor lights						
Designs							
Nominal diameter Version	22 mm Metal, shiny Complete units	Compact units	Actuating/ signaling elements	30 mm Metal, matte, flat Complete units	Compact units	Actuating/ signaling elements	16 mm Plastic, round
Actuators			Ciomonio			Ciomento	
Pushbuttons Illuminated pushbuttons Mushroom pushbuttons EMERGENCY STOP mushroom pushbuttons Selector switches Key-operated switches Twin pushbuttons Toggle switches Coordinate switches Potentiometers	✓ see p. 13/63 ✓ see p. 13/65 ✓ see p. 13/65 ✓ see p. 13/66 ✓ see p. 13/67 ✓ see p. 13/67	 ✓ see p. 13/70	✓ see p. 13/73 ✓ see p. 13/75 ✓ see p. 13/76 ✓ see p. 13/78	 	 	✓ see p. 13/84 ✓ see p. 13/84 ✓ see p. 13/85 ✓ see p. 13/86	✓ see p. 13/150 ✓ see p. 13/150 ✓ see p. 13/150 ✓ see p. 13/150 ✓ see p. 13/151
Potentiometers Pushbuttons with extended stroke		✓ see p. 13/70 ✓ see p. 13/71					
Indicators							
Indicator lights Indicator lights with "traffic light" LED Acoustic signaling devices	✓ see p. 13/68 	✓ see p. 13/69 ✓ see p. 13/70	✓ see p. 13/83 			✓ see p. 13/86 	✓ see p. 13/149
Contact modules							
Single-pole	✓ see p. 13/91,	13/110					
LED modules							
Wedge bases Module with integrated LED	 ✓ see p. 13/95,	 13/96, 13/111, 13,	 /112				✓ see p. 13/159
Connections							
Plug-in connection Screw terminals Spring-type terminals Solder pins AS-Interface IO-Link	 / / /	 V V	- / / /	- / / /	- <i>y y y</i>	 V V	/ - /

✓ Available

-- Not available

Note:

Safety characteristics, see page 16/6.

AS-Interface solutions

Pushbuttons and indicator lights of the SIRIUS ACT series can be connected to the AS-Interface communication system quickly and easily with the help of various solutions.

For AS-Interface solutions, see Catalog IK PI.

AS-Interface EMERGENCY STOP according to ISO 13850

Using special modules, EMERGENCY STOP devices according to ISO 13850 can be directly connected through the standard AS-Interface with safety-related communication (see page 13/97).

AS-Interface enclosures

Enclosures with standard fittings are listed in this catalog. For customized enclosures, use the SIRIUS ACT Configurator to select the elements for equipping (see page 13/107).

Introduction









	3SU18	3SU18	3SE7	3SE29, 3SE39
	Enclosures	Two-hand operation consoles	Cable-operated switches	Foot switches
Enclosures				
Plastic Metal	✓	✓		✓
Actuators	<u> </u>	·		· ·
Pushbuttons	✓		7	/
Illuminated pushbuttons	,			
Mushroom pushbuttons EMERGENCY STOP	/	V		
mushroom pushbuttons	•	•	•	
Selector switches	✓			
Key-operated switches	✓			
Bowden wires			✓	
Indicators				
Indicator lights	✓		✓	
Acoustic signaling devices	✓			
Contact modules				
Single-pole	✓	✓		
Two-pole		✓	✓	✓
Three-pole			✓	✓
Four-pole			✓	✓
Connections				
Screw terminals	✓	✓	✓	✓
Pages	see p. 13/101	see p. 13/114	see p. 13/161	see p. 13/165
✓ Available Not available				





	_	
	8WD42, 8WD44	8WD53
	Signaling columns	Integrated signal lamps
Enclosures		
Plastic	✓	✓
Illumination		
Incandescent lamps	✓	✓
LEDs	✓	✓
Flashlights	✓	✓
Connections		
Screw terminals	✓	✓
Spring-type terminals	✓	
AS-Interface	✓	
Pages	see p. 13/167	see p. 13/176

✓ Available -- Not available

General data

Overview



SIRIUS ACT pushbuttons and indicator lights

SIRIUS ACT - commanding and signaling

SIRIUS ACT is a modular system of pushbuttons and indicator lights for front plate mounting and rear-mounted electrical modules. Thanks to SIRIUS ACT with PROFINET,

Extensive portfolio

- Customized variants, e.g. special tumbler arrangements, labeling, equipped enclosures
- Communication-enabled thanks to direct interfacing to AS-Interface, IO-Link or PROFINET

Diverse possible applications

- National and international approvals
- Many trade approvals
- Short delivery times thanks to global availability

Standards

- IEC/EN 60947-1
- IEC/EN 60947-5-1
- IEC/EN 60947-5-5 for EMERGENCY STOP devices

More information

Homepage, see www.siemens.com/sirius-act Industry Mall, see www.siemens.com/product?3SU1 Configurator, see www.siemens.com/sirius-act/configurator

Conversion tool, see www.siemens.com/sirius/conversion-tool

Manual, see https://support.industry.siemens.com/cs/ww/en/view/107542462

TIA Portal, see www.siemens.com/TIA

pushbuttons and indicator lights can be connected directly via PROFINET to the controller and HMI devices – including with safety functions. Engineering and commissioning are simplified no end by the TIA Portal.

Configurator



- Fast, simple selection by intuitive navigation through clearly-organized menus using drag & drop
- Image preview of selected components
- Inscription of pushbuttons and labeling plates using the interactive inscription tool
- Once created, a configuration can be ordered as often as required using the customer-specific article number and the CIN (Configuration Identification Number)
- Everything at a glance: Product data sheets, certificates, dimensional drawings, list prices, inscription tool

General data

Benefits

Design



SIRIUS ACT is available in four design lines.

Ruggedness



Degree of protection IP66, IP67, IP69 (IP69K)					
IP66					
6 = Protection against the ingress of dust 6 = Protection against powerful splashwater					
	IP67				
6 = Protection against the ingress of dust	7 = Protection against temporary immersion				

IP69 (IP69K)

6 = Protection against the ingress of dust

9/9K = Protection against water in high-pressure cleaning (approx. 80 bar) and high water jet temperatures (approx. 80 °C)

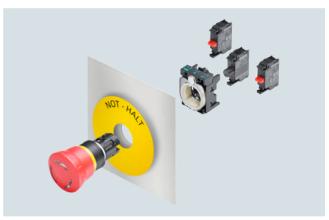
- Service life of 100 000 hours thanks to use of LEDs
- Media resistance (chemicals) thanks to solid stainless steel and high-grade plastics
- Mechanical endurance of 10 x 10⁶ operating cycles
- Suitable for use in extreme environments
- · Reliable, friction-locked fixing with just one screw
- · Design stability according to use
- Simple geometry for mounting holes

Communication



- Direct connection of the enclosure to AS-Interface or IO-Link
- Direct connection in the control cabinet to PROFINET, IO-Link or AS-Interface
- Can be integrated easily via the TIA Portal

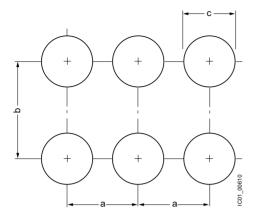
Easy handling



- Self-holding function of the actuator when mounting
- Twist prevention integrated into patented holder design
- · Stackable contact modules
- · Self-explanatory and fast installation using one hand
- Components can be mounted with holder removed
- No special tools required, simple size 2 screwdriver (cross-tip DIN ISO 87641PZD1, flat-head DIN ISO 2380-1 A/B 1x4.5) is sufficient

General data

Mounting dimensions



	Minimum clearance		
	а	b	С
	mm	mm	mm
22 mm plastic, plastic with metal front ring, metal for front plate thickness 1 6 mm			
3-slot holder	30	40	22.3+0.4
4-slot holder	40	40	22.3+0.4
30 mm metal, matte for front plate thickness 1 4 mm			
3-slot holder	40	45	30.5+0.5

Versions

SIRIUS ACT is a modular system of pushbuttons and indicator lights with which customized variants can be configured flexibly.

One command point comprises:

- An actuating or signaling element in front of the control panel
- A holder for securing behind the control panel
- Up to six contact modules and/or one LED module (mounted onto the holder), single-pole contacts can be stacked
- A comprehensive range of accessories for inscription/marking

Complete units

Complete units made up of an actuating or signaling element, holder and contact modules and/or LED modules are offered for the most frequent application cases. The electrical parts are integrated and only have to be wired.

Compact units

Signaling devices, sensor switches, pushbuttons with extended stroke and potentiometers are available as compact units. The electronic circuitry is already integrated in these devices, i.e. it is not necessary to snap on a contact or LED module.

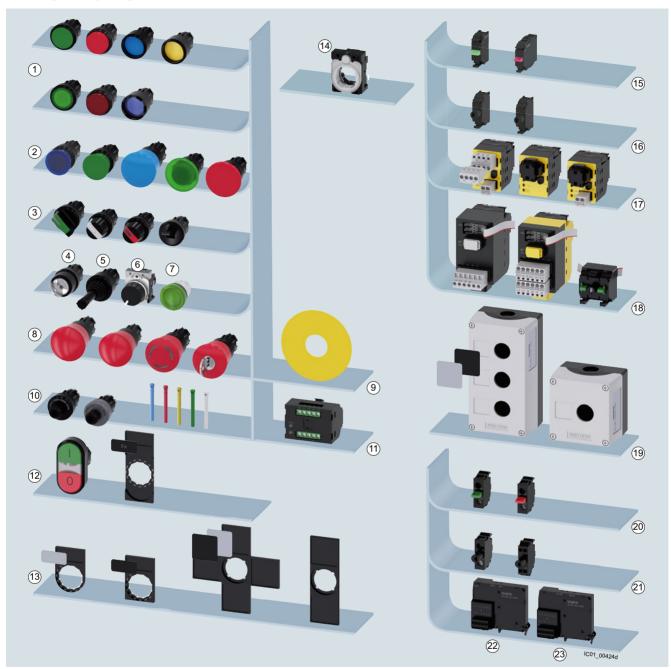




Complete units	Pages	Compact units	Pages
Plastic, black	13/20	Plastic, black	13/27
Plastic with metal front ring, matte	13/42	Plastic with metal front ring, matte	13/48
Metal, shiny	13/63	Metal, shiny	13/69

General data

Actuating and signaling elements



System overview of SIRIUS ACT pushbuttons and indicator lights from the plastic design line. Pushbuttons and indicator lights available in four design lines.

Actu	ating and signaling elements	Pages	Mod	ules for front plate mounting	Pages
1	Pushbuttons, illuminated pushbuttons	13/20	15	Contact modules	13/91
2	Mushroom pushbuttons	13/22	16	LED modules	13/95
3	Selector switches, toggle switches	13/45	17)	AS-Interface modules	13/97
4 5 6 7	Key-operated switches, coordinate switches, potentiometers, indicator lights	13/46	18)	Interface modules, fail-safe interface modules terminal modules	13/100
89	EMERGENCY STOP mushroom pushbuttons, backing plates	13/22	Encl	- osures	Pages
10(11)	ID key-operated switches with ID key, electronic modules	13/40	19	Enclosures	13/101
12)	Twin pushbuttons, label holders, labeling plates	13/32	Mod	ules for base mounting	Pages
Hold	ers and labels	Pages	20	Contact modules	13/110
13)	Label holders, labeling plates	13/115	21)	LED modules	13/111
14)	Holder	13/89	22	IO-Link modules	13/113
			23	AS-Interface modules	13/113

General data

SIRIUS ACT with PROFINET

SIRIUS ACT with PROFINET connects pushbuttons and indicator lights directly via PROFINET to the controller and HMI devices – including with safety functions.

With this solution designed for the control panel, up to 21 SIRIUS ACT devices can be connected to the controller via PROFINET. Integration of the EMERGENCY STOP mushroom pushbutton (SIL 3, PL e) is possible via PROFIsafe. Non SIRIUS ACT devices, e.g. position switches, can additionally be connected via the open, digital/analog interfaces (DI, DQ, AI).

The system is entirely integrated into TIA Portal and does not require any further addressing apart from the IP address for PROFINET.

Quick and easy installation with flat cables without special tools saves significantly on wiring outlay.



Interface modules/fail-safe interface modu	les		
	Interface module for PROFINET, 24 V DC 1 to 20 terminal modules can be connected	3SU1400-1L□10-□AA1	See page 13/100
Terminal modules	Terminal modules with 2 contacts	00114404 4884 70 47 84	0
	Terminal modules with 2 contacts Terminal modules with 2 contacts and integrated LED	3SU1401-1MA□0-1□A1 3SU1401-1MC□0-1□A1	See page 13/100
	Terminal modules with integrated LED	3SU1401-1ME□0-1□A1	
Accessories			
	Memory module For backing up the complete parameterization of the 3SK2 safety system without a PC/PG through the system interface	3RK3931-0AA00	See page 13/100
	LED modules for mounting on printed-circuit boards	3SU1401-3BA□0-5AA0	See page 13/96
	Flat ribbon cable 7 cores, length 10 m 7 cores, length 5 m	3SU1900-0KQ80-0AA0 3SU1900-0KP80-0AA0	See page 13/144

$\frac{1}{2}$

SIRIUS ACT Pushbuttons and Indicator Lights

General data

ID key-operated switches

Groups of employees or individuals can be authenticated by means of the ID key-operated switch. The ID key-operated switch is electronic and has four switch positions that are selected by keys with different codes. Using the four ID keys with different codes, it is possible to select 1 to 4 positions. The ID keys are color-coded (yellow, blue, red, green, white) so that they can be clearly differentiated at a glance and used flexibly thanks to four function levels.

RFID authentication solutions

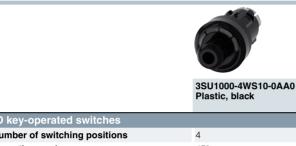
Groups of employees or individuals can be authenticated by means of the ID key-operated switch. Color-coded keys for easy distinction between users.

Different versions of ID key-operated switches are available depending on the following features:

- · Front ring material
- Conventional variant: 1 + 4 non-isolated outputs
- Variant with IO-Link: Option of individual coding

Operation:

Insert ID key, turn key to select the position. Standard keys can also be used in conjunction with the electronic module for ID key-operated switches with IO-Link function. The white ID key is supplied without coding.







3SU1500-0AA10-0AA0
Holder, plastic
Plastic with
metal front ring, matte

3SU1500-0AA10-0AA0 Holder, plastic

		metal front fing, matte
ID key-operated switches		
Number of switching positions	4	4
Operating angle	45°	45°
Operating principle	Latching	Latching
Switch position for key removal	Key removal possible in all 4 positions	Key removal possible in all 4 positions
Color	Black	Black
Pages	13/40	13/61





	3SU1400-1GC10-1AA0	3SU1400-1GD10-1AA0
Electronic modules for ID key-operated	switches	
Type of power supply		via IO-Link master
Protocol is supported IO-Link protocol		IO-Link protocol
Number of NO contacts	5	5
IO-Link transfer rate		COM2 (38.4 kBaud)
Pages	13/99	13/99



-			

3SU1900-0FU60-0AA0

3SU1900-0FV40-0AA0 3SU1900-0FW30-0AA0 3SU1900-0FX20-0AA0 3SU1900-0FY50-0AA0

		3SU1900-0FY50-0AA0
	ID keys ID group individual	ID keys
ID keys		
Material	Plastic	Plastic
Version of RFID coding	Individually coded, programmable several times	ID group 1 ID group 2 ID group 3 ID group 4
Color	White	Green Yellow Red Blue
Pages	13/140	13/140

General data

Article No. scheme

Device types



Actuating and signaling elements

Product versions		Article	e number					
SIRIUS ACT pushbuttons and i	ndicator lights	3SU1				- 00		
Device type	Actuating and signaling elements		0					
Material (front ring)	Plastic, black Metal, matte (front ring)/plastic, black (rosette, holder) Metal, matte (front ring)/metal (rosette, holder) Metal, shiny Metal, matte		0 3 4 5					
Illumination	Non-illuminated Illuminated/transparent Illuminated/non-illuminated		0 1 2					
Type of actuator/indicator	Pushbutton Mushroom pushbutton/EMERGENCY STOP mushroom pus Selector switch Twin pushbutton, toggle switch Key-operated switch Indicator light/acoustic signaling device Coordinate switch	hbutton/sen	sor switch	0 1 2 3 4/5 6 7	ı			
Design of the actuator/ acoustic signaling device	e.g. A = Flat]			
Function	e.g. B = Momentary contact							
Color/key removal position	e.g. 10 = Black, 20 = Red							
Connection type	None					0		
Module/holder equipment	e.g. A = Without module, without holder Y = Without module, with holder							
Marking	e.g. A = None, C = "I", D = "O", R = "R"							
Ambient condition	Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety						0 1 2	
Example		3SU1	0 0 0 -	0 4	B 1 0	- 0 A	A 0	

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

General data

Complete units

Product versions		Article	e number					
SIRIUS ACT pushbuttons and	indicator lights	3SU1] - 🗆 🗆		
Device type	Complete units		1					
Material (front ring)	Plastic, black Metal, matte (front ring)/plastic, black (rosette, holder) Metal, shiny Metal, matte		0 3 5 6		П			
Illumination	Non-illuminated Illuminated (with/without LED, various voltages)		0 1 8		П			
Type of actuator/indicator	Pushbutton Mushroom pushbutton/EMERGENCY STOP mushroom push Selector switch Twin pushbutton, toggle switch Key-operated switch Indicator light/acoustic signaling device Coordinate switch	button/sen:	sor switch	0 1 2 3 4/5 6 7	ı			
Design of the actuator/ acoustic signaling device	e.g. A = Flat							
Function	e.g. B = Momentary contact							
Color/key removal position	e.g. 10 = Black, 20 = Red					1		
Connection type	Screw terminals Spring-type terminals					1 3		
Module/holder equipment including contact material	e.g. A = Without module, with holder B = 1 NO contact with holder C = 1 NC contact with holder							
Marking	e.g. A = None, C = "I", D = "O", R = "R"							
Ambient condition	Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety						0 1 2	
Example		3SU1	1 0 0 -	0 .	A B 1 0	- 1 B	A 0	

Compact units

icator lights Compact units Plastic, black Metal, matte (front ring)/plastic, black (rosette, holder) Metal, shiny	3SU1	2 0	- 🗆			- 🗆		
Plastic, black Metal, matte (front ring)/plastic, black (rosette, holder) Metal, shiny		0						
Metal, matte (front ring)/plastic, black (rosette, holder) Metal, shiny								
Metal, matte		3 5 6						
Non-illuminated Illuminated/non-illuminated		0					П	
Pushbutton Sensor switch Potentiometers Indicator light/acoustic signaling device			0 1 2 6					
e.g. A = Flat								
e.g. B = 24 V AC/DC]			
e.g. 10 = Black, 20 = Red								
None Screw terminals M12 connection, 4-pin Spring-type terminals						0 1 2 3		
e.g. A = Without module, without holder B = 1 NO contact with holder C = 1 NC contact with holder								
e.g. A = None								
Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety							2	
	Illuminated/non-illuminated Pushbutton Sensor switch Potentiometers Indicator light/acoustic signaling device e.g. A = Flat e.g. B = 24 V AC/DC e.g. 10 = Black, 20 = Red None Screw terminals M12 connection, 4-pin Spring-type terminals e.g. A = Without module, without holder B = 1 NO contact with holder C = 1 NC contact with holder e.g. A = None Standard ATEX Zone 21-22: Protection from dust	Non-illuminated Illuminated/non-illuminated Pushbutton Sensor switch Potentiometers Indicator light/acoustic signaling device e.g. A = Flat e.g. B = 24 V AC/DC e.g. 10 = Black, 20 = Red None Screw terminals M12 connection, 4-pin Spring-type terminals e.g. A = Without module, without holder B = 1 NO contact with holder C = 1 NC contact with holder e.g. A = None Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety	Non-illuminated Illuminated/non-illuminated Pushbutton Sensor switch Potentiometers Indicator light/acoustic signaling device e.g. A = Flat e.g. B = 24 V AC/DC e.g. 10 = Black, 20 = Red None Screw terminals M12 connection, 4-pin Spring-type terminals e.g. A = Without module, without holder B = 1 NO contact with holder C = 1 NC contact with holder e.g. A = None Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety	Non-illuminated Illuminated 1 1	Non-illuminated 1	Non-illuminated Illuminated/non-illuminated Pushbutton Sensor switch Potentiometers Indicator light/acoustic signaling device e.g. A = Flat e.g. B = 24 V AC/DC e.g. 10 = Black, 20 = Red None Screw terminals M12 connection, 4-pin Spring-type terminals e.g. A = Without module, without holder B = 1 NO contact with holder C = 1 NC contact with holder e.g. A = None Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety	Non-illuminated Illuminated 0 1 1	Non-illuminated Illuminated 0 1 1

Note

The Article No. schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

General data

Modules for actuators and indicators

Product versions		Article number
SIRIUS ACT pushbuttons and ir	ndicator lights	3SU1
Device type	Modules for actuators and indicators	4
Material (front ring)	Plastic, black	0
Illumination	Non-illuminated Illuminated	0
Fastening method	Front plate mounting Base mounting Printed circuit board	1 2 3
Module type	Contact module LED module LED test module Support terminal AS-Interface module Electronic module for ID key-operated switches Interface modules for PROFINET Terminal modules	A B C D E G L M
Function/voltage	e.g. B = 24 V AC/DC	
Color	e.g. 10 = Black, 20 = Red	
Connection type	Screw terminals Screw terminals + insulation piercing method Spring-type terminals Spring-type terminals + insulation piercing method Socket terminals	1 2 3 4 5
Module equipment including contact material	e.g. A = None B = 1 NO contact, silver C = 1 NC contact, silver	
Marking	None	A
Ambient condition	Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety	0 1 2
Example		3SU1 4 0 0 - 1 A A 1 0 - 1 B A 0

Holders

Product versions		Article number
SIRIUS ACT pushbuttons and in	ndicator lights	3SU1
Device type	Holder	5
Material (front ring)	Plastic, black Metal, shiny	0 5
Illumination	Non-illuminated Illuminated	0
Fastening method	Without Front plate mounting	0 1
Holder type	3x A 4x B	A B
Function/voltage	Without 6 24 V AC/DC	A G
Color	e.g. 10 = Black, 20 = Red	
Connection type	None Screw terminals	1 2
Module equipment including contact material and slot	e.g. A = None B = 1 NO contact, silver C = 1 NC contact, silver	
Marking	None	A
Ambient condition	Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety	0 1 2
Example		3SU1 5 0 0 - 0 A A 1 0 - 0 A A 0

Note:

The Article No. schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

General data

Enclosures

Product versions		Article	number						
SIRIUS ACT pushbuttons and ind	icator lights	3SU1		- [- 00		
Device type	Enclosures		8						
Material (enclosure/front ring)	Plastic, black plastic Metal, shiny metal		0 5						
Number of command points	Command point		1						
	 Command points		6						
Type of enclosure	Surface-mounting 4-position selector switch and coordinate switch Palm pushbutton Two-hand operation console			0 1 2 3					
Command point	e.g. command point, inscription, module								
Communication capability	Without AS-i					0			
Ambient condition	Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety					0 1 2			
Mounting/connection of modules	None Front plate mounting, screw terminals Base mounting, screw terminals Front mounting, spring-type terminals Base mounting, spring-type terminals						0 1 2 3 4	I	
Cable exit from enclosure	None Direct entry of AS-i flat cable at top/on right AS-i insulation piercing method at top/on right						G	i	
Design of enclosure top	Center command point With recess for labeling plate With protective collar 4 additional holes (two-hand operation console) 8 additional premachined breaking points (two-hand opera	ation co	nsole)					A B C D E	
Color of enclosure top	Gray Yellow							1 2	
Example		3SU1	8 0 1	- 0	A A	0 0	- 0 A	A 2	

Accessories

Product versions		Article	Article number							
SIRIUS ACT pushbuttons and indica	ator lights	3SU1		- 000		- 0000				
Device type	Accessories		9							
Material	Plastic, black Metal/plastic Metal, shiny Metal, matte		0 3 5 6							
Illumination	Non-illuminated Illuminated		0							
Type of accessory (labels, protection, actuator, enclosure)	e.g. 0AB = Insert label									
Color	e.g. 10 = Black, 20 = Red									
Marking	e.g. 0AA = None 0AB = ON 0AT = EMERGENCY STOP									
Ambient condition	Standard ATEX Zone 21-22: Protection from dust ATEX Zone 1-2: Intrinsic safety					0 1 2				
Example		3SU1	9 0 0 -	- 0 A B	2 0	- 0 A B 0				

Note:

The Article No. schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

General data

Application

Environmental conditions

The pushbuttons and indicator lights are climate-proof (KTW 24) and suitable for standard industrial applications and operation in marine applications.

Simple electrical equipment

Non-illuminated actuators, contact modules, enclosures and special accessories can be classified as simple electrical equipment according to IEC 60079-11. This means that they may be used in intrinsically safe circuits in potentially explosive atmospheres. An overview of the devices and atmospheres can be found in Confirmation No. 3287.01.

Safety EMERGENCY STOP pushbuttons according to ISO 13850

For controls according to IEC/EN 60204-1, the SIRIUS ACT mushroom pushbuttons are suitable for use as safety EMERGENCY STOP pushbuttons.

Safety circuits

The IEC/EN 60947-5-1 standard requires positive opening. This means that for the purpose of personal safety, the reliable opening of NC contacts in all safety circuits is expressly prescribed for the electrical equipment of machines and is designated according to IEC 60947-5-1 with the symbol (\bigcirc) .

Category 4 according to EN ISO 13849-1 can be attained with the EMERGENCY STOP mushroom pushbuttons if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK11 safety relays or the 3RK3 Modular Safety System (see page 11/1 onwards) or matching units from the ASIsafe, SIMATIC or SINUMERIK product ranges.

The SIRIUS ACT pushbuttons and indicator lights can be connected to the AS-Interface communication system quickly and safely.

The following solutions are available:

- AS-Interface modules
- AS-Interface module in safety-related version for EMERGENCY STOP mushroom pushbutton
- Ready-fitted AS-Interface enclosures with 1 to 6 command points

IO-Link

The SIRIUS ACT pushbuttons and indicator lights can be connected to IO-Link quickly and safely. The connection is made via a special IO-Link module.

General data

Technical specifications

Configurator, see www.siemens.com/sirius-act/configurator
Conversion tool, see www.siemens.com/sirius/conversion-tool
Manual, see https://support.industry.siemens.com/cs/ww/en/view/107542462

Туре	3SU10AA 3SU10JA	3SU11AA 3SU11JA	3SU10AB 3SU10BB 3SU10CB 3SU10DB 3SU10JB	3SU11AB 3SU11BB 3SU11JB				
Product version	Pushbuttons							
Operating principle of the actuating element	Latching		Momentary contact					
Optional expansion of product by light source	No	Yes	No	Yes				
Mechanical endurance (operating cycles) typical	500 000		10 000 000	3 000 000				
Switching frequency maximum 1/h	1 800		3 600					
Shock resistance according to IEC 60068-2-27	Half-sine wave 50 g	g / 11 ms						
Vibration resistance according to IEC 60068-2-6	10 500 Hz: 5 <i>g</i>							
Degree of protection	IP66, IP67, IP69 (IP6	69K)						
Environmental category during operation According to IEC 60721	3M6, 3S2, 3B2, 3C3	3M6, 3S2, 3B2, 3C3, 3K6 (with a relative air humidity of 10 95%)						
Ambient temperature								
• During operation °C	-25 +70							
• During storage °C	-40 +80							

Туре	3SU1.00AA 3SU1.00BA 3SU1.00CA 3SU1.30AA 3SU1.30BA 3SU1.50AA 3SU1.50BA 3SU1.50CA	3SU1.50EA	3SU1.01AA 3SU1.01BA 3SU1.51AA 3SU1.51BA 3SU1.51CA	3SU1.00AD 3SU1.00BD 3SU1.00CD 3SU1.30AD 3SU1.30BD 3SU1.50AD 3SU1.50BD 3SU1.50CD	3SU1.50ED	3SU1.01AD 3SU1.01BD 3SU1.31AD 3SU1.31BD		
Product version	Mushroom push	buttons						
Operating principle of the actuating element	Latching			Momentary contact				
Optional expansion of product by light source	No		Yes	No		Yes		
Mechanical endurance (operating cycles) typical	500 000	300 000	500 000	10 000 000	300 000	3 000 000		
Switching frequency maximum 1/h	1 800			3 600	1 800	3 600		
Shock resistance according to IEC 60068-2-27	Half-sine wave 50	g / 11 ms						
Vibration resistance according to IEC 60068-2-6	10 500 Hz: 5 <i>g</i>							
Degree of protection	IP66, IP67, IP69 (IP69K)	IP65, IP67, IP69 (IP69K)	IP66, IP67, IP69	(IP69K)	IP65, IP67, IP69 (IP69K)	IP66, IP67, IP69 (IP69K)		
Environmental category during operation According to IEC 60721	3M6, 3S2, 3B2, 3C3, 3K6 (with a relative air humidity of 10 95%)							
Ambient temperature								
• During operation °C	-25 +70							
• During storage °C	-40 +80							

General data

Туре		3SU1J 3SU1H							
		3SU1G							
Product version		EMERGENCY	STOP mushroo	om pushbuttons	<u> </u>				
Mechanical endurance (operating cycles)		300 000							
Switching frequency maximum	1/h	600							
Shock resistance according to IEC 60068-2-27		Half-sine wave 50 g / 11 ms							
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>							
Degree of protection		IP66, IP67, IP6	9 (IP69K)						
Environmental category during operation According to IEC 60721		3M6, 3S2, 3B2	, 3C3, 3K6 (with	a relative air hur	midity of 10 95	5%)			
Ambient temperature									
During operation	°C	-25 +70							
During storage	°C	-40 +80							
Туре		3SU1.52A	3SU1.02A	3SU1.03E	3SU1.04B	3SU14B	3SU1.07A		
Product version		3SU1.52B 3SU1.52C 3SU1.52D 3SU1.52E	3SU1.02B 3SU1.02C 3SU1.32A 3SU1.32B 3SU1.32C	3SU1.33E 3SU1.53E	3SU1.04C 3SU1.04D 3SU1.04F 3SU1.04H 3SU1.04J 3SU1.05B 3SU1.05H 3SU1.05P 3SU1.05Q 3SU1.05S 3SU1.05S 3SU1.05S	3SU14C 3SU14D 3SU14F 3SU14H 3SU14J 3SU15H 3SU15K 3SU15K 3SU15S 3SU15G 3SU15G 3SU15G 3SU15S 3SU15S 3SU15T 3SU15T 3SU15X	3SU1.07B 3SU1.37A 3SU1.37B 3SU1.57A 3SU1.57B		
Product version		Selector Switch	nes	switches	Key-operated switches		switches		
Mechanical endurance (operating cycles)		300 000	1 000 000			300 000	250 000		
Switching frequency maximum	1/h	1 800					3 600		
Shock resistance according to IEC 60068-2-27		Half-sine wave	50 g / 11 ms						
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>							
Degree of protection		IP66, IP67, IP6	9 (IP69K)	IP66, IP67, IP69K	IP66, IP67, IP	69 (IP69K)	IP65, IP67		
Ambient temperature									
During operation	°C	-25 +70							

General data

Туре		3SU1400- .AA10-1.A0 3SU14 3SU14 1AA10	-1GA0, 00-	3SU1400- 1AA10-1HA0	3SU1400- .AA10-3.A0	3SU1400- 1AA10-3HA0	3SU1400- 3AA10-5.A0
Product version		Contact modules					
Rated insulation voltage	V	500					
Pollution degree		3					
Impulse withstand voltage,	kV	6					
rated value	ΚV	О					
Operational voltage type		AC/DC					
Operational voltage, rated value							
At AC at 50 Hz	V	5 500					
At DC	V	5 500					
Thermal current	Α	10					
Operational current, rated value							
• At AC-12							
- At 24 V	Α	10					
- At 230 V	Α	8					
• At AC-15							
- At 24 V	Α	6					
- At 230 V	Α	6 4			6		6
- At 400 V	Α	3					
- At 500 V	Α	1.4					
• At DC-12							
- At 24 V	A	10					
- At 48 V - At 110 V	A A	5 2.5					
- At 110 V - At 230 V	A	2.5		0.3	1	0.3	1
- At 400 V	A	0.3		0.3	'	0.3	1
- At 500 V	Α	0.3		0.2	0.3		
• At DC-13					0		
- At 24 V	Α	3					
- At 48 V	Α	1.5					
- At 110 V	Α	0.7		0.6	0.7	0.6	0.7
- At 230 V	Α	0.3					
- At 400 V	Α	0.1					
- At 500 V	Α	0.1					
Contact reliability		One contact failure per one contact failure per					
Mechanical endurance (operating cycles) typical		10 000 000			, ,	,	
Switching frequency maximum	1/s	3 600					
Fuse link version required for short-circuit	.,-	gG / Dz 10 A, quick-res	ponse /	Dz 10 A			
protection of the auxiliary switch with type of coordination 1		9	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Continuous current of miniature circuit breaker	Α	10					
C characteristic		10 500 11-7 5					
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 g	1 222				
Shock resistance according to IEC 60068-2-27		Half-sine wave 50 g / 1				0/	
Climate class during operation according to IEC 60721		3M6, 3S2, 3B2, 3C3, 3k no condensation permi			naity of 10 95	%,	
Ambient temperature							
During operation	°C	-25 +70					
During storage	°C	-40 +80					
Degree of protection							
Of enclosure		IP40					
Of the terminal		IP20					
Type of electrical connection		Screw terminals		(1)	Spring-type to	erminals C	
Type of connectable conductor cross-sections							(THT)
	mm²	2 x (0.5 0.75)					
Solid with end sleeve		2 x (0.5 0.75) 2 x (1.0 1.5)			 2 x (0.25 1.5		
Solid with end sleeveSolid without end sleeve	mm²	2 x (1.0 1.5)				;)	
Solid with end sleeveSolid without end sleeveFinely stranded with end sleeve	mm² mm²	2 x (1.0 1.5) 2 x (0.5 1.5)			2 x (0.25 0.7	5) (5)	
Type of connectable conductor cross-sections Solid with end sleeve Solid without end sleeve Finely stranded with end sleeve Finely stranded without end sleeve For AWG cables	mm² mm²	2 x (1.0 1.5)				5) (5)	

General data

Type		3SU14011		3SU14013		3SU14015
Product version		LED module				
Light source integrated in product		Yes				
Type of light source		LED				
Rated insulation voltage	V	320				
Pollution degree		3				
Impulse withstand voltage, rated value	kV	4				
Relative positive tolerance of the operational voltage	%	20				
Relative negative tolerance of the operational voltage	%	20				
Operating time typical	h	100 000				
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 g				
Shock resistance according to IEC 60068-2-27		Half-sine wave 50 g / 11 ms				
Environmental category during operation According to IEC 60721		3M6, 3S2, 3B2, 3K6 (with a no condensation permitted			ó,	
Ambient temperature						
During operation	°C	-25 +70				
During storage	°C	-40 +80				
Degree of protection of the terminal		IP20				
Type of electrical connection		Screw terminals	(1)	Spring-type terminals	8	Socket terminals (THT)

_			
Туре		3SU1400-1LK10-1AA1 3SU1400-1LK10-3AA1	
Product designation		Interface module	Fail-safe interface module
Operational voltage type		DC	
Supply voltage at DC rated value	V	24	
Current consumed, maximum	mΑ	150	
Product function at the interface 1 PROFINET IO-Device		Yes	
Type of interface Fast Ethernet interface		Yes	
Type of interface 1 RJ45 (Ethernet) interface		Yes	
Number of ports at the interface 1		1	
Number of modules per rack, maximum		20	
Number of digital outputs		0	1
Number of digital inputs		0	4
Software version required for STEP 7 in the TIA Portal		Integrated in the TIA Portal, version 14 SP1 or high	gher (HSP for V13 and V14)
SIL response limit (subsystem) according to IEC 62061			SIL CL 3
Performance level (PL) according to EN ISO 13849-1			е
Ambient temperature			
During operation	°C	6025	
During storage	°C	8040	
Degree of protection		IP20	
Connectable conductor cross-section			
• Solid			
- With end sleeves	mm²	0.2 2.5	
Finely stranded			
- With end sleeves		0.25 2.5	
 Without end sleeves 	mm ²	0.2 2.5	

Actuators and Indicators, 22 mm, Round, Plastic, Black Complete Units

Pushbuttons

Selection and ordering	ng data											
	Supply v		Color	Number	of		SD	Screw terminals		PU	PS*	PG
	for light	source at				NO			+	(UNIT, SET, M)		
	AC	DC		Contact modules	NO contacts	NC contacts				OE 1, 1V1)		
	V	V					d	Article No.	Price per PU			
Pushbuttons									p 0			
	Pushb	uttons w	ith flat b	utton, mo	omentary	contac	t					
	13		Black	1 0	1	0	>	3SU1100-0AB10-1BA0 3SU1100-0AB10-1CA0		1 1	1 unit 1 unit	41J 41J
			Dead	1	1	1	>	3SU1100-0AB10-1FA0		1	1 unit	41J
			Red	1 0	1	0	>	3SU1100-0AB20-1BA0 3SU1100-0AB20-1CA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3	3SU1100-0AB20-1FA0 3SU1100-0AB30-1BA0		1	1 unit 1 unit	41J 41J
			0	1	1	0	3	3SU1100-0AB30-1FA0		1	1 unit	41J
3SU1100-0AB40-1BA0			Green	I	1	1	>	3SU1100-0AB40-1BA0 3SU1100-0AB40-1FA0		1 1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3	3SU1100-0AB50-1BA0 3SU1100-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
			White	1	1	0		3SU1100-0AB60-1BA0		1	1 unit	41J
			Clear	1	1	0	3	3SU1100-0AB60-1FA0 3SU1100-0AB70-1BA0		1	1 unit 1 unit	41J 41J
					1	1	5	3SU1100-0AB70-1FA0		1	1 unit	41J
	Pushh	uttone w	Gray rith raise	1 d hutton	momen:	1 tary con:	5 tact	3SU1100-0AB80-1FA0		1	1 unit	41J
			Black	1	0	1	5	3SU1100-0BB10-1CA0		1	1 unit	41J
			Red	1	0	1	5	3SU1100-0BB10-1FA0 3SU1100-0BB20-1CA0		1	1 unit 1 unit	41J 41J
					1	1	5	3SU1100-0BB20-1FA0		1	1 unit	41J
30			Blue	1	1	0	5	3SU1100-0BB50-1BA0		1	1 unit	41J
3SU1100-0BB20-1CA0												
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Illumin with in	ated pus tegrated	shbutton:	s with fla	t button,	momen	tary	contact				
	24	24	Red	1	1	0	5	3SU1102-0AB20-1BA0		1	1 unit	41J
					0	1	>	3SU1102-0AB20-1CA0 3SU1102-0AB20-1FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3	3SU1102-0AB30-1BA0 3SU1102-0AB30-1FA0		1	1 unit 1 unit	41J
			Green	1	1	0	>	3SU1102-0AB30-1FA0 3SU1102-0AB40-1BA0		1	1 unit	41J 41J
3SU1102-0AB40-1BA0			Blue	1	1	0	>	3SU1102-0AB40-1FA0 3SU1102-0AB50-1BA0		1	1 unit 1 unit	41J 41J
3301102-0AB40-1BA0					1	1	3	3SU1102-0AB50-1FA0		1	1 unit	41J
			White	1	1	0	>	3SU1102-0AB60-1BA0 3SU1102-0AB60-1FA0		1 1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3	3SU1102-0AB70-1BA0 3SU1102-0AB70-1FA0		1	1 unit 1 unit	41J 41J
	110		Red	1	0	1	5	3SU1103-0AB20-1CA0		1	1 unit	41J
			Yellow	1	1	0	3	3SU1103-0AB20-1FA0 3SU1103-0AB30-1BA0		1	1 unit 1 unit	41J 41J
					1	1	5	3SU1103-0AB30-1FA0		1	1 unit	41J
			Green	1	1	0	3	3SU1103-0AB40-1BA0 3SU1103-0AB40-1FA0		1 1	1 unit 1 unit	41J 41J
3			Blue	1	1	0	5 5	3SU1103-0AB50-1BA0 3SU1103-0AB50-1FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	5	3SU1103-0AB60-1BA0		1	1 unit	41J
3SU1103-0AB20-1CA0			Clear	1	1	0	5	3SU1103-0AB60-1FA0 3SU1103-0AB70-1BA0		1	1 unit 1 unit	41J 41J
			Oledi	1	1	1	5	3SU1103-0AB70-1FA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Round, Plastic, Black Complete Units

Pushbuttons

		voltage t source	Color	Number	of		SD	Screw terminals	+	PU (UNIT,	PS*	PG
	at AC	at DC		Contact modules	NO contacts	NC contacts				SET, M)		
	V	V					d	Article No.	Price per PU			
Pushbuttons												
	with ii	nated pu ntegrate		ns with fla	t button	, momen	•					
	230		Red	1	0 1	1 1	5 3	3SU1106-0AB20-1CA0 3SU1106-0AB20-1FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1 1	0 1	5 5	3SU1106-0AB30-1BA0 3SU1106-0AB30-1FA0		1 1	1 unit 1 unit	41J 41J
			Green	1	1 1	0 1	3 3	3SU1106-0AB40-1BA0 3SU1106-0AB40-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1106-0AB40-1BA0			Blue	1	1 1	0 1	5 5	3SU1106-0AB50-1BA0 3SU1106-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
			White	1	1	0	5 5	3SU1106-0AB60-1BA0 3SU1106-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	5 5	3SU1106-0AB70-1BA0 3SU1106-0AB70-1FA0		1	1 unit 1 unit	41J 41J
								Spring-type terminals	<u></u>			
The state of the s	Pushb	outtons	with flat b	outton, m	omentary	y contac						
			Black	1 1	1 0 1	0 1 1	3 5 5	3SU1100-0AB10-3BA0 3SU1100-0AB10-3CA0 3SU1100-0AB10-3FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Red	1	0	1	5 5	3SU1100-0AB20-3CA0 3SU1100-0AB20-3FA0		1	1 unit 1 unit	41J 41J
34			Yellow	1	1	0	5 5	3SU1100-0AB30-3BA0 3SU1100-0AB30-3FA0		1	1 unit 1 unit	41J 41J
2011100 0AR20 2RA0			Green	1	1	0	5 5	3SU1100-0AB40-3BA0 3SU1100-0AB40-3FA0		1	1 unit 1 unit	41J 41J
3SU1100-0AB30-3BA0			Blue	1	1	0	5 5	3SU1100-0AB50-3BA0 3SU1100-0AB50-3FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	5 5	3SU1100-0AB60-3BA0 3SU1100-0AB60-3FA0		1	1 unit 1 unit	41J 41J
The state of the s	Illumii	nated pu	ishbuttor	ns with fla	t button	, momen	tary					
	24	24	Red	1	0 1	1	5 5	3SU1102-0AB20-3CA0 3SU1102-0AB20-3FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	5	3SU1102-0AB30-3BA0 3SU1102-0AB30-3FA0		1	1 unit 1 unit	41J 41J
34			Green	1	1	0	3 5	3SU1102-0AB40-3BA0 3SU1102-0AB40-3FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	5	3SU1102-0AB50-3BA0 3SU1102-0AB50-3FA0		1	1 unit 1 unit	41J 41J
3SU1102-0AB20-3CA0			White	1	1	0	3 5	3SU1102-0AB60-3BA0 3SU1102-0AB60-3FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	5 5	3SU1102-0AB70-3BA0 3SU1102-0AB70-3FA0		1	1 unit 1 unit	41J 41J
	110		Red	1	0	1	5	3SU1103-0AB20-3CA0 3SU1103-0AB20-3FA0			1 unit 1 unit	41J 41J
			Yellow	1	1	1	5	3SU1103-0AB30-3FA0		1	1 unit	41J
			Green	1	1	0	5 5	3SU1103-0AB40-3BA0 3SU1103-0AB40-3FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	1	5	3SU1103-0AB50-3FA0		1	1 unit	41J
			White	1	1 1	0 1	5 5	3SU1103-0AB60-3BA0 3SU1103-0AB60-3FA0		1 1	1 unit 1 unit	41J 41J
			Cloor	4	4	^	E	20111102 0A D70 2DA0		4	4 . mit	44.1

0

0

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5 5

5 5

5

5

5 5

5 5 3SU1103-0AB70-3BA0 3SU1103-0AB70-3FA0

3SU1106-0AB20-3CA0 3SU1106-0AB20-3FA0

3SU1106-0AB30-3FA0

3SU1106-0AB40-3BA0 3SU1106-0AB40-3FA0

3SU1106-0AB50-3FA0

3SU1106-0AB60-3BA0 3SU1106-0AB60-3FA0

3SU1106-0AB70-3BA0 3SU1106-0AB70-3FA0

230

Clear

Red

Yellow

Green

Blue

White

Clear

1

1

1

41J 41J

41J 41J

41J

41J 41J

41J

41J 41J

41J 41J

1 unit 1 unit

1 unit 1 unit

1 unit

1 unit 1 unit

1 unit

1 unit 1 unit

1 unit 1 unit

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Actuators and Indicators, 22 mm, Round, Plastic, Black Complete Units

Mushroom pushbuttons/EMERGENCY STOP mushroom pushbuttons

	I Inlotable -	Ni mah - ::	f			05		vou torminala		Dil	DC*	P
	Unlatching method	Number o Contact modules		ontacts	NC contac	SE ts	Scr	rew terminals	+	PU (UNIT, SET, M)	PS*	Ρ
						d	Arti	icle No.	Price per PU			
lushroom pushbutt	ons								po. 1 0			
	With red mu	shroom,	diamete	r 40 mi	m, latching	g						
	Pull to unlatch	1	0 1		1	3		U1100-1BA20-1CA0 U1100-1BA20-1FA0		1 1	1 unit 1 unit	4
			· ·		•			ring-type terminals				•
	Pull to unlatch	1	0		1	5	361	U1100-1BA20-3CA0		1	1 unit	4
	T dil to dillatori	•	1		1	5		U1100-1BA20-3FA0		i	1 unit	4
10111100 1DA00 00A0												
SU1100-1BA20-3CA0												
election and orderi	na data											
election and orden												
	Unlatching method	Number o			rking	SE	Scr	rew terminals	+	PU (UNIT,	PS*	F
		modules	con- co	on-						SET, M)		
			tacts ta	cts			Arti	icle No.	Price			
THE DOENOV STOP		-1-1	-			d	_		per PU			
EMERGENCY STOP n accordance with I	musnroom pu SO 13850 and	IEC 6094	rs, 7-5-5									
0T - H.	With red mu	shroom,	diamete	r 40 mi	m, with po		latch	ing				
LAH-TOY	Pull to unlatch	1 1	0 1	NIC								
	i dii to dilidtori				T-HALT			U1100-1HA20-1CH0		1	1 unit	
	, an to amaton		1 1		ERGENCY			U1100-1HA20-1CH0 U1100-1HA20-1FG0		1	1 unit 1 unit	
			1 1 1 1	EM STO NC	ERGENCY OP OT-HALT	→ 5→ 5	3SI	U1100-1HA20-1FG0 U1100-1HA20-1FH0		1	1 unit 1 unit	4
	Rotate to unlatch	1 (1 1 1 1 0 1	EM ST(NC	ERGENCY OP OT-HALT ne	→ 5→ 5→ 5	3SI 3SI	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0		1 1 1	1 unit 1 unit 1 unit	4
	Rotate to	1 (1 1 1 1	EM ST(NC	ERGENCY OP OT-HALT ne ERGENCY	→ 5→ 5→ 5	3SI 3SI	U1100-1HA20-1FG0 U1100-1HA20-1FH0		1	1 unit 1 unit	4
ISU1100-1HA20-1CH0	Rotate to	1 (1 1 1 1 1 0 1 0 1 0 1 0 1	EM STO NO No EM STO NO	ERGENCY OP OT-HALT INDE IERGENCY OP OT-HALT	 ⊙ 5 ⊙ 5 ⊙ 5 ⊙ 5 ⊙ 5 	3SI 3SI 3SI 3SI	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	4 4 4 4
	Rotate to	1 (1 1 1 1 0 1 0 1	EM STO NO No EM STO NO	ERGENCY OP OT-HALT ne ERGENCY OP OT-HALT IERGENCY	⇒ 5⇒ 5⇒ 5⇒ 5	3SI 3SI 3SI 3SI	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	4 4 4
SU1100-1HA20-1CH0	Rotate to	1 (1 1 1 1 1 0 1 0 1 0 1 0 1	EM STO NO EM STO EM STO AR	ERGENCY OP OT-HALT INDE ERGENCY OP OT-HALT IERGENCY OP RET	 ⊕ 5 	3SI 3SI 3SI 3SI 3SI	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	4 4 4 4 4
	Rotate to	1 (1 1 1 1 1 1 0 1 1 0 1 1 0 1 2	EM STO NO EM STO STO AR D'U	ERGENCY OP OT-HALT ne ERGENCY OP OT-HALT ERGENCY OP	 5 	351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1PG0		1 1 1 1 1	1 unit	4 4 4 4 4
	Rotate to	1 (1 1 1 1 1 1 0 1 1 0 1 1 0 1 1 0 2 0 1 1	EMM ST(NO NO EMM ST(NC EMM ST(AR D'U	ERGENCY OP OT-HALT INE IERGENCY OP OT-HALT ERGENCY OP RET JRGENCE ERGENCY OP	 5 	351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1CJ0		1 1 1 1 1 1	1 unit	4 4 4 4 4 4
	Rotate to	1	1 1 1 1 1 1 1 0 1 1 0 1 1 0 1 1 1 1 1 1	EMMSTIC	ERGENCY OP OT-HALT INDE ERGENCY OP OT-HALT IERGENCY OP RET JRGENCE IERGENCY OP	5 5 5 5 5 5 6 6 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1PG0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0		1 1 1 1 1 1 1 1	1 unit	444444444444444444444444444444444444444
	Rotate to	1	1 1 1 1 1 1 0 1 1 0 1 1 0 1 1 0 2 0 1 1	EMSTINC NO EMSTINC NC EMSTINC AR D'U EMSTINC AR	ERGENCY OP OT-HALT INE IERGENCY OP OT-HALT ERGENCY OP RET JRGENCE ERGENCY OP	 5 	351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CH0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0 U1100-1HB20-1FH0 U1100-1HB20-1FJ0		1 1 1 1 1 1	1 unit	444444444444444444444444444444444444444
	Rotate to	1	1 1 1 1 1 1 1 0 1 1 0 1 1 0 1 1 1 1 1 1	EMSTINC NO EMSTINC NC EMSTINC AR D'U EMSTINC AR	ERGENCY OP OT-HALT INE IERGENCY OP OT-HALT IERGENCY OP RET JIRGENCE IERGENCY OP OT-HALT RET	5 5 5 5 5 5 6 6 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1PG0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0	×	1 1 1 1 1 1 1 1	1 unit	4 4 4 4 4
NOT-HALA	Rotate to unlatch	1	1 1 1 1 1 1 1 0 1 1 0 1 1 0 1 1 1 1 1 1	EM STO NO EM STO AR D'U EM STO NO AR D'U	ERGENCY OP OT-HALT INE IERGENCY OP OT-HALT IERGENCY OP RET JIRGENCE IERGENCY OP OT-HALT RET	5 5 5 5 5 5 6 6 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	351 351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CH0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0 U1100-1HB20-1FH0 U1100-1HB20-1FJ0	○	1 1 1 1 1 1 1 1	1 unit	444444444444444444444444444444444444444
NOT-HALA	Rotate to unlatch Rotate to unlatch	1 (1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1	EM STO NO EM STO AR D'U EM STO NC AR D'U	ERGENCY OP OT-HALT INE ERGENCY OP OT-HALT IERGENCY OP RET JIRGENCE IERGENCY OP OT-HALT RET JIRGENCE IERGENCY OP OT-HALT IERGENCY OP OT-HALT IERGENCE	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	351 351 351 351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0 U1100-1HB20-1FH0 U1100-1HB20-1FJ0 ring-type terminals U1100-1HB20-3CH0 U1100-1HB20-3FH0	80	1 1 1 1 1 1 1 1 1	1 unit	444444444444444444444444444444444444444
NOT-HALA	Rotate to unlatch	1 (1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1	EM STO NO EM STO AR D'U EM STO NC AR D'U	ERGENCY OP OT-HALT INE ERGENCY OP OT-HALT IERGENCY OP RET JIRGENCE IERGENCY OP OT-HALT RET JIRGENCE IERGENCY OP OT-HALT IERGENCY OP OT-HALT IERGENCE	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	351 351 351 351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0 U1100-1HB20-1FH0 U1100-1HB20-1FJ0 ring-type terminals U1100-1HB20-3CH0 U1100-1HB20-3FH0		1 1 1 1 1 1 1 1 1	1 unit	444444444444444444444444444444444444444
NOT-HALA	Rotate to unlatch Rotate to unlatch	1 (1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1	EM STO NO EM STO AR D'U EM STO NC AR D'U	ERGENCY OP OT-HALT INE ERGENCY OP OT-HALT IERGENCY OP RET JIRGENCE IERGENCY OP OT-HALT RET JIRGENCE IERGENCY OP OT-HALT IERGENCY OP OT-HALT IERGENCE	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	351 351 351 351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0 U1100-1HB20-1FH0 U1100-1HB20-1FJ0 ring-type terminals U1100-1HB20-3CH0 U1100-1HB20-3FH0	88	1 1 1 1 1 1 1 1 1	1 unit	444444444444444444444444444444444444444
NOT-HALA	Rotate to unlatch Rotate to unlatch With red mu	1 shroom,	1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1	EM STO NO EM STO NC EM STO NC AR D'U NC NC NC	ERGENCY OP OT-HALT INE ERGENCY OP OT-HALT IERGENCY OP RET JIRGENCE IERGENCY OP OT-HALT RET JIRGENCE IERGENCY OP OT-HALT IERGENCY OP OT-HALT IERGENCE	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	351 351 351 351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0 U1100-1HB20-1FH0 U1100-1HB20-1FJ0 ring-type terminals U1100-1HB20-3CH0 U1100-1HB20-3FH0		1 1 1 1 1 1 1 1 1	1 unit	444444444444444444444444444444444444444
NOT-HALA	Rotate to unlatch Rotate to unlatch With red mu	1 shroom,	1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	EM STO NO EM STO NC EM STO NC AR D'U NC NC NC	ERGENCY OP OT-HALT INE ERGENCY OP OT-HALT ERGENCY OP RET JRGENCE JERGENCY OP OT-HALT RET JRGENCE JT-HALT IRGENCE OT-HALT IRGENCE OT-HALT IRGENCE OT-HALT IRGENCE OT-HALT IT-HALT IT-HA	5 5 5 5 5 6 ching	351 351 351 351 351 351 351 351 351 351	U1100-1HA20-1FG0 U1100-1HA20-1FH0 U1100-1HB20-1CF0 U1100-1HB20-1CG0 U1100-1HB20-1CH0 U1100-1HB20-1CJ0 U1100-1HB20-1FG0 U1100-1HB20-1FH0 U1100-1HB20-1FJ0 ring-type terminals U1100-1HB20-3CH0 U1100-1HB20-3FH0 u1100-1HB20-3FH0		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 unit	

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards. Certificate:



Actuators and Indicators, 22 mm, Round, Plastic, Black Complete Units

Selector switches

Selection and order	ing data										
	Operating principle	Color Supply voltage for light source	Number Contact modules		NC contacts	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
						d	Article No.	Price per PU			
Selector switches											
	Short black a	ctuator, 2 s	witch po	sitions,	can be i	illum	inated				
	Latching, 90°	White	1 2	1 1	0 1	>	3SU1100-2BF60-1BA0 3SU1100-2BF60-1MA0		1 1	1 unit 1 unit	41J 41J
		White 110 V	1	1	0	5	3SU1103-2BF60-1BA0		1	1 unit	41J
	Short black a	ctuator, 3 s	witch po	sitions,	can be i	illum	inated				
3SU1100-2BF60-1BA0	Momentary contact, 2x45°, reset from left + right	White	2	2	2	3	3SU1100-2BM60-1LA0 3SU1100-2BM60-1NA0		1 1	1 unit 1 unit	41J 41J
	Latching, 2x45°	White	2	2 2	2 0	>	3SU1100-2BL60-1LA0 3SU1100-2BL60-1NA0		1 1	1 unit 1 unit	41J 41J
							Spring-type terminals	8			
	Short black a	ctuator, 2 s	witch po	sitions,	can be i	illum					
	Latching, 90°	White	1 2	1	0	5 5	3SU1100-2BF60-3BA0 3SU1100-2BF60-3MA0		1	1 unit 1 unit	41J 41J
	Short black a	ctuator, 3 s	witch po	sitions,	can be i	illum	ninated				
3SU1100-2BL60-1NA0	Momentary contact, 2x45°, reset from left + right	White	2	2 2	2 0	5 5	3SU1100-2BM60-3LA0 3SU1100-2BM60-3NA0		1	1 unit 1 unit	41J 41J
390 I IOO-5RF00- INAO											
	Latching, 2x45°	White	2	2 2	2 0	5 5	3SU1100-2BL60-3LA0 3SU1100-2BL60-3NA0		1 1	1 unit 1 unit	41J 41J

Actuators and Indicators, 22 mm, Round, Plastic, Black Complete Units

Key-operated switches

Selection and orderi	ng data											
	Operating principle	Switch position for key removal	Number Contact modules	NO	NC con- tacts	Num- ber of keys	SD	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
							d	Article No.	Price per PU			
Key-operated switch	es								·			
100	With RONIS	lock, SB30	0, 2 swite	ch positi	ions							
	Latching, 90° (10:30/ 1:30 o'clock)	O+I	1	1	0	2 2	•	3SU1100-4BF11-1BA0 3SU1100-4BF11-1FA0		1 1	1 unit 1 unit	41J 41J
3	With RONIS	lock, SB30	0, 3 swite	ch positi	ions							
3SU1100-4BF11-1BA0	Latching, 2x45° (10:30/ 1:30 o'clock)	I+O+II	2	2	0	2	5	3SU1100-4BL11-1NA0		1	1 unit	41J
								Spring-type terminals	8			
	With RONIS	lock, SB30	0, 2 swite	h positi	ons							
3SU1100-4BL11-1NA0	Latching, 90° (10:30/ 1:30 o'clock)	O+I	1	1	0	2 2	5 5	3SU1100-4BF11-3BA0 3SU1100-4BF11-3FA0		1 1	1 unit 1 unit	41J 41J
	With CES lo	ck, SSG10	, 2 switc	h positio	ons							
	Latching, 90° (10:30/ 1:30 o'clock)	O+I	1	1	1	2	5	3SU1100-5BF11-3FA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Round, Plastic, Black Complete Units

Coordinate switches

Selection and orderi	ng data								
	Number of NO contacts (1 per direction)	Operating principle	Direction of actuation	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Coordinate switches						po o			
	Without mech	anical interlock, 2	switch positions	;					
	2	Momentary contact	Horizontal Vertical	5 5	3SU1100-7AC10-1NA0 3SU1100-7AD10-1NA0		1 1	1 unit 1 unit	41J 41J
		Latching	Horizontal Vertical	5 5	3SU1100-7AA10-1NA0 3SU1100-7AB10-1NA0		1	1 unit 1 unit	41J 41J
3SU1100-7AC10-1NA0									
- Carrier		anical interlock, 4	•						
	4	Momentary contact		3	3SU1100-7AF10-1QA0		1	1 unit	41J
		Latching	Horizontal/Vertical	5	3SU1100-7AE10-1QA0		1	1 unit	41J
3SU1100-7AF10-1QA0	14//4/	to all frate ride also O are							
		cal interlock, 2 sw	•	_	20114422 70042 41142			4 0	44.1
	2	Momentary contact	Horizontai Vertical	5 5	3SU1100-7BC10-1NA0 3SU1100-7BD10-1NA0		1 1	1 unit 1 unit	41J 41J
		Latching	Horizontal Vertical	5 5	3SU1100-7BA10-1NA0 3SU1100-7BB10-1NA0		1	1 unit 1 unit	41J 41J
3SU1100-7BA10-1NA0									
1		cal interlock, 4 sw	-	_	00114400 70540 40 10		,	a 0	44.1
	4	Momentary contact Latching	Horizontal/Vertical Horizontal/Vertical	5	3SU1100-7BF10-1QA0 3SU1100-7BE10-1QA0		1	1 unit 1 unit	41J 41J
3SU1100-7BF10-1QA0									

Actuators and Indicators, 22 mm, Round, Plastic, Black Complete Units

Indicator lights

Selection and orderi	ng data									
	Operational value	voltage at DC, rated value	Color of actuating element	of light source	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	٧	٧			d	Article No.	Price per PU			
Indicator lights	•	•					регто			
	With smoo	oth lens and	integrated l	LED						
	24	24	Red	Red	>	3SU1102-6AA20-1AA0		1	1 unit	41J
			Yellow	Yellow	>	3SU1102-6AA30-1AA0		1	1 unit	41J
			Green	Green	>	3SU1102-6AA40-1AA0		1	1 unit	41J
			Blue	Blue	>	3SU1102-6AA50-1AA0		1	1 unit	41J
			White	White	>	3SU1102-6AA60-1AA0		1	1 unit	41J
A			Clear	White	>	3SU1102-6AA70-1AA0		1	1 unit	41J
3SU1102-6AA30-1AA0										
	110		Amber	Amber	5	3SU1103-6AA00-1AA0		1	1 unit	41J
0 0 0 0			Red	Red	>	3SU1103-6AA20-1AA0		1	1 unit	41J
			Yellow	Yellow	>	3SU1103-6AA30-1AA0		1	1 unit	41J
			Green	Green	>	3SU1103-6AA40-1AA0		1	1 unit	41J
			Blue	Blue	3	3SU1103-6AA50-1AA0		1	1 unit	41J
			White	White	>	3SU1103-6AA60-1AA0		1	1 unit	41J
			Clear	White	3	3SU1103-6AA70-1AA0		1	1 unit	41J
	230		Amber	Amber	5	3SU1106-6AA00-1AA0		1	1 unit	41J
3SU1106-6AA50-1AA0			Red	Red	>	3SU1106-6AA20-1AA0		1	1 unit	41J
			Yellow	Yellow	>	3SU1106-6AA30-1AA0		1	1 unit	41J
			Green	Green	>	3SU1106-6AA40-1AA0		1	1 unit	41J
			Blue	Blue	3	3SU1106-6AA50-1AA0		1	1 unit	41J
			White	White	>	3SU1106-6AA60-1AA0		1	1 unit	41J
			Clear	White	3	3SU1106-6AA70-1AA0		1	1 unit	41J
						Spring-type terminals	<u> </u>			
The same of the sa	24	24	Red	Red	3	3SU1102-6AA20-3AA0		1	1 unit	41J
0 0 0 0			Yellow	Yellow	5	3SU1102-6AA30-3AA0		1	1 unit	41J
			Green	Green	3	3SU1102-6AA40-3AA0		1	1 unit	41J
			Blue	Blue	5	3SU1102-6AA50-3AA0		1	1 unit	41J
			White	White	3	3SU1102-6AA60-3AA0		1	1 unit	41J
			Clear	White	5	3SU1102-6AA70-3AA0		1	1 unit	41J
	110		Red	Red	5	3SU1103-6AA20-3AA0		1	1 unit	41J
00111100 01110 0110			Yellow	Yellow	5	3SU1103-6AA30-3AA0		1	1 unit	41J
3SU1102-6AA40-3AA0			Green	Green	5	3SU1103-6AA40-3AA0		1	1 unit	41J
16 1/2/			Blue	Blue	5	3SU1103-6AA50-3AA0		1	1 unit	41J
			White	White	5	3SU1103-6AA60-3AA0		1	1 unit	41J
	000		Clear	White	5	3SU1103-6AA70-3AA0		1	1 unit	41J
	230		Red	Red	5	3SU1106-6AA20-3AA0		1	1 unit	41J
			Yellow	Yellow	5 5	3SU1106-6AA30-3AA0		1 1	1 unit	41J
1/4 2			Green	Green	5 5	3SU1106-6AA40-3AA0			1 unit	41J
4			Blue White	Blue White	5	3SU1106-6AA50-3AA0 3SU1106-6AA60-3AA0		1 1	1 unit	41J 41J
3SU1106-6AA60-3AA0			Clear	White	5 5	3SU1106-6AA70-3AA0		1	1 unit 1 unit	41J
			Oleai	AALIIFG	J	3301100-0AA70-3AA0		'	i ullit	410

Actuators and Indicators, 22 mm, Round, Plastic, Black Compact Units

Indicator lights

Selection and ordering	ng data									
	Operational value	oltage at DC, rated value	Color of actuating element	of light source	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V			d	Article No.	Price per PU			
Indicator lights NEW										
	24	24	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	3 • • • 3	3SU1201-6AB00-1AA0 3SU1201-6AB20-1AA0 3SU1201-6AB30-1AA0 3SU1201-6AB40-1AA0 3SU1201-6AB50-1AA0 3SU1201-6AB60-1AA0 3SU1201-6AB70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1201-6AB50-1AA0										
	110	110	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	5 3 3 5 3 5	3SU1201-6AC00-1AA0 3SU1201-6AC20-1AA0 3SU1201-6AC30-1AA0 3SU1201-6AC40-1AA0 3SU1201-6AC50-1AA0 3SU1201-6AC60-1AA0 3SU1201-6AC70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1201-6AC30-1AA0										
	230	230	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	5 3 3 5 3 5	3SU1201-6AF00-1AA0 3SU1201-6AF20-1AA0 3SU1201-6AF30-1AA0 3SU1201-6AF40-1AA0 3SU1201-6AF50-1AA0 3SU1201-6AF60-1AA0 3SU1201-6AF70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1201-6AF30-1AA0 Indicator lights with "	traffic light	" I FD								
- Indicate Ingine With	6 24	6 24	Clear	Red/Yellow/	>	3SU1201-6AG24-1AA0		1	1 unit	41J
	110		Clear	Green Red/Yellow/	>	3SU1201-6AC24-1AA0		1	1 unit	41J
3SU1201-6AG24-1AA0	230		Clear	Green Red/Yellow/ Green	•	3SU1201-6AF24-1AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Round, Plastic, Black **Compact Units**

Acoustic signaling devices/sensor switches/potentiometers

Selection and ordering data

	J								
	Operational volta at AC, rated value	ge at DC, rated value	Volume level	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V	dB	d	Article No.	Price per PU			
Acoustic signaling de	evices								
3SU1200-6KB10-1AA0	24 110 230	24	90 90 90	5 5 5	3SU1200-6KB10-1AA0 3SU1200-6KC10-1AA0 3SU1200-6KF10-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J

Selection and ordering data

	Operating principle	Number of NO contacts	Number of NC contacts	Color	SD	M12 connector, 4-pin		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
or switches										
	Whether integrated installed as a door of switch is suitable for	pening conta	ct, the capac	itive sensor						



Senso

industrial environments.

The switch is actuated by simple contact with the hand or other part of the body (i.e. without the application of pressure). As a result, these switches are rugged, extremely durable and have the highest possible degree of protection IP66, IP67, IP69 (IP69K).

Without pressure 0 Black 1

3SU1200-1SK10-2SA0

1 unit 41J

Optional accessories

- "Protection for sensor switches", see page 13/136
- "Connectors for sensor switches, angled socket with screw terminal connection", see page 13/144

Selection and ordering data

	Version of actuating element	Operating principle	Adjustable resistance	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
			kΩ	d	Article No.	Price per PU			
Potentiometers									
3SU1200-2PQ10-1AA0	Rotary knob	Stepless	1 2.2 4.7 10 47 100 470	5	3SU1200-2PQ10-1AA0 3SU1200-2PW10-1AA0 3SU1200-2PR10-1AA0 3SU1200-2PS10-1AA0 3SU1200-2PT10-1AA0 3SU1200-2PU10-1AA0 3SU1200-2PV10-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J

Labeling plates for potentiometers, see page 13/132.

Actuators and Indicators, 22 mm, Round, Plastic, Black Compact Units

Pushbuttons with extended stroke

Selection and ordering	ng data								
	Version		Color	SD	Article No.	Price per PU		PS*	PG
Pushbuttons with ext	ended stroke			d					
T delibations with oxi	For actuating relays, car	n only be combined w	ith extension						
	plunger, no contact mod Pushbuttons with flat b	lule or LED module re	quired Red	5	3SU1200-0EB20-0AA0		1	1 unit	41J
			Green	5	3SU1200-0EB40-0AA0		1	1 unit	41J
3SU1200-0EB20-0AA0	Pushbuttons with raise	nd button	Black	>	3SU1200-0FB10-0AA0		1	1 unit	41J
	Pusnbuttons with raise	d button	Black Red	5	3SU1200-0FB10-0AA0		1	1 unit 1 unit	41J 41J
3SU1200-0FB10-0AA0		_							
3SU1201-0EB70-0AA0	Pushbuttons with flat t for insertion of insert la	ransparent button abels	Red Clear	>	3SU1201-0EB20-0AA0 3SU1201-0EB70-0AA0		1 1	1 unit 1 unit	41J 41J
	Version	Material	Color	SD	Article No.	Price	PU	PS*	PG
	VOISION	Waterial	00101	OD	Autoro Ivo.	per PU	(UNIT,	10	1 0
				d			SET, M)		
Accessories									
3SU1900-0KG10-0AA0	Extension plungers For compensation of the distance between the pushbutton and the unlatching button of an overload relay	Plastic	Gray	•	3SU1900-0KG10-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Pushbuttons

Selection and ordering	ng data								
	Version of actuating element Front ring version	Operating principle Unlatching method	Color, marking	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons									
3SU1000-0AB20-0AD0	Pushbuttons with flat button Standard	Momentary contact	Black, "O" Red Red, "O" Yellow Green Green, "I" Blue Blue, "R" White, "I" Clear Gray	5	3SU1000-0AB10-0AA0 3SU1000-0AB10-0AD0 3SU1000-0AB20-0AA0 3SU1000-0AB20-0AD0 3SU1000-0AB30-0AA0 3SU1000-0AB40-0AA0 3SU1000-0AB40-0AC0 3SU1000-0AB50-0AA0 3SU1000-0AB50-0AA0 3SU1000-0AB60-0AA0 3SU1000-0AB60-0AA0 3SU1000-0AB60-0AA0 3SU1000-0AB60-0AA0		1 1 1 1 1 1 1 1 1 1 1	1 unit	41J 41J 41J 41J 41J 41J 41J 41J 41J 41J
3SU1000-0AA30-0AA0		Latching Push to unlatch	Black Red Yellow Green Blue White	3	3SU1000-0AA10-0AA0 3SU1000-0AA20-0AA0 3SU1000-0AA30-0AA0 3SU1000-0AA40-0AA0 3SU1000-0AA50-0AA0 3SU1000-0AA60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
ASUHOOO ORBOO OA AO	Pushbuttons with raised button Standard	Momentary contact	Black Red Yellow Green Blue White	5	3SU1000-0BB10-0AA0 3SU1000-0BB20-0AA0 3SU1000-0BB30-0AA0 3SU1000-0BB40-0AA0 3SU1000-0BB50-0AA0 3SU1000-0BB60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1000-0BB30-0AA0 3SU1000-0CB40-0AA0	Pushbuttons with flat button Raised	Momentary contact	Black Red Yellow Green Blue White	3 5 5 5 5 5 5	3SU1000-0CB10-0AA0 3SU1000-0CB20-0AA0 3SU1000-0CB30-0AA0 3SU1000-0CB40-0AA0 3SU1000-0CB50-0AA0 3SU1000-0CB60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1000-0DB50-0AA0	Pushbuttons with flat button Raised, castellated	Momentary contact	Black Red Yellow Green Blue White	3 5 5 5 5 5 5	3SU1000-0DB10-0AA0 3SU1000-0DB20-0AA0 3SU1000-0DB30-0AA0 3SU1000-0DB40-0AA0 3SU1000-0DB50-0AA0 3SU1000-0DB60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

41J

1 unit

SIRIUS ACT Pushbuttons and Indicator Lights

Pushbuttons

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

	Version of actuating element	Operating principle Unlatching method	Color	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	Front ring version	ormatorming mounda					SÉT, M)		
Pushbuttons				d					
Pushbuttons	Illuminated pushbuttons	Momentary contact	Amber	5	3SU1001-0AB00-0AA0		1	1 unit	41J
	with flat button	momentary contact	Red Yellow	>	3SU1001-0AB20-0AA0		1 1	1 unit 1 unit	41J
	Standard		Green	>	3SU1001-0AB30-0AA0 3SU1001-0AB40-0AA0		1	1 unit	41J 41J
			Blue White	>	3SU1001-0AB50-0AA0 3SU1001-0AB60-0AA0		1 1	1 unit 1 unit	41J 41J
			Clear	>	3SU1001-0AB70-0AA0		1	1 unit	41J
3SU1001-0AB40-0AA0									
		Latching Push to unlatch	Red Yellow	>	3SU1001-0AA20-0AA0 3SU1001-0AA30-0AA0		1 1	1 unit 1 unit	41J 41J
		r usir to unlateri	Green Blue	>	3SU1001-0AA40-0AA0 3SU1001-0AA50-0AA0		1	1 unit 1 unit	41J 41J
			White	>	3SU1001-0AA60-0AA0		1	1 unit	41J
			Clear	•	3SU1001-0AA70-0AA0		1	1 unit	41J
00114004 04 400 04 40									
3SU1001-0AA20-0AA0	Illuminated pushbuttons	Momentary contact	Red	>	3SU1001-0BB20-0AA0		1	1 unit	41J
	with raised button	,	Yellow Green	>	3SU1001-0BB30-0AA0 3SU1001-0BB40-0AA0		1	1 unit 1 unit	41J 41J
	Standard		Blue	>	3SU1001-0BB50-0AA0		1	1 unit	41J
			Clear	3	3SU1001-0BB70-0AA0		1	1 unit	41J
3SU1001-0BB70-0AA0			D.						
20	Illuminated pushbuttons with flat button	Momentary contact	Blue	5	3SU1001-0DB50-0AA0		1	1 unit	41J
	Raised, castellated								
3SU1001-0DB50-0AA0									
	Stop pushbuttons	Momentary contact, latching by pressing		3	3SU1000-0HC10-0AA0		1	1 unit	41J
	Standard	in and turning to the							
		right,							

rotate-to-unlatch to

Red

3SU1000-0HC20-0AA0

3SU1000-0HC10-0AA0

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Twin pushbuttons

	Version of actuating element	Operating principle	Color	Marking Symbol No.	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Twin pushbuttons	-		0 /D /		0	20114222 24 24 24 24			4 9	44.1
	Twin pushbuttons	Momen- tary	Green/Red	"I"/"O"	3	3SU1000-3AB42-0AA0 3SU1000-3AB42-0AK0		1 1	1 unit 1 unit	41J 41J
	flat, flat	contact	White/Black	 "I"/"O"	▶	3SU1000-3AB61-0AA0 3SU1000-3AB61-0AK0		1 1	1 unit 1 unit	41J 41J
			White/White	"-"/"+" Arrows, hor. Arrows, vert.		3SU1000-3AB66-0AA0 3SU1000-3AB66-0AL0 3SU1000-3AB66-0AM0 3SU1000-3AB66-0AN0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
+			Black/Black	 O O 5264/5265 (IEC 60417)	3 3	3SU1000-3AB11-0AA0 3SU1000-3AB11-0AQ0		1 1	1 unit 1 unit	41J 41J 41J
3SU1000-3AB66-0AL0	Twin pushbuttons	Momen- tary	Green/Red	 "I"/"O"	3	3SU1000-3BB42-0AA0 3SU1000-3BB42-0AK0		1 1	1 unit 1 unit	41J 41J
	flat, raised	contact	White/Black	 " "/"O"	5	3SU1000-3BB61-0AA0 3SU1000-3BB61-0AK0		1	1 unit 1 unit	41J 41J
3SU1000-3BB42-0AK0	Twin	Momen-	Green/Red		•	3SU1001-3AB42-0AA0		1	1 unit	41J
	pushbuttons flat, flat,	tary contact		"I"/"O" Arrows, vert.	3	3SU1001-3AB42-0AK0 3SU1001-3AB42-0AN0		1 1	1 unit 1 unit	41J 41J
	illuminated		White/Black	 "I"/"O"	>	3SU1001-3AB61-0AA0 3SU1001-3AB61-0AK0		1 1	1 unit 1 unit	41J 41J
			White/White	"-"/"+" Arrows, vert. Symbols "Circular saw blade"/ "Tilt tipper"	5 5 5	3SU1001-3AB66-0AA0 3SU1001-3AB66-0AL0 3SU1001-3AB66-0AN0 3SU1001-3AB66-0AP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1001-3AB42-0AN0										
	Twin pushbuttons	Momen- tary	Green/Red	 "I"/"O"	3	3SU1001-3BB42-0AA0 3SU1001-3BB42-0AK0		1 1	1 unit 1 unit	41J 41J
	flat, raised, illuminated	contact	White/Black	 "I'/"O"	3	3SU1001-3BB61-0AA0 3SU1001-3BB61-0AK0		1	1 unit 1 unit	41J 41J
3SU1001-3BB61-0AK0										

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Mushroom pushbuttons

	Version of	Operating principle	Color mark	ina SD	Article No.	Price	PU	PS*	PG
	actuating element	Unlatching method	Color, mark	d d	Article No.	per PU		гэ	rd
Mushroom pushbutt	ons			<u>u</u>					
	Mushroom pushbuttons 30 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	>	3SU1000-1AD10-0AA0 3SU1000-1AD20-0AA0 3SU1000-1AD30-0AA0 3SU1000-1AD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red Yellow	5	3SU1000-1AA10-0AA0 3SU1000-1AA20-0AA0 3SU1000-1AA30-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1000-1AD20-0AA0									
	Mushroom pushbuttons 40 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3	3SU1000-1BD10-0AA0 3SU1000-1BD20-0AA0 3SU1000-1BD30-0AA0 3SU1000-1BD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red Red "O" Yellow	3	3SU1000-1BA10-0AA0 3SU1000-1BA20-0AA0 3SU1000-1BA20-0AD0 3SU1000-1BA30-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1000-1BD40-0AA0			Green	5	3SU1000-1BA40-0AA0		1	1 unit	41J
	Mushroom pushbuttons 60 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3 5 5 3	3SU1000-1CD10-0AA0 3SU1000-1CD20-0AA0 3SU1000-1CD30-0AA0 3SU1000-1CD40-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	2 pooliione	Latching Pull to unlatch	Black Red	5 5	3SU1000-1CA10-0AA0 3SU1000-1CA20-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1000-1CD10-0AA0	Mushroom	Momentary contact	Red	5	3SU1001-1AD20-0AA0		1	1 unit	41J
	pushbuttons 30 mm diameter, 2 positions, illuminated		Yellow Green Blue White Clear	3 3 5 3 5	3SU1001-1AD30-0AA0 3SU1001-1AD40-0AA0 3SU1001-1AD50-0AA0 3SU1001-1AD60-0AA0 3SU1001-1AD70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1001-1AD30-0AA0		Latching Pull to unlatch	Red Yellow Green Blue Clear	3 5 3 5	3SU1001-1AA20-0AA0 3SU1001-1AA30-0AA0 3SU1001-1AA40-0AA0 3SU1001-1AA50-0AA0 3SU1001-1AA70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	Mushroom pushbuttons 40 mm diameter, 2 positions,	Momentary contact	Yellow Green White Clear	3 3 3 3	3SU1001-1BD30-0AA0 3SU1001-1BD40-0AA0 3SU1001-1BD60-0AA0 3SU1001-1BD70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	illuminated	Latching Pull to unlatch	Red Yellow Green Blue Clear	3 5 3 5	3SU1001-1BA20-0AA0 3SU1001-1BA30-0AA0 3SU1001-1BA40-0AA0 3SU1001-1BA50-0AA0 3SU1001-1BA70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1001-1BA50-0AA0	Mushroom pushbuttons 40 mm diameter, 2 positions	With positive latching Rotate to unlatch	Black Blue	3	3SU1000-1HB10-0AA0 3SU1000-1HB50-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1000-1HB10-0AA0	Mushroom	With positive	Black N	EW 5	3SU1000-1HG10-0AA0		1	1 unit	41J
P	pushbuttons 40 mm diameter, 2 positions RONIS SB30	latching Key-operated release	DIACK M	ew 3	3301000-111G10-0AA0		'	T UTIL	410
3SU1000-1HG10-0AA0									

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

EMERGENCY STOP mushroom pushbuttons

Selection and orderi	ing data								
	Version of actuating element	Outer diameter of mushroom	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
EMEROENOV OTOR		mm		d					
EMERGENCY STOP r in accordance with IS	nusnroom pusnbutt 6O 13850 and IEC 609	ons, 947-5-5							
a de	With pull-to-unlatel	n mechanism							
	With positive latching, 2 positions	40	Red	•	3SU1000-1HA20-0AA0		1	1 unit	41J
3SU1000-1HA20-0AA0									
4	With rotate-to-unlat								
3SU1000-1GB20-0AA0	With positive latching, 2 positions	33.8	Red	•	3SU1000-1GB20-0AA0		1	1 unit	41J
330 1000- 1GB20-0AA0		40	Red	>	3SU1000-1HB20-0AA0		1	1 unit	41J
3SU1000-1HB20-0AA0									
		60	Red	>	3SU1000-1JB20-0AA0		1	1 unit	41J
3SU1000-1JB20-0AA0									
	With latching, 2 positions	40	Red	NEW ►	3SU1000-1LB20-0AA0		1	1 unit	41J
3SU1000-1LB20-0AA0	Water and a second	tata area at		· · · · · · · · · · · · · · · · · · ·					
	With rotate-to-unlate With positive latching,	ich mechanism, d 33.8	c an be il Red	luminated •	3SU1001-1GB20-0AA0		1	1 unit	41J
	2 positions	40	Red	•	3SU1001-1HB20-0AA0		1	1 unit	41J
		60	Red	•	3SU1001-1JB20-0AA0		1	1 unit	41J
3SU1001-1HB20-0AA0									

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

EMERGENCY STOP mushroom pushbuttons/Toggle switches

	Version of	Outer	Make of lock	Color		SD	Article No.	Price	PU	PS*	PG
	actuating element	diameter of mushroom			of keys			per PU	(UNIT, SET, M)		
EMERGENCY STOP r	nushroom p	mm oushbuttons	,			d					
in accordance with IS		perated rele									
	With positive latching, 2 positions	-	RONIS SB30 RONIS 455		2 2	3	3SU1000-1HF20-0AA0 3SU1000-1HG20-0AA0		1	1 unit 1 unit	41J 41J
3SU1000-1HF20-0AA0											
			BKS S1 BKS E7 BKS E9	Red Red Red	2 0 0	3 3	3SU1000-1HK20-0AA0 3SU1000-1HM20-0AA0 3SU1000-1HN20-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1000-1HK20-0AA0			O.M.R. 73037	Red	2	>	3SU1000-1HQ20-0AA0		1	1 unit	41J
3SU1000-1HQ20-0AA0 3SU1000-1HR20-0AA0			CES SSG10 CES SSP9 CES SMS1	Red Red Red	2 2 2 2	3	3SU1000-1HR20-0AA0 3SU1000-1HS20-0AA0 3SU1000-1HT20-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
Selection and ordering	ng data										
	Number of N switching	ommand a	ctuating		ng e of the ng element		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Toggle switches	2		llook	l otobi-	a	2	3SU1000-3EA10-0AA0		-1	4 posits	44.1
	2 1	E	-	Latchin Momen contact reset fro	tary	3	3SU1000-3EC10-0AA0		1	1 unit 1 unit	41J 41J

3SU1000-3EA10-0AA0

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Selector switches

Selection and orderi	na data								
Selection and orden	ily uata								
	Version of actuating element	Operating principle	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Selector switches									
AU		s, can be illuminated							
	Selector, short black actuator	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	Black Red Yellow Green Blue White	* * * * *	3SU1002-2BC10-0AA0 3SU1002-2BC20-0AA0 3SU1002-2BC30-0AA0 3SU1002-2BC40-0AA0 3SU1002-2BC50-0AA0 3SU1002-2BC60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BC40-0AA0									
		Latching, 90° (10:30/1:30 o'clock)	Black Red Yellow Green Blue White	* * * * * * * * * * * * * * * * * * *	3SU1002-2BF10-0AA0 3SU1002-2BF20-0AA0 3SU1002-2BF30-0AA0 3SU1002-2BF40-0AA0 3SU1002-2BF50-0AA0 3SU1002-2BF50-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BF30-0AA0									
	Selector, long black actuator	Latching, 90° (10:30/1:30 o'clock)	Black Red White	3 3 3	3SU1002-2CF10-0AA0 3SU1002-2CF20-0AA0 3SU1002-2CF60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1002-2CF20-0AA0									
3SU1002-2AF20-0AA0	Rotary knob	Latching, 90° (10:30/1:30 oʻclock)	Red White	3	3SU1002-2AF20-0AA0 3SU1002-2AF60-0AA0		1	1 unit 1 unit	41J 41J

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Selector switches

	Version of actuating element	Operating principle	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches				u					
Selector switches									
	3 switch positions,	can be illuminated							
	Selector, short	Momentary contact,	Black	>	3SU1002-2BM10-0AA0		1	1 unit	41J
	black actuator	2x45° (10:30/12/1:30 o'clock),	Red Yellow	>	3SU1002-2BM20-0AA0 3SU1002-2BM30-0AA0		1 1	1 unit 1 unit	41J 41J
		reset from left + right	Green	•	3SU1002-2BM40-0AA0		i	1 unit	41J
		. O	Blue		3SU1002-2BM50-0AA0		1	1 unit	41J
			White	•	3SU1002-2BM60-0AA0		1	1 unit	41J
3SU1002-2BM20-0AA0									
Ada		Latching, 2x45° (10:30/12/1:30 o'clock)	Black Red	>	3SU1002-2BL10-0AA0 3SU1002-2BL20-0AA0		1 1	1 unit 1 unit	41J 41J
		O	Yellow	•	3SU1002-2BL30-0AA0		i	1 unit	41J
			Green	>	3SU1002-2BL40-0AA0		1	1 unit	41J
		Ψ	Blue White		3SU1002-2BL50-0AA0 3SU1002-2BL60-0AA0		1	1 unit 1 unit	41J 41J
3SU1002-2BL60-0AA0									
330 1002-2BL00-0AA0		Momentary contact/	Black		3SU1002-2BP10-0AA0		1	1 unit	41J
		latching, 2x45°	Red	5	3SU1002-2BP20-0AA0		1	1 unit	41J
		(10:30/12/1:30 o'clock),			3SU1002-2BP30-0AA0		1	1 unit	41J
		reset from left, latching to the right	Green Blue	>	3SU1002-2BP40-0AA0 3SU1002-2BP50-0AA0		1 1	1 unit 1 unit	41J 41J
		O	White	>	3SU1002-2BP60-0AA0		i	1 unit	41J
		\forall							
3SU1002-2BP50-0AA0									
ACC		Latching/momentary	Black	>	3SU1002-2BN10-0AA0		1	1 unit	41J
		contact, 2x45°	Red		3SU1002-2BN20-0AA0		1	1 unit	41J
		(10:30/12/1:30 o'clock), reset from right,	Green	>	3SU1002-2BN30-0AA0 3SU1002-2BN40-0AA0		1 1	1 unit 1 unit	41J 41J
		latching to the left	Blue	>	3SU1002-2BN50-0AA0		1	1 unit	41J
		0	White		3SU1002-2BN60-0AA0		1	1 unit	41J
		_							
		•							
3SU1002-2BN30-0AA0									
	4 switch positions								
	Rotary knob	Latching, 4x90°	White	>	3SU1000-2AS60-0AA0		1	1 unit	41J
		(3/6/9/12 o'clock)							
		o Ivo							
1-1-1		III							
3SU1000-2AS60-0AA0									

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Key-operated switches

	Operating	Make of lock	Switch	Number	SD	Article No.	Price	PU	PS*	PG
	principle		position for key removal	of keys			per PU	(UNIT, SET, M)		
ey-operated switche					d					
ey-operated switche	2 switch posi	tions								
	Momentary	RONIS, SB30	0	2	>	3SU1000-4BC01-0AA0		1	1 unit	41J
	contact, 45° (10:30/	RONIS, 455	0	2	5	3SU1000-4CC01-0AA0		1	1 unit	41J
	12 o'clock), reset from	O.M.R. 73037, red	0	2	3	3SU1000-4FC01-0AA0		1	1 unit	41J
	center to left	O.M.R. 73038, light blue	0	2	3	3SU1000-4GC01-0AA0		1	1 unit	41J
	0,4	O.M.R. 73034, black	0	2	3	3SU1000-4HC01-0AA0		1	1 unit	41J
U1000-4JC01-0AA0	Å	O.M.R. 73033, yellow	0	2	3	3SU1000-4JC01-0AA0		1	1 unit	41J
U 1000-4JC01-0AA0		CES, SSG10	0	2	>	3SU1000-5BC01-0AA0		1	1 unit	41J
		CES, LSG1		2	3	3SU1000-5HC01-0AA0		1	1 unit	41J
		BKS, S1 IKON, 360012K1	0	2	>	3SU1000-5PC01-0AA0 3SU1000-5XC01-0AA0		1	1 unit 1 unit	41J 41J
400	Latching, 90°	RONIS, SB30	0	2		3SU1000-4BF01-0AA0		1	1 unit	41J
	(10:30/ 1:30 o'clock)		O+I I	2 2	>	3SU1000-4BF11-0AA0 3SU1000-4BF21-0AA0		1 1	1 unit 1 unit	41J 41J
	0, 1	RONIS, 455	0	2	3	3SU1000-4CF01-0AA0		1	1 unit	41J
	\checkmark	RONIS, 421	O+I O+I	2	3 5	3SU1000-4CF11-0AA0 3SU1000-4DF11-0AA0		1 1	1 unit 1 unit	41J 41J
13		noinio, 421	0+1	2	5	3501000-4DF11-0AA0		ı	Turnit	410
U1000-4BF11-0AA0										
11		O.M.R. 73037, red	O O+I	2	3 3	3SU1000-4FF01-0AA0 3SU1000-4FF11-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73038,	0	2	>	3SU1000-4GF01-0AA0		1	1 unit	41J
		light blue O.M.R. 73034,	O+I O	2 2	3	3SU1000-4GF11-0AA0 3SU1000-4HF01-0AA0		1 1	1 unit 1 unit	41J 41J
Q I		black	O+I	2	3	3SU1000-4HF11-0AA0		1	1 unit	41J
		O.M.R. 73033,	0	2 2	5 3	3SU1000-4HF21-0AA0 3SU1000-4JF01-0AA0		1 1	1 unit 1 unit	41J 41J
U1000-4GF11-0AA0		yellow	0+1	2	3	3SU1000-4JF11-0AA0		1	1 unit	41J
		CES, SSG10	0	2		3SU1000-5BF01-0AA0		1	1 unit	41J
			O+I I	2 2	>	3SU1000-5BF11-0AA0 3SU1000-5BF21-0AA0		1 1	1 unit 1 unit	41J 41J
		CES, SSG10 with key monitoring	O	2 NEW	 	3SU1000-5JF01-0AA0		1	1 unit	41J
		CES, LSG1	O O+I	2	>	3SU1000-5HF01-0AA0 3SU1000-5HF11-0AA0		1 1	1 unit 1 unit	41J 41J
U1000-5BF11-0AA0										
		BKS, S1	O O+I I	2 2 2	3	3SU1000-5PF01-0AA0 3SU1000-5PF11-0AA0 3SU1000-5PF21-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
		BKS, E1	0	0	3 3	3SU1000-5QF01-0AA0 3SU1000-5QF11-0AA0		1	1 unit	41J
1		BKS, E2	O+I	0	>	3SU1000-5RF01-0AA0		1 1	1 unit 1 unit	41J 41J
		BKS, E7	O+I O	0	3	3SU1000-5RF11-0AA0 3SU1000-5SF01-0AA0		1 1	1 unit 1 unit	41J 41J
		DNO, LI	O+I	0	>	3SU1000-5SF11-0AA0		1	1 unit	41J
U1000-5PF11-0AA0		BKS, E9	O O+I	0	3	3SU1000-5TF01-0AA0 3SU1000-5TF11-0AA0		1 1	1 unit 1 unit	41J 41J
		IKON, 360012K1		2	D	3SU1000-5XF01-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Key-operated switches

	Operating principle	Make of lock	Switch position for key removal	Number of keys	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
12					d					
Key-operated switch										
ALL	3 switch positi			_						
	Momentary contact, 2x45°	RONIS, SB30	0	2	<u> </u>	3SU1000-4BM01-0AA0		1	1 unit	41J
	(10:30/12/	O.M.R. 73037, red	Ο	2	5	3SU1000-4FM01-0AA0		1	1 unit	41J
	1:30 o'clock), reset from left + right	O.M.R. 73034, black	0	2	5	3SU1000-4HM01-0AA0		1	1 unit	41J
(3)	O	CES, SSG10	0	2	>	3SU1000-5BM01-0AA0		1	1 unit	41J
		BKS, S1	0	2	3	3SU1000-5PM01-0AA0		1	1 unit	41J
20111000 4PM01 0AA0		IKON, 360012K1	0	2	3	3SU1000-5XM01-0AA0		1	1 unit	41J
3SU1000-4BM01-0AA0	Latching, 2x45°	RONIS, SB30	0	2	3	3SU1000-4BL01-0AA0		1	1 unit	41J
	(10:30/12/ 1:30 o'clock)		+0+ 	2 2	5	3SU1000-4BL11-0AA0 3SU1000-4BL21-0AA0		1 1	1 unit 1 unit	41J 41J
	0		İl	2	3	3SU1000-4BL31-0AA0		1	1 unit	41J
			+ O+	2 2	3 3	3SU1000-4BL41-0AA0 3SU1000-4BL51-0AA0		1 1	1 unit 1 unit	41J 41J
	\checkmark		0+1			3301000-4BL31-0AA0			i uiiit	410
		RONIS, 455	0 I+0+II	2 2	5 3	3SU1000-4CL01-0AA0 3SU1000-4CL11-0AA0		1 1	1 unit 1 unit	41J 41J
AVA		O.M.R. 73037,	0	2	5	3SU1000-4FL01-0AA0		1	1 unit	41J
		red	0+1	2	5	3SU1000-4FL51-0AA0		1	1 unit	41J
		O.M.R. 73038, light blue	0 I+O+II	2 2	3	3SU1000-4GL01-0AA0 3SU1000-4GL11-0AA0		1	1 unit 1 unit	41J 41J
		O.M.R. 73034,	0	2	5	3SU1000-4HL01-0AA0		1	1 unit	41J
		black	I+O+II	2	3	3SU1000-4HL11-0AA0		1	1 unit	41J
		O.M.R. 73033,	I+O+II	2	5	3SU1000-4JL11-0AA0		1	1 unit	41J
		yellow								
3SU1000-4FL01-0AA0		050 00010								
200		CES, SSG10	0 I+O+II	2 2	>	3SU1000-5BL01-0AA0 3SU1000-5BL11-0AA0		1 1	1 unit 1 unit	41J 41J
			1	2	3	3SU1000-5BL21-0AA0		1	1 unit	41J
			II	2	>	3SU1000-5BL31-0AA0		1	1 unit	41J
			+ O+	2 2	3	3SU1000-5BL41-0AA0 3SU1000-5BL51-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1000-5BL01-0AA0				_				·		
330 1000 GDL0 1-0AA0		CES, SSG10	0	2 NE V	7/ 3	3SU1000-5JL01-0AA0		1	1 unit	41J
		with key monitoring	O	2 11-1		0001000 00E01 0AA0		'	i dilit	410
		BKS, S1	0	2	3	3SU1000-5PL01-0AA0		1	1 unit	41J
			I+O+II	2	3	3SU1000-5PL11-0AA0		1	1 unit	41J
			I II	2 2	3 3	3SU1000-5PL21-0AA0 3SU1000-5PL31-0AA0		1 1	1 unit 1 unit	41J 41J
			1+11	2	3	3SU1000-5PL41-0AA0		1	1 unit	41J
(8)		BKS, E2	I+O+II	0	5	3SU1000-5RL11-0AA0		1	1 unit	41J
30111000 E II 01 04 40		BKS, E9	I+O+II	0	3	3SU1000-5TL11-0AA0		1	1 unit	41J
3SU1000-5JL01-0AA0		IKON, 360012K1		2	3	3SU1000-5XL01-0AA0		1	1 unit	41J
			I+O+II	2	3	3SU1000-5XL11-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Kev-operated switches/ID kev-operated switches

Key-operated switch	cnes/ID key-c	pperated	SWITCH	es							
	Operating principle	Make	of lock	Switch position for key removal	Number of keys	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						d					
Key-operated switch											
24	3 switch pos										
	Momentary contact/ latching, 2x45° (10:30/12/ 1:30 o'clock), reset from left, latching to the right		S, SB30	O O+	2 2 2	3 3 3	3SU1000-4BP01-0AA0 3SU1000-4BP31-0AA0 3SU1000-4BP61-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1000-4BP01-0AA0		CES	SSG10	0	2	3	3SU1000-5BP01-0AA0		1	1 unit	41J
	 	OLO, C	33010	I	2	5	3SU1000-5BP31-0AA0		1	1 unit	41J
		BKS, S		O+II	2	3	3SU1000-5BP61-0AA0 3SU1000-5PP01-0AA0		1	1 unit 1 unit	41J 41J
3SU1000-5BP01-0AA0		51.0, (C	_	Ü	300,000 0,1,0,1,0,1,0,1		·	, and	110
330 1000-3BF01-0AA0	Latching/	RONIS	S, SB30	0	2	3	3SU1000-4BN01-0AA0		1	1 unit	41J
	momentary		э, одоо	Ī	2	3	3SU1000-4BN21-0AA0		1	1 unit	41J
	contact, 2x45° (10:30/12/		70000	0+1	2	3	3SU1000-4BN51-0AA0		1	1 unit	41J
	1:30 o'clock),	liaht h	l. 73038, lue	0	2	5	3SU1000-4GN01-0AA0		1	1 unit	41J
	reset from right latching to the left	^{t,} ∩MR	. 73034,	I	2	5	3SU1000-4HN21-0AA0		1	1 unit	41J
	0	CES, S	SSG10	0	2	3	3SU1000-5BN01-0AA0		1	1 unit	41J
	\ >			0+1	2 2	3 3	3SU1000-5BN21-0AA0 3SU1000-5BN51-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1000-4GN01-0AA0	₩	BKS, S	S1	I O+I	2 2	5 3	3SU1000-5PN21-0AA0 3SU1000-5PN51-0AA0		1	1 unit 1 unit	41J 41J
		IKON,	360012K	1 O+I	2	5	3SU1000-5XN51-0AA0		1	1 unit	41J
Selection and order	ing data										
		Operating orinciple		position removal	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						d					
ID key-operated swit	ches										
	4 switch no	eitione									

Black



4 switch positions

Latching Key removal possible in all 4 positions 3SU1000-4WS10-0AA0

3SU1000-4WS10-0AA0

For ID keys, see page 13/140.

For electronic modules for ID key-operated switches, see page 13/99.

For plastic holders for ID key-operated switches, see page 13/89

1 unit

41J

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Round, Plastic, Black Actuating and Signaling Elements

Coordinate switches/indicator lights

Selection and orderi	ng data									
	Product function Locking in zero position	Number of switching positions	Operating principle	Direction of actuation	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Coordinate switches										
28	No	2	Momentary contact	Horizontal Vertical	>	3SU1000-7AC10-0AA0 3SU1000-7AD10-0AA0		1 1	1 unit 1 unit	41J 41J
			Latching	Horizontal Vertical	>	3SU1000-7AA10-0AA0 3SU1000-7AB10-0AA0		1	1 unit 1 unit	41J 41J
		4	Momentary contact	Horizontal/ Vertical	>	3SU1000-7AF10-0AA0		1	1 unit	41J
			Latching	Horizontal/ Vertical	>	3SU1000-7AE10-0AA0		1	1 unit	41J
3SU1000-7AA10-0AA0										
400	Yes	2	Momentary contact	Horizontal Vertical	>	3SU1000-7BC10-0AA0 3SU1000-7BD10-0AA0		1	1 unit 1 unit	41J 41J
			Latching	Horizontal	•	3SU1000-7BA10-0AA0		1	1 unit	41J
		4	Momentary contact	Vertical Horizontal/ Vertical	>	3SU1000-7BB10-0AA0 3SU1000-7BF10-0AA0		1	1 unit 1 unit	41J 41J
			Latching	Horizontal/ Vertical	>	3SU1000-7BE10-0AA0		1	1 unit	41J
				Vortioal						
3SU1000-7BA10-0AA0										
Selection and orderi	ng data									
	ng data									
	Type of product		Color		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			Color		SD	Article No.		(UNIT,	PS*	PG
Indicator lights	Type of product				d			(UNIT, SET, M)		
Indicator lights			Color Amber Red			Article No. 3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0		(UNIT,	PS*	41J
Indicator lights	Type of product		Amber Red Yellow		3 •	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0		(UNIT, SET, M)	1 unit 1 unit 1 unit	41J 41J 41J
Indicator lights	Type of product		Amber Red Yellow Green Blue		3 •	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0		(UNIT, SET, M) 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Indicator lights	Type of product		Amber Red Yellow Green Blue White		3 •	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0		(UNIT, SET, M) 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
Indicator lights	Type of product		Amber Red Yellow Green Blue		3 •	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0		(UNIT, SET, M) 1 1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Indicator lights	Type of product		Amber Red Yellow Green Blue White		3 •	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0		(UNIT, SET, M) 1 1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
Indicator lights 3SU1001-6AA40-0AA0	Type of product		Amber Red Yellow Green Blue White		3 •	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0		(UNIT, SET, M) 1 1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	Type of product With smooth len	s	Amber Red Yellow Green Blue White Clear		3 •••••	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0 3SU1001-6AA70-0AA0		(UNIT, SET, M)	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1001-6AA40-0AA0	Type of product With smooth len	s	Amber Red Yellow Green Blue White Clear		3 * * * * * * * * * *	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA70-0AA0 3SU1001-6AA70-0AA0		(UNIT, SET, M) 1 1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1001-6AA40-0AA0	Type of product With smooth len	s	Amber Red Yellow Green Blue White Clear		3	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0 3SU1001-6AA70-0AA0		(UNIT, SET, M)	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J 41J 41J
3SU1001-6AA40-0AA0	Type of product With smooth len	s	Amber Red Yellow Green Blue White Clear		3 * * * * * * * * * *	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0 3SU1001-6AA70-0AA0 3SU1001-0AD20-0AA0 3SU1001-0AD30-0AA0		(UNIT, SET, M) 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J 41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Complete Units

Pushbuttons

Selection and ordering	ng data											
	Supply v for light: at AC		Color	Number Contact modules		NC contacts	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	.,			moduloo	contacto	oontaoto		Article No.	Price			
Pushbuttons	V	V					d		per PU			
	Pushb	uttons wi	th flat bu	utton, mo	mentary	contact	t					
			Black	1 0 1	1 0 1	0 1 1	3	3SU1130-0AB10-1BA0 3SU1130-0AB10-1CA0 3SU1130-0AB10-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Red	1	1 0 1	0 1 1	5	3SU1130-0AB20-1BA0 3SU1130-0AB20-1CA0 3SU1130-0AB20-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Yellow	1	1	0	5 5	3SU1130-0AB30-1BA0 3SU1130-0AB30-1FA0		1	1 unit 1 unit	41J 41J
3SU1130-0AB10-1BA0			Green	1	1	0	>	3SU1130-0AB40-1BA0 3SU1130-0AB40-1FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3	3SU1130-0AB50-1BA0 3SU1130-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
			White	1	1	0	3	3SU1130-0AB60-1BA0		1	1 unit	41J
	Pushbi	uttons wi	th raised	d button.	1 moment	1 tarv com	5 tact	3SU1130-0AB60-1FA0		1	1 unit	41J
			Red	1	0	1	5	3SU1130-0BB20-1CA0		1	1 unit	41J
3SU1130-0BB20-1CA0	///	-41	la la		4 6 44		4					
		ated pusi tegrated		s with na	i bullon,	momen	ıary	Contact				
	24	24	Red	1	1 0 1	0 1 1	5 3 3	3SU1132-0AB20-1BA0 3SU1132-0AB20-1CA0 3SU1132-0AB20-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Yellow	1	1	0	3 5	3SU1132-0AB30-1BA0 3SU1132-0AB30-1FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	3	3SU1132-0AB40-1BA0 3SU1132-0AB40-1FA0		1	1 unit 1 unit	41J 41J
3SU1132-0AB40-1BA0			Blue	1	1	0	3 5	3SU1132-0AB50-1BA0 3SU1132-0AB50-1FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	3	3SU1132-0AB60-1BA0 3SU1132-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3 5	3SU1132-0AB70-1BA0 3SU1132-0AB70-1FA0		1	1 unit 1 unit	41J 41J
	110		Red	1	0	1	5 5	3SU1133-0AB20-1CA0 3SU1133-0AB20-1FA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	5 5	3SU1133-0AB30-1BA0 3SU1133-0AB30-1FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	5 5	3SU1133-0AB40-1BA0 3SU1133-0AB40-1FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	5	3SU1133-0AB50-1BA0 3SU1133-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
			White	1	1	0	5	3SU1133-0AB60-1BA0 3SU1133-0AB60-1FA0		1 1	1 unit 1 unit	41J 41J
			Clear	1	1	0	5 5	3SU1133-0AB70-1BA0 3SU1133-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Complete Units

 III S	- 1 III I	4.7	0 0	T-S
us	 اديد	u	االت	

	Supply v		Color	Number	of		SD	Screw terminals	+	PU (UNIT,	PS*	PG
	at AC	at DC		Contact modules	NO contacts	NC contacts				SET, M)		
	V	V					d	Article No.	Price per PU			
Pushbuttons												
		ated pusi tegrated l		with fla	t button,	momen	tary	contact				
	230		Red	1	0 1	1 1	5 5	3SU1136-0AB20-1CA0 3SU1136-0AB20-1FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	5	3SU1136-0AB30-1BA0		1	1 unit	41J



3SU1136-0AB40-1BA0

		1	- 1	J	3301130-0AD20-1FA0			i uiiit	410
Yellow	1	1 1	0 1	5 5	3SU1136-0AB30-1BA0 3SU1136-0AB30-1FA0		1 1	1 unit 1 unit	41c 41c
Green	1	1 1	0 1	5 5	3SU1136-0AB40-1BA0 3SU1136-0AB40-1FA0		1 1	1 unit 1 unit	41. 41.
Blue	1	1 1	0 1	5 5	3SU1136-0AB50-1BA0 3SU1136-0AB50-1FA0		1 1	1 unit 1 unit	41. 41.
White	1	1 1	0 1	5 5	3SU1136-0AB60-1BA0 3SU1136-0AB60-1FA0		1 1	1 unit 1 unit	41. 41.
Clear	1	1 1	0 1	5 5	3SU1136-0AB70-1BA0 3SU1136-0AB70-1FA0		1 1	1 unit 1 unit	41. 41.
					Spring-type terminals	8			



3SU1130-0AB10-3BA0

Pushbuttons with flat button, momentary contact

24

Black	1	1	0	5	3SU1130-0AB10-3BA0	1	1 unit	41J
		1	1	5	3SU1130-0AB10-3FA0	1	1 unit	41J
Red	1	0	1	5	3SU1130-0AB20-3CA0	1	1 unit	41J
Green	1	1	0	5	3SU1130-0AB40-3BA0	1	1 unit	41J
White	1	1	1	5	3SU1130-0AB60-3FA0	1	1 unit	41J



3SU1132-0AB30-3BA0

Illuminated	pushbuttons	with flat	hutton	momentary	v contact
mummateu	pusiibulloiis	willi nat	Dullon,	momentary	, comaci

on button	, ,,,,,,,	mai batte	,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	iciitai y	oomaot			
Red	1	0 1	1 1	5 5	3SU1132-0AB20-3CA0 3SU1132-0AB20-3FA0	1 1	1 unit 1 unit	41J 41J
Yellow	1	1 1	0 1	5 5	3SU1132-0AB30-3BA0 3SU1132-0AB30-3FA0	1 1	1 unit 1 unit	41J 41J
Green	1	1 1	0 1	5 5	3SU1132-0AB40-3BA0 3SU1132-0AB40-3FA0	1 1	1 unit 1 unit	41J 41J
Blue	1	1 1	0 1	5 5	3SU1132-0AB50-3BA0 3SU1132-0AB50-3FA0	1 1	1 unit 1 unit	41J 41J
White	1	1 1	0 1	5 5	3SU1132-0AB60-3BA0 3SU1132-0AB60-3FA0	1 1	1 unit 1 unit	41J 41J
Clear	1	1 1	0 1	5 5	3SU1132-0AB70-3BA0 3SU1132-0AB70-3FA0	1 1	1 unit 1 unit	41J 41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Complete Units

Mushroom pushbuttons/EMERGENCY STOP mushroom pushbuttons

Selection and ordering data

Unlatching method	Contact			SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	modules	contacts	contacts		Article No.	Price	OL I, IVI)		
				d		per PU			

Mushroom pushbuttons



With red mushroom, diameter 40 mm, latching

Pull to unlatch 0

3SU1130-1BA20-1CA0 3SU1130-1BA20-1FA0 1 unit 41.1 1 unit 41J

3SU1130-1BA20-1CA0

Selection and ordering data

Unlatching method	Number Contact modules	NO	NC con- tacts	Marking	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			

EMERGENCY STOP mushroom pushbuttons

in accordance with ISO 13850 and IEC 60947-5



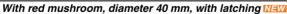
3SU1100-1HA20-1CH0



3SU1100-1HB20-1CH0

with rea mu	snroon	n, aiame	eter 40	ı mm, witn p	ositive i	atcning
Pull to unlatch	1	0	1	NOT-HALT	→ 5	3SU110

	Pull to unlatch	1	0	1	NOT-HALT	\odot	5	3SU1100-1HA20-1CH0		1	1 unit	41J
١			1	1	EMER- GENCY STOP	ĕ	5	3SU1100-1HA20-1FG0		1	1 unit	41J
			1	1	NOT-HALT	\odot	5	3SU1100-1HA20-1FH0		1	1 unit	41J
7	Rotate to unlatch	1	0	1	None	Θ	5	3SU1100-1HB20-1CF0		1	1 unit	41J
,			0	1	EMER- GENCY STOP	Θ	5	3SU1100-1HB20-1CG0		1	1 unit	41J
			0	1	NOT-HALT	Θ	>	3SU1100-1HB20-1CH0		1	1 unit	41J
			0	2	EMER- GENCY STOP	Θ	5	3SU1100-1HB20-1PG0		1	1 unit	41J
ĺ			0	1	ARRET D'URGENCE	Θ	5	3SU1100-1HB20-1CJ0		1	1 unit	41J
			1	1	EMER- GENCY STOP	Θ	5	3SU1100-1HB20-1FG0		1	1 unit	41J
/			1	1	NOT-HALT	\odot	>	3SU1100-1HB20-1FH0		1	1 unit	41J
			1	1	ARRET D'URGENCE	Θ	5	3SU1100-1HB20-1FJ0		1	1 unit	41J
								Spring-type terminals	$\frac{\infty}{\Box}$			
	Rotate to unlatch	1	0	1	NOT-HALT	Θ	5	3SU1100-1HB20-3CH0		1	1 unit	41J
			1	1	NOT-HALT	Θ	5	3SU1100-1HB20-3FH0		1	1 unit	41J



NOT-HALT Rotate to unlatch 2





3SU1100-1LB20-1PH0

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page siehe Seite 11/1 onwards. Certificate:



Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Complete Units

Selector switches

Selection and orderi	ng data										
	Operating principl	e Color		ct NO	NC cts contac	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
						d	Article No.	Price per PU			
Selector switches								•			
	Short black act	tuator, 2 s	switch	position	s, can be	illum	inated				
	Latching, 90°	White	1	1 1	0	•	3SU1130-2BF60-1BA0 3SU1130-2BF60-1MA0		1 1	1 unit 1 unit	41J 41J
	Short black act	tuator, 3 s	switch	position	s, can be	illum	inated				
134	Momentary contact, 2x45°	White	2	2 2	2	5 3	3SU1130-2BM60-1LA0 3SU1130-2BM60-1NA0		1 1	1 unit 1 unit	41J 41J
3SU1130-2BF60-1BA0	\ 										
	Latching, 2x45°	White	2	2 2	2	3	3SU1130-2BL60-1LA0 3SU1130-2BL60-1NA0		1	1 unit 1 unit	41J 41J
							Spring-type terminals	8			
	Short black act	tuator, 2 s	switch _l	position	s, can be	illum	inated				
3SU1130-2BL60-1NA0	Latching, 90°	White	1	1 1	0	5 5	3SU1130-2BF60-3BA0 3SU1130-2BF60-3MA0		1 1	1 unit 1 unit	41J 41J
	Short black act	tuator, 3 s	switch	position	s, can be	illum	inated				
	Momentary contact, 2x45°	White	2	2	0	5	3SU1130-2BM60-3NA0		1	1 unit	41J
	Latching, 2x45°	White	2	2 2	2 0	5 5	3SU1130-2BL60-3LA0 3SU1130-2BL60-3NA0		1	1 unit 1 unit	41J 41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Complete Units

Key-operated switches/coordinate switches

Selection and orderi	ng data											
	Operating principle	Switch position for key removal	Number Contact modules	NO	NC con- tacts	Number of keys	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							d	Article No.	Price per PU			
Key-operated switch	es								p 41			
	With RONIS I	ock, SB3	0, 2 swit	ch po	sitior	ıs						
	Latching, 90° (10:30/ 1:30 o'clock)	O+I	1	1	0	2 2	3 3	3SU1130-4BF11-1BA0 3SU1130-4BF11-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1130-4BF11-1BA0												
	With RONIS I			-								
	Latching, 2x45° (10:30/12/ 1:30 o'clock)	I+O+II	2	2	0	2	5	3SU1130-4BL11-1NA0		1	1 unit	41J
								Spring-type terminals	8			
3SU1130-4BL11-1NA0	With RONIS I	ock, SB3	0, 2 swit	ch po	sitior	ıs			ш			
	Latching, 90° (10:30/ 1:30 o'clock)	O+I	1	1	0	2	5	3SU1130-4BF11-3BA0		1	1 unit	41J
Selection and orderi	ng data											
	Number of NO contacts (1 per direction)	Opera princip			ection of uation	of	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG

	Number of NO contacts (1 per direction)	Operating principle	Direction of actuation	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Coordinate switches									
The land and	Without mecha	anical interlock, 2	2 switch positions	;					
	2	Momentary contact	Horizontal Vertical	5 5	3SU1130-7AC10-1NA0 3SU1130-7AD10-1NA0		1 1	1 unit 1 unit	41J 41J
		Latching	Horizontal Vertical	5 5	3SU1130-7AA10-1NA0 3SU1130-7AB10-1NA0		1 1	1 unit 1 unit	41J 41J
2011/20	Without mecha	anical interlock, 4	4 switch positions	;					
6	4	Momentary contact	Horizontal/Vertical	5	3SU1130-7AF10-1QA0		1	1 unit	41J
3SU1130-7AE10-1QA0		Latching	Horizontal/Vertical	5	3SU1130-7AE10-1QA0		1	1 unit	41J
-	With mechanic	al interlock, 2 sv	vitch positions						
	2	Momentary contact	Horizontal Vertical	5 5	3SU1130-7BC10-1NA0 3SU1130-7BD10-1NA0		1 1	1 unit 1 unit	41J 41J
		Latching	Horizontal Vertical	5 5	3SU1130-7BA10-1NA0 3SU1130-7BB10-1NA0		1 1	1 unit 1 unit	41J 41J
	With mechanic	al interlock, 4 sv	vitch positions						
00114400 7DE40 40 40	4	Momentary contact	Horizontal/Vertical	5	3SU1130-7BF10-1QA0		1	1 unit	41J
3SU1130-7BE10-1QA0		Latching	Horizontal/Vertical	5	3SU1130-7BE10-1QA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Complete Units

Indicator lights

Operational vo	oltage	Color		SD	Screw terminals		PU	PS*	PG
at AC, rated value	at DC, rated value	of actuating element	of light source				(UNIT, SET, M)		
V	V			d	Article No.	Price per PU			

Indicator lights



3SU1102-6AA30-1AA0



3SU1106-6AA50-1AA0



3SU1102-6AA40-3AA0



3SU1106-6AA60-3AA0

V	V			d		per PU			
With sn	nooth lens a	nd integrated	LED						
24	24	Red	Red	>	3SU1102-6AA20-1AA0		1	1 unit	41J
		Yellow	Yellow	>	3SU1102-6AA30-1AA0		1	1 unit	41J
		Green	Green	>	3SU1102-6AA40-1AA0		1	1 unit	41J
		Blue	Blue	>	3SU1102-6AA50-1AA0		1	1 unit	41J
		White	White	>	3SU1102-6AA60-1AA0		1	1 unit	41J
		Clear	White	>	3SU1102-6AA70-1AA0		1	1 unit	41J
110		Amber	Amber	5	3SU1103-6AA00-1AA0		1	1 unit	41J
		Red	Red	>	3SU1103-6AA20-1AA0		1	1 unit	41J
		Yellow	Yellow	>	3SU1103-6AA30-1AA0		1	1 unit	41J
		Green	Green	>	3SU1103-6AA40-1AA0		1	1 unit	41J
		Blue	Blue	3	3SU1103-6AA50-1AA0		1	1 unit	41J
		White	White	>	3SU1103-6AA60-1AA0		1	1 unit	41J
		Clear	White	3	3SU1103-6AA70-1AA0		1	1 unit	41J
230		Amber	Amber	5	3SU1106-6AA00-1AA0		1	1 unit	41J
		Red	Red	>	3SU1106-6AA20-1AA0		1	1 unit	41J
		Yellow	Yellow	>	3SU1106-6AA30-1AA0		1	1 unit	41J
		Green	Green	>	3SU1106-6AA40-1AA0		1	1 unit	41J
		Blue	Blue	3	3SU1106-6AA50-1AA0		1	1 unit	41J
		White	White	>	3SU1106-6AA60-1AA0		1	1 unit	41J
		Clear	White	3	3SU1106-6AA70-1AA0		1	1 unit	41J
					Spring-type terminals	8			
24	24	Red	Red	3	3SU1102-6AA20-3AA0		1	1 unit	41J
		Yellow	Yellow	5	3SU1102-6AA30-3AA0		1	1 unit	41J
		Green	Green	3	3SU1102-6AA40-3AA0		1	1 unit	41J
		Blue	Blue	5	3SU1102-6AA50-3AA0		1	1 unit	41J
		White	White	3	3SU1102-6AA60-3AA0		1	1 unit	41J
		Clear	White	5	3SU1102-6AA70-3AA0		1	1 unit	41J
110		Red	Red	5	3SU1103-6AA20-3AA0		1	1 unit	41J
		Yellow	Yellow	5	3SU1103-6AA30-3AA0		1	1 unit	41J
		Green	Green	5	3SU1103-6AA40-3AA0		1	1 unit	41J
		Blue	Blue	5	3SU1103-6AA50-3AA0		1	1 unit	41J
		White	White	5	3SU1103-6AA60-3AA0		1	1 unit	41J
		Clear	White	5	3SU1103-6AA70-3AA0		1	1 unit	41J
230		Red	Red	5	3SU1106-6AA20-3AA0		1	1 unit	41J
		Yellow	Yellow	5	3SU1106-6AA30-3AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Compact Units

Indicator lights

Selection and ordering	ng data									
	Operational vo at AC, rated value	oltage at DC, rated value	Color of actuating element	of light source	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V			d	Article No.	Price per PU			
Indicator lights NEW										
	24	24	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	3	3SU1201-6AB00-1AA0 3SU1201-6AB20-1AA0 3SU1201-6AB30-1AA0 3SU1201-6AB40-1AA0 3SU1201-6AB50-1AA0 3SU1201-6AB60-1AA0 3SU1201-6AB70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1201-6AB50-1AA0										
	110	110	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	5 3 3 5 3 5	3SU1201-6AC00-1AA0 3SU1201-6AC20-1AA0 3SU1201-6AC30-1AA0 3SU1201-6AC40-1AA0 3SU1201-6AC50-1AA0 3SU1201-6AC60-1AA0 3SU1201-6AC70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1201-6AC30-1AA0										
	230	230	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	5 3 3 5 3 5 5	3SU1201-6AF00-1AA0 3SU1201-6AF20-1AA0 3SU1201-6AF30-1AA0 3SU1201-6AF40-1AA0 3SU1201-6AF50-1AA0 3SU1201-6AF60-1AA0 3SU1201-6AF70-1AA0		1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1201-6AF30-1AA0 Indicator lights with '	'traffic light"	LED								
	6 24	6 24	Clear	Red/Yellow/	>	3SU1201-6AG24-1AA0		1	1 unit	41J
	110		Clear	Green Red/Yellow/	>	3SU1201-6AC24-1AA0		1	1 unit	41J
3SU1201-6AG24-1AA0	230		Clear	Green Red/Yellow/ Green	•	3SU1201-6AF24-1AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte **Compact Units**

Acoustic signaling devices/sensor switches

Se	lection	and	oraerii	ηg	aata

	9								
	Operational voltage at AC, rated value	e at DC, rated value	Volume level	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V	dB	d	Article No.	Price per PU			
Acoustic signaling de	evices								
3SU1200-6KB10-1AA0	24 110 230	24	90 90 90	5 5 5	3SU1200-6KB10-1AA0 3SU1200-6KC10-1AA0 3SU1200-6KF10-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J

Selection and ordering data

	Operating principle	Number of NO contacts	Number of NC contacts	Color	SD	M12 connector, 4-pin		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Sensor switches										
	Whether integrated in installed as a door of switch is suitable for industrial environment	pening conta many differe	ct, the capac	itive sensor						
	The switch is actuate or other part of the b pressure). As a resul extremely durable ar protection IP66, IP67	ody (i.e. with It, these switc nd have the h	out the applic thes are rugg ighest possib	eation of ed,						
	Without pressure	1	0	Black		3SU1200-1SK10-2SA0		1	1 unit	41J
3SU1200-1SK10-2SA0										

Optional accessories

- "Protection for sensor switches", see page 13/136
- "Connectors for sensor switches, angled socket with screw terminal connection", see page 13/144

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Compact Units

Potentiometers/pushbuttons with extended stroke

Selection and order	ing data									
	Version of actuating element	Operating principle	Adjus resist		SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
			kΩ		d	Article No.	Price per PU			
Potentiometers	Rotary knob	Stepless	1 2.2 4.7 10 47 100 470		5	3SU1200-2PQ10-1AA0 3SU1200-2PW10-1AA0 3SU1200-2PR10-1AA0 3SU1200-2PS10-1AA0 3SU1200-2PT10-1AA0 3SU1200-2PU10-1AA0 3SU1200-2PV10-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1200-2PQ10-1AA0 Labeling plates for po	otentiometers, see p	page 13/132.								
Selection and order	ing data									
	Version			Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons with ex	tandad straka				d					
Pushbuttons with ex	For actuating relays, plunger, no contact m Pushbuttons with fla	nodule or LED m			5 5	3SU1230-0EB20-0AA0 3SU1230-0EB40-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1230-0EB40-0AA0	Pushbuttons with ra	ised button		Black	3	3SU1230-0FB10-0AA0		1	1 unit	41J
3SU1230-0FB10-0AA0	Pushbuttons with fla for insertion of inser		outton	Red Clear	3 3	3SU1231-0EB20-0AA0 3SU1231-0EB70-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1231-0EB20-0AA0	Version	Material		Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories 3SU1900-0KG10-0AA0	Extension plungers For compensation of the distance between the pushbutton and the unlatching button of a overload relay	ne		Gray	→	3SU1900-0KG10-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Pushbuttons

Selection and ordering	ng data								
	Version of actuating element Front ring version	Operating principle Unlatching method	Color, marking	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Duckhuttene				d					
Pushbuttons R 3SU1030-0AB50-0AR0	Pushbuttons with flat button Standard	Momentary contact	Black Black, "O" Red Red, "O" Red, "AUTO" Yellow Green Green, "I" Blue Blue, "R" White White, "I" Clear Gray	** ** ** ** ** ** **	3SU1030-0AB10-0AA0 3SU1030-0AB10-0AD0 3SU1030-0AB20-0AA0 3SU1030-0AB20-0AQ0 3SU1030-0AB20-0AQ0 3SU1030-0AB30-0AA0 3SU1030-0AB40-0AA0 3SU1030-0AB40-0AC0 3SU1030-0AB50-0AA0 3SU1030-0AB50-0AA0 3SU1030-0AB60-0AA0 3SU1030-0AB60-0AA0 3SU1030-0AB60-0AA0 3SU1030-0AB60-0AA0		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J 41J 41J 41J
		Latching Push to unlatch	Black Red Yellow Green Blue White	* * * * *	3SU1030-0AA10-0AA0 3SU1030-0AA20-0AA0 3SU1030-0AA30-0AA0 3SU1030-0AA40-0AA0 3SU1030-0AA50-0AA0 3SU1030-0AA60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1030-0AA40-0AA0 3SU1030-0BB20-0AA0	Pushbuttons with raised button Standard	Momentary contact	Black Red Yellow Green Blue White	* * * * *	3SU1030-0BB10-0AA0 3SU1030-0BB20-0AA0 3SU1030-0BB30-0AA0 3SU1030-0BB40-0AA0 3SU1030-0BB50-0AA0 3SU1030-0BB60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1030-0CB30-0AA0	Pushbuttons with flat button Raised	Momentary contact	Black Red Yellow Green Blue White	5 5 5 5 5 5 5 5 5 5	3SU1030-0CB10-0AA0 3SU1030-0CB20-0AA0 3SU1030-0CB30-0AA0 3SU1030-0CB40-0AA0 3SU1030-0CB50-0AA0 3SU1030-0CB60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Pushbuttons

	Version of actuating element Front ring version	Operating principle Unlatching method	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons 3SU1031-0AB20-0AA0	Illuminated pushbuttons with flat button Standard	Momentary contact	Amber Red Yellow Green Blue White Clear	5	3SU1031-0AB00-0AA0 3SU1031-0AB20-0AA0 3SU1031-0AB30-0AA0 3SU1031-0AB40-0AA0 3SU1031-0AB50-0AA0 3SU1031-0AB60-0AA0 3SU1031-0AB70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1031-0AA50-0AA0		Latching Push to unlatch	Red Yellow Green Blue White Clear	* * * * *	3SU1031-0AA20-0AA0 3SU1031-0AA30-0AA0 3SU1031-0AA40-0AA0 3SU1031-0AA50-0AA0 3SU1031-0AA60-0AA0 3SU1031-0AA60-0AA0 3SU1031-0AA70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1031-0BB40-0AA0	Illuminated pushbuttons with raised button Standard	Momentary contact	Red Yellow Green Blue Clear	3	3SU1031-0BB20-0AA0 3SU1031-0BB30-0AA0 3SU1031-0BB40-0AA0 3SU1031-0BB50-0AA0 3SU1031-0BB70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1031-0CB20-0AA0	Pushbuttons with flat button NEW Raised	Momentary contact	Red Green	25 25	3SU1031-0CB20-0AA0 3SU1031-0CB40-0AA0			100 units 100 units	41J 41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Twin pushbuttons

win ushbuttons at, flat win ushbuttons at, raised	Momentary contact Momentary contact	Green/Red White/Black White/White Black/Black	Symbol No. "I"/"O" "I"/"O" Arrows, vert. O 5264/5265 (IEC 60417)	3 3 3 3 5 5 3 5 5	3SU1030-3AB42-0AA0 3SU1030-3AB42-0AK0 3SU1030-3AB61-0AA0 3SU1030-3AB61-0AK0 3SU1030-3AB66-0AA0 3SU1030-3AB66-0AN0 3SU1030-3AB11-0AA0 3SU1030-3AB11-0AQ0	per PU	(UNIT, SET, M) 1 1 1 1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
ushbuttons at, flat win ushbuttons	tary contact Momentary	White/Black White/White Black/Black	"I"/"O" "I"/"O" Arrows, vert O O 5264/5265 (IEC 60417)	3 3 3 3 5	3SU1030-3AB42-0AK0 3SU1030-3AB61-0AA0 3SU1030-3AB61-0AK0 3SU1030-3AB66-0AA0 3SU1030-3AB66-0AN0 3SU1030-3AB11-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
ushbuttons at, flat win ushbuttons	tary contact Momentary	White/Black White/White Black/Black	"I"/"O" "I"/"O" Arrows, vert O O 5264/5265 (IEC 60417)	3 3 3 5	3SU1030-3AB42-0AK0 3SU1030-3AB61-0AA0 3SU1030-3AB61-0AK0 3SU1030-3AB66-0AA0 3SU1030-3AB66-0AN0 3SU1030-3AB11-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
win ushbuttons	Momen-tary	White/White Black/Black	"I"/"O"	3 5 3	3SU1030-3AB61-0AA0 3SU1030-3AB61-0AK0 3SU1030-3AB66-0AA0 3SU1030-3AB66-0AN0 3SU1030-3AB11-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
ushbuttons	tary	Black/Black		3 5 3	3SU1030-3AB66-0AA0 3SU1030-3AB66-0AN0 3SU1030-3AB11-0AA0		1	1 unit 1 unit 1 unit	41J 41J 41J
ushbuttons	tary		 O O 5264/5265 (IEC 60417)	3					
ushbuttons	tary	Green/Red							
ushbuttons	tary	arconfried		3	3SU1030-3BB42-0AA0		1	1 unit	41J
			"I"/"O"	3	3SU1030-3BB42-0AK0		1	1 unit	41J
Twin pushbuttons flat, flat, illuminated	Momen-	Green/Red		>	3SU1031-3AB42-0AA0		1	1 unit	41J
	tary contact		"I"/"O" Arrows, vert.		3SU1031-3AB42-0AK0 3SU1031-3AB42-0AN0		1	1 unit 1 unit	41J 41J
		White/Black	 "I"/"O"	>	3SU1031-3AB61-0AA0 3SU1031-3AB61-0AK0		1 1	1 unit 1 unit	41J 41J
		White/White	 Arrows, vert.	3 5	3SU1031-3AB66-0AA0 3SU1031-3AB66-0AN0		1 1	1 unit 1 unit	41J 41J
	Maman	Cross/Dad		2	2011021 20042 0440		-	1 . mit	41J
ushbuttons	tary		"I"/"O"		3SU1031-3BB42-0AK0		1	1 unit	41J
at, raised, uminated	Contact	White/Black	 "I"/"O"	3 3	3SU1031-3BB61-0AA0 3SU1031-3BB61-0AK0		1 1	1 unit 1 unit	41J 41J
a	t, raised,	ishbuttons tary t, raised, contact	t, raised, contact White/Black	vin Momen- Green/Red Ishbuttons tary "I"/"O" t, raised, contact White/Black	vin Momen- Green/Red 3 Ishbuttons tary "1"/"O" ▶ t, raised, contact White/Black 3	vin	vin	vin Momen- ishbuttons tary contact White/Black 3 3SU1031-3BB42-0AA0 1 White/Black 3 3SU1031-3BB61-0AA0 1	vin Momen- ishbuttons Green/Red tary "I"/"O" 3 SU1031-3BB42-0AA0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Mushroom pushbuttons

Selection and ordering									
Selection and ordering									
	Version of actuating element	Operating principle Unlatching method	Color	SD	Article No.	Price per PU	(UNIT,	PS*	PG
		Ü		d			SET, M)		
Mushroom pushbutto	ns								
	Mushroom pushbuttons	Momentary contact	Black Red	>	3SU1030-1AD10-0AA0 3SU1030-1AD20-0AA0		1 1	1 unit 1 unit	41J 41J
	30 mm diameter, 2 positions		Yellow Green	>	3SU1030-1AD30-0AA0 3SU1030-1AD40-0AA0		1	1 unit 1 unit	41J 41J
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Latching	Black	>	3SU1030-1AA10-0AA0		1	1 unit	41J
		Pull to unlatch	Red	•	3SU1030-1AA20-0AA0		1	1 unit	41J
3SU1030-1AD20-0AA0									
000 1000 IVID20 07 110	Mushroom	Momentary contact	Black	3	3SU1030-1BD10-0AA0		1	1 unit	41J
	pushbuttons 40 mm diameter,		Red Yellow	3	3SU1030-1BD20-0AA0 3SU1030-1BD30-0AA0		1 1	1 unit 1 unit	41J 41J
	2 positions	Latching	Green Black	3	3SU1030-1BD40-0AA0 3SU1030-1BA10-0AA0		1	1 unit 1 unit	41J 41J
		Pull to unlatch	Red Red, "O"	5	3SU1030-1BA20-0AA0 3SU1030-1BA20-0AD0		1 1	1 unit 1 unit	41J 41J
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
3SU1030-1BD40-0AA0	Mushroom	Momentary contact	Yellow	5	3SU1031-1AD30-0AA0		1	1 unit	41J
	pushbuttons 30 mm diameter,	,	Green Blue	3 NEW 5	3SU1031-1AD40-0AA0 3SU1031-1AD50-0AA0		1 1	1 unit 1 unit	41J 41J
	2 positions, illuminated		White Clear	3 5	3SU1031-1AD60-0AA0 3SU1031-1AD70-0AA0		1 1	1 unit 1 unit	41J 41J
		Latching	Red	3 5	3SU1031-1AA20-0AA0		1	1 unit	41J
		Pull to unlatch	Yellow	5	3SU1031-1AA30-0AA0		1	1 unit	41J
3SU1031-1AD30-0AA0	Mushroom	Mamantany agatast	Yellow	5	3SU1031-1BD30-0AA0		1	1 unit	41J
	pushbuttons 40 mm diameter,	Momentary contact	Green White	5 3	3SU1031-1BD30-0AA0 3SU1031-1BD40-0AA0 3SU1031-1BD60-0AA0		1 1	1 unit 1 unit 1 unit	41J 41J 41J
	2 positions, illuminated		Clear	5	3SU1031-1BD00-0AA0		1	1 unit	41J
	iliuminateu	Latching Pull to unlatch	Red Yellow	3 3	3SU1031-1BA20-0AA0 3SU1031-1BA30-0AA0		1 1	1 unit 1 unit	41J 41J
		Tall to dillatori							
3SU1031-1BD60-0AA0									
	Mushroom pushbuttons	With positive latching	Black Blue	3	3SU1000-1HB10-0AA0 3SU1000-1HB50-0AA0		1 1	1 unit 1 unit	41J 41J
	40 mm diameter, 2 positions	Rotate to unlatch							
3SU1000-1HB50-0AA0									
	Mushroom pushbuttons	With positive latching	Black	NEW 5	3SU1000-1HG10-0AA0		1	1 unit	41J
	40 mm diameter, 2 positions	Key-operated							
	RONIS SB30	release							
	Mushroom pushbuttons,	With positive latching	Black	NEW X	3SU1000-1JB10-0AA0		1	1 unit	41J
	60 mm diameter, 2 positions	Rotate to unlatch							
3SU1000-1HG10-0AA0	RONIS SB30								

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

EMERGENCY STOP mushroom pushbuttons

Selection and ordering	ng data									
	Version of actuating element	Outer diameter of mushroom	Make of lock	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
EMERGENCY STOP r	nushroom nushi	mm			d					
EMERICENOT CICI I	With pull-to-unl		nism							
	With positive latching, 2 positions	40		Red	•	3SU1000-1HA20-0AA0		1	1 unit	41J
3SU1000-1HA20-0AA0										
	With rotate-to-u		hanism							
	With positive latching, 2 positions	33.8		Red	•	3SU1000-1GB20-0AA0		1	1 unit	41J
3SU1000-1GB20-0AA0		40		Red	•	3SU1000-1HB20-0AA0		1	1 unit	41J
25/14000 4/1220 0440										
3SU1000-1HB20-0AA0		60		Red	•	3SU1000-1JB20-0AA0		1	1 unit	41J
		60	-	neu		3501000-13B20-0AA0		'	i uriit	410
3SU1000-1JB20-0AA0	NACH LA LA	40		D 1		20114000 41 700 04 40			4 9	44.1
	With latching, 2 positions	40	-	Red NE	W >	3SU1000-1LB20-0AA0		1	1 unit	41J
3SU1000-1LB20-0AA0										
	With rotate-to-u With positive latching, 2 positions	33.8 40 60	hanism, ca 	n be illun Red Red Red	hinated	3SU1001-1GB20-0AA0 3SU1001-1HB20-0AA0 3SU1001-1JB20-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1001-1HB20-0AA0										

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

EMERGENCY STOP mushroom pushbuttons/Toggle switches

	Version of actuating element	Outer diameter of mushroom	Make of lock	Color	Num- ber of keys	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm				d					
EMERGENCY STOP											
24	With key-opera				_						
	With positive latching,	40	RONIS SB30	Red	2		3SU1000-1HF20-0AA0		1	1 unit	41J
	2 positions		RONIS 45	5 Red	2	3	3SU1000-1HG20-0AA0		1	1 unit	41J
6											
3SU1000-1HF20-0AA0											
			BKS S1 BKS E7	Red Red	2	3	3SU1000-1HK20-0AA0 3SU1000-1HM20-0AA0		1 1	1 unit 1 unit	41J 41J
			BKS E9	Red	0	3	3SU1000-1HN20-0AA0		1	1 unit	41J
3SU1000-1HK20-0AA0											
000 1000 11 III.20 07 VIO			O.M.R.	Red	2		3SU1000-1HQ20-0AA0		1	1 unit	41J
3SU1000-1HQ20-0AA0			73037								
			CES SSG	10 Red	2	>	3SU1000-1HR20-0AA0		1	1 unit	41J
3SU1000-1HR20-0AA0			CES SSPS CES SMS		2 2	3	3SU1000-1HS20-0AA0 3SU1000-1HT20-0AA0		1 1	1 unit 1 unit	41J 41J
Selection and order	ing data										
		mand act	uating	Operating principle actuating	of the	SD :	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Toggle switches											
	2 1	Bla	ck	Latching		3	3SU1030-3EA10-0AA0		1	1 unit	41J
3SU1030-3EA10-0AA0				Momenta contact, reset fron	-	5	3SU1030-3EC10-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Selector switches

Selection and orderi	ng data								
	Version of actuating element	Operating principle	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Selector switches									
200	•	, can be illuminated							
	Selector, short black actuator	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	Red	3	3SU1032-2BC10-0AA0 3SU1032-2BC20-0AA0 3SU1032-2BC30-0AA0 3SU1032-2BC40-0AA0 3SU1032-2BC50-0AA0 3SU1032-2BC60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU10322BC40-0AA0									
		Latching, 90° (10:30/1:30 o'clock)	Black Red Yellow Green Blue White	* * * * *	3SU1032-2BF10-0AA0 3SU1032-2BF20-0AA0 3SU1032-2BF30-0AA0 3SU1032-2BF40-0AA0 3SU1032-2BF50-0AA0 3SU1032-2BF60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1032-2BF30-0AA0									
	Selector, long black actuator	Latching, 90° (10:30/1:30 o'clock)	Black Red White	3 3 3	3SU1032-2CF10-0AA0 3SU1032-2CF20-0AA0 3SU1032-2CF60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1032-2CF60-0AA0									
3SU1032-2AF20-0AA0	Rotary knob	Latching, 90° (10:30/1:30 o'clock)	Red White	3	3SU1032-2AF20-0AA0 3SU1032-2AF60-0AA0		1 1	1 unit 1 unit	41J 41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Selector switches

	Version of actuating element	Operating principle	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Selector switches	3 switch positions,	can be illuminated							
	Selector, short black actuator	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Yellow Green Blue White		3SU1032-2BM10-0AA0 3SU1032-2BM20-0AA0 3SU1032-2BM30-0AA0 3SU1032-2BM40-0AA0 3SU1032-2BM50-0AA0 3SU1032-2BM60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1032-2BM60-0AA0									
		Latching, 2x45° (10:30/12/1:30 o'clock) O	Black Red Yellow Green Blue White	* * * * * *	3SU1032-2BL10-0AA0 3SU1032-2BL20-0AA0 3SU1032-2BL30-0AA0 3SU1032-2BL40-0AA0 3SU1032-2BL50-0AA0 3SU1032-2BL60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1032-2BL20-0AA0									
		Momentary contact/ latching, 2x45° (10:30/12/1:30 o'clock), reset from left, latching to the right	Black Red Yellow Green Blue White	5 • • 5	3SU1032-2BP10-0AA0 3SU1032-2BP20-0AA0 3SU1032-2BP30-0AA0 3SU1032-2BP40-0AA0 3SU1032-2BP50-0AA0 3SU1032-2BP60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1032-2BP40-0AA0									
		Latching/momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from right, latching to the left	Black Red Yellow Green Blue White	3	3SU1032-2BN10-0AA0 3SU1032-2BN20-0AA0 3SU1032-2BN30-0AA0 3SU1032-2BN40-0AA0 3SU1032-2BN50-0AA0 3SU1032-2BN60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1032-2BN30-0AA0	A quitab positions								
3SU1030-2AS60-0AA0	4 switch positions Rotary knob	Latching, 4x90° (3/6/9/12 o'clock) IV O III I O	White	3	3SU1030-2AS60-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Key-operated switches

Selection and order	ing data									
	Operating principle	Make of lock	Switch position for key removal	Number of keys	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key energies ewitch	•••				d					
Key-operated switch	2 switch position)				1				
	Momentary	RONIS, SB30	0	2		3SU1030-4BC01-0AA0		1	1 unit	41J
	contact, 45° (10:30/12 o'clock),	RONIS, 455	0	2	5	3SU1030-4CC01-0AA0		1	1 unit	41J
19	reset from center to left	O.M.R. 73037, red		2	3	3SU1030-4FC01-0AA0		1	1 unit	41J
E 3	1	O.M.R. 73038, light blue	0	2	5	3SU1030-4GC01-0AA0		1	1 unit	41J
3SU1030-4BC01-0AA0	04	O.M.R. 73034, black	Ο	2	5	3SU1030-4HC01-0AA0		1	1 unit	41J
45001000 45001 0/010	•	O.M.R. 73033, yellow	0	2	3	3SU1030-4JC01-0AA0		1	1 unit	41J
		CES, SSG10 CES, LSG1	0 0	2	3	3SU1030-5BC01-0AA0 3SU1030-5HC01-0AA0		1	1 unit 1 unit	41J 41J
		BKS, S1	0	2	D	3SU1030-5PC01-0AA0		1	1 unit	41J
		IKON, 360012K1	0	2	3	3SU1030-5XC01-0AA0		1	1 unit	41J
	Latching, 90°	RONIS, SB30	0	2	•	3SU1030-4BF01-0AA0		1	1 unit	41J
	(10:30/1:30 o'clock) O I		0+I I	2 2	3	3SU1030-4BF11-0AA0 3SU1030-4BF21-0AA0		1 1	1 unit 1 unit	41J 41J
		RONIS, 455	O O+I	2 2	3 5	3SU1030-4CF01-0AA0 3SU1030-4CF11-0AA0		1 1	1 unit 1 unit	41J 41J
(3										
3SU1030-4BF01-0AA0										
12		O.M.R. 73037, red	O O+I	2 2	3	3SU1030-4FF01-0AA0 3SU1030-4FF11-0AA0		1	1 unit 1 unit	41J 41J
		O.M.R. 73038,		2	3	3SU1030-4GF01-0AA0		1	1 unit	41J
		light blue O.M.R. 73034,	0+I 0	2	3	3SU1030-4GF11-0AA0 3SU1030-4HF01-0AA0		1 1	1 unit 1 unit	41J 41J
9		black	O+I	2	3	3SU1030-4HF11-0AA0 3SU1030-4HF21-0AA0		1	1 unit 1 unit	41J 41J
		O.M.R. 73033,	0	2	3	3SU1030-4JF01-0AA0		1	1 unit	41J
3SU1030-4FF01-0AA0		yellow	O+I	2	5	3SU1030-4JF11-0AA0		1	1 unit	41J
		CES, SSG10	0 0+l	2	A	3SU1030-5BF01-0AA0 3SU1030-5BF11-0AA0		1	1 unit 1 unit	41J 41J
			l	2	3	3SU1030-5BF21-0AA0		1	1 unit	41J
		CES, LSG1	O O+I	2	3 3	3SU1030-5HF01-0AA0 3SU1030-5HF11-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1030-5BF01-0AA0										
		BKS, S1	O O+I	2	3	3SU1030-5PF01-0AA0 3SU1030-5PF11-0AA0		1	1 unit 1 unit	41J 41J
		BKS, E1	0	0	5	3SU1030-5PF21-0AA0 3SU1030-5QF01-0AA0		1	1 unit 1 unit	41J 41J
		DNO, LT	O+I	0	5	3SU1030-5QF11-0AA0		1	1 unit	41J
		BKS, E2	O O+I	0 0	3	3SU1030-5RF01-0AA0 3SU1030-5RF11-0AA0		1	1 unit 1 unit	41J 41J
10 /		BKS, E7	0	0	>	3SU1030-5SF01-0AA0		1	1 unit	41J
3SU1030-5PF01-0AA0		BKS, E9	0+l	0	3	3SU1030-5SF11-0AA0 3SU1030-5TF01-0AA0		1	1 unit	41J 41J
		IKON,	O+I O	2	3	3SU1030-5TF11-0AA0 3SU1030-5XF01-0AA0		1	1 unit 1 unit	41J 41J
		360012K1	Ö+I	2	3	3SU1030-5XF11-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Key-operated switches

	Operating principle	Make of lock	Switch position for key removal	Number of keys	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch	nes				u					
	3 switch position	s								
	Momentary	RONIS, SB30	0	2	3	3SU1030-4BM01-0AA0		1	1 unit	41J
	contact, 2x45° (10:30/12/	O.M.R. 73037, red	0	2	5	3SU1030-4FM01-0AA0		1	1 unit	41J
	1:30 o'clock), reset from left + right	OMR 73034	0	2	5	3SU1030-4HM01-0AA0		1	1 unit	41J
		CES, SSG10	0	2	>	3SU1030-5BM01-0AA0		1	1 unit	41J
3SU1030-4BM01-0AA0	1/2	BKS, S1	0	2	3	3SU1030-5PM01-0AA0		1	1 unit	41J
		IKON, 360012K1	0	2	5	3SU1030-5XM01-0AA0		1	1 unit	41J
	Latching, 2x45° (10:30/12/ 1:30 o'clock)	RONIS, SB30	O +O+ 	2 2 2 2 2 2 2	3 5 3 5 3	3SU1030-4BL01-0AA0 3SU1030-4BL11-0AA0 3SU1030-4BL21-0AA0 3SU1030-4BL31-0AA0 3SU1030-4BL41-0AA0 3SU1030-4BL51-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
		RONIS, 455	0 I+O+II	2	5 5	3SU1030-4CL01-0AA0 3SU1030-4CL11-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73037, red	O O+I	2 2	5 5	3SU1030-4FL01-0AA0 3SU1030-4FL51-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73038, light blue	0 I+0+II	2	5 3	3SU1030-4GL01-0AA0 3SU1030-4GL11-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73034, black	0 I+O+II	2	5 3	3SU1030-4HL01-0AA0		1 1	1 unit	41J 41J
		O.M.R. 73033, yellow		2	5	3SU1030-4HL11-0AA0 3SU1030-4JL11-0AA0		1	1 unit 1 unit	41J
3SU1030-4JL11-0AA0										
		CES, SSG10	0	2	3	3SU1030-5BL01-0AA0		1	1 unit	41J
			I+O+II I	2	3	3SU1030-5BL11-0AA0 3SU1030-5BL21-0AA0		1 1	1 unit 1 unit	41J 41J
			 +	2	3	3SU1030-5BL31-0AA0 3SU1030-5BL41-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1030-5BL41-0AA0			O+I	2	5	3SU1030-5BL51-0AA0		1	1 unit	41J
SSO TOSS OBLAT OF TAO		BKS, S1	0	2	5	3SU1030-5PL01-0AA0		1	1 unit	41J
		•	I+O+II	2	3	3SU1030-5PL11-0AA0 3SU1030-5PL21-0AA0		1 1	1 unit	41J 41J
			I II	2	3 5	3SU1030-5PL21-0AA0 3SU1030-5PL31-0AA0		1	1 unit 1 unit	41J 41J
			1+11	2	5	3SU1030-5PL41-0AA0		1	1 unit	41J
		BKS, E2	I+O+II	0	5	3SU1030-5RL11-0AA0		1	1 unit	41J
2 2		BKS, E9 IKON.	0	2	5	3SU1030-5TL11-0AA0		1	1 unit	41J 41J
(6)		360012K1	-			3SU1030-5XL01-0AA0		I	1 unit	
3SU1030-5PL01-0AA0			I+O+II	2	5	3SU1030-5XL11-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte **Actuating and Signaling Elements**

Key-operated switches/ID key-operated switches

	Operating principle	Make of lock	Switch position for key removal	Number of keys	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch	200				u					
Rey-operated switch	3 switch position	16								
	•		0	0	E	3SU1030-4BP01-0AA0		1	1 . mit	44.1
	Momentary contact/ latching, 2x45°	HUINIS, SB3U	O II	2 2	5 5	3SU1030-4BP01-0AA0 3SU1030-4BP31-0AA0		1 1	1 unit 1 unit	41J 41J
	(10:30/12/		O+II	2	5	3SU1030-4BP61-0AA0		1	1 unit	41J
	1:30 o'clock), reset from left,	CES, SSG10	0	2	3	3SU1030-5BP01-0AA0		1	1 unit	41J
	latching to the right		 O+	2 2	5 3	3SU1030-5BP31-0AA0 3SU1030-5BP61-0AA0		1 1	1 unit 1 unit	41J 41J
	. O		0+11	۷	J	330 1030-3DF01-0AA0		į	i uiiit	410
3SU1030-4BP01-0AA0	 									
	₩	BKS, S1	0	2	3	3SU1030-5PP01-0AA0		1	1 unit	41J
	Latching/momentary		0	2	5	3SU1030-4BN01-0AA0		1	1 unit	41J
	contact, 2x45°	,	l .	2	5	3SU1030-4BN21-0AA0		1	1 unit	41J
	(10:30/12/ 1:30 o'clock),		O+I	2	5	3SU1030-4BN51-0AA0		1	1 unit	41J
	reset from right,	O.M.R. 73038 light blue	, О	2	5	3SU1030-4GN01-0AA0		1	1 unit	41J
	latching to the left	O.M.R. 73034	, 1	2	5	3SU1030-4HN21-0AA0		1	1 unit	41J
		black								
	\ 									
	-	CES, SSG10	0	2	3	3SU1030-5BN01-0AA0		1	1 unit	41J
		020, 000.0	1	2	3	3SU1030-5BN21-0AA0		1	1 unit	41J
			O+I	2	3	3SU1030-5BN51-0AA0		1	1 unit	41J
OSCILIADOS EFINISTICA DA AGO										
3SU1030-5BN01-0AA0		BKS, S1	1	0	E	20111020 EDN01 0440		1	1 . mit	41J
		BK5, 51	0+1	2 2	5 5	3SU1030-5PN21-0AA0 3SU1030-5PN51-0AA0		1 1	1 unit 1 unit	41J 41J
		IKON,	O+I	2	5	3SU1030-5XN51-0AA0		1	1 unit	41J
		360012K1								
Selection and order	ing data									
	Operating Oper	ating Switc	h position	Color	SD	Article No.	Price	PU	PS*	PG
	angle princ		y removal	00101	OD	7 11 11 01 0 1 40.	per PU	(UNIT,	10	1 4
								SET, M)		
					d					
ID key-operated swit										
	4 switch position	າຣ								
	45° Latol	possi	emoval ble in positions	Black	•	3SU1030-4WS10-0AA0		1	1 unit	41J
3SU1030-4WS10-0AA0										
For ID keys, see pag	e 13/140									

For ID keys, see page 13/140.

For electronic modules for ID key-operated switches, see page 13/99.

For plastic holders for ID key-operated switches, see page 13/89.

Actuators and Indicators, 22 mm, Plastic with Metal Front Ring, Matte Actuating and Signaling Elements

Coordinate switches/indicator lights

Selection and ordering	ng data									
	Product function Locking in zero position	Number of switching positions	Operating principle	Direction of actuation	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Coordinate switches										
	No	2	Momentary contact	Horizontal Vertical	>	3SU1030-7AC10-0AA0 3SU1030-7AD10-0AA0		1 1	1 unit 1 unit	41J 41J
			Latching	Horizontal Vertical	>	3SU1030-7AA10-0AA0 3SU1030-7AB10-0AA0		1 1	1 unit 1 unit	41J 41J
		4	Momentary contact	Horizontal/ Vertical	•	3SU1030-7AF10-0AA0		1	1 unit	41J
			Latching	Horizontal/ Vertical	•	3SU1030-7AE10-0AA0		1	1 unit	41J
3SU1030-7AA10-0AA0										
	Yes	2	Momentary contact	Horizontal Vertical	>	3SU1030-7BC10-0AA0 3SU1030-7BD10-0AA0		1 1	1 unit 1 unit	41J 41J
			Latching	Horizontal Vertical	>	3SU1030-7BA10-0AA0 3SU1030-7BB10-0AA0		1 1	1 unit 1 unit	41J 41J
		4	Momentary contact	Horizontal/ Vertical	•	3SU1030-7BF10-0AA0		1	1 unit	41J
			Latching	Horizontal/ Vertical	•	3SU1030-7BE10-0AA0		1	1 unit	41J
3SU1030-7BA10-0AA0										
000 1000 1 27 110 07 110										
Selection and ordering	ng data									
	Type of product		Color		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Indicator lights										
	With smooth lens		Amber Red Yellow Green Blue White Clear		3	3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0 3SU1001-6AA70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1001-6AA20-0AA0										
Indicator lights in illu	minated pushb	utton desi	_							
			Red Yellow Green Blue Clear		3 5 3 5 3	3SU1031-0AD20-0AA0 3SU1031-0AD30-0AA0 3SU1031-0AD40-0AA0 3SU1031-0AD50-0AA0 3SU1031-0AD70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

3SU1031-0AD50-0AA0

Actuators and Indicators, 22 mm, Metal, Shiny Complete Units

Pushbuttons

Selection and ordering	ng data											
	Supply vol	tage for	Color	Number	nf		SD	Screw terminals		PU	PS*	PG
	light sourc	е	00101			NO	OB	Coron terminale	+	(UNIT, SET, M)	10	1 4
	at AC	at DC		Contact modules	contacts	NC contacts				,,		
	V	٧					d	Article No.	Price per PU			
Pushbuttons	Pushbut	tono wi	th flat h.		· · · · · · · · · · · · · · · · · · ·							
			Black	1	1	0		3SU1150-0AB10-1BA0		1	1 unit	41J
					0	1	3	3SU1150-0AB10-1CA0 3SU1150-0AB10-1FA0		1 1	1 unit 1 unit	41J 41J
			Red	1	1	0	5	3SU1150-0AB20-1BA0 3SU1150-0AB20-1CA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3	3SU1150-0AB20-1FA0 3SU1150-0AB30-1BA0		1	1 unit 1 unit	41J 41J
A			Green	1	1	0	5	3SU1150-0AB30-1FA0 3SU1150-0AB40-1BA0		1	1 unit 1 unit	41J 41J
3SU1150-0AB30-1BA0			Blue	1	1	0	3	3SU1150-0AB40-1FA0 3SU1150-0AB50-1BA0		1	1 unit 1 unit	41J 41J
			White	1	<u>i</u>	0	5 3	3SU1150-0AB50-1FA0 3SU1150-0AB60-1BA0		<u>i</u> 1	1 unit	41J 41J
			Clear	1	1	0	5	3SU1150-0AB60-1FA0		<u>i</u> 1	1 unit	41J 41J
					1	1	5	3SU1150-0AB70-1BA0 3SU1150-0AB70-1FA0		1	1 unit 1 unit	41J
000	Pushbut	tons wi	th raised Black	button,	moment	ary con 0		3SU1150-0BB10-1BA0		1	1 unit	41J
					0	1	5 5 5	3SU1150-0BB10-1CA0 3SU1150-0BB10-1FA0		1 1	1 unit 1 unit	41J 41J
			Red	1	0	1	3 5	3SU1150-0BB20-1CA0 3SU1150-0BB20-1FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	1	5	3SU1150-0BB40-1FA0		1	1 unit	41J 41J
			Blue		1	1	5	3SU1150-0BB50-1BA0 3SU1150-0BB50-1FA0		1	1 unit 1 unit	41J
3SU1150-0BB20-1CA0	Illuminat 24	led pusi 24		with fla	t button, 1	momen 0	tary 5	contact, with integrated 3SU1152-0AB00-1BA0	LED	1	1 unit	41J
000			Red	1	0	1	5	3SU1152-0AB00-1FA0 3SU1152-0AB20-1CA0		1	1 unit 1 unit	41J 41J
					1	0	>	3SU1152-0AB20-1FA0		<u>i</u> 1	1 unit	41J
			Yellow	1	1	1	3	3SU1152-0AB30-1BA0 3SU1152-0AB30-1FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0 1	>	3SU1152-0AB40-1BA0 3SU1152-0AB40-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1152-0AB50-1BA0			Blue	1	1 1	0	5	3SU1152-0AB50-1BA0 3SU1152-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
			White	1	1	0	>	3SU1152-0AB60-1BA0 3SU1152-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	>	3SU1152-0AB70-1BA0 3SU1152-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J
	110		Amber	1	1	0	5	3SU1153-0AB00-1BA0		1	1 unit	41J
٥٠٠			Red	1	0	1	5	3SU1153-0AB00-1FA0 3SU1153-0AB20-1CA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	5	3SU1153-0AB20-1FA0 3SU1153-0AB30-1BA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	5	3SU1153-0AB30-1FA0 3SU1153-0AB40-1BA0		1	1 unit 1 unit	41J 41J
A			Blue	1	1	0	5	3SU1153-0AB40-1FA0 3SU1153-0AB50-1BA0		<u>i</u> 1	1 unit	41J 41J
3SU1153-0AB60-1BA0					1	1	5	3SU1153-0AB50-1FA0		1	1 unit 1 unit	41J
			White	1	1	0	5 5	3SU1153-0AB60-1BA0 3SU1153-0AB60-1FA0		1 1	1 unit 1 unit	41J 41J
			Clear	1	1 1	0 1	5 5	3SU1153-0AB70-1BA0 3SU1153-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J
	230		Amber	1	1	0	5 5	3SU1156-0AB00-1BA0 3SU1156-0AB00-1FA0		1 1	1 unit 1 unit	41J 41J
			Red	1	0	1	5 5	3SU1156-0AB20-1CA0 3SU1156-0AB20-1FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	5	3SU1156-0AB30-1BA0 3SU1156-0AB30-1FA0		1 1	1 unit	41J
			Green	1	1	0	3	3SU1156-0AB40-1BA0		1	1 unit	41J 41J
					1	1	5	3SU1156-0AB40-1FA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Metal, Shiny Complete Units

Pushbuttons

	Supply vo		Color	Number	of		SD	Screw terminals	(1)	PU (UNIT, SET. M)	PS*	PG
	at AC	at DC		Contact modules	NO contacts	NC contacts				SEI, MI)		
	V	V					d	Article No.	Price per PU			
Pushbuttons	230		Blue	1	1	0	5	3SU1156-0AB50-1BA0		1	1 unit	41J
000	230				1	1	5	3SU1156-0AB50-1FA0		1	1 unit	41J
			White	1	1	0	5 5	3SU1156-0AB60-1BA0 3SU1156-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1 1	0 1	5 5	3SU1156-0AB70-1BA0 3SU1156-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J
								Spring-type terminals	**			
3SU1156-0AB50-1BA0	Pushbu	ttons wi		ıtton, mo	•			90114459 04 D40 0D40				44.1
900	 		Black	1	1 0 1	0 1 1	5 5	3SU1150-0AB10-3BA0 3SU1150-0AB10-3CA0 3SU1150-0AB10-3FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Red	1	1	0	5	3SU1150-0AB20-3CA0		1	1 unit	41J
			Yellow	1	1	0	5	3SU1150-0AB20-3FA0 3SU1150-0AB30-3BA0		1	1 unit 1 unit	41J 41J
SA.	l		Green	1	1	0	5	3SU1150-0AB30-3FA0 3SU1150-0AB40-3BA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	5	3SU1150-0AB40-3FA0 3SU1150-0AB50-3BA0		1	1 unit	41J 41J
3SU1150-0AB40-3BA0	ı				1	1	5	3SU1150-0AB50-3FA0		1	1 unit	41J
0.			White	1	1	0	5 5	3SU1150-0AB60-3BA0 3SU1150-0AB60-3FA0		1	1 unit 1 unit	41J 41J
	Pushbu	ttons wit	th raised Red	l button,	moment 0	ary con	tact 5	3SU1150-0BB20-3CA0		1	1 unit	41J
JA												
3SU1150-0BB20-3CA0		44		! . ! ! !				and a set of the last and a				
000	111 umina 24	tea pusi 24	Red	s with flat 1	0	momen	5	contact, with integrated 3SU1152-0AB20-3CA0	I LED	1	1 unit	41J
			Yellow	1	1	0	5	3SU1152-0AB20-3FA0 3SU1152-0AB30-3BA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	5	3SU1152-0AB30-3FA0 3SU1152-0AB40-3BA0		1	1 unit	41J 41J
					<u>i</u> 1	1	3	3SU1152-0AB40-3FA0		<u>i</u> 1	1 unit	41J
3SU1152-0AB20-3CA0			Blue	1	1	0	5	3SU1152-0AB50-3BA0 3SU1152-0AB50-3FA0		1	1 unit 1 unit	41J 41J
3301132-0AB20-30A0			White	1	1	0	3 5	3SU1152-0AB60-3BA0 3SU1152-0AB60-3FA0		1 1	1 unit 1 unit	41J 41J
			Clear	1	1	0	5 5	3SU1152-0AB70-3BA0 3SU1152-0AB70-3FA0		1 1	1 unit 1 unit	41J 41J
	110		Red	1	0	1	5 5	3SU1153-0AB20-3CA0 3SU1153-0AB20-3FA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	5	3SU1153-0AB30-3BA0 3SU1153-0AB30-3FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	5 5	3SU1153-0AB40-3BA0		1	1 unit	41J
			Blue	1	1	0	5	3SU1153-0AB40-3FA0 3SU1153-0AB50-3BA0		1 1	1 unit	41J 41J
JA.			White	1	1	0	5	3SU1153-0AB50-3FA0 3SU1153-0AB60-3BA0		1	1 unit 1 unit	41J 41J
3SU1153-0AB60-3BA0			Clear	1	1	0	5	3SU1153-0AB60-3FA0 3SU1153-0AB70-3BA0		1	1 unit 1 unit	41J 41J
	230		Red	1	0	1	5	3SU1153-0AB70-3FA0 3SU1156-0AB20-3CA0		1	1 unit	41J 41J
000	230				1	1	5	3SU1156-0AB20-3FA0		1	1 unit	41J
			Yellow	1	1	0	5 5	3SU1156-0AB30-3BA0 3SU1156-0AB30-3FA0		1 1	1 unit 1 unit	41J 41J
			Green	1	1 1	0 1	5 5	3SU1156-0AB40-3BA0 3SU1156-0AB40-3FA0		1 1	1 unit 1 unit	41J 41J
BA	l		Blue	1	1	0	5 5	3SU1156-0AB50-3BA0 3SU1156-0AB50-3FA0		1 1	1 unit 1 unit	41J 41J
00114450 01720 07:5			White	1	1	0	5	3SU1156-0AB60-3BA0 3SU1156-0AB60-3FA0		1 1	1 unit 1 unit	41J 41J
3SU1156-0AB30-3BA0			Clear	1	1	0	5	3SU1156-0AB70-3BA0		1	1 unit	41J
					1	1	5	3SU1156-0AB70-3FA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Metal, Shiny Complete Units

Mushroom pushbuttons/EMERGENCY STOP mushroom pushbuttons

Se	lection	and	ordering	g data	

Unlatching method	Number of Contact modules	NO contacts	NC contacts	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			

Mushroom pushbutto



ons									
With red mus	shroom	, diameter 40	mm, latchi	ing					
Pull to unlatch	1	0 1	1 1	3	3SU1150-1BA20-1CA0 3SU1150-1BA20-1FA0		1 1	1 unit 1 unit	41J 41J
					Spring-type terminals	8			
Pull to unlatch	1	0 1	1 1	5 5	3SU1150-1BA20-3CA0 3SU1150-1BA20-3FA0		1 1	1 unit 1 unit	41J 41J

Selection and ordering data

Unlatching	Number of	of		Marking	SE
method	Contact modules		NC con- tacts		

PU (UNIT, Screw terminals PS* PG SÈT, M) Article No. Price per PU

EMERGENCY STOP mushroom pushbuttons, in accordance with ISO 13850 and IEC 60947-5-5



3SU1150-1HB20-1CH0

With	red	mu	shroom,	diameter	40	mm, w	ith posii	tive la	atching
							_	· -	

Pull to unlatch	1	0	1	EMER- GENCY STOP	⊕ 5	3SU1150-1HA20-1CG0	1	1 unit	41J
	1	0	1	NOT-HALT	→ 5	3SU1150-1HA20-1CH0	1	1 unit	41J
		1	1	EMER- GENCY STOP	⊕ 5	3SU1150-1HA20-1FG0	1	1 unit	41J
		1	1	NOT-HALT	→ 5	3SU1150-1HA20-1FH0	1	1 unit	41J
		1	1	ARRET D'URGENCE	⊙ 5	3SU1150-1HA20-1FJ0	1	1 unit	41J
Rotate to unlatch	1	0	1	EMER- GENCY STOP	⊕ 3	3SU1150-1HB20-1CG0	1	1 unit	41J
	1	0	1	NOT-HALT	\odot \triangleright	3SU1150-1HB20-1CH0	1	1 unit	41J
	1	0	1	ARRET D'URGENCE	→ 5	3SU1150-1HB20-1CJ0	1	1 unit	41J
		1	1	EMER- GENCY STOP	⊕ 5	3SU1150-1HB20-1FG0	1	1 unit	41J
		1	1	NOT-HALT	\odot \triangleright	3SU1150-1HB20-1FH0	1	1 unit	41J
		1	1	ARRET D'URGENCE	⊕ 5	3SU1150-1HB20-1FJ0	1	1 unit	41J
						Spring-type terminals			
Pull to unlatch	1	0	1	NOT-HALT	→ 5	3SU1150-1HA20-3CH0	1	1 unit	41J
	2	0	2	NOT-HALT	→ 5	3SU1150-1HA20-3FH0	1	1 unit	41J
	2	0	2	NOT-HALT	→ 5	3SU1150-1HA20-3PH0	1	1 unit	41J
Rotate to	1	0	1	NOT-HALT	⊕ 5	3SU1150-1HB20-3CH0	1	1 unit	41J
unlatch	2	0	2	NOT-HALT	⊕ 5	3SU1150-1HB20-3FH0	1	1 unit	41J
	2	0	2	NOT-HALT	⊕ 5	3SU1150-1HB20-3PH0	1	1 unit	41J

→ Positive opening according to IEC 60947-5-1, Annex K.

Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards. Certificate:



Actuators and Indicators, 22 mm, Metal, Shiny Complete Units

EMERGENCY STOP mushroom pushbuttons/selector switches

Un- latching method	Supply voltage light se	e for	Number	of		Marking	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	at AC	at DC	Contact modules		NC con- tacts							
	V	V					d	Article No.	Price per PU			

EMERGENCY STOP mushroom pushbuttons, can be illuminated, in accordance with ISO 13850 and IEC 60947-5-5 NEW

LINERGENCY STORY

3SU1158-1HB20-1PT0

With red mushroom, diameter 40 mm, with positive latching

Rotate to 24 ... 24 ... 1 0 2 EMER- ⊕ 5 GENCY STOP

→ Positive opening according to IEC 60947-5-1, Annex K.

Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards.

Certificate:



Selection and order	ing data										
	Operating principle	Color	Number	of		SD	Screw terminals	(1)	PU	PS*	PG
			Contact modules	NO contacts	NC contacts				(UNIT, SET, M)		
						d	Article No.	Price per PU			
Selector switches								•			
	Short black actu	ator, 2	switch po	sitions			_				
	Latching, 90°	White	1 2	1 1 1	0 1 1	3	3SU1150-2BF60-1BA0 3SU1150-2BF60-1FA0 3SU1150-2BF60-1MA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	Short black actu	ator, 3	switch po	sitions ((I - O - II)						
3SU1150-2BF60-1BA0	Momentary contact, 2x45°, reset from left + right	White	2	2 2	2 0	3	3SU1150-2BM60-1LA0 3SU1150-2BM60-1NA0		1 1	1 unit 1 unit	41J 41J
35U1150-2BF60-1BA0											
	Latching, 2x45°	White	2	2	2	•	3SU1150-2BL60-1LA0 3SU1150-2BL60-1NA0		1 1	1 unit 1 unit	41J 41J
	-						Spring-type terminals	<u>~</u>			
	Short black actu	ator, 2	switch po	sitions							
	Latching, 90°	White	1 2	1	0	5 5	3SU1150-2BF60-3BA0 3SU1150-2BF60-3MA0		1 1	1 unit 1 unit	41J 41J
	Short black actu	ator, 3	switch po	sitions							
PAR	Momentary contact, 2x45°, reset from left + right	White	2	2	2	5 5	3SU1150-2BM60-3LA0 3SU1150-2BM60-3NA0		1 1	1 unit 1 unit	41J 41J
3SU1150-2BL60-3NA0											
	Latching, 2x45° O I I II	White	2	2	2	5 5	3SU1150-2BL60-3LA0 3SU1150-2BL60-3NA0		1 1	1 unit 1 unit	41J 41J

1 unit

41J

41J

1 unit

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Metal, Shiny Complete Units

Key-operated switches/coordinate switches

	_											
	Operating principle	Switch position for key removal	Number Contact modules	NO	NC con- tacts		SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							d	Article No.	Price per PU			
Key-operated switch	es						<u>u</u>		pori			
	With RONIS	lock, SB3	30, 2 swite	ch pos	itions	s						
	Latching, 90° (10:30/	All	1	1 1	0 1	2 2	3 3	3SU1150-4BF11-1BA0 3SU1150-4BF11-1FA0		1 1	1 unit 1 unit	41. 41.
	1:30 o'clock) OI							Spring-type terminals				
The state of the s	V	AII AII O	1 2	1 1 0	0 1 2	2 2 2	5 5 5	3SU1150-4BF11-3BA0 3SU1150-4BF11-3FA0 3SU1150-4BF01-3PA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1150-4BF11-1BA0												
Selection and orderi	ng data											
	Number of NO contacts (1 per direction	Opera princip			ction o ation	ıf	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							d	Article No.	Price per PU			
Coordinate switches												
The state of the s	Without med				•	sitions						
(0)	2	Mome contac		Horiz Verti	zontal cal		5 5	3SU1150-7AC88-1NA0 3SU1150-7AD88-1NA0		1 1	1 unit 1 unit	41J 41J
		Latchi	ng	Horiz Verti	zontal		5 5	3SU1150-7AA88-1NA0 3SU1150-7AB88-1NA0		1	1 unit	41J 41J
	Without med	hanical i	nterlock.			sitions		3501150-7AB60-1NA0			1 unit	410
	4	Mome	ntary		-	Vertical		3SU1150-7AF88-1QA0		1	1 unit	41J
3SU1150-7AF88-1QA0		Latchi	ng	Horiz	zontal/	Vertical	5	3SU1150-7AE88-1QA0		1	1 unit	41J
- Marian	With mechai	nical inter	rlock, 2 sı	witch p	oositi	ons						
COL	2	Mome contact		Horiz Verti	zontal cal		5 5	3SU1150-7BC88-1NA0 3SU1150-7BD88-1NA0		1 1	1 unit 1 unit	41J 41J
		Latchi	ng	Horiz Verti	zontal cal		5 5	3SU1150-7BA88-1NA0 3SU1150-7BB88-1NA0		1 1	1 unit 1 unit	41J 41J
	With mechai	nical inter	rlock, 4 sı			ons						
	4	Mome contac		Horiz	zontal/	Vertical	5	3SU1150-7BF88-1QA0		1	1 unit	41J

Horizontal/Vertical 5

3SU1150-7BE88-1QA0

3SU1150-7BF88-1QA0

Latching

Actuators and Indicators, 22 mm, Metal, Shiny Complete Units

Indicator lights

Command Comm	Selection and order	ing data									
Mith smooth lens and integrated LED		at AC,	at DC,	of actuating		SD	Screw terminals	+	(UNIT,	PS*	PG
With smooth lens and Integrated LED 24		V	V			d	Article No.				
24	Indicator lights										
Red Red P 3SU1152-6A30-1AA0 1 1 unit 41J Yellow Yellow P 3SU1152-6A30-1AA0 1 1 unit 41J HIJ HI		With smoo	th lens and l	integrated L	ED						
Yellow Yellow Page Sut 000	24	24	Amber	Amber	5	3SU1152-6AA00-1AA0		1	1 unit	41J	
Green Blue Blue 3 35U1152-6AA40-1AA0 1 1 unit 41J				Red	Red	>	3SU1152-6AA20-1AA0		1	1 unit	41J
Blue Blue Suu Su				Yellow	Yellow	•	3SU1152-6AA30-1AA0		1	1 unit	41J
White							3SU1152-6AA40-1AA0		1	1 unit	41J
Clear											
38U1152-6AA50-1AA0										1 unit	
Red Red SU1153-6AA20-1AA0 1 1 unit 41J	20111152 04 450 14 40										
Yellow Yellow Green Green Sul1153-6AA30-1AA0 1 1 unit 41J	3501152-6AA50-1AA0	110									
Green Blue Blue 5 3\$U1153-6AA40-1AA0 1 1 unit 41J	000										
Blue Blue S 3\$U1153-6AA60-1AA0 1 1 unit 41J											
White White Clear White S SSU1153-6AA60-1AA0 1 1 unit 41J											
Clear White 5 3SU1153-6AA70-1AA0 1 1 unit 41J											
SSU1156-6AA60-1AA0											
Yellow Yellow Green Green Green SU1156-6AA40-1AA0 1 1 unit 41J											
Green Green Sultise-6AA40-1AA0 1 1 unit 41J		230									
Blue Blue Blue 5 3SU1156-6AA50-1AA0 1 1 unit 41J	3SU1156-6AA60-1AA0										
White White S SSU1156-6AA60-1AA0 1 1 unit 41J											
Clear White 5 3SU1156-6AA70-1AA0 1 1 unit 41J											
24 24 Red Red 3 3SU1152-6AA20-3AA0 1 1 unit 41J											
24		-		Clear	White	5			1	1 unit	41J
Yellow Yellow 5 3SU1152-6AA30-3AA0 1 1 unit 41J							Spring-type terminals				
Green Green 3 3SU1152-6AA40-3AA0 1 1 unit 41J		24	24	Red	Red	3	3SU1152-6AA20-3AA0		1	1 unit	41J
Blue Blue 3 3SU1152-6AA50-3AA0 1 1 unit 41J	000			Yellow	Yellow	5	3SU1152-6AA30-3AA0		1	1 unit	41J
White White 5 3SU1152-6AA60-3AA0 1 1 unit 41J				Green	Green	3	3SU1152-6AA40-3AA0		1	1 unit	41J
Clear				Blue	Blue	3	3SU1152-6AA50-3AA0		1	1 unit	41J
110 Red Red 5 3SU1153-6AA20-3AA0 1 1 unit 41J 3SU1152-6AA40-3AA0				White	White	5	3SU1152-6AA60-3AA0		1	1 unit	41J
Yellow Yellow 5 3SU1153-6AA30-3AA0 1 1 unit 41J 3SU1152-6AA40-3AA0 Green Green 5 3SU1153-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1153-6AA60-3AA0 1 1 unit 41J White White 5 3SU1153-6AA60-3AA0 1 1 unit 41J Clear White 5 3SU1153-6AA70-3AA0 1 1 unit 41J Yellow Yellow 5 3SU1156-6AA20-3AA0 1 1 unit 41J Green Green 5 3SU1156-6AA30-3AA0 1 1 unit 41J Green Green 5 3SU1156-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1156-6AA40-3AA0 1 1 unit 41J White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J SSU1156-6AA20-3AA0 1 1 unit 41J White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J				Clear	White	5	3SU1152-6AA70-3AA0		1	1 unit	41J
3SU1152-6AA40-3AA0		110		Red	Red	5	3SU1153-6AA20-3AA0		1	1 unit	41J
Blue Blue 5 3SU1153-6AA50-3AA0 1 1 unit 41J White White 5 3SU1153-6AA70-3AA0 1 1 unit 41J Clear White 5 3SU1153-6AA70-3AA0 1 1 unit 41J 230 Red Red 5 3SU1156-6AA20-3AA0 1 1 unit 41J Yellow Yellow 5 3SU1156-6AA30-3AA0 1 1 unit 41J Green Green 5 3SU1156-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1156-6AA50-3AA0 1 1 unit 41J White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J				Yellow	Yellow	5	3SU1153-6AA30-3AA0		1	1 unit	41J
White White 5 3SU1153-6AA60-3AA0 1 1 unit 41J Clear White 5 3SU1153-6AA70-3AA0 1 1 unit 41J 230 Red Red 5 3SU1156-6AA20-3AA0 1 1 unit 41J Yellow Yellow 5 3SU1156-6AA30-3AA0 1 1 unit 41J Green Green 5 3SU1156-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1156-6AA50-3AA0 1 1 unit 41J White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J	3SU1152-6AA40-3AA0			Green	Green	5	3SU1153-6AA40-3AA0		1	1 unit	41J
Clear White 5 3SU1153-6AA70-3AA0 1 1 unit 41J 230 Red Red 5 3SU1156-6AA20-3AA0 1 1 unit 41J Yellow Yellow 5 3SU1156-6AA30-3AA0 1 1 unit 41J Green Green 5 3SU1156-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1156-6AA50-3AA0 1 1 unit 41J White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J	-			Blue	Blue	5	3SU1153-6AA50-3AA0		1	1 unit	41J
Clear White 5 3SU1153-6AA70-3AA0 1 1 unit 41J 230 Red Red 5 3SU1156-6AA20-3AA0 1 1 unit 41J Yellow Yellow 5 3SU1156-6AA30-3AA0 1 1 unit 41J Green Green 5 3SU1156-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1156-6AA50-3AA0 1 1 unit 41J White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J	000			White	White	5	3SU1153-6AA60-3AA0		1	1 unit	41J
Yellow Yellow 5 3SU1156-6AA30-3AA0 1 1 unit 41J Green Green 5 3SU1156-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1156-6AA50-3AA0 1 1 unit 41J 3SU1156-6AA20-3AA0 White 5 3SU1156-6AA60-3AA0 1 1 unit 41J				Clear	White	5	3SU1153-6AA70-3AA0		1	1 unit	41J
Green Green 5 3SU1156-6AA40-3AA0 1 1 unit 41J Blue Blue 5 3SU1156-6AA50-3AA0 1 1 unit 41J White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J		230		Red	Red	5	3SU1156-6AA20-3AA0		1	1 unit	41J
Blue Blue 5 3SU1156-6AA50-3AA0 1 1 unit 41J 3SU1156-6AA20-3AA0 White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J				Yellow	Yellow	5	3SU1156-6AA30-3AA0		1	1 unit	41J
3SU1156-6AA20-3AA0 White White 5 3SU1156-6AA60-3AA0 1 1 unit 41J				Green	Green	5	3SU1156-6AA40-3AA0		1	1 unit	41J
3SU1156-6AA2U-3AAU				Blue	Blue	5	3SU1156-6AA50-3AA0		1	1 unit	41J
Clear White 5 3SU1156-6AA70-3AA0 1 1 unit 41J	3SU1156-64420-3440			White	White	5	3SU1156-6AA60-3AA0		1	1 unit	41J
	550 1 100 0/ W ZO 0/ WO			Clear	White	5	3SU1156-6AA70-3AA0		1	1 unit	41J

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Metal, Shiny Compact Units

Indicator lights

Selection and orderi	ng data									
	Operational v at AC, rated value	oltage at DC, rated value	Color of actuating element	of light source	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V			d	Article No.	Price per PU			
Indicator lights NEW										
	24	24	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	5 • • • 5 • 3	3SU1251-6AB00-1AA0 3SU1251-6AB20-1AA0 3SU1251-6AB30-1AA0 3SU1251-6AB40-1AA0 3SU1251-6AB50-1AA0 3SU1251-6AB60-1AA0 3SU1251-6AB70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1251-6AB50-1AA0										
	110	110	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	5 5 5 5 5 5 5	3SU1251-6AC00-1AA0 3SU1251-6AC20-1AA0 3SU1251-6AC30-1AA0 3SU1251-6AC40-1AA0 3SU1251-6AC50-1AA0 3SU1251-6AC60-1AA0 3SU1251-6AC70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1251-6AC30-1AA0										
3SU1251-6AF30-1AA0	230	230	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White Clear	5 3 5 5 5 5 5 5 5	3SU1251-6AF00-1AA0 3SU1251-6AF20-1AA0 3SU1251-6AF30-1AA0 3SU1251-6AF40-1AA0 3SU1251-6AF50-1AA0 3SU1251-6AF60-1AA0 3SU1251-6AF70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
Indicator lights with '										
	6 24	6 24	Clear	Red/Yellow/ Green	•	3SU1251-6AG24-1AA0		1	1 unit	41J
	110 230		Clear	Red/Yellow/ Green Red/Yellow/ Green	>	3SU1251-6AC24-1AA0 3SU1251-6AF24-1AA0		1	1 unit 1 unit	41J 41J
3SU1251-6AG24-1AA0										

Actuators and Indicators, 22 mm, Metal, Shiny Compact Units

Acoustic signaling devices/potentiometers

Selection and ordering	ng data								
		e at DC, rated value	Volume level	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V	dB	d	Article No.	Price per PU			
Acoustic signaling de	evices								
3SU1250-6KB10-1AA0 Selection and ordering	110 230	24	90 90 90	5 5 5	3SU1250-6KB10-1AA0 3SU1250-6KC10-1AA0 3SU1250-6KF10-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	Version of actuating element	Operating principle	Adjustable resistance	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
			kΩ	d	Article No.	Price per PU	. ,		
Potentiometers	Rotary knob	Stepless	1 4.7 10 47 100 470	>	3SU1250-2PQ10-1AA0 3SU1250-2PR10-1AA0 3SU1250-2PS10-1AA0 3SU1250-2PT10-1AA0 3SU1250-2PU10-1AA0 3SU1250-2PU10-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

Labeling plates for potentiometers, see page 13/132.

3SU1250-2PQ10-1AA0

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Metal, Shiny Compact Units

Pushbuttons with extended stroke

Selection and ordering	ng data								
	Version		Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons with ext	anded stroke			d					
Pusibuttons with ext	For actuating relays, ca	an only be combined w	rith extension						
	plunger, no contact mo	dule or LED module re	quired						
	Pushbuttons with flat	button	Red Green Blue	5 5 7	3SU1250-0EB20-0AA0 3SU1250-0EB40-0AA0 3SU1250-0EB50-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1250-0EB40-0AA0									
	Pushbuttons with rais	sed button	Black	•	3SU1250-0FB10-0AA0		1	1 unit	41J
3SU1250-0FB10-0AA0	Pushbuttons with flat	transparent button	Red	3	3SU1251-0EB20-0AA0		1	1 unit	41J
3SU1251-0EB20-0AA0	for insertion of insert	labels	Clear	3	3SU1251-0EB70-0AA0		1	1 unit	41J
	Version	Material	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d			. ,		
Accessories									
3SU1900-0KG10-0AA0	Extension plungers For compensation of the distance between the pushbutton and the unlatching button of an overload relay	Plastic	Gray	•	3SU1900-0KG10-0AA0		1	1 unit	41J

Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

Pushbuttons

	actuating element								
	Front ring version	principle Unlatching method	marking			per PU	(UNIT, SET, M)		
	Ü			d					
ushbuttons	B. H. W.		DI I	Ų	00114050 04 840 04 40			4 0	44.1
20	Pushbuttons with flat button	Momentary contact	Black, "O"	>	3SU1050-0AB10-0AA0 3SU1050-0AB10-0AD0		1 1	1 unit 1 unit	41J 41J
	Standard		Red Red, "O"	>	3SU1050-0AB20-0AA0 3SU1050-0AB20-0AD0		1 1	1 unit 1 unit	41J 41J
			Yellow	3	3SU1050-0AB30-0AA0		1	1 unit	41J
			Green Green, "I"	>	3SU1050-0AB40-0AA0 3SU1050-0AB40-0AC0		1 1	1 unit 1 unit	41J 41J
			Blue	3	3SU1050-0AB50-0AA0		1	1 unit	41J
			Blue, "R" White	5 3	3SU1050-0AB50-0AR0 3SU1050-0AB60-0AA0		1 1	1 unit 1 unit	41J 41J
			White, "⊕"	5	3SU1050-0AB60-0AB0		1	1 unit	41J
1050-0AB40-0AC0			White, "I"	>	3SU1050-0AB60-0AC0		1	1 unit	41J
			Clear Gray	3	3SU1050-0AB70-0AA0 3SU1050-0AB80-0AA0		1 1	1 unit 1 unit	41J 41J
0		Latching	Black	>	3SU1050-0AA10-0AA0		1	1 unit	41J
The state of the s		Push to unlatch	Red Yellow	>	3SU1050-0AA20-0AA0 3SU1050-0AA30-0AA0		1 1	1 unit 1 unit	41J 41J
			Green		3SU1050-0AA40-0AA0		1	1 unit	41J
			Blue White	>	3SU1050-0AA50-0AA0 3SU1050-0AA60-0AA0		1 1	1 unit 1 unit	41J 41J
			Wille		SOCIOCO VARGO VARGO		,	rum	410
J1050-0AA30-0AA0	B		DI I		20114252 20014 24 42			4 9	44.1
36	Pushbuttons with raised button	Momentary contact	Black Red	3	3SU1050-0BB10-0AA0 3SU1050-0BB20-0AA0		1 1	1 unit 1 unit	41J 41J
	Standard		Yellow	>	3SU1050-0BB30-0AA0		1	1 unit	41J
			Green Blue	>	3SU1050-0BB40-0AA0 3SU1050-0BB50-0AA0		1 1	1 unit 1 unit	41J 41J
			White	>	3SU1050-0BB60-0AA0		i	1 unit	41J
		Latching	Red	5	3SU1050-0BA20-0AA0		1	1 unit	41J
		Push to unlatch							
1050-0BB20-0AA0									
20	Pushbuttons with flat button	Momentary contact	Red	5 5	3SU1050-0CB10-0AA0 3SU1050-0CB20-0AA0		1 1	1 unit 1 unit	41J 41J
	Raised		Yellow	5	3SU1050-0CB30-0AA0		1	1 unit	41J
			Green Blue	5 5	3SU1050-0CB40-0AA0 3SU1050-0CB50-0AA0		1 1	1 unit 1 unit	41J 41J
			White	5	3SU1050-0CB60-0AA0		1	1 unit	41J
J1050-0CB50-0AA0	Illuminated pushbuttons	Mamantanyaantaat	Croon	X	2011051 00040 0440		- 1	20 units	41J
	with flat button Raised	Momentary Contact	Green	^	3SU1051-0CB40-0AA0		ı	20 units	410

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Metal, Shiny

Actuating and Signaling Elements

								Pushb	uttons
	Version of actuating element Front ring version	Operating principle Unlatching method	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Pushbuttons									
	Illuminated pushbuttons with flat button Standard	Momentary contact	Amber Red Yellow Green Blue White Clear	5 3 3	3SU1051-0AB00-0AA0 3SU1051-0AB20-0AA0 3SU1051-0AB30-0AA0 3SU1051-0AB40-0AA0 3SU1051-0AB50-0AA0 3SU1051-0AB60-0AA0 3SU1051-0AB70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1051-0AB30-0AA0									
		Latching Push to unlatch	Red Yellow Green Blue White Clear	A A A A 5	3SU1051-0AA20-0AA0 3SU1051-0AA30-0AA0 3SU1051-0AA40-0AA0 3SU1051-0AA50-0AA0 3SU1051-0AA60-0AA0 3SU1051-0AA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1051-0AA20-0AA0									
3SU1051-0BB20-0AA0	Illuminated pushbuttons with raised button Standard	Momentary contact	Amber Red Yellow Green Blue White Clear	5	3SU1051-0BB00-0AA0 3SU1051-0BB20-0AA0 3SU1051-0BB30-0AA0 3SU1051-0BB40-0AA0 3SU1051-0BB50-0AA0 3SU1051-0BB60-0AA0 3SU1051-0BB70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J

Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

Twin pushbuttons

abuttons labuttons labuttons abuttons	Momentary contact Momentary contact	Green/Red White/Black White/White Black/Black	Marking Symbol No. "I"/"O" "I"/"+" Arrows, hor O 5264/5265 (IEC 60417)	3 5	Article No. 3SU1050-3AB42-0AA0 3SU1050-3AB42-0AK0 3SU1050-3AB61-0AK0 3SU1050-3AB61-0AK0 3SU1050-3AB66-0AA0 3SU1050-3AB66-0AM0 3SU1050-3AB11-0AA0 3SU1050-3AB11-0AQ0	Price per PU	PU (UNIT, SET, M)	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J 41J 41J
nbuttons lat	tary contact Momen- tary	White/Black White/White Black/Black Green/Red	" "/"O" " "/"O" "-"/"+" Arrows, hor O O 5264/5265 (IEC 60417)	3 3 3 3 5 5 5 5	3SU1050-3AB42-0AK0 3SU1050-3AB61-0AA0 3SU1050-3AB61-0AK0 3SU1050-3AB66-0AA0 3SU1050-3AB66-0AL0 3SU1050-3AB66-0AM0 3SU1050-3AB11-0AA0		1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
nbuttons lat	tary contact Momen- tary	White/Black White/White Black/Black Green/Red	" "/"O" " "/"O" "-"/"+" Arrows, hor O O 5264/5265 (IEC 60417)	3 3 3 5 5 5	3SU1050-3AB42-0AK0 3SU1050-3AB61-0AA0 3SU1050-3AB61-0AK0 3SU1050-3AB66-0AA0 3SU1050-3AB66-0AL0 3SU1050-3AB66-0AM0 3SU1050-3AB11-0AA0		1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
lat hbuttons	Momen- tary	White/White Black/Black Green/Red	 "I"/"O" ""/"+" Arrows, hor. O O 5264/5265 (IEC 60417)	3 3 5 5 5 3 5	3SU1050-3AB61-0AA0 3SU1050-3AB61-0AK0 3SU1050-3AB66-0AA0 3SU1050-3AB66-0AL0 3SU1050-3AB66-0AM0 3SU1050-3AB11-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
buttons	tary	Black/Black Green/Red	 "-"/"+" Arrows, hor. O O 5264/5265 (IEC 60417)	3 5 5 3 5	3SU1050-3AB66-0AA0 3SU1050-3AB66-0AL0 3SU1050-3AB66-0AM0 3SU1050-3AB11-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
buttons	tary	Green/Red	 O 5264/5265 (IEC 60417)	3 5	3SU1050-3AB11-0AA0				41J
buttons	tary								
			"I"/"O"	3	3SU1050-3BB42-0AA0		1	1 unit	41J
		White/Black	 "I"/"O"	3 5	3SU1050-3BB42-0AK0 3SU1050-3BB61-0AA0 3SU1050-3BB61-0AK0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
nbuttons	Momen- tary	Green/Red	 "I"/"O"	>	3SU1051-3AB42-0AA0 3SU1051-3AB42-0AK0		1	1 unit 1 unit	41J 41J
lat, inated	contact	White/Black	Arrows, vert.	5	3SU1051-3AB42-0AN0 3SU1051-3AB61-0AA0		1	1 unit 1 unit	41J 41J
			" */**O"	3	3SU1051-3AB61-0AK0		1	1 unit	41J
nbuttons	tary	Green/Red	"I"/"O"	3	3SU1051-3BB42-0AA0 3SU1051-3BB42-0AK0		1 1	1 unit 1 unit	41J 41J
raised, inated	contact	White/Black	 "I"/"O"	3 5	3SU1051-3BB61-0AA0 3SU1051-3BB61-0AK0		1	1 unit 1 unit	41J 41J
1	buttons aised,	aised, tary contact	aised, contact White/Black	aised, contact White/Black	buttons tary "I"/"O" aised, contact White/Black 3	buttons tary "I"/"O" SSU1051-3BB42-0AK0 aised, contact White/Black 3 SU1051-3BB61-0AA0		### Sample of the stary "I"/"O"	

Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

Mushroom pushbuttons

	Version of actuating element	Operating principle	Color	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	3	Unlatching method		d		,	SÈT, M)		
Mushroom pushbutto	ons			u					
B. (4)	2 switch positions								
	Mushroom pushbuttons 30 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	>	3SU1050-1AD10-0AA0 3SU1050-1AD20-0AA0 3SU1050-1AD30-0AA0 3SU1050-1AD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	_ posoo	Latching Pull to unlatch	Black Red	>	3SU1050-1AA10-0AA0 3SU1050-1AA20-0AA0		1	1 unit 1 unit	41J 41J
3SU1050-1AD20-0AA0									
	Mushroom pushbuttons 40 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3 5 5 5	3SU1050-1BD10-0AA0 3SU1050-1BD20-0AA0 3SU1050-1BD30-0AA0 3SU1050-1BD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red Yellow	3 3 5	3SU1050-1BA10-0AA0 3SU1050-1BA20-0AA0 3SU1050-1BA30-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1050-1BD30-0AA0	Mushroom pushbuttons	Momentary contact	Black Red	5 5	3SU1050-1CD10-0AA0 3SU1050-1CD20-0AA0		1 1	1 unit 1 unit	41J 41J
	60 mm diameter, 2 positions		Yellow Green	5 5	3SU1050-1CD30-0AA0 3SU1050-1CD40-0AA0		1 1	1 unit 1 unit	41J 41J
		Latching Pull to unlatch	Black Red	5 5	3SU1050-1CA10-0AA0 3SU1050-1CA20-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1050-1CD40-0AA0	Mushroom	Momentary contact	Yellow	5	3SU1051-1AD30-0AA0		1	1 unit	41J
	pushbuttons 30 mm diameter, 2 positions,		Green	5 NEW 5 5	3SU1051-1AD40-0AA0 3SU1051-1AD50-0AA0 3SU1051-1AD60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	illuminated	Latching Pull to unlatch	Amber Red Yellow Green Blue Clear	5 5 5 5 5 5	3SU1051-1AA00-0AA0 3SU1051-1AA20-0AA0 3SU1051-1AA30-0AA0 3SU1051-1AA40-0AA0 3SU1051-1AA50-0AA0 3SU1051-1AA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1051-1AD60-0AA0	Mushroom pushbuttons 40 mm diameter, 2 positions,	Momentary contact	Amber Yellow Green White	5 5 5 5	3SU1051-1BD00-0AA0 3SU1051-1BD30-0AA0 3SU1051-1BD40-0AA0 3SU1051-1BD60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	illuminated	Latching Pull to unlatch	Amber Red Yellow Green Blue Clear	5 3 5 5 5 5	3SU1051-1BA00-0AA0 3SU1051-1BA20-0AA0 3SU1051-1BA30-0AA0 3SU1051-1BA40-0AA0 3SU1051-1BA50-0AA0 3SU1051-1BA70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1051-1BD40-0AA0	Mushroom pushbuttons 60 mm diameter, 2 positions,	Momentary contact None	Amber Yellow Green White	5 5 5 5	3SU1051-1CD00-0AA0 3SU1051-1CD30-0AA0 3SU1051-1CD40-0AA0 3SU1051-1CD60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	illuminated	Latching Pull to unlatch	Red Yellow Green Blue Clear	5 5 5 5 5	3SU1051-1CA20-0AA0 3SU1051-1CA30-0AA0 3SU1051-1CA40-0AA0 3SU1051-1CA50-0AA0 3SU1051-1CA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1051-1CA50-0AA0									

Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

Mushroom pushbuttons/EMERGENCY STOP mushroom pushbuttons

Masiliooni pasiibat			· paomo						
	Version of actuating element	Operating principle Unlatching method	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d			. ,		
Mushroom pushbutto									
	2 switch positions Mushroom pushbuttons with raised mushroom, 40 mm diameter, 2 positions	With positive latching Rotate to unlatch	Black Yellow	5 5	3SU1050-1HB10-0AA0 3SU1050-1HB30-0AA0		1	1 unit 1 unit	41J 41J
3SU1050-1HB10-0AA0									
0001000 111210 07410	3 switch positions								
	Mushroom pushbuttons 40 mm diameter, 3 positions	Momentary contact	Black Red	5 5	3SU1050-1ED10-0AA0 3SU1050-1ED20-0AA0		1	1 unit 1 unit	41J 41J
		Latching II	Black Red	5 5	3SU1050-1EA10-0AA0 3SU1050-1EA20-0AA0		1	1 unit 1 unit	41J 41J
3SU1050-1EA20-0AA0	Mushroom pushbuttons 40 mm diameter, 3 positions, illuminated	Momentary contact	Red White	5 5	3SU1051-1ED20-0AA0 3SU1051-1ED60-0AA0		1	1 unit 1 unit	41J 41J
	5 positions, illuminateu	Latching II V Pull to unlatch	Red Green	5 5	3SU1051-1EA20-0AA0 3SU1051-1EA40-0AA0		1	1 unit 1 unit	41J 41J
3SU1051-1EA40-0AA0 Selection and ordering	ng data Version of Outer	Make of lock	Color	SD	Article No.	Price	PU	PS*	PG
	actuating element diame	eter of	00.0.	0.5	, and the	per PU	(UNIT, SET, M)	. 0	
	musii	100111		d			JL1, IVI)		
EMERGENCY STOP r	mushroom pushbutto	ns,							
in accordance with IS	O 13850 and IEC 609	47-5-5			l				
	With pull-to-unlatch With 40 positive latching, 2 positions	mechanism 	Red	3	3SU1050-1HA20-0AA0		1	1 unit	41J
3SU1050-1HA20-0AA0	14774								
	With rotate-to-unlate With 33.8 positive latching, 2 positions	ch mechanism 	Red	3	3SU1050-1GB20-0AA0		1	1 unit	41J
3SU1050-1GB20-0AA0									

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

EMERGENCY STOP mushroom pushbuttons

										1	
	Version of	Outer	Make of	Color	Number	SD	Article No.	Price	PU	PS*	PG
	actuating element	diameter of	lock		of keys			per PU	(UNIT, SET, M)		
		mushroom				d					
EMERGENCY STOP in accordance with IS	nushroom pu O 13850 and	shbuttons IEC 60947	s, '-5-5								
	With rotate-		mechanis								
	With positive latching, 2 positions	40		Red		•	3SU1050-1HB20-0AA0		1	1 unit	41J
		60		Red		5	3SU1050-1JB20-0AA0		1	1 unit	41J
	With latching, 2 positions	40		Red	NEV	3	3SU1050-1LB20-0AA0		1	1 unit	41J
3SU1050-1HB20-0AA0											
3SU1050-1JB20-0AA0											
	With rotate-	to-unlatch	mechanis	m. can	be illumi	nated	1				
	With	33.8		Red		>	3SU1051-1GB20-0AA0		1	1 unit	41J
	positive latching, 2 positions	40 60				•	3SU1051-1HB20-0AA0 3SU1051-1JB20-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1051-1HB20-0AA0											
	With key-op	erated rele	ease								
	With positive	40	RONIS SB30	Red	2	3	3SU1050-1HF20-0AA0		1	1 unit	41J
	latching, 2 positions		RONIS 455 RONIS 421		2	5 5	3SU1050-1HG20-0AA0 3SU1050-1HH20-0AA0		1 1	1 unit 1 unit	41J 41J
			BKS S1	Red	2	5	3SU1050-1HK20-0AA0		1	1 unit	41J
			BKS E7 BKS E9		0	5 5	3SU1050-1HM20-0AA0 3SU1050-1HN20-0AA0		1 1	1 unit 1 unit	41J 41J
			O.M.R. 73037	Red	2	5	3SU1050-1HQ20-0AA0		1	1 unit	41J
3SU1050-1HF20-0AA0			CES	Red	2	3	3SU1050-1HR20-0AA0		1	1 unit	41J
			SSG10 CES SSP9		2	5	3SU1050-1HS20-0AA0		1	1 unit	41J
			CES VL5	Black Red	2 2	5 5	3SU1050-1HU10-0AA0 3SU1050-1HU20-0AA0		1 1	1 unit 1 unit	41J 41J
			CES VL1	Dod	2	5 5	3SU1050-1HV20-0AA0		1	1 unit	41J 41J
			IKON 360012K1	Red	2	5	3SU1050-1HX20-0AA0		'	1 unit	4 IJ
3SU1050-1HQ20-0AA0											
3SU1050-1HR20-0AA0											

Actuators and Indicators, 22 mm, Metal, Shiny **Actuating and Signaling Elements**

Toggle switches/selector switches

Calcation and audoui	na doto										
Selection and ordering	ng data										
	Number of switching positions	Number of command points	Color of actuating element	Operating of the act element	g principle uating	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						d					
Toggle switches											
310	2	1	Black	Latching		5	3SU1050-3EA10-0AA0		1	1 unit	41J
3SU1050-3EA10-0AA0				Momenta reset fron	ry contact, n above	5	3SU1050-3EC10-0AA0		1	1 unit	41J
330 1030-3LA 10-0AA0											
Selection and ordering	ng data										
	Version of actuating element	Ор	erating principle	e Colo	r	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches						d					
ocicotor switches	2 switch	positions	s, can be illun	ninated							
	Selector, s black actu	short Mo lator 45° (10	mentary contact :30/12 o'clock), et from center to	t, Blac Red Yello	w en	3 5 • 3	3SU1052-2BC10-0AA0 3SU1052-2BC20-0AA0 3SU1052-2BC30-0AA0 3SU1052-2BC40-0AA0 3SU1052-2BC50-0AA0 3SU1052-2BC60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1052-2BC20-0AA0											
			ching, 90° :30/1:30 o'clock	Amb Blac Red Yello Gree Blue White	k w NEW en NEW	3	3SU1052-2BF00-0AA0 3SU1052-2BF10-0AA0 3SU1052-2BF20-0AA0 3SU1052-2BF30-0AA0 3SU1052-2BF40-0AA0 3SU1052-2BF50-0AA0 3SU1052-2BF60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1052-2BF40-0AA0											
	Selector, lublack actu	ator 45° (10	:30/12 o'clock), et from center to	Yello Gree	w en	5 5 5 5 5	3SU1052-2CC10-0AA0 3SU1052-2CC30-0AA0 3SU1052-2CC40-0AA0 3SU1052-2CC50-0AA0 3SU1052-2CC60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1052-2CF60-0AA0		Lat (10 O	ching, 90° :30/1:30 oʻclock I	Blac) Red Yello Gree Blue White	w en	5 5 5 5 5	3SU1052-2CF10-0AA0 3SU1052-2CF20-0AA0 3SU1052-2CF30-0AA0 3SU1052-2CF40-0AA0 3SU1052-2CF50-0AA0 3SU1052-2CF60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

	_				
50		100	SW	170	100
6/4	l or or	4011	- X V V	1101	1 -

								Ctor Sw	
	Version of actuating element	Operating principle	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches				d					
Selector switches	3 switch nosit	ions, can be illumina	ated		l				
	Selector, short black actuator	Momentary contact, 2x45° (10:30/12/1:30 o'clock),	Amber Black	5	3SU1052-2BM00-0AA0 3SU1052-2BM10-0AA0		1	1 unit 1 unit	41J 41J
		reset from left + right	Red Yellow Green Blue White	5 5 •	3SU1052-2BM20-0AA0 3SU1052-2BM30-0AA0 3SU1052-2BM40-0AA0 3SU1052-2BM50-0AA0 3SU1052-2BM60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1052-2BM50-0AA0									
		Latching, 2x45° (10:30/12/1:30 o'clock)	Amber Black Red Yellow Green White	5 A 3 A	3SU1052-2BL00-0AA0 3SU1052-2BL10-0AA0 3SU1052-2BL20-0AA0 3SU1052-2BL30-0AA0 3SU1052-2BL40-0AA0 3SU1052-2BL60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1052-2BL30-0AA0									
		Momentary contact/ latching, 2x45° (10:30/12/1:30 o'clock), reset from left, latching to the right	Black Red Green White	5 5 5 5	3SU1052-2BP10-0AA0 3SU1052-2BP20-0AA0 3SU1052-2BP40-0AA0 3SU1052-2BP60-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		<u> </u>							
3SU1052-2BN20-0AA0		Latching/momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from right, latching to the left	Black Red Green White	3 5 • 3	3SU1052-2BN10-0AA0 3SU1052-2BN20-0AA0 3SU1052-2BN40-0AA0 3SU1052-2BN60-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector, long black actuator	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Green White	3 5 5 3	3SU1052-2CM10-0AA0 3SU1052-2CM20-0AA0 3SU1052-2CM40-0AA0 3SU1052-2CM60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1052-2CL40-0AA0		Latching, 2x45° (10:30/12/1:30 o'clock)	Black Red Green White	5 5 5 5	3SU1052-2CL10-0AA0 3SU1052-2CL20-0AA0 3SU1052-2CL40-0AA0 3SU1052-2CL60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Momentary contact/ latching, 2x45° (10:30/12/1:30 o'clock), reset from left, latching to the right	Black Red White	5 5 5	3SU1052-2CP10-0AA0 3SU1052-2CP20-0AA0 3SU1052-2CP60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	Lockable with 2 padlocks or carabiner hooks	Latching/momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from right, latching to the left	Black Red White Black	5 5 5 NEW 5	3SU1052-2CN10-0AA0 3SU1052-2CN20-0AA0 3SU1052-2CN60-0AA0 3SU1042-2GL10-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J

Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

			nes

	Version of actuating element	Operating principle	Color	SD	Article No.	Price per PU		PS*	PG
Selector switches									
	4 switch positi Rotary knob				_				
3SU1050-2AS60-0AA0	Tiolary Kilob	Latching, 4x90° (3/6/9/12 oʻclock) O IV III I	White	3	3SU1050-2AS60-0AA0		1	1 unit	41J

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

Key-operated switches

Selection and ordering	ng data								
	Operating principle	Make of lock	Switch position for key removal	Number of keys	SD		PU JNIT, T, M)	PS*	PG
Key-operated switche					d				
Key-operated switche	2 switch position	ne				ı			
	Momentary	RONIS, SB30	0	2	3	3SU1050-4BC01-0AA0	1	1 unit	41J
	contact, 45°	RONIS, 455	0	2	5	3SU1050-4CC01-0AA0	1	1 unit	41J
The state of the s	(10:30/12 o'clock), reset from center to left	O.M.R. 73037, red	0	2	5	3SU1050-4FC01-0AA0	1	1 unit	41J
	0,4	O.M.R. 73038, light blue	Ο	2	5	3SU1050-4GC01-0AA0	1	1 unit	41J
3SU1050-4BC01-0AA0	8	O.M.R. 73034, black	0	2	5	3SU1050-4HC01-0AA0	1	1 unit	41J
		O.M.R. 73033, yellow	0	2	5	3SU1050-4JC01-0AA0	1	1 unit	41J
		CES, SSG10 CES, LSG1	0	2 2	3 5	3SU1050-5BC01-0AA0	1 1	1 unit 1 unit	41J 41J
		CES, LSG1	0	2	5	3SU1050-5HC01-0AA0 3SU1050-5KC01-0AA0	1	1 unit	41J
		CES, STGH10	0	2	5	3SU1050-5LC01-0AA0	1	1 unit	41J
		BKS, S1	0	2	5	3SU1050-5PC01-0AA0	1	1 unit	41J
		IKON, 360012K1	0	2	5	3SU1050-5XC01-0AA0	1	1 unit	41J
	Latching, 90° (10:30/1:30 o'clock)	RONIS, SB30	0 0+l	2 2	3	3SU1050-4BF01-0AA0 3SU1050-4BF11-0AA0	1	1 unit 1 unit	41J 41J
	O I		I	2	5	3SU1050-4BF21-0AA0	i	1 unit	41J
	\checkmark	RONIS, 455	O O+I	2 2	5 5	3SU1050-4CF01-0AA0 3SU1050-4CF11-0AA0	1 1	1 unit 1 unit	41J 41J
130			U+1	2	5	3SU1050-4CF21-0AA0	1	1 unit	41J
		RONIS, 421	O+I	2	5	3SU1050-4DF11-0AA0	1	1 unit	41J
3SU1050-4BF01-0AA0									
		O.M.R. 73037, red	O O+I I	2 2 2	5 5 5	3SU1050-4FF01-0AA0 3SU1050-4FF11-0AA0 3SU1050-4FF21-0AA0	1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
		O.M.R. 73038,	0	2	5	3SU1050-4GF01-0AA0	1	1 unit	41J
		light blue	O+I I	2 2	5 5	3SU1050-4GF11-0AA0 3SU1050-4GF21-0AA0	1	1 unit 1 unit	41J 41J
		O.M.R. 73034,	0	2	5	3SU1050-4HF01-0AA0	1	1 unit	41J
		black	0+1	2	5 5	3SU1050-4HF11-0AA0	1	1 unit	41J
		O.M.R. 73033.	0	2 2	5	3SU1050-4HF21-0AA0 3SU1050-4JF01-0AA0	1	1 unit 1 unit	41J 41J
3SU1050-4GF11-0AA0		yellow	Ö+I	2	5	3SU1050-4JF11-0AA0	1	1 unit	41J
		OFC 00010	0	2	5	3SU1050-4JF21-0AA0	1	1 unit	41J
		CES, SSG10	O O+I I	2 2 2	3 3 5	3SU1050-5BF01-0AA0 3SU1050-5BF11-0AA0 3SU1050-5BF21-0AA0	1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
		CES, SSG10 with key monitoring	0	2 NEW	5	3SU1050-5JF01-0AA0	1	1 unit	41J
		CES, LSG1	O O+I	2 2	5 5	3SU1050-5HF01-0AA0 3SU1050-5HF11-0AA0	1 1	1 unit 1 unit	41J 41J
		CES, VL5	0	2	5	3SU1050-5KF01-0AA0	1	1 unit	41J
3SU1050-5BF01-0AA0		CES, STGH10	O+I	2	5	3SU1050-5LF11-0AA0	1	1 unit	41J
ACTION		BKS, S1	0	2	5	3SU1050-5PF01-0AA0	1	1 unit	41J
			O+I I	2 2	5 5	3SU1050-5PF11-0AA0 3SU1050-5PF21-0AA0	1 1	1 unit 1 unit	41J 41J
		BKS, E1	O O+I	0 0	5 5	3SU1050-5QF01-0AA0 3SU1050-5QF11-0AA0	1 1	1 unit 1 unit	41J 41J
		BKS, E2	O O+I	0 0	3 5	3SU1050-5RF01-0AA0 3SU1050-5RF11-0AA0	1 1	1 unit 1 unit	41J 41J
10 1		BKS, E7	0	0	5	3SU1050-5SF01-0AA0	1	1 unit	41J
		DIVO ES	0+1	0	5	3SU1050-5SF11-0AA0	1	1 unit	41J
3SU1050-5PF01-0AA0		BKS, E9	0 0+l	0 0	5 5	3SU1050-5TF01-0AA0 3SU1050-5TF11-0AA0	1 1	1 unit 1 unit	41J 41J
		IKON, 360012K1	O O+I	2 2	5 5	3SU1050-5XF01-0AA0 3SU1050-5XF11-0AA0	1	1 unit 1 unit	41J 41J

Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

Key-operated switches

	Operating principle	Make of lock	Switch position for key removal	Number of keys	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch					d					
Key-operated switch	3 switch position	<u> </u>								
	Momentary	RONIS, SB30	0	2	5	3SU1050-4BM01-0AA0		1	1 unit	41J
	contact, 2x45° (10:30/12/	RONIS, 455	0	2	5	3SU1050-4CM01-0AA0		1	1 unit	41J
The state of the s	1:30 o'clock), reset from left + right	O.M.R. 73034, black	0	2	5	3SU1050-4HM01-0AA0		1	1 unit	41J
		CES, SSG10 CES, STGH10	0	2	5 5	3SU1050-5BM01-0AA0 3SU1050-5LM01-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1050-4BM01-0AA0	V	BKS, S1 IKON,	0	2	5 5	3SU1050-5PM01-0AA0 3SU1050-5XM01-0AA0		1	1 unit 1 unit	41J 41J
		360012K1								
	Latching, 2x45° (10:30/12/	RONIS, SB30	0 +0+	2 2	5 3	3SU1050-4BL01-0AA0 3SU1050-4BL11-0AA0		1 1	1 unit 1 unit	41J 41J
	1:30 o'clock) O		l II	2	5 5	3SU1050-4BL21-0AA0 3SU1050-4BL31-0AA0		1 1	1 unit 1 unit	41J 41J
	1,1,1		+ O+	2 2	5 5	3SU1050-4BL41-0AA0 3SU1050-4BL51-0AA0		1	1 unit 1 unit	41J 41J
	¥	RONIS, 455	0	2	5	3SU1050-4CL01-0AA0		1	1 unit	41J
		DOMIN 484	I+O+II	2	5	3SU1050-4CL11-0AA0		1	1 unit	41J
		RONIS, 421 O.M.R. 73037,	I+O+II	2	5	3SU1050-4DL11-0AA0 3SU1050-4FL11-0AA0		1	1 unit 1 unit	41J 41J
		red O.M.R. 73038,		2	5	3SU1050-4GL01-0AA0		1	1 unit	41J
		light blue O.M.R. 73034,	I+O+III O	2	5 5	3SU1050-4GL11-0AA0 3SU1050-4HL01-0AA0		1 1	1 unit 1 unit	41J 41J
		black	I+O+II	2	5	3SU1050-4HL11-0AA0		1	1 unit	41J
3SU1050-4FL11-0AA0										
		CES, SSG10	0 +0+	2 2	5 3	3SU1050-5BL01-0AA0 3SU1050-5BL11-0AA0		1 1	1 unit 1 unit	41J 41J
			I II	2	5 5	3SU1050-5BL21-0AA0 3SU1050-5BL31-0AA0		1 1	1 unit 1 unit	41J 41J
			1+11	2	5	3SU1050-5BL41-0AA0		i	1 unit	41J
		CES, SSG10 with key monitoring	0	2 NEW	4 5	3SU1050-5JL01-0AA0		1	1 unit	41J
3SU1050-5BL01-0AA0										
		BKS, S1	0 l+0+ll	2 2	5 5	3SU1050-5PL01-0AA0 3SU1050-5PL11-0AA0		1	1 unit 1 unit	41J 41J
			1	2	5	3SU1050-5PL21-0AA0		1	1 unit	41J
		IKON,	I+II O	2	5	3SU1050-5PL41-0AA0 3SU1050-5XL01-0AA0		1	1 unit 1 unit	41J 41J
		360012K1	I+O+II	2	5	3SU1050-5XL11-0AA0		1	1 unit	41J
	Momentary contact/ latching, 2x45°	RONIS, SB30	O O+II	2 2	5 5	3SU1050-4BP01-0AA0 3SU1050-4BP61-0AA0		1 1	1 unit 1 unit	41J 41J
	(10:30/12/ 1:30 o'clock), reset from left,	O.M.R. 73034, black	II	2	5	3SU1050-4HP31-0AA0		1	1 unit	41J
	latching to the right	O.M.R. 73033, yellow	II	2	5	3SU1050-4JP31-0AA0		1	1 unit	41J
	v	CES, SSG10	0	2	5 5	3SU1050-5BP01-0AA0 3SU1050-5BP31-0AA0		1	1 unit 1 unit	41J 41J
3SU1050-4BP01-0AA0	*		O+II	2	5	3SU1050-5BP61-0AA0		1	1 unit	41J
	Latabia - /	BKS, S1	0	2	5	3SU1050-5PP01-0AA0		1	1 unit	41J
	Latching/momentary contact, 2x45°	nuivis, 5830	0	2	5 5	3SU1050-4BN01-0AA0 3SU1050-4BN21-0AA0		1	1 unit 1 unit	41J 41J
	(10:30/12/ 1:30 o'clock),	CES, SSG10	0+I0+I 0	2	5	3SU1050-4BN51-0AA0 3SU1050-5BN01-0AA0		1	1 unit 1 unit	41J 41J
	reset from right, latching to the left	JLU, JJU 10	1	2	5	3SU1050-5BN21-0AA0		1	1 unit	41J
	O	CES, STGH10	0+I 0+I	2	5 5	3SU1050-5BN51-0AA0 3SU1050-5LN51-0AA0		1 1	1 unit 1 unit	41J 41J
	' \ "	BKS, S1	0	2	5	3SU1050-5PN01-0AA0		1	1 unit	41J
			 O+	2	5 5	3SU1050-5PN21-0AA0 3SU1050-5PN51-0AA0		1 1	1 unit 1 unit	41J 41J

SIRIUS ACT Pushbuttons and Indicator Lights Actuators and Indicators, 22 mm, Metal, Shiny Actuating and Signaling Elements

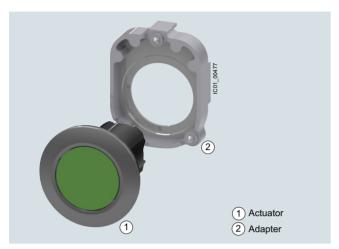
Coordinate switches/indicator lights

Selection and orderi	ng data									
	Number of NO contacts (1 per direction)	Operating principle		Direction of actuation	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Coordinate switches										
	Without mecha	anical inte	rlock, 2	2 switch positions	;					
	2	Momentary contact	у	Horizontal Vertical	>	3SU1050-7AC88-0AA0 3SU1050-7AD88-0AA0		1 1	1 unit 1 unit	41. 41.
		Latching		Horizontal Vertical	>	3SU1050-7AA88-0AA0 3SU1050-7AB88-0AA0		1 1	1 unit 1 unit	41. 41.
	Without mecha	anical inte	rlock, 4	4 switch positions	;					
	4	Momentary contact	у	Horizontal/Vertical	•	3SU1050-7AF88-0AA0		1	1 unit	41J
SU1050-7AC88-0AA0		Latching		Horizontal/Vertical	>	3SU1050-7AE88-0AA0		1	1 unit	41J
	With mechanic	al interloc	:k, 2 sv	vitch positions						
	2	Momentary contact	у	Horizontal Vertical	>	3SU1050-7BC88-0AA0 3SU1050-7BD88-0AA0		1 1	1 unit 1 unit	41J 41J
		Latching		Horizontal Vertical	>	3SU1050-7BA88-0AA0 3SU1050-7BB88-0AA0		1 1	1 unit 1 unit	41J 41J
	With mechanic	Momentary contact		vitch positions Horizontal/Vertical	>	3SU1050-7BF88-0AA0		1	1 unit	41J
3SU1050-7BC88-0AA0		Latching		Horizontal/Vertical	•	3SU1050-7BE88-0AA0		1	1 unit	41J
Selection and orderi	ng data Type of product		Color		SD	Article No.	Price per PU	PU (UNIT,	PS*	PO
								SET, M)		
Indicator lights					d					
Indicator lights	With smooth len		Amber Red Yellow Green Blue White Clear		3	3SU1051-6AA00-0AA0 3SU1051-6AA20-0AA0 3SU1051-6AA30-0AA0 3SU1051-6AA40-0AA0 3SU1051-6AA50-0AA0 3SU1051-6AA60-0AA0 3SU1051-6AA70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	410 410 410 410 410 410
3SU1051-6AA40-0AA0										

Actuators and Indicators, Flat, 30 mm, Metal, Matte Actuating and Signaling Elements

Pushbuttons

Overview



Actuators and indicators, flat, 30 mm, metal, matte, including adapter (adapter included in scope of supply)

Selection	and	ordering	data
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Selection and ordering data											
	Version	Operating principle	Unlatching method	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
					d			, ,			
Pushbuttons											
	Pushbuttons with flat button	Momentary contact		Black Red Yellow Green Blue White Gray	3 3 3 3 3 X	3SU1060-0JB10-0AA0 3SU1060-0JB20-0AA0 3SU1060-0JB30-0AA0 3SU1060-0JB50-0AA0 3SU1060-0JB50-0AA0 3SU1060-0JB60-0AA0 3SU1060-0JB80-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 10 units	41J 41J 41J 41J 41J 41J 41J	
3SU1060-0JB50-0AA0											
		Latching	Push to unlatch	Black Red Yellow Green Blue White	5 5 5 5 5 5 5	3SU1060-0JA10-0AA0 3SU1060-0JA20-0AA0 3SU1060-0JA30-0AA0 3SU1060-0JA40-0AA0 3SU1060-0JA50-0AA0 3SU1060-0JA60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J	
3SU1060-0JA20-0AA0											
	Illuminated pushbuttons with flat button	Momentary contact		Red Yellow Green Blue Clear	3 3 3 3 3	3SU1061-0JB20-0AA0 3SU1061-0JB30-0AA0 3SU1061-0JB40-0AA0 3SU1061-0JB50-0AA0 3SU1061-0JB70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J	
3SU1061-0JB40-0AA0											
3SU1061-0JA30-0AA0		Latching	Push to unlatch	Red Yellow Green Blue Clear	5 5 5 5 5	3SU1061-0JA20-0AA0 3SU1061-0JA30-0AA0 3SU1061-0JA40-0AA0 3SU1061-0JA50-0AA0 3SU1061-0JA70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J	

Actuators and Indicators, Flat, 30 mm, Metal, Matte Actuating and Signaling Elements

Selector switches

Selection and orderi	ng data								
	Version	Operating principle	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches				u					
	2 switch position	ns, can be illumina	ted		•				
	Selector, short black actuator and front ring for flat mounting	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	Black Red Green White	5 5 5 5	3SU1062-2DC10-0AA0 3SU1062-2DC20-0AA0 3SU1062-2DC40-0AA0 3SU1062-2DC60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1062-2DC40-0AA0		Latching, 90° (10:30/1:30 o'clock)	Black Red Green Blue White	3 5 5 5 3	3SU1062-2DF10-0AA0 3SU1062-2DF20-0AA0 3SU1062-2DF40-0AA0 3SU1062-2DF50-0AA0 3SU1062-2DF60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	Selector, long black actuator and front ring for flat mounting	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	Black Red Green White	5 5 5 5	3SU1062-2EC10-0AA0 3SU1062-2EC20-0AA0 3SU1062-2EC40-0AA0 3SU1062-2EC60-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1062-2EC20-0AA0		Latching, 90° (10:30/1:30 o'clock)	Black Red Green White	3 5 5 3	3SU1062-2EF10-0AA0 3SU1062-2EF20-0AA0 3SU1062-2EF40-0AA0 3SU1062-2EF60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	3 switch position Selector, short black actuator and front ring for flat mounting	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Green White	3 5 5 3	3SU1062-2DM10-0AA0 3SU1062-2DM20-0AA0 3SU1062-2DM40-0AA0 3SU1062-2DM60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1062-2DL60-0AA0		Latching, 2x45° (10:30/12/1:30 o'clock)	Black Red Yellow Green White	3 5 5 5 3	3SU1062-2DL10-0AA0 3SU1062-2DL20-0AA0 3SU1062-2DL30-0AA0 3SU1062-2DL40-0AA0 3SU1062-2DL60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		Momentary contact to the right, latching to the left, 2×45° (10:30/12/1:30 o'clock)	Black	NEW 5	3SU1062-2DN60-0AA0		1	1 unit	41J
	Selector, long black actuator and front ring for flat mounting	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Green White	3 5 5 3	3SU1062-2EM10-0AA0 3SU1062-2EM20-0AA0 3SU1062-2EM40-0AA0 3SU1062-2EM60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1062-2EL20-0AA0		Latching, 2x45° (10:30/12/1:30 o'clock)	Black Red Green White	3 5 5 3	3SU1062-2EL10-0AA0 3SU1062-2EL20-0AA0 3SU1062-2EL40-0AA0 3SU1062-2EL60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J

Actuators and Indicators, Flat, 30 mm, Metal, Matte **Actuating and Signaling Elements**

Key-operated switches/indicator lights

Selection and orderi	ng data									
	Make of lock	Operating principle	Switch position for key removal			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Variance de antitale					d					
Key-operated switch		itiana								
	2 switch pos RONIS, SB30 and front ring for flat installation	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	0	2	5	3SU1060-4LC01-0AA0		1	1 unit	41J
3SU1060-4LF11-0AA0		Latching, 90° (10:30/1:30 o'clock)	O+I I	2 2	3	3SU1060-4LF11-0AA0 3SU1060-4LF21-0AA0		1	1 unit 1 unit	41J 41J
	3 switch pos	itions								
	RONIS, SB30 and front ring for flat installation	Latching, 2x45° (10:30/12/ 1:30 o'clock)	I+O+II	2	5	3SU1060-4LL11-0AA0		1	1 unit	41J
3SU1060-4LL11-0AA0	3 switch pos	itions								
	RONIS, SB30 and front ring for flat installation	Latching, 2x45° (10:30/12/1:30 o'clock)	I+O+II	2	5	3SU1060-4LL11-0AA0		1	1 unit	41J
3SU1060-4LL11-0AA0		Momentary contact, 2x45° (10:30/12/ 1:30 o'clock)	0	2 NEW	7 5	3SU1060-4LM01-0AA0		1	1 unit	41J
Selection and ordering data										
Selection and order	iiy data									
	Version		Color		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Indicator lights										
(F) (S)	With flat lens		Red Yellow Green Blue Clear		3 3 3 3	3SU1061-0JD20-0AA0 3SU1061-0JD30-0AA0 3SU1061-0JD40-0AA0 3SU1061-0JD50-0AA0 3SU1061-0JD70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J



3SU1061-0JD40-0AA0

Actuators and Indicators, Customized Designs

Special locks

Options

Special locks for key-operated switches

The plastic and metal key-operated switches of type RONIS, BKS, CES and IKON can be optionally ordered with additional locks.

In this case "-Z", the order code "Y01" and the required lock number must be added to the article number of the relevant key-operated switch for standard locking.

Order code	Y01
Standard delivery time	25 working days
Additional price per unit	On request
Ordering example	3SU1000-5BF01-0AA0-Z Y01 Z = SSG18

Ordering notes

- For all special locks, an additional price applies.
- The order code "Y01" must be quoted in accordance with the above table. Automated processing of the order with a defined delivery time can be guaranteed only for correctly submitted orders.
- For applications in which access security is important and several lock numbers are used, we recommend the use of BKS or CES key-operated switches.
- Special locks for VW (E1, E2, ...) will be delivered without keys, all others with 2 keys.
- With RONIS, the special locks SB31, 421 and 455 are possible.

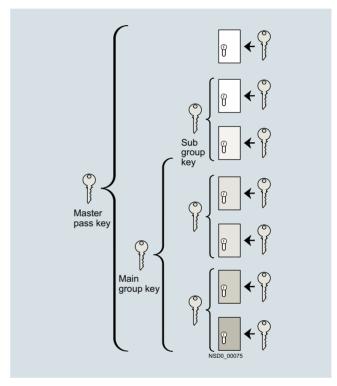
Master and master-pass key systems

The following key systems can be supplied with BKS, CES or IKON key-operated switches:

- Central lock systems
- · Master key systems
- Central master key systems
- Master-pass key systems

When placing an order you must supplement the article number of the matching key-operated switches with "-Z" and quote the order code "Y03".

Price and delivery time on request.
Email: sirius-attach.aud@siemens.com



Example of master-pass key system

Actuators and Indicators, Customized Designs

Laser inscriptions

Options

Inscription of actuating and signaling elements

Actuators and indicators of plastic as well as metal version can be optionally inscribed with a laser.



Example of laser inscription

The actuators of the pushbuttons, illuminated pushbuttons, twin pushbuttons, mushroom pushbuttons, illuminated mushroom pushbuttons, EMERGENCY STOP mushroom pushbuttons (without lock), the lenses of the indicator lights, and the acoustic signaling devices can all be inscribed.

Version

The default typeface used for inscriptions with text is Arial and the text is centered.

The font size for illuminated actuators is 2.5 mm, for non illuminated actuators 3 mm.

Up to 8 characters per line are possible.

Note:

Selected pushbuttons and twin pushbuttons can be supplied as standard with inscribed letters or symbols.

Selector switches, key-operated switches and toggle switches can only be inscribed on the front ring in the plastic version and in the flat, 30 mm, metal, matte version (only one text line and the supplement Y19).

Assignment of the positions on the actuator



Ordering notes

To order, the inscribed actuating and signaling elements can be selected via the SIRIUS ACT Configurator. An electronic order form is then generated.

For configurator, see

- www.siemens.com/sirius-act/configurator
- Electronic Catalog CA 01 on DVD or
- Industry Mall: www.siemens.com/industrymall

When ordering, add "-Z" and an order code to the article number of the actuator element or the indicator light:

- Y10: Text in upper/lower case, always upper case for beginning of line, e.g. Z1=Lift Z2=Lower
- Y11: Text in upper case, e.g. Z1=LIFT Z2=LOWER
- Y12: Text line(s) in lower case, e.g. Z1=lift off Z2=lower off
- Y15: Text in upper/lower case, all words begin with upper case letters, e.g. Z1=Lift Off Z2=Lower Off
- Y13: Symbol with number according to ISO 7000 or IEC 60417
- Y19: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT Configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription in plain text without spaces, in addition to the article number and order code.

In the case of symbols, specify the symbol No. and the standard (ordering example 2)

In the case of multi-line inscriptions, the text must be assigned to the respective line, e.g. Z1=Lift, Z2=Lower. (see ordering examples 1 and 3)

The SIRIUS ACT Configurator must be used to select special inscriptions and symbols (order code Y19). In this case a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT Configurator (shopping cart in the Industry Mall) or via the standard ordering channels.

Ordering example 1

A round pushbutton with the inscription Reset is required:

3SU1030-0AB20-0AA0-Z Y10

Z1=Lift Z2=Lower

Ordering example 2

A pushbutton inscribed with symbol No. 5389 according to IEC 60417 is required:

3SU1030-0AB20-0AA0-Z Y13

Z=5389 IEC

Ordering example 3

A selector switch with 2 switch positions and multi-line inscription on the front ring is required:

3SU1002-2BF10-0AA0-Z

Y11 Z8 = 0

Z2=I

Holders without module

Overview

Holders made of plastic can only be attached to actuators and indicators made of plastic (3SU100) or plastic with metal front ring (3SU103).

Metal holders can be attached to all versions of actuators and indicators, with the exception of ID key-operated switches. Metal holders are automatically grounded by their fastening screw, but a grounding stud can also be fitted.

Selection and orderi	ng data						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			OL1, 111)		
Holders without mod	ule, plastic						
	3x without module		•				
		•	3SU1500-0AA10-0AA0		1	1 unit	41J
3SU1500-0AA10-0AA0							
S No. of States	4x without module						
	For selector switch with 4 switch positions and for coordinate switches	•	3SU1500-0BA10-0AA0		1	1 unit	41J
3SU1500-0BA10-0AA0							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Holders without mod			ı				
The state of the s	3x without module				ı		
-00		•	3SU1550-0AA10-0AA0		1	1 unit	41J



3SU1550-0AA10-0AA0



3SU1550-0BA10-0AA0

3SU1550-0BA10-0AA0

1 unit 41J

Holders with module

Holders with module	е											
Selection and ordering	ng data											
	Number of				Color of		SD	Screw terminals		PU	PS*	PG
	Contact	LED	NO	NC	light so		-		+	(UNIT,		
	modules	modules	contacts	contacts						SET, M)		
							d	Article No.	Price per PU			
Holders with module,	plastic								<u> </u>			
	3x with m	odule										
	1	0	1	0			>	3SU1500-1AA10-1BA0		1	1 unit	41J
			0	1		\odot	•	3SU1500-1AA10-1CA0		1	1 unit	41J
		0	1	1		Θ	3	3SU1500-1AA10-1FA0		1	1 unit	41J
	2	0	2	0		Θ	3	3SU1500-1AA10-1NA0 3SU1500-1AA10-1PA0		1 1	1 unit 1 unit	41J 41J
			2	2		Θ	3	3SU1500-1AA10-1LA0		1	1 unit	41J
	3x with co	ntact and			24 V							
3SU1500-1AA10-1BA0	1	1	1	0	Amber		3	3SU1501-1AG00-1BA0		1	1 unit	41J
10 mg 10 mg					Red		3	3SU1501-1AG20-1BA0		1	1 unit	41J
					Yellow		3	3SU1501-1AG30-1BA0		1	1 unit	41J
					Green		3	3SU1501-1AG40-1BA0		1	1 unit	41J
					Blue		3	3SU1501-1AG50-1BA0		1	1 unit	41J
			0	1	White Amber		3	3SU1501-1AG60-1BA0 3SU1501-1AG00-1CA0		1	1 unit 1 unit	41J 41J
			U	ı	Red	Θ	3	3SU1501-1AG20-1CA0		1	1 unit	41J
					Yellow	Θ	3	3SU1501-1AG30-1CA0		1	1 unit	41J
3SU1501-1AG20-1CA0					Green	Θ	3	3SU1501-1AG40-1CA0		1	1 unit	41J
					Blue	$\widetilde{\oplus}$	3	3SU1501-1AG50-1CA0		1	1 unit	41J
					White	\odot	3	3SU1501-1AG60-1CA0		1	1 unit	41J
			1	1	Amber	\odot	3	3SU1501-1AG00-1FA0		1	1 unit	41J
					Red	\odot	3	3SU1501-1AG20-1FA0		1	1 unit	41J
					Yellow	\odot	3	3SU1501-1AG30-1FA0		1	1 unit	41J
					Green	\odot	3	3SU1501-1AG40-1FA0		1	1 unit	41J 41J
					Blue White	Θ	3	3SU1501-1AG50-1FA0 3SU1501-1AG60-1FA0		1 1	1 unit 1 unit	41J
	2	1	2	0	Amber	Θ	3	3SU1501-1AG00-1NA0		1	1 unit	41J
	_		_	Ü	Red	Θ	3	3SU1501-1AG20-1NA0		1	1 unit	41J
					Yellow	Θ	3	3SU1501-1AG30-1NA0		1	1 unit	41J
					Green	$\widetilde{\oplus}$	3	3SU1501-1AG40-1NA0		1	1 unit	41J
E A					Blue	\odot	3	3SU1501-1AG50-1NA0		1	1 unit	41J
					White	Θ	3	3SU1501-1AG60-1NA0		1	1 unit	41J
			2	2	Amber	\odot	3	3SU1501-1AG00-1LA0		1	1 unit	41J
3SU1501-1AG20-1LA0					Red	Θ	3	3SU1501-1AG20-1LA0		1	1 unit	41J
330 130 1-1AG20-1LA0					Yellow	Θ	3	3SU1501-1AG30-1LA0 3SU1501-1AG40-1LA0		1 1	1 unit 1 unit	41J 41J
					Green Blue	Θ	3	3SU1501-1AG50-1LA0		1	1 unit	41J
					White	Θ	3	3SU1501-1AG60-1LA0		1	1 unit	41J
1) Only for use with SIRIUS	commanding	g and signal	ing device	S.		O						
	Number of						SD.	Screw terminals		PU	PS*	PG
	Contact mod	tules NO co	ntacts	NC conta	octs		SD	Screw terminals		(UNIT,	P5"	PG
	Somaoi moc			. 10 001116	.0.0					SET, M)		
							d	Article No.	Price per PU			
Holders with module,	metal								,			
	3x with me	odule						•				
000	1	1		0			3	3SU1550-1AA10-1BA0		1	1 unit	41J
		0		1		\odot	3	3SU1550-1AA10-1CA0		1	1 unit	41J
		1		1		<u>→</u>	3	3SU1550-1AA10-1FA0		1	1 unit	41J
	2	2		0		Θ	3 3	3SU1550-1AA10-1NA0 3SU1550-1AA10-1PA0		1 1	1 unit 1 unit	41J 41J
		2		2		⊙	3	3SU1550-1AA10-1LA0		1	1 unit	41J
		=				\cup	-			•		
3SU1550-1AA10-1BA0												

Positive opening according to IEC 60947-5-1, Annex K.
Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System,
see page 11/1 onwards.



SIRIUS ACT Pushbuttons and Indicator Lights Modules for Actuators and Indicators

Contact modules

Overview

Contact modules and LED modules

The contact modules are fitted with slow-action contacts (NO contacts or NC contacts). These ensure a high switching reliability even with small voltages and currents, such as 5 V/1 mA. They are suitable for use in electronic systems as well as conventional controls. The contact pieces of the NC contacts are positively driven.

Only LED modules with permanently integrated LEDs are available for illumination.

Contact modules and LED modules bear terminal designations according to EN 50013.

Mounting the modules

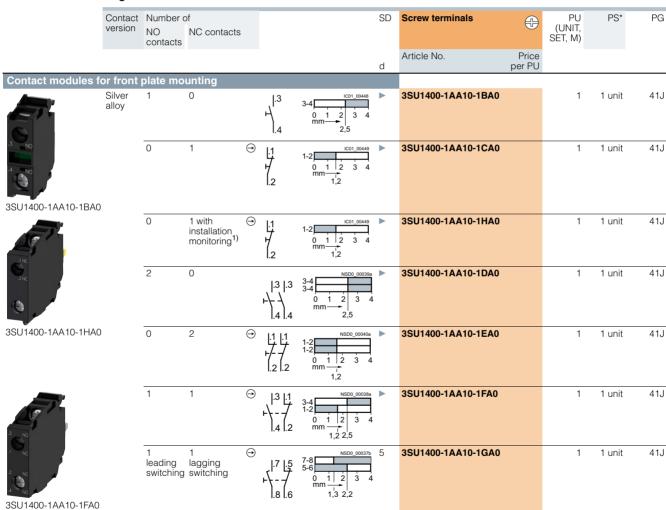
With SIRIUS ACT, the modules are mounted on the holder without any further accessories. Holders in plastic or metal versions are available for mounting three modules.

Connection methods

The modules are available with:

- Screw terminals
- · Spring-type terminals or
- Solder pin connections (0.8 mm × 0.8 mm solder pins) for assembly on printed circuit boards

Selection and ordering data



¹⁾ The contact module has 1 NO internal contact + 1 NC internal contact. The NO contact is connected in series with the NC contact and brought out at terminal 1-2. When the module is snapped onto the holder, the NO contact closes. It opens when the module is detached from the holder again (the NC contact remains closed). The NC contact opens when the EMERGENCY STOP device is actuated (the NO contact remains closed). The contact is closed only when both the NC and NO contacts are closed. Unsuitable for mounting in 3SU18 enclosure.

→Positive opening according to IEC 60947-5-1, Annex K.

Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards.

Certificate:



Modules for Actuators and Indicators

Contact modules

	Contact version	NO	of NC contacts				SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							d	Article No.	Price per PU			
Contact modules t	for front	plate mo	unting									
3SU1400-1AA10-1LA0	Gold- plated	1	0		⊢ .3 .4	3-4	3	3SU1400-1AA10-1LA0		1	1 unit	41J
)	0	1	Θ	.1 	1-2 1-2 3 4 mm 1,2	5	3SU1400-1AA10-1MA0		1	1 unit	41J
		2	0		.3 .3 -\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\	3-4 3-4 0 1 2 3 4 mm 2,5	5	3SU1400-1AA10-1NA0		1	1 unit	41J
		0	2	Θ	.1 .1 	1-2 1-2 0 1 2 3 4 mm 1,2	5	3SU1400-1AA10-1PA0		1	1 unit	41J
		1	1	Θ	.3 .1 	3-4 1-2 0 1 2 3 4 mm 1,2 2,5	5	3SU1400-1AA10-1QA0		1	1 unit	41J
		1 leading	1 lagging	Θ	.7 .5 	7-8 NSD0_00037b 5-6 2 3 4 mm 1,3 2,2	5	3SU1400-1AA10-1RA0		1	1 unit	41J

→Positive opening according to IEC 60947-5-1, Annex K.

Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards.

Certificate:



SIRIUS ACT Pushbuttons and Indicator Lights Modules for Actuators and Indicators

Contact modules



- 1) The contact module has 1 NO internal contact + 1 NC internal contact. The NO contact is connected in series with the NC contact and brought out at terminal 1-2. When the module is snapped onto the holder, the NO contact closes. It opens when the module is detached from the holder again (the NC contact remains closed). The NC contact opens when the EMERGENCY STOP device is actuated (the NO contact remains closed). The contact is closed only when both the NC and NO contacts are closed. Not suitable for installation in 3SU18 enclosure.
- →Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards. Certificate:



Modules for Actuators and Indicators

Contact modules

	Contact version	Number NO contacts	of NC contacts				SD	Spring-type terminals		PU (UNIT, SET, M)	PS*	PG
							d	Article No.	Price per PU			
Contact modules	for front p	late moι	ınting									
3 NO	Gold- plated	1	0	H).3 .4	3-4 1C01_00448 0 1 2 3 4 mm 2,5	5	3SU1400-1AA10-3LA0		1	1 unit	41J
3SU1400-1AA10-3LA0	0	0	1	+	l.1 - .2	1-2 01 00449 0 1 2 3 4 mm 1,2	5	3SU1400-1AA10-3MA0		1	1 unit	41J
		2	0	7	.3 .3 .4 .4	3-4 3-4 0 1 2 3 4 mm 2,5	5	3SU1400-1AA10-3NA0		1	1 unit	41J
		0	2	۲	.1 .1 	1-2 1-2 0 1 2 3 4 mm 1,2	5	3SU1400-1AA10-3PA0		1	1 unit	41J
		1	1	⊕ ',	.3 .1 .4 .2	NSD0_00038a 1-2 0 1 2 3 4 mm 1,2 2,5	5	3SU1400-1AA10-3QA0		1	1 unit	41J
		1 leading	1 lagging	⊕	.7 <u>.5</u> 	7-8 NSD0_00037b 5-6 NSD0_00037b 1 2 3 4 1,3 2,2	5	3SU1400-1AA10-3RA0		1	1 unit	41J

⊕Positive opening according to IEC 60947-5-1, Annex K.
Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards.
Certificate:



	Contact version	Number of NO contacts	f NC contacts		SD	Socket terminals (THT)	<u></u>	PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Contact modules t	for mounting	on printe	d-circuit be	oards <u>NEW</u>						
	Silver alloy	1	0		>	3SU1400-3AA10-5BA0		1	1 unit	41J
.3 NO	Gold-plated	0	1	Θ	3	3SU1400-3AA10-5CA0		1	1 unit	41J
3SU1400-3AA10-5BA0)									
→ Positive opening acc	cording to IEC 6	0947-5-1 Ar	nnex K							

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards. Certificate:



Modules for Actuators and Indicators

LED modules

Selection and order	ing data								
	Operational voltage at AC	Operational voltage at DC	Color	SD	Screw terminals	(PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED modules ¹⁾ for fr	ont plate mounting								
C _x	24	24	Amber Red Yellow Green Blue White	>	3SU1401-1BB00-1AA0 3SU1401-1BB20-1AA0 3SU1401-1BB30-1AA0 3SU1401-1BB40-1AA0 3SU1401-1BB50-1AA0 3SU1401-1BB60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-1BB30-1AA0	110		Amber Red Yellow Green Blue White	5 3 •	3SU1401-1BC00-1AA0 3SU1401-1BC20-1AA0 3SU1401-1BC30-1AA0 3SU1401-1BC30-1AA0 3SU1401-1BC50-1AA0 3SU1401-1BC50-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	230		Amber Red Yellow Green Blue White	5 3 •	3SU1401-1BF00-1AA0 3SU1401-1BF20-1AA0 3SU1401-1BF30-1AA0 3SU1401-1BF40-1AA0 3SU1401-1BF50-1AA0 3SU1401-1BF60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
XI	24	24	Amber Red Yellow Green Blue White	3 > 3 > >	Spring-type terminals 3SU1401-1BB00-3AA0 3SU1401-1BB20-3AA0 3SU1401-1BB40-3AA0 3SU1401-1BB40-3AA0 3SU1401-1BB50-3AA0 3SU1401-1BB50-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-1BB30-3AA0	110		Amber Red Yellow Green Blue White	5 ▶ 5 ▶	3SU1401-1BC00-3AA0 3SU1401-1BC20-3AA0 3SU1401-1BC30-3AA0 3SU1401-1BC40-3AA0 3SU1401-1BC50-3AA0 3SU1401-1BC60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	230		Amber Red Yellow Green Blue White	5 5 •	3SU1401-1BF00-3AA0 3SU1401-1BF20-3AA0 3SU1401-1BF30-3AA0 3SU1401-1BF40-3AA0 3SU1401-1BF50-3AA0 3SU1401-1BF60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

¹⁾ Only for use with SIRIUS commanding and signaling devices.

Modules for Actuators and Indicators

LED modules

	Operational voltage at AC	Operational voltage at DC	Color	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED modules ¹⁾ for fr	ont plate mounting					'			
	6 24	6 24	Amber Red Yellow Green Blue White	* * * * *	3SU1401-1BG00-1AA0 3SU1401-1BG20-1AA0 3SU1401-1BG30-1AA0 3SU1401-1BG40-1AA0 3SU1401-1BG50-1AA0 3SU1401-1BG60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-1BG30-1AA0	24 240	24 240	Amber Red Yellow Green Blue White	5 3 •	3SU1401-1BH00-1AA0 3SU1401-1BH20-1AA0 3SU1401-1BH30-1AA0 3SU1401-1BH40-1AA0 3SU1401-1BH50-1AA0 3SU1401-1BH60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
					Spring-type terminals				
X	6 24	6 24	Amber Red Yellow Green Blue White	3 5 •	3SU1401-1BG00-3AA0 3SU1401-1BG20-3AA0 3SU1401-1BG30-3AA0 3SU1401-1BG40-3AA0 3SU1401-1BG50-3AA0 3SU1401-1BG60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-1BG30-3AA0	24 240	24 240	Amber Red Yellow Green Blue White	5 5 •	3SU1401-1BH00-3AA0 3SU1401-1BH20-3AA0 3SU1401-1BH30-3AA0 3SU1401-1BH40-3AA0 3SU1401-1BH50-3AA0 3SU1401-1BH60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
1) Only for use with SIRIUS	S commanding and sig	naling devices.							
	Operational voltage at AC	Operational vat DC	/oltage	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED test modules ¹⁾ f	or front plate mour	nting							
3SU1400-1CK10-1AA0	6 240	6 240		3	3SU1400-1CK10-1AA0		1	1 unit	41J
1) Only to be used for SIR (6 24 V AC/DC, 24 V	AC/DC, 24 240 V AC	//DC).							
	Operational voltage at AC	Operational voltage at DC	Color	SD	Socket terminals (THT)	凸	PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED modules ¹⁾ for m	ounting on printed	-circuit boards							
*		5	Amber Red Yellow Green Blue White	5 5 5 3 5 3	3SU1401-3BA00-5AA0 3SU1401-3BA20-5AA0 3SU1401-3BA30-5AA0 3SU1401-3BA40-5AA0 3SU1401-3BA50-5AA0 3SU1401-3BA50-5AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-3BA20-5AA0	_								

¹⁾ Only for use with SIRIUS commanding and signaling devices.

SIRIUS ACT Pushbuttons and Indicator Lights Modules for Actuators and Indicators

AS-Interface modules

Selection and ordering	ng data										
	Operational voltage	Slave type	Number of digital inposential Standard	uts	Number of digital outputs	SD	Screw terminals + Spring-type terminals	#	PU (UNIT, SET, M)	PS*	PG
	V					d	Article No.	Price per PU			
AS-Interface modules		plate moun	tina			u		perio			
	30	2 F-DI		2		5	3SU1400-1EA10-2AA0		1	1 unit	41J
		2 F-DI + 1 LED		2	1	5	3SU1401-1EE20-2AA0		1	1 unit	41J
3SU1400-1EA10-2AA0		2 F-DI + 1 DQ		2	1	5	3SU1400-1EC10-2AA0		1	1 unit	41J
							Insulation piercing method	(:)			
-		2 F-DI		2		5	3SU1400-1EA10-4AA0		1	1 unit	41J
3SU1400-1EA10-4AA0		2 F-DI + 1 LED		2	1	>	3SU1401-1EE20-4AA0		1	1 unit	41J
							Spring-type terminals + Insulation piercing method	**			
		2 F-DI + 1 DQ		2	1	5	3SU1400-1EC10-4AA0		1	1 unit	41J
3SU1400-1EC10-4AA0							Spring-type terminals				
							(push-in)	$\stackrel{\infty}{\square}$			
NO. DAIL	30	4 DI/3 DQ AB	4		3	5	3SU1400-1EJ10-6AA0		1	1 unit	41J
3SU1400-1EJ10-6AA0		4 DI/4 DQ	4		4	5	3SU1400-1EK10-6AA0		1	1 unit	41J

Modules for Actuators and Indicators

Electronic modules for IO-Link/support terminals

Selection and ordering	ng data									
	Oper- ational voltage	Slave type	Number of digital inputs	Number of digital outputs	SD	Spring-type terminals (push-in)		PU (UNIT, SET, M)	PS*	PG
	V				d	Article No.	Price per PU			
Electronic modules for		front panel mo	unting		<u> </u>		рогто			
SEMOS	24	Freely programmable (default (6 DI/2 DQ)	0 8	0 8	5	3SU1400-1HL10-6AA0		1	1 unit	41J
Selection and ordering	ng data									
	Color				SD	Screw terminals	①	PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Support terminals							po. 1 0			
	Black Blue Green/Yello	w			3 5 3	3SU1400-1DA10-1AA0 3SU1400-1DA50-1AA0 3SU1400-1DA43-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1400-1DA10-1AA0										
	Black Blue Green/Yello	w			5 5 5	Spring-type terminals 3SU1400-1DA10-3AA0 3SU1400-1DA50-3AA0 3SU1400-1DA43-3AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J

3SU1400-1DA50-3AA0

SIRIUS ACT Pushbuttons and Indicator Lights Modules for Actuators and Indicators

Electronic modules for ID key-operated switches

Technical specifications

		3SU1400-1GC10-1AA0	3SU1400-1GD10-1AA0
Communication/protocol			
Protocol is supported by IO-Link protocol		No	Yes
Product function		Group ID 24 V DC	IO-Link 24 V DC
IO-Link transfer rate			COM2 (38.4 kBaud)
Point-to-point cycle time between the master and the IO-Link device, minim	num ms		10
Type of power supply via IO-Link master			Yes
Data volume			
Of the address area of the inputs with cyclic transfer total	bytes		2
Of the address area of the outputs with cyclic transfer total	bytes		0
Number of NO contacts		5	
General data			
Impulse withstand voltage, rated value	kV	0.8	
Rated insulation voltage	V	30	
Pollution degree		3	
Type of voltage			
Of operational voltage		DC	
Of input voltage		DC	
Operational voltage			
At DC, rated value	V	24	
Rated value	V	18 30	
Current consumed, maximum	mA	49	
Ambient temperature			
During operation	°C	-25 +70	
During storage	°C	-40 +80	
Degree of protection		IP20	
Touch protection against electric shock		Finger-safe	
Connections			
Type of electrical connection		Screw terminals	
Connectable conductor cross-section for auxiliary contacts			
• Solid			
- With end sleeves	mm²	1 x (0.2 2.5), 2 x (0.2 0	0.75)
- Without end sleeves	mm²	1 x (0.2 2.5), 2 x (0.2 0	0.75)
Finely stranded			
- With end sleeves	mm²	1 x (0.2 2.5), 2 x (0.25	0.75)
- Without end sleeves	mm²	1 x (0.2 2.5), 2 x (0.2 0	0.75)
AWG number as coded connectable conductor cross-section		26 14	
Tightening torque for screw terminals	Nm	0.35 0.4	

Selection and ordering data

	Type of power supply via IO-Link master	Protocol is supported IO-Link protocol	Number of NO contacts	IO-Link transfer rate	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Electronic modules f	or ID key-opera	ited switches ¹⁾								
3SU1400-1GC10-1AA0		No	5		•	3SU1400-1GC10-1AA0		1	1 unit	41J
3SU1400-1GD10-1AA0	Yes	Yes	5	COM2 (38.4 kBaud)	•	3SU1400-1GD10-1AA0		1	1 unit	41J

¹⁾ Only use in conjunction with plastic holder 3SU1500-0AA10-0AA0.

Modules for Actuators and Indicators

Interface modules for PROFINET/terminal modules

interrace modules i		111217,101111111	a moda								
Selection and orderi	ng data										
	Supply voltage at DC	Number of interfaces according to PROFINET	Number digital in		Num- ber of digital outputs	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		SIL claim limit acc. to EN 62061	Standard	Safety- related							
	V					d					
Interface modules for	r PROFIN	ET									
							Screw terminals				
	Intorfoo	e modules						<u>u</u>			
	24	t modules	0	0	0	5	3SU1400-1LK10-1AA1		1	1 unit	41J
	24		U	U	U	J	3301400-1ER10-1AA1		'	i uiiit	410
							Spring-type terminals				
HEREIT						_					
000000	24	1	0	0	0	5	3SU1400-1LK10-3AA1		1	1 unit	41J
3SU1400-1LK10-1AA1	-										
							Screw terminals	+			
	Fail-safe	e interface mod	lules								
	24	1	4	0	1	5	3SU1400-1LL10-1BA1		1	1 unit	41J
		SIL CL 3									
							Spring-type terminals	$\stackrel{\infty}{\square}$			
202200	24	1	4	0	1	5	3SU1400-1LL10-3BA1		1	1 unit	41J
000 U 0.001 0.703		SIL CL 3	•	Ü	·	Ü					
3SU1400-1LL10-3BA1											
Selection and orderi	ng data										
	Type of pr	roduct		Color of		SD	Insulation displacement	D.O.	PU	PS*	PG
	Type of pi	oduci		light source	ce	30	connection	A	(UNIT,	13	ru
							Artiala Na	Dring	SET, M)		
						d	Article No.	Price per PU			
Terminal modules											
	With 2 cor	ntacts				5	3SU1400-1MA10-1BA1		1	1 unit	41J
	With 2 cor	ntacts and integra	ted LED	Amber Red		5 5	3SU1401-1MC00-1CA1 3SU1401-1MC20-1CA1		1 1	1 unit 1 unit	41J 41J
				Yellow		5	3SU1401-1MC30-1CA1		1	1 unit	41J
				Green Blue		5 5	3SU1401-1MC40-1CA1 3SU1401-1MC50-1CA1		1 1	1 unit 1 unit	41J 41J
3SU1401-1ME60-1DA1				White		5	3SU1401-1MC60-1CA1		i	1 unit	41J
	With integ	rated LED		Amber Red		5 5	3SU1401-1ME00-1DA1 3SU1401-1ME20-1DA1		1 1	1 unit 1 unit	41J 41J
				Yellow		5	3SU1401-1ME30-1DA1		1	1 unit	41J
				Green Blue		5 5	3SU1401-1ME40-1DA1 3SU1401-1ME50-1DA1		1 1	1 unit 1 unit	41J 41J
				White		5	3SU1401-1ME60-1DA1		1	1 unit	41J
									=		
	Type of pr	roduct				SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
									SET, M)		
Managara	2010					d					
Memory modules for		na up the essent-	o poromot	orizotion of	tho	2	3RK3931-0AA00		4	1	400
	3SK2 safe system int	ng up the complet ety system without terface	a PC/PG t	hrough the	u IE	2	SHASSI-UAAUU		1	1 unit	42C

Flat ribbon cable, see page 13/144 onwards.

LED modules for mounting on printed-circuit boards, see page 13/96 onwards.

3RK3931-0AA00

SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

General data

Overview

Design



Enclosures with standard fittings

Enclosed SIRIUS ACT pushbuttons and indicator lights are used as hand-operated control devices for separately allocated control units and cabinets. The devices are suitable for use in any climate and all have IP66, IP67, IP69 (IP69K) degree of protection, including those with cable glands.

Standards

IEC/EN 60947-5-1

Versions

The enclosed pushbuttons and indicator lights are available with conventional controls as well as for connection to AS-Interface. The following versions are available:

- Empty enclosures with between 1 and 6 command points (the installed components must be ordered separately; modules for base mounting or 1-pole contact and LED modules can be used)
- Enclosures with standard fittings with 1 to 3 command points, e.g. EMERGENCY STOP enclosure with EMERGENCY STOP mushroom pushbutton
- Enclosures with customized fittings with 1 to 6 command points
- Special enclosure for 4-position selector switches, coordinate switches, ID key-operated switches and sensor switches

Color of the enclosures

Top:

- Gray, RAL 7035
- Yellow, RAL 1004 for EMERGENCY STOP

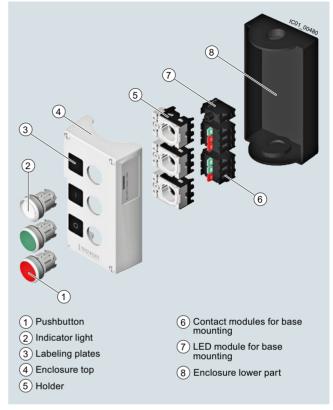
Base

Black, RAL 9005

Application

The enclosures are climate-proof (KTW 24) according to EN ISO 6270-2 and suitable for stationary use, and for use in marine applications.

Enclosures with standard fittings



Pushbuttons and indicator lights in the enclosure

Customized enclosures

The fittings and labeling of the command point can be chosen using the Configurator on the Internet. The prices depend on the equipment selected, see

www.siemens.com/sirius-act/configurator.

Enclosures

Empty enclosures

Selection and orderi	ng data								
	Color of enclosure top	Number of com- mand points	Enclosure version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Enclosures for surface	ao mounti	12.01		d					
Eliciosures for surface	Plastic	ng							
•	Yellow	1	Center command point	>	3SU1801-0AA00-0AA2		1	1 unit	41J
•			With protective collar	•	3SU1801-0AA00-0AC2		1	1 unit	41J
SIEDIENS		_	With recess for labeling plate	•	3SU1801-0AA00-0AB2		1	1 unit	41J
3SU1801-0AA00-0AA2		2	With recess for labeling plate	•	3SU1802-0AA00-0AB2		1	1 unit	41J
•	Gray	1	With recess for labeling plate	•	3SU1801-0AA00-0AB1		1	1 unit	41J
		2	With recess for labeling plate	•	3SU1802-0AA00-0AB1		1	1 unit	41J
		3	With recess for labeling plate	•	3SU1803-0AA00-0AB1		1	1 unit	41J
⊕ MD1000 0A A00 0A D1		4	With recess for labeling plate	•	3SU1804-0AA00-0AB1		1	1 unit	41J
3SU1802-0AA00-0AB1		6	With recess for labeling plate	•	3SU1806-0AA00-0AB1		1	1 unit	41J
	Metal Yellow	1	Center command point		3SU1851-0AA00-0AA2		4	4 . mit	44.1
	reliow	ı	With protective collar	3	3SU1851-0AA00-0AC2		1	1 unit 1 unit	41J 41J
			With recess for labeling plate	>	3SU1851-0AA00-0AB2		1	1 unit	41J
3SU1851-0AA00-0AC2			With protective collar for 5 padlocks, mushroom 40 mm	3	3SU1851-0AA00-0AF2		1	1 unit	41J
			With protective collar for 5 padlocks, mushroom 40 mm with key-operated release	3	3SU1851-0AA00-0AG2		1	1 unit	41J
			With protective collar for 5 padlocks, mushroom 60 mm	3	3SU1851-0AA00-0AH2		1	1 unit	41J
•		1	With protective collar NEV for 5 padlocks, mushroom 60 mm		3SU1851-0AA00-0AJ2		1	1 unit	41J
(STEAMENTS	Gray	1	With protective collar for 5 padlocks, mushroom 60 mm	3	3SU1851-0AA00-0AH1		1	1 unit	41J
3SU1851-0AA00-0AH1		1	With protective collar NEV for 5 padlocks, mushroom 60 mm	7 5	3SU1851-0AA00-0AJ1		1	1 unit	41J
0			With recess for labeling plate	•	3SU1851-0AA00-0AB1		1	1 unit	41J
		-	With protective collar	5	3SU1851-0AA00-0AC1		1	1 unit	41J
		2	With recess for labeling plate	•	3SU1852-0AA00-0AB1		1	1 unit	41J
O THEOREM O		3	With recess for labeling plate	•	3SU1853-0AA00-0AB1		1	1 unit	41J
3SU1853-0AA00-0AB1		4	With recess for		3SU1854-0AA00-0AB1		1	1 unit	41J
		6	labeling plate With recess for	•	3SU1856-0AA00-0AB1		1	1 unit	41J
3SU1854-0AA00-0AB1			labeling plate						
Enclosure for 4-posit ID key-operated swite	ches and	sensor s							
			e mounting						
•	Gray Metal from	1 ont nlate	Center command point mounting	3	3SU1801-1AA00-1AA1		1	1 unit	41J
	Gray	oni piale 1	Center command point	5	3SU1851-1AA00-1AA1		1	1 unit	41J
3SU1801-1AA00-1AA1									

SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

Pushbuttons and indicator lights in the enclosure

Overview

Pushbuttons and indicator lights in the enclosure (standard fittings) are available with:

- 1 to 3 command points (equipped, for example, with A, B, C, in each case from bottom to top)
- Operational voltage up to 400 V
- Vertical mounting type
- Plastic enclosures are equipped with plastic actuators and indicators, metal enclosures are equipped with metal actuators and indicators

• Contact modules and LED modules for base mounting (are snapped into the enclosure base); screw terminals as standard; some versions also with spring-type terminals

Palm pushbuttons

Palm pushbuttons have a particularly large button surface. This means that they can be actuated quickly and easily with the hand, arm or foot.

Screw terminals

Selection and ordering data

sure	1	Enclosure version Pushbutton and signaling device equipment	Color of actuating element Marking		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
top	points				٠.					

Enclosures with standard fittings



3SU1801-0NA00-2AA2

Plastic

Yellow 1

Center command point	Red	1	0	▶	3SU1801-0NA00-2AA2	1	1 unit	41J
A = EMERGENCY STOP		2	0 🔃	≡W 5	3SU1801-0NB00-2AA2	1	1 unit	41J
mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850, rotate to unlatch		1	1 N	EW X	3SU1801-0NP00-2AA2	1	1 unit	41J
Center command point A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to	Red	1	1 N	EW X	3SU1801-0NN00-2AA2	1	1 unit	41J
ISO 13850, with RONIS SB30 lock with key-operated release								
With protective collar								
A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive	Red A = I	1	0	>	3SU1801-0NA00-2AC2	1	1 unit	41J
latching acc. to ISO 13850, rotate to unlatch		2	0	•	3SU1801-0NB00-2AC2	1	1 unit	41J
With recess for labeling plate	A = Red B = Red	1	1 N	EW 5	3SU1802-0NA00-2AB2	1	1 unit	41J
A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to	A = Emer- gency Stop B = "without inscription"							
ISO 13850, rotate to unlatch	A = Red B = Red	2	1 N	≣W 3	3SU1802-0NB00-2AB2	1	1 unit	41J
B = Indicator light 24 V AC/DC	A = "Without inscription" B = "Without inscription"							
Center command point A = EMERGENCY STOP palm pushbuttons with positive latching acc. to ISO 13850,	Red	1	1	3	3SU1801-2NG00-2AA2	1	1 unit 4	1J



3SU1801-0NA00-2AC2

3SU1801-2NG00-2AA2

					Spring-type terminals	8	
With recess for labeling plate A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850, rotate to unlatch	Red A = I	2	1	5	3SU1801-0NE00-4AB2		1 1 unit

pull to unlatch

41J

Enclosures

Pushbuttons and indicator lights in the enclosure

	Color	Num- ber of	Enclosure version			ber of	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	enclo- sure top	com- mand points	Pushbutton and signaling device equipment	actuating element Marking		NO con- tacts			регго	SET, M)		
Enclosures with sta	andard	fittings					d					
								Screw terminals				
	Plasti	ic										
•	Gray	1	With recess for labeling plate	Green $A = I$ Red $A = 0$ White $A = I$	O 1	1 0 1	3 • 5	3SU1801-0AB00-2AB1 3SU1801-0AC00-2AB1 3SU1801-0AD00-2AB1		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
a lanearon			A = Pushbutton	Black A = 0	0 1	0	5	3SU1801-0AE00-2AB1		1	1 unit	41J
3SU1801-0AB00-2AB1								Spring-type terminals				
			With recess for labeling plate A = Selector	Black	0	2 NEW 1 NEW		3SU1801-0BA00-4AB1 3SU1801-0BE00-4AB1		1	1 unit 1 unit	41J 41J
			switch With recess for	Green A = I	1	0 NEW	1.5	3SU1801-0BC00-4AB1		1	1 unit	41J
			labeling plate A = Pushbutton	Gleen A = 1	Ó	1 NEW		3SU1801-0BD00-4AB1		1	1 unit	41J
								Screw terminals	(1)			
0		2	With recess for labeling plate	A = Red/ B = Green	1	1	3	3SU1802-0AB00-2AB1		1	1 unit	41J
			A = Pushbutton/ B = Pushbutton	A = O/ B = I								
				A = Black/ B = Black	1	1	5	3SU1802-0AC00-2AB1		1	1 unit	41J
3SU1802-0AB00-2AB1				A = O/ B = I								
0		3	With recess for labeling plate	A = Red/ B = Green/	1	1	>	3SU1803-0AB00-2AB1		1	1 unit	41J
			A = Pushbutton/ B = Pushbutton/	C = Clear A = O/								
			C = Indicator light	C = "Without"								
				inscription" A = Black/	1	1	5	3SU1803-0AC00-2AB1		1	1 unit	41J
(a) Latertone (b)				B = White/ C = Clear								
3SU1803-0AB00-2AB1				A = O/ B = I/ C = "Without inscription"								
			With recess for labeling plate	A = Red/ B = Black/	1	2	5	3SU1803-0AD00-2AB1		1	1 unit	41J
			A = Pushbutton/ B = Pushbutton/	C = Black A = O/								
			C = Pushbutton	B = I/ C = II								
		1	Center command point		0	1	3	3SU1801-2GA00-2AA1		1	1 unit	41J
(b)			A = Palm pushbutton,									
"Discount			momentary- contact type									
•												
3SU1801-2GA00-2AA1												

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SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

Pushbuttons and indicator lights in the enclosure

	Color of enclosure top	Num- ber of com- mand points	Enclosure version Pushbutton and signaling device equipment	Color of actuating element Marking	NC con-	ber of NO con- tacts	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Enclosures with sta	andard	fittings										
								Screw terminals	+			
3SU1851-0NA00-2AA2	Metal Yellow		Center command point A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850,	Red	1 2	0 0	3 5	3SU1851-0NA00-2AA2 3SU1851-0NB00-2AA2		1 1	1 unit 1 unit	41J 41J
3SU1851-0NA00-2AC2			rotate to unlatch With protective collar A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850, rotate to unlatch	Red	1 2 2 2	0 0 0 NEW	3 5 5	3SU1851-0NA00-2AC2 3SU1851-0NB00-2AC2 3SU1851-0NC00-2AC2 3SU1851-0ND00-2AC2		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1851-2NG00-2AA2		1	Center command point A = EMERGENCY STOP palm pushbuttons with positive latching acc. to ISO 13850 Pull to unlatch	Red	1	1	3	3SU1851-2NG00-2AA2		1	1 unit	41J
3SU1851-0AC00-2AB1	Gray	1	With recess for labeling plate A = Pushbutton	Green A = I Red A = O White A = I Black A = O	0	1 0 1 0	5 5 5 5	3SU1851-0AB00-2AB1 3SU1851-0AC00-2AB1 3SU1851-0AD00-2AB1 3SU1851-0AE00-2AB1		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		2	With recess for labeling plate A = Pushbutton/B = Pushbutton	A = Red/ B = Green A = O/ B = I	1	1	5	3SU1852-0AB00-2AB1		1	1 unit	41J
3SU1852-0AB00-2AB1				A = Black/ B = White A = O/ B = I	1	1	5	3SU1852-0AC00-2AB1		1	1 unit	41J
		3	With recess for labeling plate A = Pushbutton/ B = Pushbutton/ C = Indicator light	A = Red/ B = Green/ C = Clear A = O/ B = I/ C = "Without inscription"	1	1	5	3SU1853-0AB00-2AB1		1	1 unit	41J
3SU1853-0AB00-2AB1			With recess for labeling plate A = Pushbutton/ B = Pushbutton/ C = Pushbutton	A = Red/ B = Black/ C = Black A = O/ B = I/ C = II	1	2	5	3SU1853-0AD00-2AB1		1	1 unit	41J
3SU1851-2GA00-2AA1		1	Center command point A = Palm pushbutton, momentary- contact type	Black	0	1	3	3SU1851-2GA00-2AA1		1	1 unit	41J

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Enclosures

Pushbuttons and indicator lights in the enclosure

	Number of command points	Product function/ EMERGENCY STOP function	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Customized enclos	sures ¹⁾							
	Plastic							
9	1	No Yes		3SU1801-0AZ00 K0Y 3SU1801-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	2	No Yes		3SU1802-0AZ00 K0Y 3SU1802-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
(SILDIENE	3	No Yes		3SU1803-0AZ00 K0Y 3SU1803-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
3SU1801-0AZ00 K0Y	4	No Yes		3SU1804-0AZ00 K0Y 3SU1804-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	6	No Yes		3SU1806-0AZ00 K0Y 3SU1806-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	Metal							
•	1	No Yes		3SU1851-0AZ00 K0Y 3SU1851-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	2	No Yes		3SU1852-0AZ00 K0Y 3SU1852-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	3	No Yes		3SU1853-0AZ00 K0Y 3SU1853-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
(STEATERS (D)	4	No Yes		3SU1854-0AZ00 K0Y 3SU1854-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
3SU1851-0AZ00 K0Y	6	No Yes		3SU1856-0AZ00 K0Y 3SU1856-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J

¹⁾ The fittings and labeling of the command point can be chosen using the Configurator on the Internet. The prices depend on the equipment selected. When ordering, always add the article number and the code K0Y and the CIN number from the Configurator. Ordering example:

3SU1801-0AZ00 K0Y, CIN20150609140858154554,

SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

Pushbuttons and indicator lights in the enclosure for AS-Interface

Overview

With AS-Interface enclosures, distributed SIRIUS ACT pushbuttons and indicator lights can be quickly connected to the AS-Interface communication system.

Using suitable components you can make your own enclosures with integrated AS-Interface or flexibly modify existing enclosures.



Enclosures for AS-Interface

Enclosures

Color of enclosure top:

- Gray, RAL 7035
- Yellow, RAL 1004 for EMERGENCY STOP

Color of enclosure base:

Black, RAL 9005

Equipping with AS-Interface slaves

The following slaves are available for connecting the command points:

- Slave in A/B technology with 4 digital inputs and 3 digital outputs (4 DI/3 DQ)
- Slave with 4 digital inputs and 4 digital outputs (4 DI/4 DQ)
- F slave with 2 safe inputs for EMERGENCY STOP mushroom pushbutton (2 F-DI), also with integrated red LED for the illuminated EMERGENCY STOP mushroom pushbutton.

The following table shows the maximum number of slaves possible:

Number of command points	Number of slaves for enclosures without EMERGENCY STOP	Number of slaves for enclosures with EMERGENCY STOP
1		1 x F slave 2 F-DI
2	1 x slave 4 DI/4 DQ or 4 DI/3 DQ	
3	1 x slave 4 DI/4 DQ or 4 DI/3 DQ	1 x slave 4 DI/4 DQ or 4 DI/3 DQ + 1 x F slave
4	2 x slave 4 DI/4 DQ or 4 DI/3 DQ	2 x slave 4 DI/4 DQ or 4 DI/3 DQ + 1 x F slave
6	2 x slave 4 DI/4 DQ or 4 DI/3 DQ	2 x slave 4 DI/4 DQ or 4 DI/3 DQ + 1 x F slave

Connection

One set of links is required in each case to connect a slave to contact modules, LED modules, and the connection element.

The connection elements are mounted in the front-end cable glands and are used to connect the AS-Interface or bring unused inputs or outputs out of the enclosure.

For connection to AS-Interface, the following options are available:

- Terminal for shaped AS-Interface cable. The cable is contacted by the insulation piercing method and routed past the enclosure on the outside (possible only with plastic enclosure).
- Cable gland for the shaped AS-Interface cable or round cable. The cable is routed into the enclosure (preferable for metal enclosure).
- Connection using M12 plug.

If less than all inputs/outputs of the installed slaves in an enclosure are used for connecting the command devices, free inputs and outputs can be routed on request to the outside through an M12 socket on the top or bottom side of the enclosure.

To supply inputs with power, the S+ connection of the slave must be assigned to the socket, for outputs the OUT- connection must be assigned. Addressing is performed using the AS-Interface connections or the integrated addressing socket. An external power supply is not required.

Enclosures with standard fittings

Enclosures with standard fittings are available with:

- 1 to 3 command points
- Operational voltage through AS-Interface (approx. 30 V)
- Vertical mounting type
- Plastic enclosures are equipped with plastic actuators and indicators, metal enclosures are equipped with metal actuators and indicators

The enclosures without EMERGENCY STOP each have one module with 4I/3O; the enclosures with EMERGENCY STOP mushroom pushbuttons have a safe AS-Interface slave integrated in the enclosure. Enclosures with EMERGENCY STOP mushroom pushbuttons are fitted with two NC contact modules, which are wired to the safe F slave.

The contact modules and LED modules (with spring-type terminals) of the command devices and the AS-Interface slaves are mounted in the base of the enclosure and connected using cables. The plastic enclosures are designed with a connection for the AS-Interface flat cable (the cable is run along the outside of the enclosure). For metal enclosures, the AS-Interface cable is run inside the enclosure.

The enclosures with EMERGENCY STOP mushroom pushbuttons are also available with an M12 connector.

Customized enclosures (selection by configurator)

To order customized 3SU18 AS-Interface enclosures with pushbuttons and indicator lights, the configurator must be used to select the fittings.

An electronic order form will be generated for the options.

For the Configurator, see www.siemens.com/sirius-act/configurator.

Enclosures

Pushbuttons and indicator lights in the enclosure for AS-Interface

Selection and order	ing data									
	Color of enclosure top	Number of com- mand points	Enclosure version Command point fittings	Color Marking	SD	Insulation piercing method	₹ :}	PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
Enclosures with star	ndard fitti	ngs					p 0 0			
	Plastic									
3SU1801-0NB10-4HB2	Yellow	1	With recess for labeling plate A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850, rotate to unlatch	Red	5	3SU1801-0NB10-4HB2		1	1 unit	41J
			With protective collar A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850, rotate to unlatch	Red NAMA	3	3SU1801-0NB10-4HC2		1	1 unit	41J
3SU1801-0NB10-4HC2	Gray	2	With recess for	A = Red/	5	3SU1802-0AB10-4HB1		1	1 unit	41J
	a.a,	_	labeling plate A = Pushbutton/ B = Pushbutton	B = Green A = O/ B = I	Ü			·		
(a) (a)				A = Black/ B = White A = O/ B = I	5	3SU1802-0AC10-4HB1		1	1 unit	41J
3SU1802-0AB10-4HB1		3	With recess for labeling plate A = Pushbutton/ B = Pushbutton/ C = Indicator light	A = Red/ B = Green/ C = Clear A = O/ B = I/ C = "Without inscription"	5	3SU1803-0AB10-4HB1		1	1 unit	41J
3SU1803-0AB10-4HB1										
	Metal									
3SU1851-0NB10-4GB2	Yellow	1	With recess for labeling plate A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850, rotate to unlatch	Red NEW A = I	5	3SU1851-0NB10-4GB2		1	1 unit	41J
3SU1851-0NB10-4GC2			With protective collar A = EMERGENCY STOP mushroom pushbuttons, 40 mm, with positive latching acc. to ISO 13850, rotate to unlatch	Red NEW	5	3SU1851-0NB10-4GC2		1	1 unit	41J

SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

Pushbuttons and indicator lights in the enclosure for AS-Interface

	Number of command points	Product function/ EMERGENCY STOP function	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Customized enclosu	ures for AS-Interface ¹)						
	Plastic							
0	1	Yes		3SU1801-0NZ10 K0Y		1	1 unit	41J
	2	No No		3SU1802-0AZ10 K0Y 3SU1802-0NZ10 K0Y		1	1 unit 1 unit	41J 41J
	3	No		3SU1803-0AZ10 K0Y		1	1 unit	41J
	3	Yes		3SU1803-0NZ10 K0Y		i	1 unit	41J
(a) INDICES	4	No		3SU1804-0AZ10 K0Y		1	1 unit	41J
3SU1801-0NZ10 K0Y		Yes		3SU1804-0NZ10 K0Y		1	1 unit	41J
	6	No Yes		3SU1806-0AZ10 K0Y 3SU1806-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
	Metal							
	1	Yes		3SU1851-0NZ10 K0Y		1	1 unit	41J
	2	No		3SU1852-0AZ10 K0Y		1	1 unit	41J
		No		3SU1852-0NZ10 K0Y		1	1 unit	41J
	3	No Yes		3SU1853-0AZ10 K0Y 3SU1853-0NZ10 K0Y		1	1 unit 1 unit	41J 41J
	4	No		3SU1854-0AZ10 K0Y		1	1 unit	41J
	4	Yes		3SU1854-0NZ10 K0Y		1	1 unit	41J
⊕ Mores ⊙	6	No		3SU1856-0AZ10 K0Y		1	1 unit	41J
3SU1851-0NZ10 K0Y		Yes		3SU1856-0NZ10 K0Y		1	1 unit	41J

¹⁾ The fittings and labeling of the command point can be chosen using the Configurator on the Internet. The prices depend on the equipment selected, see www.siemens.com/sirius-act/configurator.

Enclosures

Modules for enclosures

Selection and order	ing data											
	Contact version	Number NO contacts	of NC contacts				SD	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
							d	Article No.	Price per PU			
Contact modules for												
	Silver alloy	/ 1	0		⊢ .3 .4	3-4 1C01_00448 0 1 2 3 4 mm 2,5	•	3SU1400-2AA10-1BA0		1	1 unit	41J
		0	1	Θ	.1 	1-2 0 1 2 3 4 mm 1,2	•	3SU1400-2AA10-1CA0		1	1 unit	41J
3SU1400-2AA10-1BA0	Gold-	1	0			IC01_00448	E	3SU1400-2AA10-1LA0		1	1 unit	41J
	plated	ı	U		ا.3 ا.4	3-4 101 101 101 101 101 101 101 101 101 10	5	3501400-2AA10-1LA0		ı	i uriii	413
		0	1	Θ	.1 	1-2 0 1 2 3 4 mm 1,2	5	3SU1400-2AA10-1MA0		1	1 unit	41J
3SU1400-2AA10-1LA0								Spring-type terminals				
	0								8			
3 10	Silver alloy	/ 1	0		⊢ .3 .4	3-4 1001_00448 0 1 2 3 4 0 1 2,5	•	3SU1400-2AA10-3BA0		1	1 unit	41J
4 NO		0	1	Θ	1.1	1-2 0 1 2 3 4 mm 1,2	•	3SU1400-2AA10-3CA0		1	1 unit	41J
3SU1400-2AA10-3BA0	Gold-	1	0			IC01_00448	5	3SU1400-2AA10-3LA0		1	1 unit	41J
3SU1400-2AA10-3LA0	plated	•			H.4	3-4 1 2 3 4 mm 2,5	5	SSS 1700 EAR IU-DEAU		·	Tom	710

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards. Certificate:



SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

						M	odules f	or enclo	sures
	Operational voltage at AC	Operational voltage at DC	Color	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED modules ¹⁾ for ba	•					po o			
S _{x1}	24	24	Amber Red Yellow Green Blue White	3 3 3 •	3SU1401-2BB00-1AA0 3SU1401-2BB20-1AA0 3SU1401-2BB30-1AA0 3SU1401-2BB40-1AA0 3SU1401-2BB50-1AA0 3SU1401-2BB60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-2BB60-1AA0	110		Amber Red Yellow Green Blue White	5 \(\) 5 \(\) \(\)	3SU1401-2BC00-1AA0 3SU1401-2BC20-1AA0 3SU1401-2BC30-1AA0 3SU1401-2BC40-1AA0 3SU1401-2BC50-1AA0 3SU1401-2BC50-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	230		Amber Red Yellow Green Blue White	5 • 5 • • •	3SU1401-2BF00-1AA0 3SU1401-2BF20-1AA0 3SU1401-2BF30-1AA0 3SU1401-2BF40-1AA0 3SU1401-2BF50-1AA0 3SU1401-2BF60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
1) Only for use with SIRIU	S commanding and sign	naling devices.							
	Operational voltage at AC	Operational voltage at DC	Color	SD	Spring-type terminals	<u> </u>	PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED modules ¹⁾ for ba	ase mounting					•			
	24	24	Amber Red Yellow Green Blue White	5 5 •	3SU1401-2BB00-3AA0 3SU1401-2BB20-3AA0 3SU1401-2BB30-3AA0 3SU1401-2BB40-3AA0 3SU1401-2BB50-3AA0 3SU1401-2BB60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-2BB20-3AA0	110		Amber Red Yellow Green Blue White	5 5 •	3SU1401-2BC00-3AA0 3SU1401-2BC20-3AA0 3SU1401-2BC30-3AA0 3SU1401-2BC40-3AA0 3SU1401-2BC50-3AA0 3SU1401-2BC60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	230		Amber Red Yellow Green Blue White	5 5 •	3SU1401-2BF00-3AA0 3SU1401-2BF20-3AA0 3SU1401-2BF30-3AA0 3SU1401-2BF40-3AA0 3SU1401-2BF50-3AA0 3SU1401-2BF60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

¹⁾ Only for use with SIRIUS commanding and signaling devices.

SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

Modules for enclosures

	Operational voltage at AC	Operational voltage at DC	Color	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED modules ¹⁾ for ba	se mounting · wide	voltage range							
S _{x1}	6 24	6 24	Amber Red Yellow Green Blue White	3 5 •	3SU1401-2BG00-1AA0 3SU1401-2BG20-1AA0 3SU1401-2BG30-1AA0 3SU1401-2BG40-1AA0 3SU1401-2BG50-1AA0 3SU1401-2BG60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-2BG60-1AA0	24 240	24 240	Amber Red Yellow Green Blue White	5 5 •	3SU1401-2BH00-1AA0 3SU1401-2BH20-1AA0 3SU1401-2BH30-1AA0 3SU1401-2BH40-1AA0 3SU1401-2BH50-1AA0 3SU1401-2BH60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
					Spring-type terminals	8			
	6 24	6 24	Amber Red Yellow Green Blue White	5 5 •	3SU1401-2BG00-3AA0 3SU1401-2BG20-3AA0 3SU1401-2BG30-3AA0 3SU1401-2BG40-3AA0 3SU1401-2BG50-3AA0 3SU1401-2BG60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-2BG20-3AA0	24 240	24 240	Amber Red Yellow Green Blue White	5 5 •	3SU1401-2BH00-3AA0 3SU1401-2BH20-3AA0 3SU1401-2BH30-3AA0 3SU1401-2BH40-3AA0 3SU1401-2BH50-3AA0 3SU1401-2BH60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
1) Only for use with SIRIUS	S commanding and sign	aling devices.							
	Operational voltage at AC	Operational vol at DC	tage	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V		d	Article No.	Price per PU			
LED test modules ¹⁾ for	•	·		u		porro			
3SU1400-2CK10-1AA0	6 240	6 240		>	3SU1400-2CK10-1AA0		1	1 unit	41J
1)									

 $^{^{1)}}$ Only to be used for SIRIUS ACT LED modules (6 ... 24 V AC/DC, 24 V AC/DC, 24 ... 240 V AC/DC).

SIRIUS ACT Pushbuttons and Indicator Lights Enclosures

								M	odules f	or enclo	sures
	Opera- tional voltage	Slave type	Number o digital inp Standard	uts	Number of digital outputs	SD	Spring-type terminals (push-in)		PU (UNIT, SET, M)	PS*	PG
	V					d	Article No.	Price per PU			
AS-Interface module		mounting				u		per PU			
	30	4 DI/3 DQ AB	4	0	3	5	3SU1400-2EJ10-6AA0		1	1 unit	41J
KIX PAUL REAL	30	4 DI/3 DQ AB 4 DI/4 DQ	4	0	4	>	3SU1400-2EK10-6AA0		1	1 unit	41J
SEMONS		2 F-DI	0	2	0	5	3SU1400-2EA10-6AA0		1	1 unit	41J
		2 F-DI + 1 LED		2	1 For controlling the LEDs	5	3SU1401-2EE20-6AA0		1	1 unit	41J
3SU1400-2EJ10-6AA0											
Electronic module for											
SDOS DOS	24	Freely programmable (default 6 DI/2 DQ)	0-8	0	0-8	5	3SU1400-2HL10-6AA0		1	1 unit	41J
3SU1400-2HL10-6AA0											
	Color					SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							Article No.	Price			
Support terminals						d		per PU			
Support terminals	Black					3	3SU1400-2DA10-1AA0		1	1 unit	41J
30U1400 3DA10 1AA0	Blue Green/	Yellow				5 3	3SU1400-2DA50-1AA0 3SU1400-2DA43-1AA0		1 1	1 unit 1 unit	41J 41J
3SU1400-2DA10-1AA0							Continue to me to make to	- 00			
	Black Blue Green/	Yellow				5 5 5	Spring-type terminals 3SU1400-2DA10-3AA0 3SU1400-2DA50-3AA0 3SU1400-2DA43-3AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J

3SU1400-2DA50-3AA0

Enclosures

Two-hand operation consoles

Overview

Equipment

The two-hand operation consoles are pre-equipped with commanding devices. In the case of plastic enclosures the command points are equipped as standard with actuators and indicators made of plastic and in the case of metal enclosures they are equipped with actuators and indicators made of metal.

The standard equipment comprises:

- 2 black mushroom pushbuttons, diameter 40 mm, 1 NO + 1 NC
- 1 red EMERGENCY STOP mushroom pushbutton according to ISO 13850, diameter 40 mm, with positive latching, 2 NC

The plastic version can be retrofitted with up to 8 customized command points. The surface of the console has premachined breaking points for this purpose.

Application

The two-hand operation consoles are required for use with machines and systems that have hazardous areas, in order to direct both hands of the operator to one position.

The operation consoles are primarily used on presses. stamping machines, printing presses and paper converting machines, in the chemical industry and in the rubber and plastics industries.

The control command is given by pressing the two mushroom pushbuttons on the sides simultaneously (within 0.5 s of each other) and must be maintained for as long as a hazard exists.

For the further processing of control commands, evaluation units are used, e.g. 3SK11 safety relays or the 3RK3, 3SK2 Modular Safety System.

Standards

The two-hand operation consoles comply with the requirements of EN 574.

Selection and orderi	ng data									
	Version of actuating elemer unlatching method/ operating principle	Color of actuating element	Number NO contacts	of NC contacts		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Two hand answetien	- analaa				d					
Two-hand operation	Plastic									
	None		0	0	5	3SU1803-3AA00-0AA1		1	1 unit	41J
3SU1803-3NB00-1AE1	A = Mushroom pushbutton/ momentary contact B = EMERGENCY STOP mushroom pushbutton/ rotate to unlatch C = Mushroom pushbutton/ momentary contact	B = Red/ C = Black		4	5	3SU1803-3NB00-1AE1		1	1 unit	41J
	Metal									
	None		0	0	5	3SU1853-3AA00-0AA1		1	1 unit	41J
3SU1853-3AA00-0AA1	A = Mushroom pushbutton/	A = Black/	2	4	5	3SU1853-3NB00-1AA1		1	1 unit	41J
3SU1853-3NB00-1AA1	momentary contact B = EMERGENCY STOP mushroom pushbutton/ rotate to unlatch C = Mushroom pushbutton/ momentary contact	B = Red/ C = Black								
300			2	4	5	3SU1853-3NB00-1AD1		1	1 unit	41J
3SU1853-3NB00-1AD1										
	Version	Material	Color		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d			, ,		
Accessories										

Accessories

Stands for two-hand operation consoles



Metal Black 3SU1950-0HN10-0AA0

1 unit 41J

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

Insert labels

Overview

Labels can be inserted for identification purposes in pushbuttons (clear) and in illuminated pushbuttons with a flat button. These insert labels are made of transparent plastic with black inscription; they can be fitted in any 90° angle.

Inscription

The inscription is in upper/lower case, all words begin with upper case letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

The insert labels without inscription are suitable for user marking with permanent pen.

For customized inscriptions, see "Options", page 13/117.

Selection and ordering data Color Marking SD Article No. Price PS* PG per PU (UNIT, SÈT, M) Insert labels For self-inscription 3SU1900-0AB71-0AA0 Milky white/black 100 10 units None 41J (label/lettering) With customized inscription Milky white/black For inscriptions or symbols, 3SU1900-0AB71-0AZ0 1 unit 41J (label/lettering) see "Options", page 13/117 3SU1900-0AB71-0AA0 Inscription in German 3SU1900-0AB71-0AB0 3SU1900-0AB71-0AC0 Milky white/black Ein 100 10 units 41J (label/lettering) Aus 5 100 10 units 41J 3SU1900-0AB71-0AD0 3SU1900-0AB71-0AE0 Auf 5 100 10 units 41J Ein Ab 5 100 10 units 41J 3SU1900-0AB71-0AF0 10 units 5 100 41.1 Vor 3SU1900-0AB71-0AG0 Zurück 5 100 10 units 41J 3SU1900-0AB71-0AH0 5 41J Rechts 100 10 units 5 3SU1900-0AB71-0AJ0 Links 100 10 units 41J Halt 5 3SU1900-0AB71-0AK0 100 10 units 41J 3SU1900-0AB71-0AB0 Zu 3SU1900-0AB71-0AL0 100 10 units 41J Schnell 5 3SU1900-0AB71-0AM0 100 10 units 41J 5 Langsam 3SU1900-0AB71-0AN0 100 10 units 41J 5 Betrieb 3SU1900-0AB71-0AP0 100 41.1 10 units 3SU1900-0AB71-0AQ0 3SU1900-0AB71-0AR0 Störung 5 100 10 units 41J Einrichten 100 10 units 41J Inscription in English Milky white/black On 5 3SU1900-0AB71-0DJ0 100 10 units 41J 3SU1900-0AB71-0DK0 3SU1900-0AB71-0DL0 3SU1900-0AB71-0DM0 (label/lettering) Off 5 100 10 units 41J Up 5 100 10 units 41J Forward 5 Down 100 10 units 41J Forward 5 3SU1900-0AB71-0DN0 100 10 units 41.1 5 3SU1900-0AB71-0DQ0 Right 100 10 units 41.I 5 3SU1900-0AB71-0DR0 100 10 units 41J Left 5 3SU1900-0AB71-0DS0 Stop 100 10 units 41J 5 Start 3SU1900-0AB71-0DT0 100 10 units 41J 3SU1900-0AB71-0DN0 3SU1900-0AB71-0DU0 41J Reset 100 10 units 3SU1900-0AB71-0DV0 100 10 units 41J Test Open 5 3SU1900-0AB71-0DW0 100 10 units 41J 5 Close 3SU1900-0AB71-0DX0 100 10 units 41J 3SU1900-0AB71-0EB0 Running 5 100 10 units 41J 3SU1900-0AB71-0EE0 Fast 100 10 units 41.I

Slow

100

10 units

41J

3SU1900-0AB71-0EF0

Accessories Labels

Insert labels

IIISCI LIADCIS									
	Color	Marking	Symbol No.	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
			NO.			perio	SET, M)		
Insert labels				d					
	With symbol (ON/OF	FF)							
T I	Milky white/black (label/lettering)	0			3SU1900-0AB71-0QA0 3SU1900-0AB71-0QB0		100 100	10 units 10 units	41J 41J
	, , , , , , , , , , , , , , , , , , ,	II		5	3SU1900-0AB71-0QB0		100	10 units	41J
		III		5	3SU1900-0AB71-0QD0		100	10 units	41J
3SU1900-0AB71-0QC0									
	With symbol (graphi		E000 IEO		20114222 24 274 2022		100	10	44.1
	Milky white/black (label/lettering)	ARROW DIRECTION TO RIGHT	5022 IEC	•	3SU1900-0AB71-0QR0		100	10 units	41J
	K	ARROW DIRECTION UP AND TO LEFT		•	3SU1900-0AB71-0QS0		100	10 units	41J
	\sim	CLOCKWISE ROTATION	0004 ISO	5	3SU1900-0AB71-0QT0		100	10 units	41J
	~	COUNTERCLOCK- WISE ROTATION		5	3SU1900-0AB71-0QU0		100	10 units	41J
3SU1900-0AB71-0QT0	$\mathbf{\omega}$	RAPID TRAVERSE	0266 ISO	5	3SU1900-0AB71-0QV0		100	10 units	41J
	₩	FEED	0259 ISO	5	3SU1900-0AB71-0QW0		100	10 units	41J
	+	INCREASE, PLUS	5005 IEC	5	3SU1900-0AB71-0QX0		100	10 units	41J
		DECREASE, MINUS	5006 IEC	5	3SU1900-0AB71-0QY0		100	10 units	41J
00114000 0 4 7 74 0 7 70	4	ELECTRIC MOTOR	0011 ISO	5	3SU1900-0AB71-0RA0		100	10 units	41J
3SU1900-0AB71-0RB0		HORN	5014 IEC	5	3SU1900-0AB71-0RB0		100	10 units	41J
	즉	WATER INLET		5	3SU1900-0AB71-0RC0		100	10 units	41J
		PUMP	0134 ISO	5	3SU1900-0AB71-0RD0		100	10 units	41J
		COOLANT PUMP	0355 ISO	5	3SU1900-0AB71-0RE0		100	10 units	41J
3SU1900-0AB71-0RN0	→ ←	LOCK, TIGHTEN	5653 IEC	5	3SU1900-0AB71-0RF0		100	10 units	41J
	↔	UNLOCK, UNCLAMP	5652 IEC	5	3SU1900-0AB71-0RG0		100	10 units	41J
	⇒○	BRAKE		5	3SU1900-0AB71-0RH0		100	10 units	41J
	€()	RELEASE BRAKE	0021 ISO	5	3SU1900-0AB71-0RJ0		100	10 units	41J
	- ↓ -	INTERLOCK	0022 ISO	5	3SU1900-0AB71-0RK0		100	10 units	41J
	1 .	UNLOCK	0023 ISO	5	3SU1900-0AB71-0RL0		100	10 units	41J
		SET UP	0910 ISO	5	3SU1900-0AB71-0RM0		100	10 units	41J
	\ominus	ON/OFF, MOMENTARY CONTACT TYPE	5011 IEC	5	3SU1900-0AB71-0RN0		100	10 units	41J
	Em	MANUAL OPERATION	0096 ISO	5	3SU1900-0AB71-0RP0		100	10 units	41J
	@	AUTOMATIC CYCLE	0017 ISO	•	3SU1900-0AB71-0RQ0		100	10 units	41J
	14	SUCTION		5	3SU1900-0AB71-0RR0		100	10 units	41J
	T\$7 /♣)	BLOWING		5	3SU1900-0AB71-0RS0		100	10 units	41J
	<i></i>								

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

Insert labels

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

The default typeface used for inscriptions with text is Arial and the text is centered.

The font height is 2.5 mm.

Up to 6 characters per line are possible.

Examples for customized inscription



Two-line inscription in upper/lower case lettering (Q0Y)



Single-line inscription in upper case lettering (Q1Y)



Three-line inscription in lower case letters (Q2Y)



Symbol number 5011 according to IEC 60417 (Q3Y)



Any symbol according to order form supplement (Q9Y)

Ordering notes

Append the following order codes to the article number:

- Q0Y: Text line(s) in upper/lower case, always upper case for beginning of line,
 e.g. Z1=Lift Z2=Lower
- Q1Y: Text line(s) in upper case, e.g. Z1=LIFT Z2=LOWER
- **Q2Y:** Text line(s) in lower case, e.g. Z1=lift off Z2=lower off
- Q5Y: Text line(s) in upper/lower case, all words begin with upper case letters,
 e.g. Z1=Lift Off Z2=Lower Off
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT Configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription in plain text without spaces, in addition to the article number and order code.

In the case of multi-line inscriptions, the text must be assigned to the respective line, $\,$

e.g. Z1=LIFT Z2=LOWER, see ordering example 1.

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417, see ordering examples 2 and 3.

The SIRIUS ACT Configurator must be used to select special inscriptions and symbols (order code Q9Y). In this case a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT Configurator (Mall shopping cart) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- Electronic Catalog CA 01 on DVD
- Industry Mall: www.siemens.com/industrymall

Ordering example 1

A label with 2 lines of text is required:

3SU1900-0AB71-0AZ0 Q1Y

Z1=LIFT Z2=LOWER

Ordering example 2

A label inscribed with symbol No. 5011 according to IEC 60417 is required:

3SU1900-0AB71-0AZ0 Q3Y

Z=5011 IEC

Ordering example 3

A label inscribed with symbol No. 1118 according to ISO 7000 is required:

3SU1900-0AB71-0AZ0 Q3Y

Z=1118 ISO

Accessories Labels

Label holders for labeling plates

Selection and orderi											_
	Material Label holder shape	Label holder color	Label fastening method	Labeli plate s Heigh		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Label holders for lab	eling plates										
	Plastic With rounded bottom	Black	Self- adhesive	12.5 17.5 27	27 27 27	>	3SU1900-0AG10-0AA0 3SU1900-0AH10-0AA0 3SU1900-0AJ10-0AA0		100 100 100	10 units 10 units 10 units	41J 41J 41J
	Bottom		Snap-on	12.5 17.5 27	27 27 27	* * *	3SU1900-0AR10-0AA0 3SU1900-0AS10-0AA0 3SU1900-0AT10-0AA0		100 100 100	10 units 10 units 10 units	41J 41J 41J
3SU1900-0AG10-0AA0											
	Plastic, with square bottom	Black	Self- adhesive	12.5 17.5 27	27 27 27 27	3 • 5	3SU1900-0AN10-0AA0 3SU1900-0AP10-0AA0 3SU1900-0AQ10-0AA0		100 100 100	10 units 10 units 10 units	41J 41J 41J
3SU1900-0AN10-0AA0											
	For 2 labeling Plastic, with rounded	plates Black	Self- adhesive	17.5	27	>	3SU1900-0BQ10-0AA0		1	1 unit	41J
	bottom		Snap-on	17.5	27	>	3SU1900-0BR10-0AA0		1	1 unit	41J
3SU1900-0BQ10-0AA0											
	For 4 labeling	plates									
	Plastic, with rounded bottom	Black	Self- adhesive	17.5 17.5	27	>	3SU1900-0BS10-0AA0 3SU1900-0BT10-0AA0		1	1 unit	41J 41J
			Snap-on	17.5	21		3501900-0B110-0AA0		'	Turiit	410
3SU1900-0BT10-0AA0											
	For actuators Metal, matte With rounded	Black	Self- adhesive	m <u>N≣W</u> 17.5	27	•	3SU1960-0AH10-0AA0		1	10 units	41J
	bottom		Snap-on	17.5	27	•	3SU1960-0AS10-0AA0		1	10 units	41J
3SU1960-0AH10-0AA0											
Label holders for lab	eling plates, co	ordinate s	witches								
	Plastic, with square bottom	Black	Self- adhesive	27	27	•	3SU1900-0AL10-0AA0		1	1 unit	41J
3SU1900-0AL10-0AA0											
	Plastic, cross	Black	Self- adhesive	27	27	•	3SU1900-0AM10-0AA0		1	1 unit	41J
3SU1900-0AM10-0AA0											

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

Label ho	Iders '	for labe	ling p	lates
----------	---------	----------	--------	-------

	Material Label holder shape	Label holder color	Label fastening method	Labeling plate s Height		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	mm	d					
Label holders for lab	eling plates, twin	pushbut	tons								
3SU1900-0AK10-0AA0	Plastic, rectangular	Black	Self- adhesive	12.5	27	•	3SU1900-0AK10-0AA0		100	10 units	41J
Single frames											
3SU1900-0AX10-0AA0	Plastic, square	Black		29.8	29.8	•	3SU1900-0AX10-0AA0		1	10 units	41J

Accessories Labels

Labeling plates

Overview

Label holders of black plastic, and labeling plates (black with white print or silver-colored with black print) for sticking or snapping in place, are available for labeling. They are not suitable for EMERGENCY STOP buttons. Note mounting dimensional

The label holders cannot be used in conjunction with sealing plugs, protective caps, protective collars and locking devices.

Inscription

The inscription is in upper/lower case, all words begin with upper case letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

For customized inscriptions, see "Options", page 13/126.

Labeling plates for sticking/snapping in place

The labels are available in three sizes:

- 12.5 mm × 27 mm
- 17.5 mm × 27 mm
- 27 mm × 27 mm

For mounting the labeling plates, you can choose between label holders for stick-on or snap-on mounting.

Selection and orderi	ng data								
	Color	Marking	Symbol No.	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Labeling plates 12.5	mm x 27 mm								
	For self-inscr	iption			•				
	Black/white (label/lettering)	None		>	3SU1900-0AC16-0AA0		100	10 units	41J
	With customiz	zed inscription							
3SU1900-0AC16-0AA0	Black/white (label/lettering)	For inscriptions or symbols, see "Options", page 13/126.			3SU1900-0AC16-0AZ0		1	1 unit	41J
	Inscription in	German							
Zurück	Black/white (label/lettering)	Ein Aus Auf	 	5 5 5	3SU1900-0AC16-0AB0 3SU1900-0AC16-0AC0 3SU1900-0AC16-0AD0		100 100 100	10 units 10 units 10 units	41J 41J 41J
3SU1900-0AC16-0AG0		Ab Vor Zurück Rechts	 	5 5 5 5	3SU1900-0AC16-0AE0 3SU1900-0AC16-0AF0 3SU1900-0AC16-0AG0 3SU1900-0AC16-0AH0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Links Halt Zu Betrieb Störung	 	5 5 5 5	3SU1900-0AC16-0AJ0 3SU1900-0AC16-0AK0 3SU1900-0AC16-0AL0 3SU1900-0AC16-0AP0 3SU1900-0AC16-0AQ0		100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
		Hand Auto Hand O Auto		5 5	3SU1900-0AC16-0DB0 3SU1900-0AC16-0DD0		100 100	10 units 10 units	41J 41J
	Inscription in	English							
Forward	Black/white (label/lettering)	On Off Up Down	 	5 5 5 5	3SU1900-0AC16-0DJ0 3SU1900-0AC16-0DK0 3SU1900-0AC16-0DL0 3SU1900-0AC16-0DM0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AC16-0DN0	,	Forward Reverse Right Left	 	5 5 5 5	3SU1900-0AC16-0DN0 3SU1900-0AC16-0DP0 3SU1900-0AC16-0DQ0 3SU1900-0AC16-0DR0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Stop Start Reset Test	 	5 5 5 5	3SU1900-0AC16-0DS0 3SU1900-0AC16-0DT0 3SU1900-0AC16-0DU0 3SU1900-0AC16-0DV0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Open Close Jog Running	 	5 5 5 5	3SU1900-0AC16-0DW0 3SU1900-0AC16-0DX0 3SU1900-0AC16-0DE0 3SU1900-0AC16-0EB0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Fault Run Stop Start Off On	 	5 5 5 3	3SU1900-0AC16-0EC0 3SU1900-0AC16-0ED0 3SU1900-0AC16-0DC0 3SU1900-0AC16-0DH0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Power off Power on Man O Auto Man Auto	 	5 5 5 5	3SU1900-0AC16-0DF0 3SU1900-0AC16-0DG0 3SU1900-0AC16-0DY0 3SU1900-0AC16-0EA0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

							Li	abeling	plates
	Color	Marking	Symbol No.		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
Labeling plates 12.5									
	Inscription in	French							
Marche 3SU1900-0AC16-0GA0	Black/white (label/lettering)	Marche Arrêt Montée Descente Avant	 	5 5 5 5	3SU1900-0AC16-0GA0 3SU1900-0AC16-0GB0 3SU1900-0AC16-0GC0 3SU1900-0AC16-0GD0 3SU1900-0AC16-0GE0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
330 1300-040 10-0040		Retour Droite Gauche	 	5 5 5	3SU1900-0AC16-0GF0 3SU1900-0AC16-0GG0 3SU1900-0AC16-0GH0		100 100 100	10 units 10 units 10 units	41J 41J 41J
		Ouvert Fermé Rapide En Service	 	5 5 5 5	3SU1900-0AC16-0GJ0 3SU1900-0AC16-0GK0 3SU1900-0AC16-0GL0 3SU1900-0AC16-0GM0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Défaut Réglage Arrêt d'urgence Hors Service	 	5 5 5 5	3SU1900-0AC16-0GN0 3SU1900-0AC16-0GP0 3SU1900-0AC16-0GQ0 3SU1900-0AC16-0GR0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Sous tension Manu Auto Marche Arrêt Réarmement	 	5 5 5 5	3SU1900-0AC16-0GS0 3SU1900-0AC16-0GT0 3SU1900-0AC16-0GU0 3SU1900-0AC16-0GV0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	With symbol								
	Black/white (label/lettering)	O I O I 12 ARROW	 	5 5 3 5	3SU1900-0AC16-0QA0 3SU1900-0AC16-0QB0 3SU1900-0AC16-0QG0 3SU1900-0AC16-0QJ0 3SU1900-0AC16-0QS0		100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
3SU1900-0AC16-0QG0		DIRECTION UP							

Accessories Labels

Label	lina ı	plates

	Color	Marking	Symbol No.	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
			NO.	-1		perio	SET, M)		
Labeling plates 12.5	mm x 27 mm			d					
	For self-inscript	ion							
	Silver/black (label/lettering)	None		•	3SU1900-0AC81-0AA0		100	10 units	41J
	With customized	d inscription							_
3SU1900-0AC81-0AA0	Silver/black (label/lettering)	For inscriptions or symbol see "Options", page 13/12			3SU1900-0AC81-0AZ0		1	1 unit	41J
	Inscription in Ge								
Ein	Silver/black (label/lettering)	Ein Aus Auf Ab	 	5 5 5 5	3SU1900-0AC81-0AB0 3SU1900-0AC81-0AC0 3SU1900-0AC81-0AD0 3SU1900-0AC81-0AE0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AC81-0AB0		Vor Zurück Rechts Links	 	5 5 5 5	3SU1900-0AC81-0AF0 3SU1900-0AC81-0AG0 3SU1900-0AC81-0AH0 3SU1900-0AC81-0AJ0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Halt Zu Schnell Langsam	 	5 5 5 5	3SU1900-0AC81-0AK0 3SU1900-0AC81-0AL0 3SU1900-0AC81-0AM0 3SU1900-0AC81-0AN0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Betrieb Störung Einrichten Hand Auto	 	5 5 5 5	3SU1900-0AC81-0AP0 3SU1900-0AC81-0AQ0 3SU1900-0AC81-0AR0 3SU1900-0AC81-0DB0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Stop Start Hand O Auto		5 5	3SU1900-0AC81-0DC0 3SU1900-0AC81-0DD0		100 100	10 units 10 units	41J 41J
	Inscription in En	nglish							
Off	Silver/black (label/lettering)	On Off Up Down	 	5 5 5 5	3SU1900-0AC81-0DJ0 3SU1900-0AC81-0DK0 3SU1900-0AC81-0DL0 3SU1900-0AC81-0DM0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AC81-0DK0		Stop Start Reset Test	 	3 5 5 5	3SU1900-0AC81-0DS0 3SU1900-0AC81-0DT0 3SU1900-0AC81-0DU0 3SU1900-0AC81-0DV0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Open Close Man O Auto Man Auto	 	5 5 5 5	3SU1900-0AC81-0DW0 3SU1900-0AC81-0DX0 3SU1900-0AC81-0DY0 3SU1900-0AC81-0EA0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Running Fault Fast Slow	 	5 5 5 5	3SU1900-0AC81-0EB0 3SU1900-0AC81-0EC0 3SU1900-0AC81-0EE0 3SU1900-0AC81-0EF0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	With symbol								
	Silver/black (label/lettering)	O 	5008 IEC 5007 IEC 	5 5 5 5	3SU1900-0AC81-0QA0 3SU1900-0AC81-0QB0 3SU1900-0AC81-0QC0 3SU1900-0AC81-0QD0		100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AC81-0QK0		0 0 1 0 2	 	5 5 5	3SU1900-0AC81-0QG0 3SU1900-0AC81-0QK0 3SU1900-0AC81-0QL0		100	10 units 10 units 10 units	41J 41J 41J
		ARROW DIRECTION TO RIGHT	5022 IEC	5	3SU1900-0AC81-0QR0			10 units	41J
		ARROW DIRECTION UP		5	3SU1900-0AC81-0QS0		100	10 units	41J

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

Labeling plates

	Color	Marking		Symbol No.	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
					d		F = 1 E	SET, M)		
Labeling plates 17.5	mm x 27 mm				u					
5 F	For self-inscri	ption								
	Black/white (label/lettering)	None			•	3SU1900-0AD16-0AA0		100	10 units	41J
	With customiz	zed inscr	ription							
	Black/white (label/lettering)		riptions or symbo ions", page 13/12			3SU1900-0AD16-0AZ0		1	1 unit	41J
3SU1900-0AD16-0AA0	'									
	Inscription in	German								
	Black/white	Ein			>	3SU1900-0AD16-0AB0		100	10 units	41J
Λ.	(label/lettering)	Aus Auf			5	3SU1900-0AD16-0AC0 3SU1900-0AD16-0AD0		100 100	10 units 10 units	41J 41J
Aus		Ab			5	3SU1900-0AD16-0AE0		100	10 units	41J
		Vor			5	3SU1900-0AD16-0AF0		100	10 units	41J
		Zurück Halt			5 5	3SU1900-0AD16-0AG0 3SU1900-0AD16-0AK0		100 100	10 units 10 units	41J 41J
3SU1900-0AD16-0AC0		Zu			5	3SU1900-0AD16-0AL0		100	10 units	41J
		Betrieb			>	3SU1900-0AD16-0AP0		100	10 units	41J
		Störung			>	3SU1900-0AD16-0AQ0		100	10 units	41J
		Hand Au	ito		•	3SU1900-0AD16-0DB0		100	10 units	41J
	Inscription in	-			_	00114000 04 D40 0D00		100	40 "	44.1
	Black/white (label/lettering)	Stop Sta On	rt		5 5	3SU1900-0AD16-0DC0 3SU1900-0AD16-0DJ0		100 100	10 units 10 units	41J 41J
Off	(laboriottoring)	Off			5	3SU1900-0AD16-0DK0		100	10 units	41J
011		Up			5	3SU1900-0AD16-0DL0		100	10 units	41J
		Down			5	3SU1900-0AD16-0DM0		100	10 units	41J
	1	Forward Reverse			5 5	3SU1900-0AD16-0DN0 3SU1900-0AD16-0DP0		100 100	10 units 10 units	41J 41J
3SU1900-0AD16-0DK0		Right			5	3SU1900-0AD16-0DQ0		100	10 units	41J
		Stop			5	3SU1900-0AD16-0DS0		100	10 units	41J
		Start Open			5 5	3SU1900-0AD16-0DT0 3SU1900-0AD16-0DW0		100 100	10 units 10 units	41J 41J
		Close			5	3SU1900-0AD16-0DX0		100	10 units	41J
		Man Aut	0		5	3SU1900-0AD16-0EA0		100	10 units	41J
		Running			5	3SU1900-0AD16-0EB0		100	10 units	41J
		Fault			•	3SU1900-0AD16-0EC0		100	10 units	41J
	Inscription in				_					
	Black/white (label/lettering)	Marche Arrêt			5 5	3SU1900-0AD16-0GA0 3SU1900-0AD16-0GB0		100 100	10 units 10 units	41J 41J
	(label/lettering)	Droite			5	3SU1900-0AD16-0GG0		100	10 units	41J
		Gauche			5	3SU1900-0AD16-0GH0		100	10 units	41J
		En Servi	ce		5	3SU1900-0AD16-0GM0		100	10 units	41J
		Défaut Sous ten	sion		5 5	3SU1900-0AD16-0GN0 3SU1900-0AD16-0GS0		100 100	10 units 10 units	41J 41J
		Manu Au			5	3SU1900-0AD16-0GT0			10 units	41J
		Marche			5	3SU1900-0AD16-0GU0			10 units	41J
		Réarmer	ment		5	3SU1900-0AD16-0GV0		100	10 units	41J
	With symbol									
	Black/white (label/lettering)	0		5008 IEC 5007 IEC	5 5	3SU1900-0AD16-0QA0 3SU1900-0AD16-0QB0			10 units 10 units	41J 41J
	(label/lettering)	01			5	3SU1900-0AD16-0QB0		100	10 units	41J
\rightarrow			RROW DIRECTION O RIGHT	5022 IEC	5	3SU1900-0AD16-0QR0		100	10 units	41J
3SU1900-0AD16-0QR0		T C	RROW DIRECTION JP		5	3SU1900-0AD16-0QS0		100	10 units	41J

Accessories Labels

Labeling plates

	Color	Marking	Symbol No.	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Labeling plates 17.5 r	mm x 27 mm								
	For self-inscr	iption							
	Silver/black (label/lettering)	None		•	3SU1900-0AD81-0AA0		100	10 units	41J
	With customiz	zed inscription							
	Silver/black (label/lettering)	For inscriptions or symbols, see "Options", page 13/126.			3SU1900-0AD81-0AZ0		1	1 unit	41J
3SU1900-0AD81-0AA0									
	Inscription in	German							
Betrieb	Silver/black (label/lettering)	Ein Aus Auf Ab	 	5 5 5 5	3SU1900-0AD81-0AB0 3SU1900-0AD81-0AC0 3SU1900-0AD81-0AD0 3SU1900-0AD81-0AE0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AD81-0AP0		Vor Zurück Rechts Halt	 	5 5 5 5	3SU1900-0AD81-0AF0 3SU1900-0AD81-0AG0 3SU1900-0AD81-0AH0 3SU1900-0AD81-0AK0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Zu Betrieb Störung Hand Auto	 	5 5 5	3SU1900-0AD81-0AL0 3SU1900-0AD81-0AP0 3SU1900-0AD81-0AQ0 3SU1900-0AD81-0DB0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Hand O Auto		5	3SU1900-0AD81-0DD0		100	10 units	41J
	Inscription in	•							
Fault	Silver/black (label/lettering)	On Off Stop Start	 	5 5 5 5	3SU1900-0AD81-0DJ0 3SU1900-0AD81-0DK0 3SU1900-0AD81-0DS0 3SU1900-0AD81-0DT0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AD81-0EC0		Reset Man O Auto Fault		5	3SU1900-0AD81-0DU0 3SU1900-0AD81-0DY0 3SU1900-0AD81-0EC0		100 100	10 units 10 units	41J 41J 41J
	With symbol	r duit	=	J	000 1900-0AD01-0EC0		100	io uillo	+10
3SU1900-0AD81-0QG0	Silver/black (label/lettering)	O I O I I O II 1 O II 1 O I O II O II O	5008 IEC 5007 IEC 5022 IEC	5 5 5 5 5	3SU1900-0AD81-0QA0 3SU1900-0AD81-0QB0 3SU1900-0AD81-0QG0 3SU1900-0AD81-0QK0 3SU1900-0AD81-0QL0 3SU1900-0AD81-0QR0		100 100 100 100 100 100	10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J
		ARROW DIRECTION UP		5	3SU1900-0AD81-0QS0		100	10 units	41J

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

Labeling plates

	Color	Marking	Symbol No.		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Labeling plates 27 r	nm x 27 mm			d					
	For self-inscri	ption							
	Black/white (label/lettering)	None		>	3SU1900-0AE16-0AA0		100	10 units	41J
	Silver/black (label/lettering)	None		•	3SU1900-0AE81-0AA0		100	10 units	41J
	With customiz	ed inscription							
	Black/white (label/lettering)	For inscriptions or symbols, see "Options", page 13/126.			3SU1900-0AE16-0AZ0		1	1 unit	41J
3SU1900-0AE16-0AA0	Silver/black (label/lettering)				3SU1900-0AE81-0AZ0		1	1 unit	41J
3SU1900-0AE81-0AA0									
	Inscription in			_			400		
)	Black/white (label/lettering)	Ein Aus		5 5	3SU1900-0AE16-0AB0 3SU1900-0AE16-0AC0		100 100	10 units 10 units	41J 41J
۸. ۲		Auf Ab		5 5	3SU1900-0AE16-0AD0 3SU1900-0AE16-0AE0		100 100	10 units 10 units	41J 41J
Auf		Vor		5	3SU1900-0AE16-0AF0		100	10 units	41J
		Zurück Rechts		5 5	3SU1900-0AE16-0AG0 3SU1900-0AE16-0AH0		100 100	10 units 10 units	41J 41J
		Links Halt		5 5	3SU1900-0AE16-0AJ0 3SU1900-0AE16-0AK0		100 100	10 units 10 units	41J 41J
3SU1900-0AE16-0AD0		Zu Betrieb		5 5	3SU1900-0AE16-0AL0 3SU1900-0AE16-0AP0		100 100	10 units 10 units	41J 41J
		Störung		5	3SU1900-0AE16-0AQ0		100	10 units	41J
	Inscription in	Hand Auto		5	3SU1900-0AE16-0DB0		100	10 units	41J
	Black/white	On Control		5	3SU1900-0AE16-0DJ0		100	10 units	41J
	(label/lettering)	Off Up		5 5	3SU1900-0AE16-0DK0 3SU1900-0AE16-0DL0		100 100	10 units 10 units	41J 41J
Off		Down		5	3SU1900-0AE16-0DM0		100	10 units	41J
		Forward Reverse		5 5	3SU1900-0AE16-0DN0 3SU1900-0AE16-0DP0		100 100	10 units 10 units	41J 41J
		Stop Start		5 5	3SU1900-0AE16-0DS0 3SU1900-0AE16-0DT0		100 100	10 units 10 units	41J 41J
3SU1900-0AE16-0DK0		EMERGENCY STOP Stop Start		5 5	3SU1900-0AE16-0DA0 3SU1900-0AE16-0DC0			10 units 10 units	41J 41J
	Inscription in			-	0001300 0AE10 0D00		100	10 driito	
	Black/white	Marche		5	3SU1900-0AE16-0GA0			10 units	41J
	(label/lettering)	Arrêt Montée		5	3SU1900-0AE16-0GB0 3SU1900-0AE16-0GC0		100 100	10 units 10 units	41J 41J
Arrêt		Descente En Service		5 5	3SU1900-0AE16-0GD0 3SU1900-0AE16-0GM0			10 units 10 units	41J 41J
		Défaut Sous tension		5 5	3SU1900-0AE16-0GN0 3SU1900-0AE16-0GS0		100	10 units 10 units	41J 41J
		Manu Auto		5	3SU1900-0AE16-0GT0		100	10 units	41J
3SU1900-0AE16-0GB0		Marche Arrêt		5	3SU1900-0AE16-0GU0		100	10 units	41J
	With symbol			_			400		
0	Black/white (label/lettering)	ARROW DIRECTION TO RIGHT	5022 IEC	5	3SU1900-0AE16-0QG0 3SU1900-0AE16-0QR0			10 units 10 units	41J 41J
3SU1900-0AE16-0QG0									

Accessories

Labels

Labeling plates

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

The default typeface used for inscriptions with text is Arial and the text is centered.

Up to 11 characters per line are possible.

Font height

Label size 12.5 mm × 27 mm, max. 3 lines:

Font height 1-line 4 mm

2-line 3 mm 3-line 1.75 mm

Label size 17.5 mm × 27 mm, max. 3 lines:

Font height 1- to 2-line 4 mm 3-line 3 mm

Label size 27 mm × 27 mm, max. 5 lines:

Font height 1- to 3-line 4 mm 4-line 3.5 mm 5-line 3 mm

Examples for customized inscription



Two-line inscription in upper/lower case lettering (Q0Y)



Single-line inscription in upper case lettering (Q1Y)



Three-line inscription in lower case letters (Q2Y)



Symbol number 5011 according to IEC 60417 (Q3Y)



Any symbol according to order form supplement (Q9Y)

Ordering notes

Append the following order codes to the article number:

- Q0Y: Text line(s) in upper/lower case, always upper case for beginning of line,
 e.g. Z1=Lift Z2=Lower
- Q1Y: Text line(s) in upper case, e.g. Z1=LIFT Z2=LOWER
- **Q2Y:** Text line(s) in lower case, e.g. Z1=lift off Z2=lower off
- Q5Y: Text line(s) in upper/lower case, all words begin with upper case letters,
 e.g. Z1=Lift Off Z2=Lower Off
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT Configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription in plain text without spaces, in addition to the article number and order code.

In the case of multi-line inscriptions, the text must be assigned to the respective line,

e.g. Z1=LIFT Z2=LOWER, see ordering example 1.

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417, see ordering examples 2 and 3.

The SIRIUS ACT Configurator must be used to select special inscriptions and symbols (order code Q9Y). In this case a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT Configurator (Mall shopping cart) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- Electronic Catalog CA 01 on DVD
- Industry Mall: www.siemens.com/industrymall

Ordering example 1

A label with 2 lines of text is required:

3SU1900-0AC16-0AZ0 Q1Y

Z1=LIFT Z2=LOWER

Ordering example 2

A label inscribed with symbol No. 5011 according to IEC 60417 is required:

3SU1900-0AC16-0AZ0 Q3Y

Z=5011 IEC

Ordering example 3

A label inscribed with symbol No. 1118 according to ISO 7000 is required:

3SU1900-0AC16-0AZ0 Q3Y

Z=1118 ISO

Labeling plates for enclosures

Overview

The labeling plates in size 22 mm x 22 mm can be attached to enclosures with cutouts for labels. There are versions in black with white print or silver-colored with black print.

Inscription

The inscription is in upper/lower case, all words begin with upper case letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

For customized inscriptions, see "Options", page 13/130.

Selection and orderi	ng data							
	Color	Marking	Symbol No.	SD	Article No. Pri		PS*	PG
Labeling plates 22 m	m × 22 mm			d				
Labeling plates 22 iii	For self-inscr	intion			•			
	Black/white (label/lettering)	None		•	3SU1900-0AF16-0AA0	100	10 units	41J
	With customi	zed inscription						
	Black/white (label/lettering)	For inscriptions or symbols see "Options", page 13/130			3SU1900-0AF16-0AZ0	1	1 unit	41J
3SU1900-0AF16-0AA0								
	Inscription in	German						
Ein	Black/white (label/lettering)	Ein Aus Auf Ab Vor	 	5 5 5 5	3SU1900-0AF16-0AB0 3SU1900-0AF16-0AC0 3SU1900-0AF16-0AD0 3SU1900-0AF16-0AE0 3SU1900-0AF16-0AF0	1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Zurück Rechts Links	 	5 5 5	3SU1900-0AF16-0AG0 3SU1900-0AF16-0AH0 3SU1900-0AF16-0AJ0	1 1	10 units 10 units 10 units	41J 41J 41J
3SU1900-0AF16-0AB0		Halt Zu Schnell Langsam	 	5 5 5 5	3SU1900-0AF16-0AK0 3SU1900-0AF16-0AL0 3SU1900-0AF16-0AM0 3SU1900-0AF16-0AN0	1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
Betrieb		Betrieb Störung Einrichten NOT AUS	 	5 5 5 5	3SU1900-0AF16-0AP0 3SU1900-0AF16-0AQ0 3SU1900-0AF16-0AR0 3SU1900-0AF16-0AS0	1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AF16-0AP0								
	Inscription in	English						
Down	Black/white (label/lettering)	On Off Up Down	 	5 5 5 5	3SU1900-0AF16-0DJ0 3SU1900-0AF16-0DK0 3SU1900-0AF16-0DL0 3SU1900-0AF16-0DM0	1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Forward Right Left Stop	 	5 5 5 5	3SU1900-0AF16-0DN0 3SU1900-0AF16-0DQ0 3SU1900-0AF16-0DR0 3SU1900-0AF16-0DS0	1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AF16-0DM0		Start Reset Test Open	 	5 5 5 5	3SU1900-0AF16-0DT0 3SU1900-0AF16-0DU0 3SU1900-0AF16-0DV0 3SU1900-0AF16-0DW0	1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
Fault		Close Running Fault Fast	 	5 5 5 5	3SU1900-0AF16-0DX0 3SU1900-0AF16-0EB0 3SU1900-0AF16-0EC0 3SU1900-0AF16-0EE0		10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Slow EMERGENCY STOP		5 5	3SU1900-0AF16-0EF0 3SU1900-0AF16-0DA0	1	10 units 10 units	41J 41J
3SU1900-0AF16-0EC0								

Accessories Labels

	Labelin	g plates i	for encl	losures
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	Color	Marking		Symbol No.	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG			
Labeling plates 22 mm x 22 mm													
Marche	Inscription in Black/white (label/lettering)	Marche Arrêt Montée Descente Retour Droite Gauche Ouvert			5 5 5 5 5 5 5 5 5	3SU1900-0AF16-0GA0 3SU1900-0AF16-0GB0 3SU1900-0AF16-0GC0 3SU1900-0AF16-0GD0 3SU1900-0AF16-0GF0 3SU1900-0AF16-0GH0 3SU1900-0AF16-0GH0 3SU1900-0AF16-0GJ0		1 1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J 41J 41J			
3SU1900-0AF16-0GA0		Fermé Rapide En Service Défaut Sous tensi		 	5 5 5 5	3SU1900-0AF16-0GK0 3SU1900-0AF16-0GL0 3SU1900-0AF16-0GM0 3SU1900-0AF16-0GN0 3SU1900-0AF16-0GS0		1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J			
Arrê†		Manu Auto Marche Ar Réarmeme Lent	rêt ent	 	5 5 5	3SU1900-0AF16-0GT0 3SU1900-0AF16-0GU0 3SU1900-0AF16-0GV0 3SU1900-0AF16-0GW0		1 1 1	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J			
3SU1900-0AF16-0GB0	With symbol	Arrêt d'urg	jence		5	3SU1900-0AF16-0GQ0		1	10 units	41J			
	Black/white (label/lettering)	O		5008 IEC 5007 IEC 	5 5 5 5 5 5 5	3SU1900-0AF16-0QA0 3SU1900-0AF16-0QB0 3SU1900-0AF16-0QC0 3SU1900-0AF16-0QD0 3SU1900-0AF16-0QG0 3SU1900-0AF16-0QK0 3SU1900-0AF16-0QP0		1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J 41J			
3SU1900-0AF16-0QQ0		(below ead II O I (below ead	,		5	3SU1900-0AF16-0QQ0		1	10 units	41J			
	With symbol												
4	Black/white (label/lettering)	→ AR	RROW RECTION RIGHT	5022 IEC	5	3SU1900-0AF16-0QR0		1	10 units	41J			
		\bigcirc	IMP	0134 ISO	5	3SU1900-0AF16-0RD0		1	10 units	41J			
		♂ ^{FA}	IN		5	3SU1900-0AF16-0RV0		1	10 units	41J			
3SU1900-0AF16-0RW0		XX CC	OOLING		5	3SU1900-0AF16-0RW0		1	10 units	41J			
		[\$	LUMINATION		5	3SU1900-0AF16-0RX0			10 units	41J			
		(<mark>□</mark>) MC	OTOR		5	3SU1900-0AF16-0RY0		1	10 units	41J			

Labeling plates for enclosures

	Color	Marking	Symbol No.	SD		Price	PU	PS*	PG
					pε	er PU	(UNIT, SET, M)		
Labeling plates 22 r	nm v 22 mm			d					
Labeling plates 22 i	For self-inscr	iption			•				
	Silver/black (label/lettering)	None		•	3SU1900-0AF81-0AA0		100	10 units	41J
	With customiz	zed inscription							
	Silver/black (label/lettering)	For inscriptions or symbols, see "Options", page 13/130.			3SU1900-0AF81-0AZ0		1	1 unit	41J
3SU1900-0AF81-0AA0									
	Inscription in	German							
	Silver/black (label/lettering)	Ein Aus Auf	 	5 5 5	3SU1900-0AF81-0AB0 3SU1900-0AF81-0AC0 3SU1900-0AF81-0AD0		1 1 1	10 units 10 units 10 units	41J 41J 41J
Ein		Ab		5	3SU1900-0AF81-0AE0		1	10 units	41J
		Vor Zurück		5 5	3SU1900-0AF81-0AF0 3SU1900-0AF81-0AG0		1 1	10 units 10 units	41J 41J
		Rechts Links		5 5	3SU1900-0AF81-0AH0 3SU1900-0AF81-0AJ0		1	10 units 10 units	41J 41J
00111000 01501 0150		Halt		5	3SU1900-0AF81-0AK0		1	10 units	41J
3SU1900-0AF81-0AB0		Zu Schnell		5 5	3SU1900-0AF81-0AL0 3SU1900-0AF81-0AM0		1 1	10 units 10 units	41J 41J
		Langsam		5	3SU1900-0AF81-0AN0		1	10 units	41J
10 10 10 10 10 10		Betrieb Störung		5 5	3SU1900-0AF81-0AP0 3SU1900-0AF81-0AQ0		1	10 units 10 units	41J 41J
Hand O Auto		Einrichten		5	3SU1900-0AF81-0AR0		1	10 units	41J
Auto		NOT AUS NOT-HALT		5 5	3SU1900-0AF81-0AS0 3SU1900-0AF81-0AT0		1	10 units 10 units	41J 41J
		Hand O Auto		5	3SU1900-0AF81-0DD0			10 units	41J
3SU1900-0AF81-0DD0									
	Inscription in	=							
	Silver/black (label/lettering)	Stop Start		5 5	3SU1900-0AF81-0DS0 3SU1900-0AF81-0DT0		1 1	10 units 10 units	41J 41J
D	(, 3,	Reset Test		5	3SU1900-0AF81-0DU0 3SU1900-0AF81-0DV0		1	10 units 10 units	41J 41J
Reset		Open		5	3SU1900-0AF81-0DW0		1	10 units	41J
3SU1900-0AF81-0DU0									
	With symbol ((ON/OFF)							
	Silver/black (label/lettering)	0	5008 IEC 5007 IEC	5 5	3SU1900-0AF81-0QA0 3SU1900-0AF81-0QB0			10 units 10 units	41J 41J
	(label/lettering)	il		5	3SU1900-0AF81-0QC0		1	10 units	41J
		 O		5 5	3SU1900-0AF81-0QD0 3SU1900-0AF81-0QG0		1	10 units 10 units	41J 41J
		ion .		5	3SU1900-0AF81-0QK0		1	10 units	41J
		0		5	3SU1900-0AF81-0QP0		1	10 units	41J
3SU1900-0AF81-0QK0		(below each other)		5	3SU1900-0AF81-0QQ0		1	10 units	41J
000 1000 0/11 01 00110		 O I		Ü			·	10 01110	
		(below each other)							
	With symbol (Silver/black		5022 IEC	5	3SU1900-0AF81-0QR0		4	10 units	41J
	(label/lettering)	ARROW DIRECTION	3022 IEC	5	330 1900-0AF61-0QH0		ı	TO UTILIS	410
		TO RIGHT							
\rightarrow									
3SU1900-0AF81-0QR0									

Accessories Labels

Labeling plates for enclosures

Options

Customized inscriptions

The labels can be inscribed with texts and symbols not listed in the ordering data.

The default typeface used for inscriptions with text is Arial and the text is centered.

The font height is 4 mm (1- and 2-line) and 3.5 mm (3-line).

Up to 8 characters per line are possible.

Examples for customized inscription



Two-line inscription in upper/lower case lettering (Q0Y)



Single-line inscription in upper case lettering (Q1Y)



Backing plate for enclosures, customized inscription (Q2Y)



Symbol number 5011 according to IEC 60417 (Q3Y)



Any symbol according to order form supplement (Q9Y)

Ordering notes

Append the following order codes to the article number:

- Q0Y: Text line(s) in upper/lower case, always upper case for beginning of line,
 e.g. Z1=Lift Z2=Lower
- Q1Y: Text line(s) in upper case, e.g. Z1=LIFT Z2=LOWER
- **Q2Y:** Text line(s) in lower case, e.g. Z1=lift off Z2=lower off
- Q5Y: Text line(s) in upper/lower case, all words begin with upper case letters,
 e.g. Z1=Lift Off Z2=Lower Off
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT Configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription in plain text without spaces, in addition to the article number and order code.

In the case of multi-line inscriptions, the text must be assigned to the respective line,

e.g. Z1=LIFT Z2=LOWER, see ordering example 1.

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering example 2 and 3).

The SIRIUS ACT Configurator must be used to select special inscriptions and symbols (order code Q9Y). In this case a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT Configurator (Mall shopping cart) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- Electronic Catalog CA 01 on DVD
- Industry Mall: www.siemens.com/industrymall

Ordering example 1

A label with 2 lines of text is required:

3SU1900-0AF16-0AZ0 Q1Y

Z1=LIFT Z2=LOWER

Ordering example 2

A label inscribed with symbol No. 5011 according to IEC 60417 is required:

3SU1900-0AF16-0AZ0 Q3Y

Z=5011 IEC

Ordering example 3

A label inscribed with symbol No. 1118 according to ISO 7000 is required:

3SU1900-0AF16-0AZ0 Q3Y

Z=1118 ISO

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

Labels for laser printers

Overview

Label inscriptions

Using the *Label Designer* software, which can be downloaded from the Internet, and the labeling plates for laser inscription you can create your own customized labels with a standard laser printer. The self-adhesive or snap-on labels can be stuck or snapped onto the corresponding label holders. Round labels are provided for inserting in illuminated pushbuttons and switches.

The labels are suitable for inscription with one to three lines of text or symbols.

For applications with more exacting requirements we recommend factory-printed labeling plates and insert labels (laser-printed or engraved depending on the type).

For the *Label Designer* software, see www.siemens.com/sirius-label-designer.

Selection and ordering data

	Type of mounting	Height	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm	mm	d					
Labels for printing –	insert labels								
**************************************	Insert	-		3	3SU1900-0BH60-0AA0		100	490 units	41J
Labels for printing -	labeling plates								
3SU1900-0BJ61-0AA0	Self-adhesive	12.5 17.5 27 22	27.5 27 27 22 22	* * * *	3SU1900-0BJ61-0AA0 3SU1900-0BK61-0AA0 3SU1900-0BL61-0AA0 3SU1900-0BM61-0AA0		100 100	480 units 720 units 480 units 700 units	41J 41J 41J 41J 41J

Accessories Labels

Other labels

Selection and orde	ring data												
	Color	Fasten- ing method	diam-	Marking	g		SE)	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			mm				d						
EMERGENCY STOR			45	Ness					00111000 00401 0440			10	44.1
104	Yellow/black (label/lettering)	None	45 45 60	NOT-HA ARRÊT	ALT, EM D'URG	STOP (pl) ERGENCY : ENCE, (de, en, fr, it	STOP, 5		3SU1900-0BA31-0AA0 3SU1900-0BA31-0ND0 3SU1900-0BN31-0NC0		1 1 1	10 units 10 units 10 units	41J 41J 41J
HALT			75	None NOT-AL NOT-HA		STOP	3 3 5		3SU1900-0BB31-0AA0 3SU1900-0BB31-0AS0 3SU1900-0BB31-0AT0 3SU1900-0BB31-0DA0		1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0BB31-0AT0			75	EMERG		STOP (pl)			3SU1900-0BB31-0ND0			10 units	41J
	With custon		•		. ,.				20114000 20104 2470			4 0	44.1
	Yellow/black (label/lettering)	None	45 75			or symbol page 13/13			3SU1900-0BA31-0AZ0 3SU1900-0BB31-0AZ0		1	1 unit 1 unit	41J 41J
EMERGENCY STOR	P backing pla	ites, illu		d (24 V	AC/DO	C) NEW			0001300 0DD01 0A20		<u>'</u>	1 dilit	710
	Yellow/black (label/lettering)	Self- adhesive	60	NOT-H	ALT GENCY : ALT, EM GENZA,	STOP ERGENCY : EMERGEN			3SU1901-0BD31-0AA0 3SU1901-0BD31-0AS0 3SU1901-0BD31-0AT0 3SU1901-0BD31-0DA0 3SU1901-0BD31-0NB0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	With custon	nized in:	scriptio	n									
3SU1901-0BD31-0AA0	(label/lettering)	None	60			or symbol page 13/13			3SU1901-0BD31-0AZ0		1	1 unit	41J
EMERGENCY STOP	P backing pla Yellow/black	self-	75	None					3SU1900-0BC31-0AA0		1	10 units	41J
3SU1900-0BC31-0NB0	(label/lettering)			NOT-AU NOT-HA EMERCI ARRÊT EMERCI Nodsto EMERCI NOT-HA	ALT GENCY S D'URG GENZA OP GENCY S ALT, EMI GENZA,		3 3 3 5 inese 5 STOP,		3SU1900-0BC31-0AS0 3SU1900-0BC31-0AT0 3SU1900-0BC31-0DA0 3SU1900-0BC31-0GQ0 3SU1900-0BC31-0JA0 3SU1900-0BC31-0JA0 3SU1900-0BC31-0MA0 3SU1900-0BC31-0NB0		1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J 41J 41J 41J
	With custon		-										
	Yellow/black (label/lettering)	Self- adhesive	75)			or symbol page 13/13			3SU1900-0BC31-0AZ0		1	1 unit	41J
Labeling plates for	potentiomete	ers											
0	Black/white (label/lettering)	None	40	SYMBO	DL: 09 DL: 0 DL: Pow	10	3		3SU1900-0BG16-0AA0 3SU1900-0BG16-0RT0 3SU1900-0BG16-0SA0 3SU1900-0BG16-0RU0		1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0BG16-0RU0													
	Color	Label fa	astening	Height	Width	Marking	SI	D	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	mm		d						
Labeling plates for						N	Ų		00114000 0BE04 0AA0		l .	10	44.1
NOT- ALS	Yellow/black (label/lettering)	Self-adh	nesive	38		None NOT-AUS NOT-HALT	3 NEW 3		3SU1900-0BE31-0AA0 3SU1900-0BE31-0AS0 3SU1900-0BE31-0AT0		1	10 units 10 units 10 units	41J
3SU1900-0BE31-0AS0 Labeling plates for	enclosures v	vith EMI	ERGEN	CY ST	OP with	h recess							
	Yellow/black (label/lettering)	Self-adl		38		None	3		3SU1900-0BF31-0AA0		1	10 units	41J
3SU1900-0BF31-0AA0													
Device labeling pla	tes for modu	les with	front-p	late m	ountin	g							
	White/black (label/lettering)	Insert		9.5	10.5	None	5		3SU1900-0AY61-0AA0		100	10 units	41J
3SU1900-0AY61-0AA0									+ V		wantity or a	141141-	

SIRIUS ACT Pushbuttons and Indicator Lights Accessories Labels

Other labels

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

The EMERGENCY STOP backing plates can be divided into as many as four radial segments. Each segment can be custom-labeled.

The default typeface used for inscriptions with text is Arial and the text is centered.

EMERGENCY STOP backing plate 75 mm:

The font height is 5 mm.

With two radial segments up to 20 characters are permissible. With four radial segments up to 10 characters are permissible.

EMERGENCY STOP backing plate 60 mm:

The font height is 4 mm.

With two radial segments up to 16 characters are permissible. With four radial segments up to 8 characters are permissible.

EMERGENCY STOP backing plate 45 mm:

The font height is 4 mm.

With two radial segments up to 10 characters are permissible.

Orderina notes

Append the following order codes to the article number:

- Q0Y: Segment(s) in upper/lower case, always upper case for beginning of segment, e.g. Z1=Not halt Z2=Emergency stop
- Q1Y: Segment(s) in upper case,
 e.g. Z1=NOT HALT Z2=EMERGENCY STOP
- Q2Y: Segment(s) in lower case, e.g. Z1=not halt Z2=emergency stop
- Q5Y: Segment(s) in upper/lower case, all words begin with upper case letters,
 e.g. Z1=Not Halt Z2=Emergency Stop
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT Configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription in plain text without spaces, in addition to the article number and order code.

The SIRIUS ACT Configurator must be used to select special inscriptions and symbols (order code Q9Y). In this case a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT Configurator (Mall shopping cart) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- Electronic Catalog CA 01 on DVD
- Industry Mall: www.siemens.com/industrymall

With ordering options Q0Y, Q1Y, Q2Y, Q3Y and Q5Y a single-line inscription of two or four radial segments can be implemented. The text or symbol must be assigned to the respective radial segments as follows:

Ordering example 1, two radial segments

An EMERGENCY STOP backing plate, diameter 75 mm, with two radial segments is required



3SU1900-0BB31-0AZ0 Q1Y

Z1=EMERGENCY Z2=STOP

Ordering example 2, four radial segments

An EMERGENCY STOP backing plate, diameter 75 mm, with four radial segments is required



3SU1900-0BB31-0AZ0 Q1Y

Z1=E-STOP Z2=EMERGENCIA Z3=NOT-HALT Z4=EMERGENZA

Accessories

Protection/access protection

Overview

- Protection and access protection are for actuators and indicators with diameter 22 mm.
- The protective collars cannot be used in conjunction with label holders or single frames.

Selection and ordering data

	Product designation Product version	Material	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
ve caps									
	Sealable caps for pushbuttons, flat and raised	Plastic	Black Clear	3 3	3SU1900-0DA10-0AA0 3SU1900-0DA70-0AA0		1	1 unit 1 unit	41J 41J
A10-0AA0									
	Sealable caps for Pushbuttons, raised Pushbuttons with front ring, raised Pushbuttons with front ring, raised, castellated	Plastic	Black Clear	3 3	3SU1900-0EL10-0AA0 3SU1900-0EL70-0AA0		1	1 unit 1 unit	41J 41J
-0AA0	Silicone protective caps	Plastic	Clear	>	3SU1900-0DB70-0AA0		1	1 unit	41J
	for pushbuttons, flat Silicone-free protective caps for pushbuttons, flat	Plastic	Clear	>	3SU1900-0ED70-0AA0		1	1 unit	41J
AA0	Silicone protective caps	Plastic	Clear	>	3SU1900-0DC70-0AA0		1	1 unit	41J
	for pushbuttons, raised Silicone-free protective caps for pushbuttons, raised	Plastic	Clear	>	3SU1900-0EE70-0AA0		1	1 unit	41J
0AA0	Silicone protective caps	Plastic	Clear	3	3SU1900-0DD70-0AA0		1	1 unit	41J
	for selectors, short Silicone-free protective caps for selectors, short	Plastic	Clear	>	3SU1900-0EF70-0AA0		1	1 unit	41J
70-0AA0	Silicone protective caps for mushroom pushbuttons	Plastic	Clear	5	3SU1900-0DE70-0AA0		1	1 unit	41J
	40 mm Silicone-free protective caps for mushroom pushbuttons 40 mm	Plastic	Clear	>	3SU1900-0EG70-0AA0		1	1 unit	41J

3SU1900-0DE70-0AA0

SIRIUS ACT Pushbuttons and Indicator Lights Accessories

						Protect	ion/acce	ss prote	ction
	Product designation Product version	Material	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Ductactive				d					
Protective caps	Silicone protective caps for EMERGENCY STOP,	Plastic	Clear	5	3SU1900-0DF70-0AA0		1	1 unit	41J
	40 mm								
3SU1900-0DF70-0AA0	Silicone protective caps for twin pushbuttons, flat	Plastic	Clear	>	3SU1900-0DG70-0AA0		1	1 unit	41J
	Silicone protective caps for twin pushbuttons, raised	Plastic	Clear	>	3SU1900-0DH70-0AA0		1	1 unit	41J
5	Silicone-free protective caps for twin pushbuttons, raised	Plastic	Clear	>	3SU1900-0EK70-0AA0		1	1 unit	41J
3SU1900-0DG70-0AA0									
0-0	Dust caps for key-operated switches	Plastic	Clear	•	3SU1900-0EB10-0AA0		1	1 unit	41J
3SU1900-0EB10-0AA0 3SU1900-0EM70-0AA0	Protective caps for ID key-operated switches	Plastic	Clear	NEW 5	3SU1900-0EM70-0AA0		1	1 unit	41J
330 1900-0EW/ 0-0AA0	Covers for modules	Plastic	Clear	NEW 5	3SU1900-0EW70-0AA0		1	1 unit	41J
Protective collars									
	Sun collar for illuminated pushbuttons	Plastic	Black	5	3SU1900-0DJ10-0AA0		1	1 unit	41J
3SU1900-0DJ10-0AA0		Di ii	DI :						
3SU1900-0DW10-0AA0	360° protective collars for pushbuttons and selectors, short	Plastic	Black	3	3SU1900-0DW10-0AA0		1	1 unit	41J

Accessories

Protection/access protection	Ii
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	Product designation Product version	Material	Color	SD	Article No.	Price per PU		PS*	PG
				d			JL1, IVI)		
Protective collars							1		
	360° protective collars for pushbuttons, visibility from the side	Metal	Silver	5	3SU1950-0DK80-0AA0		1	1 unit	41J
3SU1950-0DK80-0AA0	360° protective collars	Metal	Silver	5	3SU1950-0DL80-0AA0		1	1 unit	41J
	for mushroom pushbuttons 40 mm, visibility from the side	Wetai	Gilver	3	0001330 0D230 0AA0		·	, arm	710
3SU1950-0DL80-0AA0									
	Protective collars for EMERGENCY STOP mushroom pushbuttons without lock or with RONIS lock	Plastic	Yellow Gray	>	3SU1900-0DY30-0AA0 3SU1900-0DY80-0AA0		1	1 unit 1 unit	41J 41J
3SU1900-0DY30-0AA0	Protective collars for EMERGENCY STOP mushroom pushbuttons for mounting on enclosures	Plastic	Yellow	NEW 5	3SU1900-0JH30-0AA0		1	1 unit	41J
	Protective collars for EMERGENCY STOP mushroom pushbuttons 40 mm for 5 padlocks	Metal	Yellow Gray	3 5	3SU1950-0DX30-0AA0 3SU1950-0DX80-0AA0		1 1	1 unit 1 unit	41J 41J
	60 mm for 3 padlocks	Plastic	Yellow	NEW 5	3SU1900-0EX30-0AA0		1	1 unit	41J
3SU1950-0DX30-0AA0									
	360° protective collars	Plastic	Yellow	5	3SU1900-0EA30-0AA0		1	1 unit	41J
3SU1900-0EA30-0AA0									
3SU1900-0EC10-0AA0	Protection for sensor switches	Plastic	Black	•	3SU1900-0EC10-0AA0		1	1 unit	41J

SIRIUS ACT Pushbuttons and Indicator Lights Accessories

Protection/access protection

						1 101001	ion/acce	oo prote	
	Product version	Material	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Locking devices				d					
3SU1950-0DM80-0AA0	Locking devices for pushbuttons Flat, for raised front ring and raised, castellated front ring	Metal	Silver	5	3SU1950-0DM80-0AA0		1	1 unit	41J
	Locking devices for pushbuttons Raised	Metal	Silver	5	3SU1950-0DN80-0AA0		1	1 unit	41J
3SU1950-0DN80-0AA0	Locking devices for mushroom pushbuttons D30, D40	Metal	Silver	5	3SU1950-0DP80-0AA0		1	1 unit	41J
3SU1950-0DQ80-0AA0	Locking devices for selectors Short/long actuator, in the left position	Metal	Silver	5	3SU1950-0DQ80-0AA0		1	1 unit	41J
3SU1950-0DR80-0AA0	Locking devices for selectors Short/long actuator, in the center position	Metal	Silver	5	3SU1950-0DR80-0AA0		1	1 unit	41J
3SU1950-0DS80-0AA0	Locking devices for selectors Short/long actuator, in the right position	Metal	Silver	5	3SU1950-0DS80-0AA0		1	1 unit	41J
3SU1950-0DT80-0AA0	Locking devices for selectors Short/long actuator, window from center to right, blocked on left	Metal	Silver	5	3SU1950-0DT80-0AA0		1	1 unit	41J
3SU1950-0DU80-0AA0	Locking devices for selectors Short/long actuator, window from center to left, blocked on right	Metal	Silver	5	3SU1950-0DU80-0AA0		1	1 unit	41J
3SU1950-0DV80-0AA0	Locking device with cover	Metal	Silver	5	3SU1950-0DV80-0AA0		1	1 unit	41J

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Accessories

Accessories										
Actuators										
Selection and orderi	ng data									
	Material	Mount	ing diameter	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm			d					
Sealing plugs ¹⁾ , 22 m	Plastic	22		Black		3SU1900-0FA10-0AA0		1	1 unit	41J
	Flastic	22		DIACK		330 1300-0FA 10-0AA0		1	i uriit	410
3SU1900-0FA10-0AA0	Metal, matte	22		Sand gray	>	3SU1930-0FA80-0AA0		1	1 unit	41J
The state of the s	Metal, matte	22		Silver	•	3SU1950-0FA80-0AA0		1	1 unit	41J
3SU1950-0FA80-0AA0	Metal, matte	30		Sand gray	•	3SU1960-0FA80-0AA0		1	1 unit	41J
1) The sealing plug is mou	inted with a hol	der								
Modules might already	be mounted on	the holder.								
	Type of product	Mounting diameter	Accessory	Accessory material	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		mm			d	Article No.	Price per PU			
USB port										
	USB 3.0	22	Black	Plastic Matal/plastic	3	3SU1900-0GA10-0AA0		1	1 unit	41J
			Sand gray Silver	Metal/plastic Metal, shiny	3 3	3SU1930-0GA80-0AA0 3SU1950-0GA80-0AA0		1 1	1 unit 1 unit	41J 41J
		30	Sand gray	Metal, matte	3	3SU1960-0GA80-0AA0		1	1 unit	41J
3SU1930-0GA80-0AA0										
3SU1960-0GA80-0AA0 RJ45 connection										
	RJ-45 Cat. 6	22	Black	Plastic	3	3SU1900-0GB10-0AA0		1	1 unit	41J
			Sand gray	Metal/plastic	3	3SU1930-0GB80-0AA0		1	1 unit	41J
		00	Silver	Metal, shiny	3	3SU1950-0GB80-0AA0		1	1 unit	41J
		30	Sand gray	Metal, matte	3	3SU1960-0GB80-0AA0		1	1 unit	41J







SIRIUS ACT Pushbuttons and Indicator Lights Accessories

							Act	uators
	Material	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Buttons, flat ¹⁾								
	For pushbuttons							
	Plastic	Black Red Yellow Green Blue White	* * * * *	3SU1900-0FT10-0AA0 3SU1900-0FT20-0AA0 3SU1900-0FT30-0AA0 3SU1900-0FT40-0AA0 3SU1900-0FT50-0AA0 3SU1900-0FT60-0AA0		100 100 100 100 100 100	10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J
3SU1900-0FT20-0AA0								
3SU1901-0FT30-0AA0	For illuminated pushbu Plastic	Amber Red Yellow Green Blue White Clear	5	3SU1901-0FT00-0AA0 3SU1901-0FT20-0AA0 3SU1901-0FT30-0AA0 3SU1901-0FT40-0AA0 3SU1901-0FT50-0AA0 3SU1901-0FT60-0AA0 3SU1901-0FT60-0AA0		100 100 100 100 100 100	10 units 10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J 41J
Buttons, raised ¹⁾								
	For pushbuttons							
	Plastic	Black Red Yellow Green	5 5 5 5	3SU1900-0FS10-0AA0 3SU1900-0FS20-0AA0 3SU1900-0FS30-0AA0 3SU1900-0FS40-0AA0		1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0FS30-0AA0								
	For illuminated pushbu	ttons						
3SU1901-0FS40-0AA0	Plastic	Red Yellow Green Blue Clear	5 5 5 5	3SU1901-0FS20-0AA0 3SU1901-0FS30-0AA0 3SU1901-0FS40-0AA0 3SU1901-0FS50-0AA0 3SU1901-0FS70-0AA0		1 1 1 1 1	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
1) 5								

¹⁾ Buttons are not interchangeable between pushbuttons and illuminated pushbuttons with a raised front ring and with a raised front ring, castellated.

Accessories

Actuators

	Material	Key number	Version of RFID coding	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			3		d			, ,		
RONIS keys										
	Metal	SB30 ¹⁾ 455		Silver	5	3SU1950-0FB80-0AA0 3SU1950-0FC80-0AA0		1	1 unit 1 unit	41J 41J
3SU1950-0FB80-0AA0 BKS keys										
	Metal	S1 ¹⁾		Silver	5	3SU1950-0FD80-0AA0		1	1 unit	41J
3SU1950-0FD80-0AA0										
O.M.R. keys										
	Metal	73038 73037 73034 73033	-	Blue Red Black Yellow	3 5 5 5	3SU1950-0FJ50-0AA0 3SU1950-0FK20-0AA0 3SU1950-0FL10-0AA0 3SU1950-0FM30-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1950-0FJ50-0AA0										
CES keys										
3SU1950-0FP80-0AA0	Metal	LSG1 SSG10 ¹⁾ VL5	-	Silver	5 > 5	3SU1950-0FN80-0AA0 3SU1950-0FP80-0AA0 3SU1950-0FQ80-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
IKON keys										
	Metal	360012K1 ¹⁾		Silver	5	3SU1950-0FR80-0AA0		1	1 unit	41J
3SU1950-0FR80-0AA0										
ID keys ID group indi	Plastic	-	Individually coded, pro- grammable several times	White	>	3SU1900-0FU60-0AA0		1	1 unit	41J
ID keys			several times							
3SU1900-0FV40-0AA0	Plastic	-	ID group 1 ID group 2 ID group 3 ID group 4	Green Yellow Red Blue	* * * *	3SU1900-0FV40-0AA0 3SU1900-0FW30-0AA0 3SU1900-0FX20-0AA0 3SU1900-0FY50-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J

Also available with special lock. Supplement the Article No. with "-Z" and the order code "Y04" and specify the required lock in plain text. Additional price on request.

SIRIUS ACT Pushbuttons and Indicator Lights Accessories

Enclosures

1

1 unit

1 unit

41J

41J

Selection and orde	ering data
	Product version

	Product version	Material	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				d					
	M20 for round cable and enclosures With 1 to 3 command points	Plastic	Black	•	3SU1900-0HG10-0AA0		1	1 unit	41J
1	M25 for round cable and enclosure With 4 and 6 command points	Plastic	Black	5	3SU1900-0HH10-0AA0		1	1 unit	41J
	M20 for round cable and AS-i enclosure With 1 to 3 command points with 2-pin connector plug for AS-i module	Plastic	Black	3	3SU1900-0JA10-0AA0		1	1 unit	41J
	M25 for round cable and AS-i enclosure With 4 and 6 command points with 2-pin connector plug for AS-i module	Plastic	Black	3	3SU1900-0JB10-0AA0		1	1 unit	41J
	M20 for round cable and IO-Link enclosure With 1 to 3 command points with 10-pin connector plug for IO-Link	Plastic	Black	•	3SU1900-0JC10-0AA0		1	1 unit	41J
	M25 for round cable and IO-Link enclosure	Plastic	Black	•	3SU1900-0JD10-0AA0		1	1 unit	41J

Connection pieces



3SU1900-0HJ10-0AA0



3SU1950-0HJ10-0AA0

For	plastic	enclos	ures

AS-i enclosure

With 4 and 6 command points with 10-pin connector plug for IO-Link M20 for AS-i profile cable and

AS-i enclosure
With 1 to 3 command points with
2-pin connector plug for AS-i module M25 for AS-i profile cable and

With 4 and 6 command points with 2-pin connector plug for AS-i module

Plastic

Plastic

Black

Black

5

5

M20/M20 connection piece For connecting 2 enclosures	Plastic	Black	•	3SU1900-0HJ10-0AA0	1	1 unit	41J
M20/M25 connection piece For connecting 2 enclosures	Plastic	Black	5	3SU1900-0HK10-0AA0	1	1 unit	41J
M25/M25 connection piece For connecting 2 enclosures	Plastic	Black	5	3SU1900-0HL10-0AA0	1	1 unit	41J

3SU1900-0HE10-0AA0

3SU1900-0HF10-0AA0

For metal enclosures							
M20/M20 connection piece For connecting 2 enclosures	Metal	Silver	5	3SU1950-0HJ10-0AA0	1	1 unit	41J
M20/M25 connection piece For connecting 2 enclosures	Plastic	Silver	5	3SU1950-0HK10-0AA0	1	1 unit	41J
M25/M25 connection piece For connecting 2 enclosures	Plastic	Silver	5	3SU1950-0HL10-0AA0	1	1 unit	41J

Accessories

Enclosures

	Product version	Material	Color	SD	Insulation piercing method	₫ : }	PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU	OL1, WI)		
Adapters for AS-i sh	aped cable								
3SU1900-0HX10-0AA0	M20 M25	Plastic	Black	3	3SU1900-0HX10-0AA0 3SU1900-0HY10-0AA0		1 1	1 unit 1 unit	41J 41J
Adapters for tab con	nection								
	For plastic enclosures								
	Adapter, M12 socket, 4-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1930-0HA10-0AA0 3SU1930-0HB10-0AA0		1 1	1 unit 1 unit	41J 41J
	Adapter, M12 connector, 4-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1930-0HC10-0AA0 3SU1930-0HD10-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1930-0HS10-0AA0	Adapter, M12 socket, 5-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1930-0HP10-0AA0 3SU1930-0HQ10-0AA0		1 1	1 unit 1 unit	41J 41J
	Adapter, M12 connector, 5-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1930-0HR10-0AA0 3SU1930-0HS10-0AA0		1 1	1 unit 1 unit	41J 41J
	Adapter, M12 socket, 8-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1930-0HT10-0AA0 3SU1930-0HU10-0AA0		1 1	1 unit 1 unit	41J 41J
	Adapter, M12 connector, 8-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1930-0HV10-0AA0 3SU1930-0HW10-0AA0		1 1	1 unit 1 unit	41J 41J
	For metal enclosures								
	Adapter, M12 socket, 4-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1950-0HA10-0AA0 3SU1950-0HB10-0AA0		1 1	1 unit 1 unit	41J 41J
	Adapter, M12 connector, 4-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1950-0HC10-0AA0 3SU1950-0HD10-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1950-0HA10-0AA0	Adapter, M12 socket, 5-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1950-0HP10-0AA0 3SU1950-0HQ10-0AA0		1 1	1 unit 1 unit	41J 41J
000 1000 01 1/110 0/110	Adapter, M12 connector, 5-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1950-0HR10-0AA0 3SU1950-0HS10-0AA0		1 1	1 unit 1 unit	41J 41J
	Adapter, M12 socket, 8-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1950-0HT10-0AA0 3SU1950-0HU10-0AA0		1 1	1 unit 1 unit	41J 41J
	Adapter, M12 connector, 8-pin M20 cable entry M25 cable entry	Plastic	Black	5 5	3SU1950-0HV10-0AA0 3SU1950-0HW10-0AA0		1 1	1 unit 1 unit	41J 41J
Enclosure cover mo	nitoring ¹⁾								
3SU1900-0HM10-0AA0	Module with extension plunger	Plastic	Black	3	3SU1900-0HM10-0AA0		1	1 unit	41J

¹⁾ In addition, a 3SU1400-2AA10-.BA0 contact module is required.

SIRIUS ACT Pushbuttons and Indicator Lights Accessories

Miscellaneous accessories

Selection and orderi									
	Product designation Product version	Material	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Miscellaneous acces	ssories			d					
	PCB carriers	Plastic	Black	5	3SU1900-0KA10-0AA0		100	10 units	41J
3SU1900-0KA10-0AA0	Pressure plates for selectors and locks	Plastic	White	>	3SU1900-0KC10-0AA0		100	10 units	41J
3SU1900-0CK10-0AA0	Drilling template for grid 30 x 40, horizontal	Plastic	Black	5	3SU1900-0KF10-0AA0		1	1 unit	41J
3SU1900-0KF10-0AA0	Extension plungers	Plastic	Gray		3SU1900-0KG10-0AA0		1	1 unit	41J
	For compensation of the distance between the pushbutton and the unlatching button of an overload relay	riasiic	Glay		3301300-0KG10-0AA0		'	i dilit	413
3SU1900-0KG10-0AA0									
	Strut profile mounting adapters	Metal	Sand gray	/ 3	3SU1950-0JE80-0AA0		1	1 unit	41J
3SU1950-0JE80-0AA0									
	Adapters for enclosures with 1 command point Between enclosure top and bottom, for installation of 2-pole or two 1-pole contact modules with front plate mounting. Not suitable for 3SU1801-1AA00-1AA1.	Plastic	Black	5	3SU1900-0JF10-0AA0		1	1 unit	41J
3SU1900-0JF10-0AA0									
3SU1900-0JG10-0AA0	Adapters for modules with base mounting	Plastic	Black	30	3SU1900-0JG10-0AA0		1	100 units	41J

Accessories

Miscel	laneous	accessories	

	Product designation	Material	Color	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
	Product version					po 0	SET, M)		
Miscellaneous acces	oorioo			d					
wiscellaneous acces	Adapters for standard rail	Plastic	Black		3SU1900-0KH80-0AA0		1	1 unit	41J
0	mounting	Flasiic	DIACK		3301300-UKHOU-UAAU		1	i uiiit	410
3SU1900-0KH80-0AA0		Di vi	01						
	Covers for modules	Plastic	Clear	5	3SU1900-0EW70-0AA0		1	1 unit	41J
	Degree of protection IP54	Metal	Silver		361110EU-UK 18U-UV VU		1	1 unit	41J
3SU1950-0KJ80-0AA0	Adapters for actuators and indicators With front ring for flat mounting	Metal	Sliver		3SU1950-0KJ80-0AA0		1	i unit	413
555 1555 SH555 SH15	Adapters for 30.5 mm to 22.5 mm	Metal,	Silver	>	3SU1950-0KB10-0AA0		1	1 unit	41J
	mounting hole	shiny							
3SU1950-0KB10-0AA0		Metal, matte	Sand gra	<i>,</i> •	3SU1960-0KB10-0AA0		1	1 unit	41J
330 1930-0KB 10-0AA0	Grounding studs	Metal	Silver	5	3SU1950-0KK80-0AA0		100	50 units	41J
OCH HOEO OKNOO OAAO	arounding states	Wetai	Silver	3	SOCION SINCE VALO		100	oo umo	410
3SU1950-0KK80-0AA0	Connectors for sensor switches,	Plastic	Black		3SU1900-0KL10-0AA0		1	1 unit	41J
	angled socket with screw terminal connection	riasiic	BIACK		3301300-0KE10-0AA0		'	i uiii	410
3SU1900-0KL10-0AA0									
	Flat ribbon cable								
	7 cores • Length 5 m	Plastic	Gray	5	3SU1900-0KQ80-0AA0		1	1 unit	41J
3SU1900-0KP80-0AA0	• Length 10 m	Plastic	Gray	5	3SU1900-0KP80-0AA0		1	1 unit	41J
	Longar To III	i iddiio	aray	J	COO TOUC OIGH OU OAAU		!	i uiiit	710

General data

Overview

More information

Homepage, see www.siemens.com/sirius-commanding Industry Mall, see www.siemens.com/product?3SB2

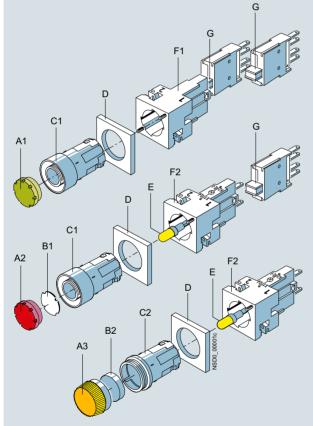
Manual, see https://support.industry.siemens.com/cs/ww/en/view/107194954

The 3SB2 pushbuttons and indicator lights are provided for front plate mounting and rear connection with flat connectors. For use on printed circuit boards, contact blocks and lampholders with solder pins are also available.

Standards

IEC/EN 60947-1 IEC/EN 60947-5-1 IEC/EN 60947-5-5 for EMERGENCY STOP mushroom pushbuttons

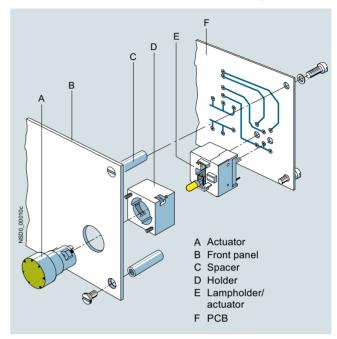
Version with flat connector



- A1 Button, flat
- A2 Illuminated button, flat
- A3 Screw lens for indicator light
- B1 Insert label, for labeling
- B2 Insert cap, for labeling
- C1 Collar with extruded front ring
- C2 Collar for indicator light
- D Frame for rectangular design
- E Wedge base lamp, W2 x 4.6 d
- F1 Holders
- F2 Lampholder with holder
- G Contact blocks (1 NO or 1 NC) for snapping onto the holder or onto the lampholder

PCB mounting

For use on printed circuit boards, special contact blocks and lampholders for soldering into the printed circuit board are available. For this purpose, the contact blocks and lampholders are fitted with 0.8 mm x 0.8 mm solder pins of length 3.5 mm.



Connection methods

Flat connectors

Solder pin connections

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Application

The devices are climate-proof and suitable for marine applications.

Safety EMERGENCY STOP pushbuttons according to ISO 13850

For controls according to IEC/EN 60204-1, the mushroom pushbuttons of the 3SB2 series are suitable for use as safety EMERGENCY STOP pushbuttons.

Safety circuits

The IEC/EN 60947-5-1 standard requires positive opening. This means that for the purpose of personal safety, the reliable opening of NC contacts in all safety circuits is expressly prescribed for the electrical equipment of machines and is designated according to IEC 60947-5-1 with the symbol ⊕.

Category 4 according to EN ISO 13849-1 can be attained with the EMERGENCY STOP mushroom pushbuttons if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK11 safety relays, the 3RK3 Modular Safety System (see "Safety Technology", page 11/1 onwards) or matching units from the ASIsafe, SIMATIC or SINUMERIK product ranges.

General data

Technical specifications

Type		3SB2
Type Contact blocks and lampholders		33DZ
Contact blocks and lampholders		IEO/EN 00047 5 4
Standards		IEC/EN 60947-5-1 IEC/EN 60947-5-5
Rated insulation voltage U _i	V	250
Conventional thermal current I_{th}	A	10
Rated operational currents I_{e} at rated operational voltage U_{e}	71	10
Alternating current AC-12 At I = 24 230 V	А	10
- At U _e = 24 230 V		10
Alternating current AC-15 A+11	٨	4
- At U _e = 24 230 V	A	4
• Direct current DC-12	٨	6
- At $U_e = 24 \text{ V}$ - At $U_e = 60 \text{ V}$	A A	5
- At $U_0 = 00 \text{ V}$ - At $U_0 = 110 \text{ V}$	A	2.5
- At $U_0 = 230 \text{ V}$	A	1
Direct current DC-13	- / ('
- At U _P = 24 V	А	3
- At $U_0 = 60 \text{ V}$	A	1.5
- At $U_{\rm e} = 110 \text{ V}$	Α	0.7
- At $U_{\rm e} = 230 {\rm V}$	Α	0.3
Contact stability		
Test voltage/test current		5 V/1 mA
Lamps		. ,
• Bases		Wedge base W2 x 4.6 d
Rated voltage	V	6, 12, 24, 30, 48, 60
Rated power, max.	W	1
Short-circuit protection weld-free according to IEC 60947-5-1		
DIAZED fuse links, utilization category gG		10 A TDz, 16 A Dz
Miniature circuit breaker with C characteristic according to IEC 60898		10 A
Electrical endurance		
• For utilization category AC-15 with 3RT10 15 to 3RT10 26 contactors		10 x 10 ⁶ operating cycles
Mechanical endurance		10 x 10 ⁶ operating cycles
Degree of protection acc. to IEC 60529		
Connection of contact blocks and lampholders behind the front plate		IP00
Contact chambers of the contact blocks behind the front plate		IP40
Finger safe acc. to IEC 60529 and DGUV Regulation 3		With voltages > 50 V AC or 120 V DC, insulating sleeves must be
•		fitted to the unassigned tab connections.
Data according to UL and CSA		
Rated voltage		
Contact blocks	V	250 AC
 Indicator lights (lamp with wedge base W2 × 4.6 d) 	V	60; 1 W
Uninterrupted current	А	5
Switching capacity		B 300, R 300
Actuating and signaling elements		
Mechanical endurance		
Pushbuttons		10 x 10 ⁶ operating cycles
Actuators, rotary or latching		3 x 10 ⁵ operating cycles
• Illuminated pushbuttons		3 x 10 ⁶ operating cycles
Climatic withstand capability		Climate-proof; suitable for marine applications
Ambient temperature		Similar proof, outdoor for marine approations
During operation, non-illuminated devices and complete with LED	°C	-25 +70
During operation, devices with incandescent lamp	°C	-25 +70 -25 +60
During storage, transport	°C	-40 +80
Degree of protection acc. to IEC 60529	-	
Actuators and indicators		IP65
Actuators and indicators with protective cap		IP67
Actuators and indicators with protective cap		
Protective measures		The actuators and lens assemblies must not be included in the
		The actuators and lens assemblies must not be included in the protective measures.
Protective measures		
Protective measures • For mounting in metal front plates and enclosures		protective measures.
Protective measures • For mounting in metal front plates and enclosures • For fitting into enclosures with total insulation		protective measures.
Protective measures • For mounting in metal front plates and enclosures • For fitting into enclosures with total insulation Shock resistance acc. to IEC 60068-2-27	ms	protective measures. The protective measure "Total insulation" is retained.

General data

Configuration

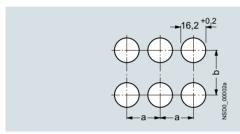
Design

Two design versions can be mounted:

- Round design: The 3SB2 pushbuttons and indicator lights are assembled with the modules – actuator, holder, contact block and lampholder. Depending on the specific application, various versions can be assembled. Complete units are offered for the most commonly used applications.
- Square design: With square, black frames the round units can be given a square look. The frames are inserted underneath the round actuators. Further mounting is the same as for the round version.

Mounting and fixing:

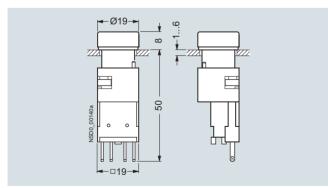
Mounting dimensions according to EN 50007 (does not apply to EMERGENCY STOP mushroom pushbuttons)



Minimum clearance	а	b
Round design	19	19
Square design without labeling plate	21	21
Round and square design with labeling plate	21	32
For 2 selector switches with 3 switch positions, latching, side by side	21	21

For mounting, the actuator or the lens assembly is inserted from the front into the hole in the front plate. Four small nubs ensure a secure fitting in the hole. The holder is plugged on from the back and snaps automatically into place. The module is fixed to the holder with two screws so that it is immune to vibrations.

One or two contact blocks can be mounted on the holder. They are inserted into the holder with slide slots and held down with two snap brackets.



Pushbutton (flat) with holder and contact block

If a command point is fitted with an indicator light or illuminated pushbutton, a lamp socket with lampholder must be used instead of a holder. It is suitable for incandescent lamps or LEDs with bases of type W2 x 4.6d.

PCB mounting

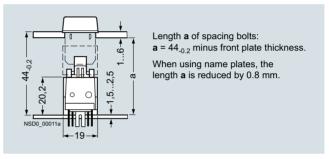
The command point comprises the actuator – e.g. 3SB2 pushbutton, illuminated pushbutton or indicator light –, which is mounted in the front plate, and a contact block and a lampholder which are soldered to the PCB. For this purpose, the contact blocks and lampholders are fitted with 0.8 mm x 0.8 mm solder pins of length 3.5 mm.

Mounting and fixing:

Mounting dimensions according to EN 50007

The actuators are mounted in the same way as 3SB2 front plate mounting devices.

The contact blocks and lampholders are plugged into the printed circuit board by means of their solder pins and can be flow-soldered. After soldering, the devices must be flush with the board and perpendicular to it. The printed circuit board must be supported on spacing bolts so that it cannot sag or bend more than 0.1 mm.

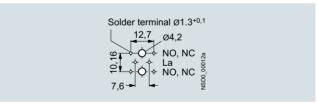


Illuminated pushbutton with solder pin connection

To avoid bending the PCB when the control device is operated, sufficient spacing bolts must be provided as shown in the table below:

PCB thickness	Max. distance between spacing bolts
1.5 mm	80 mm
2.5 mm	150 mm
When using EMERGENCY STOP pushbuttons	Always 50 mm

These details are based on epoxy resin glass fiber mat.



Solder pin spacing

Complete units

Selection and ordering data

	Version	Contact	Color of actuator	SD	Flat connectors	0	PU (UNIT,	PS*	PG
		DIOCKS	actuator				SET, M)		
				d	Article No.	Price per PU			
	Pushbuttons with flat button	1 NO 1 NC 1 NC 1 NO 1 NO 1 NO 1 NO 1 NO 1 NO	Black Black Red Yellow Green Blue White Clear ¹⁾	2 10 2 10 2 10 2 10	3SB2202-0AB01 3SB2203-0AB01 3SB2203-0AC01 3SB2202-0AD01 3SB2202-0AE01 3SB2202-0AF01 3SB2202-0AG01 3SB2202-0AH01		1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J 41J
3SB2202-0AE01	Illuminated pushbuttons with flat button Lampholders W2 x 4.6 d without lamp ²⁾	1 NC 1 NO 1 NO 1 NO 1 NO	Red Yellow ¹⁾ Green Blue Clear ¹⁾	2 10 2 10 2	3SB2207-0AC01 3SB2206-0AD01 3SB2206-0AE01 3SB2206-0AF01 3SB2206-0AH01		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	Illuminated pushbuttons with flat button Lampholders W2 x 4.6 d with 24 V incandescent lamp	1 NC 1 NO 1 NO 1 NO 1 NO	Red Yellow ¹⁾ Green Blue Clear ¹⁾	2 10 2 10 2	3SB2227-0AC01 3SB2226-0AD01 3SB2226-0AE01 3SB2226-0AF01 3SB2226-0AH01		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3	Pushbuttons with raised button	1 NO 1 NC 1 NO 1 NO 1 NO	Black Red Yellow Blue Clear ¹⁾	10 10 10 10 10	3SB2202-0LB01 3SB2203-0LC01 3SB2202-0LD01 3SB2202-0LF01 3SB2202-0LH01		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	Illuminated pushbuttons with raised button Lampholders W2 x 4.6 d without lamp ²)	1 NC 1 NO 1 NO 1 NO 1 NO	Red Yellow ¹⁾ Green Blue Clear ¹⁾	10 10 10 10 10	3SB2207-0LC01 3SB2206-0LD01 3SB2206-0LE01 3SB2206-0LF01 3SB2206-0LH01		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SB2207-0LC01	Illuminated pushbuttons with raised button Lampholder W2 x 4.6 d with 24 V incandescent lamp	1 NC 1 NO 1 NO 1 NO 1 NO	Red Yellow ¹⁾ Green Blue Clear ¹⁾	10 10 10 10 10	3SB2227-0LC01 3SB2226-0LD01 3SB2226-0LE01 3SB2226-0LF01 3SB2226-0LH01		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	EMERGENCY STOP mushroom pushbuttons acc. to ISO 13850, latching ³⁾ Latches automatically when pressed; unlatches by turning the mushroom head counterclockwise, with yellow backing plate with inscription "NOT-HALT"	1 NC ⊕	Red	2	3SB2203-1AC01		1	1 unit	41J



- 1) Inscription is possible by inserting a label.
- 2) Wedge base lamps, see Accessories, page 13/159.
- 3) The mushroom pushbutton cannot be combined with 3SB2902-0AB backing plate or 3SB2902-0AA single frame.
- → Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards. Certificate:



Complete units

	Version	Contact		Color of	SD	Flat connectors		PU	PS*	PG
		blocks		actuator			Ů	(UNIT, SET, M)		
					d	Article No.	Price per PU			
	Selector switches, 2 switch positions Switching sequence O-I, operating angle 62°, latching O	1 NO 1 NO 1 NO 1 NO		Black Red Green White	2 10 10 10	3SB2202-2AB01 3SB2202-2AC01 3SB2202-2AE01 3SB2202-2AG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SB2202-2AC01	Selector switches, 3 switch positions Switching sequence I-O-II, 2 × operating angle 62°, latching	1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO))	Black Red Green White	2 10 10 10	3SB2210-2DB01 3SB2210-2DC01 3SB2210-2DE01 3SB2210-2DG01		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector switches, 3 switch positions Switching sequence I-O-II, 2 × operating angle 50°, momentary contact	1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO))	Black Red Green White	2 10 10 10	3SB2210-2EB01 3SB2210-2EC01 3SB2210-2EE01 3SB2210-2EG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Version	Contact blocks	Lock No	. Key removal position	SD	Flat connectors	0	PU (UNIT, SET, M)	PS*	PG
					d	Article No.	Price per PU			
	CES key-operated switches ¹⁾ , 2 switch positions Switching sequence O-I, operating angle 62°, latching	1 NO 1 NO	SB2 SB2	O O + I	2 10	3SB2202-4LA01 3SB2202-4LB01		1	1 unit 1 unit	41J 41J
3SB2202-4LB01	CES key-operated switches ¹⁾ , 3 switch positions Switching sequence I-O-II, 2 × operating angle 62°, latching	1 NO, 1 NC 1 NO, 1 NC		O + O +	10 I 10	3SB2210-4PA01 3SB2210-4PB01		1	1 unit 1 unit	41J 41J
	CES key-operated switches ¹⁾ , 3 switch positions Switching sequence I-O-II, 2 × operating angle 50°, momentary contact Onal locking systems. The article no	,		0	10	3SB2210-4QA01		1	1 unit	41J

Also available with additional locking systems. The article number must be supplemented with "-Z", the order code "Y01" and the required lock number.

	Version	Color of screw lens	SD	Flat connectors	•	PU (UNIT, SET, M)	PS*	PG
			d	Article No.	Price per PU			
3	Indicator lights Lampholders W2 x 4.6 d without lamp ¹⁾	Red Yellow Green White Clear	2 10 2 2 10	3SB2204-6BC06 3SB2204-6BD06 3SB2204-6BE06 3SB2204-6BG06 3SB2204-6BH06		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SB2224-6BE06	Indicator lights Lampholders W2 x 4.6 d with 24 V incandescent lamp	Red Yellow Green White Clear	2 10 2 2 10	3SB2224-6BC06 3SB2224-6BD06 3SB2224-6BE06 3SB2224-6BG06 3SB2224-6BH06		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

¹⁾ For wedge base lamps, see Accessories, page 13/159.

Actuating and signaling elements

Selection and ordering data

Selection and ordering	ig data							
	Version	Color of actuator	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Pushbuttons								
	Pushbuttons with flat button	Black Red Yellow Green Blue White	2 2 10 2 2 2	3SB2000-0AB01 3SB2000-0AC01 3SB2000-0AD01 3SB2000-0AE01 3SB2000-0AF01 3SB2000-0AG01		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SB2000-0AF01	Illuminated pushbuttons with flat button	Red Yellow ¹⁾ Green Blue White	10 2 10 2 10 2	3SB2000-0AH01 3SB2001-0AC01 3SB2001-0AD01 3SB2001-0AE01 3SB2001-0AF01 3SB2000-0AG01		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
		Clear ¹⁾	10	3SB2000-0AH01		1	1 unit	41J
	Pushbuttons with raised button	Black Red Yellow Blue White Clear ¹⁾	10 10 10 10 10 10	3SB2000-0LB01 3SB2000-0LC01 3SB2000-0LD01 3SB2000-0LF01 3SB2000-0LG01 3SB2000-0LH01		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SB2000-0LF01	Illuminated pushbuttons with raised button	Red Yellow ¹⁾ Green Blue Clear ¹⁾	10 10 2 10 10	3SB2001-0LC01 3SB2001-0LD01 3SB2001-0LE01 3SB2001-0LF01 3SB2000-0LH01		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SB2000-1AC01	EMERGENCY STOP mushroom pushbuttons acc. to ISO 13850, latching ²⁾ Latches automatically when pressed; unlatches by turning the mushroom head counterclockwise	Red	2	3SB2000-1AC01		1	1 unit	41J

¹⁾ Inscription is possible by inserting a label.

The mushroom pushbutton cannot be combined with 3SB2902-0AB backing plate or 3SB2902-0AA single frame.

	Version		Color of actuator	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches				d					
	Selector switches with 2 switch positions Switching sequence O-I, operating angle 62°, latching	°√l	Black Red Green White	2 10 10 10	3SB2000-2AB01 3SB2000-2AC01 3SB2000-2AE01 3SB2000-2AG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector switches with 2 switch positions Switching sequence O-I, operating angle 50°, momentary contact (reset from the right)	ON I	Black Red Green	10 10 10	3SB2000-2BB01 3SB2000-2BC01 3SB2000-2BE01		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SB2000-2AC01	Selector switches with 2 switch positions Switching sequence O-I, operating angle 90°, latching	°	Black Red Green White	10 10 10 10	3SB2000-2HB01 3SB2000-2HC01 3SB2000-2HE01 3SB2000-2HG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector switches with 3 switch positions Switching sequence I-O-II, operating angle 2 x 62°, latching		Black Red Green White	2 10 10 10	3SB2000-2DB01 3SB2000-2DC01 3SB2000-2DE01 3SB2000-2DG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector switches with 3 switch positions Switching sequence I-O-II, operating angle 2 x 50°, momentary contact		Black Red Green White	2 10 10 10	3SB2000-2EB01 3SB2000-2EC01 3SB2000-2EE01 3SB2000-2EG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector switches with 3 switch positions Switching sequence I-O-II, operating angle 2 x 90°, latching		Black	10	3SB2000-2JB01		1	1 unit	41J

Actuating and signaling elements

	Version	Lock No.	removal position	SD d	Article No.	Price er PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switc	hes			u					
3SB2000-4LB01	CES key-operated switches ¹⁾ with 2 keys, 2 switch positions Switching sequence O-I, operating angle 62°, latching	SB2 /		10 2	3SB2000-4LB01 3SB2000-4LA01		1	1 unit 1 unit	41J 41J
	CES key-operated switches ¹⁾ with 2 keys, 2 switch positions Switching sequence O-I, operating angle 50°, momentary contact	SB2 /	0	2	3SB2000-4MA01		1	1 unit	41J
	CES key-operated switches 1) with 2 keys, 3 switch positions Switching sequence I-O-II, operating angle 2 x 62°, latching	SB2		10 10	3SB2000-4PB01 3SB2000-4PA01		1	1 unit 1 unit	41J 41J
	CES key-operated switches ¹⁾ with 2 keys, 3 switch positions Switching sequence I-O-II, operating angle 2 x 50°, momentary contact	SB2	0	10	3SB2000-4QA01		1	1 unit	41J

Also available with additional locking systems. The article number must be supplemented with "-Z", the order code "Y01" and the required lock number.

	Version	Color of screw lens	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Indicator lights								
	Indicator lights	Red	2	3SB2001-6BC06		1	1 unit	41J
	with concentric rings	Yellow	10	3SB2001-6BD06		1	1 unit	41J
	(Inscription with insert caps is not	Green	2	3SB2001-6BE06		1	1 unit	41J
	possible)	Blue	10	3SB2001-6BF06		1	1 unit	41J
IIII (Emmission)		White	2	3SB2001-6BG06		1	1 unit	41J
		Clear	10	3SB2001-6BH06		1	1 unit	41J
	Indicator lights, smooth	Red	10	3SB2001-6CC06		1	1 unit	41J
3SB2001-6BD06	For inscription with insert caps ¹⁾	Yellow	10	3SB2001-6CD06		1	1 unit	41J
		Green	10	3SB2001-6CE06		1	1 unit	41J
		Blue	10	3SB2001-6CF06		1	1 unit	41J
		Clear	10	3SB2001-6CH06		1	1 unit	41.1

¹⁾ For insert caps, see Accessories, page 13/156.

Contact blocks and lampholders

Selection and ordering data

Version	Graphic symbols	Operating travel Contact closed Contact open	SD	Flat connectors	•	PU (UNIT, SET, M)	PS*	PG
			d	Article No.	Price per PU			

Contact blocks and lampholders with flat connectors 2×2.8 -0.8 mm according to IEC 60760

Holders for fixing the actuator and the contact blocks



Holders for 2 contact blocks Inscription with identification number 1-2 2 3SB2908-0AA

5 units

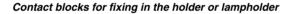
41J

3SB2908-0AA



3SB2304-2A

Lampholders W2 x 4.6 d without lamp	$(L+)$ \times	2	3SB2304-2A	1	1 unit	41J
Lampholders W2 x 4.6 d	X1					
 With 6 V incandescent lamp 	NSD0_00003	10	3SB2304-2F	1	1 unit	41J
With 24 V incandescent lamp		10	3SB2304-2H	1	1 unit	41J

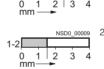




with one contact¹)
1 NO
1 NC ⊕







3SB2404-0B

3SB2404-0C

1 unit 41J

1 unit

41J

2 3 4

Contact blocks

Positive opening according to IEC 60947-5-1, Annex K.
 Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards.
 Certificate:



3SB2404-0B

¹⁾ For plug-in and insulating sleeves, see Accessories, page 13/160.

Contact blocks and lampholders

						Contact bit	JONG CIT		Oracio
	Version	Graphic symbols	Operating travel Contact closed Contact open	SD	Solder pin connections	<u></u>	PU (UNIT, SET, M)	PS*	PG
				d	Article No.	Price per PU			
Contact blocks a	nd lampholders with sold	ler pins		u u		рогго			
STATES	Holders for contact block with solder pins For mounting the actuators in the front panel			10	3SB2908-0AB		1	5 units	41J
3SB2908-0AB	Lampholders Wedge base W2 x 4.6 d ¹⁾	(L+) X1		10	3SB2455-2A		1	1 unit	41J
	Contact blocks								
1/10	1 NO	.3 	3-4 NSD0_00015 0 1 2 3 4 mm 2,3	10	3SB2455-0B		1	1 unit	41J
	1 NC ⊕	.1 	1-2 NSD0_00017 0 1 2 3 4 mm 1,6	10	3SB2455-0C		1	1 unit	41J
3SB2455-0B	1 NO + 1 NC	13 21 	21-22 NSD0_00019 0 1 2 3 4 mm 1,6	10	3SB2455-0J		1	1 unit	41J
	1 NO + 1 NO	13 23 	13-14 23-24 0 1 2 3 4 mm 2,3	10	3SB2455-0E		1	1 unit	41J
	1 NC + 1 NC	11 21 	21-22 11-12 0 1 2 3 4 mm 1,6	10	3SB2455-0F		1	1 unit	41J
	Contact blocks and lampho	olders, wedge	base W2 x 4.6 d ¹⁾						
	1 NO	13 X1 X1 X2 X2	13-14 NSD0_01082 0 1 2 3 4 mm———————————————————————————————————	10	3SB2455-1B		1	1 unit	41J
	1 NC →	21 X1 	21-22 NSD0_01083 0 1 2 3 4 mm 1,6	10	3SB2455-1C		1	1 unit	41J
3SB2455-1B	1 NO + 1 NC	13 21 X1 	0 4 0 0 4	10	3SB2455-1J		1	1 unit	41J
	1 NO + 1 NO	13 23 X1 	23-24	10	3SB2455-1E		1	1 unit	41J
	1 NC + 1 NC	11 21 X1 	21-22 11-12 0 1 2 3 4 mm 1,6	10	3SB2455-1F		1	1 unit	41J

¹⁾ The lamp is not included in the scope of supply.

Positive opening according to IEC 60947-5-1, Annex K.
 Can be used with 3SK11 safety relays or the 3RK3 Modular Safety System, see page 11/1 onwards. Certificate:



Accessories and Spare Parts

Insert labels and insert caps

Overview

Clear pushbuttons, illuminated pushbuttons and indicator lights can be fitted with insert labels and caps for identification purposes.

The insert labels and insert caps are made of a milky-transparent plastic with black lettering; they can be fitted in any 90° angle.

Inscription

The inscriptions have upper case initial letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

For customized inscriptions, see "Options", page 13/157.

Selection and ordering data

	Inscription/symbol		Symbol No.	SD	Insert labels For pushbuttons and illuminated pushbuttons, flat	PU (UNIT, SET, M)	PS*	PG
				d	Article No. Price per PU			
For self-inscript	ion							
3SB2901-4AA	Blank			10	3SB2901-4AA	100	10 units	41J
With inscription								
Ein	Ein Aus Auf Ab		 	10 10 10 10	3SB2901-4AB 3SB2901-4AC 3SB2901-4AD 3SB2901-4AE	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SB2901-4AB	Vor Zurück Rechts Links		 	10 10 10 10	3SB2901-4AF 3SB2901-4AG 3SB2901-4AH 3SB2901-4AJ	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	Halt Zu Langsam Störung		 	10 10 10 10	3SB2901-4AK 3SB2901-4AL 3SB2901-4AN 3SB2901-4AQ	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
On 3SB2901-4EB	On Start Stop Reset Test		 	10 10 10 10 10	3SB2901-4EB 3SB2901-4EK 3SB2901-4EL 3SB2901-4EM 3SB2901-4EN	100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
	0 1 2 3 4		 	10 10 10 10 10	3SB2901-4RA 3SB2901-4RB 3SB2901-4RC 3SB2901-4RD 3SB2901-4RD	100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
	5 6 7 8 9		 	10 10 10 10 10	3SB2901-4RF 3SB2901-4RG 3SB2901-4RH 3SB2901-4RJ 3SB2901-4RJ	100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
Graphic ON/OFF	symbols							
	O (Off)	0	5008 IEC	10	3SB2901-4MB	100	10 units	41J
	I (On)	1	5007 IEC	10	3SB2901-4MC	100	10 units	41J
	II (On)	\parallel		10	3SB2901-4MD	100	10 units	41J

Insert labels and insert caps

	Inscription/symbol		Symbol No.	SD	Insert labels For pushbuttons and illuminated pushbuttons, flat	PU (UNIT, SET, M)	PS*	PG
				ما	Article No. Price			
Graphic equipm	ent symbols			d	per PU			
	Electric motor		0011 ISO	10	3SB2901-4PA	100	10 units	41J
	Horn		5014 IEC	10	3SB2901-4PB	100	10 units	41J
3SB2901-4PA	Pump		0134 ISO	10	3SB2901-4PD	100	10 units	41J
	Coolant pump		0355 ISO	10	3SB2901-4PE	100	10 units	41J
Graphic motion	symbols							
	Motion in direction of arrow (straight)	\rightarrow	5022 IEC	10	3SB2901-4NA	100	10 units	41J
→	Motion in direction of arrow (diagonal)	K		10	3SB2901-4NB	100	10 units	41J
3SB2901-4NA	Clockwise rotation	~	0004 ISO	10	3SB2901-4NC	100	10 units	41J
	Counterclockwise rotation			10	3SB2901-4ND	100	10 units	41J
	Fast motion	൜	0266 ISO	10	3SB2901-4NE	100	10 units	41J
	Increase (plus)	+	5005 IEC	10	3SB2901-4NG	100	10 units	41J
	Decrease (minus)	<u>·</u>	5006 IEC	10	3SB2901-4MC	100	10 units	41J
Graphic control	symbols							
	Clamp	→ ←		10	3SB2901-4QB	100	10 units	41J
Ind .	Release	←II>		10	3SB2901-4QC	100	10 units	41J
3SB2901-4QK	Brake off	←(()	0021 ISO	10	3SB2901-4QE	100	10 units	41J
	Lock	1 €	0022 ISO	10	3SB2901-4QF	100	10 units	41J
	Unlock	1	0023 ISO	10	3SB2901-4QG	100	10 units	41J
	On/Off, momentary contact type	\oplus	5011 IEC	10	3SB2901-4QJ	100	10 units	41J
	Manual operation	Sur	0096 ISO	10	3SB2901-4QK	100	10 units	41J
	Automatic sequence	@	0017 ISO	10	3SB2901-4QL	100	10 units	41J
Customized ins	criptions							
	Any inscription				3SB2901-4AZ			
5	1 line of text with up to 6 characters with Please add the appropriate order code to				KOY			
	specify the line of text required.	o trio di tioi	o nambor ana		K1Y or K2Y K5Y			
	Other graphic symbols				3SB2901-4AZ			
	Please add the order code "K3Y" to the specify the serial number and the applied (ISO 7000 or IEC 60417).		КЗҮ					
	Any inscription or symbol				3SB2901-4AZ			
	Please add the order code "K9Y" to the specify the inscription or the symbol requ		К9Ү					

Insert labels and insert caps

	Inscription/symbol		Symbol No.	SD	Insert caps For pushbuttons and illuminated pushbuttons, raised Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
For self-inscript	ion				рогто			
3SB2901-5AA	Blank			10	3SB2901-5AA	100	10 units	41J
With inscription								
On	On Aus Auf Zu		 	10 10 10 10	3SB2901-5EB 3SB2901-5AC 3SB2901-5AD 3SB2901-5AL	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SB2901-5EB	0 1 2 3		 	10 10 10 10	3SB2901-5RA 3SB2901-5RB 3SB2901-5RC 3SB2901-5RD	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SB2901-5AC	4 5 6 7 8		 	10 10 10 10 10	3SB2901-5RE 3SB2901-5RF 3SB2901-5RG 3SB2901-5RH 3SB2901-5RJ	100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
	9			10	3SB2901-5RK	100	10 units	41J
Graphic ON/OFF	_ ·							
	O (Off)	\bigcirc	5008 IEC	10	3SB2901-5MB	100	10 units	41J
	I (On)		5007 IEC	10	3SB2901-5MC	100	10 units	41J
Graphic motion	symbols							
	Motion in direction of arrow	\rightarrow	5022 IEC	10	3SB2901-5NA	100	10 units	41J
\rightarrow	Motion in direction of arrow	K		10	3SB2901-5NB	100	10 units	41J
3SB2901-5NA	Increase (plus)	+	5005 IEC	10	3SB2901-5NG	100	10 units	41J
	Decrease (minus)		5006 IEC	10	3SB2901-5MC	100	10 units	41J
Graphic control	symbols							
	Clamp	→ ←		10	3SB2901-5QB	100	10 units	41J
	Release	↔		10	3SB2901-5QC	100	10 units	41J
Customized inse	criptions							
	Any inscription				3SB2901-5AZ			
	1 line of text with up to 6 characters with 3 Please add the appropriate order code to specify the line of text required.		K0Y K1Y or K2Y					
	Other graphic symbols				K5Y 3SB2901-5AZ			
	Other graphic symbols Please add the order code "K3Y" to the as specify the serial number and the applied (ISO 7000 or IEC 60417).				K3Y			

Insert labels and insert caps

	Inscription/symbol	Symbol No.	SD	Insert caps For indicator lights	PU (UNIT, SET, M)	PS*	PG
			d	Article No. Price per PU			
For self-inscripti	on						
	Blank		10	3SB2901-7AA	100	10 units	41J
3SB2901-7AA With inscription							
with inscription	Betrieb		10	3SB2901-7AP	100	1 unit	41J
	Störung		10	3SB2901-7AP	100	10 units	41J
Betrieb	ctorung				.55	. o a.m.o	
3SB2901-7AP							
Graphic symbols		0.40.4.10.0	4.0				
and the same of th	Pump	0134 ISO	10	3SB2901-7PD	100	10 units	41J
And	Manual operation	0096 ISO	10	3SB2901-7QK	100	10 units	41J
3SB2901-7QK							
Customized insc	riptions						
	Any inscription			3SB2901-7AZ			
	1 line of text with up to 6 characters with 3 mm fon Please add the appropriate order code to the artic	t height. le number and		KOY			
	specify the line of text required.	ic number and		K1Y or K2Y K5Y			
	Other graphic symbols			3SB2901-7AZ			
	Please add the order code "K3Y" to the article nu specify the serial number and the applied standar (ISO 7000 or IEC 60417).			КЗҮ			
	Any inscription or symbol			3SB2901-7AZ			
	Please add the order code "K9Y" to the article nurspecify the inscription or the symbol required.	mber and		К9Ү			

Options

Customized inscriptions

Labels and caps can be inscribed with text and symbols not listed in the ordering data. Append the following order codes to the article number:

- Text line in upper/lower case, always upper case for beginning of line (e.g. "Lift"): KOY
- Text line in upper case (e.g. "LIFT"): K1Y
- Text line in lower case (e.g. "lift"): K2Y
- Text line in upper/lower case, all words begin with upper case letters (e.g. "Lift Out"): K5Y
- Symbol with number according to ISO 7000 or IEC 60417:
 K3Y
- Any inscription or symbols according to order form supplement: K9Y

When ordering, specify the required inscription in plain text in addition to the article number and order code. In the case of special inscriptions with words in languages other than German, give the exact spelling and specify the language.

One line with up to 6 characters with 3 mm font height is possible for the inscription (see ordering example 1).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering example 2 and 3).

For special symbols (order code K9Y), a CAD drawing in DXF format can be submitted.

Ordering example 1

3SB2901-4AZ K1Y Z1=Pump

Ordering example 2

3SB2901-4AZ K3Y Z=5008 IEC

Ordering example 3

3SB2901-4AZ K3Y Z=1118 ISO

Accessories and Spare Parts

Backing plates

Overview

The backing plates consist of a black plastic label holder and a labeling plate (silver with black print) for sticking in place.

Note mounting dimensions!

Inscription

The inscriptions (also special inscriptions) are lower case with upper case initial letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

Selection and ordering data

	Inscription/symbol		Symbol No.	SD	Article No. Pri		PS*	PG
				d				
Labeling plates,	self-adhesive, 9.5 mm × 18.5 mm							
	Blank			2	3SB2901-2AA	100	10 units	41J
	Ein			10	3SB2901-2AB	100	10 units	41J
3SB2901-2AA	Aus			10	3SB2901-2AC	100	10 units	41J
33B290T-ZAA	Auf Zu			10 10	3SB2901-2AD 3SB2901-2AL	100 100	10 units 10 units	41J 41J
Ein	Vor			10	3SB2901-2AF	100	10 units	41J
3SB2901-2AB	Zurück			10	3SB2901-2AF	100	10 units	41J
35B29U1-2AB	Schnell			10	3SB2901-2AM	100	10 units	41J
	Langsam			10	3SB2901-2AN	100	10 units	41J
	Betrieb			10	3SB2901-2AP	100	10 units	41J
	Störung			10	3SB2901-2AQ	100	10 units	41J
	Einrichten			10	3SB2901-2AR	100	10 units	41J
0	On Off			10	3SB2901-2EB 3SB2901-2EC	100	10 units	41J
On	Start			10 10	3SB2901-2EL	100 100	10 units 10 units	41J 41J
3SB2901-2EB	Reset			10	3SB2901-2EM	100	10 units	41J
60B2001 E2B	Fault			10	3SB2901-2EW	100	10 units	41J
Hand Auto	Hand Auto			10	3SB2901-2BA	100	10 units	41J
3SB2901-2BA	Manual 0 Auto			10	3SB2901-2BE	100	10 units	41J
35B29U1-2BA	Man 0 Auto			10	3SB2901-2ET	100	10 units	41J
	Graphic symbols							
\rightarrow	O (Off)		5008 IEC	10	3SB2901-2MB	100	10 units	41J
3SB2901-2NA		\cup						
	I (On)	1	5007 IEC	10	3SB2901-2MC	100	10 units	41J
		1						
	O I (horizontal)			10	3SB2901-2MF	100	10 units	41J
	Motion in direction of arrow	\rightarrow	5002 IEC	10	3SB2901-2NA	100	10 units	41J
	Customized inscriptions or symbols				3SB2901-2XZ			
	(see Options)				KOY			
	,				K1Y, K2Y or K3Y			
					K5Y			
					K9Y			
Label holders					Nat			
Label holders	Label holders for labeling plates			10	3SB2902-0AB	100	10 units	41J
	• •	the 200	2 14001	10	00D2302-0AD	100	io unito	410
	The label holders must not be used with EMERGENCY STOP mushroom pushbu		21ACU1					
3SB2902-0AB								

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data. Append the following order codes to the article number:

- Text line(s) in upper/lower case, all lines begin with upper case (e.g. "Lift out"): KOY
- Text line(s) in upper case (e.g. "LIFT OUT"): K1Y
- Text line(s) in lower case (e.g. "lift out"): K2Y
- Text line(s) in upper/lower case, all words begin with upper case letters (e.g. "Lift Out"): K5Y
- Symbol with number according to ISO 7000 or IEC 60417:
 K3Y
- Any inscription or symbols according to order form supplement: K9Y

When ordering, specify the required inscription in plain text in addition to the article number and order code. In the case of special inscriptions with words in languages other than German, give the exact spelling and specify the language.

Two lines of 11 characters per line are permitted with 4 mm font height (1 line) or 3 mm (2 lines).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering example).

For special symbols (order code K9Y), a CAD drawing in DXF format can be submitted.

Ordering example

3SB2901-2XZ K3Y Z=1118 ISO

Mounting parts and components

Selection and orderi	ng data								
	Version	Lamp	Color	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
		Ü			·		SÈT, M)		
Buttons and lenses ¹⁾		V		d					
3SB2910-0AF	Buttons, flat For pushbuttons		Black Red Yellow Green Blue White Clear	10 10 10 10 10 10	3SB2910-0AB 3SB2910-0AC 3SB2910-0AD 3SB2910-0AE 3SB2910-0AF 3SB2910-0AG 3SB2910-0AH		100 100 100 100 100 100 100	10 units 10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J 41J
3SB2910-0CF	Buttons, flat For illuminated pushbuttons		Red Yellow Green Blue White Clear	10 10 10 10 10 10	3SB2910-0CC 3SB2910-0CD 3SB2910-0CE 3SB2910-0CF 3SB2910-0AG 3SB2910-0AH		100 100 100 100 100 100	10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J
3SB2910-0BD	Buttons, raised For pushbuttons		Black Red Yellow Clear	10 10 10 10	3SB2910-0BB 3SB2910-0BC 3SB2910-0BD 3SB2910-0BH		1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SB2910-0DD	Buttons, raised For illuminated pushbuttons		Red Yellow Clear	10 10 10	3SB2910-0DC 3SB2910-0DD 3SB2910-0BH		1 1 1	10 units 10 units 10 units	41J 41J 41J
3SB2910-1AD	Screw lenses With concentric rings		Red Yellow Green Blue White Clear	10 10 10 10 10 10	3SB2910-1AC 3SB2910-1AD 3SB2910-1AE 3SB2910-1AF 3SB2910-1AG 3SB2910-1AH		100 100 100 100 100 100	10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J
	Screw lenses Smooth, for inscription with insert cap		Red Yellow Green Blue Clear	10 10 10 10 10	3SB2910-1BC 3SB2910-1BD 3SB2910-1BE 3SB2910-1BF 3SB2910-1BH		100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
3SB2910-1BE Keys for actuators									
3\$B2908-2AJ	Keys For CES key-operated switch, Lock No. SB2			10	3SB2908-2AJ		1	1 unit	41J
Lamps, wedge bases	.2)								
3SB2908-1AE	Incandescent lamps Wedge base W2 × 4.6 d, 1.0 W	AC/DC 6 12 24 30 48 60	Clear	20 10 10 5 10	3SB2908-1AA 3SB2908-1AB 3SB2908-1AC 3SB2908-1AD 3SB2908-1AE 3SB2908-1AF		100 100 100 100 1	10 units 10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J 41J
3SB3901-1SB	LED lamps, super-bright Wedge base W2 × 4.6 d	24 AC/DC	Red Yellow Green White Blue	10 10 10 10 10	3SB3901-1SB 3SB3901-1RB 3SB3901-1TB 3SB3901-1UB 3SB2908-1BD		1 1 1 1 1	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
3SB2908-1BD		28 AC/DC	Red Yellow Green White Blue	10 10 10 10 20	3SB3901-1SE 3SB3901-1RE 3SB3901-1TE 3SB3901-1UE 3SB3901-1VE		1 1 1 1 1	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
3SB2908-2AB	Lamp extractors For lamps with bases W2 × 4.6 d			5	3SB2908-2AB		1	1 unit	41J

¹⁾ Included in the scope of supply of actuators or indicator lights.

²⁾ Included in the scope of supply of some complete units.

Accessories and Spare Parts

Mounting parts and components

	Version	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG
		d			SET, M)		
Accessories for co		-					
	Single frames for square design ¹⁾	2	3SB2902-0AA		100	10 units	41J
3SB2902-0AA	Backing plates, yellow, diameter 50 mm						
3SB2908-2AG	As high-contrast background for EMERGENCY STOP, self-adhesive Blank With German inscription "NOT-HALT" With German inscription "NOT-AUS"	2 2 2	3SB2908-2AF 3SB2908-2AG 3SB2908-2AK		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
OSESSO ENG	Blanking plugs Plastic, black (degree of protection IP65)	10	3SB2908-3AA		1	1 unit	41J
3SB2908-3AA	Protective caps, clear Silicone, for pushbuttons with flat and raised buttons	10	3SB2908-3AB		1	1 unit	41J
3SB2908-1 Flat connectors							
	Plug-in sleeves For flat connectors 2.8×0.8 mm, cross-section $0.5 \dots 1.5$ mm ²	5	3SB2908-8AA		100	250 units	41J
3SB2908-8AA	Insulating sleeves For flat connectors, attachable from the front	20	3SB2908-8AB		100	250 units	41J
3SB2908-8AB	Complete connectors ²⁾ For connecting contact blocks and lampholders (up to 10 connections) Ensures finger-safety acc. to IEC 60529 and DGUV Regulation 3	10	3SB2908-8AD		1	1 unit	41J
3SB2908-8AD 3SB2908-8AE	Plug-in sleeves For flat connectors 2.8 × 0.8 mm, with locating spring for latching in complete connector	10	3SB2908-8AE		100	10 units	41J
Tools							
7	Dismantling tools For holders and lampholders with holder	5	3SB2908-2AA		1	1 unit	41J
3SB2908-2AA	Mounting tools For buttons and screw lenses	5	3SB2908-2AC		1	1 unit	41J
3SB2908-2AC 6179 0950	Crimping tools for non-insulated connections, type KRBC (For plug-in sleeves (both versions) Manufacturer: Lapp Kabel, Stuttgart, Germany Email: info@lappkabel.com Website: www.lappkabel.com	0560	6179 0950				

 $^{^{\}rm 1)}$ Not suitable for EMERGENCY STOP mushroom pushbuttons.

²⁾ Required 3SB2908-8AE plug-in sleeves for flat connectors 2.8×0.8 mm are not included in the scope of supply.

3SE7 metal enclosures

Overview



3SE7 cable-operated switches

More information

Homepage, see www.siemens.com/sirius-commanding
Industry Mall see www.siemens.com/product?3SE7
Manual, see https://support.industry.siemens.com/cs/ww/en/view/107194954

The cable-operated switches are used for monitoring or as EMERGENCY STOP devices on particularly endangered system components.

As the effective range of a cable-operated switch is only limited by the length of the trip-wire, large systems can also be protected. Cable-operated switches (requiring pulling at both ends) and conveyor belt unbalance trackers are used primarily for monitoring very long belt systems.

Contact blocks

The switches for wire lengths up to 50 m are supplied with 1 NO + 1 NC or 2 NC contacts and those up to 75 m with 1 NO + 3 NC contacts. The switches for wire lengths of 2 x 75 m and the conveyor belt unbalance tracker are supplied with 2 NO + 2 NC contacts.

The NC contacts of the cable-break or cable-pull signaling are positive opening. The NO contact can be used, for example, for signaling purposes.

Free position and display

Cable-operated switches with one-side operation are held in free position by the pre-tension on the turnbuckle.

On switches with interlocking, with a pre-tensioned cable, the locking must be deactivated beforehand in order to return the cable-operated switch to its original position.

The cable-operated switch and the conveyor belt unbalance tracker can be supplied optionally with a factory-fitted LED (red, 24 V DC). This light in innovative chip-on-board technology allows the operating state of the switch to be visible at a distance of at least 50 m.

Application

Standards

The switches are equipped with latching mechanism and positive NC contacts and are thus suitable for operation in EMERGENCY STOP devices according to EN ISO 13850.

Technical specifications

Туре		3SE7120	3SE7150	3SE7140	3SE7141	3SE7160	3SE7310		
General data									
Standards		IEC/EN 60947- IEC/EN 60204-	-5-1 -1, EN ISO 13850						
Approvals		UL/CSA							
Electrical design		Contacts elect	rically isolated fro	m each other					
Electrical load									
• 2-pole, at AC-15		400 V AC, 6 A		400 V AC, 6 A	240 V AC, 2 A	400 V AC, 6 A			
• 3-pole, at AC-15		240 V AC, 2 A							
4-pole, at AC-15						400 V AC, 6 A	400 V AC, 6 A		
Minimum		24 V AC/DC, 1	0 mA						
Short-circuit protection	Α	6 (slow)	6 (slow)						
Mechanical endurance		> 100 000 operating cycles							
Contact material		Fine silver							
Operation		By pulling or b	reaking of wire						
Wire length, maximum	m	10	25	50	75	2 x 100	-		
Distance between wire supports, max.	m	3		5		4	_		
Enclosures									
Enclosure material		GD Al alloy, co	oated (color), dark	black RAL 9005					
Cover		Shock-resistar	nt thermoplast						
Degree of protection acc. to IEC 605291)		IP65			IP67	IP65			
Ambient temperature	°C	-25 +70							
Mounting		Designed for N	M5						
Fixing spacing	mm	30 and 40							
Cable entry		2 x (M20 x 1.5)	1 x (M20 x 1.5)	3 x (M20 x 1.5)	2 x (M25 x 1.5)			
Connection type		Screw termina	ls M3.5, self-lifting	clamp terminal					

¹⁾ IP54 for versions with key-operated release

3SE7 metal enclosures

Selection and orderi	ng data									
	Version	Wire length	Contacts		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		m			d			021, 111)		
Cable-operated switch	hes									
1	Metal enclosures, IP65 (cover made of molded plastic)	10								
	Without latching, only cable pull monitoring		1 NO + 1 NC	€	2	3SE7120-2DD01		1	1 unit	41K
	With latching and button reset		2 NC	→	2	3SE7120-1BF00		1	1 unit	41K
	- With yellow cover		1 NO + 2 NC	→	2	3SE7120-1BH00		1	1 unit	41K
3SE7120-1BH00										
	Metal enclosures, IP65 (cover made of molded plastic), with alignment window	25								
	Without latching		1 NO + 1 NC	\odot	2	3SE7150-2DD00		1	1 unit	41K
	With latching and button reset		1 NO + 1 NC	\odot	2	3SE7150-1BD00		1	1 unit	41K
			2 NC	€	2	3SE7150-1BF00		1	1 unit	41K
Target Co	- With yellow cover		1 NO + 2 NC	→	5	3SE7150-1BH00		1	1 unit	41K
3SE7150-1BD00	With latching and key unlatching		1 NO + 1 NC	€	5	3SE7150-1CD00		1	1 unit	41K
	Metal enclosures, IP65 (cover made of molded plastic), with alignment window, with LED, red, 24 V DC	25								
	 Without latching 		1 NO + 1 NC	→	5	3SE7150-2DD04		1	1 unit	41K
	With latching and button resetWith yellow cover		1 NO + 1 NC 1 NO + 2 NC	→	5 5	3SE7150-1BD04 3SE7150-1BH04		1	1 unit 1 unit	41K 41K
3SE7150-1BD04 3SE7150-1BH04										
2 0	Metal enclosures, IP65 (cover made of molded plastic)	50								
	With latching and button reset		1 NO + 1 NC	\odot	2	3SE7140-1BD00		1	1 unit	41K
			2 NC	→	5	3SE7140-1BF00		1	1 unit	41K
The state of the s	 In addition with LED, red, 24 V DC 		1 NO + 1 NC	€	5	3SE7140-1BD04		1	1 unit	41K
3SE7140-1B.00	 With latching and key unlatching 		1 NO + 1 NC	→	5	3SE7140-1CD00		1	1 unit	41K
	Metal enclosures, IP67 (cover made of molded plastic), with EMERGENCY STOP mushroom, with rotate-to-unlatch mechanism	75	1 NO + 3 NC	•	2	3SE7141-1EG10		1	1 unit	41K
a Common of the										
3SE7141-1EG10										
0 0	Metal enclosures, IP65 With actuation on both sides	2 x 100)							
	With latching and button reset		2 NO + 2 NC	→	2	3SE7160-1AE00		1	1 unit	41K
	· ·		1 NO + 1 NC	\odot	5	3SE7160-1BD00		1	1 unit	41K
C C C C C C C C C C C C C C C C C C C	 In addition with LED, red, 24 V DC 		2 NO + 2 NC	→	5	3SE7160-1AE04		1	1 unit	41K
3SE7160-1AE00										

[→] Positive opening according to IEC 60947-5-1, Annex K.

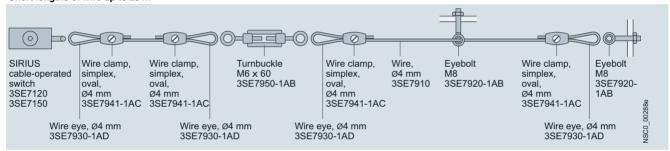
3SE7 metal enclosures



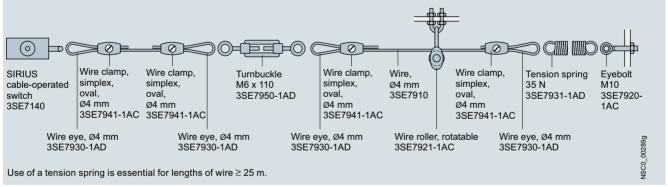
Accessories

Configuration of the cable-operated switches

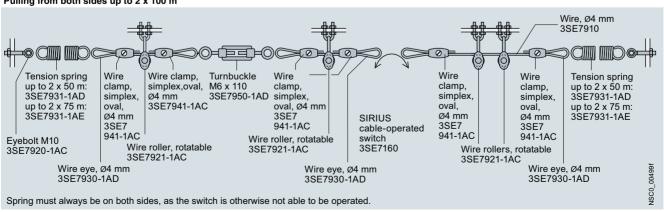
Short lengths of wire up to 25 m



Long lengths of wire up to 50 m



Pulling from both sides up to 2 x 100 m



Note:

Large temperature fluctuations require corresponding compensation springs. For reliable connection the PVC sheath must be removed from the clamping area of the

steel bowden wire. Bowden wire supports must be used at the recommended intervals.

3SE7 metal enclosures

Variety Vari									
SEF Miles Steel wires, with red plastic sheath, 10 m 2 35E7910-3AA 1 1 unit 41K		Version	Length/	SD	Article No.			PS*	PG
Size Mines With Bis Size Mines With read placeto sheach, 10 m 2 35E7910-3AA 1 1 unit 41K 20 m 2 35E7910-3AB 1 1 unit 41K 20 m 2 35E7910-3AB 1 1 unit 41K 41K 20 m 2 35E7910-3AB 1 1 unit 41K 41K 41K 20 m 2 35E7910-3AB 1 1 unit 41K			diameter			per PU	SET, M)		
Steel wires, with red pleate sheath, 10 m 2 SEF7910-AA 1 1 1 1 1 1				d					
SEF781-1AB SEF781-1AB SEF7821-1AB SE	Trip-wire with fixing								
2 0 m 2 35E7910-3AC			10 m	2	3SE7910-3AA		1	1 unit	41K
SSE7910-3AA Wire clamps, galvenized white, zinc-plated Oval 2 x Ø 4 mm 2 SSE7941-1AC 1 1 unit 41K		diameter 4 mm ⁻⁷	15 m		3SE7910-3AB			1 unit	41K
Wire clamps, galvanized white, 2nc-plated 2 x Ø 4 mm 2 3SE7941-1AC									
### Wire clamps, galvanized white, zinc-plated	3SE7910-3AA		50 m	2	3SE7910-3AH		1	1 unit	41K
**Single (1 set = 4 units)		Wire clamps, galvanized white, zinc-plated							
Single (1 set = 4 units) 2 x Ø 4 mm 2 38E7942-1AA Simplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7943-1AC Simplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7943-1AC Duplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7944-1AC Duplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7944-1AC Tension springs (2inc-plated) to maintain the counter tension 13 N 35 N, for cable-operated switches up to 50 m 35 S, N, for cable-operated switches up to 2 x 75 m 35 S, N, for cable-operated switches		• Oval	2 x Ø 4 mm	2	3SE7941-1AC		1	1 unit	41K
Single (1 set = 4 units) 2 x Ø 4 mm 2 38E7942-1AA Simplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7943-1AC Simplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7943-1AC Duplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7944-1AC Duplex (1 set = 4 units) 2 x Ø 4 mm 2 38E7944-1AC Tension springs (2inc-plated) to maintain the counter tension 13 N 35 N, for cable-operated switches up to 50 m 35 S, N, for cable-operated switches up to 2 x 75 m 35 S, N, for cable-operated switches									
*Simplex (1 set = 4 units)	3SE7941-1AC								
*Simplex (1 set = 4 units)		• Single (1 set = 4 units)	2 x Ø 4 mm	2	3SE7942-1AA		1	4 units	41K
*Simplex (1 set = 4 units)									
*Simplex (1 set = 4 units)									
**Duplex (1 set = 4 units)	3SE7942-1AA	Circulate (4 and 4 conita)	0 0. 4	0	0057040 440			4	4417
Duplex (1 set = 4 units) 2 x Ø 4 mm 2 3SE7944-1AC Tension springs (zinc-plated) to maintain the counter tension 13 N 2 3SE7931-1AB 1 1 unit 41K 3SE7931-1AB 2 3SE7931-1AB 1 1 unit 41K 3SE7931-1AB 2 3SE7931-1AB 1 1 unit 41K 3SE7931-1AB 3SE7931-1AB 1 1 unit 41K Wire rollers for changing the direction of Ø 4 mm 2 3SE7931-1AA 1 1 unit 41K Wire rollers for the wire rollers (nct. fixing nuits) 2 3SE7921-1AA 1 1 unit 41K Wire eyes for changes in wire direction and points (1 set = 4 units) 2 3SE7930-1AB 1 1 unit 41K SSE7920-1AB 1 1 unit 41K Turnbuckles for precise adjustment of the pre-tension 1 1 unit 41K SSE7950-1AB 1 1 unit 41K	190	• Simplex (1 set = 4 units)	2 X Ø 4 mm	2	35E/943-1AC		'	4 units	41K
Duplex (1 set = 4 units) 2 x Ø 4 mm 2 3SE7944-1AC Tension springs (zinc-plated) to maintain the counter tension 13 N 2 3SE7931-1AB 1 1 unit 41K 3SE7931-1AB 2 3SE7931-1AB 1 1 unit 41K 3SE7931-1AB 2 3SE7931-1AB 1 1 unit 41K 3SE7931-1AB 3SE7931-1AB 1 1 unit 41K Wire rollers for changing the direction of Ø 4 mm 2 3SE7931-1AA 1 1 unit 41K Wire rollers for the wire rollers (nct. fixing nuits) 2 3SE7921-1AA 1 1 unit 41K Wire eyes for changes in wire direction and points (1 set = 4 units) 2 3SE7930-1AB 1 1 unit 41K SSE7920-1AB 1 1 unit 41K Turnbuckles for precise adjustment of the pre-tension 1 1 unit 41K SSE7950-1AB 1 1 unit 41K									
Tension springs (zinc-plated) to maintain the counter tension 13 N 2 3SE7931-1AB 1 1 unit 41K	3SE7943-1AC								
Tension springs (zinc-plated) to maintain the counter tension 13 N 2 3SE7931-1AB 1 1 unit 41K 2 35 N, for cable-operated switches up to 50 m 2 3SE7931-1AD 1 1 unit 41K 1 2 35 N, for cable-operated switches up to 2 x 75 m 5 3SE7931-1AE 1 1 unit 41K 1 1 1 1 1 1 1 1 1		• Duplex (1 set = 4 units)	2 x Ø 4 mm	2	3SE7944-1AC		1	4 units	41K
Tension springs (zinc-plated) to maintain the counter tension 13 N 2 3SE7931-1AB 1 1 unit 41K 2 35 N, for cable-operated switches up to 50 m 2 3SE7931-1AD 1 1 unit 41K 1 2 35 N, for cable-operated switches up to 2 x 75 m 5 3SE7931-1AE 1 1 unit 41K 1 1 1 1 1 1 1 1 1									
Tension springs (zinc-plated) to maintain the counter tension 13 N 2 3SE7931-1AB 1 1 unit 41K 2 35 N, for cable-operated switches up to 50 m 2 3SE7931-1AD 1 1 unit 41K 1 2 35 N, for cable-operated switches up to 2 x 75 m 5 3SE7931-1AE 1 1 unit 41K 1 1 1 1 1 1 1 1 1									
1	3SE7944-1AC								
• 13 N • 35 N, for cable-operated switches up to 50 m 2 3SE7931-1AB 1 1 unit 41K • 35 N, for cable-operated switches up to 50 m 2 3SE7931-1AD 1 1 unit 41K • > 35 N, for cable-operated switches up to 2 x 75 m 5 3SE7931-1AE 1 1 unit 41K Wire rollers for changing the direction of Ø 4 mm 2 3SE7921-1AC 3SE7921-1AC Fixtures for the wire rollers (incl. fixing nuts) 2 3SE7921-1AA 1 1 unit 41K Wire eyes for changes in wire direction and Ø 4 mm 2 3SE7930-1AD 1 4 units 41K 3SE7930-1AD Eyebolts for fixing the wire • Including MB nut 2 3SE7920-1AB 1 1 unit 41K • Including MB nut 2 3SE7920-1AC 1 1 unit 41K • Including MI 0 nut 2 3SE7920-1AC 1 1 unit 41K • Including MI 0 nut 2 3SE7930-1AD 1 1 unit 41K • M6 x 60 2 3SE7950-1AB 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K • M7 x 11 1 unit 41K • M8 x 110 2 3SE7950-1AD 1 1 unit 41K • M8 x 110 3 3 3 3 3 3 3 3 3									
SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AB SSE7931-1AC SSE7931-				2	3SE7931-1AB		1	1 unit	41K
Wire rollers for changing the direction of Ø 4 mm 2 3SE7921-1AC 1 1 unit 41K		• 35 N, for cable-operated switches up to 50	m		3SE7931-1AD		1	1 unit	41K
Wire rollers for changing the direction of the wire, rotatable 2 3SE7921-1AC	W ILLIAM	• > 35 N, for cable-operated switches up to 2	2 x 75 m	5	3SE7931-1AE		1	1 unit	41K
### Turnbuckles for precise adjustment of the pre-tension **Mode *** Mode	3SE7931-1AB		~ .						
Signature Sign			Ø 4 mm	2	3SE/921-1AC		1	1 unit	41K
Fixtures for the wire rollers (Incl. fixing nuts) 2 3SE7921-1AA 1 1 unit 41K									
Fixtures for the wire rollers (Incl. fixing nuts) 2 3SE7921-1AA 1 1 unit 41K	3SE7921-1AC								
(incl. fixing nuts) Wire eyes for changes in wire direction and Ø 4 mm improved power transmission at the fixing points (1 set = 4 units) Eyebolts for fixing the wire Including M8 nut Including M10 nut Includ	002/02/ 1/10	Fixtures for the wire rollers		2	3SE7921-1AA		1	1 unit	41K
Wire eyes for changes in wire direction and improved power transmission at the fixing points (1 set = 4 units) Ø 4 mm 2 3SE7930-1AD 1 4 units 41K Eyebolts for fixing the wire • Including M8 nut 2 3SE7920-1AB 1 1 unit 41K • Including M10 nut 2 3SE7920-1AC 1 1 unit 41K Turnbuckles for precise adjustment of the pre-tension • M6 x 60 2 3SE7950-1AB 1 1 unit 41K 3SE7950-1AB 1 1 unit 41K Spare parts LED lamps, red 24 V DC diameter 25 mm;		(incl. fixing nuts)							
Wire eyes for changes in wire direction and improved power transmission at the fixing points (1 set = 4 units) Ø 4 mm 2 3SE7930-1AD 1 4 units 41K Eyebolts for fixing the wire • Including M8 nut 2 3SE7920-1AB 1 1 unit 41K • Including M10 nut 2 3SE7920-1AC 1 1 unit 41K Turnbuckles for precise adjustment of the pre-tension • M6 x 60 2 3SE7950-1AB 1 1 unit 41K 3SE7950-1AB 1 1 unit 41K Spare parts LED lamps, red 24 V DC diameter 25 mm;	O. C.								
improved power transmission at the fixing points (1 set = 4 units) Eyebolts for fixing the wire	3SE7921-1AA								
Description Points (1 set = 4 units)			Ø 4 mm	2	3SE7930-1AD		1	4 units	41K
Eyebolts for fixing the wire 1		points (1 set = 4 units)							
Eyebolts for fixing the wire 1									
• Including M8 nut • Including M10 nut 2 3SE7920-1AB 1 1 unit 41K • Including M10 nut 2 3SE7920-1AC 1 1 unit 41K 41K 41K 41K 41K 41K 41K 41K	3SE7930-1AD								
• Including M10 nut 2 3SE7920-1AC 1 1 unit 41K 3SE7920-1AB Turnbuckles for precise adjustment of the pre-tension • M6 x 60 • M6 x 110 2 3SE7950-1AB 1 1 unit 41K 41K 3SE7950-1AB Spare parts LED lamps, red 24 V DC diameter 25 mm;				2	20E7020 1AB		1	1 unit	411/
3SE7920-1AB Turnbuckles for precise adjustment of the pre-tension • M6 x 60 • M6 x 110 2 3SE7950-1AB 1 1 unit 41K 41K 3SE7950-1AB Spare parts LED lamps, red 24 V DC diameter 25 mm;		9							
Turnbuckles for precise adjustment of the pre-tension • M6 x 60 2 3SE7950-1AB 1 1 unit 41K • M6 x 110 2 3SE7950-1AD 1 1 unit 41K Spare parts LED lamps, red 24 V DC diameter 25 mm;	20E7020 1AB	- including wite flut		۷	33L7920-1AC		'	1 unit	4110
• M6 x 60 • M6 x 110 • M6 x 110 2 3SE7950-1AB 1 1 unit 41K 2 3SE7950-1AD 1 1 unit 41K 41K 41K 41K 41K 41K 41K 41K 41K 41K	30L1320-1AD	Turnbuckles for precise adjustment of the pr	re-tension						
3SE7950-1AB Spare parts LED lamps, red 24 V DC diameter 25 mm; 10 3SX3235 1 1 unit 41K				2	3SE7950-1AB		1	1 unit	41K
Spare parts LED lamps, red 10 3SX3235 1 1 unit 41K 24 V DC diameter 25 mm;	/Y	• M6 x 110		2	3SE7950-1AD		1	1 unit	41K
Spare parts LED lamps, red 10 3SX3235 1 1 unit 41K 24 V DC diameter 25 mm;									
Spare parts LED lamps, red 10 3SX3235 1 1 unit 41K 24 V DC diameter 25 mm;	20E70E0 1AB								
LED lamps, red 10 3SX3235 1 1 unit 41K 24 V DC diameter 25 mm;									
24 V DC diameter 25 mm;	oparo parto	LED lamps. red		10	3SX3235		1	1 unit	41K
		24 V DC							
3SX3235	3SX3235								

 $^{^{\}rm 1)}$ Diameter including casing; the diameter of the steel wire is 3.2 mm.

SIRIUS 3SE2, 3SE3 Foot Switches

Plastic and metal enclosures

Overview



3SE29 foot switch with metal enclosure

More information
Homepage, see www.siemens.com/sirius-commanding
Industry Mall, see www.siemens.com/product?3SE2
Manual, see https://support.industry.siemens.com/cs/ww/en/view/107194954

Standard switches

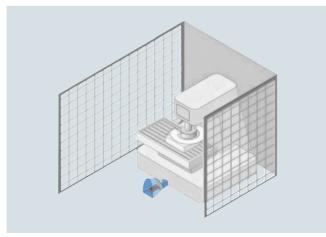
The 3SE29 and 3SE39 foot switch range encompasses versions in a metal enclosure for rugged applications as well as versions with plastic enclosure for less harsh environments. The devices can be supplied with or without a cover and have fixing holes for them to be screwed to the floor.

Depending on the particular application, the metal enclosures can be ordered with contact blocks in latching or momentary-contact versions. The momentary-contact pedal switch in the plastic enclosure has one microswitch (changeover contact) per actuating pedal.

Safety foot switches

The 3SE2924-3AA20 single-pedal safety foot switches are used on machines and plants as OK switches when operation by hand is not possible. The switches have an interlocking function.

The safety foot switches are protected by a guard hood against accidental operation.



Application example

The switches have two contact blocks, each with one NO contact and one NC contact. The NO contacts and NC contacts of the two contact blocks are connected for easy connection of a single-phase motor. The normal workflow is initiated by pressing down the pedal as far as the pressure point so that the two NO contacts close and the motor starts to run.

If in the event of danger the pedal is pressed beyond the resistance of the pressure point, the positively driven NC contacts will open and the motor is stopped. At the same time the independent latching takes effect and holds the NC contacts in open position. This prevents the machine parts from continuing to run out of control or from being restarted.

After the hazard is eliminated, the machine can only be restarted after manually releasing the switch using a pushbutton on the top of the enclosure. The contacts are then released again and return to their initial position (the NO contacts are open and the NC contacts are closed).

Technical specifications

Туре		3SE29	3SE39			
Metal and plastic enclosures						
Standards		IEC 60947-5-1				
Electrical load						
• At AC-15, 400 V						
- 1 NO + 1 NC	Α	10				
- 2 NO + 2 NC	Α	6				
- 3SE2924-3AA20 (2 NO + 2 NC)	Α	10				
• At 250 V AC	Α	_	5			
Short-circuit protection						
- 1 NO + 1 NC	Α	10 (slow)				
- 2 NO + 2 NC	Α	6 (slow)				
- 3SE2924-3AA20 (2 NO + 2 NC)	Α	10 (slow)				
- 1 CO contact	Α		5 (slow)			
Mechanical endurance		> 10 ⁶ operating cycles				
Material						
• Enclosures		Aluminum casting	Impact-resistant thermoplast, self-extinguish- ing according to UL 94 VO			
• Covers		Thermoplast	_			
Guard hoods		Aluminum casting	Metal			
Degree of protection		IP65	IP65			
Ambient temperature	°C	-25 +80	-10 +75			
Connection		Cable entry, metric	Cable AWG20, UL Style 2464, length 3 m			

SIRIUS 3SE2, 3SE3 Foot Switches

Plastic and metal enclosures

Flastic and metal c							
Selection and order	ring data						
	Version	Slow-action contacts for each pedal	SD	Article No. Price per PU		PS*	PG
Metal enclosures, de	egree of protection IP65		u				
200	Momentary-contact foot switches, single pedal, non-latching M20 x 1.5 cable entry						
	Without hood	1 NO + 1 NC →	2	3SE2902-0AB20	1	1 unit	41K
		2 NO + 2 NC →	10	3SE2903-1AB20	1	1 unit	41K
	With hood	1 NO + 1 NC →	2	3SE2902-0AA20	1	1 unit	41K
3SE290AA20 3SE291AA20	Momentary-contact foot switches, single pedal, latching M20 x 1.5 cable entry	2 NO + 2 NC →	2	3SE2903-1AA20	1	1 unit	41K
	Without hood	1 NO + 1 NC →	15	3SE2912-2AB20	1	1 unit	41K
	With hood	1 NO + 1 NC →	15	3SE2912-2AA20	1	1 unit	41K
	Momentary-contact foot switches, two pedals, non-latching M25 x 1.5 cable entry	_					
	Without hood	1 NO + 1 NC →	15	3SE2932-0AB20	1	1 unit	41K
3SE2932AB20		2 NO + 2 NC →	15	3SE2932-1AB20	1	1 unit	41K
	With hood	1 NO + 1 NC →	5	3SE2932-0AA20	1	1 unit	41K
3SE2932AA20		2 NO + 2 NC →	5	3SE2932-1AA20	1	1 unit	41K
00L2302 ./ V \20	Safety momentary-contact foot	2 NO + 2 NC →	15	3SE2924-3AA20	1	1 unit	41K
3SE2924-3AA20	switches, non-latching, single pedal With hood M20 x 1.5 cable entry with interlocking function NO closes as momentary contact type NC opens with automatic latching (safety function)						
Plastic enclosures,	degree of protection IP65						
	Momentary-contact pedal switches, 3 m cable • Single pedal	Microswitch					
	- Without hood	1 CO contact	5	3SE3902-4CB20	1	1 unit	41K
3SE3902-4CA20	- With hood	1 CO contact	10	3SE3902-4CA20	1	1 unit	41K
	Two pedals, without hood	2 × 1 CO	10	3SE3934-5CB20	1	1 unit	41K
3SE3934-5CB20							
Accessories							
	Protection cover Single pedal foot switch for 3SE2912-2AA20, 3SE2902-0AA20 and 3SE2903-1AA20		20	3SE3980-8M	1	1 unit	41K
	Contact block , Supersedes momentary-contact foot switch 3SE2903-1A.20 ¹⁾ and 3SE2932-1A.20 ³⁾	1 NO + 1 NC	Х	3SE3982-0K	1	1 unit	41K
	Contact block , Supersedes momentary-contact foot switch 3SE2902-0A.20 and 3SE2932-0A.20 ²⁾	1 NO + 1 NC	Χ	3SE3982-0L	1	1 unit	41K
	Contact block , 16 A, Supersedes momentary-contact foot switch 3SE2924-3AA20 ¹⁾	1 NO + 1 NC	Χ	3SE3982-7J	1	1 unit	41K
	Contact block , 16 A, Supersedes momentary-contact foot switch 3SE2912-2A.20	1 NO + 1 NC	30	3SE3982-7L	1	1 unit	41K
		0)					

Positive opening according to IEC 60947-5-1, Annex K.

¹⁾ Number of contact blocks required for the foot switch = 2.

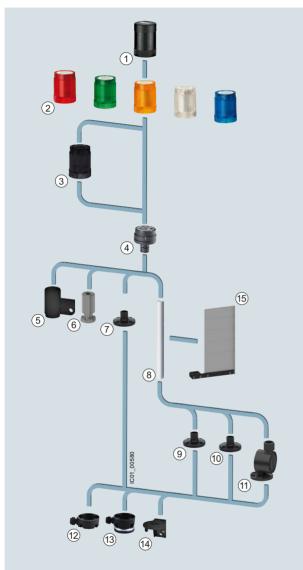
²⁾ Number of contact blocks required per pedal = 1.

 $^{^{3)}}$ Number of contact blocks required per pedal = 2.

General data

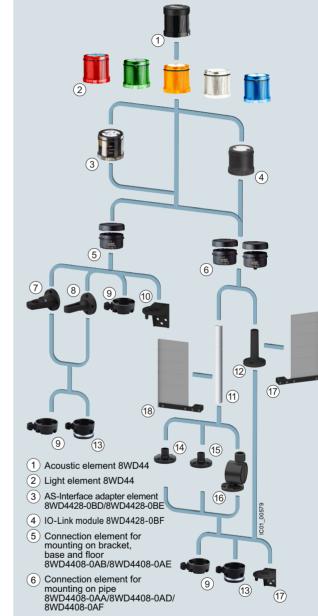
Overview

The 8WD4 signaling columns are flexible in design and versatile in use.



- 1) Acoustic element 8WD42.0-0FA
- (2) Light element 8WD42
- 3 AS-Interface adapter element 8WD4228-0BB
- (4) Connection element 8WD4208-0AA
- (5) Bracket for wall mounting 8WD4208-0CD
- (6) Adapter for single-hole mounting 8WD4208-0EH
- (7) Foot for base mounting 8WD4208-0DE
- 8 Pipe 8WD4208-0EF/8WD4308-0E.
- (9) Foot for mounting with pipe 8WD4308-0DB
- 10 Foot for mounting with pipe (> 400 mm) 8WD4308-0DC
- (11) Adjustable-angle foot for mounting on pipes 8WD4408-0DF
- (12) Socket 8WD4308-0DD
- (13) Socket (magnetic fixing) 8WD4308-0DE
- (14) Bracket for mounting with foot 8WD4408-0CC
- (15) Optional 8WD4408-0FA labeling panel

8WD42 signaling column (width 50 mm) with up to 4 elements



- (7) Bracket for wall mounting 8WD4308-0CA
- (8) Bracket for wall mounting (two-sided) 8WD4308-0CB
- 9 Socket 8WD4308-0DD
- (10) Bracket for base mounting 8WD4408-0CD
- (11) Pipe 8WD4208-0EF/8WD4308-0E.
- (12) Foot with pipe 8WD4308-0DA
- (13) Socket (magnetic fixing) 8WD4308-0DE
- (14) Foot for mounting with pipe 8WD4308-0DB
- (15) Foot for mounting with pipe (> 400 mm) 8WD4308-0DC
- (16) Adjustable-angle foot for mounting on pipes 8WD4408-0DF
- (17) Bracket for mounting with foot 8WD4408-0CC
- (18) Optional 8WD4408-0FA labeling panel

8WD44 signaling column (width 70 mm) with up to 5 elements

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SIRIUS 8WD4 Signaling Columns

General data

More information

Homepage, see www.siemens.com/sirius-commanding Industry Mall, see www.siemens.com/product?8WD4

Manual, see https://support.industry.siemens.com/cs/ww/en/view/107194954

Two product series are available:

• 8WD42

- Thermoplast enclosure, diameter 50 mm
- Degree of protection IP54
- Up to 4 elements can be mounted between the connection element and the cover

- Thermoplast enclosure, diameter 70 mm
- Advanced design and significantly improved illumination
- Fast and flexible connection using spring-type terminals
- Integrated degree of protection IP65
- Up to 5 elements can be mounted between the connection element and the cover



Signaling columns, mounting examples

The illustrated examples are from the left:

- 8WD42: Cover (without No.), four light elements ②, connection element ④, pipe ⑧, foot ⑨
- 8WD44: Acoustic element with cover ①, two light elements ②, connection element ⑤, foot with pipe ⑪
- 8WD44: Cover (without No.), four light elements 2, AS-Interface adapter element 3, connection element 4, bracket for wall mounting 6
- 8WD44: Cover (without No.), three light elements ②, AS-Interface adapter element ③, connection element ⑤, foot with pipe ⑪

Note:

The cover is supplied with the connection element.

Benefits

- Choice of various light and acoustic elements with different functions:
 Continuous light, blinklight, flashlight and rotating light; buzzer and siren
- Light elements with particularly long-lasting LEDs
- Variety of colors: red, yellow, green, white or blue
- Optimized illumination through improved prism technology with the 8WD44
- · Acoustic elements can be adjusted in tone and volume
- · Extremely resistant to shock and vibrations
- Easy connection and quick lamp change with secure bayonet mechanism
- Communication capability through connection to AS-Interface

Application

8WD4 signaling columns are used in machines or in automatic processes for monitoring complex procedures or as visual or acoustic warning devices in emergency situations, e.g. for displaying individual assembly stages.

Communication capability

Connection to AS-Interface

The 8WD4 signaling columns can be directly connected to the AS-Interface bus system through an adapter element that can be integrated in the column. Wiring outlay is reduced as the result. The two-wire bus cable is fixed to the terminals in the connection element. Up to four signaling elements can be mounted on it using an adapter element.

A/B technology enables the connection of up to $62\,\mathrm{slaves}$ on one AS-Interface system.

Connection

The signaling elements are wired up using terminals in the connection element, screw terminals on the 8WD42 and screw or spring-type terminals on the 8WD44.

Cable outlet

The connecting cables can be guided either downwards or sideways through the cable gland using an adapter that can be screwed under the foot. This makes wiring easier if there is no access from below.

Connection to AS-Interface

8WD42

The two-wire bus cable is fixed to the screw terminals in the connection element. The adapter element must be the first module to be mounted on the connection element. A maximum of four signaling elements can then be mounted on it.

The 8WD4228-0BB adapter element is a standard slave.

8WD44

The two-wire bus cable is fixed to the screw or spring-type terminals in the connection element. The adapter element must be the first module to be mounted on the connection element. The signaling elements can then be mounted on it.

The 8WD4428-0BE adapter element is a standard slave. A maximum of four signaling elements can be mounted on it.

The 8WD4428-0BD adapter element with A/B technology enables the connection of up to 62 slaves on one AS-Interface system. The addressing socket provides user-friendly parameterization of the AS-Interface elements. A maximum of three signaling elements can be mounted on it.

General data

Technical specifications

Туре		8WD42	8WD44
General data			
Approvals		UL, CSA	UL, CSA
Light and acoustic elements			
Rated voltage, power consumption			
Light elements with incandescent lamp		(AC values for 50/60 Hz)	(AC values for 50/60 Hz)
Continuous lights		12 V, 24 V, 115 V, 230 V AC/DC	12 V, 24 V, 115 V, 230 V AC/DC
• Blinklights		24 V AC/DC/125 mA; 115 V AC/20 mA; 230 V AC/15 mA	24 V AC/DC/125 mA; 115 V AC/20 mA; 230 V AC/15 mA
• Flashlights		-	24 V DC/125 mA; 115 V AC/20 mA; 230 V AC/35 mA
 Max. inrush current, blinklights/flashlights 			500 mA
Light elements with integrated LED			
Continuous lights		24 V AC/DC, 60 mA	24 V AC/DC/25 mA; 115 V AC/25 mA; 230 V AC/25 mA
Blinklights		24 V AC/DC/60 mA; 115 V AC, 60 mA; 230 V AC, 60 mA	24 V AC/DC, 40 mA
Rotating lights			24 V AC/DC/70 mA
Acoustic elements			
Buzzer element (tone: pulsating or continuous tone)		85 dB: 24 V AC/DC/30 mA; 115 V AC/DC/35 mA; 230 V AC/35 mA	85 dB: 24 V AC/DC/25 mA; 115 V AC/25 mA; 230 V AC/25 mA
• Siren element (8 tones + amplification can be set, 102 dB)		-	24 V AC/DC/80 mA; 115 V AC/30 mA; 230 V AC/16 mA
• Siren element (95 105 dB)			24 V DC/100 mA
Power consumption Incandescent lamps, base BA 15d Flashlights, flash energy	W Ws	Max. 5	7 2
Service life • Flashlights			4 × 10 ⁶ flashes
AS-Interface adapter elements			
IO code/ID code		8/F	8/E
Power supply		Through bus cable	Through bus cable
 Operational voltage Power consumption I_{max} 	V mA	18.5 31.6 50	18.5 31.6 100
Protective measures	1117 (100
Watchdog		✓	✓
Short-circuit/overload protection		External back-up fuse M 1.6 A	√
Reverse polarity protectionInduction protection		V N/A	<i>'</i>
Outputs		4 relay outputs	3 electronic outputs
Load voltage		External auxiliary voltage	Through bus cable or external auxiliary voltage,
ū	V V	0 30 DC 0 230 AC	selectable
 Current carrying capacity ∑ I_{max} With external auxiliary voltage 	^	4.5	0.0
With external auxiliary voltage Without external auxiliary voltage	A A	1.5	0.3 0.2
Operating temperature	°C	-20 +50	-20 +50
Enclosures			
Enclosure material		Thermoplast (polyamide), impact-resistant, black	Thermoplast (polyamide), impact-resistant, black
Light elements		Thermoplast (polycarbonate)	Thermoplast (polycarbonate)
Mounting • Horizontal (base mounting, foot with 25 mm diameter pipe)			/
Horizontal (single-hole mounting)Vertical with bracket		<i>y</i>	
Degree of protection			
Light elements Acoustic elements, AS-i adapter elements		IP54 IP54	IP65 (seal premounted with every module) IP65
Operating temperature	°C	-20 + 50	-20 +50
Connection		M3 screw terminal	Spring-type terminals/M3 screw terminals
Conductor cross-sectionsTightening torque	mm ² Nm	Max. 2.5 Max. 0.4	Max. 2.5 / Max. 0.4
ngmoning torque	INITI	max 0.7	, max. c. t

8WD42 signaling columns, 50 mm diameter

Overview

Features:

- Thermoplast enclosure, diameter 50 mm
 Degree of protection IP54

• Up to four elements can be mounted between the connection element and the cover

Selection and ordering data

	Version	Rated voltage	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	Р
		V		d					
Acoustic eleme	ents ¹⁾								
- Andrew	Buzzer elements 85 dB,	24 AC/DC	Black	2	8WD4220-0FA		1	1 unit	4
	tone frequency approx. 2 300 Hz, pulsating or continuous tone,	115 AC/DC	Black	2	8WD4240-0FA		1	1 unit	4
	adjustable by means of a wire jumper	230 AC	Black	2	8WD4250-0FA		1	1 unit	4
WD4220-0FA									
ight elements.	for incandescent lamps/LEDs,	BA 15d bases ²⁾							
	Continuous light elements	24 230 AC/DC	Red	2	8WD4200-1AB		1	1 unit	4
AL THE STATE OF TH			Green	2	8WD4200-1AC		1	1 unit	4
			Yellow	2	8WD4200-1AD		1	1 unit	4
			Clear	2	8WD4200-1AE		1	1 unit	4
			Blue	2	8WD4200-1AF		1	1 unit	4
WD4200-1AD	with interreted LED			_					
ignt elements	with integrated LED	24 AC/DC	Pod	2	8WD4220-5AB			1 unit	,
	Continuous light elements	24 AU/DU	Red Green	2 2	8WD4220-5AB		1	1 unit 1 unit	4
			Yellow	2	8WD4220-5AD		1	1 unit	4
1 (2)			Clear	2	8WD4220-5AE		1	1 unit	_
			Blue	2	8WD4220-5AF		1	1 unit	4
VD4220-5AB		115 AC	Red	2	8WD4240-5AB		1	1 unit	
VD4220-3AB		110 AC	Green	2	8WD4240-5AC		1	1 unit	2
To the same of the			Yellow	2	8WD4240-5AD		1	1 unit	4
			Clear	2	8WD4240-5AE		1	1 unit	
			Blue	2	8WD4240-5AF		1	1 unit	4
		230 AC	Red	2	8WD4250-5AB		1	1 unit	
VD4240-5AC			Green	2	8WD4250-5AC		1	1 unit	4
			Yellow	2	8WD4250-5AD		1	1 unit	4
			Clear	2	8WD4250-5AE		1	1 unit	4
			Blue	2	8WD4250-5AF		1	1 unit	4
	Blinklight elements	24 AC/DC	Red	2	8WD4220-5BB		1	1 unit	4
A. Indiana			Green	2	8WD4220-5BC		1	1 unit	4
			Yellow	2	8WD4220-5BD		1	1 unit	4
			Clear	2	8WD4220-5BE		1	1 unit	4
		115.00	Blue		8WD4220-5BF		1	1 unit	4
VD4220-5BD		115 AC	Red Green	2	8WD4240-5BB 8WD4240-5BC		1 1	1 unit 1 unit	4
17 (1867)			Yellow	2	8WD4240-5BD		1	1 unit	
			Clear	2	8WD4240-5BE		1	1 unit	4
The state of			Blue	2	8WD4240-5BF		1	1 unit	
1		230 AC	Red	2	8WD4250-5BB		1	1 unit	
VD4240-5BE			Green	2	8WD4250-5BC		1	1 unit	4
			Yellow	2	8WD4250-5BD		1	1 unit	4
1			Clear	2	8WD4250-5BE		1	1 unit	4
	-		Blue	2	8WD4250-5BF		1	1 unit	4
	Flashlight elements	24 AC/DC	Red	2	8WD4220-0CB		1	1 unit	4
WD 4050 5D5			Green	2 2	8WD4220-0CC 8WD4220-0CD		1	1 unit	4
VD4250-5BF			Yellow	2	8WD4220-0CD 8WD4220-0CE		1 1	1 unit 1 unit	2
			Clear Blue	2	8WD4220-0CE		1	1 unit	2
dapter <u>elemer</u>	nts for AS-Interface		Dido						
	AS-Interface adapter elements	For 4 signaling	Black	2	8WD4228-0BB		1	1 unit	4
VD4228-0BB	With external auxiliary voltage	elements 24 V DC							

¹⁾ One acoustic element can be mounted per signaling column. The cover is included in the scope of supply of the acoustic elements and fixed in place.

²⁾ The lamp is not included in the scope of supply. Please order separately.

8WD42 signaling columns, 50 mm diameter

		8WD42 Signaiir							
	Version	Rated voltage	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
0	1	V		d					
Connection e	Connection elements with cover For mounting on pipes, floors and b Essential part for assembling the si		Black	2	8WD4208-0AA		1	1 unit	41J
Mounting									
	Feet, single	Plastic, for mounting Metal, for pipe length > 400 mm		2	8WD4308-0DB 8WD4308-0DC		1	1 unit 1 unit	41J 41J
	Adjustable-angle feet	Plastic, for floor mou (without pipe) Plastic, for mounting		2	8WD4208-0DE 8WD4408-0DF		1	1 unit 1 unit	41J 41J
	For positioning in 7.5° increments ¹⁾			۷	0WD4400 0D1		, ,	Turne	410
	Pipes, single	Length 100 mm		2	8WD4208-0EF		1	1 unit	41J
		Length 150 mm		2	8WD4308-0EE		1	1 unit	41J
		Length 250 mm Length 400 mm		2	8WD4308-0EA 8WD4308-0EB		1	1 unit 1 unit	41J 41J
		Length 1 000 mm		2	8WD4308-0ED		1	1 unit	41J
	Sockets for feet	Side cable outlet		2	8WD4308-0DD		1	1 unit	41J
		Side cable outlet, with magnetic fixing ²	2)	2	8WD4308-0DE		1	1 unit	41J
	Brackets for mounting with foot	Brackets for mounting with foot			8WD4408-0CC		1	1 unit	41J
	Brackets for wall mounting (plastic)	Mounting without fee or pipe	t	2	8WD4208-0CD		1	1 unit	41J
	Adapters for single-hole mounting	Mounting without fee and pipe, with M18 thread and fixing nut		2	8WD4208-0EH		1	1 unit	41J
Lamps									
A	Incandescent lamps, 5 W Base BA 15d	24 AC/DC	Clear	2	8WD4328-1XX		1	10 units	41J
	Dase DA 13u	115 AC	Clear	2	8WD4348-1XX		1	10 units	41J
•		230 AC	Clear	2	8WD4358-1XX		1	10 units	41J
N X X X	LEDs BA 15d bases	24 AC/DC	Red Green Yellow Clear	2 2 2 2	8WD4428-6XB 8WD4428-6XC 8WD4428-6XD 8WD4428-6XE		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
J		115 AC	Blue Red Green Yellow Clear	2 2 2 2 2	8WD4428-6XF 8WD4448-6XB 8WD4448-6XC 8WD4448-6XD 8WD4448-6XE		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		230 AC	Blue Red Green Yellow Clear Blue	2 2 2 2 2 2	8WD4448-6XF 8WD4458-6XB 8WD4458-6XC 8WD4458-6XD 8WD4458-6XE 8WD4458-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

For labeling panels, see 8WD44, page 13/175.

¹⁾ Markings for 30°, 45°, 60° and 90°.

²⁾ For horizontal mounting, only 1 element is recommended.

8WD44 signaling columns, 70 mm diameter

Overview

Features:

- Thermoplast enclosure, diameter 70 mm
- · Advanced design and significantly improved
- Fast and flexible connection using spring-type terminals
 Integrated degree of protection IP65
 Up to five elements can be mounted

Selection and ordering data

	Version	Rated voltage	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		d					
Acoustic eleme	nts ¹⁾								
	Buzzer elements 85 dB,	24 AC/DC	Black	2	8WD4420-0FA		1	1 unit	41J
	pulsating or continuous tone, adjustable by means of a wire jumper	115 AC	Black	2	8WD4440-0FA		1	1 unit	41J
T E	adjustable by means of a wife jumper	230 AC	Black	2	8WD4450-0FA		1	1 unit	41J
	Siren elements,	24 AC/DC	Black	2	8WD4420-0EA2		1	1 unit	41J
	multi-tone, 102 dB, 8 tones and volume are adjustable	115 AC	Black	2	8WD4440-0EA2		1	1 unit	41J
	o tories and volume are adjustable	230 AC	Black	2	8WD4450-0EA2		1	1 unit	41J
	Siren elements 95 105 dB, IP40, alternating continuous tone	24 DC	Black	2	8WD4420-0EA		1	1 unit	41J
Light elements	for incandescent lamps/LEDs, BA	15d bases ²⁾							
	Continuous light elements	12 230 AC/DC	Red	2	8WD4400-1AB		1	1 unit	41J
			Green	2	8WD4400-1AC		1	1 unit	41J
			Yellow	2	8WD4400-1AD		1	1 unit	41J
			Clear	2	8WD4400-1AE		1	1 unit	41J
			Blue	2	8WD4400-1AF		1	1 unit	41J
Light elements	with integrated flash lamps ³⁾								<u>.</u>
	Flashlight elements with integrated	24 DC	Red	2	8WD4420-0CB		1	1 unit	41J
	electronic flash		Green	2	8WD4420-0CC		1	1 unit	41J
			Yellow	2	8WD4420-0CD		1	1 unit	41J
			Clear	2	8WD4420-0CE		1	1 unit	41J
阿里汗雪頭。東門間			Blue	2	8WD4420-0CF		1	1 unit	41J
		115 AC	Red	2	8WD4440-0CB		1	1 unit	41J
			Green	20	8WD4440-0CC		1	1 unit	41J
			Yellow	2	8WD4440-0CD		1	1 unit	41J
			Clear	20	8WD4440-0CE		1	1 unit	41J
			Blue	20	8WD4440-0CF		1	1 unit	41J
		230 AC	Red	2	8WD4450-0CB		1	1 unit	41J
			Green	2	8WD4450-0CC		1	1 unit	41J
			Yellow	2	8WD4450-0CD		1	1 unit	41J
			Clear	2	8WD4450-0CE		1	1 unit	41J
			Blue	2	8WD4450-0CF		1	1 unit	41J

One acoustic element can be mounted per signaling column.
 The cover is included in the scope of supply of the acoustic elements and fixed in place.

²⁾ The lamp is not included in the scope of supply. Please order separately.

³⁾ The lamp is included in the scope of supply.

8WD44 signaling columns, 70 mm diameter

	Version	Rated voltage	Color	SD	Article No.	Price		PS*	PG
						per PU	(UNIT, SET, M)		
		V		d			02.,,		
Light elements	with integrated LED								
		24 AC/DC	Red	2	8WD4420-5AB		1	1 unit	41J
	3		Green	2	8WD4420-5AC		1	1 unit	41J
			Yellow	2	8WD4420-5AD		1	1 unit	41J
			Clear	2	8WD4420-5AE		1	1 unit	41J
TITLE THE			Blue	2	8WD4420-5AF		1	1 unit	41J
		115 AC	Red	2	8WD4440-5AB		1	1 unit	41J
			Green	2	8WD4440-5AC		1	1 unit	41J
			Yellow	2	8WD4440-5AD		1	1 unit	41J
			Clear	2	8WD4440-5AE		1	1 unit	41J
			Blue	2	8WD4440-5AF		1	1 unit	41J
200		230 AC	Red	2	8WD4450-5AB		1	1 unit	41J
the same		200710	Green	2	8WD4450-5AC		1	1 unit	41J
			Yellow	2	8WD4450-5AD		1	1 unit	41J
	Rotating light elements Rotating light elements Rotating light elements AS-Interface AS-Interface adapter elements With/without external auxiliar voltage, switchable • A/B technology • Standard AS-i Connection elements Connection elements with a Screw terminals • For mounting on pipes	Clear	2	8WD4450-5AE		1	1 unit	41J	
			Blue	2	8WD4450-5AF		1	1 unit	41J
	Rlinklight elements	24 AC/DC	Red	2	8WD4420-5BB		1	1 unit	41J
	Dilliklight elements	24 /10/00	Green	2	8WD4420-5BC		1	1 unit	41J
			Yellow	2	8WD4420-5BD		1	1 unit	41J
			Clear	2	8WD4420-5BE		1	1 unit	41J
			Blue	2	8WD4420-5BF		1	1 unit	41J
		115 AC	Red	2	8WD4440-5BB		1	1 unit	41J
THE STATE OF		110710	Green	2	8WD4440-5BC		1	1 unit	41J
			Yellow	2	8WD4440-5BD		1	1 unit	41J
			Clear	2	8WD4440-5BE		1	1 unit	41J
			Blue	2	8WD4440-5BF		1	1 unit	41J
		230 AC	Red	2	8WD4450-5BB		1	1 unit	41J
		200710	Green	2	8WD4450-5BC		1	1 unit	41J
			Yellow	2	8WD4450-5BD		1	1 unit	41J
			Clear	2	8WD4450-5BE		1	1 unit	41J
1117			Blue	2	8WD4450-5BF		1	1 unit	41J
	Rotating light elements	24 AC/DC	Red	2	8WD4420-5DB		1	1 unit	41J
are me	notating light elements	24 /10/00	Green	2	8WD4420-5DC		1	1 unit	41J
			Yellow	2	8WD4420-5DD		1	1 unit	41J
			Clear	2	8WD4420-5DE		1	1 unit	41J
			Blue	2	8WD4420-5DF		1	1 unit	41J
Adapter elemen	its for AS-Interface								
Adapter elemen		<u>.</u>							
THE .	•								
A6-I PAULT	 A/B technology 	For 3 signaling	Black	2	8WD4428-0BD		1	1 unit	41J
	• Ctandard AC :	elements 24 V DC	Dlook	2	0WD4400 0DE			4 . mit	44.1
	• Standard AS-I	For 4 signaling elements 24 V DC	Black	2	8WD4428-0BE		1	1 unit	41J
Connection eler	ments ¹⁾								
	Connection elements with cov	/er	Black						
	Screw terminals								
	 For mounting on pipes 			2	8WD4408-0AA		1	1 unit	41J
STATE NO.	For mounting on brackets and	I floors		2	8WD4408-0AB		1	1 unit	41J
manager (Spring-type terminals								
	 For mounting on pipes 			2	8WD4408-0AD		1	1 unit	41J
	For mounting on brackets and	I floors		2	8WD4408-0AE		1	1 unit	41J
	Cover (replacement)			2	8WD4408-0XA		1	1 unit	41J
1)									

The connection element with cover is an essential part for assembling the signaling columns.

8WD44 signaling columns, 70 mm diameter

	Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Mounting			d						
Mounting	Feet with pipe	Pipe length 100 mm	2	8WD4308-0DA		1	1 unit	41J	
	Feet, single	Plastic, for mounting on pipes	2	8WD4308-0DB		1	1 unit	41J	
		Metal, for pipe lengths > 400 mm	2	8WD4308-0DC		1	1 unit	41J	
	Adjustable-angle feet For positioning in 7.5° increments ¹⁾	Plastic, for mounting on pipes, incl. rubber seal	2	8WD4408-0DF		1	1 unit	41J	
	Pipes, single	Length 100 mm	2	8WD4208-0EF		1	1 unit	41J	
		Length 150 mm	2	8WD4308-0EE		1	1 unit	41J	
		Length 250 mm	2	8WD4308-0EA		1	1 unit	41J	
		Length 400 mm	2	8WD4308-0EB		1	1 unit	41J	
		Length 1 000 mm	2	8WD4308-0ED		1	1 unit	41J	
	Sockets for feet	Side cable outlet (can also be used without feet)	2	8WD4308-0DD		1	1 unit	41J	
		Side cable outlet, with magnetic fixing ²⁾	2	8WD4308-0DE		1	1 unit	41J	
	Brackets for wall mounting (mounting without feet and pipe)	For single-sided mounting	2	8WD4308-0CA		1	1 unit	41J	
		For double-sided mounting	2	8WD4308-0CB		1	1 unit	41J	
	Brackets for mounting with foot		2	8WD4408-0CC		1	1 unit	41J	
	Brackets for base mounting	Mounting without feet or pipe	2	8WD4408-0CD		1	1 unit	41J	
	Adapter for mounting on pipes according to NPT	Mounting on pipes, Ø 25 mm, with NPT 1/2" thread	2	8WD4308-0DF		1	1 unit	41J	

 $^{^{1)}}$ Markings for 30°, 45°, 60° and 90°.

²⁾ For horizontal mounting, only 1 element is recommended.

8WD44 signaling columns, 70 mm diameter

	Version	Rated voltage	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		d					
Lamps									
TAN	Incandescent lamps, 5 W								
72.	Base BA 15d	24 AC/DC	Clear	2	8WD4328-1XX		1	10 units	41J
		115 AC	Clear	2	8WD4348-1XX		1	10 units	41J
		230 AC	Clear	2	8WD4358-1XX		1	10 units	41J
PINE	LEDs ¹⁾								
Maria and Maria	BA 15d bases	24 AC/DC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD4428-6XB 8WD4428-6XC 8WD4428-6XD 8WD4428-6XE 8WD4428-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		115 AC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD4448-6XB 8WD4448-6XC 8WD4448-6XD 8WD4448-6XE 8WD4448-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		230 AC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD4458-6XB 8WD4458-6XC 8WD4458-6XD 8WD4458-6XE 8WD4458-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Inscriptions for	8WD42 and 8WD44								
	Labeling panels			2	8WD4408-0FA		1	1 unit	41J
Fault Magazine Overheating Station 2 Machine running	With fixing accessories for mou Inscription area/step 50 mm x 1 Suitable for standard labels, e.g • Zweckform 3425 • Herma 4457	40 mm							
1									

¹⁾ Only for use with SIRIUS commanding and signaling devices.

SIRIUS 8WD5 Integrated Signal Lamps

8WD53 integrated signal lamps, 70 mm diameter

Overview



8WD53 integrated signal lamps

More information

Homepage, see www.siemens.com/sirius-commanding Industry Mall, see www.siemens.com/product?8WD5

Manual, see https://support.industry.siemens.com/cs/ww/en/view/107194954

Design

Features:

- Thermoplast enclosures, diameter 70 mm
- Degree of protection IP65
- Rated voltage 24 V, 115 V, 230 V AC/DC
- Ambient temperature -20 to +50 °C, incandescent lamp up to 60 °C

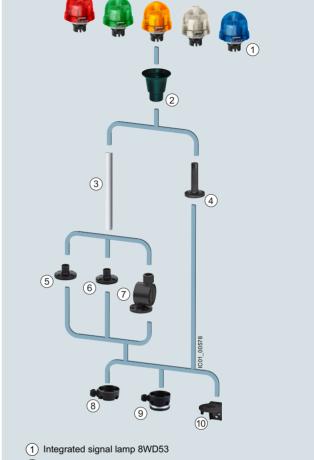
The special shape of the integrated signal lamps means that the light is emitted optimally in every direction (to the sides and upwards). Continuous lights (with incandescent lamp or LED) and single-flash lights are available in five colors. As well as the continuous-light version, a flashing-light or all-round light version is also available.

The LED versions of the integrated signal lamps offer a considerably longer endurance than the incandescent lamp versions.

They all have the high degree of protection IP65 and are made of a material highly resistant to impact.

Mounting

8WD53 integrated signal lamps can be mounted at any point of the machine for the purpose of giving visual signals. They are mounted by means of a PG-29 screw base with nut.



- 2 Pipe adapter 8WD5308-0EG
- (3) Pipe 8WD4208-0EF/8WD4308-0E.
- 4 Foot with pipe 8WD4308-0DA
- 5 Foot for mounting with pipe 8WD4308-0DB
- 6 Foot for mounting with pipe (> 400 mm) 8WD4308-0DC
- 7 Adjustable-angle foot for mounting on pipes 8WD4408-0DF
- 8 Socket 8WD4308-0DD
- 9 Socket (magnetic fixing) 8WD4308-0DE
- 10 Bracket for mounting with foot 8WD4408-0CC

Application

SIRIUS 8WD53 integrated signal lamps can be used as visual signaling devices in harsh ambient conditions and in outdoor installations.

Visual signaling devices for indicating operating conditions can be used for the following applications:

- · Manufacturing plants
- Injection molding machines
- Conveyors
- · Assembly systems for electronic components

SIRIUS 8WD5 Integrated Signal Lamps

8WD53 integrated signal lamps, 70 mm diameter

	Version	Rated voltage	Color	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		d					
Luminaires fo	or incandescent lamps/LED ¹⁾ , B <i>i</i>	A 15d base							
	Continuous lights ²⁾	12 230 AC/DC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD5300-1AB 8WD5300-1AC 8WD5300-1AD 8WD5300-1AE 8WD5300-1AF		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Luminaires w	rith integrated flash lamp								
MINIST COLUMN TO THE PARTY OF T	Single-flash lights with integrated electronic flash	24 AC/DC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD5320-0CB 8WD5320-0CC 8WD5320-0CD 8WD5320-0CE 8WD5320-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		115 AC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD5340-0CB 8WD5340-0CC 8WD5340-0CD 8WD5340-0CE 8WD5340-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	Samuel Control of the	230 AC	Red Green Yellow Clear Blue	2 20 2 2 2	8WD5350-0CB 8WD5350-0CC 8WD5350-0CD 8WD5350-0CE 8WD5350-0CF		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Luminaires w	rith integrated LED ¹⁾								
	Continuous lights	24 AC/DC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD5320-5AB 8WD5320-5AC 8WD5320-5AD 8WD5320-5AE 8WD5320-5AF		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	Blinklight lamps	24 AC/DC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD5320-5BB 8WD5320-5BC 8WD5320-5BD 8WD5320-5BE 8WD5320-5BF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Appendix Constitution of the Constitution of t	Rotating lights	24 AC/DC	Red Green Yellow Clear Blue	2 2 2 2 2	8WD5320-5DB 8WD5320-5DC 8WD5320-5DD 8WD5320-5DE 8WD5320-5DF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Accessories	for mounting (optional)								
•	Pipe adapters For mounting on pipes ³⁾			2	8WD5308-0EG		1	1 unit	41J

¹⁾ Only for use with SIRIUS commanding and signaling devices.

²⁾ Lamp not included in scope of supply, see Signaling Columns, page 13/175.

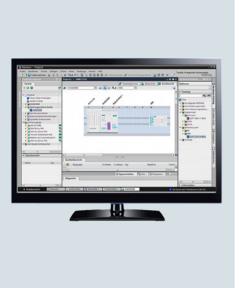
³⁾ For pipes and feet, see Signaling Columns, page 13/174.

SIRIUS 8WD5 Integrated Signal Lamps

Notes

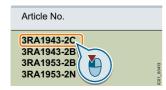
4

Parameterization, Configuration and Visualization with SIRIUS



clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Introduction

Overview

More information

Homepage, see www.siemens.com/sirius-engineering Industry Mall, see www.siemens.com/product?3ZS1

Engineering software



SIRIUS ES engineering software (E-SW)

Intuitive, efficient and future-oriented – the engineering programs in the SIRIUS ES software family

The programs of the SIRIUS ES software family enable:

- Intuitive engineering from the word go
 The SIRIUS ES programs enable you to focus on your
 engineering task. Thanks to the intuitive layout and simple
 navigation, a clearly arranged configuring of device functions
 and their parameters is possible online and offline. The task and user-oriented portal views as well as the flexible screen
 layout, the uniform look and feel for all program editors and
 finally the graphic network and device configuration all
 provide support.
- Efficient parameterization for fast success
 Faster startup is achieved by using local and global libraries.
 The joint hardware configuration for all components in the application also assists in the efficient parameterization and simple networking of system components. Not least, integrated system diagnostics offers fast troubleshooting and efficient fault analysis, thus making it possible to shorten startup times even further and to minimize production downtimes.
- Future-oriented basis for innovative results
 All future product developments are seamlessly integrated into
 the TIA Portal. Investments made up to now are still safe
 tomorrow. To harmonize engineering in all performance
 classes, the SIRIUS ES programs in TIA Portal are scalable
 and upwardly compatible. In the event of an upgrade, existing
 projects can easily be transferred and integrated into the next
 product level. Even existing SIRIUS ES projects in version 2007
 can easily be migrated to the TIA Portal software version.

The next generation of SIRIUS ES programs, such as SIMOCODE ES V15 or SIRIUS Soft Starter ES V15, is based on the central engineering framework Totally Integrated Automation Portal (TIA Portal), which provides users with a consistent, efficient and intuitive solution for all automation tasks. Thus, the TIA Portal is also the integrated working environment for the programs in the SIRIUS software family. The same operator control concept, the elimination of interfaces and a high degree of user-friendliness make it possible to quickly integrate SIRIUS devices into an automation process and start them up with the TIA Portal.

The SIRIUS ES programs such as Motor Starter ES, Soft Starter ES, Safety ES and SIMOCODE ES are available in three versions, which differ in terms of user-friendliness, scope of functions and price:

Basic

The basic variant contains all basic functions that are needed to parameterize devices. These include both parameterization functions and also operator control, diagnostics and test functions.

New from version V15, the basic variant is available for downloading free of charge in the Siemens Industry Online Support.

• Standard

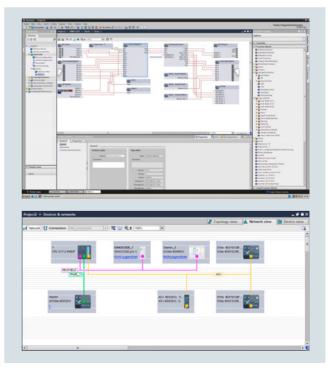
The standard variant contains the basic functionality plus standard functions. The standard functions include parameterization with the aid of integrated graphic editors, creation of typicals, parameter export, analog value recording and parameter comparison.

Premium

The premium variants contain the complete functionality of the software packages. Besides the standard functionality, this includes communication functions such as access via PROFIBUS/PROFINET and S7 routing.

Note:

The scope of functions depends on the SIRIUS ES program, see the individual product description for details.



Efficient engineering and startup with graphic user interfaces and simple network and device configuration

4

Parameterization, Configuration and Visualization with SIRIUS

Introduction

Types of delivery and licenses

The programs of the SIRIUS ES software family are available in the following delivery types:

- Floating license the license for any one user at any one time
 - Authorizes any one user
 - Independent of the number of installations (unlike the single license which is allowed to be installed once only)
 - Only the actual use of the program has to be licensed
- Combo license license for parallel use
 - Licensed parallel use of the TIA Portal version and SIRIUS ES version 2007
- For all other properties such as floating license
- Trial License (free use of all program functions for 14/21 days for testing and evaluation purposes, included on every product CD/DVD, available in the download file of the SIRIUS ES program in the Service&Support portal).

The following delivery versions are also available for a number of programs of the SIRIUS ES software family:

Upgrade

Switching from an old to a new version with expanded functions, e.g. upgrade from SIMOCODE ES 2007 to SIMOCODE ES V15.

- Software Update Service
 - To keep you up to date at all times we offer a special service which automatically supplies you with all the service packs and upgrades within the SIRIUS ES (TIA Portal) range of programs.
- License/software download
 Circulate download

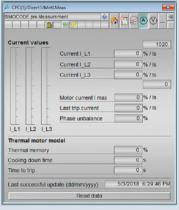
Simply download your new software and license key from the Internet via the Online Software Delivery (OSD) platform. After you have placed your order in our mall, you will receive your access data by email, which will allow you to immediately download the license or software you have ordered.

More information, see

www.siemens.com/tia-online-software-delivery.

Block libraries for SIMATIC PCS 7





Advanced Process Library (APL) – faceplates and blocks for control and measured data of the SIMOCODE pro block library for PCS 7 $\,$

The corresponding devices can be easily and conveniently installed into the SIMATIC PCS 7 process control system with the PCS 7 block library for SIMOCODE and AS-Interface. PCS 7 block libraries contain the diagnostics and driver blocks corresponding with the diagnostics and driver concept of SIMATIC PCS 7 as well as the elements (symbols and faceplate) required for operator control and process monitoring.

Types of delivery and licenses

The PCS 7 block libraries supplied on CD-ROM allow users to run the required engineering software on the engineering station (single license) including the runtime software for executing the AS blocks in an automation system (single license). If the AS blocks are to be used in additional automation systems, the corresponding number of runtime licenses are required which are supplied without a data carrier.

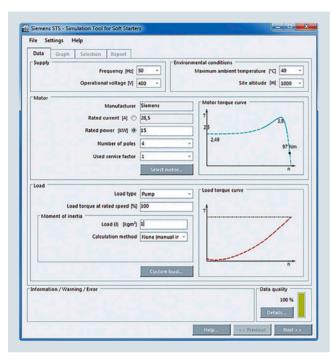
Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Simulation Tool for Soft Starters (STS)

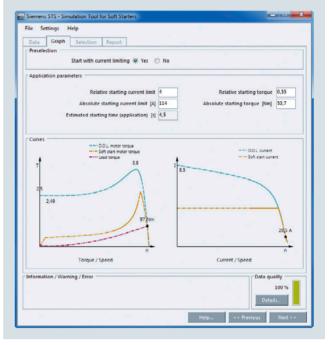
Overview



Easy input of motor and load data

More information

Simulation Tool for Soft Starters (STS), see https://support.industry.siemens.com/cs/ww/en/view/101494917



Graphic display of start operations

The Simulation Tool for Soft Starters (STS) provides a convenient means of designing soft starters using a simple, quick and easy-to-use interface. Entering the motor and load data will simulate the application and prompt suggestions for suitable soft starters.

The Simulation Tool for Soft Starters (STS) is available free of charge as a download.

Benefits

- Simple, quick and user-friendly operator interface
- Detailed and up-to-date Siemens motor database, including IE3 and IE4 motors
- Simulation of heavy starting up to CLASS 30
- Update-capable (e.g. motors, load types, functions)
- Fast simulations with minimum input data
- Immediate, graphical curve charts of start operations with limit values
- View in table form of suitable soft starters for the application

VEW SIRI

SIRIUS Soft Starter ES (TIA Portal)

Overview



Easy and clearly arranged parameter setting of the 3RW44 and 3RW55 soft starters with SIRIUS Soft Starter ES (TIA Portal)

More information

To download the Basic version, see https://support.industry.siemens.com/cs/ww/en/view/109753470

The SIRIUS Soft Starter ES (TIA Portal) software permits quick and easy parameterization, monitoring and diagnostics of SIRIUS 3RW44 and 3RW5 soft starters for service purposes. The device parameters can be configured directly on the PC and transferred to the soft starter through a serial cable or an optional PROFIBUS/PROFINET interface.

New: From V15, the powerful SIRIUS Soft Starter ES Basic tool for startup or maintenance personnel is available for downloading free of charge in the Siemens Industry Online Support (see "More information").

SIRIUS Soft Starter ES V15 is integrated seamlessly when further TIA Portal-based software such as STEP 7 or WinCC is available, thus enabling users to achieve a consistent, efficient and intuitive solution for all automation tasks.

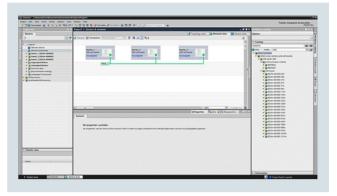
However, use of SIRIUS Soft Starter ES V15 as stand-alone software also provides these advantages.

Efficient engineering with three program versions

The SIRIUS Soft Starter ES (TIA Portal) software program is available in three versions, which differ in their user-friendliness, scope of functions and price.

SIRIUS Soft Starter ES V15	Basic	Standard	Premium
Access via the local interface on the device	1	1	✓
Parameter assignment	✓	1	✓
Operating	✓	1	✓
Diagnostics	1	/	✓
Creation of typicals		✓ ¹⁾	✓
Parameter export		/	✓
Comparison functions		1	✓
Service data (slave pointer, statistics data)		1	✓
Access via PROFIBUS/PROFINET			✓
Parameter comparison			✓
Teleservice via MPI			✓
Routing			✓

- ✓ Function available
- -- Function not available



Graphic presentation of measured values with the trace function (oscilloscope function) of SIRIUS Soft Starter ES (TIA Portal) Standard and Premium

Additional functions

SIRIUS Soft Starter ES V15 offers numerous advantages of the TIA Portal that can be used in an integrated working environment.

Seamless integration

When using other TIA Portal-based software such as STEP 7 or WinCC, for example, the configuration for devices and networks for all components used is created in a standardized environment.

Working with libraries

Users can create copy templates for 3RW44 and 3RW55 soft starter device configuration and can manage them in global or project libraries. This way, individual modules, diagrams and complete device configurations can be saved as reusable elements for frequently occurring tasks.

Teleservice via MPI

The SIRIUS Soft Starter ES (TIA Portal) Premium version supports the use of MPI Teleservice (comprising the Teleservice software and various Teleservice adapters) for remote diagnostics of the devices. This facilitates diagnostics and maintenance, and it shortens response times for service purposes.

¹⁾ Typicals with Service Pack 1 and higher.

4

Parameterization, Configuration and Visualization with SIRIUS

SIRIUS Soft Starter ES (TIA Portal) NEW

Benefits

- Transparent setting of the device functions and their parameters – online and offline
- Effective diagnostics functions on the soft starter and display of the most important measured values
- Trace function (oscilloscope function) for recording measured values and events (in the SIRIUS Soft Starter ES (TIA Portal) Standard and Premium versions).
- Complete transparency thanks to printout, logbook and event memory
- High degree of user-friendliness convenient user interface, with English, German, French, Italian, Spanish and Chinese as possible operating languages
- Time savings thanks to shorter startup times
- Fast, low-cost licensing using a simple licensing procedure (available online too)

Selection and ordering data

SIRIUS Soft Starter ES (TIA Portal) parameterization and service software for SIRIUS 3RW44 and 3RW5 soft starters

· Delivered without PC cable

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
SIRIUS Soft Starter E	S V15 Basic						
	Basic functional scope including Premium Trial License						
	Engineering software, software download, 6 languages (German/English/French/Italian/Spanish/ Chinese), online functions via system interface						
	Available free of charge as a download, see https://support.industry.siemens.com/cs/ww/en/view/109753470	ı					
SIRIUS Soft Starter E	S V15 Standard						
MINIONS IS NOT THE PROPERTY OF THE PROPERTY O	Floating license for one user						
	Engineering software, software and documentation on DVD, 6 languages (German/English/French/Italian/Spanish/Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, communication via system interface						
CERTIFICATE OF LICENSE	• License key on USB flash drive, Class A, including DVD	5	3ZS1320-5CC11-0YA5		1	1 unit	42H
	License key download, Class A, without DVD	>	3ZS1320-5CE11-0YB5		1	1 unit	42H
0701000 50011 0\/\	Software Update Service	5	3ZS1320-5CC00-0YL5		1	1 unit	42H
3ZS1320-5CC11-0YA5	For 1 year with automatic extension, requires the current software version of Soft Starter ES (TIA Portal), engineering software, software and documentation on DVD, 6 languages (German/English/French/Italian/Spanish/Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, communication via system interface						
	Upgrade for Soft Starter ES 2007 Standard	5	3ZS1320-5CC11-0YE5		1	1 unit	42H
	Floating license for one user, engineering software, software and documentation on DVD, license key on USB flash drive, Class A, 6 languages (German/English/French/ Italian/Spanish/Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, online functions via system interface						

Notes:

Soft Starter ES V14 licenses can also be used for Soft Starter ES V15.

Please order PC cable for 3RW44 separately, see page 14/7.

For a description of the software versions, see page 14/5.

SIRIUS Soft Starter ES (TIA Portal) Version Article No. Price PG per PU (UNIT SÈT, M) **SIRIUS Soft Starter ES V15 Premium** Floating license for one user Engineering software, software and documentation on DVD, 6 languages (German/English/French/Italian/Spanish/ Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, communication via system interface or PROFIBUS/PROFINET • License key on USB flash drive, Class A, including DVD 5 3ZS1320-6CC11-0YA5 1 unit 42H • License key download, Class A, without DVD 3ZS1320-6CE11-0YB5 1 unit 42H **Software Update Service** 3ZS1320-6CC00-0YL5 1 unit 42H 3ZS1320-6CC11-0YA5 For 1 year with automatic extension, requires the current software version of Soft Starter ES (TIA Portal), engineering software, software and documentation on DVD, Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, communication via system interface or PROFIBUS/PROFINET Upgrade for Soft Starter ES 2007 Premium 3ZS1320-6CC11-0YE5 1 unit Floating license for one user, engineering software, software and documentation on DVD, license key on USB flash drive, Class A, 6 languages (German/English/French/Italian/Spanish/ Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, online functions via system interface

Notes:

Soft Starter ES V14 licenses can also be used for Soft Starter ES V15.

Please order PC cable for 3RW44 separately, see Accessories.

or PROFIBUS/PROFINET

For a description of the software versions, see page 14/5.

Accessories

Accessories						
	Version	SD	Article No. Price per PU		PS*	PG
		d				
Optional accessories						
	Optional communication modules for SIRIUS 3RW5					
	• PROFIBUS	1	3RW5980-0CP00	1	1 unit	42S
	• PROFINET	1	3RW5980-0CS00	1	1 unit	42S
	Modbus TCP	1	3RW5980-0CT00	1	1 unit	42S
3RW5980-0CP00						
3UF7941-0AA00-0	USB PC cables for SIRIUS 3RW44 For connecting to the USB interface of a PC/PG, for communication with Soft Starter ES via the 3RW44 system interface	•	3UF7941-0AA00-0	1	1 unit	42J
	Optional communication module for SIRIUS 3RW44					
*25	• PROFIBUS	>	3RW4900-0KC00	1	1 unit	42H
	• PROFINET	•	3RW4900-0NC00	1	1 unit	42H

3RW4900-0KC00

SIRIUS 3RW44 Soft Starter block library for SIMATIC PCS 7

Overview

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16710/td

Programming and Operating Manual for "3RW44 Soft Starter PCS 7 Library V8.2" block libraries, see

"3RW44 Soft Starter PCS 7 Library V8.2" block libraries, see https://support.industry.siemens.com/cs/ww/en/view/109474959

Getting started for "SIRIUS Soft Starter 3RW44 PCS 7 Library V8.2" see https://support.industry.siemens.com/cs/ww/en/view/109482393

The SIRIUS 3RW44 Soft Starter PCS 7 block library can be used for simple and easy integration of SIRIUS 3RW44 soft starters into the SIMATIC PCS 7 process control system. The SIRIUS 3RW44 Soft Starter PCS 7 block library contains the diagnostics and driver blocks corresponding with the SIMATIC PCS 7 diagnostics and driver concept as well as the elements (symbols and faceplates) required for operator control and process monitoring.

Integrated functionality for optimal process control for all process control systems

In addition to the general sensor technology, the motor feeder data is increasingly being integrated into the process control system. By integrating the SIRIUS 3RW44 soft starters into the process control system it becomes possible to prevent errors in the motor feeder simply and reliably, or to detect these errors quickly and rectify them. Downtimes are reduced to a minimum or can be prevented before they happen.

For example, the output and display of the key measured values calculated by the 3RW44 is also a good aid for being able to assess and monitor the current system status.

Easy integration with the PCS 7 block library

The PCS 7 block library can be used for simple and easy integration of SIRIUS 3RW44 soft starters into the SIMATIC PCS 7 process control system. The focus here is simple configuration. Functioning of the blocks is based on the PCS 7 standard libraries and is optimally harmonized with the functions of the SIRIUS 3RW44.

Users who have previously integrated motor feeders into conventional technology via signal blocks and motor or valve blocks or, for example, already have experience with SIMOCODE blocks, are easily able to switch to SIRIUS 3RW44.

All blocks required for the automation systems are provided by the PCS 7 block library – as are the block symbols and faceplates for the operator station required for monitoring and control.

With the integration of the SIRIUS 3RW44 into SIMATIC PDM, the system-wide device parameterization and diagnostics of the SIRIUS 3RW44 soft starters are possible from a central point.

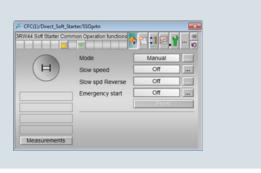
Motor block for direct control of the drive

The low-voltage motors started and protected by SIRIUS 3RW44 soft starters can be integrated into the process automation via the motor blocks. This means that they form the interface between the process control system and the motors controlled by the SIRIUS 3RW44.

To reduce the amount of configuring work required, functions for signal processing and technological functions are integrated into one motor block.

The important measured value – the current in the motor feeder – is recorded via the 3RW44 and monitored for motor protection. The motor current is accessible from the I&C system via the motor blocks.

The block symbols and faceplates for the motor blocks display the motor feeders on the operator station and provide all the required information for monitoring and control as well as detailed diagnostics.



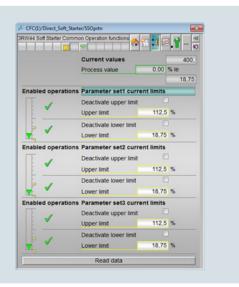
Faceplate of the motor block

Evaluation of additional motor feeder measurements

All measured values calculated by the soft starter, such as current, voltage and output of the feeder, are displayed and output via the measured value blocks. A key advantage here is that where required, a wide range of information on important motor feeder measurements is available, e.g. for load monitoring.

The 3RW44 is not only able to detect measured values here, but also to react if these values are exceeded or undershot, for example, via custom settings – e.g. with a motor shut-down or with a warning.

The faceplate for the measured values is accessed from the motor block faceplate.



Faceplate for measured values

Evaluation of maintenance-related motor feeder data

The 3RW44 has powerful functions to detect and monitor maintenance-related motor feeder data. For example, the operating and downtimes of the motor, operating cycles and overload tripping events are detected and stored directly on the device. If required, the information already on the device is available via the statistics block in the I&C system. The display is provided on a separate faceplate for the statistics block on the operator station.

7

Parameterization, Configuration and Visualization with SIRIUS

SIRIUS 3RW44 Soft Starter block library for SIMATIC PCS 7

Benefits

- Uniform and continuous integration into SIMATIC PCS 7
- Standardized blocks for simple integration and optimal operation
- Including Advanced Process Library (APL) in Version V8
- Greater process transparency due to greater information density in the process control system
- System-wide device parameterization and diagnostics with SIMATIC PDM

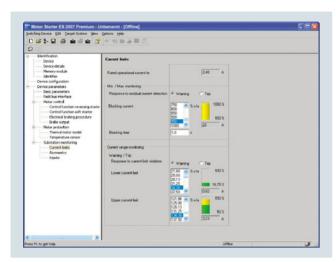
Selection and ordering data

Selection and order	ing data						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
	Starter block library for SIMATIC PCS 7 ranced Process Library (APL)						
	Engineering software V8	5	3ZS1633-1XX02-0YA0		1	1 unit	42H
	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English						
All and the second	Scope of supply:						
SIEMENS	AS blocks and faceplates for integrating SIRIUS 3RW44 into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V8.0+SP1/V8.1/V8.2/V8.3						
3ZS1633-1XX02-0YA0	Type of delivery:						
	Software and documentation on CD, one license for one engineering station, one license for one automation system						
	Runtime license V8	5	3ZS1633-2XX02-0YB0		1	1 unit	42H
	For execution of the AS blocks in an automation system (single license)						
	Required for using the AS blocks of the engineering software V8.0+SP1/V8.1 on an additional automation system within a plant						
	Type of delivery:						
	One license for one automation system, without software and documentation						
	Engineering software migration V7-V8	5	3ZS1633-1XX10-0YE0		1	1 unit	42H
	For upgrading (migrating) an existing engineering software V6.1/V7.0/V7.1 of the SIRIUS 3RW44 Soft Starter block library for PCS 7						
	Conditions of use:						
	Availability of the engineering software V7 (license) of the SIRIUS 3RW44 Soft Starter block library for PCS 7 for the PCS 7 version V6.1, V7.0 or V7.1						
	The V7-V8 engineering software migration can be installed directly onto a system with PCS 7 version V8; installation of the previous version is unnecessary.						
	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English						
	Scope of supply:						
	AS blocks and faceplates for integrating SIRIUS 3RW44 soft starters into the PCS 7 process control system, for PCS 7 version V8.0 and higher						
	Type of delivery:						
	Software and documentation on CD, license for upgrading an existing license for one engineering station and a plant's assigned untimalizeness.						

assigned runtime licenses

Motor Starter ES

Overview



Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters

More information Technical specifications and system requirements, see https://support.industry.siemens.com/cs/ww/en/ps/16713/td

Motor Starter ES is used for the startup, parameterization, diagnostics, documentation and preventive maintenance of SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor starters.

Interfacing is performed

- Via the local interface on the device
- With PROFIBUS DP-V1-capable motor starters from any point in PROFIBUS (applies to ET 200S DP V1/ET 200pro/ ECOFAST/M200D)
- With PROFINET-capable motor starters from any point in PROFINET (applies to ET 200S DP V1/ET 200pro/M200D).

Using Motor Starter ES, the communication-capable motor starters are easily parameterized during startup, monitored during normal operation and successfully diagnosed for service purposes. Preventative maintenance is supported by a function for reading out diverse statistical data (e.g. operating hours, operating cycles, cut-off currents, etc.). The user is supported during these procedures with comprehensive Help functions and plain text displays.

Motor Starter ES can either be used as a stand-alone program or it can be integrated into STEP 7 via an Object Manager.

Efficient engineering with three program versions

The Motor Starter ES software program is available in three versions which differ in their user-friendliness, scope of functions and price.

Motor Starter ES	Basic	Standard	Premium
ET 200S High Feature PROFIBUS IM	1	1	1
ET 200S High Feature PROFINET IM	1	1	✓
ECOFAST AS-Interface High Feature	1	1	
ECOFAST PROFIBUS	✓	1	1
ET 200pro PROFIBUS IM	✓	✓	✓
ET 200pro PROFINET IM	✓	✓	✓
M200D AS-Interface Standard	✓	✓	(✓)
M200D PROFIBUS	✓	✓	✓
M200D PROFINET	✓	1	✓

- ✓ Function available, (✓) Available with restricted functionality
- -- Function not available

T director riot dvandore			
Motor Starter ES	Basic	Standard	Premium
Access via the local interface on the device	✓	✓	1
Parameter assignment	/	/	1
Operating	/	/	1
Diagnostics		/	1
Creation of typicals		/	1
Comparison functions		1	1
Standard-compliant printout according to EN ISO 7200		1	1
Service data (slave pointer, statistics data)		✓	1
Access via PROFIBUS			1
Access via PROFINET			1
S7 routing			1
Teleservice via MPI			1
STEP 7 object manager ¹⁾			1
Trace function		1	/

- ✓ Function available
- -- Function not available
- 1) Only for STEP 7 V5.x

Additional functions

Standard-compliant printouts

The software tool greatly simplifies machine documentation. It enables parameterization printouts according to EN ISO 7200. The elements to be printed are easy to select and group as required.

Easy creation of typicals

Typicals can be created for devices and applications with only minimum differences in their parameters. These typicals contain all the parameters which are needed for the parameterization. In addition it is possible to specify which of these parameters are fixed and which can be adapted, e.g. by the startup engineer.

Teleservice via MPI

The Motor Starter ES Premium version supports the use of MPI Teleservice (comprising the Teleservice software and various Teleservice adapters) for remote diagnostics of the devices. This facilitates diagnostics and maintenance, and it shortens response times for service purposes.

Motor Starter ES

Benefits

- Fast, error-free configuration and startup of motor starters even without extensive previous knowledge
- Transparent setting of the device functions and their parameters - online and offline
- Effective diagnostics functions on the soft starter and display of the most important measured values
- Trace function (oscilloscope function) for recording measured values and events (included in the Motor Starter ES Standard and Premium software version for M200D PROFIBUS and PROFINET).

Selection and ordering data

Parameterization, startup and diagnostics software Motor Starter ES 2007

For ECOFAST Motor Starter, SIMATIC ET 200S High-Feature Starter, SIMATIC ET 200pro Starter and M200D (AS-I Standard, PROFIBUS, PROFINET)

• Delivered without PC cable

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Motor Starter ES 200	7 Basic						
	Floating license for one user						
THE COLUMN TWO IS NOT THE COLUMN TWO IS NOT	Engineering software in limited-function version for diagnostics purposes, software and documentation on CD, 3 languages (German/English/French), communication via system interface						
STEMENS	• License key on USB flash drive, Class A, including CD	5	3ZS1310-4CC10-0YA5		1	1 unit	42D
	 License key download, Class A, without CD 	•	3ZS1310-4CE10-0YB5		1	1 unit	42D
3ZS1310-4CC10-0YA5							
Motor Starter ES 200							
	Floating license for one user Engineering software, software and documentation on CD, 3 languages (German/English/French), communication via system interface						
Sirius	• License key on USB flash drive, Class A, including CD	5	3ZS1310-5CC10-0YA5		1	1 unit	42D
SEMENS	License key download, Class A, without CD	>	3ZS1310-5CE10-0YB5		1	1 unit	42D
3ZS1310-5CC10-0YA5							
Motor Starter ES 200	7 Premium						
	Floating license for one user						
The second secon	Engineering software, software and documentation on CD, 3 languages (German/English/French), communication via system interface or PROFIBUS/PROFINET, STEP 7 Object Manager • License key on USB flash drive, Class A, including CD • License key download, Class A, without CD	5	3ZS1310-6CC10-0YA5 3ZS1310-6CE10-0YB5		1 1	1 unit 1 unit	42D 42D
3ZS1310-6CC10-0YA5							

Notes:

Please order PC cable separately, see Accessories.

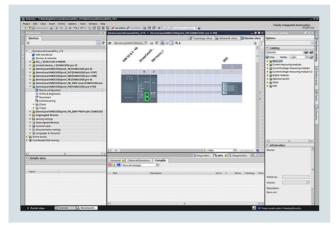
For a description of the software versions, see page 14/10.

Accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Optional accessories							
	RS 232 interface cable Serial data connection between ET 200pro MS/FC, M200D and laptop/PC/PG or MS	5	3RK1922-2BP00		1	1 unit	42D
	USB interface cable Serial data connection between ET 200pro MS/FC, M200D and laptop/PC/PG or MS	3	6SL3555-0PA00-2AA0		1	1 unit	346
	USB/serial adapters For connecting an RS 232 PC cable to the USB interface of a PC, recommended for use in conjunction with ET 200S/ECOFAST/ET 200pro motor starters	5	3UF7946-0AA00-0		1	1 unit	42J

SIMOCODE ES (TIA Portal)

Overview



Selection of SIMOCODE pro device configuration in SIMOCODE ES (TIA Portal)

More information

Homepage, see www.siemens.com/sirius-engineering

Industry Mall, see www.siemens.com/product?3ZS1

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16716/td

Software download

- SIMOCODE ES (TIA Portal), see https://support.industry.siemens.com/cs/ww/en/view/109752321
- SIMOCODE ES 2007, see https://support.industry.siemens.com/cs/ww/en/view/109480470

SIMOCODE ES is the central software for configuration, startup, operation and diagnostics of SIMOCODE pro.

SIMOCODE ES Version 15 is available as a powerful successor to Version 2007, which is based on the central engineering framework Totally Integrated Automation Portal (TIA Portal).

SIMOCODE ES V15 is integrated seamlessly when further TIA Portal-based software such as STEP 7 or WinCC is available, thus enabling users to achieve a consistent, efficient and intuitive solution for all automation tasks.

However, use of SIMOCODE ES V15 as stand-alone software also provides these advantages.

Three program versions

The user can choose between three different versions of SIMOCODE ES:

- SIMOCODE ES Basic
- SIMOCODE ES Standard
- SIMOCODE ES Premium

New: From V15, the powerful SIMOCODE ES Basic tool for startup or maintenance personnel is available for downloading free of charge in the Siemens Industry Online Support (see "More information").

SIMOCODE ES Standard and Premium are the perfect tools for engineers or configuration engineers on account of their larger scope of functions and integrated graphics editor. Unlike the Standard version, SIMOCODE ES Premium also permits parameterization and diagnostics via PROFIBUS/PROFINET/ Ethernet. Indication of all operating, service and diagnostics data supplies important information about the current state of the motor and plant at all times – everywhere on PROFIBUS/PROFINET/Ethernet.

SIMOCODE ES V15	Basic	Standard	Premium
Access via the local interface on the device	1	1	✓
Parameter assignment in list form	1	1	1
Parameter printing in list form	✓	1	1
Operating	1	1	1
Diagnostics	✓	✓	✓
Test	1	1	1
Service data	✓	1	1
Analog value recording ¹⁾	1	1	1
Trend display of measured values		/	1
Parameterizing with convenient graphical display		1	✓
Parameterizing with the integrated graphics editor (CFC-based)		1	✓
Printing of diagrams		✓	✓
Parameter comparison		1	1
Access via PROFIBUS/PROFINET/ Ethernet ²⁾			✓
Teleservice via MPI			1
Routing ³⁾			✓

- ✓ Function available
- -- Function not available
- 1) For SIMOCODE pro V.
- 2) In combination with Modbus devices, SIMOCODE ES Premium does not offer any additional functions compared with SIMOCODE ES Standard.
- 3) See http://support.automation.siemens.com/WW/view/en/109738745.

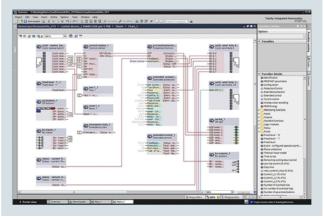
Working with libraries

Users can create copy templates for SIMOCODE pro device configuration and can manage them in global or project libraries.

This way, individual modules, diagrams and complete device configurations can be saved as reusable elements for frequently occurring tasks.

Integrated graphics editor

The graphics editor is a part of SIMOCODE ES Standard and SIMOCODE ES Premium. It is based on the Continuous Function Chart (CFC) and adds a powerful tool to the parameterizing interface that enables easy parameterization of devices by drag & drop. What is more, all the parameters can also be edited directly in the graphics editor. Extremely compact documentation of all configured parameters is possible, as is the graphic online presentation of the configured device functions including all signal states during operation.

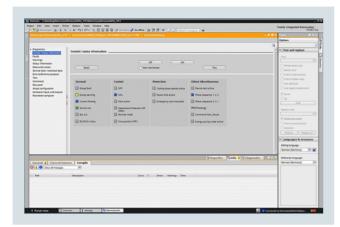


Parameterize easily and ergonomically with the CFC-based graphics editor of SIMOCODE ES V15 $\,$

NEW SIMOCODE ES (TIA Portal)

Online functions for startup and diagnostics

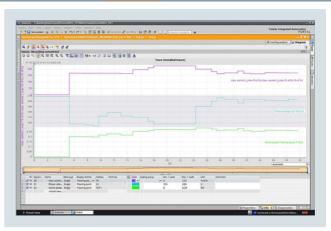
To this end, SIMOCODE ES provides powerful functions for startup and diagnostics of motor feeders. Besides a detailed display of status information and the causes of faults, all available measurement and statistics data can be retrieved online. Access to the fault and event memory and also to analog values recorded on the device, e.g. current or voltage, is also possible.



Commissioning functions of SIMOCODE ES V15

Trend display of measured values

With this online function, SIMOCODE ES Standard or Premium can present the trends of different measured values. It is thus possible for example to record and evaluate the start-up characteristic of a motor or its behavior under different load conditions.



Live trend display of SIMOCODE ES V15

Additional functions

SIMOCODE ES V15 offers numerous advantages of the TIA Portal that can be used in an integrated working environment.

Seamless integration

When using other TIA Portal-based software such as STEP 7 or WinCC, for example, the configuration for devices and networks for all components used is created in a standardized environment

Teleservice via MPI

The SIMOCODE ES (TIA Portal) Premium version supports the use of MPI Teleservice (comprising the Teleservice software and various Teleservice adapters) for remote diagnostics of the devices. This facilitates diagnostics and maintenance, and it shortens response times for service purposes.

Benefits

- Easy parameterization with the graphics editor based on the Continuous Function Chart (CFC) reduces engineering work and shortens startup times
- Clear plant documentation by means of graphic presentation
- Detailed information, also when there are faults, is a help for maintenance personnel and shortens downtimes
- Universally applicable through stand-alone version or seamless integration into the central engineering framework when other TIA Portal-based software such as STEP 7 or WinCC are available
- Parameter changes are also possible during normal operation
- Users can create copy templates for device configurations and can manage them in global libraries

SIMOCODE ES (TIA Portal) NEW

Selection and ordering data

Parameterization and service software for SIMOCODE pro 3UF7

• Delivered without PC cable

 Delivered without P 	C cable						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
SIMOCODE ES V15 E	asic						
	Basic functional scope including Premium Trial License	•	3ZS1322-6CE13-0YG8		1	1 unit	42J
	Engineering software, software download, Class A, 6 languages (German/English/French/Italian/Spanish/Chinese), for all SIMOCODE pro, online functions via system interface						
SIMOCODE ES V15 S	tandard						
SILMINS	Floating license for one user						
CONTINUENT OF LICENSE	Engineering software, software and documentation on DVD, 6 languages (German/English/French/Italian/Spanish/ Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, for all SIMOCODE pro, online functions via system interface, parameterizing with the integrated graphics editor (CFC-based)						
BERRY BERRY	 License key on USB flash drive, Class A 	>	3ZS1322-5CC13-0YA5		1	1 unit	42J
3ZS1322-5CC13-0YA5	 License key and software download, Class A 	>	3ZS1322-5CE13-0YB5		1	1 unit	42J
	Upgrade for SIMOCODE ES 2007 Standard	2	3ZS1322-5CC13-0YE5		1	1 unit	42J
	Floating license for one user, engineering software, software and documentation on DVD, license key on USB flash drive, Class A, 6 languages (German/English/French/Italian/Spanish/Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, for all SIMOCODE pro, online functions via system interface, parameterizing with integrated graphics editor (CFC-based)						
	Software Update Service	>	3ZS1322-5CC00-0YL5		1	1 unit	42J
	For 1 year with automatic extension, requires software version of SIMOCODE ES (TIA Portal), engineering software, software and documentation on DVD, online functions via system interface, parameterizing with integrated graphics editor (CFC-based)						

Notes:

SIMOCODE ES V12/V13/V14 licenses can also be used for SIMOCODE ES V15.

Please order PC cable separately, see page 14/15.

For a description of the software versions, see page 14/12.

			NEW	SIMC	CODE E	S (TIA	Portal)
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
SIMOCODE ES V15 P	remium						
SILMENS	Floating license for one user						
U MIN PROPERTY OF LAND SEE	Engineering software, software and documentation on DVD, 6 languages (German/English/French/Italian/Spanish/ Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, for all SIMOCODE pro, online functions via system interface and PROFIBUS/PROFINET/Ethernet, parameterizing with the integrated graphics editor (CFC-based)						
3ZS1322-6CC13-0YA5	 License key on USB flash drive, Class A 	>	3ZS1322-6CC13-0YA5		1	1 unit	42J
	License key and software download, Class A	>	3ZS1322-6CE13-0YB5		1	1 unit	42J
	Upgrade for SIMOCODE ES 2007 Premium	2	3ZS1322-6CC13-0YE5		1	1 unit	42J
	Floating license for one user, engineering software, software and documentation on DVD, license key on USB flash drive, Class A, 6 languages (German/English/French/Italian/Spanish/Chinese), Combo license for parallel use of versions 2007 and V15 of SIRIUS ES, for all SIMOCODE pro, online functions via system interface and PROFIBUS/PROFINET/Ethernet, parameterizing with the integrated graphics editor (CFC-based)						
	Software Update Service	•	3ZS1322-6CC00-0YL5		1	1 unit	42J
	For 1 year with automatic extension, requires software version of SIMOCODE ES (TIA Portal), engineering software, software and documentation on DVD, online functions via system interface and PROFIBUS/PROFINET/Ethernet, parameterizing with integrated graphics editor (CFC-based)						

Notes:

Please order PC cable separately, see Accessories.

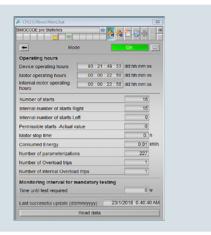
For a description of the software versions, see page 14/12.

Accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Optional accessories							
	USB PC cables	>	3UF7941-0AA00-0		1	1 unit	42J
	For connecting to the USB interface of a PC/PG, for communication with SIMOCODE ES via the system interface						
3UF7941-0AA00-0							
	USB/serial adapters	5	3UF7946-0AA00-0		1	1 unit	42J
	For connecting an RS 232 PC cable to the USB interface of a PC, recommended for use in conjunction with SIMOCODE ES						

SIMOCODE pro block library for SIMATIC PCS 7

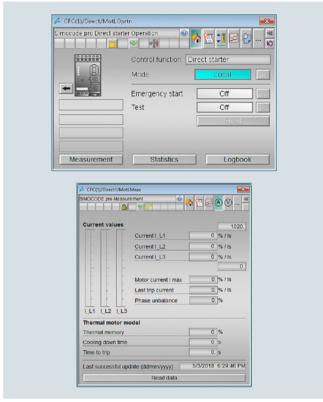
Overview



Advanced Process Library (APL) – faceplates and blocks for statistical data of the SIMOCODE pro library for PCS 7



The PCS 7 block library can be used for simple and easy integration of SIMOCODE pro into the SIMATIC PCS 7 process control system. One focus here is on easy configuration, because the number of required configuration steps is reduced crucially. The configuration of the modules is based on the PCS 7 standard configuration processes and is optimally harmonized with the functions of SIMOCODE pro. Users who have previously integrated conventional motor feeders into PCS 7 will therefore find it easy to switch to SIMOCODE pro.



Advanced Process Library (APL) – faceplates and blocks for control and measured data of the SIMOCODE pro library for PCS 7

Benefits

- Uniform and continuous integration into SIMATIC PCS 7
- Standardized blocks for simple integration and optimal operation
- Greater process transparency due to greater information density in the process control system

SIMOCODE pro block library for SIMATIC PCS 7

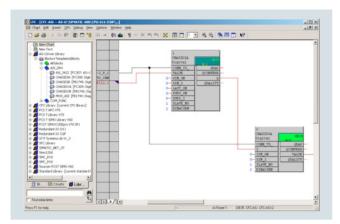
Selection and orderi	ng data						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
SIMOCODE pro block	library for SIMATIC PCS 7	d					
version V9 with Adva	nced Process Library (APL)						
STATES	Engineering software V9 For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.0	•	3ZS1632-1XX03-0YA0		1	1 unit	42J
3ZS1632-1XX03-0YA0	Type of delivery: Software and documentation on CD, one license for one engineering station, one license for one automation system						
	Runtime license V9	>	3ZS1632-2XX03-0YB0		1	1 unit	42J
	For execution of the AS blocks in an automation system (single license) Required for using the AS blocks of the engineering software V9 within a plant						
	Type of delivery: One license for one automation system, without software and documentation						
	Upgrade for PCS 7 block library SIMOCODE pro V8	2	3ZS1632-1XX03-0YE0		1	1 unit	42J
	To version SIMOCODE pro V9 for one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English						
	Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.0						
	Type of delivery: Software and documentation on CD, one license for one engineering station, one license for one automation system						
SIMOCODE pro block version V8 with Adva	library for SIMATIC PCS 7 nced Process Library (APL)						
	Engineering software V8		3ZS1632-1XX02-0YA0		1	1 unit	42J
SILILIS	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English						
	Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system with Advanced Process Library, for PCS 7 versions V8.1 and V8.2						
3ZS1632-1XX02-0YA0	Type of delivery: Software and documentation on CD, one license for one engineering station, one license for one automation system						
	Runtime license V8		3ZS1632-2XX02-0YB0		1	1 unit	42J
	For execution of the AS blocks in an automation system (single license)						
	Required for using the AS blocks of the engineering software V8 within a plant						
	Type of delivery: One license for one automation system, without software and documentation						

SIMOCODE pro block library for SIMATIC PCS 7

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			. ,		
SIMOCODE pro block without Advanced Pro	library for SIMATIC PCS 7 version V7 ocess Library (APL)						
	Engineering software V7		3UF7982-0AA10-0		1	1 unit	42J
SITUS	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English/French						
	Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system, for PCS 7 versions V7.0/V7.1						
3UF7982-0AA10-0	Type of delivery: Software and documentation on CD, one license for one engineering station, one license for one automation system						
	Runtime license V7	>	3UF7982-0AA11-0		1	1 unit	42J
	For execution of the AS blocks in an automation system (single license)						
	Required for using the AS blocks of the engineering software V7 or the engineering software migration V7-V9 on an additional automation system within a plant						
	Type of delivery: One license for one automation system, without software and documentation						
	Engineering software migration V7-V9	>	3UF7982-0AA20-0		1	1 unit	42J
	For upgrading (migrating) an existing engineering software V7 of the SIMOCODE pro block library for PCS 7						
	Conditions of use: Availability of the engineering software V7 (license) of the SIMOCODE pro block library for PCS 7 for the PCS 7 version V7.0 or V7.1						
	The engineering software migration V7-V9 can be installed directly onto a system with PCS 7 versions V8 or V9; installation of the previous version is unnecessary.						
	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English/French						
	Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system, for PCS 7 versions V8.0/V8.1/V8.2/V9.0						
	Type of delivery: Software and documentation on CD, license for upgrading an existing license for one engineering station and a plant's assigned runtime licenses						

AS-Interface block library for SIMATIC PCS 7

Overview



AS-Interface block library for SIMATIC PCS 7 in the CFC chart

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16719/td

Programming Manual:

- Version V9 with Advanced Process Library (APL), see https://support.industry.siemens.com/cs/ww/en/view/109760976
- Version V8 with Advanced Process Library (APL), see https://support.industry.siemens.com/cs/ww/en/view/90690873
- Version V7-V9 migration without Advanced Process Library, see https://support.industry.siemens.com/cs/ww/en/view/109750134
- Version V7 without Advanced Process Library, see https://support.industry.siemens.com/cs/ww/en/view/46504691

The AS-Interface block library for PCS 7 is integrated in the SIMATIC PCS 7 process control system and expands it for integration of the AS-Interface system.

As the result, the advantages of AS-Interface such as the considerable reduction of wiring outlay for distributed actuators/sensors and very simple installation can also be used in a system based on PCS 7.

The library contains blocks for accessing the I/O data of AS-i slaves, blocks for diagnostics of the AS-i system, and faceplates for the PCS 7 Maintenance Station.

Supported AS-Interface modules

The AS-Interface block library for PCS 7 can be used with the following AS-i master and link modules, see also page 2/1:

- CM AS-i Master ST (in ET 200SP station) 3RK7137-6SA00-0BC1 (engineering software V9 and V8.1 only)
- CP 343-2 (in ET 200M station) 6GK7343-2AH01-0XA0
- CP 343-2P (in ET 200M station) 6GK7343-2AH11-0XA0
- DP/AS-i Link Advanced single master 6GK1415-2BA10
- DP/AS-i Link Advanced double master 6GK1415-2BA20
- IE/AS-i Link PN IO single master 6GK1411-2AB10 (engineering software V9 or V8.1 and V8 only)
- IE/AS-i Link PN IO double master 6GK1411-2AB20 (engineering software V9 or V8.1 and V8 only)

The CM AS-i Master ST module is supported with IM 155-6 PN High Feature within an ET 200SP station interfaced via PROFINET.

The AS-i Master CP 343-2 and CP 343-2P are supported within an ET 200M station interfaced via PROFINET or PROFIBUS.

With the CM AS-i Master ST, CP 343-2 or CP 343-2P modules, digital AS-i slaves with standard addressing and extended addressing (A/B slaves, see also note under "Application") can be operated via the library.

In combination with the IE/AS-i Link PN IO and the DP/AS-i Link Advanced, it is possible to integrate digital and analog AS-i slaves with standard and extended addressing (A/B slaves).

Hardware and software requirements

The libraries require the following PCS 7 versions:

- Engineering software V9: PCS 7 version from V9
- Engineering software V8.1: PCS 7 version V8.0 SP1 update 3 and higher, can also be used for PCS 7 versions V8.1 and V8.2
- Engineering software migration V7-V9: PCS 7 version V8.0 SP1 and higher, can also be used for PCS 7 versions V8.1, V8.2 and V9
- Engineering software V7: PCS 7 versions V6.1, V7.0 or V7.1

The engineering software migration V7-V9 comprises the same interconnection logic of the CFC blocks as the engineering software V7 and is recommended for the switch to PCS 7 V8 or PCS 7 V9 with only a few adjustments required in the PCS 7 project.

The engineering software V9 and engineering software V8.1 use APL interconnection logic and are recommended for new PCS 7 projects.

Benefits

- Easy connection of AS-Interface to PCS 7
- Engineering work reduced to positioning and connecting the blocks in the CFC
- With no additional configuring steps required for connection to the PCS 7 Maintenance Station, diagnostics for the AS-i system are optimally guaranteed.

Application

The AS-Interface block library for PCS 7 is used in systems based on PCS 7 where the actuators and sensors are connected using AS-Interface.

Note:

The AS-i masters CP 343-2 and CP 343-2P do not transmit I/O data from AS-i slaves with a B address via the cyclic process image (partition), but via data records. To prevent delays in the communication of driver blocks for B slaves, we recommend avoiding the use of AS-i slaves with B addresses for PCS 7 configurations with CP 343-2 or CP 343-2P.

AS-Interface block library for SIMATIC PCS 7

Selection and order	-						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
AS-Interface block li with Advanced Proc	brary for SIMATIC PCS 7 version V9 ess Library (APL)						
	Engineering software V9	2	3ZS1635-1XX03-0YA0		1	1 unit	42C
3ZS1635-1XX03-0YA0	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English						
	Scope of supply: AS blocks and faceplates for integrating AS-Interface into the PCS 7 process control system with Advanced Process Library (APL), for PCS 7 version V9 and higher						
	Type of delivery: Software and documentation on CD, one license for one engineering station, one license for one automation system						
	Runtime license V9	2	3ZS1635-2XX03-0YB0		1	1 unit	42C
	For execution of the AS blocks in an automation system (single license)						
	Required for using the AS blocks of the engineering software V9 on an additional automation system within a plant						
	Type of delivery: One license for one automation system, without software and documentation						
AS-Interface block li with Advanced Proc	brary for SIMATIC PCS 7 version V8 ess Library (APL)						
3ZS1635-1XX02-0YA0	Engineering software V8.1	2	3ZS1635-1XX02-0YA0		1	1 unit	42C
	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English						
	Scope of supply: AS blocks and faceplates for integrating AS-Interface into the PCS 7 process control system with Advanced Process Library (APL), for PCS 7 version V8.0 SP1 and higher, also able to be used for PCS 7 versions V8.1 and V8.2						
	Type of delivery: Software and documentation on CD, one license for one engineering station, one license for one automation system						
	Runtime license V8	2	3ZS1635-2XX02-0YB0		1	1 unit	42C
	For execution of the AS blocks in an automation system (single license)						
	Required for using the AS blocks of the engineering software V8 or V8.1 on an additional automation system within a plant						
	Type of delivery: One license for one automation system, without software and documentation						

			AS-Interface blo	ck libra	ary for S	IMATIC I	PCS 7
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d			OL1, 111)		
AS-Interface block lib without Advanced Pr	orary for SIMATIC PCS 7 version V9 or V8 ocess Library (APL)						
	Engineering software migration V7-V9	2	3ZS1635-1XX11-0YE0		1	1 unit	42C
	For upgrading (migrating) an existing engineering software V7 of the AS-Interface block library for PCS 7 or for upgrading (migrating) an existing engineering software V8 or V8.1 of the AS-Interface block library for PCS 7 without APL						
Sitius	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English						
3ZS1635-1XX11-0YE0	Conditions of use: Availability of the engineering software V7 (license) of the AS-Interface block library for PCS 7 for the PCS 7 versions V6.1, V7.0 or V7.1, or availability of the engineering software V8 or V8.1 (license) of the AS-Interface block library for PCS 7 for the PCS 7 version V8						
	The engineering software migration V7-V9 can be installed directly onto a system with PCS 7 versions V9 or V8; installation of the previous version is unnecessary.						
	Scope of supply: AS blocks and faceplates for integrating AS-Interface into the PCS 7 process control system, for PCS 7 versions V9 or V8.0 SP1, V8.1 and V8.2, including block library service pack SP3						
	Type of delivery: Software and documentation on CD, license for upgrading an existing license for one engineering station and a plant's assigned runtime licenses						
	orary for SIMATIC PCS 7 version V7						
without Advanced Pr		5	3ZS1635-1XX01-0YA0		1	1 unit	42C
**************************************	Engineering software V7 For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English	ວ	323 1033-1AAU1-UTAU		I	1 unit	420
	Scope of supply: AS blocks and faceplates for integrating AS-Interface into the PCS 7 process control system, for PCS 7 versions V6.1, V7.0 or V7.1 including block library service pack SP1						
3ZS1635-1XX01-0YA0	Type of delivery: Software and documentation on CD, one license for one engineering station, one license for one automation system						
	Runtime license V7	5	3ZS1635-2XX01-0YB0		1	1 unit	42C
	For execution of the AS blocks in an automation system (single license)						

More information

For information about updates and downloads, see https://support.industry.siemens.com/cs/ww/en/view/109759605.

Required for using the AS blocks of the engineering software V7 or the engineering software migration V7-V8 on an additional automation system within a plant

One license for one automation system, without software and documentation

For additional information on the use of analog AS-i slaves in a configuration with PCS 7 version V8.1, see

Type of delivery:

- https://support.industry.siemens.com/cs/ww/en/view/90880814
 https://support.industry.siemens.com/cs/ww/en/view/65710726

SIRIUS Safety ES

Overview

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/21192/td

Programming and Operating Manual, see

https://support.industry.siemens.com/cs/ww/en/view/109444445.

SIRIUS Safety ES is the engineering software for the configuration, startup and diagnostics of the 3RK3 Modular Safety System and 3SK2 safety relays. The software combines the configuring of the hardware, the parameterization of the safety functions, and the testing and diagnostics of the safety system.

Efficient engineering with three program versions

The SIRIUS Safety ES software program is available in three versions which differ in their user-friendliness, scope of functions and price.

SIRIUS Safety ES	Basic	Standard	Premium
Access via the local interface on the device	1	1	✓
Parameter assignment	✓	✓	1
Operating	/	1	1
Diagnostics	/	1	1
Test		1	1
Integrated graphics editor	✓	✓	1
Importing/exporting parameters		✓	1
Comparison functions		1	1
Comfort functions		1	1
Terminal designator		1	1
Work on sub-diagrams		/	1
Standard-compliant printout according to EN ISO 7200	1	1	1
Downloading parameterization via PROFIBUS			✓
Online diagnostics using PROFIBUS			1
Creating, importing and exporting macros			✓

- ✓ Function available
- Function not available

Additional functions

Language selection

The program interface language can be switched during use between German, English and French

Help function

A context-sensitive help function provides useful assistance with questions concerning the use of the program

Consistency check

A consistency check provides clear information about function assignment errors and users are taken directly to errors when the corresponding message is clicked on. Checks are carried out automatically when a project is saved and during the configuration test, but they can also be initiated manually.

Lists

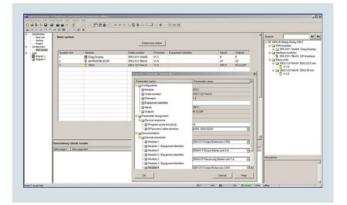
Lists of symbols and cross-references can be issued for effective processing of the project file

Standard-compliant printouts

The programs of the SIRIUS ES software family make machine documentation far easier. They enable parameterization printouts according to EN ISO 7200. The elements to be printed are easy to select and group as required.

Hardware configuration

The device configuration of the 3RK3 or 3SK2 systems is defined in the configuration dialog. The available modules are simply selected from the clearly laid out hardware catalog and positioned in the workspace. Depending on the device system used (3RK3 or 3SK2), only the permitted devices are shown in the hardware catalog in each case. In addition, in the case of the 3RK3, the quantity framework on the AS-i bus can be determined online or configured manually from the AS-i library. For each module, it is optionally possible to issue an equipment ID which is shown in the logic diagram for identification of the inputs and outputs.



Definition of the hardware layout

Graphic parameterizing of the safety logic via drag & drop

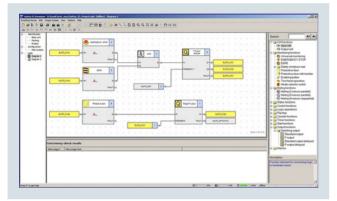
The functionality of the safety logic is laid down with a graphics editor designed for intuitive operation. Safe monitoring functions (EMERGENCY STOP, non-contact protective devices/light arrays, protective doors, etc.), output functions and logic functions (AND/OR operations, counting function, time functions, etc.), non-safety-related input/output functions, device status functions and control functions can be dragged from the extensive functions catalog onto the work interface by drag & drop. Depending on the version, each function has several input and output connecting points through which the functions can be interconnected by simple mouse clicks. Double-clicking on a function symbol opens the related features dialog window in which all the parameters can be displayed and configured: Scope of the function's inputs and outputs, configuring the channel type (single-/two-channel, NC contact/NO contact), activating crossover detection, defining start options, assigning the hardware inputs and outputs, etc. Of course each function can be issued with an individual name so that e.g. the position of a safety switch in the plant can be documented.

Parameterization, Configuration and Visualization with SIRIUS

SIRIUS Safety ES

The safety logic can be divided into several diagrams in order to enable structured processing of the entire plant. The user can freely position the functions on a quasi infinitely large drawing board, whereby the connecting lines are drawn automatically. If there is not enough space, more pages are automatically added to the diagram in horizontal or vertical direction. Connecting lines extending over several pages are automatically issued with cross-references during print-out. If required in the interest of clarity, the user can divide a connecting line manually into two segments, whereby the mutual reference is marked by reference arrows. For further documentation, freely compilable comment texts can be placed at any point in the diagram. Every point in the logic diagram can be processed with ease by dragging and zooming.

Every project can be saved as a file and be password-protected from unauthorized access.



Processing the safety functions in the graphics editor

AS-Interface

Evaluation of the AS-i slaves connected to the AS-i bus is also parameterized using the tried and tested method described above.

In order to be able to use the AS-i functionalities, a 3RK3 Advanced central unit or 3RK3 ASIsafe central unit (basic/extended) must be used.

User prompting during startup and maintenance

To start up the relevant safety system, the created project file is uploaded to the device. There are two ways of doing this:

- Connect the USB interface of the PC to the device using an appropriate connection cable.
- Use the DP interface to download the parameterization via any PROFIBUS node.

Access to the device can be restricted using a password concept that includes different protection levels.

After the project is loaded, the user switches the device by means of the software from configuring mode to test mode in which the safety functions can be tested.

Activating the diagnostics shows the status of the individual functions in the graphic logic diagram by means of different colors and symbols. In addition, more detailed information about each function element can be displayed in the logic diagram. For the purpose of testing the logic diagram, it is also possible to manually overwrite the signal state of each function element ("forcing").

If the test is completed successfully, the user releases the configuration and switches the device to protection mode, in which case "forcing" is automatically deactivated.

Service personnel can activate the graphic diagnostics in protection mode as well. The I&M (Identification & Maintenance) data saved in the device facilitate maintenance.

Benefits

- Convenient parameterization, operation, monitoring and testing by means of a user-friendly and clear-cut user interface
- Reliable diagnostic tool

- All functions, such as safety and logic functions, are available as modules, and are easy to link to one another
- Automatic creation of comprehensive documentation of safety functions

Parameterization, Configuration and Visualization with SIRIUS

SIRIUS Safety ES

Selection and ordering data

SIRIUS Safety ES parameterization, start-up and diagnostics software

Delivered without P	C cable						
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
SIRIUS Safety ES Ba	sic						
ORMEN TO LOCASE	Floating license for one user Engineering software in limited-function version for diagnostics purposes, software and documentation on CD, 3 languages (German/English/French), communication via system interface • License key on USB flash drive, Class A • License key download, Class A	2	3ZS1316-4CC10-0YA5 3ZS1316-4CE10-0YB5		1 1	1 unit 1 unit	42B 42B
3ZS1316-4CC10-0YA5							
SIRIUS Safety ES Sta							
A BU STATE OF LICENSE	Floating license for one user Engineering software, software and documentation on CD, 3 languages (German/English/French), communication via system interface • License key on USB flash drive, Class A • License key download, Class A	5 >	3ZS1316-5CC10-0YA5 3ZS1316-5CE10-0YB5		1 1	1 unit 1 unit	42B 42B
3ZS1316-5CC10-0YA5							
SIRIUS Safety ES Pre							
A BU STANDARD CONTINUE CONTINU	Floating license for one user Engineering software, software and documentation on CD, 3 languages (German/English/French), communication via PROFIBUS or system interface, online diagnostics via PROFIBUS, creating, importing and exporting macros • License key on USB flash drive, Class A • License key download, Class A	5	3ZS1316-6CC10-0YA5 3ZS1316-6CE10-0YB5		1 1	1 unit 1 unit	42B 42B
The second second	,						

3ZS1316-6CC10-0YA5

Notes:

Please order PC cable separately, see Accessories.

For a description of the software versions, see page 14/22.

Accessories

Accessories							
	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Optional accessories							
	USB PC cables	>	3UF7941-0AA00-0		1	1 unit	42J
	For connecting to the USB interface of a PC/PG, for communication with 3RK3 and 3SK2 via the system interface, recommended for use in connection with 3RK3						
3UF7941-0AA00-0	and 3SK2						

15

Power Supply



clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.

Article No.	
3RA1943-2C 3RA1943-2B 3RA1953-2B 3RA1953-2N	IC01_00413

Or directly on the Internet, e.g. www.siemens.com/product?3RA1943-2C

Price groups PG 581, 582, 583, 584, 585, 586, 588, 58P, 591, 593 Introduction SITOP power supply SITOP compact LOGO!Power SITOP lite SITOP smart SITOP modular **NEW** SITOP PSU8600 power supply system **NEW** Special design, special use Add-on modules - Redundancy modules - Selectivity modules - Buffer modules SITOP DC-UPS Uninterruptible Power Supply - DC-UPS with capacitors - DC-UPS with battery modules

Introduction

Overview

More information

Homepage, see www.siemens.com/sitop

Industry Mall, see www.siemens.com/product?SITOP

Further products, see Catalog KT 10.1









		6EP1 SITOP compact
SITOP power suppli		
Phase		1
Rated input voltage	V	100 230 AC, 110 330 DC
Rated output voltage	V DC	24, 12
Rated output current	Α	0.6 6.5
Connection		Screw terminal connection
Mounting		Standard rail mounting
Approval		NEC Class 2, [®] , c [®] , ATEX, GL
Page		15/3

	LOGO!Power
	1
	100 240 AC, 110 330 DC
	5, 12, 15, 24
	0.6 6.3
	Screw terminal connection
	Standard rail mounting
ζ,	(10), c(10), ABS, GL, FM, ATEX
	15/4





15/6









		4.4.4	EN EN		
		6EP3	6EP1	6EP1	6EP1
		SITOP modular PSU8600 power supply system	Special design, special use	Expansion modules	SITOP DC-UPS uninterruptible power supplies
SITOP power supplie	es				
Phase		1, 2, 3	1	1	1
Rated input voltage	V	120 230/230 500 AC, 120 230 AC, 400 500 3 AC;	120/230 AC	24 DC	24 DC
Rated output voltage	V DC	24, 36, 48	3 52	$U_{\rm e}$ – approx. 0.5, $U_{\rm e}$ – approx. 1	24
Rated output current	Α	5 40	10	3.5 20, 40, 4 x 3, 4 x 10	6 40
Connection		Screw terminal connection	Screw terminal connection	Screw terminal connection	Screw terminal connection
Mounting		Standard rail mounting	Standard rail mounting	Standard rail mounting	Standard rail mounting (except: wall mounting with SITOP UPS500P)
Approval		(10), c(10), CSA, ATEX, GL, ABS	(II), c (II)	NEC Class 2, @, c@, ATEX, GL	(1), c(1), ATEX, GL, ABS
Pages		15/7, 15/9	15/11	15/12	15/14

Single-phase

Overview

SITOP compact is a series of power supplies for the low performance range. Thanks to the extremely space-saving slim design, they are especially suited to distributed applications in switchboxes or in small control cabinets.

The switching power supply units are characterized by their low power loss over the entire load range. With losses being extremely small even in no-load operation, these units are predestined for supplying machines and plants which are often in stand-by mode, for example. The switching power supply units have a wide range input for AC and DC networks, with plug-in terminals that facilitate easy electrical connection.

To further increase 24 V availability, the SITOP compact power supply units can be combined with DC-UPS, redundancy and selectivity modules, see pages 15/12 and 15/13.

- Small mounting area thanks to narrow design
- Single-phase wide range input for 85 V to 264 V AC and 110 V to 300 V DC
- High degree of efficiency over the entire load range, up to 28% energy savings compared to comparable units
- Low energy consumption in no-load operation and stand-by, possible energy savings of up to 53%
- Adjustable output voltage
- Green LED for "Output voltage OK"
- Plug-in terminals
- Temperature range from -20 °C to +70 °C

Extensive certification, such as UL, ATEX, GL and NEC Class 2 (24 V/3.7 A)

Selection and ordering data

Selection and or											
	Version	Inputs Rated voltage U _{e rated}	Outputs Rated voltage Ua rated	Rated current $I_{\text{a rated}}$	Dimensions (W x H x D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					mm	d					
24 V power supp	lies										
	0.6 A	100 230 V AC (85 264 V AC/ 110 300 V DC)	± 3%	0.6 A	22.5 x 80 x 100	1	6EP1331-5BA00		1	1 unit	584
6EP1331-5BA00		100 0001/10	241450		00 00 100						50.1
	1.3 A	100 230 V AC (85 264 V AC/ 110 300 V DC)	24 V DC ± 3%	1.3 A	30 x 80 x 100	1	6EP1331-5BA10		1	1 unit	584
6EP1331-5BA10											
	2.5 A	100 230 V AC (85 264 V AC/ 110 300 V DC)	± 3%	2.5 A	45 x 80 x 100	1	6EP1332-5BA00		1	1 unit	584
6EP1332-5BA00											
6EP1332-5BA10	4 A	100 230 V AC (85 264 V AC/ 110 300 V DC)	24 V DC ± 3%	4 A	52.5 x 80 x 100	1	6EP1332-5BA10		1	1 unit	584
6EP1332-5BA20	3.7 A NEC Class 2	120 230 V AC (85 264 V AC/ 110 300 V DC)	± 3%	3.7 A	52.5 x 80 x 100	1	6EP1332-5BA20		1	1 unit	584
12 V power supp	lies										
	2 A	100 230 V AC (85 264 V AC/ 110 300 V DC)	± 3%	2 A	30 x 80 x 100	1	6EP1321-5BA00		1	1 unit	584
6EP1321-5BA00											
	6.5 A	100 230 V AC (85 264 V AC/ 110 300 V DC)		6.5 A	52.5 x 80 x 100	1	6EP1322-5BA10		1	1 unit	584
CED4000 ED 440											

6EP1322-5BA10

SITOP Power Supply LOGO!Power

Single-phase

Overview

Our new miniature power supply units in the same design as the logic modules offer great performance in the smallest of spaces: Efficiency has been improved across the entire load range, and the low power losses in no-load operation ensure efficient operation.

The wide-range input for single-phase networks as well as operation with direct voltage, the wide operating temperature range, comprehensive certifications as well as the power reserve when switching on capacitive loads makes them suitable for universal use.

These reliable power supplies with their flat, stepped profile can be used extremely flexibly in numerous applications such as in distribution boards, for example.

To further increase 24 V availability, the LOGO!Power power supply units can be combined with DC-UPS, redundancy and selectivity modules, see pages 15/12 and 15/13.

- Single-phase wide range input from 85 V to 264 V AC and 110 V to 300 V DC
- Low width from a minimum of 18 mm to a maximum of 72 mm saves space in the control cabinet
- Higher efficiency level up to 90% over the entire power range and ERP-compliant no-load losses of < 0.3 W
- Flexible mounting with standard rail or wall mounting in different installation positions
- Load monitoring due to real-time measurement of the output current without disconnecting the cable, i.e. without interrupting the DC supply
- Reliable thanks to assured connection of heavy loads when starting up as well as constant current in the event of overload
- Wide temperature range from -25 °C to +70 °C
- Extensive certification such as cULus, CB, FM, ATEX, cCSAus Class I Div. 2. GL and ABS

Selection and ordering data Outputs Article No. Price PS* PG **Dimensions** SD sion Rated Rated Rated $(W \times H \times D)$ per PU (UNIT, current SÈT, M) voltage voltage U_{e rated} U_{a rated} I_{a rated} d mm 5 V power supplies 100 ... 240 V AC 5 V DC 36 x 90 x 53 1 6EP3310-6SB00-0AY0 583 1 unit (85 264 V AC/ ± 3% . 300 V DC) 110 100 ... 240 V AC 6EP3311-6SB00-0AY0 5 V DC 6.3 A 63A 54 x 90 x 53 583 1 unit . 264 V AC/ (85 .. ± 3% 110 ... 300 V DC) 6EP3310-6SB00-0AY0 12 V power supplies 0.9 A 100 . 240 V AC 12 V DC 0.9 A18 x 90 x 53 6EP3320-6SB00-0AY0 1 1 unit 583 264 V AC/ ± 3% (85 110. . 300 V DC) 1.9 A 100 .. 240 V AC 12 V DC 1.9 A 36 x 90 x 53 1 6EP3321-6SB00-0AY0 1 1 unit 583 (85 264 V AC/ ± 3% . 300 V DC) 110 4.5 A 100 ... 240 V AC 12 V DC 4.5 A 54 x 90 x 53 6EP3322-6SB00-0AY0 1 unit 583 6EP3320-6SB00-0AY0 (85 ... 264 V AC/ ± 3% 110 . 300 V DC 15 V power supplies 100 ... 240 V AC 15 V DC 6EP3321-6SB10-0AY0 583 1.9 A 36 x 90 x 53 1 unit (85 ... 264 V AC/ ± 3% 110 . 300 V DC) 100 ... 240 V AC 6EP3322-6SB10-0AY0 4 A 15 V DC 54 x 90 x 53 583 4 A 1 unit . 264 V AC/ (85 .. ± 3% 110 ... 300 V DC) 6EP3321-6SB10-0AY0 24 V power supplies **0.6 A** 100 ... 240 V AC 24 V DC 0.6 A 18 x 90 x 53 6EP3330-6SB00-0AY0 1 unit 583 1 (85 ± 3% 264 V AC/ ... 300 V DC) 110 . 240 V AC 6EP3331-6SB00-0AY0 100 24 V DC 13A 583 1.3 A 36 x 90 x 53 1 1 1 unit . 264 V AC/ ± 3% (85 .. 110 .. . 300 V DC) 2.5 A 100 ... 240 V AC 6EP3332-6SB00-0AY0 24 V DC 2.5 A 54 x 90 x 53 1 unit 583 (85 ... 264 V AC/ 6EP3332-6SB00-0AY0 ± 3% . 300 V DC) 110 .. 4 A 100 ... 240 V AC 24 V DC 72 x 90 x 53 6EP3333-6SB00-0AY0 583 1 unit (85 ... 264 V AC/ ± 3% 110 ... 300 V DC)

Single-phase

Overview

The SITOP lite power supplies are designed for standard requirements in industrial environments and offer all important functions at a favorable price.

The wide range input with manual switchover supports connection to a variety of single-phase supply systems.

Thanks to the slim design, the power supplies have a low space requirement on the standard mounting rail, and their excellent degree of efficiency ensures low thermal losses in the control cabinet.

To further increase 24 V availability, the SITOP lite power supplies can be combined with DC UPS, redundancy and selectivity modules, see pages 15/12 and 15/13.

- 24 V/2.5 A, 5 A, 10 A and 20 A for industrial applications with standard requirements
- Single-phase wide range input with manual switchover
- Narrow width
- Excellent degree of efficiency
- Green LED for "24 V OK"
- Can be switched in parallel
- No lateral installation clearances required
- Ambient temperature range from 0 °C to 60 °C (from 45 °C with derating)
- Cooling through natural convection
- Short-circuit and overload protection
- Certification in accordance with CE. cULus and CD

Selection and ordering data

		,									
	Version	Inputs Rated voltage Ue rated	Outputs Rated voltage Ua rated	Rated current $I_{\text{a rated}}$	Dimensions (W x H x D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				Α	mm	d					
24 V power sup	plies										
DOLLING HOLES	2.5 A	120/230 V AC (93 132 V AC/ 187 264 V AC)	24 V DC ± 3%	2.5 A	32.5 x 125 x 120	1	6EP1332-1LB00		1	1 unit	593
6EP1332-1LB00											
6EP1333-1LB00	5 A	120/230 V AC (93 132 V AC/ 187 264 V AC)	24 V DC ± 3%	5 A	50 x 125 x 120	1	6EP1333-1LB00		1	1 unit	593
0EP1333-1LB00	10.4	100/000 \/ \0	041// DO	10.4	70 105 100	_	CED4004 41 D00			et a series	
STOP PSUIGE.	10 A	120/230 V AC (93 132 V AC/ 187 264 V AC)	24 V DC ± 3%	10 A	70 x 125 x 120	1	6EP1334-1LB00		1	1 unit	593
6EP1334-1LB00											
6EP1336-1LB00	20 A	100/230 V AC (85264 V AC/ 88370 V DC)	24 V DC ± 3%	20 A	110 x 125 x 125	1	6EP1336-1LB00		1	1 unit	593

SITOP Power Supply SITOP smart

Single-phase and three-phase

Overview

SITOP smart are the universal and powerful standard power supplies for mechanical and plant engineering.

Despite their compact design, they offer excellent overload behavior: Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems and the permanent overload capability of 120% offers power reserves in case of expansions.

The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

To further increase 24 V availability, the SITOP smart power supplies can be combined with buffer, DC-UPS, redundancy and selectivity modules, see pages 15/12 and 15/13.

- Single-phase and three-phase standard applications up to 40 A
- · Compact design, no lateral clearances required
- Extra power with 1.5 times the rated current (5 s/min) for brief operational overloads
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Adjustable output voltage for compensating voltage drops
- Parallel switching option to increase performance
- High degree of efficiency up to 91.5%
- Wide temperature range from -25 °C or 0 °C to +70 °C
- Comprehensive certification such as cULus, cCSAus, ATEX, IECEx and GL

Selection and ordering data

	Rated current $I_{\text{a rated}}$	Inputs Rated voltage Ue rated	Outputs Rated voltage	Dimensions (W x H x D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		Ge rated	U _{a rated}							
				mm	d					
24 V power supp										
CEP1222 2PA20	2.5 A	120/230 V AC (85 132 V AC/ 170 264 V AC)	24 V DC ± 3%	32.5 x 125 x 120	1	6EP1332-2BA20		1	1 unit	582
6EP1332-2BA20	Limitation	of input current harmor	nion according	2 to IEC 61000 2 2						
and the same of th	5 A	120/230 V AC	24 V DC	50 x 125 x 120	1	6EP1333-2BA20		1	1 unit	582
	3 A	(85 132 V AC/ 170 264 V AC)	± 3%	30 X 123 X 120	'	0EF 1333-2BA20		'	i uiiit	302
6EP1333-2BA20										
		of input current harmon								
	10 A	120/230 V AC (85 132 V AC/ 170 264 V AC)	24 V DC ± 3%	70 x 125 x 120	1	6EP1334-2BA20		1	1 unit	582
6EP1334-2BA20	-									
	20 A	120/230 V AC (85 132 V AC/ 176 264 V AC)	24 V DC ± 3%	115 x 145 x 150	1	6EP1336-2BA10		1	1 unit	582
6EP1336-2BA10	5 A	400 500 V 3 AC	24 V DC	50 x 125 x 120	1	6EP1433-2BA20		1	1 unit	582
6EP1433-2BA20	34	(340 550 V 3 AC)	± 3%	30 X 123 X 120	'	0EF 1433-2DA20		'	Turne	302
6EP1434-2BA20	10 A	400 500 V 3 AC (340 550 V 3 AC)	24 V DC ± 3%	70 x 125 x 120	1	6EP1434-2BA20		1	1 unit	582
6EP1436-2BA10	20 A	400 500 V 3 AC (340 550 V 3 AC)	24 V DC ± 3%	90 x 145 x 150	1	6EP1436-2BA10		1	1 unit	582
6EP1437-2BA20	40 A	400 500 V 3 AC (360 550 V 3 AC)	24 V DC ± 3%	150 x 145 x 150	1	6EP1437-2BA20		1	1 unit	582

Single-, two- and three-phase

Overview

SITOP modular are the technology power supplies for demanding solutions and provide maximum functionality for use in complex systems and machines.

The wide-range input enables connection to any power system in the world and ensures high safety even in the event of extreme voltage fluctuations. The power boost provides up to three times the rated current for brief periods, and with the extra power of 150%, loads with high power consumption can be connected without problems. And in the event of an overload there is a choice between constant current or automatic restart. The very high degree of efficiency keeps energy consumption and heating in the control cabinet low, and the compact metal housing also saves space.

To further increase 24 V availability, the SITOP modular power supply units can be combined with buffer, UPS, redundancy and selectivity modules, see pages 15/12 and 15/13.

For demanding applications from 5 A to 40 A

- 48 V/10 A and 20 A enable small conductor cross-sections
- Extremely slim design no lateral clearances required
- Extra power function for brief operational overloads
- Power boost for tripping protective devices
- Selectable short-circuit behavior
- Optional symmetrical load distribution for parallel operation
- Very high degree of efficiency up to 95%
- Operating status indicated by 3 LEDs
- Wide temperature range from -25 °C to +70 °C
- Extensive certification such as cULus, ATEX, IECex or GL

Selection and ordering data

Rated current $I_{\text{a rated}}$	Inputs Rated voltage Ue rated	Outputs Rated voltage U _{a rated}	Dimensions (W x H x D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			mm	d					

24 V power supplies



6EP3333-8SB00-0AY0



6EP3334-8SB00-0AY0



6EP1333-3BA10



6EP1334-3BA10



6EP1336-3BA10



6EP3337-8SB00-0AY0

	,		J					
5 A	120/230 V AC	24 V DC	45 x 125 x 125	1	6EP3333-8SB00-0AY0	1	1 unit	581
	(85 132 V AC/	± 3%						
	170 264 V AC)							

,								
10 A	120/230 V AC	24 V DC	55 x 125 x 125	1	6EP3334-8SB00-0AY0	1	1 unit	581
	(85 132 V AC/	± 3%						
	170 264 V AC)							

,								
5 A	120 230 V AC/ 230 500 V AC (85 264 V AC/ 176 550 V AC)	24 V DC ± 3%	70 x 125 x 125	1	6EP1333-3BA10	1	1 unit	581

10 A	120 230 V AC/ 230 500 V AC (85 264 V AC/ 176 550 V AC)	24 V DC ± 3%	90 x 125 x 125	1	6EP1334-3BA10	1	1 unit	581

20 A	120 230 V AC (85 275 V AC or 88 350 V DC)	24 V DC ± 3%	90 x 125 x 125	1	6EP1336-3BA10	1	1 unit	581

40 A	120/230 V AC (85 132 V AC/	24 V DC ± 3%	145 x 145 x 150 1	6EP3337-8SB00-0AY0	1	1 unit	581

SITOP Power Supply SITOP modular

Single-	. two-	and t	hree-p	hase

	Rated current $I_{\text{a rated}}$	Inputs Rated voltage Ue rated	Outputs Rated voltage Ua rated	Dimensions (W x H x D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			a ratea	mm	d					
24 V power supplie	es (contini	ued)								
	SITOP m	odular, three-pha	se							
6EP3436-8SB00-0AY0	20 A	400 500 V 3 AC (320 575 V 3 AC)	24 V DC ± 3%	70 x 125 x 125	1	6EP3436-8SB00-0AY0		1	1 unit	581
6EP3437-8SB00-0AY0		400 500 V 3 AC (320 575 V 3 AC)		135 x 145 x 150	1	6EP3437-8SB00-0AY0		1	1 unit	581
36 V power supplie										
co i ponoi cuppii		odular, three-pha	se							
6EP3446-8SB10-0AY0	13 A	400 500 V 3 AC (320 575 V 3 AC)	13 V DC	70 x 125 x 125	1	6EP3446-8SB10-0AY0		1	1 unit	581
48 V power supplie	es									
	SITOP m	odular, three-pha	se			•				
	10 A	400 500 V 3 AC (320 575 V 3 AC)	48 V DC	70 x 125 x 125	1	6EP3446-8SB00-0AY0		1	1 unit	581
6EP3446-8SB00-0AY0										
6EP3447-8SB00-0AY0	20 A NEW	400 500 V 3 AC (320 550 V 3 AC)		135 x 145 x 150	1	6EP3447-8SB00-0AY0		1	1 unit	581

Three-phase

Overview

The three-phase basic units of the SITOP PSU8600 power supply system accommodate within their extremely compact width an Ethernet/PROFINET interface as well as four individually parameterizable outputs (voltage and current threshold) with selective monitoring

Without wiring overhead, further modules from the modular system can be added to expand the number of outputs (CNX8600), to increase the mains buffering time (BUF8600), or to buffer longer power failures (UPS8600 with BAT8600) according to requirements.

Comprehensive diagnostic and maintenance information is available via PROFINET. It can be evaluated directly in SIMATIC S7 and visualized in SIMATIC WinCC.

Energy management is also optimally supported by collecting the energy data for each output as well as individual activation and deactivation of the outputs via PROFlenergy.

The integrated OPC UA server also allows direct integration into automation applications with OPC UA clients made by different manufacturers, e.g. of controllers or PCs. Not only the parameter assignment but also the diagnostics of the power supply system are possible via the open interface.

- Three-phase wide-range input 400 to 500 V 3 AC for global use
- Extremely slim design with very high efficiency of up to 94%
- Versions with a configurable output with up to 20 A or 40 A and selective monitoring.
- Versions with four integrated, individually configured outputs with up to 5 A or 10 A each and selective monitoring
- Voltage and response threshold can be set separately and are infinitely adjustable for each output
- Extra power with 1.5 times the rated current (5 s/min) for brief functional overload
- Integrated Ethernet/PROFINET interface (2 ports)
- · Easy configuration in the TIA Portal
- Comprehensive diagnostic information during operation
- Outputs can be deactivated and activated selectively via **PROFleneray**
- Individual expansion options from the modular system (CNX8600 expansion modules, BUF8600 buffer modules, or UPS8600 with BAT8600 for buffering longer power failures) without wiring overhead

Selection and ordering data

Selection and orde	ering data									
	Rated current $I_{\text{a rated}}$	Inputs Rated voltage Ue rated	Outputs Rated voltage Ua rated	Dimensions (W x H x D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	d					
24 V power supplie	s									
The same of the sa	SITOP PSU86	600 power s	upply with E	thernet/PROFI	NET	interface				
	20 A		4 28 V DC	80 x 125 x 150	1	6EP3436-8SB00-2AY0		1	1 unit	58P
	40 A	3 AC		125 x 125 x 150	1	6EP3437-8SB00-2AY0		1	1 unit	58P
	20 A (4 x 5 A)			100 x 125 x 150	1	6EP3436-8MB00-2CY0		1	1 unit	58P
 6EP3437-8MB00-2CY0	40 A (4 x 10 A)			125 x 125 x 150	1	6EP3437-8MB00-2CY0		1	1 unit	58P
	Modular syst	em, expans	ion of outpu	ts (CNX8600)						
ALLES OF THE PARTY	4 x 5 A	Infeed from	4 28 V DC	60 x 125 x 150	1	6EP4436-8XB00-0CY0		1	1 unit	58P
	4 x 10 A	PSU8600 basic unit		60 x 125 x 150	1	6EP4437-8XB00-0CY0		1	1 unit	58P
Wald	8 x 2.5 A NEW	via connector plug		100 x 125 x 150	1	6EP4436-8XB00-0DY0		1	1 unit	58P
6EP4436-8XB00-0CY0										
	Modular syst	em, bufferin	g (BUF8600))						
ALLES OF THE PARTY	100 ms/40 A	Infeed from		60 x 125 x 150	1	6EP4297-8HB00-0XY0		1	1 unit	58P
C 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		PSLIBEON								





6EP4297-8HB00-0XY0



6EP4293-8HB00-0XY0

PSU8600 300 ms/40 A basic unit 4 ς/40 Δ via connector 10 s/40 A

6EP4297-8HB10-0XY0 125 x 125 x 150 1 60 x 125 x 150 1 6EP4293-8HB00-0XY0 125 x 125 x 150 1 6EP4295-8HB00-0XY0

58P 1 unit 58P 1 unit 1 unit 58P

SITOP Power Supply SITOP PSU8600 Power Supply System

Three-phase

	Rated current $I_{\text{a rated}}$	Inputs Rated voltage Ue rated	Outputs Rated voltage Ua rated	Dimensions (W x H x D)	SD	Article No. Pr	ice PU PU (UNIT, SET, M)	PS*	PG
24 V power supplie	es (continued)								
	Modular sys	tem, bufferin	ng of longer	power failures	(UPS	88600 with BAT8600) NEW			
	UPS8600 UPS module 40 A	Infeed from PSU8600 basic unit via connector plug	48 V DC	60 x 125 x 150	X	6EP4197-8AB00-0XY0	1	1 unit	58P
6EP4197-8AB00-0XY0									
6EP4143-8JB00-0XY0	BAT8600 LiFePo4 battery module 14 min/40 A	Energy exchange with UPS8600	48 V DC	322 x 187 x 110	X	6EP4143-8JB00-0XY0	1	1 unit	58P
021 4140 00B00-0X10	BAT8600 Pb battery module 10 min/40 A		48 V DC	322 x 187 x 110	X	6EP4145-8GB00-0XY0	1	1 unit	58P

Single-phase

Overview

SITOP flexi with steplessly adjustable output voltage: One standard unit for various special voltages.

Selection and ordering data

	Rated current $I_{\text{a rated}}$	Inputs Rated voltage Ue rated	Outputs Rated voltage Ua rated	Dimensions (W x H x D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	d					
3 52 V power s	upplies									
		put current harmonic put voltage 3 V to 52) A or 120 W		EC 61000-3-2;						
	max. 10 A or 120 W	120/230 V AC (85 132 V AC/ 170 264 V AC)	3 52 V DC ± 1%	75 x 125 x 125	•	6EP1353-2BA00		1	1 unit	582

6EP1353-2BA00

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SITOP Power Supply Add-on Modules

Redundancy modules

Overview

A power supply unit on its own cannot guarantee fault-free 24 V supply. Power failures, extreme variations in the mains voltage, or a faulty load can bring plant operation to a standstill and cause high costs. The expansion modules offer extensive protection against malfunctions on the primary and secondary sides, right through to complete all-round protection.

The <u>redundancy module</u> disconnects two 24 V power supply units of the same type, enabling the configuration of a redundant 24 V power supply. If a power supply fails, the 24 V supply is reliably maintained. Signaling takes place via LED as well as signaling contacts whereby the switching threshold for LED and signaling contacts can be adjusted.

For the redundant configuration, power supplies up to:

- 5 A → one redundancy module with 10 A summation current
- 10 A → two redundancy modules with 10 A summation current
- 20 A \rightarrow one redundancy module with 40 A summation current
- 40 A → two redundancy modules with 40 A summation current

The <u>buffer module</u> bridges brief mains failures for up to several seconds for SITOP smart or SITOP modular 24 V power supply units. Maintenance-free capacitors are used as energy stores.

Buffering times:

- 200 ms at 40 A.
- 400 ms at 20 A.
- 800 ms at 10 A

To increase the buffer time (max. 10 s), up to 8 buffer modules can be connected in parallel. To bridge longer mains failures we recommend using uninterruptible power supplies with capacitors (up into the minutes range) or with battery modules (up into the hours range).

Selection and ordering data

	Inputs Rated voltage Ue rated	Outputs Rated voltage $U_{\rm a\ rated}$	Rated current $I_{\text{a rated}}$	Dimensions $(W \times H \times D)$	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	d					
SITOP PSE202U r	edundancy mod	dule								
	24 V DC (19 29 V DC)	U _e – approx. 0.5 V	10 A (Summation current)	30 x 80 x 100	1	6EP1964-2BA00		1	1 unit	588
6EP1964-2BA00										
	24 V DC (19 29 V DC)	U _e − approx. 0.5 V	3.5 A (NEC Class 2)	30 x 80 x 100	1	6EP1962-2BA00		1	1 unit	588
6EP1962-2BA00										
6EP1961-3BA21	24 V DC (24 28.8 V DC)	U _e − approx. 0.5 V	40 A (Summation current)	70 x 125 x 125	1	6EP1961-3BA21		1	1 unit	588
0EF 1901-3BAZ1										

Selectivity modules / buffer modules

Overview

The SITOP PSE200U selectivity modules and the SITOP select diagnostics module are used in combination with 24 V power supplies for distributing the load current among several current branches and for monitoring the individual partial currents.

Faults caused by overload or short circuits in individual branches are detected and selectively switched off so that the remaining load current paths remain unaffected. Rapid fault diagnosis is achieved and downtimes are minimized.

Signaling is performed via a group alarm contact or single-channel signaling. The selectivity modules with single-channel signaling output the status of the four channels cyclically by means of a serial code which can be read in by a digital PLC input.

Function blocks for SIMATIC S7-1500/1200/300/400 and for SIMOTION CPUs are available free of charge for the evaluation,

https://support.industry.siemens.com/cs/ww/en/view/61450284.

Selection and ordering data

Inputs Rated voltage $U_{\rm e\ rated}$	Outputs Rated voltage Ua rated	Rated current $I_{\text{a rated}}$	Dimensions $(W \times H \times D)$	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			mm	d					
selectivity modul	es with sumn	nation signal							
24 V DC (22 30 V DC)	<i>U</i> _e - 0.2 V	4 x 3 A (0.5 3 A)	72 x 80 x 72	1	6EP1961-2BA11		1	1 unit	586
24 V DC (22 30 V DC)	<i>U</i> _e - 0.2 V	4 x 3 A (0.5 3 A NEC Class 2)	72 x 80 x 72	1	6EP1961-2BA51		1	1 unit	586
24 V DC (22 30 V DC)	<i>U</i> _e - 0.2 V	4 x 10 A (3 10 A)	72 x 80 x 72	1	6EP1961-2BA21		1	1 unit	586
selectivity modul	es with single	e-channel sig	ınaling						
24 V DC (22 30 V DC)	<i>U</i> _e - 0.2 V	4 x 3 A (0.5 3 A)	72 x 80 x 72	1	6EP1961-2BA31		1	1 unit	586
24 V DC (22 30 V DC)	<i>U</i> _e - 0.2 V	4 x 3 A (0.5 3 A NEC Class 2)	72 x 80 x 72	1	6EP1961-2BA61		1	1 unit	586
24 V DC (22 30 V DC)	<i>U</i> _e - 0.2 V	4 x 10 A (3 10 A)	72 x 80 x 72	1	6EP1961-2BA41		1	1 unit	586
nostics modules	S								
24 V DC (22 30 V DC)	<i>U</i> _e - 0.3 V	4 x 10 A (2 10 A)	72 x 90 x 90	•	6EP1961-2BA00		1	1 unit	586
24 V DC (24 28.8 V DC)	U _e − approx. 1 V	40 A	70 x 125 x 125	1	6EP1961-3BA01		1	1 unit	588
	Rated voltage Ve rated Selectivity modul 24 V DC (22 30 V DC) Rated voltage \[U_{e \ rated} \] Rated voltage \[U_{a \ rated} \] Rated voltage \	Rated voltage $U_{e \ rated}$ Rated voltage $U_{a \ rated}$ Rated current $I_{a \ rated}$ Selectivity modules with summation signal $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 10 \ A$ $(3 \dots 10 \ A)$ $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $(0.5 \dots 3 \ A)$ $(22 \dots 30 \ V \ DC)$ $U_{$	Rated voltage $U_{e \ rated}$ Rated voltage $U_{a \ rated}$ Rated current $I_{a \ rated}$ (W × H × D) mm selectivity modules with summation signal 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 3 A 72 × 80 × 72 (0.5 3 A) 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 3 A 72 × 80 × 72 (0.5 3 A NEC Class 2) 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 10 A 72 × 80 × 72 (22 30 V DC) 3 Selectivity modules with single-channel signaling 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 3 A 72 × 80 × 72 (0.5 3 A) 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 3 A 72 × 80 × 72 (0.5 3 A) 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 10 A 72 × 80 × 72 (0.5 3 A) 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 10 A 72 × 80 × 72 (0.5 3 A) 3 10 A) NEC Class 2) 24 V DC (22 30 V DC) U_{e} - 0.2 V 4 × 10 A 72 × 80 × 72 (0.5 3 A) 3 10 A) U_{e} - 0.3 V 4 × 10 A 72 × 80 × 72 (0.5 3 A) 4 V DC (22 30 V DC) U_{e} - 0.3 V 4 × 10 A 72 × 90 × 90 (0.5 3 A)	Rated voltage $U_{e rated}$ Rated voltage $U_{a rated}$ Rated current $I_{a rated}$ (W × H × D) $U_{e rated}$ $U_{a rated}$ mm d selectivity modules with summation signal 24 V DC (22 30 V DC) $U_{e} - 0.2 \text{ V}$ (0.5 3 A) 72 × 80 × 72 1 (0.5 3 A) 24 V DC (22 30 V DC) $U_{e} - 0.2 \text{ V}$ (3 10 A) 4 × 10 A 72 × 80 × 72 1 (0.5 3 A) 24 V DC (22 30 V DC) $U_{e} - 0.2 \text{ V}$ (4 × 3 A 72 × 80 × 72 1 (0.5 3 A) 1 24 V DC (22 30 V DC) $U_{e} - 0.2 \text{ V}$ (4 × 3 A 72 × 80 × 72 1 (0.5 3 A) 1 24 V DC (22 30 V DC) $U_{e} - 0.2 \text{ V}$ 4 × 3 A 72 × 80 × 72 1 (0.5 3 A) 1 24 V DC (22 30 V DC) $U_{e} - 0.2 \text{ V}$ 4 × 10 A 72 × 80 × 72 1 (0.5 3 A) 1 24 V DC (22 30 V DC) $U_{e} - 0.2 \text{ V}$ 4 × 10 A 72 × 80 × 72 1 (0.5 3 A) 1 24 V DC (22 30 V DC) $U_{e} - 0.3 \text{ V}$ 4 × 10 A 72 × 80 × 72 1 (0.5 3 A) 1 24 V DC (22 30 V DC) $U_{e} - 0.3 \text{ V}$ 4 × 10 A 72 × 80 × 72 1 (0.5 3 A) 1 24 V DC (22 30 V DC) $U_{e} - 0.3 \text{ V}$ 4 × 10 A 72 × 80 × 72 1 (0.5 3 A) 1	Rated voltage $U_{e \ rated}$ Rated voltage $U_{a \ rated}$ Rated current $I_{a \ rated}$ mm d d selectivity modules with summation signal $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $72 \times 80 \times 72$ 1 6EP1961-2BA51 $(22 \dots 30 \ V \ DC)$ $(22 \dots 30 \ V \ DC)$ $(0.5 \dots 3 \ A)$ NEC Class 2) $24 \ V \ DC$ $(22 \dots 30 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 10 \ A$ $72 \times 80 \times 72$ 1 6EP1961-2BA21 $(22 \dots 30 \ V \ DC)$ $(3 \dots 10 \ A)$ 8electivity modules with single-channel signaling $(24 \ V \ DC)$ $U_{e} - 0.2 \ V$ $4 \times 3 \ A$ $4 \times 3 \ $	Rated voltage U _{e rated} Rated voltage U _{e rated} Rated current I _{a rated} mm d Selectivity modules with summation signal 24 ∨ DC U _e - 0.2 ∨ 4 × 3 A 72 × 80 × 72 1 6EP1961-2BA11 (22 30 ∨ DC) (0.5 3 A) Rated voltage Ue rated Rated voltage Ue rated Rated current In a rated (W × H × D) mm per PU (UNIT, SET, M) Selectivity modules with summation signal (22 30 V DC) Ue - 0.2 V 4 x 3 A (0.5 3 A) 72 x 80 x 72 1 6EP1961-2BA11 1 1 1 24 V DC (22 30 V DC) Ue - 0.2 V 4 x 3 A (0.5 3 A) 72 x 80 x 72 1 6EP1961-2BA51 1 1 1 24 V DC (22 30 V DC) Ue - 0.2 V 4 x 10 A (3 10 A) 72 x 80 x 72 1 6EP1961-2BA21 1 1 1 3electivity modules with single-channel signaling 24 V DC (22 30 V DC) Ue - 0.2 V 4 x 3 A (0.5 3 A) 72 x 80 x 72 1 6EP1961-2BA31 1 1 1 24 V DC (22 30 V DC) Ue - 0.2 V 4 x 3 A (0.5 3 A) 72 x 80 x 72 1 6EP1961-2BA61 1 1 1 24 V DC (22 30 V DC) Ue - 0.2 V 4 x 3 A (0.5 3 A) NEC Class 2) 1 6EP1961-2BA61 1 1 1 24 V DC (22 30 V DC) Ue - 0.2 V 4 x 10 A (0.5 3 A) NEC Class 2) 1 6EP1961-2BA41 1 1 1 24 V DC (22 30 V DC) Ue - 0.2 V 4 x 10 A (2 10 A) 72 x 80 x 72 1 6EP1961-2BA41 1 1 1 24 V DC (22 30 V DC) Ue - 0.3 V 4 x 10 A (2 10 A) 72 x 90 x 90 Image: Property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property	Rated voltage U _{e rated} Rated voltage U _{e rated} Rated current I _{a rated} (W × H × D) d mm d d mm d d mm d d mm d d mm d d mm d d mm d d mm d d mm d d mm d d mm d d d mm d		

DC-UPS with capacitors

Overview

To combat prolonged power failures, the 24 V SITOP power supply units can be upgraded into a 24 V DC uninterruptible power supply.

SITOP offers two systems with different energy stores for this purpose:

- Capacitors for 24 V buffering in the minute range
- Battery modules which provide a buffer in the hours range

The DC UPS systems are used, for example, in machine tool manufacturing, in the textile industry, on all types of production lines and filling plants, and in conjunction with 24 V industrial PCs. They prevent the negative consequences which often result from mains failures.

To bridge brief power failures, 24 V SITOP power supply units can be expanded with a SITOP UPS500 uninterruptible DC power supply (DC-UPS).

In PC-based automation solutions, the highly capacitive double-layer capacitors of the SITOP UPS500 supply enough energy to safeguard operating and application data and close software applications in a defined manner.

- Buffering into the minutes range depending on the load current and DC-UPS configuration
- SITOP UPS500S basic units for standard mounting rails can be combined with up to three UPS501S expansion modules
- SITOP UPS500P in degree of protection IP65 for distributed applications
- Absolutely maintenance-free double-layer capacitors
- Short charging times
- Long service life even at high ambient temperatures
- No ventilation of the installation location required
- USB interface for PC communication
- Easy PC integration thanks to free software tool





	SITOP UP	S500S/UPS5	01S configurat	tions					UPS500P		
Basic unit	2.5 kWs	5 kWs	2.5 kWs	5 kWs	2.5 kWs	5 kWs	2.5 kWs	5 kWs	5 kWs	10 kWs	
Expansion modules			1 x 5 kWs	1 x 5 kWs	2 x 5 kWs	2 x 5 kWs	3 x 5 kWs	3 x 5 kWs			
Total energy	2.5 kWs	5 kWs	7.5 kWs	10 kWs	12.5 kWs	15 kWs	17.5 kWs	20 kWs	5 kWs	10 kWs	
Load current	Buffer tim	Buffer times									
0.5 A	134 s	236 s	390 s	478 s	632 s	748 s	851 s	1 007 s	284 s	647 s	
0.8 A	90 s	167 s	266 s	346 s	440 s	527 s	580 s	706 s	190 s	435 s	
1 A	75 s	138 s	219 s	296 s	365 s	414 s	490 s	572 s	153 s	351 s	
2 A	38 s	76 s	122 s	156 s	203 s	230 s	265 s	306 s	80 s	152 s	
3 A	26 s	52 s	82 s	106 s	136 s	159 s	186 s	213 s	53 s	108 s	
4 A	19 s	39 s	61 s	81 s	101 s	120 s	139 s	160 s	40 s	84 s	
5 A	15 s	31 s	49 s	65 s	81 s	95 s	111 s	130 s	30 s	68 s	
6 A	12 s	26 s	40 s	55 s	67 s	80 s	94 s	106 s	25 s	57 s	
7 A	10 s	21 s	34 s	47 s	58 s	69 s	81 s	82 s	21 s	49 s	
8 A	8 s	18 s	29 s	40 s	50 s	59 s	69 s	79 s			
10 A	6 s	15 s	23 s	32 s	39 s	47 s	54 s	62 s			
12 A	4 s	12 s	19 s	26 s	32 s	38 s	44 s	52 s			
15 A	3 s	9 s	14 s	20 s	25 s	30 s	35 s	40 s			

SITOP Power Supply SITOP DC-UPS Uninterruptible Power Supply

DC-UPS with capacitors

Selection and	ordering	g data									
	Version	Inputs Rated voltage Ue rated	Outputs Rated voltage Ua rated	Rated current Ia rated	Dimensions (W × H × D)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					mm	d					
SITOP UPS500	S										
	Basic (units 15 A									
	2.5 kWs 5 kWs	24 V DC (22 29 V DC) Infeed through SITOP 24 V DC	24 V DC ± 3%	15.2 A + approx. 2.3 A (charging mode)	120 x 125 x 125 120 x 125 x 125	1	6EP1933-2EC41 6EP1933-2EC51		1	1 unit 1 unit	585 585
	SITOP	UPS501 expans	sion modul	es							
6EP1933-2EC.1, 6EP1935-5PG01	5 kWs	Infeed through basic unit			70 x 125 x 125	1	6EP1935-5PG01		1	1 unit	585
SITOP UPS500	P										
	Basic (units 7 A, degre	e of protec	tion IP65			-				
6EP1933-2NC01	5 kWs	24 V DC (22.5 29 V DC) Infeed through SITOP 24 V DC	24 V DC ± 3%	7 A + approx. 2 A (charging mode)	400 (without plug) x 80 x 80	X	6EP1933-2NC01		1	1 unit	585
6EP1933-2NC11	10 kWs			medey	470 (without plug) x 80 x 80	X	6EP1933-2NC11		1	1 unit	585
Accessories											
	Connector set for SITOP UPS500P With input and output connector and assembled USB cable 2 m in length						6EP1975-2ES00		1	1 unit	591

Note:

For DC-UPS with battery modules, see from page 15/16.

SITOP UPS1600 DC-UPS modules

Overview

To bridge longer power failures, 24 V SITOP power supply units can be expanded with a SITOP UPS1600 uninterruptible DC power supply (DC-UPS) and SITOP UPS1100 battery modules.

Intelligent battery management using Energy Storage Link automatically detects the UPS1100 energy storage device, and ensures optimum temperature-controlled charging and continuous monitoring. The compact DC-UPS modules have overload capability, for example, to supply the inrush current of industrial PCs. They enable starting from the battery for stand-alone operation.

The DC-UPS communicates openly through USB or Ethernet/PROFINET and can be easily integrated into the PC or PLC world. Complete integration in TIA offers user-friendly engineering in the TIA Portal and is supported by ready-to-use function blocks for S7 user programs and WinCC faceplates for rapid visualization.

Use of the SITOP UPS manager also enables easy monitoring and configuration in PC systems, e.g. the shutting down of several PCs in accordance with the master-slave principle.

- 24 V buffering for a few hours for continuing processes
- Open communication via USB or two Ethernet/PROFINET ports
- · High overload capability for mains and buffering operation

- Intelligent battery management using Energy Storage Link: Automatic detection of the battery modules and selection of the optimum, temperature-controlled charging curve, monitoring of readiness, incoming cable, -aging and charge status
- All diagnostic data and alarm messages are available via USB and Ethernet/PROFINET
- Integrated OPC UA server facilitates flexible, multi-vendor communication with other systems (versions with Ethernet/ PROFINET)
- · Remote monitoring via integrated web server
- SITOP UPS Manager (free software download) supports configuration and monitoring on PC-based systems, see https://support.industry.siemens.com/cs/ww/en/view/75854607
- Complete integration in TIA:
 - User-friendly engineering in the TIA Portal, see https://support.automation.siemens.com/WW/view/en/75854606
 - SIMATIC S7 function blocks for integration in user programs (free download), see https://support.industry.siemens.com/cs/ww/en/view/78817848
 - Ready-to-use "faceplates" for SIMATIC Panels and SIMATIC WinCC (free download), see https://support.industry.siemens.com/cs/ww/en/view/78817848

Selection and ordering data

	Rated current $I_{\text{a rated}}$	Inputs Rated voltage Ue rated	Outputs Rated voltage Ua rated	Dimensions $(W \times H \times D)$	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	d					
SITOP UPS1600										
	10 A	24 V DC (21 29 V DC)	24 V DC	50 x 125 x 125						
2 1600	• SITOP UPS160	00			3	6EP4134-3AB00-0AY0		1	1 unit	585
90 - S	- With USB int	erface			3	6EP4134-3AB00-1AY0		1	1 unit	585
	- With Etherne	t/PROFINET			3	6EP4134-3AB00-2AY0		1	1 unit	585
6EP4134-3AB00AY0)									
	20 A	24 V DC (21 29 V DC)	24 V DC	50 x 125 x 125						
001 S	• SITOP UPS160	00			3	6EP4136-3AB00-0AY0		1	1 unit	585
	- With USB int	erface			3	6EP4136-3AB00-1AY0		1	1 unit	585
	- With Etherne	t/PROFINET			3	6EP4136-3AB00-2AY0		1	1 unit	585
6EP4136-3AB00AY0)									
8 = 1	40 A	24 V DC (21 29 V DC)	24 V DC	70 x 125 x 150						
I I I I I I I I I I I I I I I I I I I	• SITOP UPS160	00			3	6EP4137-3AB00-0AY0		1	1 unit	585
Total Total	- With USB int	erface			3	6EP4137-3AB00-1AY0		1	1 unit	585
elinini.	- With Etherne	t/PROFINET			3	6EP4137-3AB00-2AY0		1	1 unit	585
6EP4137-3AB00AY0)									

SITOP UPS1100 battery modules

Overview

SITOP UPS1100 maintenance-free battery modules with 1.2 Ah to 12 Ah for SITOP UPS1600 DC-UPS modules. The intelligent UPS1600 battery management charges the UPS1100 with the optimal, temperature-controlled charging characteristics and monitors the status (operating data and diagnostics information) via the energy storage link of the connected battery modules.

For longer buffer times, up to six battery modules can be connected in parallel. Mounting is on a standard mounting rail or directly on a wall.













Battery modules

SITOP UPS1100 24 V/1.2 Ah

SITOP UPS1100 24 V/2.5 Ah high temperature

SITOP UPS1100 24 V/3.2 Ah

24 V/5 Ah LiFePo

24 V/7 Ah

SITOP UPS1100 24 V/12 Ah

'n	6EP4135-0GB00-0AY
•	0E: 1100 0GB00 0A:

	6EP4131-0GB00-0AY0	6EP4132-GB00-0AY0	6EP4133-0GB00-0AY0	6EP4133-0JB00-0AY0	6EP4134-0GB00-0AY0	6EP4135-0GB00-0AY0
Load current	Buffering times ¹⁾					
1 A	27 min	1 h 30 min	2 h	4 h	5 h	8 h 30 min
2 A	14 min	50 min	1 h	2 h 10 min	2 h 40 min	4 h 30 min
3 A	10 min	36 min	45 min	1 h 30 min	1 h 50 min	3 h 10 min
4 A	7 min 50 s	26 min	34 min	1 h 10 min	1 h 20 min	2 h 30 min
6 A	4 min 40 s	15 min	21 min	48 min	48 min	1 h 30 min
8 A	3 min	11 min	15 min	37 min	34 min	1 h
10 A	1 min 30 s	6 min 40 s	9 min 30 s	26 min	21 min	42 min
12 A		5 min 40 s	8 min 10 s	23 min	19 min	37 min
14 A		4 min 40 s	6 min 50 s	21 min	16 min	32 min
16 A		3 min 40 s	5 min 30 s	18 min	13 min	27 min
20 A		1 min 40 s	2 min 50 s	13 min	7 min 50 s	17 min
30 A					3 min 50 s	10 min
40 A					1 min 40 s	5 min 30 s
1)		2 1 1 1 1 1			-1	

The determination of the buffer times is based on the discharge period of new and completely charged battery modules with a battery temperature of not less than +25 °C until shutdown of the DC UPS (19 V).

Selection and ordering data

Rated current $I_{\text{a rated}}$	Dimensions (W \times H \times D)	SD	Article No.	Price per PU	PS*	PG
	mm	d				

3

SITOP UPS1100 battery modules



For UPS1600 10 A

1.2 Ah 89 × 130 × 107 6EP4131-0GB00-0AY0

585 1 unit

6EP4131-0GB00-0AY0



For UPS1600 10 A and 20 A

3.2 Ah	$190 \times 169 \times 79$
5 Ah LiFePo	$189\times186\times113$
7 Ah	186 × 186 × 110

3 6EP4133-0GB00-0AY0 6EP4133-0JB00-0AY0

6EP4134-0GB00-0AY0

585 1 unit 1 unit 585 585 1 unit

6EP4133-0JB00-0AY0



For UPS1600 20 A and 40 A

12 Ah 253 × 186 × 110 6EP4135-0GB00-0AY0

585 1 unit

6EP4135-0GB00-0AY0

SITOP UPS1100 battery modules, high-temperature



For UPS1600 10 A and 20 A

2.5 Ah 265 × 115 × 76 6EP4132-0GB00-0AY0

1 unit

585

15

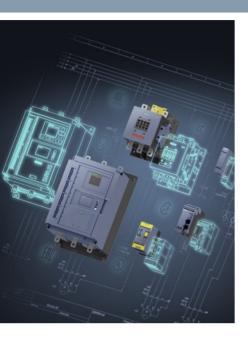
6EP4132-0GB00-0AY0

Buffer times for additional values can be determined using the SITOP Selection Tool, see siemens.com/sitop-selection-too

Notes

15

16



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Contact

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7

Overview

General

With regard to delivery service, communications and environmental protection, our logistics service ensures "quality from the moment of ordering right through to delivery". By designing our infrastructure according to customer requirements and implementing electronic order processing, we have successfully optimized our logistics processes.

Our delivery processes are designed such that, as a rule, a confirmed deadline is not generally exceeded. In fact, wherever possible, we aim to deliver up to three working days ahead of schedule to optimize the overall delivery situation (e.g. in anticipation of holidays and peak order periods).

We are proud of our personal consulting service, on-time deliveries and one-day delivery within Germany.

To achieve this, we supply the preferred types marked with ex warehouse.

We regard the ISO 9001 certification and consistent quality checks as an integral part of our services.

Electronic order processing is fast, cost-efficient and error-free. Please contact us if you want to benefit from these advantages.

Packaging, packing units

The packaging in which our equipment is dispatched provides protection against dust and mechanical damage during transport, thus ensuring that you receive our products in a perfect state.

We select our packaging for maximum environmental compatibility and reusability (e.g. crumpled paper for protection during transport in packages up to 32 kg) and, in particular, with a view to reducing waste.

With our multi-unit packaging and reusable packaging, we offer you specific types of packaging that are both kind to the environment and tailored to your requirements.

Your advantages at a glance:

- Lower order costs
- Cost savings through uniform-type packaging: low/no disposal costs
- Reduced time and cost thanks to short unpacking times
- "Just-in-time" delivery directly to the production line helps reduce stock: cost savings through reduction of storage area
- Fast assembly thanks to supply in sets
- Standard Euro boxes corresponding to the Euro pallet modular system – suitable for most conveyor systems
- Active contribution to environmental protection

Unless stated otherwise in the "Selection and ordering data" of this catalog, our products are supplied individually packed.

For small parts/accessories, we offer you economical packaging units as standard packs containing more than one item, e.g. 5, 10, 50 or 100 units. It is essential that whole number multiples of these quantities be ordered to ensure satisfactory quality of the products and problem-free order processing.

The products are delivered in a neutral carton. The label includes warning notices, the CE mark and product description information in English and German.

In addition to the Article No. (MLFB) and the packed number of items in the packaging the Instr. Order No. is also specified for the operating instructions. It can be obtained from your local Siemens representative (you will find a list of your local Siemens contacts at www.siemens.com/automation-contact).

The device Article No. of most devices can also be acquired through the EAN barcode to simplify ordering and storage logistics.

The related master data are available from your local Siemens representative.

Logistics

Multi-unit and reusable packagings

The devices listed in the table on page 16/5 can be ordered in multi-unit or reusable packagings (further versions on request).

If ordering multi-unit or reusable packagings for the first time, please first consult your local Siemens representative with regard to pack type, quantity, delivery time and the precise order designation. Use of the reusable packaging is reserved solely for customers that have signed a packaging return agreement with their Siemens representative in advance.

Multi-unit and reusable packagings are not available as a pack type for all products. Some products are unsuited for this pack type and would only involve an increased risk of damage in transit.

For both pack types, the quantity of devices ordered (per Article No.) must be divisible by the pack quantity. If this is not the case, the electronic order processing system rounds up to the next integer multiple of packagings.

Multi-unit packaging



Products in a quantity sufficient to fill a multi-unit packaging: 1/2 (W96) and 1/4 (W97) ENK

As standard, multi-unit packs contain uniform-type, unpacked individual products (one device type) in an appropriately sized carton made of recyclable cardboard. The products of the SIRIUS range can be ordered in units of 1/1, 1/2, 1/4 and 1/8 standard Euro boxes (ENK).

Reusable packaging (uniform type)



Standard Euro box (ENK) made of durable molded plastic with foam inserts

Standard reusable packagings contain uniform-type, non-packed individual products (one device type) in a reusable standard Euro box (ENK) made of durable molded plastic with foam inserts for protection during transport.

The standard Euro box (ENK) also serves as transport packaging. The reusable packagings (ENK) plus foam inserts are returned by the customer (free of charge) to the supply base.

Please contact your Siemens representative to clarify the delivery details or conditions for set supply or delivery in reusable packaging (ENK) (to find Siemens representatives, see www.siemens.com/automation-contact).

Suitable arrangements will then be agreed with you.

Set deliveries (reusable, different devices)

On request, we also deliver order-related packs of larger quantities of devices in a standard Euro box (ENK).

Please contact your Siemens representative to clarify the delivery details or conditions for set supply or delivery in reusable packagings. Suitable arrangements will then be agreed with you.

Packaging dimensions

Packing material	Length	Height	Width	
	mm	mm	mm	
ENK	596	219	396	
W95	575	190	375	
W96	375	190	290	
W97	290	190	195	
W98	290	100	195	

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Logistics

Multi-unit and reusable packaging, quantity in units, supplied in indivisible pack quantities with delivery time on request

Devices	Size	Reusable	Multi-unit			
SIRIUS		X95 (1/1 ENK)	W95 (1/1 ENK)	W96 (1/2 ENK)	W97 (1/4 ENK)	W98 (1/8 ENK)
Contactors 3RT2011A1/2 3RT2011B1/2 3RT2012A/B	\$00 \$00 \$00	144 72 120		72 72 60	40 40 32	
3RT2021A/B0 3RT2022A/B0	S0 S0	48 40		24 18	12 8	
3RT2030 3RT2034	S2 S2	30 30		15 15	6	
Snap-on auxiliary switch blocks 3RH2911–1F./GA/HA 3RH2911–2F./G./H./N./X		351 321		240 196	120 100	60 50
Contactor relays 3RH211A0 3RH211B0 3RH212A/B0	\$00 \$00 \$00	144 72 120	 	72 72 60	40 40 32	
Motor starter protectors 3RV20111/0/5 3RV20112/0/5	\$00 \$00	43 40		24 16	12 8	
3RV20211/0/5 3RV20212/0/5	S0 S0	43 35		24 16	12 8	
3RV20310/5	S2	24		12	5	
Thermally delayed overload relays 3RU2116B0 3RU2116C0	\$00 \$00	64 56		32 24	16 12	
3RU2126B0 3RU2126C0	S0 S0	56 48		32 24	16 12	
3RU2136B0	S2	36		18	9	
3RP25 electronic timing relays	On request					

Devices	Multi-unit
SIRIUS ACT	X90
3SU1 pushbuttons and indicator lights	
Complete units (3SU11)	20
Compact units (3SU12)	
• Acoustic signaling devices, pushbuttons with extended stroke, potentiometers	50
Actuating and signaling elements (3SU10)	
 Pushbuttons, illuminated pushbuttons, indicator lights 	100
 Stop switches, twin pushbuttons, mushroom pushbuttons 30/40 mm, EMERGENCY STOP mushroom pushbuttons 30/40 mm, toggle switches, selector switches, key-operated switches, ID key-operated switches, coordinate switches 	50
• Mushroom pushbuttons 60 mm, EMERGENCY STOP mushroom pushbuttons 60 mm	40
Holders (3SU15)	100
Modules for actuators and indicators (3SU14)	
Contact modules	150
• LED modules	50
Accessories (3SU19)	
 Sealing plugs, label holders, EMERGENCY STOP backing plates, labeling plates for potentiometers, EMERGENCY STOP labeling plates for enclosures without cutouts and without inscription 	100

When ordering products in <u>multi-unit packagings</u>, the Article No. of the product concerned must be supplemented with "–**Z**" and, <u>in addition</u>, the order code **X90**, or for products from the SIRIUS range, the order code **W9**.

Ordering example: 3RT2024-1AB00-Z W96

+ quantity: 24

For products packed in <u>reusable packaging</u>, the Article No. must be supplemented with "-Z" and the order code **X95**.

Ordering example: 3RT2024-1AB00-Z X95 + quantity: 48

Standards and approvals

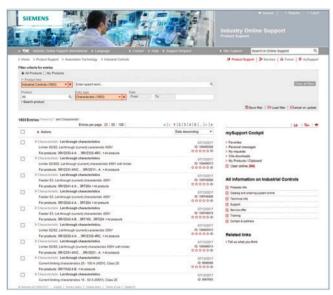
Approvals, test certificates, characteristic curves

An overview of the certificates available for Industrial Control products along with more technical documentation can be consulted daily on the Internet at:

www.siemens.com/sirius/approvals



Product support: Approvals/certificates



Product support: Characteristics

Safety characteristics

In the following standards, the so-called B10 values for calculating the safety integrity or safety integrity level (SIL) in functional safety at a high or continuous demand rate are required also for electromechanical switchgear:

- IEC 62061 "Safety of machines Functional safety of safetyrelated electrical, electronic and programmable electronic control systems",
- ISO 13849-1 "Safety of machines Safety-related components of controls - Part 1: General principles".

Failure rates of electromechanical components are required for calculating the safety integrity or safety integrity level (SIL) in functional safety:

- in the manufacturing industry at a high demand rate
- in the process industry at a low demand rate

Further requirements are laid down in IEC 61511-1 "Functional safety - Safety instrumented systems for the process industry sector - Part 1: Framework, definitions, system, hardware and software requirements".

The German versions of the above standards are:

- FN 62061
- EN ISO 13849
- EN 61511-1

The TÜV-tested Safety Evaluation Tool assists in calculating the safety function as verification for the machine documentation. It is available as a free download on the Internet at www.siemens.com/safety-evaluation-tool.

At www.siemens.com/safety-integrated you will also find examples of functions with calculations according to the current standards.

Definitions

 λ (t) dt is the probability that a unit which has not failed by a certain time t will fail in the following interval (t; t + dt). Failure rates have the dimension 1/time unit, e.g. 1/h. Failure rates for components are often specified in FIT (failures in time unit): 1 FIT equals 10-9/h. From the failure rate it is possible to derive a (mathematical) distribution function of the failure probability:

 $F(t) = 1 - \exp(-\lambda t)$, with λ as constant failure rate

- The mean value of this exponential distribution is also referred to as:
 - Mean Time To Failure (MTTF) in the case of irreparable components; 63.2% of components fail by the MTTF.
 - Mean Operating Time Between Failures (MTBF) in the case of reparable components.
- MTTF = $1/\lambda$ (MTTF is a statistical mean value but no guarantee for endurance).

Electromechanical components are often irreparable components. In general, the failure rate of monitored units changes with age.

The B10 value for devices subject to wear is expressed in number of operating cycles:

• It is the number of operating cycles after which 10% of the test specimens fail in the course of an endurance test (or: The number of operating cycles after which 10% of the devices have failed).

For low demand rates (mainly in the process industry), the failure rate and not the B10 value is used to determine the failure probability.

The safety characteristics of electromechanical SIRIUS products can be found at

https://support.industry.siemens.com/cs/ww/en/view/109739348 or in the SIEMENS Industry Online Support Portal (http://support.industry.siemens.com)

under the Entry ID: 109739348.

Standards and approvals

Sta	nd	lar	ds

Otanidards		
IEC	EN	Title
60947-1 60947-2 60947-3	60947-1 60947-2 60947-3	Low-voltage switchgear and controlgear: General rules Circuit-breakers Switches, disconnectors, switch-disconnectors and fuse-combination units
60947-4-1 60947-4-2 60947-4-3	60947-4-1 60947-4-2 60947-4-3	Contactors and motor starters: Electromechanical contactors and motor starters Contactors and motor starters: AC semiconductor motor controllers and starters, soft starters AC semiconductor controllers and contactors for non-motor loads
60947-5-1 60947-5-2 60947-5-3 60947-5-5 60947-5-6 60947-5-7 60947-5-8 60947-5-9	60947-5-1 60947-5-2 60947-5-3 60947-5-5 60947-5-6 60947-5-7 60947-5-8 60947-5-9	Control circuit devices and switching elements - Electromechanical control circuit devices Control circuit devices and switching elements - Proximity switches Requirements for proximity devices with defined behaviour under fault conditions Electrical emergency stop device with mechanical latching function Control devices and switching elements - DC interface for proximity sensors and switching amplifier (NAMUR) Requirements for proximity devices with analogue output Three-position enabling switches Flow rate switches
60947-6-1 60947-6-2	60947-6-1 60947-6-2	 Multiple function equipment - Transfer switching equipment Multiple function equipment - Control and protective switching devices (or equipment) (CPS)
60947-7-1 60947-7-2 60947-7-3 60947-7-4	60947-7-1 60947-7-2 60947-7-3 60947-7-4	 Ancillary equipment - Terminal blocks for copper conductors Ancillary equipment - Protective conductor terminal blocks for copper conductors Ancillary equipment - Safety requirements for fuse terminal blocks Ancillary equipment - PCB terminal blocks for copper conductors
60947-8	60947-8	Control units for built-in thermal protection (PTC) for rotating electrical machines
62026-2	62026-2	Actuator sensor interface (AS-i)
60269-1 60269-4	60269-1 60269-4	Low-voltage fuses: General requirements Low-voltage fuses: Supplementary requirements for fuse-links for the protection of semiconductor devices
60050-441		International Electrotechnical Vocabulary. Switchgear, controlgear and fuses
61439-1 61439-2 61439-3	61439-1 61439-2 61439-3	Low-voltage switchgear and controlgear assemblies: General rules Low-voltage switchgear and controlgear assemblies: Power switchgear and controlgear assemblies Low-voltage switchgear and controlgear assemblies: Distribution boards intended to be operated by ordinary persons (DBO)
61439-4 61439-5 61439-6 	61439-4 61439-5 61439-6 50274 61140	Low-voltage switchgear and controlgear assemblies: Particular requirements for assemblies for construction sites (ACS) Low-voltage switchgear and controlgear assemblies: Assemblies for power distribution in public networks Low-voltage switchgear and controlgear assemblies - Part 6: Busbar trunking systems (busways) Low-voltage switchgear and controlgear assemblies - Protection against electric shock - Protection against unintentional direct contact with hazardous live parts Protection against electric shock - Common aspects for installation and equipment
60664-1	60664-1	Insulation coordination for electrical equipment in low-voltage systems; Principles, requirements and tests
60204-1 60079-14 60079-2	60204-1 50178 60079-14 60079-2	Electrical equipment of machines: General requirements Electronic equipment for use in power installations Electrical apparatus for explosive gas atmospheres Electrical installations in hazardous areas (other than mines) Electrical apparatus for explosive gas atmospheres – Part 2: Pressurized Enclosures M "p"
61810-1 61812-1	61810-1 61812-1	Electromechanical elementary relays; General requirements Time relays for industrial and residential use - Part 1: Requirements and tests
60999-1	60999-1	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0.2 mm ² up to 35 mm ² (included)
60999-2	60999-2	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units: Particular requirements for clamping units for conductors above 35 mm ² up to 300 mm ² (included)
IEC/TR 61000-4-1	61000-4-1	Electromagnetic compatibility (EMC) – Part 4-1: Testing and measuring techniques - Overview of IEC 61000-4 series
61000-6-2 61000-6-3	61000-6-2 61000-6-3	Electromagnetic compatibility (EMC); Generic standards - Immunity for industrial environments Electromagnetic compatibility (EMC); Generic standards - Emission standard for residential, commercial and light-industrial environments
61000-6-4	61000-6-4	Electromagnetic compatibility (EMC); Generic standards - Emission standard for industrial environments
61869-1	61869-1	Instrument transformers: General requirements
61869-2	61869-2	Instrument transformers: Additional requirements for current transformers

Standards and approvals

UL	CSA C22.2	ASME	JIS	Title
508 60947-1 60947-4-1	 No. 60947-1 No. 60947-4-1	 	 	Industrial control equipment Low-voltage switchgear and controlgear – Part 1: General rules Low-voltage switchgear and controlgear – Part 4-1: Contactor and motor starters –
60947-4-2	No. 60947-4-2			Electromechanical contactors and motor starters Low-voltage switchgear and controlgear - Part 4-2: Contactors and motor-starters – AC semiconductor motor controllers and starters
60947-5-1	No. 60947-5-1			Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices
60947-5-5				Low-voltage switchgear and controlgear – Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function
489 1012	No. 5 	 		Molded case circuit breakers, molded case switches, and circuit breaker enclosures Power units other than CLASS 2
1059 486A-486B				Terminal blocks Wire connectors
486E				Equipment wiring terminals for use with aluminum and/or copper conductors
50 50E				Enclosures for electrical equipment – Non-environmental considerations Enclosures for electrical equipment – Environmental considerations
	No. 14			Industrial control equipment
	No. 107.1			General use power supplies
		A17.5 / CSA B 44.1		Elevator and escalator electrical equipment
			C 8201-4-1	Low-voltage switchgear and controlgear; Contactors and motor-starters

Approval requirements valid in different countries

Siemens low-voltage switchgear and controlgear are designed, manufactured and tested according to the relevant German standards (DIN and VDE), IEC publications and European standards (EN) as well as CSA and UL standards. The standards assigned to the single devices are stated in the relevant parts of this catalog.

As far as is economically viable, the requirements of the various standards valid in other countries are also taken into account in the design of the equipment.

In some countries an approval is required for certain low-voltage switchgear and controlgear components (see table below).

Depending on the market requirements, these components have been submitted for approval to the authorized testing institutes.

In some cases, CSA for Canada and UL for the USA only approve special switchgear versions. Such special versions are listed separately from the standard versions in the individual parts of this catalog.

For this equipment, partial limitations of the maximum permissible voltages, currents and ratings can be imposed, or special approval and, in some cases, special identification is required.

For use on board ship, the specifications of the marine classification societies must be observed (see table below). In some cases, they require type tests of the components to be approved.

Testing bodies, approval identification and approval requirements

Country	Canada L		USA	China	Russia / Belarus / Kazakhstan /	
Government-appointed or private, officially recognized testing bodies	CSA	UL (USA)	UL	CQC	Official national regulation / TR	
Mark of conformity	(B)	c (1) c (3) c (3) us c (1) us	(1) % C % US C (1) US	(W)	EAC	
Approval requirement	+		+	+	+	
Remarks	certif North Thes case appr	UL and CSA are authorized to grant approval certificates in accordance with Canadian and North American regulations. Please note: These approvals are not recognized in many cases and must be covered by additional approvals issued by the national testing agency.		CCC	Eurasian customs union	

For more information about the approval marks, see page 16/11.

Marine classification societies

Country	Germany Norway	United Kingdom	France	CIS	Italy	Poland	USA
Name	DNV-GL	Lloyds Register of Shipping	Bureau Veritas	Russian Maritime Register of Shipping	Registro Italiano Navale	Polski Rejestre Statków	American Bureau of Shipping
Codes	DNV-GL	LR	BV	RS	RINA	PRS	ABS

9

Standards and approvals

CE marking

Manufacturers of products which fall within the subject area to which EU directives apply must identify their products, operating instructions or packaging with a CE mark of conformity.

By attaching the CE marking, the manufacturer confirms that the product conforms to the relevant basic requirements of all directives applicable to the product. The mark of conformity is a mandatory requirement for putting products into circulation throughout the EC. All the products in this catalog are in conformance with the relevant specific EU directives and bear the CE mark of conformity $\mathbf{C}\mathbf{\epsilon}$.

- Low-voltage directive
- EMC directive
- Machinery directive
- ATEX directive
- RED directive
- RoHS directive

Accident prevention

Test certificates and approvals from IFA (institute for occupational safety and health of the German social accident insurance), SUVA (Swiss institute for accident prevention), BG ETEM (German trade association for energy, textiles, electrical goods and media products) TÜV or VDE are available for some devices in safety control systems. For details, see the respective product descriptions.

Standards and approvals

Ex protection certificates for SIRIUS controls

Controls that are installed in a potentially explosive atmosphere or motor protection devices that protect a motor installed in a potentially explosive atmosphere against overloading must comply with certain special requirements. These requirements are laid down in the following standards:

- EN 50495
- EN 60079-0
- EN 60079-1
- EN 60079-7
- EN 60079-14
- EN 60079-17
- EN 60079-31
- EN 60947-1
- EN 60947-4-1
- EN 60947-4-2
- EN 60947-5-1
- EN 60947-8
- EN ISO/IEC 80079-34

Certification

Controls and motor protection devices that are brought into circulation within the member states of the EU in accordance with EU directive 2014/34/EU must have been constructed and tested according to the above-mentioned standards and must have a declaration of conformity from the manufacturer based on a prototype test certificate.

The quality management (QM) system of the manufacturer is subject to certain requirements and a "QM certificate" must be obtained for the manufacturer from a recognized authority.

Certification of the QM system

A certificate of approval for quality assurance production has been issued by DEKRA EXAM GmbH¹⁾ with the number BVS 11 ATEX ZQS/E111-01 of DEKRA EXAM GmbH¹⁾ according to Directive 2014/34/EU.

This certificate is valid for equipment groups I and II and categories M2 and 2: Safety and control devices for electrical equipment.

Certificates

For the 3RV, 3RU, 3RB, 3UF, 3RN and 3RW motor protection devices, the corresponding declarations of conformity and prototype test certificates for Category 2D, 2G, and in some cases M2, are available and can be supplied on request.

Declarations of conformity and prototype test certificates are available at http://support.industry.siemens.com for viewing and downloading.

You can find more information about industrial controls for applications in explosion-protected areas at www.siemens.com/sirius/atex.

1) DEKRA EXAM GmbH

The certification authority of "DEKRA EXAM GmbH" with authority number 0158 according to Article 13 of Directive 2014/34/EU of the European Parliament and Council, certifies that Siemens Amberg, Cham, Suzhou and Trutnov maintains a quality assurance system for production that satisfies Appendices IV and VII of this Directive.



Selection box



Description of certificate with view and download option

Identifying markings

All equipment must be marked according to the ATEX guideline. The ATEX identification code contains the equipment group, the approved environment, the number of the certification authority and other technical data that was determined from the type test.

Standards and approvals

Certificate of the AS-International Association for AS-Interface products

AS-Interface products are tested and certified by the AS-International Association. The products have been tested in an accredited test laboratory according to testing guidelines.

Special standards for the USA and Canada

In the USA and Canada, for machine tools and processing machines in particular, supply lines are laid using rubber insulated cable enclosed in heavy-duty steel piping similar to that used for gas or water pipe systems.

The tubing system must be completely watertight and electrically conductive (especially sleeving and elbows). Since the tubing system can also be grounded, the cable entries of enclosed units equipped with heavy-gauge or metric threads must be fitted with metal adapters between these threads and the tube thread. The necessary adapters are specified for the switchgear as accessories; they should be ordered separately unless otherwise specified.

Low-voltage switchgear and controlgear for auxiliary circuits (e.g. contactor relays, commanding and signaling devices and auxiliary switches/auxiliary contacts in general) are generally only approved by CSA and UL for "Heavy Duty" or "Standard Duty" and are identified either with these specifications in addition to the maximum permissible voltage or by using an abbreviation.

The abbreviations are harmonized with IEC 60947-5-1 Appendix 1 Table A.1 and correspond to the stated utilization categories.

For various switching devices detailed in the catalog, a note has been included to the effect that, above a certain voltage, the auxiliary switches/auxiliary contacts can only be used if they have the same polarity. This means that the input terminals can only be connected to the same pole of the actuating voltage, e.g. "600 V AC above 300 V AC same polarity".

Differentiating features of UL approvals (for USA and Canada)

Recognized Component	Listed Product		
Devices are identified on the rating plate using the "UL recognition mark": USA: %1, c%1us Canada: c%1, c%1us	Devices are identified using the "UL listing mark" on the rating plate e.g. USA: USA: U		
Devices are approved as modules for "factory wiring", i.e.: As devices for installation in control systems, which are selected, installed, wired and tested entirely by trained personnel in factories, workshops or	Devices are approved for "field wiring", i.e.: • As devices for installation in control systems, which are completely wired		
elsewhere, according to the operating conditions.	by trained personnel in factories, workshops or elsewhere. • As single devices for sale in retail outlets in the USA/Canada.		

as **%1** or c**%1** "recognized components".

For more information about UL and CSA, see page 16/8.

Special standards for Russia, Australia and China

EAC approval for Russia/Belarus/Kazakhstan/...



FAC mark

Since February 15, 2013, Russia, Kazakhstan, Belarus and other countries have been united in the Eurasian EAC customs union. An EAC approval as replacement for the GOST mark is required for all products that are to be sold in Russia.

All devices delivered to the customs union must have these customs certifications.

RCM approval for Australia



RCM mark

The RCM mark is required for marketing Siemens electronic devices in Australia. Electronic devices must provide proof of EMC clearance in Australia, similar to the CE mark of conformity laid down by the EMC directive applicable in the EC and bear the "RCM" mark. These requirements have been in force since October 1, 1999.

Quality management

Quality management

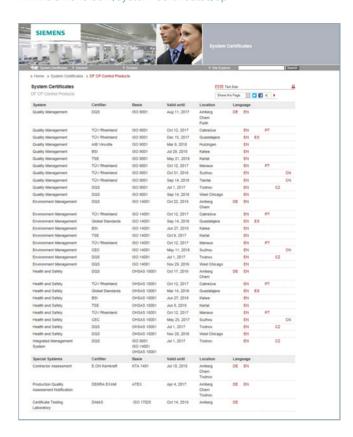
The quality management system of our "Control Products" Business Unit of the "Digital Factory" Division complies with the international standard EN ISO 9001.

The products and systems described in this catalog are developed, manufactured and sold under application of a certified quality management system according to ISO 9001.

Certificates

For information about available certifications of the quality management system for Industrial Controls products, please visit website address:

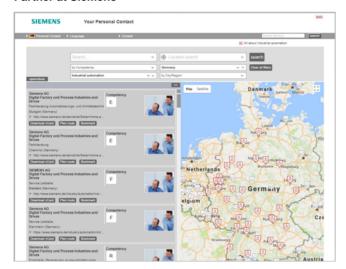
www.siemens.com/system-certificates/cp



Partner · Industry Mall and Interactive Catalog CA 01

Overview

Partner at Siemens



At your service locally, around the globe for consulting, sales, training, service, support, spare parts on the entire portfolio of Digital Factory and Process Industries and Drives.

Your partner can be found in our Personal Contacts Database at: www.siemens.com/automation-contact

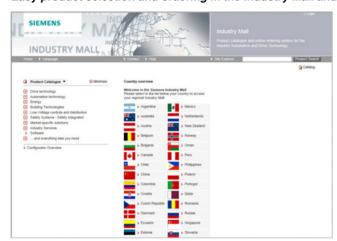
You start by selecting

- the required competence.
- products and branches,
- · a country and a city

or by a

• location search or free text search.

Easy product selection and ordering in the Industry Mall and with the Interactive Catalog CA 01



Industry Mall

The Industry Mall is a Siemens Internet ordering platform. Here you have a clear and informative online access to a huge range of products.

Powerful search functions make it easy to select the required products. Configurators enable you to configure complex product and system components quickly and easily. CAx data types are also provided here.

Data transfer allows the whole procedure, from selection through ordering to tracking and tracing, to be carried out online. Availability checks, customer-specific discounts and bid creation are also possible.

www.siemens.com/industrymall



Interactive Catalog CA 01 - Products for Automation and Drives

The Interactive Catalog CA 01 combined with the Siemens Industry Mall unites the benefits of offline and online media in one application – the performance of an offline catalog with the availability of manifold and up-to-date information on the Internet

Select products and assemble orders with the CA 01, determine the availability of the selected products and track & trace via the Industry Mall.

More information and download: www.siemens.com/automation/ca01

Siemens Partner Program

Overview

Siemens Solution and Approved Partner – Partners for your success



Highest competence in automation and drive technology

Siemens works closely together with selected partner companies around the world in order to ensure that customer requirements for all aspects of automation and drives are fulfilled as best as possible – wherever you are, and whatever the time.

We place great value on our customers acting in accordance with the same ideals which characterize Siemens as a whole: Competence, professionalism and quality. That is why continuous development through qualification and certification measures in line with global standards is a central aspect of our Partner Program. This means that with our partners, you benefit from the same high quality standards all over the world. The partner emblem is the symbol for tried and tested quality.

The partner network for industry

The Siemens Partner Program offers you expertise and experience close at hand.

Within our global network, we distinguish between Solution Partners and Approved Partners. We currently work with more than 1,500 Solution Partners around the world. Our network of over 150 Approved Partners continues to grow. In more than 80 countries worldwide

Siemens Solution Partner - Automation Drives



At present we are working with more than 1,500 Solution Partners worldwide. They are characterized by extensive application, system and sector knowledge, as well as proven project experience, and are able to implement future-proof tailored solutions of the highest quality, based on our product and system portfolio.

Siemens Approved Partner – Value Added Reseller



With their detailed technical knowledge, Siemens Approved Partners – Value Added Resellers offer a combination of products and services that range from specialist technologies and customized modifications to the provision of high-quality system and product packages. They also provide qualified technical support and assistance.

Siemens Approved Partner - Industry Services



Siemens Approved Partner – Industry Services put their unique expertise entirely at the service of enhancing your productivity and can be instrumental in ensuring the availability of your plants.

Partner Finder

The ideal partner for your task is just a mouse click away!



In the Siemens global Solution Partner program, customers are certain to find the optimum partner for their specific requirements – with no great effort. The Partner Finder is basically a comprehensive database that showcases the profiles of all our partners.

Easy selection:

Set filters in the search screen form according to the criteria that are relevant to you. You can also directly enter the name of an existing partner.

Skills at a glance:

Gain a quick insight into the specific competencies of any particular partner with the reference reports.

Direct contact option:

Use our electronic query form:

www.siemens.com/partnerfinder

Additional information of the Siemens Parners for industry is available online at:

www.siemens.com/partnerprogram

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Electrical wholesale partners

Electrical wholesalers – our partners – your partners

You can purchase the products of Building Technologies, Drive Technologies and Industry Automation from your qualified electrical wholesale partners. Just go and ask them!

You can find up-to-date information on wholesale partners in your vicinity on our Internet site at

http://www.siemens.com/electrical-wholesale

--> Your local wholesale partners

Technical Support

Competent advice for technical questions with a broad spectrum of carefully tailored services for all our products and systems can be found on the Internet at:

http://www.siemens.com/automation/support-request

Your sales and marketing questions for Siemens!

Our sales managers for electrical wholesale will be pleased to help you:

Subsidiary	Name
AREA 7 North	Dirk Seemann Tel.: +49 (172)4009399 Email: dirk.seemann@siemens.com
AREA 7 East	Rene Wellnitz Tel.: +49 (173) 6046676 Email: rene.wellnitz@siemens.com
AREA 7 West	Torsten Reil Tel.: +49 (173)7075981 Email: torsten.reil@siemens.com
AREA 7 South	Jens-Uwe Hohler Tel.: +49 (173) 9921965 Email: jens-uwe.hohler@siemens.com

External partners

Our partner companies – your partners

AXELENT GmbH

Tränkestr. 11 D-70597 Stuttgart

Tel.: +49 (711) 252 509-0 Fax.: +49 (711) 252 509-49 Email: sales@axelent.de Internet: www.axelent.de

• Brühl Safety GmbH

Waldstr. 63 b D-57250 Netphen Tel.: +49 (2737) 5934-0 Fax: +49 (2737) 5919-46 Email: info@bruehl-safety.com Internet: www.bruehl-safety.com

Conta-Clip Verbindungstechnik GmbH

Otto-Hahn-Str. 7 D-33161 Hövelhof Tel.: +49 (5257) 9833-0 Fax: +49 (5257) 9833-33 Email: info@conta-clip.de Internet: www.conta-clip.de

• EPCOS AG

A TDK Group Company St.-Martin-Str. 53 D-81669 München Tel.: +49 (89) 54 020-0 Fax.: +49 (89) 54 020-2913 Email: sales.germany@eu.tdk.com Internet: www.epcos.de

• EPHY-Mess

Gesellschaft für Elektro-Physikalische Messgeräte mbH

Berta-Cramer-Ring 1

D-65205 Wiesbaden-Delkenheim

Tel.: +49 (6122) 9228-0 Fax: +49 (6122) 9228-99 Email: info@ephy-mess.de Internet: www.ephy-mess.de

• FESTO AG & Co. KG

Ruiterstr. 82 D-73734 Esslingen Tel.: +49 (711) 347-0 Fax: +49 (711) 347-2144 Email: info@festo.de Internet: www.festo.de

• GMC-I Messtechnik GmbH

Südwestpark 15 D-90449 Nürnberg Tel.: +49 (911) 8602-0 Fax: +49 (911) 8602-669

Email: info@gossenmetrawatt.com Internet: www.gossenmetrawatt.com

• Harting Customised Solutions GmbH & Co. KG

Simeonscarré 1 D-32427 Minden Tel.: +49 (571) 8896-467 Fax: +49 (571) 8896-282

Email: solution-partner@harting.com Internet: www.Harting.com/solution-partner

Jacob GmbH

Elektrotechnische Fabrik Gottlieb-Daimler-Strasse 11 D-71394 Kernen

Tel.: +49 (7151) 40 11-0 Fax: +49 (7151) 40 11-49 Email: jacob@jacob-gmbh.de

KnorrTec

Kapellenbergstr. 34 D-93176 Beratzhausen Tel.: +49 (9493) 951 96 90 Fax: +49 (9493) 951 96 79

Email: solution-partner@knorrtec.de

Internet: www.knorrtec.de

Murrplastik Systemtechnik GmbH

Dieselstr. 10 D-71570 Oppenweiler Tel.: +49 (7191) 482-0 Fax: +49 (7191) 482-92280 Email: info@murrplastik.de Internet: www.murrplastik.de

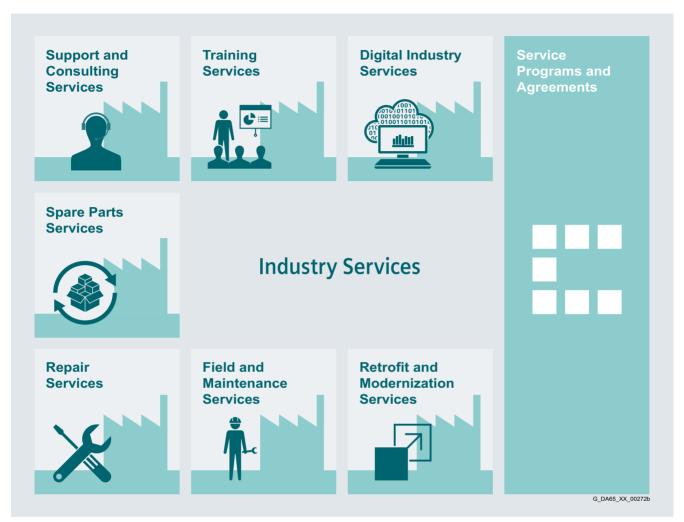
Wieland Electric Gmbh

Brennerstr. 10-14 D-96052 Bamberg Tel.: +49 (951) 9324-0 Fax.: +49 (951) 9324-198 Email: info@wieland-electric.com

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Industry Services – Portfolio overview

Overview



Keep your business running and shaping your digital future - with Industry Services

Optimizing the productivity of your equipment and operations can be a challenge, especially with constantly changing market conditions. Working with our service experts makes it easier. We understand your industry's unique processes and provide the services needed so that you can better achieve your business goals.

You can count on us to maximize your uptime and minimize your downtime, increasing your operations' productivity and reliability. When your operations have to be changed quickly to meet a new demand or business opportunity, our services give you the flexibility to adapt. Of course, we take care that your production is protected against cyber threats. We assist in keeping your operations as energy and resource efficient as possible and reducing your total cost of ownership. As a trendsetter, we ensure that you can capitalize on the opportunities of digitalization and by applying data analytics to enhance decision making: You can be sure that your plant reaches its full potential and retains this over the longer lifespan.

You can rely on our highly dedicated team of engineers, technicians and specialists to deliver the services you need – safely, professionally and in compliance with all regulations. We are there for you, where you need us, when you need us.

www.siemens.com/industryservices

Appendix Industry Services

Industry Services - Portfolio overview

Overview (continued)



Digital Industry Services make your industrial processes transparent to gain improvements in productivity, asset availability, and energy efficiency.

Production data is generated, filtered and translated with intelligent analytics to enhance decision-making.

This is done whilst taking data security into consideration and with continuous protection against cyber-attack threats.

https://www.siemens.com/global/en/home/products/services/industry/digital-services.html



From the basics and advanced to specialist skills, SITRAIN courses provide expertise right from the manufacturer – and encompass the entire spectrum of Siemens products and systems for the industry.

Worldwide, SITRAIN courses are available wherever you need a training course in more than 170 locations in over 60 countries.

https://support.industry.siemens.com/cs/ww/en/sc/2226



Industry Online Support site for comprehensive information, application examples, FAQs and support requests.

Technical and Engineering Support for advice and answers for all inquiries about functionality, handling, and fault clearance. The Service Card as prepaid support for value added services such as Priority Call Back or Extended Support offers the clear advantage of quick and easy purchasing.

Information & Consulting Services, e.g. SIMATIC System Audit; clarity about the state and service capability of your automation system or Lifecycle Information Services; transparency on the lifecycle of the products in your plants.

https://support.industry.siemens.com/cs/ww/en/sc/2235



Spare Parts Services are available worldwide for smooth and fast supply of spare parts – and thus optimal plant availability. Genuine spare parts are available for up to ten years. Logistic experts take care of procurement, transport, custom clearance, storage and order management. Reliable logistics processes ensure that components reach their destination as needed.

Since not all spare parts can be kept in stock at all times, Siemens offers a preventive measure for spare parts provisioning on the customer's premises with optimized **Spare Parts Packages** for individual products, custom-assembled drive components and entire integrated drive trains – including risk consulting.

Asset Optimization Services help you design a strategy for parts supply where your investment and carrying costs are reduced and the risk of obsolescence is avoided.

https://support.industry.siemens.com/cs/ww/en/sc/2110

Industry Services - Portfolio overview

Overview (continued)



Repair Services are offered on-site and in regional repair centers for fast restoration of faulty devices' functionality.

Also available are extended repair services, which include additional diagnostic and repair measures, as well as emergency services.

https://support.industry.siemens.com/cs/ww/en/sc/2154



Provide a cost-effective solution for the expansion of entire plants, optimization of systems or upgrading existing products to the latest technology and software, e.g. migration services for automation systems.

Service experts support projects from planning through commissioning and, if desired over the entire extended lifespan, e.g. Retrofit for Integrated Drive Systems for an extended lifetime of your machines and plants.

https://support.industry.siemens.com/cs/ww/en/sc/2286



Siemens specialists are available globally to provide expert field and maintenance services, including commissioning, functional testing, preventive maintenance and fault clearance.

All services can be included in customized service agreements with defined reaction times or fixed maintenance intervals.

https://support.industry.siemens.com/cs/ww/en/sc/2265



A technical Service Program or Agreement enables you to easily bundle a wide range of services into a single annual or multi-year agreement.

You pick the services you need to match your unique requirements or fill gaps in your organization's maintenance capabilities.

Programs and agreements can be customized as KPI-based and/or performance-based contracts.

https://support.industry.siemens.com/cs/ww/en/sc/2275

Appendix Industry Services

Online Support

Overview



Siemens Industry and Online Support with some 1.7 million visitors per month is one of the most popular web services provided by Siemens. It is the central access point for comprehensive technical know-how about products, systems and services for automation and drives applications as well as for process industries.

In connection with the challenges and opportunities related to digitalization you can look forward to continued support with innovative offerings.

Overview

Software types

Software requiring a license is categorized into types. The following software types have been defined:

- · Engineering software
- Runtime software

Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing.

Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc.

The duplication of the runtime software and executable programs created with the runtime software for your own use or for use by third-parties is subject to a charge.

You can find information about license fees according to use in the ordering data (e.g. in the catalog). Examples of categories of use include per CPU, per installation, per channel, per instance, per axis, per control loop, per variable, etc.

Information about extended rights of use for parameterization/configuration tools supplied as integral components of the scope of delivery can be found in the readme file supplied with the relevant product(s).

License types

Siemens Industry Automation & Drive Technologies offers various types of software license:

- Floating license
- Single license
- Rental license
- · Rental floating license
- Trial license
- · Demo license
- Demo floating license

Floating license

The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started.

A license is required for each concurrent user.

Single license

Unlike the floating license, a single license permits only one installation of the software per license.

The type of use licensed is specified in the ordering data and in the Certificate of License (CoL). Types of use include for example per instance, per axis, per channel, etc.

One single license is required for each type of use defined.

Rental license

A rental license supports the "sporadic use" of engineering software. Once the license key has been installed, the software can be used for a specific period of time (the operating hours do not have to be consecutive).

One license is required for each installation of the software.

Rental floating license

The rental floating license corresponds to the rental license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

Trial license

A trial license supports "short-term use" of the software in a non-productive context, e.g. for testing and evaluation purposes. It can be transferred to another license.

Demo license

The demo license support the "sporadic use" of engineering software in a non-productive context, for example, use for testing and evaluation purposes. It can be transferred to another license. After the installation of the license key, the software can be operated for a specific period of time, whereby usage can be interrupted as often as required.

One license is required per installation of the software.

Demo floating license

The demo floating license corresponds to the demo license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

Certificate of License (CoL)

The CoL is the licensee's proof that the use of the software has been licensed by Siemens. A CoL is required for every type of use and must be kept in a safe place.

Downgrading

The licensee is permitted to use the software or an earlier version/release of the software, provided that the licensee owns such a version/release and its use is technically feasible.

Delivery versions

Software is constantly being updated. The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

Existing bug fixes are supplied with the ServicePack version.

PowerPack

PowerPacks can be used to upgrade to more powerful software. The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.

A separate PowerPack must be purchased for each original license of the software to be replaced.

Upgrade

An upgrade permits the use of a new version of the software on the condition that a license for a previous version of the product is already held.

The licensee receives a new license agreement and CoL with the upgrade. This CoL, together with the CoL for the previous product, proves that the new version is licensed.

A separate upgrade must be purchased for each original license of the software to be upgraded.

Software licenses

Overview

ServicePack

ServicePacks are used to debug existing products. ServicePacks may be duplicated for use as prescribed according to the number of existing original licenses.

License key

Siemens Industry Automation & Drive Technologies supplies software products with and without license keys.

The license key serves as an electronic license stamp and is also the "switch" for activating the software (floating license, rental license, etc.).

The complete installation of software products requiring license keys includes the program to be licensed (the software) and the license key (which represents the license).

Software Update Service (SUS)

As part of the SUS contract, all software updates for the respective product are made available to you free of charge for a period of one year from the invoice date. The contract will automatically be extended for one year if it is not canceled three months before it expires.

The possession of the current version of the respective software is a basic condition for entering into an SUS contract.

You can download explanations concerning license conditions from www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

Conditions of sale and delivery

1. General Provisions

By using this catalog you can acquire hardware and software products described therein from Siemens AG subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Please note that the scope, the quality and the conditions for supplies and services, including software products, by any Siemens entity having a registered office outside Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

1.1 For customers with a seat or registered office in Germany

For customers with a seat or registered office in Germany, the following applies subordinate to the T&C:

- for installation work the "General Conditions for Erection Works – Germany¹¹⁾ ("Allgemeine Montagebedingungen – Deutschland" (only available in German at the moment)) and/or
- for Plant Analytics Services the "Standard Terms and Conditions for Plant Analytics Services – for Customers in Germany"¹⁾ ("Allgemeine Geschäftsbedingungen für das Plant Analytics Services – für Kunden in Deutschland" (only available in German at the moment)) and/or
- for stand-alone software products and software products forming a part of a product or project, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or registered Office in Germany"
 and/or
- for other supplies and/or services the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"¹⁾.
 - In case such supplies and/or services should contain Open Source Software, the conditions of which shall prevail over the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry "1, a notice will be contained in the scope of delivery in which the applicable conditions for Open Source Software are specified. This shall apply mutatis mutandis for notices referring to other third party software components.

1.2 For customers with a seat or registered office outside Germany

For customers with a seat or registered office outside Germany, the following applies subordinate to the T&C:

- for Plant Analytics Services the "Standard Terms and Conditions for Plant Analytics Services"¹⁾ and/or
- for services the "International Terms & Conditions for Services") supplemented by "Software Licensing Conditions") and/or
- for other supplies of hard- and software the "International Terms & Conditions for Products"¹⁾ supplemented by "Software Licensing Conditions" ¹⁾

1.3 For customers with master or framework agreement

To the extent our supplies and/or services offered are covered by an existing master or framework agreement, the terms and conditions of that agreement shall apply instead of T&C.

2. Prices

The prices are in € (Euro) ex point of delivery, exclusive of packaging.

The sales tax (value added tax) is not included in the prices. It shall be charged separately at the respective rate according to the applicable statutory legal regulations.

Prices are subject to change without prior notice. We will charge the prices valid at the time of delivery.

To compensate for variations in the price of raw materials (e.g. silver, copper, aluminum, lead, gold, dysprosium and neodym), surcharges are calculated on a daily basis using the so-called metal factor for products containing these raw materials. A surcharge for the respective raw material is calculated as a supplement to the price of a product if the basic official price of the raw material in question is exceeded.

The metal factor of a product indicates the basic official price (for those raw materials concerned) as of which the surcharges on the price of the product are applied, and with what method of calculation

An exact explanation of the metal factor can be downloaded at:

www.siemens.com/automation/salesmaterial-as/catalog/en/terms of trade en.pdf

To calculate the surcharge (except in the cases of dysprosium and neodym), the official price from the day prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to dysprosium and neodym ("rare earths"), the corresponding three-month basic average price in the quarter prior to that in which the order was received or the release order was effected is used with a one-month buffer (details on the calculation can be found in the explanation of the metal factor).

3. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog – especially with regard to data, dimensions and weights given – these are subject to change without prior notice.

The text of the Terms and Conditions of Siemens AG can be downloaded at

www.siemens.com/automation/salesmaterial-as/catalog/en/ terms of trade en.pdf

Conditions of sale and delivery

4. Export Regulations

We shall not be obligated to fulfill any agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes and/or other sanctions.

Export may be subject to license. We shall indicate in the delivery details whether licenses are required under German, European and US export lists.

Our products are controlled by the U.S. Government (when labeled with "ECCN" unequal "N") and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

The export indications can be viewed in advance in the description of the respective goods on the Industry Mall, our online catalog system. Only the export labels "AL" and "ECCN" indicated on order confirmations, delivery notes and invoices are authoritative.

Products labeled with "AL" unequal "N" are subject to European / national export authorization. Products without label, with label "AL:N" / "ECCN:N", or label "AL:9X9999" / "ECCN: 9X9999" may require authorization from responsible authorities depending on the final end-use, or the destination.

If you transfer goods (hardware and/or software and/or technology as well as corresponding documentation, regardless of the mode of provision) delivered by us or works and services (including all kinds of technical support) performed by us to a third party worldwide, you must comply with all applicable national and international (re-)export control regulations.

If required for the purpose of conducting export control checks, you (upon request by us) shall promptly provide us with all information pertaining to the particular end customer, final disposition and intended use of goods delivered by us respectively works and services provided by us, as well as to any export control restrictions existing in this relation.

The products listed in this catalog may be subject to European/German and/or US export regulations. Any export requiring approval is therefore subject to authorization by the relevant authorities.

Errors excepted and subject to change without prior notice.

Catalogs

Digital Factory, Process Industries and Drives and Energy Management

Further information can be obtained from our branch offices listed at www.siemens.com/automation-contact

Interactive Catalog	Catalog	Process Instrumentation and Analytics	Catalog
Products for Automation and Drives	CA 01	Digital: Field Instruments for Process Automation	FI 01
		Digital: Display Recorders SIREC D	MP 20
uilding Control		Digital: SIPART Controllers and Software	MP 31
MMA Building Control	ET G1	Products for Weighing Technology	WT 10
ive Systems		Digital: Process Analytical Instruments	AP 01
AMICS G130 Drive Converter Chassis Units	D 11	Digital: Process Analytics, Components for	AP 11
AMICS G130 Drive Converter Chassis Units	ווט	Continuous Emission Monitoring	
tal: SINAMICS PERFECT HARMONY GH180	D 15.1	Low-Voltage Power Distribution and	
Medium-Voltage Air-Cooled Drives	2	Electrical Installation Technology	
(Germany Edition)		SENTRON · SIVACON · ALPHA	LV 10
MICS G180 Converters - Compact Units, Cabinet	D 18.1	Protection, Switching, Measuring and Monitoring	
s, Cabinet Units Air-Cooled and Liquid-Cooled	5.04.0	Devices, Switchboards and Distribution Systems	11/40
MICS S120 Chassis Format Converter Units MICS S120 Cabinet Modules	D 21.3	Electrical Components for the Railway Industry Power Monitoring Made Simple	LV 12 LV 14
IICS S120 Cabinet Modules IICS S150 Converter Cabinet Units		Components for Industrial Control Panels according	LV 14 LV 16
IICS S120 and SIMOTICS	D 21.4	to UL Standards	LV 16
MICS DCM DC Converter, Control Module	D 23.1	Digital: Air circuit breakers and molded case circuit	LV 18
MICS Inverters for	D 31.1	breakers with UL certification	LV 10
e-Axis Drives · Built-In Units		3WT Air Circuit Breakers up to 4000 A	LV 35
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