

Catalog  
ST 80/  
ST PC

Edition  
2023

SIMATIC HMI / PC-BASED AUTOMATION

# Human Machine Interface Systems/ PC-based Automation

[siemens.com/simatic](https://www.siemens.com/simatic)

## Related catalogs

**SIMATIC** ST 70  
Products for  
Totally Integrated Automation

PDF (E86060-K4670-A101-B9-7600)



**SIMATIC** ST PCS 7  
SIMATIC PCS 7 Process Control System  
Vol. 1: System components

E86060-K4678-A111-C8-7600



**Industrial Communication** IK PI  
SIMATIC NET

E86060-K6710-A101-B8-7600



**SITOP** KT 10.1  
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# TIA Selection Tool – quick, easy, smart configuration

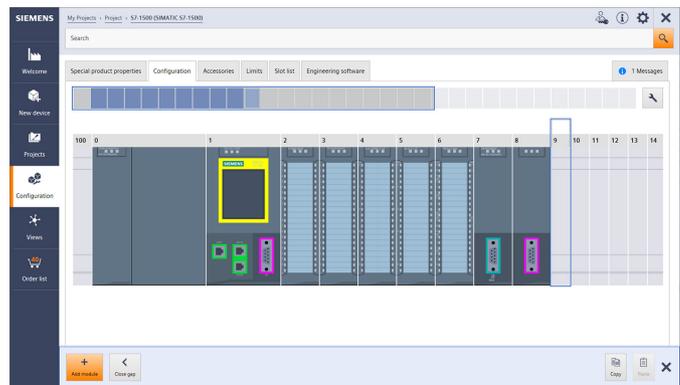
For you to get the most out of our portfolio quickly and easily.

Do you always need the optimum configuration for planning your project?

For your application we offer the TIA Selection Tool to support all project planners, beginners and experts alike.

No detailed portfolio knowledge is necessary.

TIA Selection Tool is available for download as a free desktop version or a cloud variant.



## Your Advantages

### Quick

- Configure a complete project with just a few entries – without a manual, without special knowledge
- Import and export of hardware configuration to TIA Portal or other systems
- Ideal visualization of the projects to be configured

### Easy

- Tool download either as desktop version or web-based cloud version
- Technically always up-to-date about product portfolio and innovative approaches
- Highly flexible, secure, cross-team work in the cloud
- Direct ordering in the Siemens Industry Mall

### Smart

- Smart selection wizard for error-free configuration and ordering
- Configuration options can be tested and simulated in advance
- Library for archiving sample configurations

The TIA Selection Tool is a completely paperless solution.

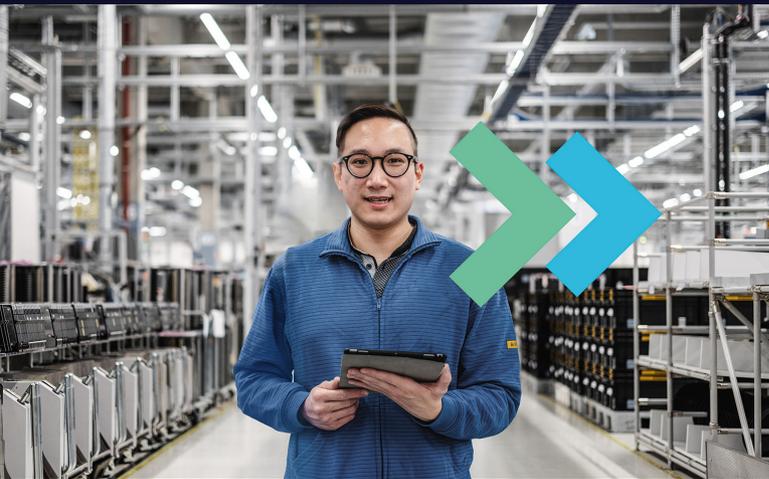
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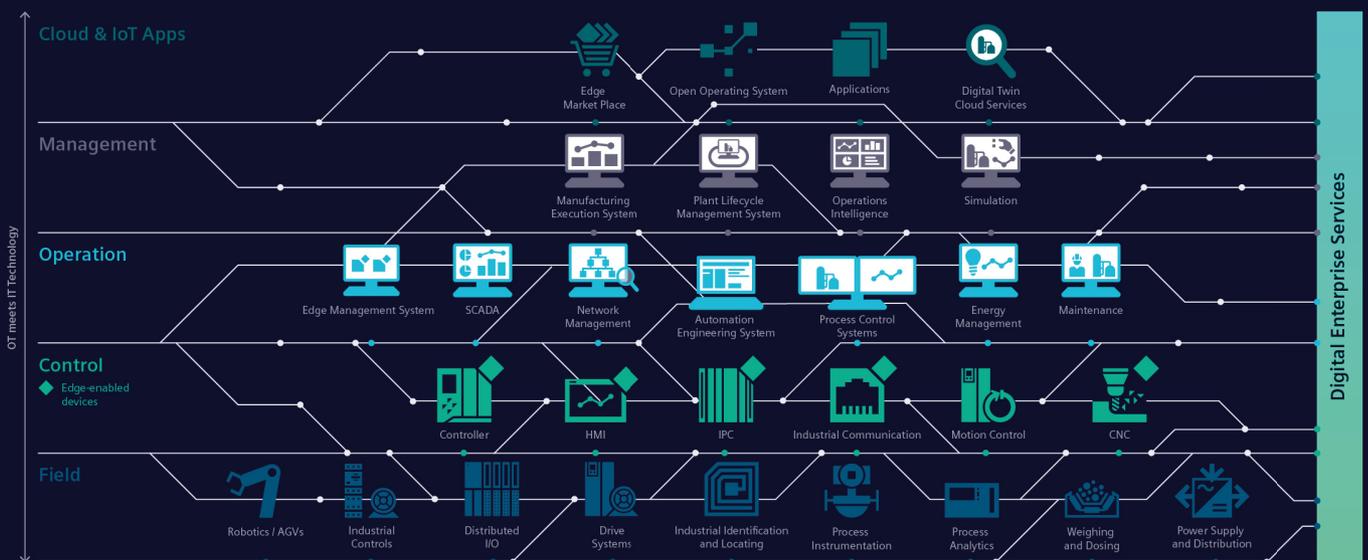
# Totally Integrated Automation



Totally Integrated Automation (TIA) offers smart automation development, flexible machine concepts, transparent operation, and sustainable solutions that enable access to data to calculate and optimize the product carbon footprint. We are constantly improving and expanding TIA to be future-proof and adaptive to existing and upcoming challenges.

## A comprehensive portfolio for the challenges of today and tomorrow

The TIA offering is integrated seamlessly and it's so comprehensive that it provides the right automation solutions for every industry. We will continue to improve and expand our proven automation portfolio and are constantly including innovative technologies and solutions that pave the way towards the factory of the future.



# Real added value for the automation of your production

From the development of innovative machine concepts to engineering and optimized production:

TIA offers real added value along the entire value chain.

## Smart Automation Development

Innovative machine concepts made easy: When you use standardized library concepts and preconfigured expertise, you can count on efficient engineering. Thanks to the integration of safety features, diagnostic functions, and cybersecurity, you also save valuable time.

## Flexible Machine Concepts

No matter what new requirements emerge in the market, TIA supports modular machine concepts and the simple integration of new machines into existing lines – thanks to standardized hardware interfaces and engineering libraries. As a machine builder, this enables you to meet any challenge quickly and reliably.

## Transparent Operations

Integrated interfaces let you achieve a new level of transparency for the essential performance indicators in your processes and plants. The connection between IT and OT along with efficient data management lay the foundation for new service models such as predictive maintenance.

## Future-proof Automation

Our TIA portfolio is constantly being refined with a view to integrating automation technologies more and more efficiently. The components can then interact with modern IT capabilities, which are becoming increasingly important for specific applications in automation. TIA provides a solid foundation, whether for working with our Industrial Operations X portfolio or for everything the future has in store.

## Sustainable Solutions

Sustainability starts with the acquisition of data. With the TIA portfolio, you can measure energy and resource data and make it transparent, providing a solid foundation for calculating the Product Carbon Footprint. This is crucial for drawing the right conclusions and responding to sudden changes in order to lastingly reduce CO<sub>2</sub> emissions and save more resources in production.



[www.siemens.com/tia](http://www.siemens.com/tia)



# Operator control and monitoring systems/ PC-based Automation

## SIMATIC HMI / PC-based Automation



### Catalog ST 80 / ST PC · 2023

Supersedes:  
Catalog ST 80 / ST PC · 2022

Refer to the Industry Mall for current updates of  
this catalog:  
[www.siemens.com/industrymall](http://www.siemens.com/industrymall)

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The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with DIN EN ISO 9001 (Certified Registration No. 2613-05). The certificate is recognized by all IQNet countries.



# Operator control and monitoring systems PC-based Automation



1/2

SIMATIC HMI operator control and monitoring systems

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PC-based Automation

## Introduction

### SIMATIC HMI operator control and monitoring systems

1

#### Overview



#### **SIMATIC HMI operator control and monitoring systems – efficient machine-level operator control and monitoring**

Equipment for monitoring and operator control is needed wherever people have to work with or on machinery and plants performing diverse tasks from cylinder driers to waste compactors. It is not difficult to find the right device for your specific task. The challenge is to find a solution that is future-proof and flexible, that can be integrated into higher-level networks, and that can also meet the ever-increasing demands for transparency and data provision. SIMATIC HMI Panels have proven their value in a variety of different applications in all industrial sectors over many years. The range of the systems in use is just as wide as that of the applications and technologies in the respective plants.

SIMATIC HMI stands for highly efficient machine-level operator control and monitoring and has some unique advantages:

- Efficient engineering  
Visualization can be created more quickly and easily than ever before.
- Innovative design and operation  
Visualization becomes the outstanding feature of the machine.
- Brilliant HMI operator panels  
The right operator panel for every application.
- Backup – with security  
Protection for investments and know-how, secure operation.
- Commissioning in the fast lane  
Lose no time with testing and servicing.
- Openness with PC-based  
For flexible, independent applications

<http://www.siemens.com/hmi>

#### **SIMATIC WinCC Unified system – unlimited visualization for every application**

SIMATIC WinCC Unified is a totally new visualization system for meeting the challenges of digitalization in machine and plant construction.

State-of-the-art hardware and software technologies make this possible now and in the future. Tried and tested engineering in the TIA Portal, the latest web technology and great reserves of performance for the coming years combined with the freedom to implement your ideas as you imagine them.

<http://www.siemens.com/wincc-unified>

#### **SIMATIC HMI software – a lot more than just visualization software**

With the SIMATIC WinCC (TIA Portal), SIMATIC WinCC and SIMATIC WinCC Open Architecture product families, SIMATIC HMI covers the entire engineering and visualization software spectrum for the human machine interface.

- Almost the entire range of SIMATIC operator panels can be configured with SIMATIC WinCC (TIA Portal), the successor to SIMATIC WinCC flexible.  
The functionality covers both visualization tasks at machine level and SCADA applications on PC-based multi-user systems.
- The current version 7.5 of SIMATIC WinCC is available for extremely complex process visualization tasks and SCADA applications, e.g. taking account of redundant solutions and vertical integration all the way to plant intelligence solutions.
- Ultimately, SIMATIC WinCC Open Architecture addresses applications that require extensive customer-specific adaptations or manage large and/or complex applications, as well as projects that demand special system requirements and functions.

<http://www.siemens.com/hmi-software>

#### **SIMATIC WinCC Unified visualization software**

SIMATIC WinCC Unified software enables access to open interfaces, modern web technologies and consistent integration in order to implement modern visualization concepts simply and easily in the TIA Portal.

<http://www.siemens.com/wincc-unified-software>

#### **SIMATIC HMI – brilliant and rugged operator panels**

##### Basic HMI – for the entry level

- Key Panels  
Pre-assembled and ready for installation, for conventional operator panels. No configuration required with WinCC!  
<http://www.siemens.com/key-panels>
- Basic Panels  
The entry level series for simple HMI applications.  
<http://www.siemens.com/basic-panels>

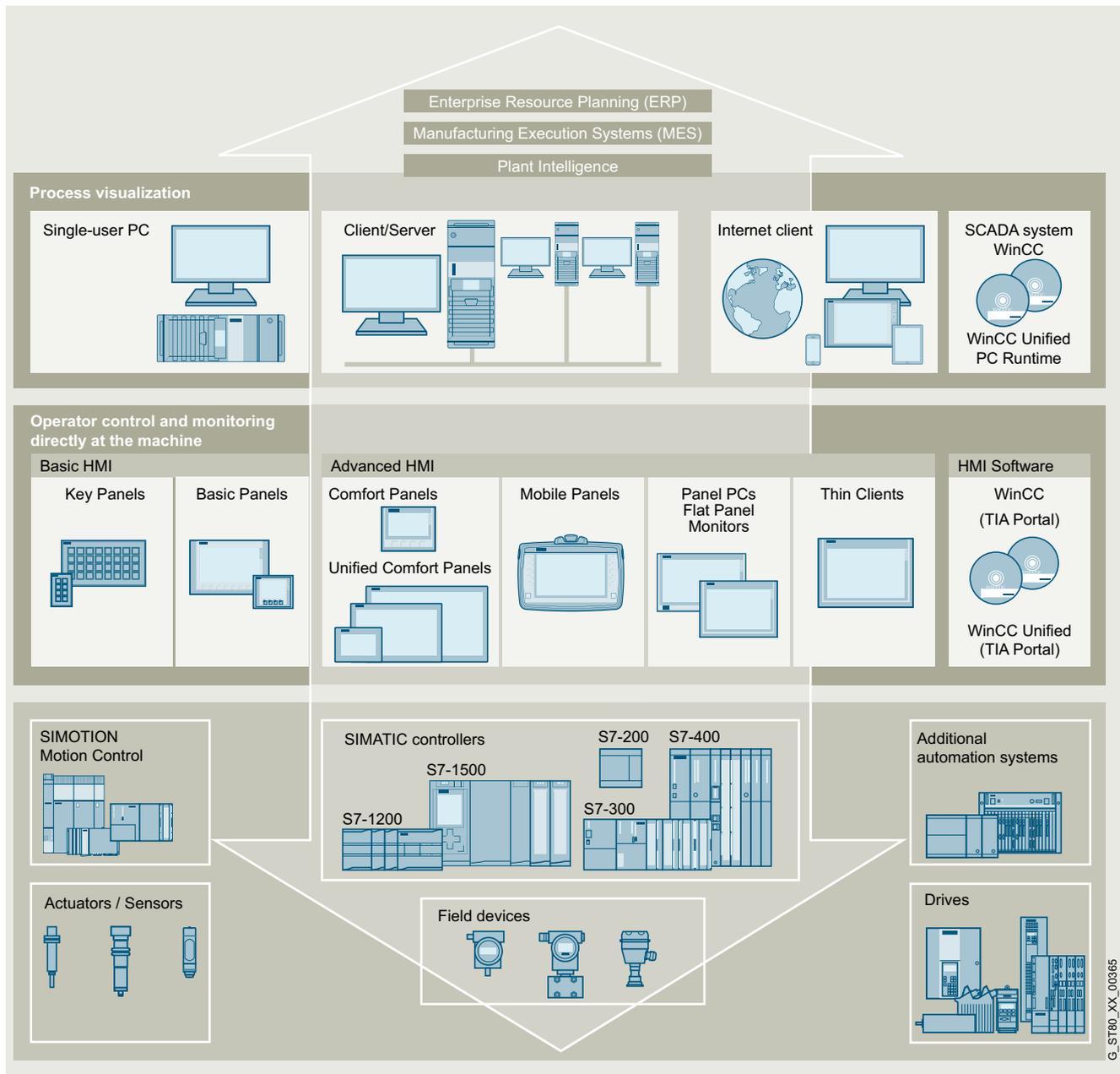
##### Advanced HMI Panel-based - for higher requirements

- New: SIMATIC HMI Unified Comfort Panels  
High-end performance and state-of-the-art technology for the future of visualization.  
<http://www.siemens.com/wincc-unified-hardware>
- Comfort Panels  
High-end functionality for demanding indoor and outdoor HMI applications.  
<http://www.siemens.com/comfort-panels>
- Mobile Panels  
Portable operator panels for mobile deployment on site.  
<http://www.siemens.com/mobile-panels>

#### **Individual HMI devices in customized versions**

<http://www.siemens.com/customized-automation>

Overview



# Introduction

## SIMATIC HMI operator control and monitoring systems

1

### Overview

Control system optimizes the productivity of a hot dip galvanizing plant

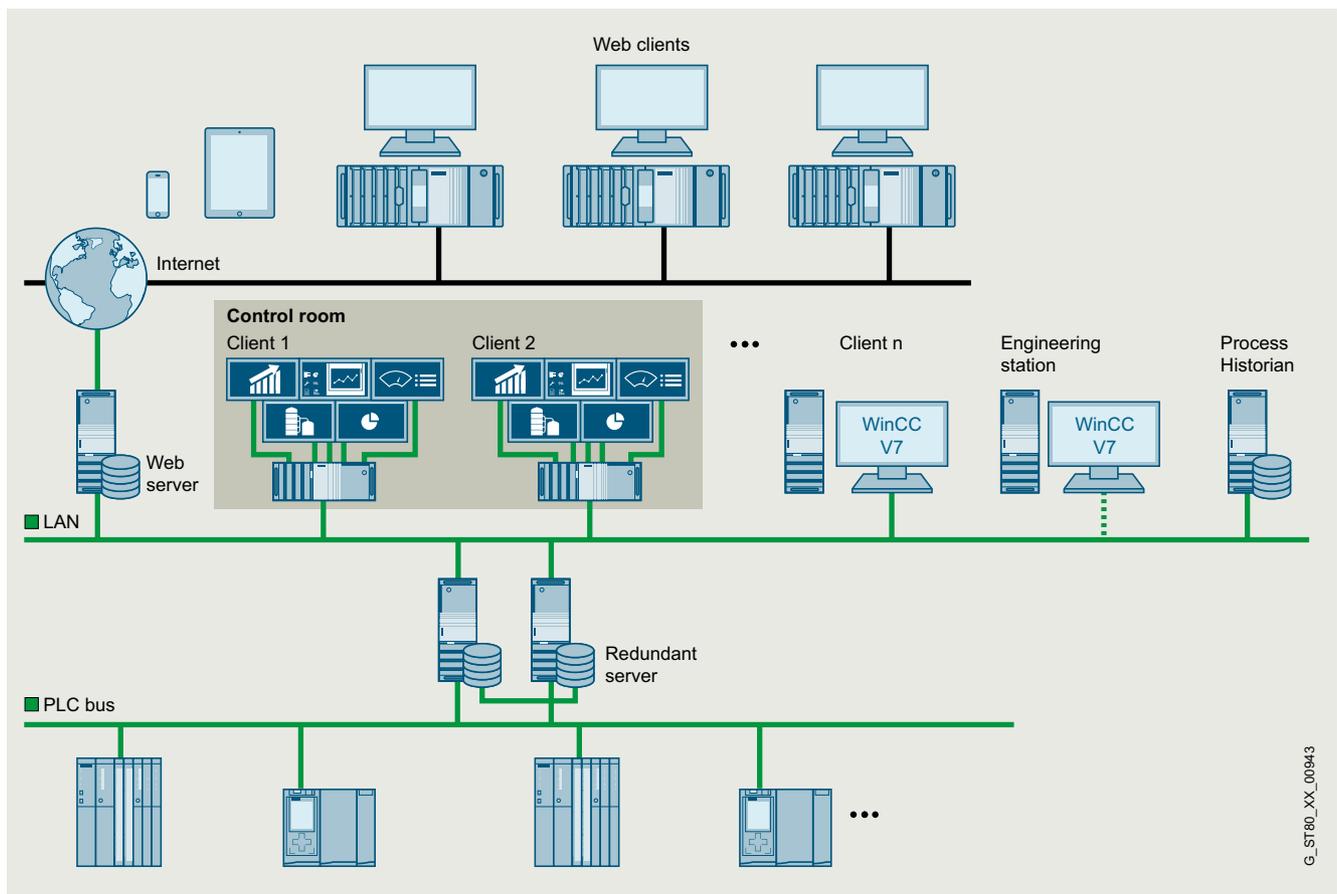


Reference: V7 control room

As semi-finished products, galvanized steel sheets play a key role in industrial production, such as car manufacturing. One proven method of protecting steel sheets from rust is the application of a zinc coating in a hot dip galvanizing process, in which strips of sheet steel are drawn through a bath containing liquid zinc. Plants for this process are complex and in continuous operation, thus placing high demands on the process control system and the hardware used.

Advantages of the SIMATIC SCADA system and SIMATIC IPC solution:

- SIMATIC WinCC V7/V8 SCADA control system whose scalability and openness also permits the implementation of future functional expansions.
- Redundant setup of the control system and operating stations with industry-compatible SIMATIC industrial PCs and Thin Clients.
- Optimum overview thanks to multi-monitor solution in the control room and more than 27 operating stations throughout the plant and production hall.
- Availability of the production data over a long period in SIMATIC Process Historian for reasons of traceability.
- Increased productivity using long-term analyses of plant availability, productivity, energy consumption and quality.
- More effective support and shorter downtimes thanks to fast, web-based access to plants with the SIMATIC WinCC WebNavigator.



SIMATIC WinCC V7 SCADA control system

G\_ST80\_XX\_00943

## Overview

Modernization of a plant in the food and beverage industry on the basis of an integrated automation and visualization solution



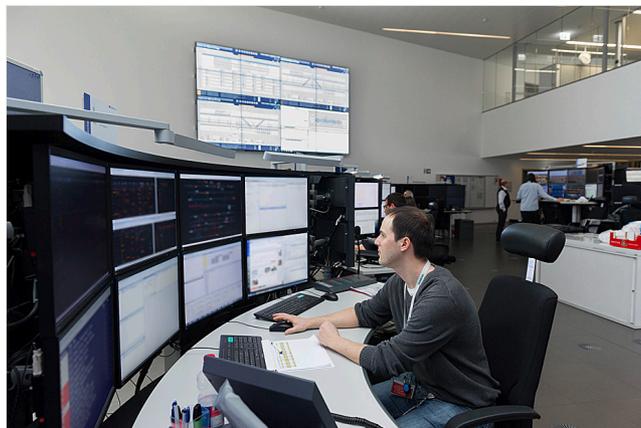
WinCC Professional reference

The modernization involved equipping 3 production lines with an expanded SCADA control system, a new control architecture, converters and motor starters. The project was implemented smoothly, and the integrated hardware and software solution with the TIA Portal enabled the simplification of the engineering process.

Advantages of the solution with the SIMATIC SCADA system WinCC Professional in the TIA Portal, S7-1500 and SIMATIC IPC:

- Simplified application engineering
- Efficient monitoring of the production lines enables the optimal path through the production to be defined for each batch.
- Increased productivity
- Simple and intuitive operation implemented thanks to good visual support
- Better control of the motors involved with the process
- Integration of the production data into the existing ERP system
- Faults in the current process can be easily localized

Tunnel control system for the longest railway tunnel in the world



Control room with WinCC OA

The SIMATIC WinCC Open Architecture tunnel control system is at the heart of the monitoring systems for the entire tunnel infrastructure. Continuous availability of the entire system is essential to ensure the trouble-free operation of the Gotthard Base Tunnel.

The Gotthard Base Tunnel has a tunnel control center at the south and north portals. The two tunnel control systems installed there monitor and control all of the installed systems and plants. All the required data are acquired, collated and visualized on the tunnel control system. A fully integrated maintenance management tool and an operations control system are also part of the tunnel control system with a large screen display.

The advantages of the solution:

- Highest failure safety thanks to the presence of doubly redundant tunnel control equipment – Disaster Recovery System (2x2 redundancy)
- Central monitoring of the infrastructure simplifies fault management
- More efficient operation through central control of the entire infrastructure
- Integration of many (sub-)systems thanks to OPC UA as a standardized interface throughout the entire project
- Optimal user friendliness through uniform user interface across all plants, overview of all systems at one work station as well as large screen display (multi-monitor management)

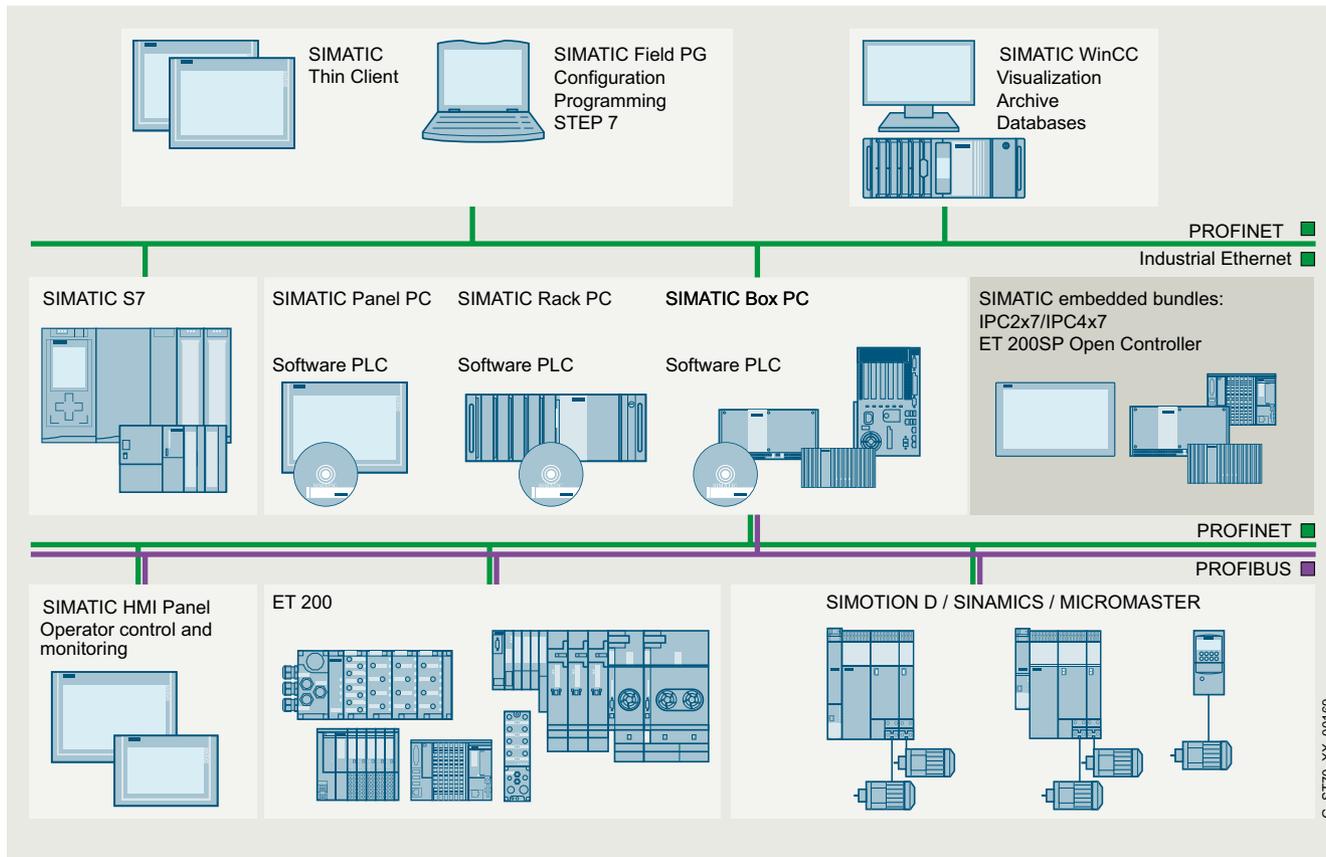
# Introduction

## Introduction

### PC-based Automation

1

#### Overview



#### **SIMATIC PC-based Automation**

<http://www.siemens.com/pc-based>

##### Industrial IoT Gateway - SIMATIC IOT2000

An intelligent gateway which harmonizes communication between the various sources of data before analyzing it and forwarding it to the corresponding recipients. An easy-to-implement solution.

<http://siemens.com/iot2000>

##### Industrial PCs

Our reliable and innovative industrial PCs are the optimal PC hardware platform for PC-based Automation from Siemens.

- Rack PC
- Box PC
- Panel PC
- Tablet PC
- Industrial monitors and Thin Clients
- Devices for special requirements
  - Devices with fully-enclosed IP65 protection
  - Devices with stainless steel fronts
  - Devices for hazardous areas
- IPC software
- Embedded bundles/software packages

<http://www.siemens.com/simatic-ipc>

##### Software Controller

The SIMATIC S7-1500 Software Controller implements a SIMATIC S7-1500 Controller on SIMATIC IPC. It is particularly suitable for control solutions in special-purpose machine manufacturing which involve a high-performance implementation of complex control tasks, the integration of PC applications, or the realization of multiple tasks on a single device.

<http://www.siemens.com/software-controller>

##### PC-based Controllers

PC-based Controllers combine the functions of a PC-based Software Controller with visualization, PC applications and central I/Os (inputs/outputs) in a single, compact device. The SIMATIC ET 200SP Open Controller is an industrial PC with the design of the ET 200SP I/O system and a preinstalled S7-1500 Software Controller.

<http://www.siemens.com/open-controller>

##### **Application examples and references**

You can find an overview of the references and application examples at the Reference Center and on the following web pages:

<http://www.siemens.com/automation/references>

or

<https://new.siemens.com/global/en/products/automation/references.html>

## Operator panels

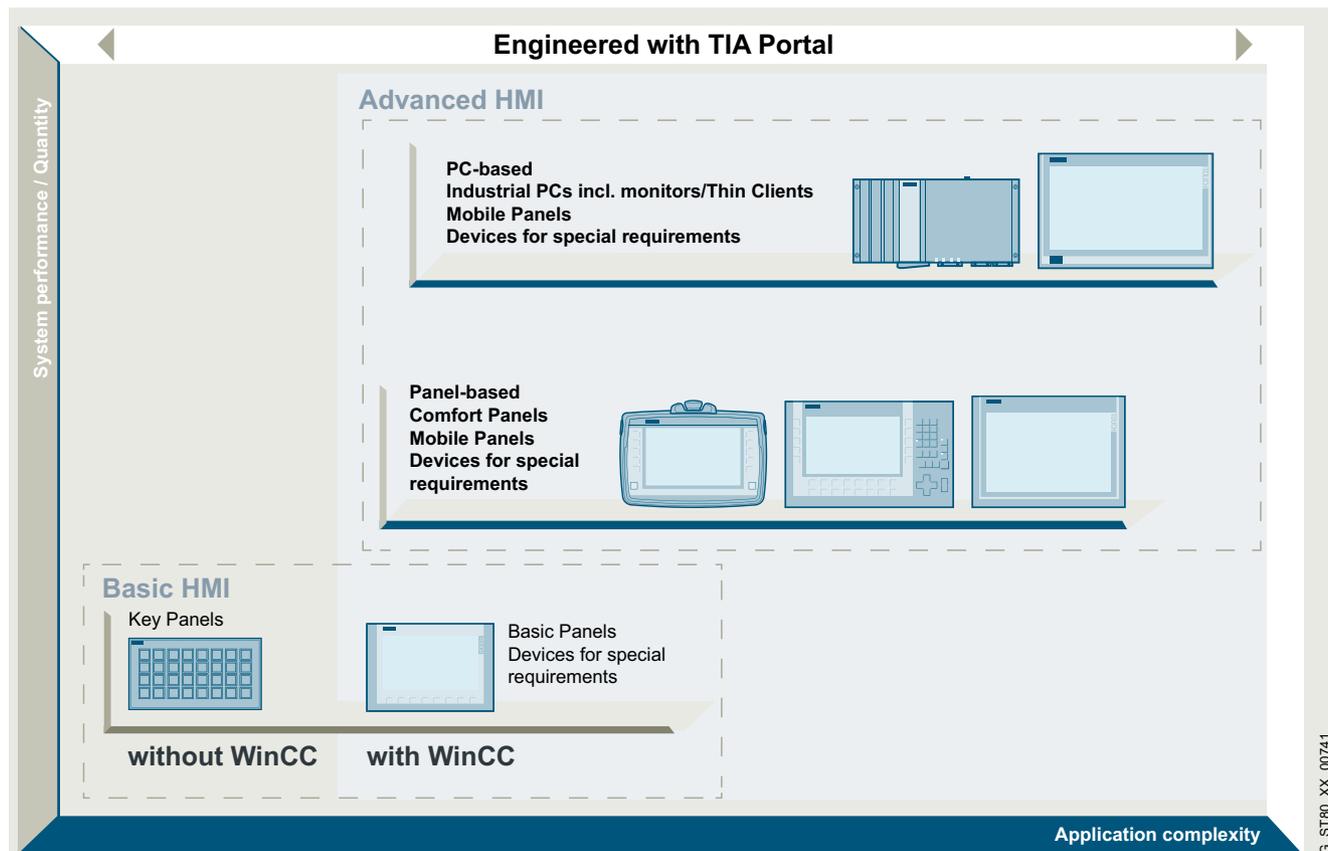


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## Operator panels

### Introduction

### Overview



#### **SIMATIC HMI Panels – HMI devices for efficient machine-level interaction**

A complete range of powerful and innovative operator control and monitoring devices is available for implementing efficient, machine-level HMI solutions in the most diverse applications and industries. One unique and highly efficient feature is the integrated configuring via SIMATIC WinCC in the TIA Portal, with which users can achieve significant savings with regard to engineering time, costs and effort.

<http://www.siemens.com/hmi-panels>

#### Basic HMI

- **Panel-based:**  
HMI devices with excellent price-performance ratio for simple visualization tasks.  
<http://www.siemens.com/basic-hmi>

#### Advanced HMI

- **Panel-based:**  
Powerful HMI devices for realization of demanding visualization tasks with a high level of convenience.  
<http://www.siemens.com/advanced-hmi-panel>
- **PC-based:**  
High-performance operator panels for complex, data-intensive, visualization tasks.  
<http://www.siemens.com/advanced-hmi-pc>

#### **Rugged and compact for use at machine level**

With IP65/NEMA 4 degree of protection at the front, high EMC and extreme vibration resistance, the SIMATIC HMI operator panels are ideally suited for use at machine level in rough industrial environments. Thanks to their compact design with a shallow mounting depth, the stationary operator panels can be fitted anywhere, even where only restricted space is available. For distributed configurations, there are also devices available with all-round IP65/NEMA 4 protection.

The extremely rugged and shock-proof enclosure with degree of protection IP65 makes the Mobile Panels especially suitable for industrial applications. Their low weight and ergonomic design means that they are user-friendly and easy to operate.

#### **One configuration software for everything**

SIMATIC WinCC (TIA Portal) is a tool for the uniform configuration of all SIMATIC HMI Panels as well as PC-based systems. Graded variants are available for every task. The software permits simple and efficient configuration. Programming experience is not required.

Once created, configurations can be reused within the family. Key Panels only need to be configured, not programmed.

## Overview

### Component of Totally Integrated Automation

Siemens provides the complete modular system of matched components for automation solutions from one source and — with Totally Integrated Automation — one of the most globally successful automation concepts. SIMATIC WinCC (TIA Portal) is an integral component of this world. It offers crucial advantages. Thanks to the triple uniformity in configuration/programming, data management and communication, automation solution engineering costs are significantly reduced.

### Open for a wide variety of automation systems

Despite being consistently incorporated into the SIMATIC world, the panels are nevertheless open for connection to PLCs from many different manufacturers. The standard delivery includes a comprehensive range of user-friendly drivers.

### Innovative operator control and monitoring

The SIMATIC HMI Panels facilitate innovative operator control and monitoring combined with ruggedness, stability and simplicity. On the Comfort Panels in particular, standard hardware and software interfaces, e.g. the Multimedia Card/ SD Card, USB, Ethernet, PROFINET, PROFIBUS DP and Visual Basic scripts, provide more flexibility and openness as well as access to the office world.

### Worldwide application

The SIMATIC HMI Panels are ideally equipped for global use. Online language switching permits selection of up to 32 languages during operation simply by pressing a button. The wide variety of languages available also includes, for example, Asian logographic languages (Chinese, Taiwanese, Korean, Japanese) and Russian. The configuration interface of WinCC (TIA Portal) including the online help and the complete documentation is also multilingual. Up to 32 languages can be used in one project. And all this is complemented by global service and support from Siemens.

### Configuration at a glance

Engineering software	WinCC Unified (TIA Portal)		WinCC (TIA Portal)				STEP 7
	Comfort	PC	Basic	Comfort	Advanced	Professional	STEP 7
<b>Key Panels</b>	-	-	-	-	-	-	•
<b>Basic Panels 2<sup>nd</sup> Generation <sup>1)</sup></b>	•	•	•	•	•	•	-
<b>Basic Panels 1<sup>st</sup> Generation</b>	-	-	•	•	•	•	-
<b>Comfort Panels</b>	•	•	-	• <sup>3)</sup>	•	•	-
<b>Unified Comfort Panels</b>	•	•	-	-	-	-	-
<b>Mobile Panels 2<sup>nd</sup> Generation</b>	•	•	-	• <sup>2)</sup>	• <sup>2)</sup>	• <sup>2)</sup>	-
<b>Mobile Panels x77 Series</b>	-	-	-	•	•	•	-

• Possible

<sup>1)</sup> As of WinCC (TIA Portal) V13

<sup>2)</sup> As of WinCC (TIA Portal) V13 SP1

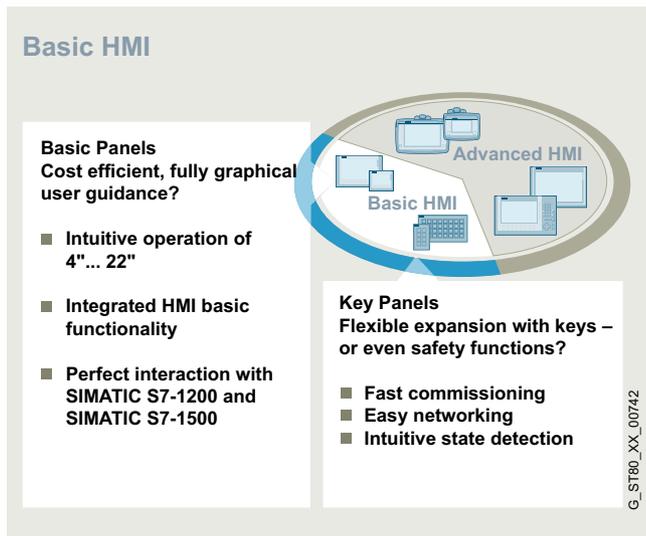
<sup>3)</sup> Outdoor versions from WinCC (TIA Portal) V13 SP1, Update 6 and HSP (download), or Comfort Panels 15" - 22" (-0AX1) from V14 SP1 HSP

# Operator panels

## Basic HMI

### Introduction

### Overview



#### ***Inexpensive realization of simple HMI tasks***

Basic HMI is recommended for simple applications with a limited quantity structure, where the price-performance ratio counts as well as fast, intuitive operation.

The devices offer a brilliant display quality and high-power visualization, which significantly simplifies the operation of simple machines and equipment.

You can also save valuable time during installation, commissioning and engineering with turnkey and flexible solutions.

#### SIMATIC HMI Key Panels

You can use the Key Panels to realize operator panels quickly, as well as save a lot of time and money setting them up since they are prefabricated and ready for installation.

All illuminated pushbuttons are freely configurable and equipped with five colored LEDs (red, green, blue, yellow and white). All buttons can also easily be inscribed in IP65. On the back, there are integrated IO terminals for connecting actuators and sensors.

#### SIMATIC HMI Basic Panels

Basic Panels are perfect for the cost-effective implementation of simple visualization tasks at machine level. Their basic features and functionality as well as the especially attractive price make them perfect entry-level devices.

The following modules are available:

- Key Panels
  - SIMATIC HMI KP8/KP8F/KP32F (key devices with multi-colored LEDs)
- Basic Panels
  - Standard devices 2<sup>nd</sup> Generation
  - Standard devices 1<sup>st</sup> Generation

## Overview

### **SIMATIC HMI Key Panels**

The Key Panels, PROFINET successors to the PROFIBUS-based Pushbutton Panels, are operator panels which are ready-to-run without any configuration effort at all.

Alternatives to individually wired long-stroke keys. They are designed for direct operator control of the machine.

Key Panels provide many basic functions for direct operator control and monitoring instead of machine operator control, a cost-effective, versatile and space-saving combination, and they reduce configuration and installation costs to a minimum. Furthermore, additional actuators and sensors can also be optionally connected directly on the rear of the devices. For applications directly next to a monitor, a very slim KP8 option is available (KP8 PN LX with 8 keys on top of each other).

The Key Panels can be used directly in line and ring topologies thanks to an integrated switch and two RJ45 PN sockets.

In addition there are two fully configured IP65 installation enclosures for KP8(F) available.

Exact cutouts included. Even supply cables with plugs can easily be connected in IP65 without any drilling or milling. These ready-made enclosures can be used as small local operator stations.

They can be found under Accessories -> Fixing elements, and depending on the option can come supplied with features such as emergency off pushbuttons.

- SIMATIC HMI blank front design
- SIMATIC HMI KP8 PN
- SIMATIC HMI KP8 PN LX
- SIMATIC HMI KP8F PN (shared device with GSD file possible)
- SIMATIC HMI KP32F PN (PROFIsafe can be switched off)
- Installation enclosure KP8 (Accessories -> Fixing elements)
- Installation enclosure KP8F (Accessories -> Fixing elements)

More information is available at:

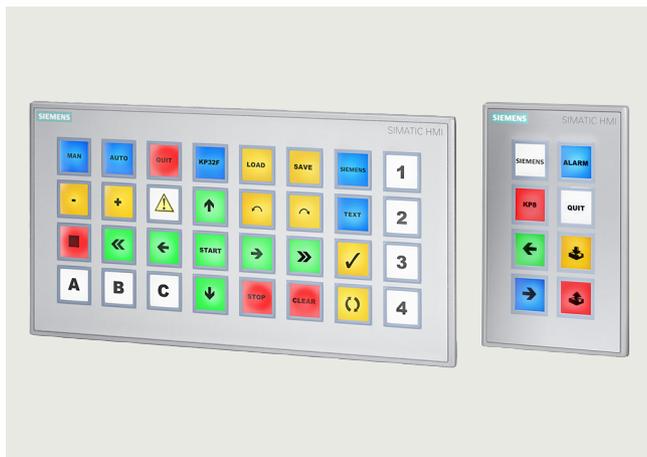
<http://www.siemens.com/key-panels>

## Operator panels

Basic HMI  
Key Panels

### SIMATIC HMI KP8/KP8F/KP32F

#### Overview



SIMATIC HMI KP32F and KP8F

#### SIMATIC HMI Key Panels

- Optimum operability thanks to large mechanical keys and multi-colored LED backlighting (daylight readable)
- Over 60% time savings for wiring and installation (Plug&Play)
- More than 30% savings in material costs compared to conventional keypad operator panels
- 2 PROFINET ports (incl. switch) already integrated for setting up line and ring topologies
- Freely configurable digital I/Os on the rear for connecting key-operated switches, indicator lights, etc.
- Connection of fail-safe emergency stop buttons or other fail-safe signals with KP8F and KP32F (in SIL2 or SIL3)
- Functionally compatible with all standard PROFINET master CPUs, also non-Siemens
- KP8 PN LX is suitable for direct installation next to monitors
- KP8 and blank front design, also optimized for installation in IPC Extension Units in IP65
- Maximum flexibility due to parameterization
- Blank front design for standardized assembly of flexible operator panels
- Installation enclosure, fully-enclosed IP65, no drilling or milling necessary, KP8(F) not included; for accessories see technical specifications for installation enclosure

#### Ordering data

#### Article No.

##### SIMATIC HMI KP8 PN

Key Panel, 8 short-stroke keys with multi-colored LEDs, PROFINET interfaces, 2 x parameterizable with STEP 7 V5.5 or higher

- SIEMENS Design (4 x 2 pairs of keys)

6AV3688-3AY36-0AX0

##### SIMATIC HMI KP8 PN LX

Neutral design black LX (8 keys on top of each other); Short-stroke keys long, 1-6 mm sheet thickness, PN interfaces, 8 configurable DI/DO pins, 24 V DC can be looped through, parameterizable with STEP 7 V5.5 or higher

6AV2127-1AB00-0LX1

##### SIMATIC HMI KP8F PN

Key Panel, 8 short-stroke keys with multi-colored LEDs, PROFINET interfaces with PROFIsafe, parameterizable with STEP 7 V5.5 or higher; 4 additional fail-safe inputs. Can be used as 2 x SIL 2 or 1 x SIL 3

- SIEMENS design
- As neutral design without Siemens imprint
- Blank front design for standard 22.5 mm operator controls, same mounting dimensions as KP8

6AV3688-3AF37-0AX0  
6AV3688-3AF37-0AX0-Z A01+S00

6AV3688-3XY38-3AX0

##### SIMATIC HMI KP32F PN

Key Panel, SIEMENS design; 32 short-stroke keys with multi-colored LEDs, PROFINET interfaces with PROFIsafe, parameterizable with STEP 7 V5.5 or higher; including 8 fail-safe inputs. Can be used as 4 x SIL 2 or 2 x SIL 3

6AV3688-3EH47-0AX0

#### Documentation

You can find the Equipment Manual for the Key Panels on the internet at:

<http://support.automation.siemens.com/WWW/view/en/56652789>

#### Accessories

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

## Technical specifications

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV2127-1AB00-0LX1 SIMATIC HMI KP8 PN LX 6mm
<b>General information</b>		
Product type designation	KP8 PN	Key Panel KP8 PN LX (1 ... 6 mm)
<b>Control elements</b>		
With parameterizable keys	Yes	Yes
<b>Keyboard fonts</b>		
• Membrane keyboard		
- user-definable label membrane keys	Yes	No; possible via adjacent display with L-pattern at key edge
• Function keys		
- Number of function keys	8	8; 19 x 19 mm per button
• Short-stroke keys		
- Number of short-stroke keys	8	8
<b>Expansions for operator control of the process</b>		
• DP direct LEDs (LEDs as S7 output I/O)	8; Adjustable brightness	
• Number of color modes for LED	5; red, green, blue, yellow, white	
• Direct keys (keys as S7 input I/O)	8	8
<b>Installation type/mounting</b>		
Mounting type	Mounting clip	clamp fastening with additional mounting clips
Front mounting	Yes; Compatible with Extension Units dimensions	Yes; mounting clip - Torx T20 tighten to 0.2 Nm; enclosure - Torx T10 tighten to 0.2 Nm
Rail mounting	No	No
Mounting in portrait format possible	Yes	Yes
Mounting in landscape format possible	Yes	Yes
maximum permissible angle of inclination without external ventilation	30°; To the front/rear	30°; To the front/rear
Number of slots for command devices and signaling units	0	0
<b>Supply voltage</b>		
Rated value (DC)	24 V; 24 V can be looped through connector, interrupted when pulled	
<b>Digital inputs</b>		
Number of digital inputs	8; Total inputs and outputs max. 8 and 1x SIL 2 or 2x SIL 3	8; Max. 8 inputs and outputs (total)
<b>Input voltage</b>		
• Rated value (DC)	24 V	24 V

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV2127-1AB00-0LX1 SIMATIC HMI KP8 PN LX 6mm
<b>Digital outputs</b>		
Number of digital outputs	8; Max. 8 inputs and outputs (total)	
Short-circuit protection	Yes	Yes
<b>Switching capacity of the outputs</b>		
• with resistive load, max.	100 mA	100 mA
<b>Output voltage</b>		
• Rated value (DC)	24 V; Non-isolated	24 V; Non-isolated
<b>Total current of the outputs</b>		
• Current per channel, max.	100 mA	100 mA
• Current per group, max.	800 mA	800 mA
<b>Interfaces</b>		
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch
<b>Industrial Ethernet</b>		
• Number of ports of the integrated switch	2; Per port	2; Per port
<b>Protocols</b>		
PROFINET	Yes; also 3rd party PLC	Yes; also 3rd party PLC
PROFINET CBA	No	No
IRT	Yes	Yes
PROFIsafe	No	No
PROFIBUS	No	No
<b>Redundancy mode</b>		
<b>Media redundancy</b>		
- MRP	Yes	Yes
<b>Test commissioning functions</b>		
Illuminant test	Yes; During switch on	Yes; During switch on
Key and signal lamp test	Yes; automatically when switching on	Yes; automatically when switching on
<b>Degree and class of protection</b>		
IP (at the front)	IP65	IP64
IP (rear)	IP20	IP20
NEMA (front)		
• Enclosure Type 4x at the front	Yes; Incl. NEMA12	No
• Enclosure Type 12 at the front		No

## Operator panels

Basic HMI  
Key Panels

### SIMATIC HMI KP8/KP8F/KP32F

#### Technical specifications

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV2127-1AB00-0LX1 SIMATIC HMI KP8 PN LX 6mm
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
CSA approval		No
UL approval		No
cULus	Yes	No
FM approval		No
RCM (formerly C-TICK)	Yes	No
KC approval	Yes	No
EAC (formerly Gost-R)	Yes	No
CCC		No; not necessary
Suitable for safety functions	Yes	No
Marine approval		No
<b>Use in hazardous areas</b>		
• ATEX Zone 2	Yes	No
• ATEX Zone 22	Yes	No
• cULus Class I Zone 2, Division 2	Yes	No
• FM Class I Division 2	Yes	No
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	55 °C	60 °C
<b>Relative humidity</b>		
• Operation, max.	95 %; no condensation	
<b>Configuration</b>		
<b>Configuration software</b>		
• STEP 7 Basic (TIA Portal)	Yes	Yes
• STEP 7 Professional (TIA Portal)	Yes	Yes
<b>Functionality under WinCC (TIA Portal)</b>		
<b>Process coupling</b>		
• S7-1200	Yes; with ET 200pro CPU and ET 200S CPU	Yes; with ET 200pro CPU and ET 200S CPU
• S7-1500	Yes	Yes
• S7-200	No	No
• S7-300/400	Yes; with F-CPU: STEP 7 V11 SP1 (or higher) and Safety V11 (or higher) or SIMATIC STEP 7 Basic V11 (or higher)	
• LOGO!	No	No
• WinAC	Yes	Yes
• SIMOTION	No	No
• Allen Bradley (EtherNet/IP)	No	No
• Allen Bradley (DF1)	No	No
• Mitsubishi (MC TCP/IP)	No	No
• Mitsubishi (FX)	No	No
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	No	No
• Modicon (Modbus TCP/IP)	No	No
• Modicon (Modbus)	No	No

Article number	6AV3688-3AY36-0AX0 SIMATIC HMI KP8 PN	6AV2127-1AB00-0LX1 SIMATIC HMI KP8 PN LX 6mm
<b>Mechanics/material</b>		
Enclosure material (front)		Bayblend FR3010 enclosure, Autotex F150 front membrane
• Plastic	Yes	Yes; neutral enclosure, black RAL 9005
• Aluminum	No	No
<b>Service life</b>		
• Short-stroke keys (in switching cycles)	1 500 000	1 500 000
• LEDs (ON period)	100 %	100 %
<b>Dimensions</b>		
Width of the housing front	98 mm	40.7 mm
Height of housing front	155 mm	252.4 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm	24 mm; tolerances +0.5 mm, not including connection plug (depending on connector type)
Mounting cutout, height	129 mm	244 mm; tolerances +0.5 mm, not including connection plug (depending on connector type)
Overall depth	49 mm; Incl. angled SIMATIC Ethernet connector	68.15 mm; mounting plate thickness max. 1 ... 6 mm
<b>Weights</b>		
Weight (without packaging)	280 g	297 g
<b>Other</b>		
Merchandise		Yes; K S27602/TKS-008-KP8 PN LX-SIEMENS-C10093
Manufacturer name		GETT Gerätetechnik GmbH
Manufacturer's address		Mittlerer Ring 1, 08233 Treuen (Vogtland), Germany
Note:		Key Panel must be configured as 6AV3688-3AY36-0AX0 Key Panel, compatible with 6AV2127-1AB00-0LX0

## Technical specifications

Article number	<b>6AV3688-3AF37-0AX0</b> SIMATIC HMI KP8F PN
<b>General information</b>	
Product type designation	KP8F PN
<b>Control elements</b>	
With parameterizable keys	Yes
<b>Keyboard fonts</b>	
• Membrane keyboard	
- user-definable label membrane keys	Yes
• Function keys	
- Number of function keys	8
• Short-stroke keys	
- Number of short-stroke keys	8
<b>Expansions for operator control of the process</b>	
• DP direct LEDs (LEDs as S7 output I/O)	8; Adjustable brightness
• Number of color modes for LED	5; red, green, blue, yellow, white
• Direct keys (keys as S7 input I/O)	8
<b>Installation type/mounting</b>	
Mounting type	Mounting clip
Front mounting	Yes; Compatible with Extension Units dimensions
Rail mounting	No
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	30°; To the front/rear
Number of slots for command devices and signaling units	0
<b>Supply voltage</b>	
Rated value (DC)	24 V; 24 V can be looped through connector, interrupted when pulled
<b>Digital inputs</b>	
Number of digital inputs	8; Total inputs and outputs max. 8 and 1x SIL 2 or 2x SIL 3
<b>Input voltage</b>	
• Rated value (DC)	24 V

Article number	<b>6AV3688-3AF37-0AX0</b> SIMATIC HMI KP8F PN
<b>Digital outputs</b>	
Number of digital outputs	8; Max. 8 inputs and outputs (total)
Short-circuit protection	Yes
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	100 mA
<b>Output voltage</b>	
• Rated value (DC)	24 V; Non-isolated
<b>Total current of the outputs</b>	
• Current per channel, max.	100 mA
• Current per group, max.	800 mA
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch
<b>Industrial Ethernet</b>	
• Number of ports of the integrated switch	2; Per port
<b>Protocols</b>	
PROFINET	Yes; also 3rd party PLC
PROFINET CBA	No
IRT	Yes
PROFIsafe	Yes; 1x SIL 3 (two-channel) or 2x SIL 2 (single-channel) emergency stop sensors
PROFIBUS	No
<b>Redundancy mode</b>	
<b>Media redundancy</b>	
- MRP	Yes
<b>Test commissioning functions</b>	
Illuminant test	Yes; During switch on
Key and signal lamp test	Yes; automatically when switching on
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
NEMA (front)	
• Enclosure Type 4x at the front	Yes; Incl. NEMA12
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
CCC	No; not necessary
Suitable for safety functions	Yes
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes
• ATEX Zone 22	Yes
• cULus Class I Zone 2, Division 2	Yes
• FM Class I Division 2	Yes

## Operator panels

Basic HMI  
Key Panels

### SIMATIC HMI KP8/KP8F/KP32F

#### Technical specifications

Article number	<b>6AV3688-3AF37-0AX0</b> SIMATIC HMI KP8F PN
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	55 °C
<b>Relative humidity</b>	
• Operation, max.	95 %; no condensation
<b>Configuration</b>	
<b>Configuration software</b>	
• STEP 7 Basic (TIA Portal)	Yes
• STEP 7 Professional (TIA Portal)	Yes
<b>Functionality under WinCC (TIA Portal)</b>	
<b>Process coupling</b>	
• S7-1200	Yes; with ET 200pro CPU and ET 200S CPU
• S7-1500	Yes
• S7-200	No
• S7-300/400	Yes; with F-CPU: STEP 7 V11 SP1 (or higher) and Safety V11 (or higher) or SIMATIC STEP 7 Basic V11 (or higher)
• LOGO!	No
• WinAC	Yes
• SIMOTION	No
• Allen Bradley (EtherNet/IP)	No
• Allen Bradley (DF1)	No
• Mitsubishi (MC TCP/IP)	No
• Mitsubishi (FX)	No
• OMRON (FINS TCP)	No
• OMRON (LINK/Multilink)	No
• Modicon (Modbus TCP/IP)	No
• Modicon (Modbus)	No
<b>Mechanics/material</b>	
Enclosure material (front)	
• Plastic	Yes
• Aluminum	No
<b>Service life</b>	
• Short-stroke keys (in switching cycles)	1 500 000
• LEDs (ON period)	100 %
<b>Dimensions</b>	
Width of the housing front	98 mm
Height of housing front	155 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129 mm
Overall depth	49 mm; Incl. angled SIMATIC Ethernet connector
<b>Weights</b>	
Weight (without packaging)	280 g

Article number	<b>6AV3688-3EH47-0AX0</b> SIMATIC HMI KP32F PN
<b>General information</b>	
Product type designation	KP32F PN
<b>Control elements</b>	
With parameterizable keys	Yes
<b>Keyboard fonts</b>	
• Membrane keyboard	
- user-definable label membrane keys	Yes
• Function keys	
- Number of function keys	32
• Short-stroke keys	
- Number of short-stroke keys	32
<b>Expansions for operator control of the process</b>	
• DP direct LEDs (LEDs as S7 output I/O)	8; Adjustable brightness
• Number of color modes for LED	5; red, green, blue, yellow, white
• Direct keys (keys as S7 input I/O)	32
<b>Installation type/mounting</b>	
Mounting type	Mounting clip
Front mounting	Yes
Rail mounting	No
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	30°; To the front/rear
Number of slots for command devices and signaling units	0
<b>Supply voltage</b>	
Rated value (DC)	24 V; 24 V looped through at connector, no interruption on pulling
<b>Digital inputs</b>	
Number of digital inputs	32; Total inputs and outputs max. 32 and 2x SIL 2 or 4x SIL 3
<b>Input voltage</b>	
• Rated value (DC)	24 V
<b>Digital outputs</b>	
Number of digital outputs	16; Max. 32 inputs and outputs (total)
Short-circuit protection	Yes
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	100 mA
<b>Output voltage</b>	
• Rated value (DC)	24 V; Non-isolated
<b>Total current of the outputs</b>	
• Current per channel, max.	100 mA
• Current per group, max.	800 mA

## Technical specifications

Article number	<b>6AV3688-3EH47-0AX0</b> SIMATIC HMI KP32F PN
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch
<b>Industrial Ethernet</b>	
• Number of ports of the integrated switch	2; Per port
<b>Protocols</b>	
PROFINET	Yes; incl. shared device, 3rd party PLC
PROFINET CBA	No
IRT	Yes
PROFIsafe	Yes; 2x SIL 3 (two-channel) or 4x SIL 2 (single-channel) emergency stop sensors
PROFIBUS	No
<b>Redundancy mode</b>	
<b>Media redundancy</b>	
- MRP	Yes
<b>Test commissioning functions</b>	
Illuminant test	Yes; During switch on
Key and signal lamp test	Yes; automatically when switching on
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
NEMA (front)	
• Enclosure Type 4x at the front	Yes; Incl. NEMA12
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
CCC	No; not necessary
Suitable for safety functions	Yes
<b>Use in hazardous areas</b>	
• ATEX Zone 2	No
• ATEX Zone 22	No
• cULus Class I Zone 2, Division 2	No
• FM Class I Division 2	No
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	55 °C
<b>Relative humidity</b>	
• Operation, max.	95 %; no condensation
<b>Configuration</b>	
<b>Configuration software</b>	
• STEP 7 Basic (TIA Portal)	Yes
• STEP 7 Professional (TIA Portal)	Yes

Article number	<b>6AV3688-3EH47-0AX0</b> SIMATIC HMI KP32F PN
<b>Functionality under WinCC (TIA Portal)</b>	
<b>Process coupling</b>	
• S7-1200	Yes; with ET 200pro CPU and ET 200S CPU
• S7-1500	Yes
• S7-200	No
• S7-300/400	Yes; with F-CPU: STEP 7 V11 SP1 or higher and Safety V11 (or higher), without F-CPU STEP 7 or SIMATIC STEP 7 Basic V11 (or higher)
• LOGO!	No
• WinAC	Yes
• SIMOTION	No
• Allen Bradley (EtherNet/IP)	No
• Allen Bradley (DF1)	No
• Mitsubishi (MC TCP/IP)	No
• Mitsubishi (FX)	No
• OMRON (FINS TCP)	No
• OMRON (LINK/Multilink)	No
• Modicon (Modbus TCP/IP)	No
• Modicon (Modbus)	No
<b>Mechanics/material</b>	
Enclosure material (front)	
• Plastic	No
• Aluminum	Yes
<b>Service life</b>	
• Short-stroke keys (in switching cycles)	1 500 000
• LEDs (ON period)	100 %
<b>Dimensions</b>	
Width of the housing front	295 mm
Height of housing front	155 mm
Mounting cutout, width	277 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	137 mm
Overall depth	69 mm; Incl. angled SIMATIC Ethernet connector
<b>Weights</b>	
Weight (without packaging)	1 220 g

## Operator panels

Basic HMI  
Key Panels

### SIMATIC HMI KP8/KP8F/KP32F

#### Technical specifications

Article number	<b>6AV3688-3XY38-3AX0</b> KP8 Design blank Front
<b>General information</b>	
Product type designation	Empty front design
<b>Installation type/mounting</b>	
Mounting type	Clamp terminals
Rack mounting	No
Front mounting	Yes; Compatible with Extension Units dimensions
Rail mounting	No
Wall mounting/direct mounting	No
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	180°; To the front/rear
Number of slots for command devices and signaling units	5; Max. 5 possible
<b>Supply voltage</b>	
Design of the power supply	external
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0
Number of USB interfaces	0
<b>Protocols</b>	
PROFINET	No
PROFIsafe	No
<b>Redundancy mode</b>	
<b>Media redundancy</b>	
- MRP	No
<b>Test commissioning functions</b>	
Key and signal lamp test	No
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
NEMA (front)	
• Enclosure Type 4x at the front	No
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	No
RCM (formerly C-TICK)	No
KC approval	No
<b>Use in hazardous areas</b>	
• ATEX Zone 2	No
• ATEX Zone 22	No
• cULus Class I Zone 1	No
• cULus Class I Zone 2, Division 2	No
• FM Class I Division 2	No
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	No
• American Bureau of Shipping (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (Class NK)	No
• Polski Rejestr Statkow (PRS)	No

Article number	<b>6AV3688-3XY38-3AX0</b> KP8 Design blank Front
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	55 °C
<b>Relative humidity</b>	
• Operation, max.	95 %
<b>Mechanics/material</b>	
Enclosure material (front)	
• Plastic	No
• Aluminum	Yes
• Stainless steel	No
<b>Dimensions</b>	
Width of the housing front	98 mm
Height of housing front	155 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129 mm
Overall depth	49 mm
<b>Weights</b>	
Weight (without packaging)	240 g
<b>Other</b>	
Merchandise	Yes
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany

#### More information

You can find more information on the Internet at:

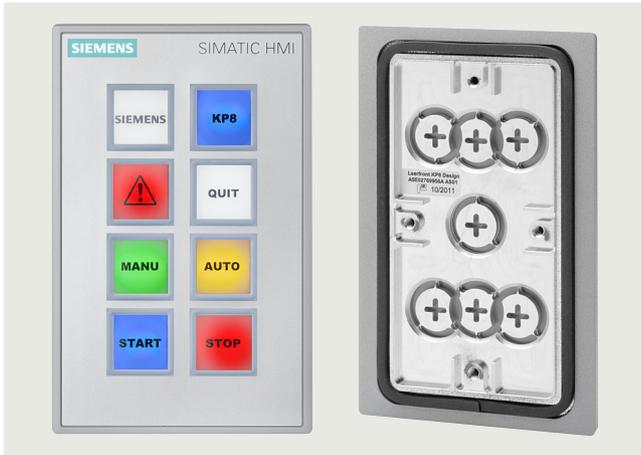
<http://www.siemens.com/key-panels>

For accessories see "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

#### Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized Automation", where you will find information about additional and generally available sector-specific products, as well as options for customer-specific modifications and adaptations.

## Overview



SIPLUS HMI KP8 PN, blank front

**SIPLUS HMI Key Panels**

- Optimum operability thanks to large mechanical keys and multi-colored LED backlighting (daylight readable)
- Over 60% time savings for wiring and installation (Plug&Play)
- More than 30% savings in material costs compared to conventional keypad operator panels
- 2 PROFINET ports (incl. switch) already integrated for setting up line and ring topologies
- Freely configurable digital I/Os on the rear for connecting key-operated switches, indicator lights, etc.
- Connection of fail-safe emergency stop buttons or other fail-safe signals with KP8F and KP32F (in SIL 2 or SIL 3)
- Functionally compatible with all standard PROFINET master CPUs, also from other manufacturers
- KP8 and blank front design, also optimized for installation in IPC Extension Units in IP65
- Maximum flexibility due to parameterization
- Blank front design for standardized assembly of flexible operator panels

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

## Ordering data

## Article No.

**SIPLUS HMI KP8 PN****6AG1688-3AY36-2AX0**

(extended temperature range and exposure to environmental substances)

Key Panel, 8 short-stroke keys with multi-colored LEDs, PROFINET interfaces, 2 x parameterizable with STEP 7 V5.5 or higher

**SIPLUS HMI KP8F PN****6AG1688-3AF37-2AX0**

(extended temperature range and exposure to environmental substances)

Key Panel, 8 short-stroke keys with multi-colored LEDs, PROFINET interfaces with PROFI-safe, parameterizable with STEP 7 V5.5 or higher; 4 additional fail-safe inputs. Can be used as 2 x SIL 2 or 1 x SIL 3

**SIPLUS HMI KP32F PN****6AG1688-3EH47-2AX0**

(extended temperature range and exposure to environmental substances)

Key Panel, 32 short-stroke keys with multi-colored LEDs, PROFINET interfaces with PROFI-safe, parameterizable with STEP 7 V5.5 or higher; including 8 fail-safe inputs. Can be used as 4 x SIL 2 or 2 x SIL 3

**Blank front design**

(Exposure to environmental substances)

For standard 22.5 mm operator controls, same mounting dimensions as KP8

**6AG1688-3XY38-2AX0****Documentation**

You can find the Equipment Manual for the Key Panels on the Internet at:

<http://support.automation.siemens.com/WWW/view/en/56652789>

**Accessories**

See SIMATIC HMI accessories

# Operator panels

Basic HMI  
Key Panels

## SIPLUS HMI KP8/KP8F/KP32F

### Technical specifications

Article number	<b>6AG1688-3AY36-2AX0</b> SIPLUS HMI KP8 PN	<b>6AG1688-3AF37-2AX0</b> SIPLUS HMI KP8F PN	<b>6AG1688-3EH47-2AX0</b> SIPLUS HMI KP32F PN
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	-40 °C; = Tmin; Startup @ -25 °C	-20 °C; = Tmin (incl. condensation/frost)	-20 °C; = Tmin (incl. condensation/frost)
• max.	60 °C; = Tmax	55 °C; = Tmax	55 °C; = Tmax
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	5 000 m	2 000 m	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
<b>Relative humidity</b>			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<b>Resistance</b>			
<b>Coolants and lubricants</b>			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>			
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)		
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)		
<b>Remark</b>			
- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

## Overview

**Basic Panels 2<sup>nd</sup> Generation**

With their fully developed HMI basic functions, SIMATIC HMI Basic Panels 2<sup>nd</sup> Generation are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics. The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive as well as the manual backup and restoring of the complete panel.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

<http://www.siemens.com/basic-panels>

## Ordering data

## Article No.

**SIMATIC HMI Basic Panels (2<sup>nd</sup> Generation)****Key and touch devices****SIMATIC HMI KTP400 Basic****6AV2123-2DB03-0AX0**

Key/touch operation;  
4" TFT widescreen display,  
65 536 colors,  
PROFINET interface

**SIMATIC HMI TP400 Basic Keyless****6AV2143-6DB00-0AA0**

Touch screen operation;  
4" TFT widescreen display,  
65 536 colors,  
PROFINET interface

**SIMATIC HMI KTP700 Basic****6AV2123-2GB03-0AX0**

Key/touch operation;  
7" TFT display, 65 536 colors,  
PROFINET interface

**SIMATIC HMI KTP700 Basic DP****6AV2123-2GA03-0AX0**

Key/touch operation;  
7" TFT display, 65 536 colors,  
PROFIBUS interface

**SIMATIC HMI TP700 Basic Keyless****6AV2143-6GB00-0AA0**

Touch screen operation;  
7" TFT display, 65 536 colors,  
PROFINET interface

**SIMATIC HMI KTP900 Basic****6AV2123-2JB03-0AX0**

Key/touch operation;  
9" TFT display, 65 536 colors,  
PROFINET interface

**SIMATIC HMI TP900 Basic Keyless****6AV2143-6JB00-0AA0**

Touch screen operation;  
9" TFT display, 65 536 colors,  
PROFINET interface

**SIMATIC HMI KTP1200 Basic****6AV2123-2MB03-0AX0**

Key/touch operation;  
12" TFT display, 65 536 colors,  
PROFINET interface

**SIMATIC HMI KTP1200 Basic DP****6AV2123-2MA03-0AX0**

Key/touch operation;  
12" TFT display, 65 536 colors,  
PROFIBUS interface

**Documentation**

You can find the Equipment Manual for the Basic Panels on the Internet at:

<http://support.automation.siemens.com>**Accessories**

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

## Operator panels

Basic HMI

Basic Panels

### Standard devices 2nd Generation

#### Technical specifications

Article number	<b>6AV2123-2DB03-0AX0</b> SIMATIC HMI KTP400 Basic	<b>6AV2143-6DB00-0AA0</b> SIMATIC HMI TP400 Basic OEM	<b>6AV2123-2GB03-0AX0</b> SIMATIC HMI KTP700 Basic	<b>6AV2123-2GA03-0AX0</b> SIMATIC HMI KTP700 Basic DP	<b>6AV2143-6GB00-0AA0</b> SIMATIC HMI TP700 Basic OEM
<b>General information</b>					
Product type designation	KTP400 Basic	TP400 Basic Keyless	KTP700 Basic color PN	KTP700 Basic color DP	TP700 Basic Keyless
<b>Display</b>					
Design of display	TFT widescreen display, LED backlighting				
Screen diagonal	4.3 in	4.3 in	7 in	7 in	7 in
Number of colors	65 536	65 536	65 536	65 536	65 536
<b>Resolution (pixels)</b>					
• Horizontal image resolution	480 pixel	480 pixel	800 pixel	800 pixel	800 pixel
• Vertical image resolution	272 pixel	272 pixel	480 pixel	480 pixel	480 pixel
<b>Backlighting</b>					
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h	20 000 h	20 000 h
<b>Control elements</b>					
<b>Keyboard fonts</b>					
• Function keys		No			No
- Number of function keys	4	0	8	8	0
<b>Touch operation</b>					
• Design as touch screen	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive
• Design as multi-touch screen		No			
• Monitor keyboard		Yes			
<b>Installation type/mounting</b>					
Wall mounting/direct mounting	No	No	No		
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>					
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
<b>Memory</b>					
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte	10 Mbyte	10 Mbyte
<b>Type of output</b>					
<b>Acoustics</b>					
• Buzzer	Yes	Yes	Yes	Yes	Yes
<b>Time of day</b>					
<b>Clock</b>					
• Software clock	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	1	1	1	0	1
Number of RS 485 interfaces	0	0	0	1	0
Number of USB interfaces	1; Up to 16 GB	1	1; Up to 16 GB	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0	0	0

## Technical specifications

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 Basic	6AV2143-6DB00-0AA0 SIMATIC HMI TP400 Basic OEM	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 Basic	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 Basic DP	6AV2143-6GB00-0AA0 SIMATIC HMI TP700 Basic OEM
<b>Protocols</b>					
PROFINET	Yes	Yes	Yes	No	Yes
IRT	No	No	No	No	No
PROFIBUS	No	No	No	Yes	No
MPI	No	No	No	Yes	No
<b>Redundancy mode</b>					
<b>Media redundancy</b>					
- MRP	No		No	No	No
<b>Degree and class of protection</b>					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20	IP20
NEMA (front)					
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes		Yes	Yes	Yes
EAC (formerly Gost-R)		Yes			
<b>Use in hazardous areas</b>					
• ATEX Zone 2	No	No	No	No	No
• ATEX Zone 22	No	No	No	No	No
• IECEx Zone 2	No		No	No	No
• IECEx Zone 22	No		No	No	No
• cULus Class I Zone 2, Division 2	No	No	No	No	No
• FM Class I Division 2	No	No	No	No	No
<b>Marine approval</b>					
• Germanischer Lloyd (GL)	Yes		Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes		Yes	Yes	Yes
• Bureau Veritas (BV)	Yes		Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes		Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes		Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes		Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No		No	No	No
• Chinese Classification Society (CCS)	No		No	No	No
<b>Ambient conditions</b>					
Suited for indoor use	Yes			Yes	
Suited for outdoor use	No			No	
<b>Ambient temperature during operation</b>					
<b>Operation (vertical installation)</b>					
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C	50 °C
<b>Relative humidity</b>					
• Operation, max.	90 %; no condensation	90 %	90 %; no condensation	90 %; no condensation	90 %; no condensation

## Operator panels

Basic HMI

Basic Panels

### Standard devices 2nd Generation

#### Technical specifications

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 Basic	6AV2143-6DB00-0AA0 SIMATIC HMI TP400 Basic OEM	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 Basic	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 Basic DP	6AV2143-6GB00-0AA0 SIMATIC HMI TP700 Basic OEM
<b>Configuration</b>					
<b>Configuration software</b>					
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)				
• WinCC flexible Compact	No	No	No	No	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes	Yes	Yes
<b>Languages</b>					
<b>Online languages</b>					
• Number of online/runtime languages	10	10	10	10	10
<b>Functionality under WinCC (TIA Portal)</b>					
Applications/options					
• Web browser	Yes		Yes	No	Yes
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher		Yes; Available with WinCC (TIA Portal) V14 or higher		No
Number of Visual Basic Scripts	No	No	No	No	No
Task planner	Yes	Yes	Yes	Yes	Yes
• time-controlled	No	No	No	No	No
• task-controlled	Yes	Yes	Yes	Yes	Yes
<b>Message system</b>					
• Bit messages					
- Number of bit messages	1 000	1 000	1 000	1 000	1 000
• Analog messages					
- Number of analog messages	25	25	25	25	25
• Message buffer					
- Number of entries	256	256	256	256	256
- Circulating buffer	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes
<b>Recipe management</b>					
• Number of recipes	50	50	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No	No	No	No	No
<b>Variables</b>					
• Number of variables per device	800	800	800	800	800
• Number of variables per screen	100	100	100	100	100
<b>Images</b>					
• Number of configurable images	250	100	250	250	250
<b>Archiving</b>					
• Number of archives per device	2; One message and one process value archive	2	2; One message and one process value archive	2; One message and one process value archive	2
• Number of entries per archive	10 000	10 000	10 000	10 000	10 000
• Message archive					
	Yes	Yes	Yes	Yes	Yes
• Process value archive					
	Yes	Yes	Yes	Yes	Yes
• Archiving methods					
- Sequential archive	Yes	Yes	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes	Yes	Yes
• Memory location					
- Memory card	No	No	No	No	No
- USB memory	Yes	Yes	Yes	Yes	Yes
- Ethernet	No	No	No	No	No
• Data storage format					
- CSV	No	Yes	No	No	No
- TXT	Yes	No	Yes	Yes	Yes
- RDB	No	No	No	No	No

## Technical specifications

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 Basic	6AV2143-6DB00-0AA0 SIMATIC HMI TP400 Basic OEM	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 Basic	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 Basic DP	6AV2143-6GB00-0AA0 SIMATIC HMI TP700 Basic OEM
<b>Security</b>					
• Number of user groups	50	50	50	50	50
• Number of users	50		50	50	50
• SIMATIC Logon	No	No	No	No	No
<b>Transfer (upload/download)</b>					
• MPI/PROFIBUS DP	No	No	No	Yes	No
• Ethernet	Yes	Yes	Yes	No	Yes
<b>Process coupling</b>					
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	No	Yes
• Allen Bradley (DF1)	No	No	No	Yes	No
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	No	Yes
• Mitsubishi (FX)	No	No	No	Yes	No
• OMRON (FINS TCP)	No	No	No	No	No
• OMRON (LINK/Multilink)	No	No	No	Yes	No
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	No	Yes
• Modicon (Modbus)	No	No	No	Yes	No
<b>Peripherals/Options</b>					
Printer	No	No	No	No	No
SIMATIC HMI MM memory card: Multi Media Card	No	No	No	No	No
SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No	No	No
USB memory	Yes	Yes; USB storage medium can be connected	Yes	Yes	Yes
<b>Mechanics/material</b>					
Enclosure material (front)					
• Plastic	Yes	Yes	Yes	Yes	Yes
• Aluminum	No	No	No	No	No
• Stainless steel	No	No	No	No	No
<b>Dimensions</b>					
Width of the housing front	141 mm	141 mm	214 mm	214 mm	214 mm
Height of housing front	116 mm	116 mm	158 mm	158 mm	158 mm
Mounting cutout, width	123 mm	123 mm	197 mm	197 mm	197 mm
Mounting cutout, height	99 mm	99 mm	141 mm	141 mm	141 mm
Overall depth	33 mm	33 mm	39 mm	39 mm	39 mm
<b>Weights</b>					
Weight (without packaging)	360 g		780 g	800 g	780 g

## Operator panels

Basic HMI

Basic Panels

### Standard devices 2nd Generation

#### Technical specifications

Article number	<b>6AV2123-2JB03-0AX0</b> SIMATIC HMI KTP900 Basic	<b>6AV2143-6JB00-0AA0</b> SIMATIC HMI TP900 Basic OEM	<b>6AV2123-2MB03-0AX0</b> SIMATIC HMI KTP1200 Basic	<b>6AV2123-2MA03-0AX0</b> SIMATIC HMI KTP1200 Basic DP
<b>General information</b>				
Product type designation	KTP900 Basic color PN	TP900 Basic Keyless	KTP1200 Basic color PN	KTP1200 Basic color DP
<b>Display</b>				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	9 in	9 in	12 in	12 in
Number of colors	65 536	65 536	65 536	65 536
<b>Resolution (pixels)</b>				
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel	1 280 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel	800 pixel
<b>Backlighting</b>				
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h	20 000 h
<b>Control elements</b>				
<b>Keyboard fonts</b>				
• Function keys		No		
- Number of function keys	8	0	10	10
<b>Touch operation</b>				
• Design as touch screen	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive
• Design as multi-touch screen		No		
• Monitor keyboard		Yes		
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	24 V
<b>Memory</b>				
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte	10 Mbyte
<b>Type of output</b>				
Acoustics		Buzzer		
• Buzzer	Yes	Yes	Yes	Yes
<b>Time of day</b>				
<b>Clock</b>				
• Software clock	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes
<b>Interfaces</b>				
Number of industrial Ethernet interfaces	1	1	1	0
Number of RS 485 interfaces	0	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; USB 2.0, up to 16 GB respectively	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0	0
<b>Industrial Ethernet</b>				
• Number of ports of the integrated switch		0		

## Technical specifications

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 Basic	6AV2143-6JB00-0AA0 SIMATIC HMI TP900 Basic OEM	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 Basic	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 Basic DP
<b>Protocols</b>				
PROFINET	Yes	Yes	Yes	No
IRT	No	No	No	No
PROFIBUS	No	No	No	Yes
MPI	No	No	No	Yes
<b>Redundancy mode</b>				
<b>Media redundancy</b>				
- MRP	No	No	No	No
<b>Degree and class of protection</b>				
IP (at the front)	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20
NEMA (front)				
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes		Yes	Yes
RCM (formerly C-TICK)	Yes		Yes	Yes
KC approval	Yes		Yes	Yes
<b>Use in hazardous areas</b>				
• ATEX Zone 2	No		No	No
• ATEX Zone 22	No		No	No
• IECEx Zone 2	No		No	No
• IECEx Zone 22	No		No	No
• cULus Class I Zone 2, Division 2	No		No	No
• FM Class I Division 2	No		No	No
<b>Marine approval</b>				
• Germanischer Lloyd (GL)	Yes		Yes	Yes
• American Bureau of Shipping (ABS)	Yes		Yes	Yes
• Bureau Veritas (BV)	Yes		Yes	Yes
• Det Norske Veritas (DNV)	Yes		Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes		Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes		Yes	Yes
• Polski Rejestr Statkow (PRS)	No		No	No
• Chinese Classification Society (CCS)	No		No	No
<b>Ambient conditions</b>				
Suited for indoor use				Yes
Suited for outdoor use				No
<b>Ambient temperature during operation</b>				
<b>Operation (vertical installation)</b>				
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C
<b>Relative humidity</b>				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>				
<b>Configuration software</b>				
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No	No	No	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes	Yes

## Operator panels

Basic HMI

Basic Panels

### Standard devices 2nd Generation

#### Technical specifications

Article number	<b>6AV2123-2JB03-0AX0</b> SIMATIC HMI KTP900 Basic	<b>6AV2143-6JB00-0AA0</b> SIMATIC HMI TP900 Basic OEM	<b>6AV2123-2MB03-0AX0</b> SIMATIC HMI KTP1200 Basic	<b>6AV2123-2MA03-0AX0</b> SIMATIC HMI KTP1200 Basic DP
<b>Languages</b>				
<b>Online languages</b>				
• Number of online/runtime languages	10	10	10	10
<b>Functionality under WinCC (TIA Portal)</b>				
Applications/options				
• Web browser	Yes	No	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher	No	Yes; Available with WinCC (TIA Portal) V14 or higher	No
Number of Visual Basic Scripts	No	No	No	No
Task planner	Yes	Yes	Yes	Yes
• time-controlled	No	No	No	No
• task-controlled	Yes	Yes	Yes	Yes
<b>Message system</b>				
• Bit messages				
- Number of bit messages	1 000	1 000	1 000	1 000
• Analog messages				
- Number of analog messages	25	25	25	25
• Message buffer				
- Number of entries	256	256	256	256
- Circulating buffer	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes
<b>Recipe management</b>				
• Number of recipes				
	50	50	50	50
• Size of internal recipe memory				
	256 kbyte	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable				
	No		No	No
<b>Variables</b>				
• Number of variables per device				
	800	800	800	800
• Number of variables per screen				
	100	100	100	100
<b>Images</b>				
• Number of configurable images				
	250	100	250	250
<b>Archiving</b>				
• Number of archives per device				
	2; One message and one process value archive	2	2; One message and one process value archive	2; One message and one process value archive
• Number of entries per archive				
	10 000	10 000	10 000	10 000
• Message archive				
	Yes	Yes	Yes	Yes
• Process value archive				
	Yes	Yes	Yes	Yes
• Archiving methods				
- Sequential archive	Yes	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes	Yes
• Memory location				
- Memory card	No	No	No	No
- USB memory	Yes	Yes	Yes	Yes
- Ethernet	No	No	No	No
• Data storage format				
- CSV	No	No	No	No
- TXT	Yes	Yes	Yes	Yes
- RDB	No	No	No	No

## Technical specifications

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 Basic	6AV2143-6JB00-0AA0 SIMATIC HMI TP900 Basic OEM	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 Basic	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 Basic DP
<b>Security</b>				
• Number of user groups	50	50	50	50
• Number of users	50		50	50
• SIMATIC Logon	No	No	No	No
<b>Transfer (upload/download)</b>				
• MPI/PROFIBUS DP	No	No	No	Yes
• Ethernet	Yes	Yes	Yes	No
<b>Process coupling</b>				
• S7-1200	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	No
• Allen Bradley (DF1)	No	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	No
• Mitsubishi (FX)	No	No	No	Yes
• OMRON (FINS TCP)	No	No	No	No
• OMRON (LINK/Multilink)	No	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	No
• Modicon (Modbus)	No	No	No	Yes
<b>Peripherals/Options</b>				
Printer	No	No	No	No
SIMATIC HMI MM memory card: Multi Media Card	No	No	No	No
SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No	No
USB memory	Yes	Yes; USB storage medium can be connected	Yes	Yes
<b>Mechanics/material</b>				
Enclosure material (front)				
• Plastic	Yes	Yes	Yes	Yes
• Aluminum	No	No	No	No
• Stainless steel	No	No	No	No
<b>Dimensions</b>				
Width of the housing front	267 mm	267 mm	330 mm	330 mm
Height of housing front	182 mm	182 mm	245 mm	245 mm
Mounting cutout, width	251 mm	251 mm	310 mm	310 mm
Mounting cutout, height	166 mm	166 mm	221 mm	221 mm
Overall depth	55 mm	55 mm	60 mm	60 mm
<b>Weights</b>				
Weight (without packaging)	1 130 g	1 130 g	1 710 g	1 710 g

### More information

More information is available on the Internet at:

<http://www.siemens.com/basic-panels>

#### Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional and generally available sector-specific products, as well as options for customer-specific modifications and adaptations.

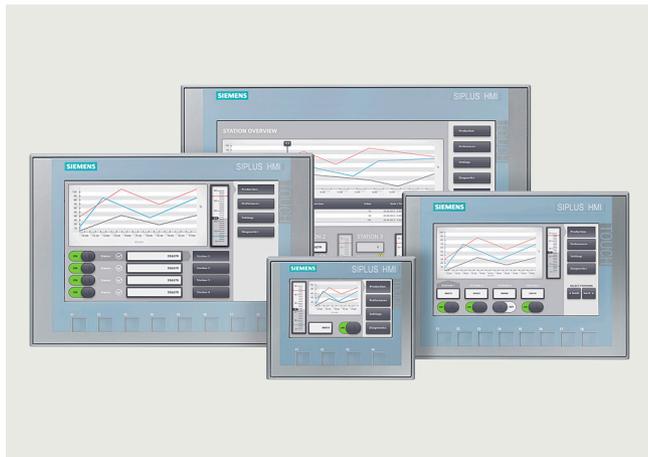
## Operator panels

Basic HMI

Basic Panels

### SIPLUS Basic Panels (2nd Generation)

#### Overview



With their fully developed HMI basic functions, 2<sup>nd</sup> Generation SIPLUS Basic Panels are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics. The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

#### Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical documentation on SIPLUS can be found here: <http://www.siemens.com/siplus-extreme>

#### Ordering data

#### Article No.

##### SIPLUS HMI Basic Panels, Key and Touch

##### SIPLUS HMI KTP400 Basic

6AG1123-2DB03-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +60 °C

##### SIPLUS HMI KTP700 Basic

6AG1123-2GB03-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +50 °C

##### SIPLUS HMI KTP700 Basic DP

6AG1123-2GA03-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +50 °C

##### SIPLUS HMI KTP900 Basic

6AG1123-2JB03-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -20 ... +50 °C

##### SIPLUS HMI KTP1200 Basic

6AG1123-2MB03-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -10 ... +50 °C

##### SIPLUS HMI KTP1200 Basic DP

6AG1123-2MA03-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -10 ... +50 °C

#### Accessories

See SIMATIC Basic Panels 2<sup>nd</sup> Generation

## Technical specifications

Article number	6AG1123-2DB03-2AX0 SIPLUS HMI KTP400 BASIC	6AG1123-2GB03-2AX0 SIPLUS HMI KTP700 BASIC	6AG1123-2GA03-2AX0 SIPLUS HMI KTP700 BASIC DP
<b>Ambient conditions</b>			
Suited for indoor use		Yes	Yes
Suited for outdoor use		No	No
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	-20 °C; = Tmin	-20 °C	-20 °C; = Tmin
- For vertical installation, max.	60 °C; = Tmax	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
<b>Relative humidity</b>			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position
<b>Resistance</b>			
<b>Coolants and lubricants</b>			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request		
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>			
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)	Yes; Class 3 (excluding trichlorethylene)	Yes; Class 3 (excluding trichlorethylene)
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)		
<b>Remark</b>			
- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

## Operator panels

Basic HMI

Basic Panels

### SIPLUS Basic Panels (2nd Generation)

#### Technical specifications

Article number	<b>6AG1123-2JB03-2AX0</b> SIPLUS HMI KTP900 BASIC	<b>6AG1123-2MB03-2AX0</b> SIPLUS HMI KTP1200 BASIC	<b>6AG1123-2MA03-2AX0</b> SIPLUS HMI KTP1200 BASIC DP
<b>Ambient conditions</b>			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	-20 °C	-10 °C; = Tmin	-10 °C; = Tmin
- For vertical installation, max.	50 °C	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
<b>Relative humidity</b>			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position
<b>Resistance</b>			
<b>Coolants and lubricants</b>			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request		
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>			
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)	Yes; Class 3 (excluding trichlorethylene)	Yes; Class 3 (excluding trichlorethylene)
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)		
<b>Remark</b>			
- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

#### More information

More information is available on the Internet at:

<http://www.siemens.com/basic-panels>

**Overview*****Realization of demanding HMI tasks with a high level of user convenience***

Advanced HMI is the Panel-based solution for demanding applications with large configuration limits. The user benefits from excellent functionality and a wide range of devices and applications, with key or touch operation. Both stationary and mobile solutions are available.

SIMATIC HMI Unified Comfort Panels

The new generation of high-end, 7–22" operator panels, part of the new SIMATIC WinCC Unified System, boasts numerous improvements over the predecessor devices in terms of performance, openness and user-friendliness.

- Rugged multi-touch technology
- Innovative SIMATIC WinCC Unified visualization software
- Integrated Edge functionality
- Remote Client support

SIMATIC HMI Comfort Panels

SIMATIC HMI Comfort Panels are designed for implementing high-performance visualization tasks at machine-level. High performance, functionality and numerous integrated interfaces offer the greatest convenience in high-end applications.

- Brilliant widescreen display of 4" to 22"
- Easy commissioning and service concept

SIMATIC HMI Mobile Panels

Panels for high-end mobile applications – even in the fail-safe area of machines and widely distributed plants. The process communication can be wired or via WLAN.

- Innovative operation from 4" to 9"
- Rugged for location-related local operation
- Integrated security concept

## Operator panels

Advanced HMI Panel-based

### SIMATIC HMI Unified Comfort Panels

#### Overview



#### **SIMATIC HMI Unified Comfort Panels**

The new generation of high-end, 7–22-inch operator panels, part of the new SIMATIC WinCC Unified System, boasts numerous improvements over the predecessor devices in terms of performance, openness and user-friendliness.

Thanks to their capacitive glass front with multi-touch technology, the Unified Comfort Panels are as convenient to use as a smartphone or tablet. The sharp colors and high contrast improve the readability and ease of use.

Visualization on the devices is based on SIMATIC WinCC Unified, the new visualization system in the TIA Portal. This opens up many new opportunities and functionalities for the user – across all device sizes.

Brand new to the SIMATIC HMI product portfolio is the option to expand device functionality with apps. Previously, HMI Panels were used exclusively for visualization software. Thanks to the integration of Siemens Industrial Edge, users can now run other programs simultaneously alongside this standard device functionality. Project-specific requirements can thus be implemented quickly and easily.

The following SIMATIC HMI Unified Comfort Panels are available:

- Standard design:
  - MTP700 Comfort
  - MTP1000 Comfort
  - MTP1200 Comfort
  - MTP1500 Comfort
  - MTP1900 Comfort
  - MTP2200 Comfort
- Neutral design:
  - MTP700 Comfort
  - MTP1000 Comfort
  - MTP1200 Comfort
  - MTP1500 Comfort
  - MTP1900 Comfort
  - MTP2200 Comfort

Starter Kits are available for standard design devices.

These consist of:

- HMI Unified Comfort Panel
- WinCC Unified V16 Comfort
- EDGE Runtime for Unified Comfort (Device-managed) license
- 1.5 m PROFINET cable
- Memory card (32 GB)
- Protective film

#### **SIMATIC WinCC Unified options**

- WinCC Unified Audit Basis
- WinCC Unified Clients (Operate Client and Monitor Client)
- WinCC Unified Database Storage
- WinCC Unified Logging
- WinCC Unified Parameter Control
- WinCC Unified Report Execution
- WinCC Unified Collaboration

### Overview



SIMATIC HMI MTP2200 Unified Comfort Panel Standard design front view

### SIMATIC HMI Unified Comfort Panels - standard devices

SIMATIC HMI Unified Comfort Panels consist of six different devices with varying display sizes. All devices come with the same number of hardware interfaces and the same functionality – just select the perfect device for your needs based on the screen size.

Each Unified Comfort Panel is available in the standard design with Siemens and SIMATIC HMI branding and a silver-colored aluminum frame.

All Unified Comfort Panels come with integrated Edge functionality.

SIMATIC WinCC Unified contains visualization, communication, alarms/warnings, report creation, administration of parameter sets, archiving of user administration.

Furthermore, a WinCC Unified Client Operate (V17 or higher) for remote operator control and monitoring, and a WinCC Unified Client Monitor (V18 or higher) for monitoring only are also included. Additional clients can be enabled with a license. Up to three client licenses can be used.

Client access is based on native web technologies such as HTML5, SVG and JavaScript. The visualization can be accessed via any modern web browser – without the need for additional installation.

Siemens Industrial Edge can be used in two different ways:

- Device-managed Edge
- Centrally-managed Edge (planned)

SIMATIC HMI Unified Comfort Panels can also be ordered with a neutral design.

#### Note:

The technical specifications of the neutral design devices correspond to the technical specifications of the devices with standard design.

### Ordering data

### Article No.

#### Touch devices for SIMATIC HMI Unified Comfort Panels

##### Standard design

#### SIMATIC HMI MTP700 Unified Comfort Panel

6AV2128-3GB06-0AX1

7" widescreen TFT display, touch operation, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source SW which is provided free of charge. See enclosed DVD

#### SIMATIC HMI MTP1000 Unified Comfort Panel

6AV2128-3KB06-0AX1

10.1" widescreen TFT display, touch operation, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source SW which is provided free of charge. See enclosed DVD

#### SIMATIC HMI MTP1200 Unified Comfort Panel

6AV2128-3MB06-0AX1

12.1" widescreen TFT display, touch operation, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source SW which is provided free of charge. See enclosed DVD

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Standard

#### Ordering data

#### Article No.

#### Article No.

##### SIMATIC HMI MTP1500 Unified Comfort Panel

15.6" widescreen TFT display, touch operation, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source SW which is provided free of charge. See enclosed DVD

6AV2128-3QB06-0AX1

#### Neutral design

##### SIMATIC HMI MTP700 Unified Comfort Panel

Neutral, touch operation; 7" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD

6AV2128-3GB36-0AX1

##### SIMATIC HMI MTP1900 Unified Comfort Panel

18.5" widescreen TFT display, touch operation, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD

6AV2128-3UB06-0AX1

##### SIMATIC HMI MTP1000 Unified Comfort Panel

Neutral, touch operation; 10.1" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD

6AV2128-3KB36-0AX1

##### SIMATIC HMI MTP2200 Unified Comfort Panel

21.5" widescreen TFT display, touch operation, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD

6AV2128-3XB06-0AX1

##### SIMATIC HMI MTP1200 Unified Comfort Panel

Neutral, touch operation; 12.1" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD

6AV2128-3MB36-0AX1

##### SIMATIC HMI MTP1500 Unified Comfort Panel

Neutral, touch operation; 15.6" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;

- with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD

6AV2128-3QB36-0AX1

Ordering data	Article No.	Software	Article No.
<p><b>SIMATIC HMI MTP1900 Unified Comfort Panel</b></p> <p>Neutral, touch operation; 18.5" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;</p> <ul style="list-style-type: none"> <li>with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD</li> </ul>	6AV2128-3UB36-0AX1	<p><b>EDGE Runtime for SIMATIC Unified Comfort</b></p> <p>Runtime software, single license, license key for download, without software and documentation, Class A, email address required for delivery</p>	6AV2170-2BA00-0AA0
<p><b>SIMATIC HMI MTP2200 Unified Comfort Panel</b></p> <p>Neutral, touch operation; 21.5" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16;</p> <ul style="list-style-type: none"> <li>with additional certifications for explosion-proof areas and for use in marine engineering (see Technical specifications). Contains open source software, which is provided free of charge. See enclosed DVD</li> </ul>	6AV2128-3XB36-0AX1		

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Standard

#### Technical specifications

Article number	6AV2128-3GB06-0AX1	6AV2128-3KB06-0AX1	6AV2128-3MB06-0AX1	6AV2128-3QB06-0AX1	6AV2128-3UB06-0AX1	6AV2128-3XB06-0AX1
	SIMATIC HMI MTP700 Unified Comfort	SIMATIC HMI MTP1000 Unified Comfort	SIMATIC HMI MTP1200 Unified Comfort	SIMATIC HMI MTP1500 Unified Comfort	SIMATIC HMI MTP1900 Unified Comfort	SIMATIC HMI MTP2200 Unified Comfort
<b>General information</b>						
Product type designation	MTP700 Unified Comfort	MTP1000 Unified Comfort	MTP1200 Unified Comfort	MTP1500 Unified Comfort	MTP1900 Unified Comfort	MTP2200 Unified Comfort
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7 in	10.1 in	12.1 in	15.6 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	800 pixel	1 280 pixel	1 280 pixel	1 366 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	480 pixel	800 pixel	800 pixel	768 pixel	1 080 pixel	1 080 pixel
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h	50 000 h; At 25°C	30 000 h; At 25°C
<b>Control elements</b>						
<b>Touch operation</b>						
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	Yes	Yes	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>						
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
<b>Type of output</b>						
<b>Acoustics</b>						
• Speaker	No	No	No	No	No	No
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2128-3GB06-0AX1	6AV2128-3KB06-0AX1	6AV2128-3MB06-0AX1	6AV2128-3QB06-0AX1	6AV2128-3UB06-0AX1	6AV2128-3XB06-0AX1
	SIMATIC HMI MTP700 Unified Comfort	SIMATIC HMI MTP1000 Unified Comfort	SIMATIC HMI MTP1200 Unified Comfort	SIMATIC HMI MTP1500 Unified Comfort	SIMATIC HMI MTP1900 Unified Comfort	SIMATIC HMI MTP2200 Unified Comfort
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
• Enclosure Type 12 at the front	No	No	No	No	No	No
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
CCC	Yes	Yes	Yes	Yes	Yes	Yes
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes	Yes	Yes	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes	Yes	Yes
• cULus Class II Division 2	Yes	Yes	Yes	Yes	Yes	Yes
• FM Class I Division 2	No; Available soon					
• FM Class II Division 2	No	No	No	No	No	No
<b>Marine approval</b>						
• Germanischer Lloyd (GL)	No; included in DNV					
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	Yes	Yes
• Korean Register of Shipping (KRS)	Yes	Yes	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes	Yes	Yes
• Chinese Classification Society (CCS)	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation					
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Unified Comfort Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes
• WinCC Unified PC Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Standard

#### Technical specifications

Article number	6AV2128-3GB06-0AX1	6AV2128-3KB06-0AX1	6AV2128-3MB06-0AX1	6AV2128-3QB06-0AX1	6AV2128-3UB06-0AX1	6AV2128-3XB06-0AX1
	SIMATIC HMI MTP700 Unified Comfort	SIMATIC HMI MTP1000 Unified Comfort	SIMATIC HMI MTP1200 Unified Comfort	SIMATIC HMI MTP1500 Unified Comfort	SIMATIC HMI MTP1900 Unified Comfort	SIMATIC HMI MTP2200 Unified Comfort
<b>Functionality under WinCC Unified</b>						
Applications/options						
• Writer	Yes	Yes	Yes	Yes	Yes	Yes
• Calc	Yes					
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes					
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
• Unified Collaboration	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	No					
JavaScript	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Alarm system</b>						
• Bit messages						
- Number of bit messages	9 000	9 000	9 000	9 000	9 000	9 000
• Analog messages						
- Number of analog messages	300	300	300	300	300	300
• Message buffer	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive
- Circulating buffer	Yes	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes	Yes
<b>Parameter set management (recipes)</b>						
• Number of parameter set types	750	750	750	750	750	750
• Size of internal parameter set memory	12 Mbyte			12 Mbyte		
• Parameter set memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	8 000	8 000	8 000	8 000	8 000	8 000
• Number of variables per screen	600	600	600	800	800	800
<b>Screens</b>						
• Number of configurable images	1 200	1 200	1 200	1 200	1 200	1 200
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of roles	50	50	50	50	50	50
• Number of users	200	200	200	200	200	200
• Central user administration	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17
<b>Transfer (upload/download)</b>						
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	No	No	No	No	No	No
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• Number of S7 connections	16	16	16	16	16	16
• LOGO!	No	No	No	No	No	No
• SIMOTION	No	No	No	No	No	No
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
• Software Controller/Open Controller	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	<b>6AV2128-3GB06-0AX1</b>	<b>6AV2128-3KB06-0AX1</b>	<b>6AV2128-3MB06-0AX1</b>	<b>6AV2128-3QB06-0AX1</b>	<b>6AV2128-3UB06-0AX1</b>	<b>6AV2128-3XB06-0AX1</b>
	SIMATIC HMI MTP700 Unified Comfort	SIMATIC HMI MTP1000 Unified Comfort	SIMATIC HMI MTP1200 Unified Comfort	SIMATIC HMI MTP1500 Unified Comfort	SIMATIC HMI MTP1900 Unified Comfort	SIMATIC HMI MTP2200 Unified Comfort
<b>Peripherals/Options</b>						
Peripherals	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	No	No	No	No	No	No
SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes	Yes	Yes	Yes	Yes
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	No	No	No	No	No	No
<b>Mechanics/material</b>						
Enclosure material (front)						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
<b>Dimensions</b>						
Width of the housing front	214 mm	280 mm	326 mm	398 mm	464 mm	529 mm
Height of housing front	158 mm	205 mm	237 mm	257 mm	294 mm	331 mm
Mounting cutout, width	197 mm	264 mm	310 mm	382 mm	448 mm	513 mm
Mounting cutout, height	141 mm	189 mm	221 mm	241 mm	278 mm	315 mm
Overall depth	64 mm	64 mm	64 mm	73 mm	73 mm	73 mm
<b>Weights</b>						
Weight (without packaging)	1.4 kg	2.1 kg	2.8 kg	4.3 kg	5.5 kg	6.9 kg

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Standard

#### Technical specifications

Article number	6AV2128-3GB36-0AX1	6AV2128-3KB36-0AX1	6AV2128-3MB36-0AX1	6AV2128-3QB36-0AX1	6AV2128-3UB36-0AX1	6AV2128-3XB36-0AX1
	SIMATIC HMI MTP700 Unified Comfort Neutr	SIMATIC HMI MTP1000 Unified Comfort Neut	SIMATIC HMI MTP1200 Unified Comfort Neut	SIMATIC HMI MTP1500 Unified Comfort Neut	SIMATIC HMI MTP1900 Unified Comfort Neut	SIMATIC HMI MTP2200 Unified Comfort Neut
<b>General information</b>						
Product type designation	MTP700 Unified Comfort	MTP1000 Unified Comfort	MTP1200 Unified Comfort	MTP1500 Unified Comfort	MTP1900 Unified Comfort	MTP2200 Unified Comfort
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7 in	10.1 in	12.1 in	15.6 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	800 pixel	1 280 pixel	1 280 pixel	1 366 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	480 pixel	800 pixel	800 pixel	768 pixel	1 080 pixel	1 080 pixel
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h	50 000 h; At 25°C	30 000 h; At 25°C
<b>Control elements</b>						
<b>Touch operation</b>						
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	Yes	Yes	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>						
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
<b>Type of output</b>						
<b>Acoustics</b>						
• Speaker	No	No	No	No	No	No
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2128-3GB36-0AX1	6AV2128-3KB36-0AX1	6AV2128-3MB36-0AX1	6AV2128-3QB36-0AX1	6AV2128-3UB36-0AX1	6AV2128-3XB36-0AX1
	SIMATIC HMI MTP700 Unified Comfort Neutr	SIMATIC HMI MTP1000 Unified Comfort Neutr	SIMATIC HMI MTP1200 Unified Comfort Neutr	SIMATIC HMI MTP1500 Unified Comfort Neutr	SIMATIC HMI MTP1900 Unified Comfort Neutr	SIMATIC HMI MTP2200 Unified Comfort Neutr
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
• Enclosure Type 12 at the front	No	No	No	No	No	No
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
CCC	Yes	Yes	Yes	Yes	Yes	Yes
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes	Yes	Yes	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes	Yes	Yes
• cULus Class II Division 2	Yes	Yes	Yes	Yes	Yes	Yes
• FM Class I Division 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• FM Class II Division 2	No	No	No	No	No	No
<b>Marine approval</b>						
• Germanischer Lloyd (GL)	No; included in DNV	No; included in DNV	No; included in DNV	No; included in DNV	No; included in DNV	No; included in DNV
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	Yes	Yes
• Korean Register of Shipping (KRS)	Yes	Yes	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes	Yes	Yes
• Chinese Classification Society (CCS)	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Unified Comfort Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes
• WinCC Unified PC Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Standard

#### Technical specifications

Article number	6AV2128-3GB36-0AX1	6AV2128-3KB36-0AX1	6AV2128-3MB36-0AX1	6AV2128-3QB36-0AX1	6AV2128-3UB36-0AX1	6AV2128-3XB36-0AX1
	SIMATIC HMI MTP700 Unified Comfort Neutr	SIMATIC HMI MTP1000 Unified Comfort Neut	SIMATIC HMI MTP1200 Unified Comfort Neut	SIMATIC HMI MTP1500 Unified Comfort Neut	SIMATIC HMI MTP1900 Unified Comfort Neut	SIMATIC HMI MTP2200 Unified Comfort Neut
<b>Functionality under WinCC Unified</b>						
Applications/options						
• Writer	Yes	Yes	Yes	Yes	Yes	Yes
• Calc	Yes					
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes					
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
• Unified Collaboration	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	No					
JavaScript	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Alarm system</b>						
• Bit messages						
- Number of bit messages	9 000	9 000	9 000	9 000	9 000	9 000
• Analog messages						
- Number of analog messages	300	300	300	300	300	300
• Message buffer	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive
- Circulating buffer	Yes	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes	Yes
<b>Parameter set management (recipes)</b>						
• Number of parameter set types	750	750	750	750	750	750
• Size of internal parameter set memory	12 Mbyte			12 Mbyte		
• Parameter set memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	8 000	8 000	8 000	8 000	8 000	8 000
• Number of variables per screen	600	600	600	800	800	800
<b>Screens</b>						
• Number of configurable images	1 200	1 200	1 200	1 200	1 200	1 200
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of roles	50	50	50	50	50	50
• Number of users	200	200	200	200	200	200
• Central user administration	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17	Yes; as of WinCC V17
<b>Transfer (upload/download)</b>						
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	No	No	No	No	No	No
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• Number of S7 connections	16	16	16	16	16	16
• LOGO!	No	No	No	No	No	No
• SIMOTION	No	No	No	No	No	No
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
• Software Controller/Open Controller	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2128-3GB36-0AX1	6AV2128-3KB36-0AX1	6AV2128-3MB36-0AX1	6AV2128-3QB36-0AX1	6AV2128-3UB36-0AX1	6AV2128-3XB36-0AX1
	SIMATIC HMI MTP700 Unified Comfort Neutr	SIMATIC HMI MTP1000 Unified Comfort Neut	SIMATIC HMI MTP1200 Unified Comfort Neut	SIMATIC HMI MTP1500 Unified Comfort Neut	SIMATIC HMI MTP1900 Unified Comfort Neut	SIMATIC HMI MTP2200 Unified Comfort Neut
<b>Peripherals/Options</b>						
Peripherals	Printer, barcode reader					
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	No	No	No	No	No	No
SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes	Yes	Yes	Yes	Yes
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	No	No	No	No	No	No
<b>Mechanics/material</b>						
Enclosure material (front)						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
<b>Dimensions</b>						
Width of the housing front	214 mm	280 mm	326 mm	398 mm	464 mm	529 mm
Height of housing front	158 mm	205 mm	237 mm	257 mm	294 mm	331 mm
Mounting cutout, width	197 mm	264 mm	310 mm	382 mm	448 mm	513 mm
Mounting cutout, height	141 mm	189 mm	221 mm	241 mm	278 mm	315 mm
Overall depth	64 mm	64 mm	64 mm	73 mm	73 mm	73 mm
<b>Weights</b>						
Weight (without packaging)	1.4 kg	2.1 kg	2.8 kg	4.3 kg	5.5 kg	6.9 kg

### More information

Every Unified Comfort Panel is available in two different design variants.

- The standard design has Siemens and SIMATIC HMI branding on the front and a silver-colored aluminum frame.
- The neutral design has no branding on the front and a black aluminum frame.

#### Note:

The devices with the Article No. extension \*-0AX1 have additional certifications for explosion-proof areas as well as for use in shipbuilding (see technical specifications). All other functions and properties are fully compatible with the devices with Article No. extension \*-0AX0.

More information is available on the internet at:

<http://www.siemens.com/unified-comfort-panels>

For selected SIMATIC HMI Unified Comfort Panels, the option exists to apply the customer name or logo or to select the membrane color in accordance with the customer's corporate design. This is also possible for small quantities.

More information is available at:

<http://www.siemens.com/express-hmi-tool>

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIPLUS HMI Unified Comfort Panels Standard

#### Overview



#### SIPLUS HMI Unified Comfort Panels - standard devices

SIPLUS HMI Unified Comfort Panels consist of six different devices with varying display sizes. All devices come with the same number of hardware interfaces and the same functionality – just select the perfect device for your needs based on the screen size.

Each Unified Comfort Panel is available in the standard design with Siemens and SIMATIC HMI branding and a silver-colored aluminum frame.

All Unified Comfort Panels come with integrated Edge functionality.

SIMATIC WinCC Unified contains visualization, communication, alarms/warnings, report creation, administration of parameter sets, archiving of user administration.

Furthermore, a WinCC Unified Client Operate (V17 or higher) for remote operator control and monitoring, and a WinCC Unified Client Monitor (V18 or higher) for monitoring only are also included. Additional clients can be enabled with a license. Up to three client licenses can be used.

Client access is based on native web technologies such as HTML5, SVG and JavaScript. The visualization can be accessed via any modern web browser – without the need for additional installation.

Siemens Industrial Edge can be used in two different ways:

- Device-managed Edge
- Centrally-managed Edge (planned)

SIMATIC HMI Unified Comfort Panels can also be ordered with a neutral design.

#### Note:

The technical specifications of the neutral design devices correspond to the technical specifications of the devices with standard design.

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

#### Ordering data

#### Article No.

##### SIPLUS HMI Unified Comfort Panels

##### Standard design

SIPLUS HMI MTP700 Unified Comfort, with conformal coating

**6AG1128-3GB06-4AX1**

SIMATIC HMI MTP1000 Unified Comfort Panel, with conformal coating

**6AG1128-3KB06-4AX1**

SIMATIC HMI MTP1200 Unified Comfort Panel, with conformal coating

**6AG1128-3MB06-4AX1**

##### Accessories

##### EDGE Runtime for SIMATIC Unified Comfort

**6AV2170-2BA00-0AA0**

Runtime software, single license, license key for download, without software and documentation, Class A, email address required for delivery

##### Accessories

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

### Technical specifications

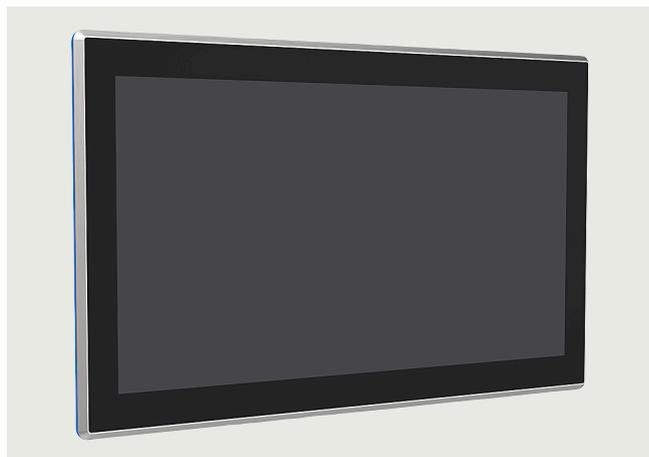
Article number	<b>6AG1128-3GB06-4AX1</b> SIPLUS HMI MTP700 Unified Comfort	<b>6AG1128-3KB06-4AX1</b> SIPLUS HMI MTP1000 Unified Comfort	<b>6AG1128-3MB06-4AX1</b> SIPLUS HMI MTP1200 Unified Comfort
<b>Ambient conditions</b>			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
<b>Relative humidity</b>			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning when condensation present), horizontal at vertical mounting position	100 %; RH incl. condensation/frost (no commissioning when condensation present), horizontal at vertical mounting position	100 %; RH incl. condensation/frost (no commissioning when condensation present), horizontal at vertical mounting position
<b>Resistance</b>			
<b>Coolants and lubricants</b>			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>			
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)	Yes; Class 3 (excluding trichlorethylene)	Yes; Class 3 (excluding trichlorethylene)
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
<b>Remark</b>			
- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Hygienic

#### Overview



SIMATIC HMI MTP2200 Unified Comfort Panel Hygienic, neutral design

#### **SIMATIC HMI Unified Comfort Panels Hygienic - standard devices**

SIMATIC HMI Unified Comfort Panels Hygienic comprise six different devices with different display sizes. All devices come with the same number of hardware interfaces and the same functionality – just select the perfect device for your needs based on the screen size.

Each Unified Comfort Panel Hygienic is available in a standard design with Siemens and SIMATIC HMI branding and a silver-colored aluminum frame.

All Unified Comfort Panels Hygienic are supplied with integrated Edge functionality.

SIMATIC WinCC Unified includes visualization, communication, alarms/messages, report generation, parameter set management, archiving, and user administration.

Furthermore, a WinCC Unified Client Operate (V17 or higher) for remote operator control and monitoring, and a WinCC Unified Client Monitor (V18 or higher) for monitoring only are also included. Additional clients can be enabled with a license.

In total, up to three client licenses can be used.

Client access is based on native web technologies such as HTML5, SVG and JavaScript. The visualization can be accessed via any modern web browser – without the need for additional installation.

Siemens Industrial Edge can be used in two different ways:

- Device-managed Edge
- Centrally-managed Edge (planned)

SIMATIC HMI Unified Comfort Panels Hygienic can also be ordered with a neutral design.

#### Note:

The technical specifications of the neutral design devices correspond to the technical specifications of the devices with standard design.

#### Ordering data

#### Article No.

##### Unified Comfort Panels Hygienic

##### **SIMATIC HMI MTP700 Unified Comfort Hygienic**

Touch operation,  
7" widescreen TFT display,  
16 million colors,  
PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD

6AV2128-3GB40-0AX0

##### **SIMATIC HMI MTP1000 Unified Comfort Hygienic**

Touch operation,  
10.1" widescreen TFT display,  
16 million colors,  
PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD

6AV2128-3KB40-0AX0

##### **SIMATIC HMI MTP1200 Unified Comfort Hygienic**

Touch operation,  
12.1" widescreen TFT display,  
16 million colors,  
PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD

6AV2128-3MB40-0AX0

##### **SIMATIC HMI MTP1500 Unified Comfort Hygienic**

Touch operation,  
15.6" widescreen TFT display,  
16 million colors,  
PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD

6AV2128-3QB40-0AX0

##### **SIMATIC HMI MTP1900 Unified Comfort Hygienic**

Touch operation,  
18.5" widescreen TFT display,  
16 million colors,  
PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD

6AV2128-3UB40-0AX0

##### **SIMATIC HMI MTP2200 Unified Comfort Hygienic**

Touch operation,  
21.5" widescreen TFT display,  
16 million colors,  
PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD

6AV2128-3XB40-0AX0

##### **SIMATIC HMI MTP700 Unified Comfort Hygienic Neutral**

Neutral, touch operation,  
7" widescreen TFT display,  
16 million colors,  
PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD

6AV2128-3GB70-0AX0

# Operator panels

## Advanced HMI Panel-based SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Hygienic

Ordering data	Article No.	Ordering data	Article No.
<b>SIMATIC HMI MTP1000 Unified Comfort Hygienic Neutral</b> Neutral, touch operation, 10.1" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD	6AV2128-3KB70-0AX0	<b>SIMATIC HMI MTP1900 Unified Comfort Hygienic Neutral</b> Neutral, touch operation, 18.5" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD	6AV2128-3UB70-0AX0
<b>SIMATIC HMI MTP1200 Unified Comfort Hygienic Neutral</b> Neutral, touch operation, 12.1" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD	6AV2128-3MB70-0AX0	<b>SIMATIC HMI MTP2200 Unified Comfort Hygienic Neutral</b> Neutral, touch operation, 21.5" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD	6AV2128-3XB70-0AX0
<b>SIMATIC HMI MTP1500 Unified Comfort Hygienic Neutral</b> Neutral, touch operation, 15.6" widescreen TFT display, 16 million colors, PROFINET interface, configurable as from WinCC Unified Comfort V16, contains open source software, which is provided free of charge, see enclosed DVD	6AV2128-3QB70-0AX0		

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Hygienic

#### Technical specifications

Article number	6AV2128-3GB40-0AX0	6AV2128-3KB40-0AX0	6AV2128-3MB40-0AX0	6AV2128-3QB40-0AX0	6AV2128-3UB40-0AX0	6AV2128-3XB40-0AX0
	SIMATIC HMI MTP700 Unified Comfort Hyg	SIMATIC HMI MTP1000 Unified Comfort Hyg	SIMATIC HMI MTP1200 Unified Comfort Hyg	SIMATIC HMI MTP1500 Unified Comfort Hyg	SIMATIC HMI MTP1900 Unified Comfort Hyg	SIMATIC HMI MTP2200 Unified Comfort Hyg
<b>General information</b>						
Product type designation	MTP700 Unified Comfort Hygienic	MTP1000 Unified Comfort	MTP1200 Unified Comfort Hygienic	MTP1500 Unified Comfort	MTP1900 Unified Comfort	MTP2200 Unified Comfort Hygienic
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7 in	10.1 in	12.1 in	15.6 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	800 pixel	1 280 pixel	1 280 pixel	1 366 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	480 pixel	800 pixel	800 pixel	768 pixel	1 080 pixel	1 080 pixel
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h	50 000 h; At 25°C	30 000 h
<b>Control elements</b>						
<b>Touch operation</b>						
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Monitor keyboard	Yes	Yes		Yes	Yes	Yes
<b>Installation type/mounting</b>						
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
<b>Type of output</b>						
<b>Acoustics</b>						
• Speaker	No	No	No	No	No	No
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)	4; USB 3.1 Gen. 1 (type A)
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2128-3GB40-0AX0	6AV2128-3KB40-0AX0	6AV2128-3MB40-0AX0	6AV2128-3QB40-0AX0	6AV2128-3UB40-0AX0	6AV2128-3XB40-0AX0
	SIMATIC HMI MTP700 Unified Comfort Hyg	SIMATIC HMI MTP1000 Unified Comfort Hyg	SIMATIC HMI MTP1200 Unified Comfort Hyg	SIMATIC HMI MTP1500 Unified Comfort Hyg	SIMATIC HMI MTP1900 Unified Comfort Hyg	SIMATIC HMI MTP2200 Unified Comfort Hyg
<b>Degree and class of protection</b>						
IP (at the front)	IP69	IP69	IP69	IP69	IP69	IP69
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20
NEMA (front)						
• Enclosure Type 4x at the front	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• Enclosure Type 12 at the front	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
<b>Standards, approvals, certificates</b>						
CE mark	Yes; CE marking / EC Declaration of Conformity	Yes; CE marking / EC Declaration of Conformity	Yes	Yes	Yes	Yes
UKCA mark		Yes	Yes	Yes	Yes	Yes
cULus	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
FM approval	No	No				
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
CCC	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
<b>Use in hazardous areas</b>						
• ATEX Zone 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• ATEX Zone 22	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• IECEx Zone 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• IECEx Zone 22	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• cULus Class I Zone 2, Division 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• cULus Class II Division 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• FM Class I Division 2	No	No	No	No	No	No
• FM Class II Division 2	No	No	No	No	No	No
<b>Marine approval</b>						
• Germanischer Lloyd (GL)	No	No	No	No	No	No
• American Bureau of Shipping (ABS)	No	No	No	No	No	No
• Bureau Veritas (BV)	No	No	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No	No	No
• Korean Register of Shipping (KRS)	No	No	No	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No	No	No	No
• Chinese Classification Society (CCS)	No	No	No	No	No	No
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Hygienic

#### Technical specifications

Article number	6AV2128-3GB40-0AX0	6AV2128-3KB40-0AX0	6AV2128-3MB40-0AX0	6AV2128-3QB40-0AX0	6AV2128-3UB40-0AX0	6AV2128-3XB40-0AX0
	SIMATIC HMI MTP700 Unified Comfort Hyg	SIMATIC HMI MTP1000 Unified Comfort Hyg	SIMATIC HMI MTP1200 Unified Comfort Hyg	SIMATIC HMI MTP1500 Unified Comfort Hyg	SIMATIC HMI MTP1900 Unified Comfort Hyg	SIMATIC HMI MTP2200 Unified Comfort Hyg
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Unified Comfort Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes
• WinCC Unified PC Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32
<b>Functionality under WinCC Unified</b>						
Applications/options						
• Writer	Yes	Yes	Yes	Yes	Yes	Yes
• Calc	Yes	Yes	Yes	Yes	Yes	Yes
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	No	No	No	No	No	No
• Unified Collaboration	No	No	No	No	No	No
Number of Visual Basic Scripts	No	No	No	No	No	No
JavaScript	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Alarm system</b>						
• Bit messages						
- Number of bit messages	9 000	9 000	9 000	9 000	9 000	9 000
• Analog messages						
- Number of analog messages	300	300	300	300	300	300
• Message buffer						
- Circulating buffer	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive
- retentive	Yes	Yes	Yes	Yes	Yes	Yes
<b>Parameter set management (recipes)</b>						
• Number of parameter set types	750	750	750	750	750	750
• Size of internal parameter set memory	12 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte
• Parameter set memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	8 000	8 000	8 000	8 000	8 000	8 000
• Number of variables per screen	600	600	600	800	800	800
<b>Screens</b>						
• Number of configurable images	1 200	1 200	1 200	1 200	1 200	1 200
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of roles	50	50	50	50	50	50
• Number of users	200	200	200	200	200	200
• Central user administration	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17

### Technical specifications

Article number	6AV2128-3GB40-0AX0	6AV2128-3KB40-0AX0	6AV2128-3MB40-0AX0	6AV2128-3QB40-0AX0	6AV2128-3UB40-0AX0	6AV2128-3XB40-0AX0
	SIMATIC HMI MTP700 Unified Comfort Hyg	SIMATIC HMI MTP1000 Unified Comfort Hyg	SIMATIC HMI MTP1200 Unified Comfort Hyg	SIMATIC HMI MTP1500 Unified Comfort Hyg	SIMATIC HMI MTP1900 Unified Comfort Hyg	SIMATIC HMI MTP2200 Unified Comfort Hyg
<b>Transfer (upload/download)</b>						
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	No	No	No	No	No	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• Number of S7 connections	16	16	16	16	16	16
• LOGO!	No	No	No	No	No	No
• SIMOTION	No	No	No	No	No	No
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
• Software Controller/Open Controller	Yes	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>						
Peripherals	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	No	No	No	No	No	No
SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes	Yes	Yes	Yes	Yes
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	No	No	No	No	No	No
<b>Accessories</b>						
Further accessories are available	No	No	No	No	No	No
<b>Mechanics/material</b>						
Enclosure material (front)						
• Plastic	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	Yes	Yes	Yes	Yes	Yes	Yes
<b>Dimensions</b>						
Width of the housing front		292 mm	338 mm	412 mm	479 mm	556 mm
Height of housing front		217 mm	249 mm	273 mm	309 mm	358 mm
Mounting cutout, width	197 mm	264 mm	310 mm	382 mm	448 mm	513 mm
Mounting cutout, height	141 mm	189 mm	221 mm	241 mm	278 mm	315 mm
Overall depth	66 mm	67 mm	64 mm	79 mm	79 mm	79 mm
<b>Weights</b>						
Weight (without packaging)	1.9 kg	2.65 kg	3.4 kg	5.4 kg	6.7 kg	8.15 kg

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Hygienic

#### Technical specifications

Article number	6AV2128-3GB70-0AX0	6AV2128-3KB70-0AX0	6AV2128-3MB70-0AX0	6AV2128-3QB70-0AX0	6AV2128-3UB70-0AX0	6AV2128-3XB70-0AX0
	SIMATIC HMI MTP700 UCP Hyg Neutral	SIMATIC HMI MTP1000 UCP Hyg Neutral	SIMATIC HMI MTP1200 UCP Hyg Neutral	SIMATIC HMI MTP1500 UCP Hyg Neutral	SIMATIC HMI MTP1900 UCP Hyg Neutral	SIMATIC HMI MTP2200 UCP Hyg Neutral
<b>General information</b>						
Product type designation	MTP700 Unified Comfort Hygienic	MTP1000 Unified Comfort	MTP1200 Unified Comfort Hygienic	MTP1500 Unified Comfort	MTP1900 Unified Comfort	MTP2200 Unified Comfort Hygienic
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7 in	10.1 in	12.1 in	15.6 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	800 pixel	1 280 pixel	1 280 pixel	1 366 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	480 pixel	800 pixel	800 pixel	768 pixel	1 080 pixel	1 080 pixel
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h	50 000 h; At 25°C	30 000 h
<b>Control elements</b>						
<b>Touch operation</b>						
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Monitor keyboard	Yes	Yes		Yes	Yes	Yes
<b>Installation type/mounting</b>						
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V					
<b>Type of output</b>						
Acoustics						
• Speaker	No	No	No	No	No	No
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	4; USB 3.1 Gen. 1 (type A)					
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>						
IP (at the front)	IP69	IP69	IP69	IP69	IP69	IP69
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20
NEMA (front)						
• Enclosure Type 4x at the front	No; Available soon					
• Enclosure Type 12 at the front	No; Available soon					

### Technical specifications

Article number	6AV2128-3GB70-0AX0	6AV2128-3KB70-0AX0	6AV2128-3MB70-0AX0	6AV2128-3QB70-0AX0	6AV2128-3UB70-0AX0	6AV2128-3XB70-0AX0
	SIMATIC HMI MTP700 UCP Hyg Neutral	SIMATIC HMI MTP1000 UCP Hyg Neutral	SIMATIC HMI MTP1200 UCP Hyg Neutral	SIMATIC HMI MTP1500 UCP Hyg Neutral	SIMATIC HMI MTP1900 UCP Hyg Neutral	SIMATIC HMI MTP2200 UCP Hyg Neutral
<b>Standards, approvals, certificates</b>						
CE mark	Yes; CE marking / EC Declaration of Conformity	Yes; CE marking / EC Declaration of Conformity	Yes	Yes	Yes	Yes
UKCA mark		Yes	Yes	Yes	Yes	Yes
cULus	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
FM approval	No	No				
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
CCC	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
<b>Use in hazardous areas</b>						
• ATEX Zone 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• ATEX Zone 22	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• IECEx Zone 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• IECEx Zone 22	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• cULus Class I Zone 2, Division 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• cULus Class II Division 2	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• FM Class I Division 2	No	No	No	No	No	No
• FM Class II Division 2	No	No	No	No	No	No
<b>Marine approval</b>						
• Germanischer Lloyd (GL)	No	No	No	No	No	No
• American Bureau of Shipping (ABS)	No	No	No	No	No	No
• Bureau Veritas (BV)	No	No	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No	No	No
• Korean Register of Shipping (KRS)	No	No	No	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No	No	No	No
• Chinese Classification Society (CCS)	No	No	No	No	No	No
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C	50 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Unified Comfort Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes
• WinCC Unified PC Engineering (TIA Portal)	Yes	Yes	Yes	Yes	Yes	Yes

## Operator panels

Advanced HMI Panel-based  
SIMATIC HMI Unified Comfort Panels

### SIMATIC HMI Unified Comfort Panels Hygienic

#### Technical specifications

Article number	6AV2128-3GB70-0AX0	6AV2128-3KB70-0AX0	6AV2128-3MB70-0AX0	6AV2128-3QB70-0AX0	6AV2128-3UB70-0AX0	6AV2128-3XB70-0AX0
	SIMATIC HMI MTP700 UCP Hyg Neutral	SIMATIC HMI MTP1000 UCP Hyg Neutral	SIMATIC HMI MTP1200 UCP Hyg Neutral	SIMATIC HMI MTP1500 UCP Hyg Neutral	SIMATIC HMI MTP1900 UCP Hyg Neutral	SIMATIC HMI MTP2200 UCP Hyg Neutral
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32
<b>Functionality under WinCC Unified</b>						
Applications/options						
• Writer	Yes	Yes	Yes	Yes	Yes	Yes
• Calc	Yes	Yes			Yes	Yes
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	No	No	No	No	No	No
• Unified Collaboration	No	No	No	No	No	No
Number of Visual Basic Scripts	No	No	No	No	No	No
JavaScript	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Alarm system</b>						
• Bit messages						
- Number of bit messages	9 000	9 000	9 000	9 000	9 000	9 000
• Analog messages						
- Number of analog messages	300	300	300	300	300	300
• Message buffer						
	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive	Yes; Configured as alarm archive
- Circulating buffer	Yes	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes	Yes
<b>Parameter set management (recipes)</b>						
• Number of parameter set types	750	750	750	750	750	750
• Size of internal parameter set memory	12 Mbyte	12 Mbyte		12 Mbyte	12 Mbyte	12 Mbyte
• Parameter set memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	8 000	8 000	8 000	8 000	8 000	8 000
• Number of variables per screen	600	600	600	800	800	800
<b>Screens</b>						
• Number of configurable images	1 200	1 200	1 200	1 200	1 200	1 200
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of roles	50	50	50	50	50	50
• Number of users	200	200	200	200	200	200
• Central user administration	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17	Yes; as of WinCC Unified V17
<b>Transfer (upload/download)</b>						
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2128-3GB70-0AX0	6AV2128-3KB70-0AX0	6AV2128-3MB70-0AX0	6AV2128-3QB70-0AX0	6AV2128-3UB70-0AX0	6AV2128-3XB70-0AX0
	SIMATIC HMI MTP700 UCP Hyg Neutral	SIMATIC HMI MTP1000 UCP Hyg Neutral	SIMATIC HMI MTP1200 UCP Hyg Neutral	SIMATIC HMI MTP1500 UCP Hyg Neutral	SIMATIC HMI MTP1900 UCP Hyg Neutral	SIMATIC HMI MTP2200 UCP Hyg Neutral
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	No	No	No	No	No	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• Number of S7 connections	16	16	16	16	16	16
• LOGO!	No	No	No	No	No	No
• SIMOTION	No	No	No	No	No	No
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
• Software Controller/Open Controller	Yes	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>						
Peripherals	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader	Printer, barcode reader
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	No	No	No	No	No	No
SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes	Yes	Yes	Yes	Yes
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	No	No	No	No	No	No
<b>Accessories</b>						
Further accessories are available	No	No	No	No	No	No
<b>Mechanics/material</b>						
Enclosure material (front)						
• Plastic	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	Yes	Yes	Yes	Yes	Yes	Yes
<b>Dimensions</b>						
Width of the housing front		292 mm	338 mm	412 mm	479 mm	556 mm
Height of housing front		217 mm	249 mm	273 mm	309 mm	358 mm
Mounting cutout, width	197 mm	264 mm	310 mm	382 mm	448 mm	513 mm
Mounting cutout, height	141 mm	189 mm	221 mm	241 mm	278 mm	315 mm
Overall depth	66 mm	67 mm	64 mm	79 mm	79 mm	79 mm
<b>Weights</b>						
Weight (without packaging)	1.9 kg	2.65 kg	3.4 kg	5.4 kg	6.7 kg	8.15 kg

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### Comfort Panels standard devices

#### Overview



#### SIMATIC HMI Comfort Panels - Standard devices

- Excellent HMI functionality for demanding applications
- Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
- Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player and Web Server
- Dimmable displays from 0 to 100% via PROFlenergy, via the HMI project or via a controller
- Modern industrial design, cast aluminum fronts for 7" upwards
- Upright installation for all touch devices
- Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
- Innovative service and commissioning concept
- Maximum performance with short screen refresh times
- Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22 and marine approvals
- All versions can be used as an OPC UA client or as a server
- Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
- All keys have a service life of 2 million operations
- Configuring with the WinCC engineering software of the TIA Portal engineering framework

#### Note:

A 7" and a 15" Comfort Outdoor version are available. These devices have been specially designed for outdoor applications in difficult environments. Best display quality, even under sunlight, UV-resistant fronts and much more.

For more information, please go to:

<http://www.siemens.com/comfort-panels>

#### Ordering data

#### Article No.

##### SIMATIC HMI Comfort Panels

##### Touch devices

**SIMATIC HMI TP700 Comfort** 6AV2124-0GC01-0AX0

Touch operation;  
7" widescreen display

**SIMATIC HMI TP900 Comfort** 6AV2124-0JC01-0AX0

Touch operation;  
9" widescreen display

**SIMATIC HMI TP1200 Comfort** 6AV2124-0MC01-0AX0

Touch operation;  
12" widescreen display

**SIMATIC HMI TP1500 Comfort** 6AV2124-0QC02-0AX1

Touch operation;  
15" widescreen display

**SIMATIC HMI TP1900 Comfort** 6AV2124-0UC02-0AX1

Touch operation;  
19" widescreen display

**SIMATIC HMI TP2200 Comfort** 6AV2124-0XC02-0AX1

Touch operation;  
22" widescreen display

##### Key devices

**SIMATIC HMI KP700 Comfort** 6AV2124-1GC01-0AX0

Key operation;  
7" widescreen display

**SIMATIC HMI KP900 Comfort** 6AV2124-1JC01-0AX0

Key operation;  
9" widescreen display

**SIMATIC HMI KP1200 Comfort** 6AV2124-1MC01-0AX0

Key operation;  
12" widescreen display

**SIMATIC HMI KP1500 Comfort** 6AV2124-1QC02-0AX1

Key operation;  
15" widescreen display

##### Accessories

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

### Technical specifications

Article number	<b>6AV2124-1GC01-0AX0</b> SIMATIC HMI KP700 Comfort	<b>6AV2124-1JC01-0AX0</b> SIMATIC HMI KP900 Comfort	<b>6AV2124-1MC01-0AX0</b> SIMATIC HMI KP1200 Comfort	<b>6AV2124-1QC02-0AX1</b> SIMATIC HMI KP1500 Comfort
<b>General information</b>				
Product type designation	KP700 Comfort	KP900 Comfort	KP1200 Comfort	KP1500 Comfort
<b>Display</b>				
Design of display	TFT	TFT	TFT	TFT
Screen diagonal	7 in	9 in	12.1 in	15.4 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>				
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel	1 280 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel	800 pixel
<b>Backlighting</b>				
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h
<b>Control elements</b>				
<b>Keyboard fonts</b>				
• Function keys				
- Number of function keys	24	26	34	36
<b>Touch operation</b>				
• Design as touch screen	No; without	No; without	No; without	No; without
<b>Installation type/mounting</b>				
Wall mounting/direct mounting	No	No	No	
Mounting in portrait format possible	No	No	No	No
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	24 V
<b>Memory</b>				
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte	24 Mbyte
<b>Type of output</b>				
Acoustics				
• Speaker	Yes	Yes	Yes	Yes
<b>Time of day</b>				
<b>Clock</b>				
• Hardware clock (real-time)	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes
<b>Interfaces</b>				
Number of industrial Ethernet interfaces	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole	
Number of SD card slots	2	2	2	2
<b>Industrial Ethernet</b>				
• Number of ports of the integrated switch	2	2	2	2

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels standard devices

#### Technical specifications

Article number	<b>6AV2124-1GC01-0AX0</b> SIMATIC HMI KP700 Comfort	<b>6AV2124-1JC01-0AX0</b> SIMATIC HMI KP900 Comfort	<b>6AV2124-1MC01-0AX0</b> SIMATIC HMI KP1200 Comfort	<b>6AV2124-1QC02-0AX1</b> SIMATIC HMI KP1500 Comfort
<b>Protocols</b>				
PROFINET	Yes	Yes	Yes	Yes
IRT	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes
PROFIBUS	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>				
<b>Media redundancy</b>				
- MRP	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes
<b>Degree and class of protection</b>				
IP (at the front)	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20
NEMA (front)				
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)				Yes
<b>Use in hazardous areas</b>				
• ATEX Zone 2	Yes	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes; For inscription on device rating plate
• cULus Class II Division 2				No; Available soon
• FM Class I Division 2	Yes	Yes	Yes	Yes; For inscription on device rating plate
• FM Class II Division 2				No; Available soon
<b>Marine approval</b>				
• Germanischer Lloyd (GL)	Yes	Yes	Yes; As of product version: 10	No
• American Bureau of Shipping (ABS)	Yes	Yes	Yes; As of product version: 10	No
• Bureau Veritas (BV)	Yes	Yes	Yes; As of product version: 10	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes; As of product version: 10	No
• Korean Register of Shipping (KRS)				No
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes; As of product version: 10	No
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes; As of product version: 10	No
• Polski Rejestr Statkow (PRS)	No	No	No	No
• Chinese Classification Society (CCS)				No
<b>Ambient conditions</b>				
Suited for indoor use				Yes
Suited for outdoor use				No
<b>Ambient temperature during operation</b>				
<b>Operation (vertical installation)</b>				
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)			
<b>Relative humidity</b>				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation

### Technical specifications

Article number	6AV2124-1GC01-0AX0 SIMATIC HMI KP700 Comfort	6AV2124-1JC01-0AX0 SIMATIC HMI KP900 Comfort	6AV2124-1MC01-0AX0 SIMATIC HMI KP1200 Comfort	6AV2124-1QC02-0AX1 SIMATIC HMI KP1500 Comfort
<b>Configuration</b>				
<b>Configuration software</b>				
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11	Yes; V14 SP1 HSP and higher
<b>Languages</b>				
<b>Online languages</b>				
• Number of online/runtime languages	32	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>				
Applications/options				
• Web browser	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes
Task planner				
• time-controlled	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes
<b>Message system</b>				
• Bit messages	Yes	Yes	Yes	
- Number of bit messages	4 000	4 000	4 000	6 000
• Analog messages	Yes	Yes	Yes	
- Number of analog messages	200	200	200	200
<b>Recipe management</b>				
• Number of recipes	300	300	300	500
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes
<b>Variables</b>				
• Number of variables per device	2 048	2 048	2 048	4 096
• Number of variables per screen	400	400	400	400
<b>Images</b>				
• Number of configurable images	500	500	500	750
<b>Archiving</b>				
• Number of archives per device	50	50	50	50
<b>Security</b>				
• Number of user groups	50	50	50	50
• Number of users	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes
<b>Logging through printer</b>				
• Alarms	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>				
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels standard devices

#### Technical specifications

Article number	<b>6AV2124-1GC01-0AX0</b> SIMATIC HMI KP700 Comfort	<b>6AV2124-1JC01-0AX0</b> SIMATIC HMI KP900 Comfort	<b>6AV2124-1MC01-0AX0</b> SIMATIC HMI KP1200 Comfort	<b>6AV2124-1QC02-0AX1</b> SIMATIC HMI KP1500 Comfort
<b>Process coupling</b>				
• S7-1200	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>				
Printer	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
USB memory	Yes	Yes	Yes	Yes
Network camera	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>				
Enclosure material (front)				
• Plastic	No	No	No	No
• Aluminum	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No
<b>Dimensions</b>				
Width of the housing front	308 mm	362 mm	454 mm	483 mm
Height of housing front	204 mm	230 mm	289 mm	310 mm
Mounting cutout, width	281 mm	338 mm	434 mm	450 mm
Mounting cutout, height	177 mm	206 mm	269 mm	291 mm
Overall depth	63 mm	63 mm	65 mm	75 mm
<b>Weights</b>				
Weight (without packaging)	2.2 kg	2.7 kg	4.4 kg	4.7 kg

### Technical specifications

Article number	6AV2124-0GC01-0AX0	6AV2124-0JC01-0AX0	6AV2124-0MC01-0AX0	6AV2124-0QC02-0AX1	6AV2124-0UC02-0AX1	6AV2124-0XC02-0AX1
	SIMATIC HMI TP700 Comfort	SIMATIC HMI TP900 Comfort	SIMATIC HMI TP1200 Comfort	SIMATIC HMI TP1500 Comfort	SIMATIC HMI TP1900 Comfort	SIMATIC HMI TP2200 Comfort
<b>General information</b>						
Product type designation	TP700 Comfort	TP900 Comfort	TP1200 Comfort	TP1500 Comfort	TP1900 Comfort	TP2200 Comfort
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7 in	9 in	12.1 in	15.4 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel	1 280 pixel	1 366 pixel	1 920 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel	800 pixel	768 pixel	1 080 pixel
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	50 000 h	30 000 h
<b>Control elements</b>						
<b>Keyboard fonts</b>						
• Function keys						
- Number of function keys	0	0	0	0	0	0
<b>Touch operation</b>						
• Design as touch screen	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive
<b>Installation type/mounting</b>						
Wall mounting/direct mounting	No	No	No			
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
<b>Memory</b>						
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte	24 Mbyte	24 Mbyte	24 Mbyte
<b>Type of output</b>						
Acoustics						
• Speaker	Yes	Yes	Yes	Yes	Yes	Yes
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole			
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
IRT	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes	Yes	Yes

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels standard devices

#### Technical specifications

Article number	6AV2124-0GC01-0AX0	6AV2124-0JC01-0AX0	6AV2124-0MC01-0AX0	6AV2124-0QC02-0AX1	6AV2124-0UC02-0AX1	6AV2124-0XC02-0AX1
	SIMATIC HMI TP700 Comfort	SIMATIC HMI TP900 Comfort	SIMATIC HMI TP1200 Comfort	SIMATIC HMI TP1500 Comfort	SIMATIC HMI TP1900 Comfort	SIMATIC HMI TP2200 Comfort
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)				Yes	Yes	Yes
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes	Yes	Yes	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• cULus Class II Division 2				No; Available soon	No; Available soon	No; Available soon
• FM Class I Division 2	Yes	Yes	Yes	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• FM Class II Division 2				No; Available soon	No; Available soon	No; Available soon
<b>Marine approval</b>						
• Germanischer Lloyd (GL)	Yes	Yes	Yes; As of product version: 10	No	No	No
• American Bureau of Shipping (ABS)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Bureau Veritas (BV)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Korean Register of Shipping (KRS)				No	No	No
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes; As of product version: 10	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No	No	No	No
• Chinese Classification Society (CCS)				No	No	No
<b>Ambient conditions</b>						
Suited for indoor use				Yes	Yes	Yes
Suited for outdoor use				No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)	50 °C; (55 °C, see entry ID: 64847814)	50 °C; (55 °C, see entry ID: 64847814)	50 °C; (55 °C, see entry ID: 64847814)	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32

### Technical specifications

Article number	6AV2124-0GC01-0AX0	6AV2124-0JC01-0AX0	6AV2124-0MC01-0AX0	6AV2124-0QC02-0AX1	6AV2124-0UC02-0AX1	6AV2124-0XC02-0AX1
	SIMATIC HMI TP700 Comfort	SIMATIC HMI TP900 Comfort	SIMATIC HMI TP1200 Comfort	SIMATIC HMI TP1500 Comfort	SIMATIC HMI TP1900 Comfort	SIMATIC HMI TP2200 Comfort
<b>Functionality under WinCC (TIA Portal)</b>						
Applications/options						
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Message system</b>						
• Bit messages	Yes	Yes	Yes			
- Number of bit messages	4 000	4 000	4 000	6 000	6 000	6 000
• Analog messages	Yes	Yes	Yes			
- Number of analog messages	200	200	200	200	200	200
<b>Recipe management</b>						
• Number of recipes	300	300	300	500	500	500
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	2 048	2 048	2 048	4 096	4 096	4 096
• Number of variables per screen	400	400	400	400	400	400
<b>Images</b>						
• Number of configurable images	500	500	500	750	750	750
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of user groups	50	50	50	50	50	50
• Number of users	50	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes	Yes
<b>Logging through printer</b>						
• Alarms	Yes	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>						
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels standard devices

#### Technical specifications

Article number	6AV2124-0GC01-0AX0	6AV2124-0JC01-0AX0	6AV2124-0MC01-0AX0	6AV2124-0QC02-0AX1	6AV2124-0UC02-0AX1	6AV2124-0XC02-0AX1
	SIMATIC HMI TP700 Comfort	SIMATIC HMI TP900 Comfort	SIMATIC HMI TP1200 Comfort	SIMATIC HMI TP1500 Comfort	SIMATIC HMI TP1900 Comfort	SIMATIC HMI TP2200 Comfort
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>						
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	Yes	Yes	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>						
Enclosure material (front)						
• Plastic	No	No	No	No	No	No
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No	No
<b>Dimensions</b>						
Width of the housing front	214 mm	274 mm	330 mm	415 mm	483 mm	560 mm
Height of housing front	158 mm	190 mm	241 mm	310 mm	337 mm	380 mm
Mounting cutout, width	197 mm	251 mm	310 mm	396 mm	465 mm	542 mm
Mounting cutout, height	141 mm	166 mm	221 mm	291 mm	319 mm	362 mm
Overall depth	63 mm	63 mm	65 mm	75 mm	75 mm	75 mm
<b>Weights</b>						
Weight (without packaging)	1.4 kg	1.9 kg	2.8 kg	4.4 kg	5.6 kg	6.7 kg

#### More information

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels>

You can find an overview of approved printers, supply sources and printer settings on the Internet at:

<http://support.industry.siemens.com/cs/ww/en/view/11376409>

Certain SIMATIC HMI Comfort Panels allow the application of a customer name or logo, or selection of the membrane color in accordance with the customer's corporate design. This is also possible for small quantities.

More information is available at:

<http://www.siemens.com/express-hmi-tool>

## Overview



- Excellent HMI functionality for demanding applications
- Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
- Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player
- Dimmable displays from 0 to 100% via PROFInergy, via the HMI project or via a controller
- Modern industrial design, cast aluminum fronts for 7" upwards
- Upright installation for all touch devices
- Optimal selection option: seven touch and five key versions are available
- Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
- Innovative service and commissioning concept through second SD card (automatic backup)
- Easy project transfer via standard cable (standard Ethernet cable, standard USB cable)
- Maximum performance with short screen refresh times
- Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22
- Wide range of communication options: PROFIBUS and PROFINET onboard; 2x PROFINET with integrated switch for 7" models or larger; plus 1 additional PROFINET with Gigabit support for 15" models or larger
- All variants can be used as an OPC UA client or as an OPC DA server
- Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
- Key-operated devices with stamped keys for optimum tactile feedback
- All keys have a service life of 2 million operations
- Configuring with the WinCC engineering software of the TIA Portal

### Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

## Ordering data

## Article No.

SIPLUS HMI Comfort Panels, Touch	
SIPLUS HMI TP700 Comfort	6AG1124-0GC01-4AX0
SIPLUS HMI TP900 Comfort	6AG1124-0JC01-4AX0
SIPLUS HMI TP1200 Comfort	6AG1124-0MC01-4AX0
SIPLUS HMI TP1500 Comfort	6AG1124-0QC02-4AX1
SIPLUS HMI TP1900 Comfort	6AG1124-0UC02-4AX1
SIPLUS HMI TP2200 Comfort	6AG1124-0XC02-4AX1
SIPLUS HMI Comfort Panels, Keys	
SIPLUS HMI KP700 Comfort	6AG1124-1GC01-4AX0
SIPLUS HMI KP900 Comfort	6AG1124-1JC01-4AX0
SIPLUS HMI KP1200 Comfort	6AG1124-1MC01-4AX0
SIPLUS HMI KP1500 Comfort	6AG1124-1QC02-4AX1
Accessories	See HMI accessories

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### SIPLUS Comfort Panels Standard

#### Technical specifications

Article number	<b>6AG1124-0GC01-4AX0</b> SIPLUS HMI TP700 COMFORT	<b>6AG1124-0JC01-4AX0</b> SIPLUS HMI TP900 COMFORT	<b>6AG1124-0MC01-4AX0</b> SIPLUS HMI TP1200 COMFORT
<b>Ambient conditions</b>			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
<b>Relative humidity</b>			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
<b>Resistance</b>			
<b>Coolants and lubricants</b>			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *

### Technical specifications

Article number	<b>6AG1124-0GC01-4AX0</b> SIPLUS HMI TP700 COMFORT	<b>6AG1124-0JC01-4AX0</b> SIPLUS HMI TP900 COMFORT	<b>6AG1124-0MC01-4AX0</b> SIPLUS HMI TP1200 COMFORT
<b>Usage in industrial process technology</b>			
<ul style="list-style-type: none"> <li>- Against chemically active substances acc. to EN 60654-4</li> <li>- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	<p>Yes; Class 3 (excluding trichlorethylene)</p> <p>Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)</p>	<p>Yes; Class 3 (excluding trichlorethylene)</p> <p>Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)</p>	<p>Yes; Class 3 (excluding trichlorethylene)</p> <p>Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)</p>
<b>Remark</b>			
<ul style="list-style-type: none"> <li>- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>			
<ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### SIPLUS Comfort Panels Standard

#### Technical specifications

Article number	<b>6AG1124-1GC01-4AX0</b> SIPLUS HMI KP700 COMFORT	<b>6AG1124-1JC01-4AX0</b> SIPLUS HMI KP900 COMFORT	<b>6AG1124-1MC01-4AX0</b> SIPLUS HMI KP1200 COMFORT	<b>6AG1124-1QC02-4AX1</b> SIPLUS HMI KP1500 Comfort
<b>Ambient conditions</b>				
Suited for indoor use	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No
<b>Ambient temperature during operation</b>				
<b>Operation (vertical installation)</b>				
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin	0 °C
- For vertical installation, max.	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax	50 °C; (55 °C, see entry ID: 64847814)
<b>Altitude during operation relating to sea level</b>				
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)			
<b>Relative humidity</b>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)			
<b>Resistance</b>				
<b>Coolants and lubricants</b>				
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>				
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request			
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *			
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>				
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request			
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *			
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>				
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)			
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)			
<b>Remark</b>	* The supplied plug covers must remain in place over the unused interfaces during operation!			
<b>Conformal coating</b>				
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

### Technical specifications

Article number	<b>6AG1124-0QC02-4AX1</b> SIPLUS HMI TP1500 Comfort	<b>6AG1124-0UC02-4AX1</b> SIPLUS HMI TP1900 Comfort	<b>6AG1124-0XC02-4AX1</b> SIPLUS HMI TP2200 Comfort
<b>Ambient conditions</b>			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	0 °C	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)	45 °C; = Tmax	45 °C; = Tmax
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	5 000 m	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)		
<b>Relative humidity</b>			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)		
<b>Resistance</b>			
<b>Coolants and lubricants</b>			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
<b>Use on ships/at sea</b>			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request		
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>			
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)		
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)		
<b>Remark</b>			
- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!		
<b>Conformal coating</b>			
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### SIPLUS Comfort Panels Standard

#### More information

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels>

You can find an overview of approved printers, supply sources and printer settings on the Internet at:

<http://support.industry.siemens.com/cs/ww/en/view/11376409>

Certain SIMATIC HMI Comfort Panels allow the application of a customer name or logo, or selection of the membrane color in accordance with the customer's corporate design. This is also possible for small quantities.

More information is available at:

<http://www.siemens.com/express-hmi-tool>

### Overview



### SIMATIC HMI Comfort Panels Outdoor

Special HMI Panels have been developed which are designed to withstand outdoor environments.

It's not only extreme temperatures which call for robust hardware. Direct sunlight, too, must not be allowed to impair display readability and the panel front must be protected from UV radiation.

The specially-bonded Outdoor fronts and the rugged hardware of the Outdoor Panels make the SIMATIC HMI Comfort Panels Outdoor a reliable partner in this environment.

- For outdoor operation without additional measures
- 7" and 15" daylight-readable display, widescreen
- Automatic, central or manual dimming of the backlight, with integrated sensor
- Panel front 100% UV protected
- Front resistant to salt mist
- Front IP66 and Nema4 x (indoor/outdoor)
- Numerous explosion protection and shipbuilding certifications
- Extended operating temperature range: from -30 °C to +60 °C at 3 000 m installation altitude
- TIA Portal central engineering tool (WinCC V13 SP1&HSP or higher)
- Comfort Panel functionality and performance

#### Notice:

The 7" Comfort Panel Outdoor corresponds to a 7" Comfort Panel Standard, the 15" Comfort Panel Outdoor corresponds to a 12" Comfort Panel Standard in respect of performance, functionality and quantity structure.

<http://www.siemens.com/comfort-panels-outdoor>

### Ordering data

### Article No.

#### SIMATIC HMI Comfort Panels Outdoor

#### SIMATIC TP700 Comfort Panel Outdoor

6AV2124-0GC13-0AX0

Touch operation,  
7" widescreen TFT display,  
16 million colors,  
PROFINET interface,  
MPI/PROFIBUS DP interface,  
12 MB configuration memory,  
Windows CE 6.0, configurable as  
from WinCC Comfort V13, SP1, HSP

#### SIMATIC TP1500 Comfort Panel Outdoor

6AV2124-0QC13-0AX0

Touch operation,  
15" widescreen TFT display,  
16 million colors,  
PROFINET interface,  
MPI/PROFIBUS DP interface,  
12 MB configuration memory,  
Windows CE 6.0, configurable as  
from WinCC Comfort V13, SP1, HSP

#### Accessories

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels Outdoor

#### Technical specifications

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
<b>General information</b>		
Product type designation	TP700 Comfort Outdoor	TP1500 Comfort Outdoor
<b>Display</b>		
Design of display	TFT, bonded, daylight-readable	TFT, bonded, daylight-readable
Screen diagonal	7 in	15.4 in
Number of colors	16 777 216	16 777 216
<b>Resolution (pixels)</b>		
• Horizontal image resolution	800 pixel	1 280 pixel
• Vertical image resolution	480 pixel	800 pixel
<b>Backlighting</b>		
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h
<b>Control elements</b>		
<b>Keyboard fonts</b>		
• Function keys		
- Number of function keys	0	0
<b>Touch operation</b>		
• Design as touch screen	Yes; Analog-resistive	Yes; Analog-resistive
<b>Installation type/mounting</b>		
Mounting in portrait format possible	Yes	Yes
<b>Supply voltage</b>		
Rated value (DC)	24 V	24 V
<b>Memory</b>		
Memory available for user data	12 Mbyte	12 Mbyte
<b>Type of output</b>		
Acoustics		
• Speaker	Yes	Yes
<b>Time of day</b>		
<b>Clock</b>		
• Hardware clock (real-time)	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes
<b>Interfaces</b>		
Number of industrial Ethernet interfaces	2	2
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole
Number of SD card slots	2	2
<b>Industrial Ethernet</b>		
• Number of ports of the integrated switch	2	2

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
<b>Protocols</b>		
PROFINET	Yes	Yes
IRT	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
PROFIBUS	Yes	Yes
MPI	Yes	Yes
<b>Redundancy mode</b>		
<b>Media redundancy</b>		
- MRP	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
<b>Degree and class of protection</b>		
IP (at the front)	IP66	IP66
IP (rear)	IP20	IP20
NEMA (front)		
• Enclosure Type 4x at the front	Yes	Yes
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
<b>Use in hazardous areas</b>		
• ATEX Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• ATEX Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• cULus Class I Zone 2, Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• FM Class I Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
<b>Marine approval</b>		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes; Available soon	Yes; Available soon
• Det Norske Veritas (DNV)	Yes	Yes
• Korean Register of Shipping (KRS)	No; Available soon	No; Available soon
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon	Yes; Available soon
• Polski Rejestr Statkow (PRS)	No	No
• Chinese Classification Society (CCS)	Yes; Available soon	Yes; Available soon
• Compass working clearance	5 m	5 m

### Technical specifications

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
<b>Ambient conditions</b>		
Suited for indoor use	Yes	Yes
Suited for outdoor use	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
<b>Ambient temperature during operation</b>		
<b>Operation (vertical installation)</b>		
- For vertical installation, min.	-30 °C	-30 °C
- For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)	60 °C; (55 °C, see entry ID: 64847814)
<b>Altitude during operation relating to sea level</b>		
• Installation altitude above sea level, max.	3 000 m; Depending on the operating temperature	3 000 m; Depending on the operating temperature
<b>Relative humidity</b>		
• Operation, max.	90 %; no condensation	90 %; no condensation
<b>Configuration</b>		
<b>Configuration software</b>		
• WinCC Comfort (TIA Portal)	Yes; WinCC V13 SP1 Update 7 + HSP or higher	Yes; WinCC V13 SP1 Update 7 + HSP or higher
<b>Languages</b>		
<b>Online languages</b>		
• Number of online/runtime languages	32	32
<b>Functionality under WinCC (TIA Portal)</b>		
Applications/options		
• Web browser	Yes	Yes
• Pocket Word	Yes	Yes
• Pocket Excel	Yes	Yes
• PDF Viewer	Yes	Yes
• Media Player	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes
Task planner		
• time-controlled	Yes	Yes
• task-controlled	Yes	Yes
<b>Message system</b>		
• Bit messages		
- Number of bit messages	4 000	4 000
• Analog messages		
- Number of analog messages	200	200

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
<b>Recipe management</b>		
• Number of recipes	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes
<b>Variables</b>		
• Number of variables per device	2 048	2 048
• Number of variables per screen	400	400
<b>Images</b>		
• Number of configurable images	500	500
<b>Archiving</b>		
• Number of archives per device	50	50
<b>Security</b>		
• Number of user groups	50	50
• Number of users	50	50
• SIMATIC Logon	Yes	Yes
<b>Logging through printer</b>		
• Alarms	Yes	Yes
• Report (shift log)	Yes	Yes
• Hardcopy	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>		
• MPI/PROFIBUS DP	Yes	Yes
• Ethernet	Yes	Yes
<b>Process coupling</b>		
• S7-1200	Yes	Yes
• S7-1500	Yes	Yes
• S7-200	Yes	Yes
• S7-300/400	Yes	Yes
• LOGO!	Yes	Yes
• WinAC	Yes	Yes
• SIMOTION	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes
• Mitsubishi (FX)	Yes	Yes
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes
• Modicon (Modbus)	Yes	Yes
• OPC UA Client	Yes	Yes
• OPC UA Server	Yes	Yes

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels Outdoor

#### Technical specifications

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
<b>Peripherals/Options</b>		
Printer	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes
SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes
USB memory	Yes; e.g. USB RFID reader, see FAQ entry ID: 99808171	
Network camera	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473	
<b>Accessories</b>		
Expansion module	Optional e.g. USB RFID reader, see FAQ entry ID: 99808171	
Further accessories are available	Yes; Mounting clips and 2-pin power supply connector	
<b>Mechanics/material</b>		
Enclosure material (front)		
• Plastic	No	No
• Aluminum	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
• Stainless steel	No	No

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
<b>Dimensions</b>		
Width of the housing front	214 mm	415 mm
Height of housing front	158 mm	310 mm
Mounting cutout, width	197 mm	396 mm
Mounting cutout, height	141 mm	291 mm
Overall depth	67 mm	77 mm
<b>Weights</b>		
Weight (without packaging)	1.5 kg	4 kg
<b>Other</b>		
Note:	Power, quantity structure and performance correspond to a standard 7" Comfort Panel	Power, quantity structure and performance correspond to a standard 12" Comfort Panel

#### More information

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels-outdoor>

#### Note:

The TP700 Comfort Panel Outdoor is comparable with the TP700 Comfort Panel Standard.

The TP1500 Comfort Panel Outdoor is comparable with the TP1200 Comfort Panel Standard with a 15" display.

A TP1500 Comfort Standard unit with the maximum possible configuration cannot be installed on a TP1500 Comfort Panel Outdoor.

#### Overview



#### SIPLUS HMI Comfort Panels Outdoor

Special HMI Panels have been developed which are designed to withstand outdoor environments.

It's not only extreme temperatures which call for robust hardware. Direct sunlight, too, must not be allowed to impair display readability and the panel front must be protected from UV radiation. The specially-bonded Outdoor fronts and the rugged hardware of the Outdoor Panels make the SIMATIC HMI Comfort Panels Outdoor a reliable partner in this environment.

- For outdoor operation without additional measures
- 7" and 15" daylight-readable display, widescreen
- Automatic, central or manual dimming of the backlight, with integrated sensor
- Panel front 100% UV protected
- Front resistant to salt mist
- Front IP66 and Nema4 x (indoor/outdoor)
- Many explosion protection and shipbuilding certifications
- Extended operating temperature range: from -30 °C to +60 °C at 3 000 m installation altitude
- TIA Portal central engineering tool (WinCC V13 SP1&HSP or higher)
- Comfort Panel functionality and performance

#### Notice:

The SIPLUS HMI 7" Comfort Panel Outdoor corresponds to a SIPLUS HMI 7" Comfort Panel Standard, the SIPLUS HMI 15" Comfort Panel Outdoor corresponds to a SIPLUS HMI 12" Comfort Panel Standard in respect of performance, functionality and quantity structure.

<http://www.siemens.com/comfort-panels-outdoor>

#### Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

#### Ordering data

#### Article No.

##### SIPLUS HMI Comfort Outdoor Panels

##### SIPLUS HMI TP700 Comfort Panels Outdoor

6AG1124-0GC13-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -30 ... +60 °C

Touch operation,  
7" widescreen TFT display,  
16 million colors,  
PROFINET interface,  
MPI/PROFIBUS DP interface,  
12 MB configuration memory,  
Windows CE 6.0, configurable as  
from WinCC Comfort V13, SP1, HSP

##### SIPLUS HMI TP1500 Comfort Panels Outdoor

6AG1124-0QC13-2AX0

For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -30 ... +60 °C

Touch operation,  
15" widescreen TFT display,  
16 million colors,  
PROFINET interface,  
MPI/PROFIBUS DP interface,  
12 MB configuration memory,  
Windows CE 6.0, configurable as  
from WinCC Comfort V13, SP1, HSP

#### Accessories

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### SIPLUS Comfort Panels Outdoor

#### Technical specifications

Article number	6AG1124-0GC13-2AX0	6AG1124-0QC13-2AX0
	SIPLUS HMI TP700 COMFORT OUTDOOR	SIPLUS HMI TP1500 Comfort Outdoor
<b>Ambient conditions</b>		
Suited for indoor use	Yes	Yes
Suited for outdoor use	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
<b>Ambient temperature during operation</b>		
<b>Operation (vertical installation)</b>		
- For vertical installation, min.	-30 °C; = Tmin	-30 °C; = Tmin
- For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)	60 °C; (55 °C, see entry ID: 64847814)
<b>Altitude during operation relating to sea level</b>		
• Installation altitude above sea level, max.	5 000 m	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)	
<b>Relative humidity</b>		
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position	
<b>Resistance</b>		
<b>Coolants and lubricants</b>		
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	
<b>Use in stationary industrial systems</b>		
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	

Article number	6AG1124-0GC13-2AX0	6AG1124-0QC13-2AX0
	SIPLUS HMI TP700 COMFORT OUTDOOR	SIPLUS HMI TP1500 Comfort Outdoor
<b>Use on ships/at sea</b>		
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	
<b>Usage in industrial process technology</b>		
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)	
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)	
<b>Remark</b>		
- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!	
<b>Conformal coating</b>		
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A	Yes; Conformal coating, Class A

#### More information

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels-outdoor>

#### Note:

The SIPLUS HMI TP700 Comfort Panel Outdoor is comparable with the SIPLUS HMI TP700 Comfort Panel Standard.

The SIPLUS HMI TP1500 Comfort Panel Outdoor is comparable with the SIPLUS HMI TP1200 Comfort Panel Standard with a 15" display.

A TP1500 Comfort Standard unit with the maximum possible configuration cannot be installed on a SIPLUS HMI TP1500 Comfort Panel Outdoor.

## Overview



### **SIMATIC HMI Comfort PRO: The new Comfort Panel PRO with all-round IP65 protection – powerful, ready-to-use, and can be installed directly at the machine**

SIMATIC HMI Comfort Panels PRO with 12", 15", 19" and 22" widescreen format expand the Comfort Panel portfolio to include devices with glass fronts.

The rugged aluminum housing enables it to be used directly at the machine and guarantees durability, even in harsh and extreme operating environments.

#### Highlights:

- All-round IP65 protection
- Comfort Panel functionality and performance
- Rugged, industrial 12", 15", 19" and 22" widescreen displays
- Slim, modern design
- Can be adapted to support arm system of various manufacturers
- Integration of operator controls with Extension Units
- High degree of investment security
- Fast integration capability

12", 15", 19" and 22" SIMATIC HMI Comfort Panels PRO are available in three different versions, depending on the application:

- For support arm (extendable, round tube): mounting by means of standard 48 mm round tube or Siemens flange mount adapter
- For support arm (not extendable, flange on top): mounting by means of basic adapter and flange on top, included in scope of delivery
- For pedestal (extendable, flange below): mounting by means of basic adapter and flange below, included in scope of delivery

For more information, please go to:

<http://siemens.com/simatic-hmi-pro>

### **System components for fully-enclosed IP65 devices**

System components for PRO devices are only suitable for SIMATIC HMI/IPC PRO devices.

In combination with the SIMATIC HMI PRO basic devices, these components enable easy adaptation to individual customer requirements for operator control and monitoring at the machine level, as well as offering a versatile and attractive solution for visualization and automation without a control cabinet.

The following system components are available:

- Fasteners
  - Adapter sets
  - Basic adapter
  - Flange mount adapter
- Extension Units 12" - 22" with operator controls
- Extension components
  - Stainless steel keyboard
  - Tool and keyboard tray

For more detailed information about system components refer to "PC-based Automation" -> "Devices for special requirements" -> "System components".

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels PRO

##### Ordering data

###### Comfort Panels PRO

###### TP1200 Comfort PRO

12.1" TFT display,  
1 280 x 800 pixels,  
16 million colors; touch screen;  
1 x MPI/PROFIBUS DP,  
1 x PROFINET/Industrial Ethernet  
interface with MRP and RT/IRT  
support (2 ports);  
1 x Ethernet (Gigabit);  
2 x SD card slots; 2 x USB

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

###### Neutral design

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

##### Article No.

6AV2124-0MC24-0AX0

6AV2124-0MC24-0BX0

6AV2124-0MC24-1AX0

6AV2124-0MC24-0AB0

6AV2124-0MC24-0BB0

6AV2124-0MC24-1AB0

##### Article No.

6AV2124-0UC24-0AX0

6AV2124-0UC24-0BX0

6AV2124-0UC24-1AX0

6AV2124-0UC24-0AB0

6AV2124-0UC24-0BB0

6AV2124-0UC24-1AB0

###### TP1900 Comfort PRO

18.5" TFT display,  
1 366 x 768 pixels,  
16 million colors; touch screen;  
1 x MPI/PROFIBUS DP,  
1 x PROFINET/Industrial Ethernet  
Interface with MRP and RT/IRT  
support (2 ports);  
1 x Ethernet (Gigabit);  
2 x SD card slots; 2 x USB

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

###### Neutral design

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

###### TP2200 Comfort PRO

21.5" TFT display,  
1 920 x 1 080 pixels,  
16 million colors; touch screen;  
1 x MPI/PROFIBUS DP,  
1 x PROFINET/Industrial Ethernet  
Interface with MRP and RT/IRT  
support (2 ports);  
1 x Ethernet (Gigabit);  
2 x SD card slots; 2 x USB

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

###### Neutral design

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

6AV2124-0XC24-0AX0

6AV2124-0XC24-0BX0

6AV2124-0XC24-1AX0

6AV2124-0XC24-0AB0

6AV2124-0XC24-0BB0

6AV2124-0XC24-1AB0

###### TP1500 Comfort PRO

15.6" TFT display,  
1 366 x 768 pixels,  
16 million colors; touch screen;  
1 x MPI/PROFIBUS DP,  
1 x PROFINET/Industrial Ethernet  
Interface with MRP and RT/IRT  
support (2 ports);  
1 x Ethernet (Gigabit);  
2 x SD card slots; 2 x USB

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

###### Neutral design

- For support arm (not extendable, flange on top)
- For support arm (extendable, round tube) and Extension Unit:
- For pedestal (extendable, flange below)

6AV2124-0QC24-0AX0

6AV2124-0QC24-0BX0

6AV2124-0QC24-1AX0

6AV2124-0QC24-0AB0

6AV2124-0QC24-0BB0

6AV2124-0QC24-1AB0

#### Technical specifications

Article number	6AV2124-0MC24-0AX0	6AV2124-0MC24-1AX0	6AV2124-0MC24-0BX0	6AV2124-0MC24-0AB0	6AV2124-0MC24-0BB0	6AV2124-0MC24-1AB0
	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral			
<b>General information</b>						
Product type designation	TP1200 PRO	TP1200 PRO	TP1200 PRO	SIMATIC HMI TP1200 Comfort PRO	SIMATIC HMI TP1200 Comfort PRO	SIMATIC HMI TP1200 Comfort PRO
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	12.1 in	12.1 in	12.1 in	12.1 in	12.1 in	12.1 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	1 280 pixel	1 280 pixel	1 280 pixel	1 280 pixel	1 280 pixel	1 280 pixel
• Vertical image resolution	800 pixel	800 pixel	800 pixel	800 pixel	800 pixel	800 pixel
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	80 000 h	80 000 h

### Technical specifications

Article number	6AV2124-0MC24-0AX0	6AV2124-0MC24-1AX0	6AV2124-0MC24-0BX0	6AV2124-0MC24-0AB0	6AV2124-0MC24-0BB0	6AV2124-0MC24-1AB0
	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral
<b>Control elements</b>						
<b>Keyboard fonts</b>						
• Function keys						
- Number of function keys	0	0	0			
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive					
<b>Installation type/mounting</b>						
Mounting	Support arm	Pedestal	Support arm	Support arm	Support arm	Pedestal
Mounting in portrait format possible	No	No	No	No	No	No
<b>Supply voltage</b>						
Rated value (DC)	24 V					
<b>Memory</b>						
Memory available for user data	12 Mbyte					
<b>Type of output</b>						
Acoustics						
• Speaker	Yes	Yes	Yes	Yes	Yes	Yes
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	2; USB 2.0					
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
IRT	Yes	Yes	Yes	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon					
EAC (formerly Gost-R)	No; Available soon					
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels PRO

#### Technical specifications

Article number	6AV2124-0MC24-0AX0	6AV2124-0MC24-1AX0	6AV2124-0MC24-0BX0	6AV2124-0MC24-0AB0	6AV2124-0MC24-0BB0	6AV2124-0MC24-1AB0
	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>						
Applications/options						
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Message system</b>						
• Bit messages						
- Number of bit messages	4 000	4 000	4 000	4 000	4 000	4 000
• Analog messages						
- Number of analog messages	200	200	200	200	200	200
<b>Recipe management</b>						
• Number of recipes	300	300	300	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	2 048	2 048	2 048	2 048	2 048	2 048
• Number of variables per screen	400	400	400	400	400	400
<b>Images</b>						
• Number of configurable images	500	500	500	500	500	500
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of user groups	50	50	50	50	50	50
• Number of users	50	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes	Yes
<b>Logging through printer</b>						
• Alarms	Yes	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>						
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2124-0MC24-0AX0	6AV2124-0MC24-1AX0	6AV2124-0MC24-0BX0	6AV2124-0MC24-0AB0	6AV2124-0MC24-0BB0	6AV2124-0MC24-1AB0
	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral	SIMATIC HMI TP1200 Comfort Pro neutral
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>						
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	Yes	Yes	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>						
Enclosure material (front)						
• Plastic	No	No	No	No	No	No
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No	No
<b>Dimensions</b>						
Width of the housing front	313 mm	313 mm	313 mm	313 mm	313 mm	313 mm
Height of housing front	226 mm; Without basic adapter	226 mm; Without basic adapter	226 mm; Without basic adapter	226 mm; Without basic adapter	226 mm; Without basic adapter	226 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
<b>Weights</b>						
Weight (without packaging)	4.9 kg	4.9 kg	4.5 kg	4.9 kg	4.5 kg	4.9 kg

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels PRO

#### Technical specifications

Article number	6AV2124-0QC24-0AX0	6AV2124-0QC24-0BX0	6AV2124-0QC24-1AX0	6AV2124-0QC24-0AB0	6AV2124-0QC24-0BB0	6AV2124-0QC24-1AB0
	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO neutral	SIMATIC HMI TP1500 Comfort PRO neutral	SIMATIC HMI TP1500 Comfort PRO neutral
<b>General information</b>						
Product type designation	TP1500 Comfort PRO					
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	15.6 in					
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	1 366 pixel					
• Vertical image resolution	768 pixel					
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	50 000 h					
<b>Control elements</b>						
<b>Keyboard fonts</b>						
• Function keys						
- Number of function keys	0	0	0		0	0
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive					
<b>Installation type/mounting</b>						
Mounting	Support arm	Support arm	Pedestal	Support arm	Support arm	Pedestal
Mounting in portrait format possible	No	No	No	No	No	No
<b>Supply voltage</b>						
Rated value (DC)	24 V					
<b>Memory</b>						
Memory available for user data	24 Mbyte					
<b>Type of output</b>						
Acoustics						
• Speaker	Yes	Yes	Yes	Yes	Yes	Yes
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	2; USB 2.0					
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
IRT	Yes	Yes	Yes	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2124-0QC24-0AX0	6AV2124-0QC24-0BX0	6AV2124-0QC24-1AX0	6AV2124-0QC24-0AB0	6AV2124-0QC24-0BB0	6AV2124-0QC24-1AB0
	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO	SIMATIC HMI TP1500 Comfort PRO neutral	SIMATIC HMI TP1500 Comfort PRO neutral	SIMATIC HMI TP1500 Comfort PRO neutral
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher			
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>						
Applications/options						
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Message system</b>						
• Bit messages						
- Number of bit messages	6 000	6 000	6 000	6 000	6 000	6 000
• Analog messages						
- Number of analog messages	200	200	200	200	200	200
<b>Recipe management</b>						
• Number of recipes	500	500	500	500	500	500
• Size of internal recipe memory	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	4 096	4 096	4 096	4 096	4 096	4 096
• Number of variables per screen	400	400	400	400	400	400
<b>Images</b>						
• Number of configurable images	750	750	750	750	750	750

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels PRO

#### Technical specifications

Article number	6AV2124-0QC24-0AX0	6AV2124-0QC24-0BX0	6AV2124-0QC24-1AX0	6AV2124-0QC24-0AB0	6AV2124-0QC24-0BB0	6AV2124-0QC24-1AB0
	SIMATIC HMI TP1500 Comfort PRO neutral	SIMATIC HMI TP1500 Comfort PRO neutral	SIMATIC HMI TP1500 Comfort PRO neutral			
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of user groups	50	50	50	50	50	50
• Number of users	50	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes	Yes
<b>Logging through printer</b>						
• Alarms	Yes	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>						
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>						
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB			
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB			
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	Yes	Yes	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>						
Enclosure material (front)						
• Plastic	No	No	No	No	No	No
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No	No
<b>Dimensions</b>						
Width of the housing front	396 mm	396 mm	396 mm	396 mm	396 mm	396 mm
Height of housing front	256 mm; Without basic adapter	256 mm; Without basic adapter	256 mm; Without basic adapter			
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
<b>Weights</b>						
Weight (without packaging)	6.3 kg	6.3 kg	6.3 kg	6.3 kg	6.3 kg	6.3 kg

### Technical specifications

Article number	6AV2124-0UC24-0AX0	6AV2124-0UC24-0BX0	6AV2124-0UC24-1AX0	6AV2124-0UC24-0AB0	6AV2124-0UC24-0BB0	6AV2124-0UC24-1AB0
	SIMATIC HMI TP1900 Comfort PRO	SIMATIC HMI TP1900 Comfort PRO	SIMATIC HMI TP1900 Comfort PRO	SIMATIC HMI TP1900 Comfort PRO neutral	SIMATIC HMI TP1900 Comfort PRO neutral	SIMATIC HMI TP1900 Comfort PRO neutral
<b>General information</b>						
Product type designation	TP1900 Comfort PRO					
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	18.5 in					
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	1 366 pixel					
• Vertical image resolution	768 pixel					
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	50 000 h					
<b>Control elements</b>						
<b>Keyboard fonts</b>						
• Function keys						
- Number of function keys	0	0	0		0	0
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective- capacitive					
<b>Installation type/mounting</b>						
Mounting	Support arm	Support arm	Pedestal	Support arm	Support arm	Pedestal
Mounting in portrait format possible	No	No	No	No	No	No
<b>Supply voltage</b>						
Rated value (DC)	24 V					
<b>Memory</b>						
Memory available for user data	24 Mbyte					
<b>Type of output</b>						
Acoustics						
• Speaker	Yes	Yes	Yes	Yes	Yes	Yes
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	2; USB 2.0					
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
IRT	Yes	Yes	Yes	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels PRO

#### Technical specifications

Article number	6AV2124-0UC24-0AX0	6AV2124-0UC24-0BX0	6AV2124-0UC24-1AX0	6AV2124-0UC24-0AB0	6AV2124-0UC24-0BB0	6AV2124-0UC24-1AB0
	SIMATIC HMI TP1900 Comfort PRO neutral	SIMATIC HMI TP1900 Comfort PRO neutral	SIMATIC HMI TP1900 Comfort PRO neutral			
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>						
Applications/options						
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Message system</b>						
• Bit messages						
- Number of bit messages	6 000	6 000	6 000	6 000	6 000	6 000
• Analog messages						
- Number of analog messages	200	200	200	200	200	200
<b>Recipe management</b>						
• Number of recipes	500	500	500	500	500	500
• Size of internal recipe memory	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	4 096	4 096	4 096	4 096	4 096	4 096
• Number of variables per screen	400	400	400	400	400	400
<b>Images</b>						
• Number of configurable images	750	750	750	750	750	750

### Technical specifications

Article number	6AV2124-0UC24-0AX0	6AV2124-0UC24-0BX0	6AV2124-0UC24-1AX0	6AV2124-0UC24-0AB0	6AV2124-0UC24-0BB0	6AV2124-0UC24-1AB0
	SIMATIC HMI TP1900 Comfort PRO neutral	SIMATIC HMI TP1900 Comfort PRO neutral	SIMATIC HMI TP1900 Comfort PRO neutral			
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of user groups	50	50	50	50	50	50
• Number of users	50	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes	Yes
<b>Logging through printer</b>						
• Alarms	Yes	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>						
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>						
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB			
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	Yes	Yes	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>						
Enclosure material (front)						
• Plastic	No	No	No	No	No	No
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No	No
<b>Dimensions</b>						
Width of the housing front	462 mm	462 mm	462 mm	462 mm	462 mm	462 mm
Height of housing front	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
<b>Weights</b>						
Weight (without packaging)	7.4 kg	7.4 kg	7.4 kg	7.4 kg	7.4 kg	7.4 kg

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels PRO

#### Technical specifications

Article number	6AV2124-0XC24-0AX0	6AV2124-0XC24-0BX0	6AV2124-0XC24-1AX0	6AV2124-0XC24-0AB0	6AV2124-0XC24-0BB0	6AV2124-0XC24-1AB0
	SIMATIC HMI TP2200 Comfort PRO	SIMATIC HMI TP2200 Comfort PRO	SIMATIC HMI TP2200 Comfort PRO	SIMATIC HMI TP2200 Comfort PRO neutral	SIMATIC HMI TP2200 Comfort PRO neutral	SIMATIC HMI TP2200 Comfort PRO neutral
<b>General information</b>						
Product type designation	TP2200 Comfort PRO					
<b>Display</b>						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	21.5 in					
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>						
• Horizontal image resolution	1 920 pixel					
• Vertical image resolution	1 080 pixel					
<b>Backlighting</b>						
• MTBF backlighting (at 25 °C)	30 000 h					
<b>Control elements</b>						
<b>Keyboard fonts</b>						
• Function keys						
- Number of function keys	0	0	0	0	0	0
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive					
<b>Installation type/mounting</b>						
Mounting	Support arm	Support arm	Pedestal	Support arm	Support arm	Pedestal
Mounting in portrait format possible	No	No	No	No	No	No
<b>Supply voltage</b>						
Rated value (DC)	24 V					
<b>Memory</b>						
Memory available for user data	24 Mbyte					
<b>Type of output</b>						
Acoustics						
• Speaker	Yes	Yes	Yes	Yes	Yes	Yes
<b>Time of day</b>						
<b>Clock</b>						
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks					
• synchronizable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port					
Number of RS 485 interfaces	1; RS 422 / 485 combined					
Number of USB interfaces	2; USB 2.0					
Number of SD card slots	2	2	2	2	2	2
<b>Industrial Ethernet</b>						
• Number of ports of the integrated switch	2	2	2	2	2	2
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
IRT	Yes	Yes	Yes	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b>						
- MRP	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV2124-0XC24-0AX0	6AV2124-0XC24-0BX0	6AV2124-0XC24-1AX0	6AV2124-0XC24-0AB0	6AV2124-0XC24-0BB0	6AV2124-0XC24-1AB0
	SIMATIC HMI TP2200 Comfort PRO neutral	SIMATIC HMI TP2200 Comfort PRO neutral	SIMATIC HMI TP2200 Comfort PRO neutral			
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No	No
<b>Ambient temperature during operation</b>						
<b>Operation (vertical installation)</b>						
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>						
<b>Configuration software</b>						
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher			
<b>Languages</b>						
<b>Online languages</b>						
• Number of online/runtime languages	32	32	32	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>						
Applications/options						
• Web browser	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes	Yes
Task planner						
• time-controlled	Yes	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes	Yes
<b>Message system</b>						
• Bit messages						
- Number of bit messages	6 000	6 000	6 000	6 000	6 000	6 000
• Analog messages						
- Number of analog messages	200	200	200	200	200	200
<b>Recipe management</b>						
• Number of recipes	500	500	500	500	500	500
• Size of internal recipe memory	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>						
• Number of variables per device	4 096	4 096	4 096	4 096	4 096	4 096
• Number of variables per screen	400	400	400	400	400	400
<b>Images</b>						
• Number of configurable images	750	750	750	750	750	750

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels PRO

#### Technical specifications

Article number	6AV2124-0XC24-0AX0	6AV2124-0XC24-0BX0	6AV2124-0XC24-1AX0	6AV2124-0XC24-0AB0	6AV2124-0XC24-0BB0	6AV2124-0XC24-1AB0
	SIMATIC HMI TP2200 Comfort PRO neutral	SIMATIC HMI TP2200 Comfort PRO neutral	SIMATIC HMI TP2200 Comfort PRO neutral			
<b>Archiving</b>						
• Number of archives per device	50	50	50	50	50	50
<b>Security</b>						
• Number of user groups	50	50	50	50	50	50
• Number of users	50	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes	Yes
<b>Logging through printer</b>						
• Alarms	Yes	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>						
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
<b>Process coupling</b>						
• S7-1200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>						
Printer	Yes	Yes	Yes	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB			
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB			
USB memory	Yes	Yes	Yes	Yes	Yes	Yes
Network camera	Yes	Yes	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>						
Enclosure material (front)						
• Plastic	No	No	No	No	No	No
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No	No
<b>Dimensions</b>						
Width of the housing front	527 mm	527 mm	527 mm	527 mm	527 mm	527 mm
Height of housing front	330 mm; Without basic adapter	330 mm; Without basic adapter	330 mm; Without basic adapter			
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
<b>Weights</b>						
Weight (without packaging)	8.5 kg	8.5 kg	8.5 kg	8.5 kg	8.5 kg	8.5 kg

## Overview



SIMATIC HMI TP1200 Comfort INOX PCT

### **SIMATIC HMI TP Comfort Panels INOX and INOX PCT (PCT = Projected Capacitive Touchscreen)**

Panels with touch screens (analog-resistive or projective-capacitive) and stainless steel fronts are designed for use in the food, beverages and tobacco industry, the pharmaceutical industry, fine chemicals and in other hygiene areas for machine-level operator control and monitoring.

For this reason, the devices with stainless steel front have been developed in compliance with EN 1672-2 "Food processing machinery – Safety and Hygiene Requirements".

<http://www.siemens.com/comfort-panels-inox>

## Ordering data

## Article No.

### **SIMATIC HMI TP Comfort Panel INOX**

*With analog-resistive touch and front film*

#### **SIMATIC HMI TP700 Comfort Panel INOX**

With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.

6AV2144-8GC10-0AA0

#### **SIMATIC HMI TP900 Comfort Panel INOX**

With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.

6AV2144-8JC10-0AA0

#### **SIMATIC HMI TP1200 Comfort Panel INOX**

With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.

6AV2144-8MC10-0AA0

### **SIMATIC HMI TP Comfort Panel INOX PCT**

*With projective-capacitive touch and front glass*

#### **SIMATIC HMI TP700 Comfort Panel INOX PCT**

Stainless steel front, glass pane, capacitive touch, IP69K degree of protection front, 7" widescreen TFT display, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, WinCC Comfort V15.1

6AV2144-8GC20-0AA0

#### **SIMATIC HMI TP900 Comfort Panel INOX PCT**

With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.

6AV2144-8JC20-0AA0

#### **SIMATIC HMI TP1200 Comfort Panel INOX PCT**

With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.

6AV2144-8MC20-0AA0

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### Comfort Panels INOX and INOX PCT

#### Ordering data

##### Comfort Panels Large Front

##### SIMATIC HMI TP1200 Comfort Panel INOX with long stainless steel front

12" widescreen TFT display with long stainless steel front, decorative membrane, IP66K degree of protection front, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0 (Microsoft support including safety updates set), configurable as from WinCC Comfort V11 or higher

#### Article No.

6AV2144-8MC10-0AC0

#### Article No.

##### SIMATIC HMI TP1900 Comfort Panel INOX with long stainless steel front

19" widescreen TFT display with long stainless steel front, decorative membrane, IP66K degree of protection front, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, Windows, CE 2013, configurable as from WinCC Comfort V14 SP1 with HSP or higher

6AV2144-8UC10-0AA1

#### Accessories

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

##### SIMATIC HMI TP1500 Comfort Panel INOX with long stainless steel front

15" widescreen TFT display with long stainless steel front, decorative membrane, IP66K degree of protection front, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, Windows, CE 2013, configurable as from WinCC Comfort V14 SP1 with HSP or higher

6AV2144-8QC10-0AA2

The device seals can be replaced using the corresponding service packages from the accessories.

#### Technical specifications

Article number	6AV2144-8GC10-0AA0	6AV2144-8JC10-0AA0	6AV2144-8MC10-0AA0
	SIMATIC HMI TP700 COMFORT INOX	SIMATIC HMI TP900 Comfort INOX	SIMATIC HMI TP1200 COMFORT INOX
<b>General information</b>			
Product type designation	TP700 Comfort INOX	TP900 INOX	TP1200 Comfort INOX
<b>Display</b>			
Design of display	TFT	TFT	TFT
Screen diagonal	7 in	9 in	12.1 in
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel
<b>Backlighting</b>			
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h
<b>Control elements</b>			
<b>Keyboard fonts</b>			
• Function keys			
- Number of function keys	0	0	0
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes

### Technical specifications

Article number	<b>6AV2144-8GC10-0AA0</b> SIMATIC HMI TP700 COMFORT INOX	<b>6AV2144-8JC10-0AA0</b> SIMATIC HMI TP900 Comfort INOX	<b>6AV2144-8MC10-0AA0</b> SIMATIC HMI TP1200 COMFORT INOX
<b>Installation type/mounting</b>			
Mounting in portrait format possible	Yes	Yes	Yes
<b>Supply voltage</b>			
Rated value (DC)	24 V	24 V	24 V
<b>Memory</b>			
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte
<b>Type of output</b>			
Acoustics			
• Speaker	Yes	Yes	Yes
<b>Time of day</b>			
<b>Clock</b>			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole
Number of SD card slots	2	2	2
<b>Industrial Ethernet</b>			
• Number of ports of the integrated switch	2	2	2
<b>Protocols</b>			
PROFINET	Yes	Yes	Yes
IRT	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
<b>Redundancy mode</b>			
<b>Media redundancy</b>			
- MRP	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12
<b>Degree and class of protection</b>			
IP (at the front)	IP66K	IP66K	IP66K
IP (rear)	IP20	IP20	IP20
NEMA (front)			
• Enclosure Type 4x at the front	Yes; indoor use only	Yes; indoor use only	Yes; indoor use only

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### Comfort Panels INOX and INOX PCT

#### Technical specifications

Article number	<b>6AV2144-8GC10-0AA0</b> SIMATIC HMI TP700 COMFORT INOX	<b>6AV2144-8JC10-0AA0</b> SIMATIC HMI TP900 Comfort INOX	<b>6AV2144-8MC10-0AA0</b> SIMATIC HMI TP1200 COMFORT INOX
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes		Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes		Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
<b>Use in hazardous areas</b>			
• ATEX Zone 2	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes
• FM Class I Division 2	Yes	No	Yes
<b>Marine approval</b>			
• Germanischer Lloyd (GL)	No	No	No
• American Bureau of Shipping (ABS)	No	No	No
• Bureau Veritas (BV)	No	No	No
• Det Norske Veritas (DNV)	No	No	No
• Korean Register of Shipping (KRS)			No
• Lloyds Register of Shipping (LRS)	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	80 %; no condensation
<b>Configuration</b>			
<b>Configuration software</b>			
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	32	32	32

### Technical specifications

Article number	6AV2144-8GC10-0AA0 SIMATIC HMI TP700 COMFORT INOX	6AV2144-8JC10-0AA0 SIMATIC HMI TP900 Comfort INOX	6AV2144-8MC10-0AA0 SIMATIC HMI TP1200 COMFORT INOX
<b>Functionality under WinCC (TIA Portal)</b>			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
<b>Message system</b>			
• Bit messages			
- Number of bit messages	4 000	4 000	4 000
• Analog messages			
- Number of analog messages	200	200	200
<b>Recipe management</b>			
• Number of recipes	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
<b>Variables</b>			
• Number of variables per device	2 048	2 048	2 048
• Number of variables per screen	400	400	400
<b>Images</b>			
• Number of configurable images	500	500	500
<b>Archiving</b>			
• Number of archives per device	50	50	50
<b>Security</b>			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
<b>Logging through printer</b>			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### Comfort Panels INOX and INOX PCT

#### Technical specifications

Article number	<b>6AV2144-8GC10-0AA0</b> SIMATIC HMI TP700 COMFORT INOX	<b>6AV2144-8JC10-0AA0</b> SIMATIC HMI TP900 Comfort INOX	<b>6AV2144-8MC10-0AA0</b> SIMATIC HMI TP1200 COMFORT INOX
<b>Process coupling</b>			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
<b>Peripherals/Options</b>			
Printer	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
USB memory	Yes	Yes	Yes
Network camera	Yes	Yes	Yes
<b>Mechanics/material</b>			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	No	No	No
• Stainless steel	Yes	Yes	Yes
<b>Dimensions</b>			
Width of the housing front	214 mm	274 mm	330 mm
Height of housing front	158 mm	190 mm	241 mm
Mounting cutout, width	197 mm	250 mm	310 mm
Mounting cutout, height	141 mm	166 mm	221 mm
Overall depth	65 mm	65 mm	67 mm
<b>Weights</b>			
Weight (without packaging)	1.9 kg	2.5 kg	3.6 kg

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### Technical specifications

Article number	<b>6AV2144-8GC20-0AA0</b> SIMATIC HMI TP700 Comfort INOX PCT	<b>6AV2144-8JC20-0AA0</b> SIMATIC HMI TP900 COMFORT INOX PCT	<b>6AV2144-8MC20-0AA0</b> SIMATIC HMI TP1200 COMFORT INOX PCT
<b>General information</b>			
Product type designation	TP700 Comfort INOX PCT	TP900 Comfort INOX PCT	TP1200 Comfort INOX PCT
<b>Display</b>			
Design of display	TFT	TFT	TFT
Screen diagonal	7 in	9 in	12.1 in
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel
<b>Backlighting</b>			
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h
<b>Control elements</b>			
<b>Keyboard fonts</b>			
• Function keys			
- Number of function keys	0	0	0
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	No	No	No
• Monitor keyboard	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Mounting in portrait format possible	No	Yes	Yes
<b>Supply voltage</b>			
Rated value (DC)	24 V	24 V	24 V
<b>Memory</b>			
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte
<b>Type of output</b>			
Acoustics			
• Speaker	Yes	Yes	Yes
<b>Time of day</b>			
<b>Clock</b>			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole
Number of SD card slots	2	2	2
<b>Industrial Ethernet</b>			
• Number of ports of the integrated switch	2	2	2
<b>Protocols</b>			
PROFINET	Yes	Yes	Yes
IRT	Yes; As of WinCC V15.1	Yes; As of WinCC V15	Yes; As of WinCC V15
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
<b>Redundancy mode</b>			
<b>Media redundancy</b>			
- MRP	Yes; As of WinCC V15.1	Yes; As of WinCC V15	Yes; As of WinCC V15

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### Comfort Panels INOX and INOX PCT

#### Technical specifications

Article number	<b>6AV2144-8GC20-0AA0</b> SIMATIC HMI TP700 Comfort INOX PCT	<b>6AV2144-8JC20-0AA0</b> SIMATIC HMI TP900 COMFORT INOX PCT	<b>6AV2144-8MC20-0AA0</b> SIMATIC HMI TP1200 COMFORT INOX PCT
<b>Degree and class of protection</b>			
IP (at the front)	IP66 / IPx6K and IP69 / IPx9K	IP66 / IPx6K and IP69 / IPx9K	IP66 / IPx6K and IP69 / IPx9K
IP (rear)	IP20	IP20	IP20
NEMA (front)			NEMA 4, NEMA 12 (when installed)
• Enclosure Type 4x at the front		No	Yes
• Enclosure Type 12 at the front	No	No	Yes
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No	No	No
EAC (formerly Gost-R)	Yes	Yes	Yes
<b>Use in hazardous areas</b>			
• ATEX Zone 2	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes
• cULus Class II Division 2	No	No	No
• FM Class I Division 2	No	No	No
• FM Class II Division 2	No	No	No
<b>Ambient conditions</b>			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)	50 °C; (55 °C, see entry ID: 64847814)	50 °C
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Configuration</b>			
<b>Configuration software</b>			
• WinCC Comfort (TIA Portal)	Yes; From WinCC V15.1 HSP	Yes; As of WinCC V15	Yes; As of WinCC V15
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	32	32	32

### Technical specifications

Article number	<b>6AV2144-8GC20-0AA0</b> SIMATIC HMI TP700 Comfort INOX PCT	<b>6AV2144-8JC20-0AA0</b> SIMATIC HMI TP900 COMFORT INOX PCT	<b>6AV2144-8MC20-0AA0</b> SIMATIC HMI TP1200 COMFORT INOX PCT
<b>Functionality under WinCC (TIA Portal)</b>			
Applications/options	Internet Explorer, PDF/Word/Excel Viewer, Sm@rtService, Sm@rtAccess, ProAgent	Internet Explorer, PDF/Word/Excel Viewer, Sm@rtService, Sm@rtAccess, ProAgent	Internet Explorer, PDF/Word/Excel Viewer, Sm@rtService, Sm@rtAccess, ProAgent
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes; Viewer	Yes; Viewer	Yes; Viewer
• Pocket Excel	Yes; Viewer	Yes; Viewer	Yes; Viewer
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner	Yes	Yes	Yes
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
<b>Message system</b>			
• Bit messages			
- Number of bit messages	4 000	4 000	4 000
• Analog messages			
- Number of analog messages	200	200	200
<b>Recipe management</b>			
• Number of recipes	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
<b>Variables</b>			
• Number of variables per device	2 048	2 048	2 048
• Number of variables per screen	400	400	400
<b>Images</b>			
• Number of configurable images	500	500	500
<b>Archiving</b>			
• Number of archives per device	50	50	50
<b>Security</b>			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
<b>Logging through printer</b>			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	No	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### Comfort Panels INOX and INOX PCT

#### Technical specifications

Article number	<b>6AV2144-8GC20-0AA0</b> SIMATIC HMI TP700 Comfort INOX PCT	<b>6AV2144-8JC20-0AA0</b> SIMATIC HMI TP900 COMFORT INOX PCT	<b>6AV2144-8MC20-0AA0</b> SIMATIC HMI TP1200 COMFORT INOX PCT
<b>Process coupling</b>			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
<b>Peripherals/Options</b>			
Printer	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
USB memory	Yes	Yes	Yes
Network camera	Yes	Yes	Yes
<b>Accessories</b>			
Further accessories are available	Yes; Service Pack (seal, mounting clips, clamping frame, power supply connector)	Yes; Service Pack (seal, mounting clips, clamping frame, power supply connector)	Yes; Service Pack (seal, mounting clips, clamping frame, power supply connector)
<b>Mechanics/material</b>			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	No	No	No
• Stainless steel	Yes	Yes	Yes
<b>Dimensions</b>			
Width of the housing front	214 mm	274 mm	330 mm
Height of housing front	158 mm	190 mm	241 mm
Mounting cutout, width	197 mm	251 mm	310 mm
Mounting cutout, height	141 mm	166 mm	221 mm
Overall depth	66 mm	66 mm	65 mm
<b>Weights</b>			
Weight (without packaging)	2 kg	2.9 kg	4.2 kg

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### Technical specifications

Article number	<b>6AV2144-8MC10-0AC0</b> SIMATIC HMI TP1200 COMFORT INOX LF	<b>6AV2144-8QC10-0AA2</b> SIMATIC HMI TP1500 Comfort INOX	<b>6AV2144-8UC10-0AA1</b> SIMATIC HMI TP1900 Comfort INOX
<b>General information</b>			
Product type designation	TP1200 Comfort INOX LF	TP1500 Comfort INOX	TP1900 Comfort INOX
<b>Display</b>			
Design of display	TFT	TFT	TFT
Screen diagonal	12.1 in	15.4 in	18.5 in
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Horizontal image resolution	1 280 pixel	1 280 pixel	1 366 pixel
• Vertical image resolution	800 pixel	800 pixel	768 pixel
<b>Backlighting</b>			
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	50 000 h
<b>Control elements</b>			
<b>Keyboard fonts</b>			
• Function keys			
- Number of function keys	0	0	0
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes; Analog-resistive	Yes
<b>Installation type/mounting</b>			
Mounting in portrait format possible	Yes	Yes	Yes
<b>Supply voltage</b>			
Rated value (DC)	24 V	24 V	24 V
<b>Memory</b>			
Memory available for user data	12 Mbyte	24 Mbyte	24 Mbyte
<b>Type of output</b>			
Acoustics			
• Speaker	Yes	Yes	Yes
<b>Time of day</b>			
<b>Clock</b>			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	1; 2 ports (switch)	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole		
Number of SD card slots	2	2	2
<b>Industrial Ethernet</b>			
• Number of ports of the integrated switch	2	2	2
<b>Protocols</b>			
PROFINET	Yes	Yes	Yes
IRT	Yes; As of WinCC V12	Yes	Yes
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
<b>Redundancy mode</b>			
<b>Media redundancy</b>			
- MRP	Yes; As of WinCC V12	Yes	Yes
<b>Degree and class of protection</b>			
IP (at the front)	IP66K	IP66K	IP66K
IP (rear)	IP20	IP20	IP20
NEMA (front)			
• Enclosure Type 4x at the front	Yes; indoor use only	Yes; indoor use only	Yes; indoor use only

## Operator panels

### Advanced HMI Panel-based Comfort Panels

#### Comfort Panels INOX and INOX PCT

#### Technical specifications

Article number	<b>6AV2144-8MC10-0AC0</b> SIMATIC HMI TP1200 COMFORT INOX LF	<b>6AV2144-8QC10-0AA2</b> SIMATIC HMI TP1500 Comfort INOX	<b>6AV2144-8UC10-0AA1</b> SIMATIC HMI TP1900 Comfort INOX
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	No		
RCM (formerly C-TICK)	No	Yes	Yes
KC approval	No	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
<b>Use in hazardous areas</b>			
• ATEX Zone 2	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes
• FM Class I Division 2	No	No	No
<b>Marine approval</b>			
• Germanischer Lloyd (GL)	No	No	No; In application process
• American Bureau of Shipping (ABS)	No	No	No; Available soon
• Bureau Veritas (BV)	No	No	No; Available soon
• Det Norske Veritas (DNV)	No	No	No; Available soon
• Korean Register of Shipping (KRS)	No	No	No; Available soon
• Lloyds Register of Shipping (LRS)	No	No	No; Available soon
• Nippon Kaiji Kyokai (Class NK)	No	No	No; Available soon
• Polski Rejestr Statkow (PRS)	No	No	No; Available soon
• Chinese Classification Society (CCS)	No	No	No; Available soon
<b>Ambient conditions</b>			
Suited for indoor use		Yes	Yes
Suited for outdoor use		No	No
<b>Ambient temperature during operation</b>			
<b>Operation (vertical installation)</b>			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	45 °C
<b>Relative humidity</b>			
• Operation, max.	80 %; no condensation	80 %; no condensation	70 %; no condensation
<b>Configuration</b>			
<b>Configuration software</b>			
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; V14 SP1 HSP and higher	Yes; V14 SP1 HSP and higher
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes

### Technical specifications

Article number	<b>6AV2144-8MC10-0AC0</b> SIMATIC HMI TP1200 COMFORT INOX LF	<b>6AV2144-8QC10-0AA2</b> SIMATIC HMI TP1500 Comfort INOX	<b>6AV2144-8UC10-0AA1</b> SIMATIC HMI TP1900 Comfort INOX
<b>Message system</b>			
• Bit messages			
- Number of bit messages	4 000	6 000	6 000
• Analog messages			
- Number of analog messages	200	200	200
<b>Recipe management</b>			
• Number of recipes	300	500	500
• Size of internal recipe memory	2 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
<b>Variables</b>			
• Number of variables per device	2 048	4 096	4 096
• Number of variables per screen	400	400	400
<b>Images</b>			
• Number of configurable images	500	750	750
<b>Archiving</b>			
• Number of archives per device	50	50	50
<b>Security</b>			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
<b>Logging through printer</b>			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML	Yes; PDF, HTML
<b>Transfer (upload/download)</b>			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes
<b>Process coupling</b>			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
<b>Peripherals/Options</b>			
Printer	Yes	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
USB memory	Yes	Yes	Yes
Network camera	Yes	Yes	Yes

## Operator panels

Advanced HMI Panel-based  
Comfort Panels

### Comfort Panels INOX and INOX PCT

#### Technical specifications

Article number	<b>6AV2144-8MC10-0AC0</b> SIMATIC HMI TP1200 COMFORT INOX LF	<b>6AV2144-8QC10-0AA2</b> SIMATIC HMI TP1500 Comfort INOX	<b>6AV2144-8UC10-0AA1</b> SIMATIC HMI TP1900 Comfort INOX
<b>Mechanics/material</b>			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	No	No	No
• Stainless steel	Yes	Yes	Yes
<b>Dimensions</b>			
Width of the housing front	330 mm	415 mm	483 mm
Height of housing front	269 mm	310 mm	337 mm
Mounting cutout, width	310 mm	396 mm	465 mm
Mounting cutout, height	248 mm	291 mm	319 mm
Overall depth	67 mm	74 mm	73 mm
<b>Weights</b>			
Weight (without packaging)	4.2 kg	5.9 kg	7.9 kg

#### More information

##### Customer-specific modifications

- Customized design (logo, type designation and background color)
- Protection against condensation and corrosive gases

More information is available on the Internet at:

<http://www.siemens.com/comfort-panels-inox>

**Overview****SIMATIC Mobile Panels****Mobile Panels 2<sup>nd</sup> Generation**

The second generation of SIMATIC HMI Mobile Panels impresses with its convenience, performance and quality.

The highlights: A brilliant widescreen display, particularly simple configuration and the unique illuminated emergency stop button.

This series of devices offers Panels with 7", 9" and 10" displays, some of which are available with or without safety-related operator controls.

Mobile Panels of the 2<sup>nd</sup> Generation are the successors to the SIMATIC HMI Mobile Panels x77 with cable connections.

- SIMATIC HMI KTP400F Mobile
- SIMATIC HMI KTP700 Mobile
- SIMATIC HMI KTP700F Mobile
- SIMATIC HMI KTP700F Mobile HW
- SIMATIC HMI KTP700F Mobile HW/OR
- SIMATIC HMI KTP900 Mobile
- SIMATIC HMI KTP900F Mobile
- SIMATIC HMI TP1000F Mobile

**Mobile Panels for low-temperature environment**

SIMATIC HMI KTP700F Mobile Arctic is designed for use in weather-protected areas with low ambient temperatures down to -28 °C. For optimum operation even at low temperatures, a touch pen has been integrated in the front panel at the center underneath the display.

The operator panel has the same functionality as the SIMATIC HMI Mobile Panels 2<sup>nd</sup> Generation and is integrated in the "Totally Integrated Automation Portal" engineering framework.

## Operator panels

Advanced HMI Panel-based  
Mobile Panels

### Mobile Panels 2nd Generation

#### Overview



- SIMATIC HMI KTP700F Mobile HW
- SIMATIC HMI KTP700F Mobile HW/OR
- SIMATIC HMI TP1000F Mobile
- SIMATIC HMI KTP400F Mobile
- SIMATIC HMI KTP700 Mobile
- SIMATIC HMI KTP700F Mobile
- SIMATIC HMI KTP900 Mobile
- SIMATIC HMI KTP900F Mobile

#### Ordering data

#### Article No.

##### SIMATIC Mobile Panels 2<sup>nd</sup> Generation <sup>1)</sup>

**SIMATIC HMI KTP700F Mobile HW**  
7.0" TFT display, 800 x 480 pixels, 16 million colors, key and touch operation, 6 function keys, 2 illuminated pushbuttons, 1x PROFINET/Industrial Ethernet interface, 1x Multimedia card, 1x USB, key-operated switch, acknowledgment button, emergency stop/stop button, handwheel, configurable as from WinCC Comfort V15

**6AV2145-8GB00-0AA0**

##### SIMATIC HMI KTP700F Mobile HW/OR

7.0" TFT display, 800 x 480 pixels, 16 million colors, key and touch operation, 6 function keys, 2 illuminated pushbuttons, 1x PROFINET/Industrial Ethernet interface, 1x Multimedia card, 1x USB, key-operated switch, acknowledgment button, emergency stop/stop button, handwheel and override, configurable as from WinCC Comfort V15

**6AV2145-8GB01-0AA0**

##### SIMATIC HMI TP1000F Mobile

10.0" TFT display, 1 280 x 800 pixels, 16 million colors, touch operation, touch pen, 1x PROFINET/Industrial Ethernet interface, 1x Multimedia card, 1x USB, key-operated switch, acknowledgment button, emergency stop/stop pushbutton, configurable as from WinCC Comfort V14

**6AV2145-6KB20-0AS0**

##### KTP400F Mobile

**6AV2125-2DB23-0AX0**

##### KTP700 Mobile

**6AV2125-2GB03-0AX0**

##### KTP700F Mobile

**6AV2125-2GB23-0AX0**

##### KTP900 Mobile

**6AV2125-2JB03-0AX0**

##### KTP900F Mobile

**6AV2125-2JB23-0AX0**

#### Accessories

##### Connecting cable and accessories for Mobile Panels

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

<sup>1)</sup> The system components (connecting cables and connection boxes) must be ordered separately.

### Technical specifications

Article number	<b>6AV2145-8GB00-0AA0</b> SIMATIC HMI KTP700F Mobile HW	<b>6AV2145-8GB01-0AA0</b> SIMATIC HMI KTP700F Mobile HW/OR	<b>6AV2145-6KB20-0AS0</b> SIMATIC HMI TP1000F MOBILE
<b>General information</b>			
Product type designation	KTP700F	KTP700F	TP1000F Mobile
<b>Display</b>			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	7 in	7 in	10.1 in
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel
<b>Backlighting</b>			
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h
<b>Control elements</b>			
<b>Keyboard fonts</b>			
• Function keys			
- Number of function keys	6	6	0
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	No	No	No
<b>Special operator controls</b>			
• Stop button (forced blocking)	Yes	Yes	Yes
• Emergency stop button (illuminated and forced blocking)	Yes	Yes	Yes
• Acknowledgement button (3-stage)	Yes	Yes	Yes
• Key-operated switch	Yes	Yes	Yes
• Illuminated pushbutton	Yes	Yes	Yes
• Handwheel	Yes	Yes	No
<b>Camera</b>			
• integrated camera	No	No	No
<b>Expansions for operator control of the process</b>			
• Direct keys (touch buttons as S7 input I/O)	32	32	0
<b>Supply voltage</b>			
Rated value (DC)	24 V	24 V	24 V
<b>Memory</b>			
Memory available for user data	12 Mbyte	12 Mbyte	12 Mbyte
<b>Time of day</b>			
<b>Clock</b>			
• Hardware clock (real-time)	Yes	Yes	Yes
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	1	1	1
Number of PROFINET interfaces	1	1	1
Number of RS 485 interfaces	0	0	0
Number of USB interfaces	1; USB 2.0	1; USB 2.0	1; USB 2.0
Number of wireless interfaces	0	0	0
Number of SD card slots	1	1	1

## Operator panels

Advanced HMI Panel-based  
Mobile Panels

### Mobile Panels 2nd Generation

#### Technical specifications

Article number	<b>6AV2145-8GB00-0AA0</b> SIMATIC HMI KTP700F Mobile HW	<b>6AV2145-8GB01-0AA0</b> SIMATIC HMI KTP700F Mobile HW/OR	<b>6AV2145-6KB20-0AS0</b> SIMATIC HMI TP1000F MOBILE
<b>Protocols</b>			
PROFINET	Yes	Yes	Yes
PROFIsafe	Yes	Yes	Yes
PROFIBUS	No	No	No
EtherNet/IP	Yes	Yes	Yes
<b>Protocols (Ethernet)</b>			
• TCP/IP	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes
• DCP	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes
<b>WEB characteristics</b>			
• HTTP	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes
• HTML	Yes	Yes	Yes
• XML	No	No	No
• CSS	Yes	Yes	Yes
• Active X	No	No	No
• JavaScript	Yes	Yes	Yes
• Java VM	No	No	No
<b>Further protocols</b>			
• MODBUS	Yes	Yes	Yes
<b>Communication functions</b>			
<b>Wireless communication</b>			
• supported standards			
- Radio standard WLAN 802.11	No	No	No
- Bluetooth radio standard	No	No	No
<b>Degree and class of protection</b>			
IP65 (all-round)	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
UL approval	Yes	Yes	
cULus	Yes	Yes	Yes
FM approval	No	No	
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No	No	No
EAC (formerly Gost-R)	Yes	Yes	
Suitable for safety functions	Yes	Yes	Yes
Marine approval	No	No	No
<b>Highest safety class achievable in safety mode</b>			
• Performance level according to ISO 13849-1	PLe	PLe	PLe
• SIL acc. to IEC 61508	SIL 3	SIL 3	SIL 3
<b>Use in hazardous areas</b>			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• cULus Class II Division 2	No	No	
• FM Class I Division 2	No	No	No
• FM Class II Division 2	No	No	

### Technical specifications

Article number	6AV2145-8GB00-0AA0	6AV2145-8GB01-0AA0	6AV2145-6KB20-0AS0
	SIMATIC HMI KTP700F Mobile HW	SIMATIC HMI KTP700F Mobile HW/OR	SIMATIC HMI TP1000F MOBILE
<b>Ambient conditions</b>			
<b>Free fall</b>			
• Fall height, max.	1.2 m	1.2 m	1.2 m
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	No	No	No
• Pocket Excel	No	No	No
• PDF Viewer	Yes	Yes	Yes
• Media Player	No	No	No
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
<b>Multiproject</b>			
• Number of projects (internal)	0	0	0
• Number of projects (external)	0	0	0
<b>Message system</b>			
• Bit messages			
- Number of bit messages	4 000	4 000	4 000
• Analog messages			
- Number of analog messages	200	200	200
• Message buffer			
- Number of entries	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
<b>Recipe management</b>			
• Number of recipes	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
<b>Variables</b>			
• Number of variables per device	2 048	2 048	2 048
• Number of variables per screen	400	400	400
<b>Images</b>			
• Number of configurable images	500	500	500
<b>Archiving</b>			
• Number of archives per device	50	50	50
• Number of entries per archive	20 000	20 000	20 000

## Operator panels

Advanced HMI Panel-based  
Mobile Panels

### Mobile Panels 2nd Generation

#### Technical specifications

Article number	<b>6AV2145-8GB00-0AA0</b> SIMATIC HMI KTP700F Mobile HW	<b>6AV2145-8GB01-0AA0</b> SIMATIC HMI KTP700F Mobile HW/OR	<b>6AV2145-6KB20-0AS0</b> SIMATIC HMI TP1000F MOBILE
<b>Security</b>			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
<b>Process coupling</b>			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	No	No	Yes; WinAC RTX
• SIMOTION	Yes	Yes	Yes
<b>Peripherals/Options</b>			
SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes	Yes
SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes	Yes
USB memory	Yes	Yes	Yes
<b>Mechanics/material</b>			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
<b>Dimensions</b>			
Width of the housing front	248.4 mm	248.4 mm	307.5 mm
Height of housing front	171.7 mm	171.7 mm	223.5 mm
<b>Weights</b>			
Weight (without packaging)	1.3 kg	1.3 kg	1.6 kg

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### Technical specifications

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F Mobile	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 Mobile	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F Mobile	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 Mobile	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F Mobile
<b>General information</b>					
Product type designation	KTP400F Mobile	KTP700 Mobile	KTP700F Mobile	KTP900 Mobile	KTP900F Mobile
<b>Display</b>					
Design of display	TFT	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	4.3 in	7 in	7 in	9 in	9 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>					
• Horizontal image resolution	480 pixel	800 pixel	800 pixel	800 pixel	800 pixel
• Vertical image resolution	272 pixel	480 pixel	480 pixel	480 pixel	480 pixel
<b>Backlighting</b>					
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h	50 000 h	50 000 h
<b>Control elements</b>					
<b>Keyboard fonts</b>					
• Function keys					
- Number of function keys	4	8	8	10	10
<b>Touch operation</b>					
• Design as touch screen					
	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen					
	No	No	No	No	No
<b>Special operator controls</b>					
• Stop button (forced blocking)					
	Yes	No	Yes	No	Yes
• Emergency stop button (illuminated and forced blocking)					
	Yes	No	Yes	No	Yes
• Acknowledgement button (3-stage)					
	Yes	No	Yes	No	Yes
• Key-operated switch					
	No	No	Yes	No	Yes
• Illuminated pushbutton					
	Yes	Yes	Yes	Yes	Yes
<b>Camera</b>					
• integrated camera					
	No	No	No	No	No
<b>Expansions for operator control of the process</b>					
• Direct keys (touch buttons as S7 input I/O)					
	32	32	32	32	32
<b>Supply voltage</b>					
Rated value (DC)					
	24 V	24 V	24 V	24 V	24 V
<b>Memory</b>					
Memory available for user data					
	4 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte
<b>Time of day</b>					
<b>Clock</b>					
• Hardware clock (real-time)					
	Yes	Yes	Yes	Yes	Yes
<b>Interfaces</b>					
Number of industrial Ethernet interfaces					
	1	1	1	1	1
Number of PROFINET interfaces					
	1	1	1	1	1
Number of RS 485 interfaces					
	0	0	0	0	0
Number of USB interfaces					
	1; USB 2.0	1; USB 2.0	1; USB 2.0	1; USB 2.0	1; USB 2.0
Number of wireless interfaces					
	0	0	0	0	0
Number of SD card slots					
	0	1	1	1	1

## Operator panels

### Advanced HMI Panel-based Mobile Panels

#### Mobile Panels 2nd Generation

#### Technical specifications

Article number	6AV2125-2DB23-0AX0	6AV2125-2GB03-0AX0	6AV2125-2GB23-0AX0	6AV2125-2JB03-0AX0	6AV2125-2JB23-0AX0
	SIMATIC HMI KTP400F Mobile	SIMATIC HMI KTP700 Mobile	SIMATIC HMI KTP700F Mobile	SIMATIC HMI KTP900 Mobile	SIMATIC HMI KTP900F Mobile
<b>Protocols</b>					
PROFINET	Yes	Yes	Yes	Yes	Yes
PROFIsafe	Yes	No	Yes	No	Yes
PROFIBUS	No	No	No	No	No
EtherNet/IP	Yes	Yes	Yes	Yes	Yes
<b>Protocols (Ethernet)</b>					
• TCP/IP	Yes	Yes	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes	Yes	Yes
• DCP	Yes	Yes	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes	Yes	Yes
<b>WEB characteristics</b>					
• HTTP	Yes	Yes	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes	Yes	Yes
• HTML	Yes	Yes	Yes	Yes	Yes
• XML	No	No	No	No	No
• CSS	Yes	Yes	Yes	Yes	Yes
• Active X	No	No	No	No	No
• JavaScript	Yes	Yes	Yes	Yes	Yes
• Java VM	No	No	No	No	No
<b>Further protocols</b>					
• MODBUS	Yes	Yes	Yes	Yes	Yes
<b>Communication functions</b>					
<b>Wireless communication</b>					
• supported standards					
- Radio standard WLAN 802.11	No	No	No	No	No
- Bluetooth radio standard	No	No	No	No	No
<b>Degree and class of protection</b>					
IP65 (all-round)	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
Suitable for safety functions	Yes	No	Yes	No	Yes
Marine approval	Yes	Yes	Yes	Yes	Yes
<b>Highest safety class achievable in safety mode</b>					
• Performance level according to ISO 13849-1	PLe	none	PLe	none	PLe
• SIL acc. to IEC 61508	SIL 3	No	SIL 3	No	SIL 3
<b>Use in hazardous areas</b>					
• ATEX Zone 2	No	No	No	No	No
• ATEX Zone 22	No	No	No	No	No
• IECEx Zone 2	No	No	No	No	No
• IECEx Zone 22	No	No	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No	No	No
• FM Class I Division 2	No	No	No	No	No

### Technical specifications

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F Mobile	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 Mobile	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F Mobile	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 Mobile	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F Mobile
<b>Ambient conditions</b>					
<b>Free fall</b>					
• Fall height, max.	1.2 m	1.2 m	1.2 m	1.2 m	1.2 m
<b>Ambient temperature during operation</b>					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C
<b>Relative humidity</b>					
• Operation, max.	90 %	90 %	90 %	90 %	90 %
<b>Languages</b>					
<b>Online languages</b>					
• Number of online/runtime languages	32	32	32	32	32
<b>Functionality under WinCC (TIA Portal)</b>					
Applications/options					
• Web browser	Yes	Yes	Yes	Yes	Yes
• Pocket Word	No	No	No	No	No
• Pocket Excel	No	No	No	No	No
• PDF Viewer	Yes	Yes	Yes	Yes	Yes
• Media Player	No	No	No	No	No
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes
Task planner					
• time-controlled	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes
<b>Multiproject</b>					
• Number of projects (internal)	0	0	0	0	0
• Number of projects (external)	0	0	0	0	0
<b>Message system</b>					
• Bit messages					
- Number of bit messages	4 000	4 000	4 000	4 000	4 000
• Analog messages					
- Number of analog messages	200	200	200	200	200
• Message buffer					
- Number of entries	1 024	1 024	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes
<b>Recipe management</b>					
• Number of recipes	300	300	300	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes
<b>Variables</b>					
• Number of variables per device	2 048	2 048	2 048	2 048	2 048
• Number of variables per screen	50	400	400	400	400
<b>Images</b>					
• Number of configurable images	500	500	500	500	500
<b>Archiving</b>					
• Number of archives per device	50	50	50	50	50
• Number of entries per archive	20 000	20 000	20 000	20 000	20 000

## Operator panels

### Advanced HMI Panel-based Mobile Panels

#### Mobile Panels 2nd Generation

#### Technical specifications

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F Mobile	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 Mobile	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F Mobile	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 Mobile	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F Mobile
<b>Security</b>					
• Number of user groups	50	50	50	50	50
• Number of users	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes
<b>Process coupling</b>					
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX
• SIMOTION	Yes	Yes	Yes	Yes	Yes
<b>Peripherals/Options</b>					
SIMATIC HMI MM memory card: Multi Media Card	No	Yes	Yes	Yes	Yes
SIMATIC HMI SD memory card: Secure Digital memory card	No	Yes	Yes	Yes	Yes
USB memory	Yes	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>					
Enclosure material (front)					
• Plastic	Yes	Yes	Yes	Yes	Yes
• Aluminum	No	No	No	No	No
• Stainless steel	No	No	No	No	No
<b>Dimensions</b>					
Width of the housing front	194 mm	248.4 mm	248.4 mm	307.5 mm	307.5 mm
Height of housing front	166 mm	171.7 mm	194.9 mm	200.9 mm	223.5 mm
<b>Weights</b>					
Weight (without packaging)	0.7 kg	1.2 kg	1.3 kg	1.5 kg	1.6 kg

#### More information

More information is available on the Internet at:

<http://www.siemens.com/mobile-panels>

#### Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional and generally available sector-specific products, as well as options for customer-specific modifications and adaptations.

### Connection box for Mobile Panels (2nd Generation)

#### Overview



Mobile Panels with emergency stop/stop buttons can be wired into the emergency stop circuit of a machine or plant by means of the connection boxes.

Pressing the emergency stop/stop button on the Mobile Panel activates the emergency stop function.

The emergency stop/stop button on the Mobile Panel supplements, but does not replace, the emergency stop equipment permanently installed on the machine.

#### Technical specifications

Article number	6AV2125-2AE03-0AX0	6AV2125-2AE13-0AX0	6AV2125-2AE23-0AX0
SIMATIC HMI Connection Box	Compact	Standard	Advanced
<b>General information</b>			
Product type designation	Connection box	Connection box	Connection box
<b>Product function</b>			
• Web-based management	No	Yes	Yes
<b>FH technology</b>			
<b>Safety evaluation through direct wiring</b>			
• Reconnection without emergency stop circuit interruption	No	No	Yes
• Reconnection with emergency stop circuit interruption	Yes	Yes	No
• Monitoring the STOP button	Yes	Yes	Yes
• Monitoring of emergency stop button	Yes	Yes	Yes
• Monitoring of acknowledgement button	Yes	Yes	Yes
<b>Safety evaluation via PROFIsafe</b>			
• Reconnection without emergency stop circuit interruption	Yes	Yes	Yes
• Reconnection with emergency stop circuit interruption	No	No	No
• Monitoring the STOP button	Yes	Yes	Yes
• Monitoring of emergency stop button	Yes	Yes	Yes
• Monitoring of acknowledgement button	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Wall mounting/direct mounting	No	Yes	Yes
Control cabinet installation	Yes	No	No
<b>Supply voltage</b>			
Rated value (DC)	24 V	24 V	24 V
<b>Input current</b>			
Current consumption (rated value)	18 mA	96 mA	95 mA
Starting current inrush I <sup>2</sup> t	0.003 A <sup>2</sup> ·s	0.15 A <sup>2</sup> ·s	0.16 A <sup>2</sup> ·s
<b>Power</b>			
Active power input, typ.	0.43 W	2.3 W	2.3 W

#### Ordering data

#### Article No.

##### Connection boxes for SIMATIC Mobile Panels for 2<sup>nd</sup> Generation and Arctic Panel

- Connection Box, Compact
- Connection Box, Standard
- Connection Box, Advanced

**6AV2125-2AE03-0AX0**

**6AV2125-2AE13-0AX0**

**6AV2125-2AE23-0AX0**

##### Connecting cable and accessories for Mobile Panels

See "SIMATIC HMI operator control and monitoring systems" -> "Accessories"

## Operator panels

Advanced HMI Panel-based  
Mobile Panels

### Connection box for Mobile Panels (2nd Generation)

#### Technical specifications

Article number	6AV2125-2AE03-0AX0	6AV2125-2AE13-0AX0	6AV2125-2AE23-0AX0
SIMATIC HMI Connection Box	Compact	Standard	Advanced
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	2	3	3
Number of PROFINET interfaces	2	3	3
Connection point identification	Yes	Yes	Yes
<b>Industrial Ethernet</b>			
• Industrial Ethernet status LED	0	3	3
<b>Protocols</b>			
PROFINET	Yes; No switch functionality	Yes	Yes
IRT	No	No	Yes
PROFIsafe	Yes; No switch functionality	Yes	Yes
EtherNet/IP	Yes	Yes	Yes
AS-Interface	No	No	No
EIB/KNX	No	No	No
<b>Protocols (Ethernet)</b>			
• TCP/IP	Yes; No switch functionality	Yes	Yes
• DHCP	No	Yes	Yes
• SNMP	No	Yes	Yes
• DCP	No	Yes	Yes
• LLDP	No	Yes	Yes
<b>Redundancy mode</b>			
<b>Media redundancy</b>			
- MRP	No	No	Yes
<b>Further protocols</b>			
• MODBUS	Yes	Yes	Yes
• other bus systems	No	No	No
<b>Degree and class of protection</b>			
IP degree of protection		IP65	IP65
IP65 (all-round)		Yes	Yes
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20		
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon
Suitable for safety functions	Yes	Yes	Yes
<b>Highest safety class achievable in safety mode</b>			
• Performance level according to ISO 13849-1	PLe	PLe	PLe
• SIL acc. to IEC 61508	SIL 3	SIL 3	SIL 3

Article number	6AV2125-2AE03-0AX0	6AV2125-2AE13-0AX0	6AV2125-2AE23-0AX0
SIMATIC HMI Connection Box	Compact	Standard	Advanced
<b>Use in hazardous areas</b>			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
<b>Marine approval</b>			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	No; Available soon	No; Available soon	No; Available soon
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Korean Register of Shipping (KRS)	No	No	No
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
<b>Configuration</b>			
<b>Configuration software</b>			
• STEP 7 Professional (TIA Portal)	No	No	No
• WinCC Comfort (TIA Portal)	No	Yes; Optional	Yes; Optional
• WinCC Advanced (TIA Portal)	No	Yes; Optional	Yes; Optional
• WinCC Professional (TIA Portal)	No	Yes; Optional	Yes; Optional
<b>Mechanics/material</b>			
<b>Enclosure material (front)</b>			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
<b>Dimensions</b>			
Width of the housing front	96 mm	230 mm	230 mm
Height of housing front	125 mm	145 mm	145 mm
Depth of housing	78 mm	76 mm	76 mm
Mounting cutout, width	77.5 mm		
Mounting cutout, height	106.5 mm		
Overall depth	30 mm		
<b>Weights</b>			
Weight (without packaging)	0.25 kg	0.72 kg	0.72 kg

#### More information

More information is available on the Internet at:

<http://www.siemens.com/mobile-panels>

### Mobile Panels for low-temperature environment

#### Overview



SIMATIC HMI KTP700F MOBILE ARCTIC

#### **SIMATIC HMI KTP700F Mobile Arctic**

The operator panel with glass touch screen is designed for use in weather-protected areas with low ambient temperatures, e.g. in cooling technology.

It has the same functionality as the SIMATIC HMI Mobile Panels 2nd Generation and is configured exclusively with the innovative HMI software WinCC.

The engineering software is integrated into the "Totally Integrated Automation Portal" engineering framework. WinCC (TIA Portal) as of V15.1 is required to configure the device.

#### Ordering data

#### Article No.

Ordering data	Article No.
<b>SIMATIC HMI KTP700F Mobile Arctic</b> Extended operating temperature range, 7.0" TFT display, 800 x 480 pixels, 16 million colors, key and touch operation, 8 function keys, 1x PROFINET/Industrial Ethernet interface, 1x Multimedia card, 1x USB, 1x touch pen, key-operated switch, acknowledgment button, emergency stop/stop button, configurable as of WinCC Comfort V15.1	<b>6AV2145-6GB06-0AA0</b>
<b>Accessories</b>	
<b>Connection boxes, Compact and Advanced</b>	See System components for Mobile Panels
<b>Connecting cable</b>	Connecting cable KTP Mobile

#### Technical specifications

Article number	<b>6AV2145-6GB06-0AA0</b> SIMATIC HMI KTP700F Mobile Arctic
<b>General information</b>	
Product type designation	KTP700F Mobile Arctic
<b>Display</b>	
Design of display	TFT, bonded, daylight-readable
Screen diagonal	7 in
Number of colors	16 777 216
<b>Resolution (pixels)</b>	
• Horizontal image resolution	800 pixel
• Vertical image resolution	480 pixel
<b>Backlighting</b>	
• MTBF backlighting (at 25 °C)	50 000 h
<b>Control elements</b>	
<b>Keyboard fonts</b>	
• Function keys	
- Number of function keys	8
<b>Touch operation</b>	
• Design as touch screen	Yes
• Design as multi-touch screen	No
<b>Special operator controls</b>	
• Stop button (forced blocking)	Yes
• Emergency stop button (illuminated and forced blocking)	Yes
• Acknowledgement button (3-stage)	Yes
• Key-operated switch	Yes
• Illuminated pushbutton	Yes
<b>Camera</b>	
• integrated camera	No
<b>Expansions for operator control of the process</b>	
• Direct keys (touch buttons as S7 input I/O)	32
<b>Supply voltage</b>	
Rated value (DC)	24 V
<b>Memory</b>	
Memory available for user data	12 Mbyte
<b>Time of day</b>	
<b>Clock</b>	
• Hardware clock (real-time)	Yes
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	1
Number of PROFINET interfaces	1
Number of RS 485 interfaces	0
Number of USB interfaces	1; USB 2.0
Number of wireless interfaces	0
Number of SD card slots	1

## Operator panels

Advanced HMI Panel-based  
Mobile Panels

### Mobile Panels for low-temperature environment

#### Technical specifications

Article number	<b>6AV2145-6GB06-0AA0</b> SIMATIC HMI KTP700F Mobile Arctic
<b>Protocols</b>	
PROFINET	Yes
PROFIsafe	Yes
PROFIBUS	No
EtherNet/IP	Yes
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
• DHCP	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
<b>WEB characteristics</b>	
• HTTP	Yes
• HTTPS	Yes
• HTML	Yes
• XML	No
• CSS	Yes
• Active X	No
• JavaScript	Yes
• Java VM	No
<b>Further protocols</b>	
• MODBUS	Yes
<b>Communication functions</b>	
<b>Wireless communication</b>	
• supported standards	
- Radio standard WLAN 802.11	No
- Bluetooth radio standard	No
<b>Degree and class of protection</b>	
IP65 (all-round)	Yes
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	No
Suitable for safety functions	Yes
Marine approval	No
<b>Highest safety class achievable in safety mode</b>	
• Performance level according to ISO 13849-1	PLe
• SIL acc. to IEC 61508	SIL 3
<b>Use in hazardous areas</b>	
• ATEX Zone 2	No
• ATEX Zone 22	No
• IECEx Zone 2	No
• IECEx Zone 22	No
• cULus Class I Zone 2, Division 2	No
• cULus Class II Division 2	No
• FM Class I Division 2	No
• FM Class II Division 2	No

Article number	<b>6AV2145-6GB06-0AA0</b> SIMATIC HMI KTP700F Mobile Arctic
<b>Ambient conditions</b>	
<b>Free fall</b>	
• Fall height, max.	1.2 m
<b>Ambient temperature during operation</b>	
• min.	-28 °C
• max.	45 °C
<b>Relative humidity</b>	
• Operation, max.	90 %; no condensation
<b>Languages</b>	
<b>Online languages</b>	
• Number of online/runtime languages	32
<b>Functionality under WinCC (TIA Portal)</b>	
Applications/options	
• Web browser	Yes
• Pocket Word	No
• Pocket Excel	No
• PDF Viewer	Yes
• Media Player	No
• SIMATIC WinCC Sm@rtServer	Yes
• SIMATIC WinCC Audit	Yes
Number of Visual Basic Scripts	Yes
Task planner	
• time-controlled	Yes
• task-controlled	Yes
<b>Multiproject</b>	
• Number of projects (internal)	0
• Number of projects (external)	0
<b>Message system</b>	
• Bit messages	
- Number of bit messages	4 000
• Analog messages	
- Number of analog messages	200
• Message buffer	
- Number of entries	1 024
- Circulating buffer	Yes
- retentive	Yes
<b>Recipe management</b>	
• Number of recipes	300
• Size of internal recipe memory	2 Mbyte
• Recipe memory expandable	Yes
<b>Variables</b>	
• Number of variables per device	2 048
• Number of variables per screen	400
<b>Images</b>	
• Number of configurable images	500
<b>Archiving</b>	
• Number of archives per device	50
• Number of entries per archive	20 000

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#### Technical specifications

Article number	<b>6AV2145-6GB06-0AA0</b> SIMATIC HMI KTP700F Mobile Arctic
<b>Security</b>	
• Number of user groups	50
• Number of users	50
• SIMATIC Logon	Yes
<b>Process coupling</b>	
• S7-1200	Yes
• S7-1500	Yes
• S7-200	Yes
• S7-300/400	Yes
• LOGO!	Yes
• WinAC	Yes; WinAC RTX
• SIMOTION	Yes
<b>Peripherals/Options</b>	
SIMATIC HMI MM memory card: Multi Media Card	Yes
SIMATIC HMI SD memory card: Secure Digital memory card	Yes
USB memory	Yes
<b>Mechanics/material</b>	
Enclosure material (front)	
• Plastic	Yes
• Aluminum	No
• Stainless steel	No
<b>Dimensions</b>	
Width of the housing front	248.4 mm
Height of housing front	171.7 mm
<b>Weights</b>	
Weight (without packaging)	1.3 kg

#### More information

You can find more information on the Internet at:

<http://www.siemens.com/mobile-panels>

#### Customized modification options

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

## Operator panels

Advanced HMI PC-based

### Advanced HMI PC-based

#### Overview

##### ***SIMATIC Advanced HMI – efficient realization of even the most demanding and sophisticated HMI tasks***

A PC-based system is recommended if the production places particularly high demands on the quantity and type of information to be processed and documented.

It offers the appropriate options for sufficient storage space, processor performance and data connection. The user can either opt for a centralized solution in which the visualization and PC are combined in a single unit, or for a distributed solution with an industrial monitor as Thin Client.

##### SIMATIC Industrial Panel PCs

The most complex visualization and control tasks can be realized centrally on the machine with extremely compact industrial panel PCs. You can always find an optimum solution in our portfolio – from the embedded to the high-end industrial PC – to meet the many requirements of manufacturing and process automation.

##### SIMATIC IFP and SIMATIC ITC

Two innovative options are available for distributed control concepts. SIMATIC industrial monitors and Thin Clients are used as a desktop device for control rooms, as a built-in unit for operator panel or as PC-based visualization and control solution in which the operating unit is operated separately.

The following modules are available:

- Panel PC
- Industrial monitors and Thin Clients
- Software packages

### Overview

The SIMATIC Basic Panel, Comfort Panel and Mobile Panel offer HMI functionality for the control systems:

- SIMATIC S7
- Non-Siemens controllers:
  - Allen Bradley
  - Mitsubishi
  - Modicon
  - Omron

For more detailed information, refer to the WinCC (TIA Portal) user manual, the "Windows-based systems communication" manual, or the WinCC (TIA Portal) online help.

OPC communication and HTTP communication are offered for Comfort Panels and Mobile Panels with an integrated Ethernet interface. Both OPC and HTTP communication can be used in parallel with the process links to SIMATIC S7 or non-Siemens PLCs.

#### Note:

Interface options for HMI devices: See the individual device descriptions.

#### **OPC communication**

OPC Data Access is an open standard for exchanging both local and remote variables between various applications via Industrial Ethernet.

#### **HTTP communication for variable exchange between SIMATIC HMI systems**

Communication based on HTTP message frames enables variables to be exchanged between SIMATIC HMI systems.

Communication standard	SIMATIC HMI			
Version	Comfort Panel	Mobile Panel 177 PN/ 277	Mobile Panel KTPx00	WinCC Runtime Advanced
<b>OPC Data Access V2.05a + OPC UA Data Access V1.01 + OPC Data Access XML V1.00</b>				
OPC DA client (COM/DCOM)	–	–	–	•
OPC DA server (COM/DCOM)	–	–	–	•
OPC UA DA client	•	–	•	•
OPC UA DA server	•	–	•	•
<b>HTTP communication for variable exchange between SIMATIC HMI systems</b>				
HTTP client	•	•	•	•
HTTP server	•	•	•	•

- System interface possible
- System interface not possible

## Operator panels

### System interfaces with WinCC (TIA Portal)

#### SIMATIC S7

##### Overview

The following types of interface are differentiated in respect of the link between the SIMATIC Panels and SIMATIC S7 controllers:

- PROFINET interface:  
Coupling of SIMATIC Panel to SIMATIC S7 controllers via Industrial Ethernet TCP/IP using the integrated PROFINET interface of the CPU or, alternatively, a PROFINET interface module.
- MPI/PROFIBUS interface:  
Coupling of SIMATIC Panel to SIMATIC S7 controllers via MPI/PROFIBUS using the integrated MPI/PROFIBUS interface of the CPU or the integrated PPI interface of the CPU in the case of S7-200 or, alternatively, a PROFIBUS interface module in the case of S7-1200, S7-1500, S7-300 and S7-400.
- PPI interface:  
Coupling of SIMATIC Panel to SIMATIC S7-200 via PPI network using the integrated PPI interface of the CPU.

The maximum possible number of S7 connections of one CPU is determined by its performance capacity (see Catalog ST 70); from the point of view of the SIMATIC Panel, the following restrictions apply:

- Basic Panel, Comfort Panel 4", Mobile Panel 177: max. 4 connections
- Comfort Panels from 7" to 22" (incl. Outdoor), Mobile Panel 2<sup>nd</sup> Generation: max. 8 connections
- Mobile Panel 277: max. 6 connections
- PC with WinCC Runtime Advanced: max. 8 connections

##### PPI interface

The PPI interface is a point-to-point connection between a SIMATIC Panel (PPI master) or alternatively a PG (PPI master) and an S7-200 (PPI slave).

##### MPI/PROFIBUS interface or PROFINET interface

The corresponding multipoint-enabled SIMATIC Panel and SIMATIC S7 communication interfaces are used. The following are possible:

- Interface between one or more SIMATIC Panels (MPI master) and one or more S7-1200/S7-1500/S7-300/S7-400s or WinAC (MPI master) (possible network topology: MPI/PROFIBUS or Industrial Ethernet TCP/IP)
- Interface between one or more SIMATIC Panels (MPI master) and one or more S7-200s (MPI slave)<sup>1)</sup> (possible network topology: PPI, MPI/PROFIBUS)

Unlike PPI connections, MPI connections are static connections that are set up during run-up and then monitored.

In principle this type of information exchange between SIMATIC Panels and SIMATIC S7 is independent of the network used, PPI, MPI/PROFIBUS or Industrial Ethernet: SIMATIC Panels are S7 clients and SIMATIC S7 CPUs are S7 servers.

Controller	SIMATIC HMI					
Target hardware (PROTOCOL) (physics)	Basic Panel	Comfort Panel	Mobile Panel 177 DP / PN <sup>1)</sup>	Mobile Panel 277 <sup>1)</sup>	KTPx00(F) Mobile <sup>1)</sup>	WinCC Runtime Advanced
<b>SIMATIC S7-1200<sup>2)</sup></b>						
over Ethernet (TCP/IP)	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
over MPI or PROFIBUS network	• <sup>4)</sup>	•	• <sup>3)</sup>	•	–	• <sup>5)</sup>
<b>SIMATIC S7-1500<sup>2)</sup></b>						
over Ethernet (TCP/IP)	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
over PROFIBUS network	• <sup>3)</sup>	•	• <sup>3)</sup>	•	–	• <sup>5)</sup>
<b>SIMATIC S7-300, -400, WinAC<sup>2)</sup></b>						
over Ethernet (TCP/IP)	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
over MPI or PROFIBUS network	–	•	• <sup>4)</sup>	•	–	• <sup>5)</sup>
<b>SIMATIC S7-200<sup>2)</sup></b>						
over Ethernet (TCP/IP) (MPI protocol)	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
over MPI or PROFIBUS network	• <sup>4)</sup>	• <sup>6)</sup>	• <sup>4) 6)</sup>	• <sup>6)</sup>	–	• <sup>5) 6)</sup>
over PPI network (MPI protocol)	• <sup>4)</sup>	–	•	–	–	–
over PPI network (PPI protocol)	–	• <sup>7)</sup>	• <sup>7)</sup>	• <sup>7)</sup>	–	• <sup>5) 7)</sup>

- System interface possible
- System interface not possible

<sup>1)</sup> Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable assignment

<sup>2)</sup> Controllers can be combined as desired

<sup>3)</sup> Basic Panel PN and Mobile Panel 177 PN only

<sup>4)</sup> Basic Panel DP and Mobile Panel 177 DP only

<sup>5)</sup> Connection via integrated MPI/PROFIBUS interface; in the case of a standard PC, a communications processor (CP) is to be used (e.g. CP 5612/5622)

<sup>6)</sup> Only on passive S7-200

<sup>7)</sup> Can be interfaced via PPI to max. 1 x S7-200 (PPI); network operation (parallel PG, etc.) is possible

##### Note:

For detailed information on cable assignment, refer to WinCC Online Help.

#### Overview

The SIMATIC Basic Panels, Comfort Panels and Mobile Panels, as well as the SIMATIC HMI software package for PC WinCC Runtime Advanced support the following protocols for linking the control systems of other manufacturers:

- Allen Bradley
  - Ethernet IP protocol
  - DF1 protocol
- Mitsubishi
  - MC TCP/IP protocol
  - FX protocol
- Modicon
  - Modbus TCP/IP protocol
  - Modbus RTU protocol
- Omron
  - Link/Multi-Link protocol

The following table contains more detailed information.

#### Connection overview

Controller Target hardware (PROTOCOL) (physics)	SIMATIC HMI					
	Basic Panel	Comfort Panel Outdoor	Mobile Panel 177 DP <sup>1)</sup> Mobile Panel 177 PN <sup>1)</sup>	Mobile Panel 277 <sup>1)</sup>	KTPx00(F) Mobile	WinCC Runtime Advanced
<b>Allen Bradley (Ethernet IP)</b>						
via Ethernet TCP/IP network to max. 4 x controllers <sup>2)</sup>	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
• ControllLogix 1756-L6x, -L6xS with Ethernet module 1756-ENBT						
• GuardLogix System						
• CompactLogix 1769-L2xE, -L3xE						
• CompactLogix 1769-L4x with Ethernet module 1768-ENBT						
• SLC 5/05						
• MicroLogix 1100, 1400						
<b>Allen Bradley (DF1)</b>						
to max. 1 x controller	• <sup>4) 5)</sup>	• <sup>4)</sup>	• <sup>4) 5)</sup>	• <sup>4)</sup>	–	• <sup>6)</sup>
• SLC 5/03, /04, /05						
• MicroLogix (RS 232)						
to max. 1 x controller	• <sup>4) 5)</sup>	• <sup>4)</sup>	• <sup>4) 5)</sup>	• <sup>4)</sup>	–	• <sup>7)</sup>
• PLC5/11, /20, /30, /40, /60, /80 (RS 232)						
via KF2 gateway and DH+ network to max. 4 x controllers <sup>2)</sup>	• <sup>4) 5)</sup>	• <sup>4)</sup>	• <sup>4) 5)</sup>	• <sup>4)</sup>	–	• <sup>7) 8)</sup>
• SLC 5/04						
• PLC5/11, /20, /30, /40, /60, /80 (RS 232)						
via KF2 gateway and DH+ network to max. 4 x controllers <sup>2)</sup>	• <sup>5)</sup>	•	• <sup>5)</sup>	•	–	–
• SLC 5/04						
• PLC5/11, /20, /30, /40, /60, /80 (RS 422)						
via KF3 gateway and DH485 network to max. 4 x controllers <sup>2)</sup>	• <sup>4) 5)</sup>	• <sup>4)</sup>	• <sup>4) 5)</sup>	• <sup>4)</sup>	–	• <sup>7) 8)</sup>
• SLC 500						
• MicroLogix (RS 232)						

- System interface possible
- System interface not possible

<sup>1)</sup> Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable assignment

<sup>2)</sup> The following listed controllers can be combined as required

<sup>3)</sup> Basic Panel PN and Mobile Panel 177 PN only

<sup>4)</sup> The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Comfort Panels

<sup>5)</sup> Basic Panel DP and Mobile Panel 177 DP only

<sup>6)</sup> Connection via Allen Bradley PC cable 1747 CP3

<sup>7)</sup> Connection via Allen Bradley PC cable 1784 CP10

<sup>8)</sup> For connection to KF2/KF3 gateway, a gender-changer (25-pin socket/25-pin socket) is required on the gateway side

#### Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

<http://support.automation.siemens.com/WWW/view/en/29034071>

## Operator panels

System interfaces with WinCC (TIA Portal)

### Controllers from other manufacturers

#### Overview

Controller	SIMATIC HMI					
	Basic Panel	Comfort Panel Outdoor	Mobile Panel 177 DP <sup>1)</sup> Mobile Panel 177 PN <sup>1)</sup>	Mobile Panel 277 <sup>1)</sup>	KTPx00(F) Mobile	WinCC Runtime Advanced
<b>Mitsubishi (MC TCP/IP)</b>						
via Ethernet IP network to max. 4 x controllers <sup>2)</sup>	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
• FX series FX3G, FX3U, FX3UC with Ethernet module FX3U ENET, • Series Q with Ethernet module QJ71E71-100 • iQ series/QnUD QnUDEH						
<b>Mitsubishi FX (serial)</b>						
to max. 1 x controller FX series FX1N, FX2N (RS 232)	• <sup>4)</sup>	•	• <sup>4)</sup>	•	–	• <sup>5)</sup>

- System interface possible
- System interface not possible

- <sup>1)</sup> Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable assignment
- <sup>2)</sup> The following listed controllers can be combined as required
- <sup>3)</sup> Basic Panel PN and Mobile Panel 177 PN only
- <sup>4)</sup> Basic Panel DP and Mobile Panel 177 DP only
- <sup>5)</sup> Connection using a Mitsubishi PC cable SC-09 with integrated level converter RS 232/RS 422

#### Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

Controller	SIMATIC HMI					
	Basic Panel	Comfort Panel Outdoor	Mobile Panel 177 DP <sup>1)</sup> Mobile Panel 177 PN <sup>1)</sup>	Mobile Panel 277 <sup>1)</sup>	KTPx00(F) Mobile	WinCC Runtime Advanced
<b>Modicon (MODBUS TCP/IP)</b>						
via MODBUS TCP/IP network to max. 4 x controllers <sup>2)</sup>	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
• Concept Quantum, Unity Quantum • Momentum • Premium (TSX57) • TSX Micro (TSX37) • Modicon M340 20x0 (except 2010)						
via TCP/IP Modbus Plus Bridge 174 CEV 200 40 and MODBUS PLUS network to max. 4 x controllers <sup>2)</sup>	• <sup>3)</sup>	•	• <sup>3)</sup>	•	•	•
• Concept Quantum, Unity Quantum • Momentum • Compact						
<b>Modicon (MODBUS RTU)</b>						
to max. 1 x controller • Concept Quantum • Momentum • Compact (RS 232)	• <sup>4)</sup> <sup>5)</sup>	• <sup>4)</sup>	• <sup>4)</sup> <sup>5)</sup>	• <sup>4)</sup>	–	•
via bridge BM85-000 or PLC with bridge functionality and MODBUS PLUS network to max. 4 x controllers <sup>2)</sup>	• <sup>4)</sup> <sup>5)</sup>	• <sup>4)</sup>	• <sup>4)</sup> <sup>5)</sup>	• <sup>4)</sup>	–	•
• Concept Quantum • Compact (RS 232)						

- System interface possible
- System interface not possible

- <sup>1)</sup> Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable assignment
- <sup>2)</sup> The following listed controllers can be combined as required
- <sup>3)</sup> Basic Panel PN and Mobile Panel 177 PN only
- <sup>4)</sup> The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Mobile Panels
- <sup>5)</sup> Basic Panel DP and Mobile Panel 177 DP only

#### Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

<http://support.automation.siemens.com/WW/view/en/29034071>

#### Overview

Controller Target hardware (PROTOCOL) (physics)	SIMATIC HMI					
	Basic Panel	Comfort Panel Outdoor	Mobile Panel 177 DP <sup>1)</sup> Mobile Panel 177 PN <sup>1)</sup>	Mobile Panel 277 <sup>1)</sup>	KTPx00(F) Mobile	WinCC Runtime Advanced
<b>Omron (Link/Multi Link)</b>  to max. 1 x controller • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 232)	–	• <sup>3)</sup>	• <sup>3)</sup> <sup>4)</sup>	• <sup>3)</sup>	–	•
via converter NT-AL001 and RS 422 network to max. 4 x controllers <sup>2)</sup> • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 232)	–	• <sup>3)</sup>	• <sup>3)</sup> <sup>4)</sup>	• <sup>3)</sup>	–	•
via RS 422 network to max. 4 x controllers <sup>2)</sup> • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G (RS 422)	• <sup>4)</sup>	•	• <sup>4)</sup>	• <sup>4)</sup>	–	–
via RS422 network to max. 4 x controllers <sup>2)</sup> • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 422)	–	–	• <sup>4)</sup>	• <sup>4)</sup>	–	–

- System interface possible
- System interface not possible

- <sup>1)</sup> Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable assignment
- <sup>2)</sup> The controllers listed below can be combined in any way required; connection via RS 422 interface of the controller or via RS 422 module
- <sup>3)</sup> The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Mobile Panels
- <sup>4)</sup> Basic Panel DP and Mobile Panel 177 DP only

#### Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:

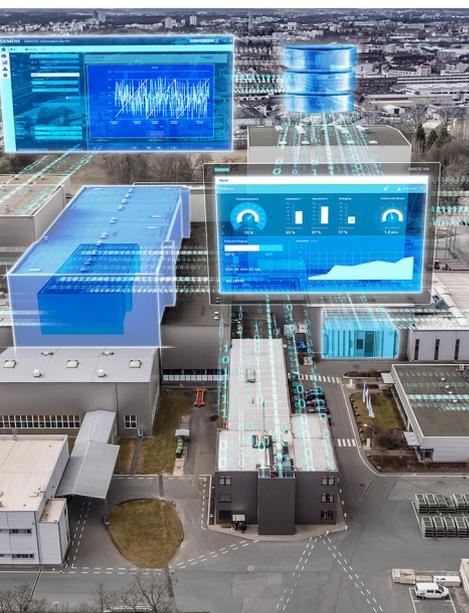
<http://support.automation.siemens.com/WW/view/en/29034071>

## Operator panels

### Notes

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## HMI software and automation software



<b>3/2</b>	<b>HMI software</b>	<b>3/106</b>	<b>SIMATIC WinCC Open Architecture</b>
<b>3/4</b>	<b>TIA Portal</b>	3/107	<u>SIMATIC WinCC Open Architecture Software and Software Services</u>
3/5	SIMATIC WinCC Unified (TIA Portal)	3/121	WinCC Open Architecture Single Station
3/5	SIMATIC WinCC Unified Engineering	3/122	WinCC Open Architecture Server
3/6	SIMATIC WinCC Unified Runtime	3/128	WinCC Open Architecture User Interfaces
3/9	SIMATIC WinCC Unified options	3/135	WinCC Open Architecture Drivers
3/11	WinCC Unified Audit Basis	3/144	WinCC Open Architecture Add-ons
3/12	WinCC Unified Clients	3/157	WinCC Open Architecture IPC Packages
3/14	WinCC Unified Database Storage	3/159	WinCC Open Architecture Development Packages
3/15	WinCC Unified Logging	3/161	WinCC Open Architecture Solution Frameworks
3/16	WinCC Unified Parameter Control	3/164	SIMATIC WinCC Open Architecture Services
3/17	WinCC Unified Report Execution	3/165	WinCC Open Architecture Support
3/18	WinCC Unified Collaboration	3/167	WinCC Open Architecture Consulting
3/19	SIMATIC WinCC Unified Plant Intelligence options	3/168	WinCC Open Architecture Solution
3/20	WinCC Unified Calendar	3/169	WinCC Open Architecture Trainings
3/21	WinCC Unified Performance Insight	3/173	WinCC Open Architecture Travel costs
3/22	Industrial Edge apps for SIMATIC WinCC Unified	3/174	WinCC Open Architecture Trade goods
3/22	SIMATIC WinCC Unified Engineering for Industrial Edge <b>NEW</b>	3/176	SIMATIC WinCC OA IOT Suite
3/23	SIMATIC WinCC Unified Runtime for Industrial Edge <b>NEW</b>	3/179	WinCC OA IOT Box
3/24	<u>SIMATIC WinCC (TIA Portal)</u>	3/181	WinCC OA IOT OPA
3/25	SIMATIC WinCC (TIA Portal) Engineering	<b>3/182</b>	<b>SCADA software</b>
3/30	SIMATIC WinCC (TIA Portal) Runtime	3/182	SIMATIC Information Server
3/31	WinCC Runtime Advanced	3/184	SIMATIC Process Historian
3/36	WinCC Runtime Professional	3/186	WinCC IndustrialDataBridge
3/43	WinCC Runtime communication	3/188	WinCC WebUX
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3/51	SIMATIC Logon	3/191	PM-CONTROL
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<b>3/75</b>	<b>SIMATIC WinCC V7/V8 <b>NEW</b></b>	3/210	<u>WinCC Add-ons and partner management</u>
3/76	SIMATIC WinCC V7/V8 basic software	3/212	<u>SIMATIC ProAgent process diagnostics software</u>
3/86	SIMATIC WinCC V7/V8 options	3/213	SIMATIC WinCC/ProAgent
3/87	SIMATIC TeleControl	3/217	SIMATIC Notifier
3/91	WinCC/Audit & WinCC/ChangeControl	<b>3/219</b>	<b>Automation software</b>
3/94	WinCC/Calendar Scheduler	3/219	<u>BRAUMAT / SSTAR</u>
3/95	WinCC/Connectivity Pack & WinCC Connectivity Station	3/222	<u>Software for energy management</u>
3/97	WinCC/Event Notifier	3/223	SIMATIC Energy Suite
3/98	WinCC/Open Development Kit (ODK)	3/225	SIMATIC Energy Manager
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3/103	WinCC/Server		
3/105	WinCC/UserArchives		

# HMI software

## Introduction

### Overview

#### **SIMATIC HMI – Efficient to a new level**

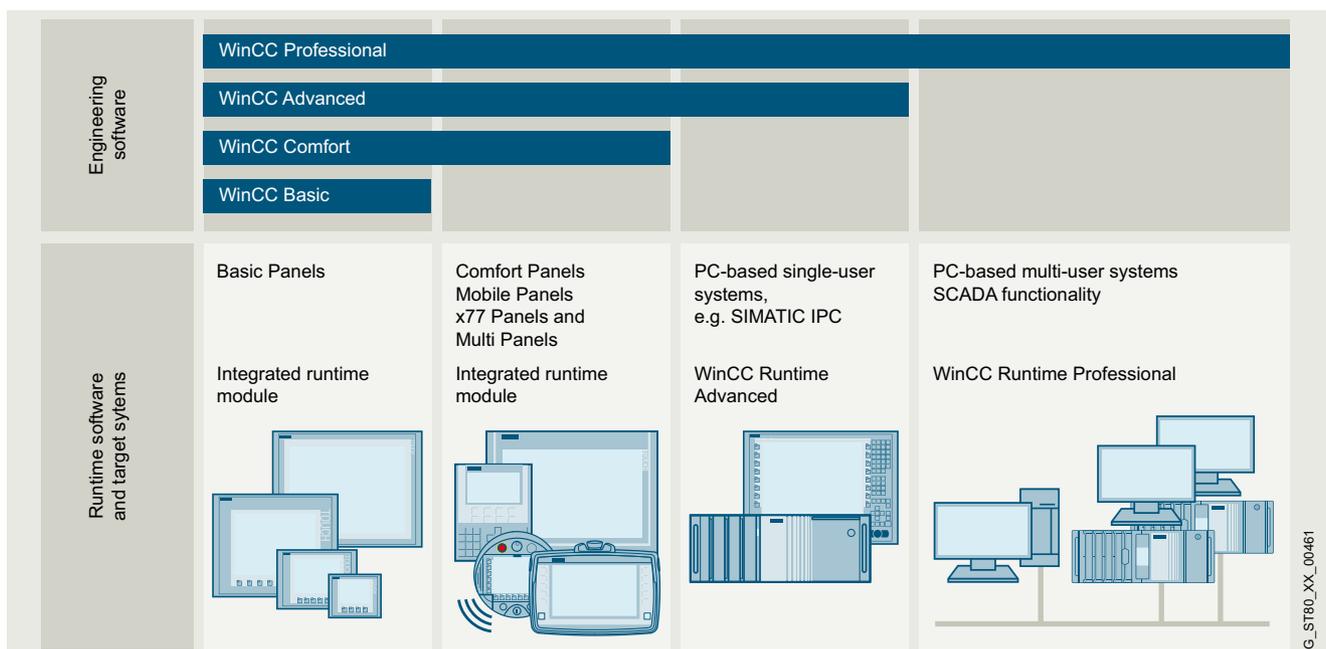
Innovative, efficient, scalable and open software for the machine-level area and for SCADA solutions.

With the SIMATIC WinCC (TIA Portal), SIMATIC WinCC and SIMATIC WinCC Open Architecture product families, SIMATIC HMI offers visualization and configuration software for the entire HMI spectrum, from the machine-level area right up to SCADA systems:

- SIMATIC WinCC (TIA Portal)  
Creation of applications in the machine-level area and of process visualization or SCADA systems

- SIMATIC WinCC V7/V8 SCADA system  
Creation of process visualization or SCADA systems
- SIMATIC WinCC Open Architecture SCADA system  
Creation of applications with a high demand for customer-specific adaptations, large and/or complex applications, as well as projects that demand special system requirements and functions.

<http://www.siemens.com/hmi-software>



#### **SIMATIC WinCC (TIA Portal)**

WinCC (TIA Portal) is based on the central engineering framework Totally Integrated Automation Portal (TIA Portal) which offers users a uniform, efficient and intuitive solution to all their automation tasks. SIMATIC WinCC (TIA Portal) covers applications in the machine-level area and applications in the process visualization or SCADA environment. WinCC (TIA Portal) offers the uniform and scalable configuration tools WinCC Basic, Comfort, Advanced and Professional for configuring the current SIMATIC HMI operator panels:

- SIMATIC Basic Panels (without Key Panel)
- SIMATIC Comfort Panels
- SIMATIC Mobile Panels
- PC-based systems for the machine-level area
  - SIMATIC WinCC Runtime Advanced
  - SIMATIC WinCC Runtime Professional

In addition, WinCC (TIA Portal) offers:

- Intuitive user interface with maximum degree of operator friendliness
- Clear configuration of devices and network topologies
- Shared data management and uniform symbols via controller and HMI

- Optimum interaction with the controller and HMI in a working environment
- Powerful editors for efficient engineering
- Integrated mass data operations for efficient configuration
- System diagnostics as an integral component
- Comprehensive library concept

<http://www.siemens.com/wincc-tia-portal>

#### **SIMATIC SCADA Systems**

The data volume in modern industrial plants is growing continuously – and along with it the challenges faced by the SCADA solutions used: Enormous data volumes must be administered and archived for the long term. This is accompanied by increasing demands on performance. Technologies, including some from the consumer environment, are finding their way into industry. Globalization calls for higher-level SCADA systems that can be used worldwide – and the need for mobile access to plant information is also growing. On top of all these requirements – in these times of ever increasing (energy) costs – is the need to improve energy efficiency and productivity.

## Overview

### **With SIMATIC SCADA systems, you are fit for the future**

#### Efficiency

As a key to greater productivity, SIMATIC SCADA systems combine efficient engineering with high-performance archiving and maximum data security. These features provide the basis for efficient operations management and intelligent production analyses.

#### Scalability

We offer stationary and mobile solutions to cover increasing demands – security guaranteed. In this area, we apply more than 15 years of SCADA know-how from all industry sectors. No matter how large or small your request is – we have the right answer.

#### Innovation

Stay informed with mobile SCADA solutions anywhere and at any time – including with existing tablet and smartphone hardware. The use of multi-touch gestures in the industrial environment opens the door for modern operating concepts.

#### Openness

Since international standards and system-internal script and programming interfaces are supported, it is easy to implement special requests.

<http://www.siemens.com/scada>

### **SIMATIC WinCC V7/V8 SCADA system**

The process visualization or SCADA system for visualizing and operating processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems with redundant servers and cross-location solutions with web clients. WinCC is the information hub for company-wide, vertical integration (process visualization and platform for IT & business integration).

- All HMI functions on-board with industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration and visualization (WinCC Basic Software).
- Company-wide, flexible client/server structures with operator stations on the web, distributed servers and data integrity thanks to redundancy
- Easy to integrate over standard interfaces such as OPC (OLE for Process Control), WinCC OLE DB, VBA (Visual Basic for Applications), VB script, C-API (ODK)
- Integration platform in the company thanks to the Historian functionality integrated into WinCC based on the Microsoft SQL Server, standard and programming interfaces and tools and clients for evaluation
- Modular expansion with options and add-ons as well as individual function extensions with VB Script, Visual Basic for Applications, C-API (ODK) and integration of ActiveX elements.

<http://www.siemens.com/wincc-v7>

### **SIMATIC WinCC Open Architecture SCADA system**

The SIMATIC WinCC Open Architecture (WinCC OA) SCADA system is designed for applications with high demand for customer-specific adaptations, large and/or complex applications, as well as projects that demand special system requirements and functions.

SIMATIC WinCC Open Architecture demonstrates its high performance in networked and redundant high-end control systems in particular. From the field level to the control station, from the machine to the company headquarters – integrated, high-performance communication is ensured. In every situation, a high level of availability, reliable information, fast interaction and user friendliness are guaranteed. Applications can also be changed without interrupting the process. Profitability, efficiency and safety are therefore always in equilibrium.

With its hot standby redundancy and Disaster Recovery system, SIMATIC WinCC Open Architecture demonstrates its reliability in a wide range of business-critical applications.

SIMATIC WinCC Open Architecture can be used on any platform and is available for Windows, Linux, iOS and Android.

SIMATIC WinCC Open Architecture is open for independent in-house developments, which means that ideas can be turned into new applications quickly and easily.

- Object orientation supports efficient engineering and flexible plant expansion
- For large, distributed systems with up to 2 048 servers
- Scalable – from a small single-user system up to a networked, redundant high-end system
- WinCC OA can be used on any platform, and is available for Windows, Linux, iOS and Android
- Hot standby redundancy and Disaster Recovery system assure maximum fail-safety and availability
- WinCC OA offers a platform for customer-specific solutions
- Extensive driver and interfacing options: S7, SINAUT, OPC, OPC UA, Modbus, IEC 60870-5-101/104, DNP3, BACnet, and more than 25 native drivers available
- Flexible logging of data either in file-based value archive or in a relational database (ORACLE)
- Create and reuse your own libraries – working with already existing object libraries and easy, individual modifications (customer design, specific changes)
- Modular expansion using options and add-ons as well as individual function extensions by means of own script language CONTROL, API (C++) and integration of ActiveX elements
- Integration of TIA Projects using TIA Importer for S7-1200 and S7-1500

<http://www.siemens.com/wincc-open-architecture>

### **PC-based HMI solutions (machine-level / SCADA) with SIMATIC industrial PCs**

Our reliable and innovative SIMATIC IPC industrial PCs are the optimal PC hardware platforms. SIMATIC industrial PCs are offered with low-cost software packages. For Runtime versions with SIMATIC WinCC V7/V8, WinCC Runtime Professional or WinCC Runtime Advanced visualization software products, as well as the Software Controller.

The simultaneous order of industrial PC and software package results in a price advantage.

#### SIMATIC SCADA and SIMATIC IPCs

Perfect interaction for optimum productivity.

- Price advantage as "Package" comprising hardware and software
- System-tested solutions reduce testing overhead
- Simple ordering and synchronized logistics

Only if ordered together with the SIMATIC IPC.

<http://www.siemens.com/scada-ipc>

## HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

### Introduction

#### Overview

##### ***SIMATIC WinCC Unified (TIA Portal)***

SIMATIC WinCC Unified is the new visualization system which permits users to competently meet the challenges of digitalization in machine and plant construction. SIMATIC WinCC Unified combines the know-how accumulated from more than 30 years of experience in the area of Human Machine Interface with state-of-the-art hardware and software technologies.

Highlights:

- The latest technology with proven engineering
  - The runtime of the newly developed SIMATIC WinCC Unified visualization software is based on native web technologies such as HTML5, SVG and JavaScript.
  - Visualization is created simply and efficiently with SIMATIC WinCC Unified Engineering in the proven Totally Integrated Automation Portal (TIA Portal).
- Simple and unlimited scalability
  - Simple and consistently scalable for all applications, from the operator panel directly on the machine through to the complex SCADA solution.
  - SIMATIC Unified Comfort Panels and SIMATIC IPCs are provided to ensure optimum utilization of the performance capability of WinCC Unified.
  - Expandable to meet every demand and diverse possibilities for the implementation of requirements using open interfaces.
  - Through flexible data exchange, the system facilitates the interaction of all devices during operation and allows direct access to authorized users from any modern web browser – without the need for any additional installation.

<http://www.siemens.com/wincc-unified-system>

## Overview

### **SIMATIC WinCC Unified Engineering**

- Proven engineering in the TIA Portal allows a consistent, efficient, and intuitive solution for all automation tasks.
- Together with the STEP 7 (TIA Portal) products, WinCC (TIA Portal) forms the optimum solution for integrated engineering.
- WinCC Unified Engineering is the configuration software for all applications, from the operator panel directly on the machine through to the complex SCADA solution.
- WinCC Unified Engineering also supports configuration of the SIMATIC Basic Panel, SIMATIC Comfort Panel and WinCC Runtime Advanced.

## Application

Depending on the selected product, various target systems can be configured:

- WinCC Unified Comfort Engineering
  - Unified Comfort Panels
  - Additionally Basic Panels, Comfort Panels and Mobile Panels from WinCC Comfort
- WinCC Unified PC Engineering
  - WinCC Unified PC and Unified Comfort Panels
  - Additionally the Basic Panels, Comfort Panels, Mobile Panels and WinCC Runtime Advanced

## Ordering data

Ordering data	Article No.	Ordering data	Article No.
<b>SIMATIC WinCC Unified Engineering System</b> <b>Base Packages V18</b> Data storage medium <ul style="list-style-type: none"> <li>• WinCC Unified Comfort V18</li> <li>• WinCC Unified PC (10k) ES V18</li> <li>• WinCC Unified PC (100k) ES V18</li> <li>• WinCC Unified PC (max.) ES V18</li> </ul> Download <sup>1)</sup> <ul style="list-style-type: none"> <li>• WinCC Unified Comfort V18</li> <li>• WinCC Unified PC (10k) ES V18</li> <li>• WinCC Unified PC (100k) ES V18</li> <li>• WinCC Unified PC (max.) ES V18</li> </ul>		<b>Upgrades V16...V17 -&gt; V18</b> Data storage medium <ul style="list-style-type: none"> <li>• WinCC Unified Comfort ES Upgrade</li> <li>• WinCC Unified PC (10k) ES Upgrade</li> <li>• WinCC Unified PC (100k) ES Upgrade</li> <li>• WinCC Unified PC (max.) ES Upgrade</li> </ul> Download <sup>1)</sup> <ul style="list-style-type: none"> <li>• WinCC Unified Comfort ES Upgrade</li> <li>• WinCC Unified PC (10k) ES Upgrade</li> <li>• WinCC Unified PC (100k) ES Upgrade</li> <li>• WinCC Unified PC (max.) ES Upgrade</li> </ul>	
<ul style="list-style-type: none"> <li>6AV2151-0XB01-8AA5</li> <li>6AV2153-2FB01-8AA5</li> <li>6AV2153-2GB01-8AA5</li> <li>6AV2153-0XB01-8AA5</li> </ul>		<ul style="list-style-type: none"> <li>6AV2151-0XB31-8AA5</li> <li>6AV2153-2FB31-8AA5</li> <li>6AV2153-2GB31-8AA5</li> <li>6AV2153-0XB31-8AA5</li> </ul>	
<b>PowerPacks V16..V18</b> Data storage medium <ul style="list-style-type: none"> <li>• WinCC Comfort -&gt; WinCC Unified PC (10k)</li> <li>• WinCC Unified PC (10k) -&gt; WinCC Unified PC (100k)</li> <li>• WinCC Unified PC (100k) -&gt; WinCC Unified PC (max.)</li> <li>• WinCC Advanced and WinCC Prof. 512..4096 -&gt; WinCC Unified PC (100k)</li> <li>• WinCC Prof. max -&gt; WinCC Unified PC (max.)</li> </ul> Download <sup>1)</sup> <ul style="list-style-type: none"> <li>• WinCC Comfort -&gt; WinCC Unified PC (10k)</li> <li>• WinCC Unified PC (10k) -&gt; WinCC Unified PC (100k)</li> <li>• WinCC Unified PC (100k) -&gt; WinCC Unified PC (max.)</li> <li>• WinCC Advanced and WinCC Prof. 512..4096 -&gt; WinCC Unified PC (100k)</li> <li>• WinCC Prof. max -&gt; WinCC Unified PC (max.)</li> </ul>		<b>Base Packages V17</b> Data storage medium <ul style="list-style-type: none"> <li>• WinCC Unified Comfort V17</li> <li>• WinCC Unified PC (10k) ES V17</li> <li>• WinCC Unified PC (100k) ES V17</li> <li>• WinCC Unified PC (max.) ES V17</li> </ul> Download <sup>1)</sup> <ul style="list-style-type: none"> <li>• WinCC Unified Comfort V17</li> <li>• WinCC Unified PC (10k) ES V17</li> <li>• WinCC Unified PC (100k) ES V17</li> <li>• WinCC Unified PC (max.) ES V17</li> </ul>	
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		<ul style="list-style-type: none"> <li>6AV2151-0XB00-0LY5</li> <li>6AV2153-2GB00-0LY5</li> <li>6AV2153-2FB00-0LY5</li> <li>6AV2153-0XB00-0LY5</li> </ul>	

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

More information is available on the internet under

<http://www.siemens.com/wincc-unified-system>.

## HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

### SIMATIC WinCC Unified Runtime

#### Overview

##### **SIMATIC WinCC Unified Runtime**

A simple and consistently scalable PC-based visualization system for all applications, from single-user solutions directly on the machine through to complex SCADA solutions.

The basic package includes visualization, communication, alarms/messages, report creation, system structuring, and user administration.

Furthermore, a client for local operation, an additional WinCC Unified Client Operate for remote operator control and monitoring, and a WinCC Unified Client Monitor for monitoring only are also included in the basic package. Additional clients can be enabled with a license.

SIMATIC WinCC Unified is based on native web technologies such as HTML5, SVG and JavaScript. The visualization can be accessed via any modern web browser – without the need for additional installation.

Open interfaces and option packages allow the expansion and implementation of industry-specific application cases. Once created, components can be used comprehensively on all platforms, whether Panel or PC.

#### Benefits

Functions for all visualization tasks:

- Operator functions
- Graphics and trend displays
- Alarm logging
- Archiving (optional)
- Management of parameter sets (optional)
- Audit (optional)
- Report creation
- Automated report creation (optional)
- User administration
- Flexible runtime

Functionality with Java scripts:

- Consistently scalable expandable from single-user station to distributed systems
- Process visualization using any modern HTML5-capable web browser

Part of the Totally Integrated Automation Portal:

- Support of the SIMATIC S7-1200/1500 and the SIMATIC S7-300/400 Controllers
  - Access to tags with symbolic and absolute addressing
  - Full text alarms of the SIMATIC S7-1500 Controller
- Support of OPC UA DA (Client and Server), OPC UA A&C (Client and Server)

Open standards for easy integration:

- Efficient real-time database (option)
- Application Program Interface (API)
- OpenPipe interface
- Integration of your own HTML5 controls in the user interface of WinCC Unified

#### Design

SIMATIC WinCC Unified PC is available as a software package with 150, 500, 1 000, 2 500, 5 000, 10 000, 50 000 or 100 000 PowerTags.

Additionally, a license for the maximum number of PowerTags within the system limit is also available. Data points with an external connection are designated as PowerTags.

At the same time, internal tags which are exempt from the PowerTag license are provided at no charge.

The basic system can be extended as required with option packages.

##### **Requirements**

SIMATIC WinCC Unified Runtime Station:

The performance is determined primarily by the hardware equipment. A powerful processor and more work memory should be selected for larger projects and visualization tasks, in particular. Depending on the options used, e.g. logging, additional free hard disk memory is required.

Hardware requirements (PC systems)	SIMATIC WinCC Unified Runtime
Processor type	x64 processor, Intel Core i3 or better is recommended for small applications, also Intel Atom or Intel Celeron
RAM	4 GB or better
Free hard disk space	10 GB, 8GB CF or better



**HMI software**

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

**SIMATIC WinCC Unified Runtime****Ordering data****Article No.****Article No.****SIMATIC WinCC Unified Runtime System V18 ASIA****Base Packages**

Data storage medium

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

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 6AV2154-1GB01-8BA0  
 6AV2154-2GB01-8BA0  
 6AV2154-0XB01-8BA0

**SIMATIC WinCC Unified Runtime System V17****Base Packages**

Data storage medium

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

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 6AV2154-1GB01-7AA0  
 6AV2154-2GB01-7AA0  
 6AV2154-0XB01-7AA0

Download <sup>1)</sup>

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
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- WinCC Unified PC (max.) RT

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 6AV2154-2FB01-7LA0  
 6AV2154-1GB01-7LA0  
 6AV2154-2GB01-7LA0  
 6AV2154-0XB01-7LA0

**SIMATIC WinCC Unified Runtime System V17 ASIA****Base Packages**

Data storage medium

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

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**SIMATIC WinCC Unified Runtime System****Upgrades V16..V17 to V18**

Data storage medium

- WinCC Unified PC (150) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
- WinCC Unified PC (50k) RT
- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

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 6AV2154-2FB31-8AA0  
 6AV2154-1GB31-8AA0  
 6AV2154-2GB31-8AA0  
 6AV2154-0XB31-8AA0

Download <sup>1)</sup>

- WinCC Unified PC (150) RT
- WinCC Unified PC (500) RT
- WinCC Unified PC (1 000) RT
- WinCC Unified PC (2 500) RT
- WinCC Unified PC (5 000) RT
- WinCC Unified PC (10k) RT
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- WinCC Unified PC (100k) RT
- WinCC Unified PC (max.) RT

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 6AV2154-2FB31-8LA0  
 6AV2154-1GB31-8LA0  
 6AV2154-2GB31-8LA0  
 6AV2154-0XB31-8LA0

**SIMATIC WinCC Unified Runtime System****PowerPacks**

Data storage medium

- WinCC Unified PC (150->500) RT PowerPack (V16..V18)
- WinCC Unified PC (500->1k) RT PowerPack (V16..V18)
- WinCC Unified PC (1k->2.5k) RT PowerPack (V16..V18)
- WinCC Unified PC (2.5k->5k) RT PowerPack (V16..V18)
- WinCC Unified PC (5k->10k) RT PowerPack (V16..V18)
- WinCC Unified PC (10k->50k) RT PowerPack (V16..V18)
- WinCC Unified PC (50k->100k) RT PowerPack (V16..V18)
- WinCC Unified PC (100k->max.) RT PowerPack (V16..V18)

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 6AV2154-2EB20-0AB0  
 6AV2154-2MB20-0AB0  
 6AV2154-1FB20-0AB0  
 6AV2154-2FB20-0AB0  
 6AV2154-1GB20-0AB0  
 6AV2154-2GB20-0AB0  
 6AV2154-0XB20-0AB0

Download <sup>1)</sup>

- WinCC Unified PC (150->500) RT PowerPack (V16..V18)
- WinCC Unified PC (500->1k) RT PowerPack (V16..V18)
- WinCC Unified PC (1k->2.5k) RT PowerPack (V16..V18)
- WinCC Unified PC (2.5k->5k) RT PowerPack (V16..V18)
- WinCC Unified PC (5k->10k) RT PowerPack (V16..V18)
- WinCC Unified PC (10k->50k) RT PowerPack (V16..V18)
- WinCC Unified PC (50k->100k) RT PowerPack (V16..V18)
- WinCC Unified PC (100k->max.) RT PowerPack (V16..V18)

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 6AV2154-1FB20-0LB0  
 6AV2154-2FB20-0LB0  
 6AV2154-1GB20-0LB0  
 6AV2154-2GB20-0LB0  
 6AV2154-0XB20-0LB0

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

**More information**

More information is available on the internet under

<http://www.siemens.com/wincc-unified-system>.

## Overview

### **SIMATIC WinCC Unified options**

#### WinCC Unified Audit Basis

Contains the functionality to trace all operator actions related to value changes on tags. Other entries in the Audit Trail can be made by system and script functions.

#### Licensing:

One RT license is required for each RT station (Panel or PC) to be monitored. The WinCC Unified Report license is required for automatic creation of reports.

When upgrading to a new WinCC Unified version, no additional upgrade license is required. This option is upgraded with the upgrade license of the Unified base system.

#### WinCC Unified Clients

WinCC Unified Client is the graphical user interface for interacting with WinCC Unified Runtime.

The WinCC Unified Client accesses the WinCC Unified Runtime via web mechanisms (on the runtime station itself or via a network) for operator control and monitoring of machines and plants. Using the standard web mechanisms, the WinCC Unified images can be displayed on any PCs or mobile devices in the HTML5-capable browser. No additional know-how of the web is necessary for engineering of the WinCC Unified Screens in the TIA Portal.

A distinction is made between WinCC Unified Client Operate and WinCC Unified Client Monitor.

#### WinCC Unified Client Operate

The WinCC Unified Client Operate is used for operator control and monitoring of the WinCC Unified Runtime (Panel or PC).

#### WinCC Unified Client Monitor

The WinCC Unified Client Monitor is used purely for monitoring the WinCC Unified Runtime (PC).

It can be navigated using the operating screens, but the connection to the field for tags is no longer active. Moreover, defined functions, e.g. acknowledgment in the alarm and tag logging control is blocked.

#### Licensing:

A (server-based) license of the WinCC Unified Runtime is required for the WinCC Unified Client.

The client licenses are provided on the runtime station (the server or HMI Unified Comfort Panel) and are graded in accordance with the number of simultaneous WinCC Unified Web Client access operations.

The number of version-independent licenses can be increased at any time via additive WinCC Unified Client licenses (countable licenses).

WinCC Unified Client Operate:

License packages in stages of 1, 3, 10, 30 and 100 WinCC Unified Clients Operate.

WinCC Unified Client Monitor:

License packages in stages of 1, 3 and 10 WinCC Unified Clients Monitor.

Client accesses to the PC Runtime (PC) contained in the WinCC Unified PC Runtime:

- 1 x WinCC Unified Client Operate for local operator control and monitoring
- 1 x WinCC Unified Client Operate for operator control and monitoring via the web client (local or remote)
- 1 x WinCC Unified Client Monitor for monitoring via the web client (local or remote)

Access to the Panel Runtime (Panel) contained in the HMI Unified Comfort Panel:

- 1 x local operator control and monitoring on the HMI Unified Comfort Panel
- 1 x WinCC Unified Client Operate for operator control and monitoring via the web client (remote)
- The Unified Comfort Panel supports up to 3 web clients

#### WinCC Unified Database Storage

WinCC Unified PC uses a file-based database (SQLite) in the basic system for the archiving of process values and messages. The WinCC Unified Databased Storage option is available for use with greater quantity frameworks or lengthy archiving periods. All archive data is stored in an MS SQL server after installing the option and the license.

#### Licensing:

WinCC Unified PC: One license per WinCC Unified PC Runtime is required for activating the functionality.

When upgrading to a new WinCC Unified version, an additional upgrade license is required.

## HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

### SIMATIC WinCC Unified options

#### Overview

##### WinCC Unified Logging

Option for WinCC Unified for archiving of process values and messages. Process value archiving for the recording, compression and storage of measured values and alarm logging to record events. Online evaluation of process value archives and alarm logs with display and possible operations, for example representation of trends and display of tables, as well as further processing. Powerful standard functions permit user-friendly and flexible utilization of the logs.

##### Licensing:

SIMATIC Unified Comfort Panels:

- Messages can be logged without an additional license.
- Process values (tags) can be archived without an additional license.
- Utilization of file-based archiving, with the possibility of a maximum 5 000 logging tags

WinCC Unified PC:

- Messages can be logged without an additional license.
- Graded licenses for the number of logging tags used are available for the archiving of process values (tags). This number can be increased at any time via additive WinCC Unified Logging Tags (countable licenses).
- The licenses are divided into 100, 500, 1 000, 5 000, 10 000 and 30 000 logging tags.
- A maximum of 5 000 logging tags are possible with utilization of the file-based archiving (default)
- When using the database-based archiving (optional), the number of logging tags is limited by the performance capability of the PC system being used.

##### WinCC Unified Parameter Control

Option for SIMATIC WinCC Unified for the generation and management of parameter sets which contain associated machine or production data. The structure of a user data type (PLC UDT or HMI UDT) can be adopted for one or more parameter set types and can be changed automatically using a new user data type version.

##### Licensing:

SIMATIC Unified Comfort Panels:

- No license is required

WinCC Unified PC:

- One license per WinCC Unified PC Runtime is required for activating the functionality. When upgrading to a new WinCC Unified version, no additional upgrade license is required. This option is upgraded with the upgrade license of the Unified base system.

##### WinCC Unified Report Execution

Excel Addin is included in the scope of supply of WinCC Unified to connect WinCC Unified Tags, Logging Tags and Alarms with an Excel report template. The report templates are imported into the WinCC Unified Runtime without the engineering system at runtime, and connected with execution parameters. Afterwards, reports are automatically created cyclically, needs-oriented or event-oriented, stored in Excel and/or PDF format and/or sent by Email.

##### Licensing:

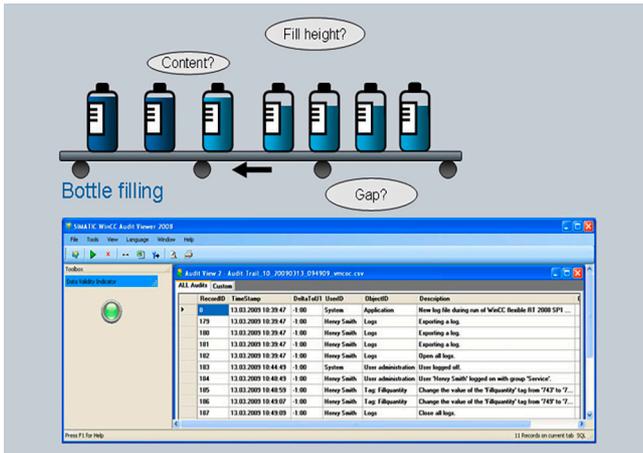
No license is required for the creation of reports in Excel and manual execution of the reports in Excel or from the Report Runtime Control. A WinCC Unified Report Execution license (Panel or PC) is required for the automated cyclic report depending on requirements and events. When upgrading to a new WinCC Unified version, no additional upgrade license is required. This option is upgraded with the upgrade license of the Unified base system.

##### WinCC Unified Collaboration

##### Licensing:

Each WinCC Unified Station (Panel or PC) to be connected via Collaboration requires a corresponding license. The scope and type of exchanged data is not limited. The configuration of Collaboration in the engineering system does not require additional licensing. When upgrading to a new WinCC Unified version, no additional upgrade license is required. This option is upgraded with the upgrade license of the Unified base system.

## Overview



WinCC TIA RT Audit

## WinCC Unified Audit Basis

Contains the functionality to trace all operator actions related to value changes on tags. Other entries in the Audit Trail can be made by system and script functions.

Tracing can be used to determine who performed which operations on the machine and when.

In addition, the user can perform activities of an individual nature at specific objects or events, such as pressing a function button, moving sliders and other actions, while using a so-called audit entry function to record these activities in the Audit Trail.

An RT license is required for each RT station (server) to be monitored. The WinCC Unified Report license is required for automatic creation of reports.

When upgrading to a new WinCC Unified version, no additional upgrade license is required. This option is upgraded with the upgrade license of the Unified base system.

## Benefits

- Recording of changes to process data manually, automated or via script
- Commenting changes to process data
- Quick and easy traceability configuration
- Reduction in plant downtimes thanks to fast analysis of the Audit Trail information recorded gap-free
- The Audit Trail is furnished with a security mechanism with which subsequent manipulations can be detected.
- Gap-free and automated recording of value changes on tags
- Additional entries through a system function or script function
- The Audit Trail entry can be acknowledged without a comment, with an individual comment or with a pre-defined comment from a configurable text list
- Task of Audit Trail with WinCC Unified Report in an Excel or PDF report during runtime
- The reports can be sent via email

## Ordering data

## Article No.

### WinCC Unified Audit Basis V18

- Data storage medium
- Download

6AV2157-0BL01-8AB0  
6AV2157-0BL01-8LB0

### WinCC Unified Audit Basis V17

- Data storage medium
- Download

6AV2157-0BL01-7AB0  
6AV2157-0BL01-7LB0

## HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

### SIMATIC WinCC Unified options > WinCC Unified Clients

#### Overview

##### **WinCC Unified Clients**

The WinCC Unified Client is the graphical interface for the WinCC Unified Runtime.

The WinCC Unified Client accesses the WinCC Unified Runtime via web mechanisms (on the Runtime Station itself or via a network) to operate and monitor machines and plants. Using the standard web mechanisms, the WinCC Unified images can be displayed on any PCs or mobile devices in the HTML5-capable browser.

No additional know-how of the web is necessary for engineering of the WinCC Unified Screens in the TIA Portal.

Two types of clients are available:

- WinCC Unified Client for operator control and monitoring processes
- WinCC Unified Client Monitor for monitoring only (View-Only)

##### **Licensing**

###### SIMATIC HMI Unified Comfort Panels:

A (Panel-based) license of the Panel is required for the WinCC Unified Client.

A WinCC Unified Client (Operate) license is already included with each Panel. It can be extended with the WinCC Unified Client licenses.

Three clients are permissible on the WinCC Unified Comfort Panel.

###### SIMATIC WinCC Unified PC:

A (server-based) license of WinCC Unified PC Runtime is required for the WinCC Unified Client.

Two WinCC Unified Client licenses and one WinCC Unified Client Monitor license are already included with each WinCC Unified PC Runtime licensing:

- For local operation on the runtime station
- For remote operation via an additional independent client.
- For local or remote monitoring via an additional independent Monitor client.

The client licenses are located on the WinCC Unified RT Station or the Unified Comfort Panel and are graded according to the number of simultaneous WinCC Unified web client access operations.

The number can be increased at any time via additive WinCC Unified Client licenses (countable licenses).

Version-independent license packages are available with 1, 3, 10, 30 or 100 WinCC Unified Clients or 1, 3, 10 WinCC Unified Monitor Clients.

#### Benefits

##### **WinCC Unified Client (Operate)**

- Parallel, global web-based operator control and monitoring
- Highest level of flexibility
  - Independent of browser and platform (PCs, tablets, smartphones)
  - No installation of software required on the client device, a web browser is generally present
- Minimized maintenance costs with central software administration on the server
  - No maintenance workload on the client
  - No engineering on the client side
- Scalability
  - Supplementation of new operating stations without installation
  - Central license management on the runtime station (the server)
- Independent of version between WinCC Unified PC Runtime and WinCC Unified Client
- High Internet security standards
- Fast update rates (e.g. after value change, picture change)
- Efficient remote diagnostics for production plant through web access
- Future-proof due to the utilization of accepted standards (HTML5, SVG)

##### **WinCC Unified Client (Monitor)**

- The WinCC Unified Client Monitor is identical to the Unified Client, but write access to the process tag is blocked
- Setting the monitoring right per user
- Write access to external tag connections is blocked
- Acknowledge and Reset of active alarms is blocked
- Commenting, deleting, releasing and locking of archived alarms is blocked
- Writing, correcting, commenting and deleting logged alarms is blocked

Ordering data	Article No.	More information
<b>SIMATIC WinCC Unified options</b>		
<b>WinCC Unified Client (Operate)</b>		
Data storage medium		
• WinCC Unified Clients Panel Operate (1)	<b>6AV2151-1JW00-0AB0</b>	
• WinCC Unified Clients Panel Operate (5x1)	<b>6AV2157-5JV00-0AB0</b>	
• WinCC Unified Clients Operate (1)	<b>6AV2157-1JW00-0AB0</b>	
• WinCC Unified Clients Operate (3)	<b>6AV2157-3JW00-0AB0</b>	
• WinCC Unified Clients Operate (10)	<b>6AV2157-2CW00-0AB0</b>	
• WinCC Unified Clients Operate (max. per RT server)	<b>6AV2157-0XW00-0AB0</b>	
• WinCC Unified Clients Operate (5x1)	<b>6AV2157-5JW00-0AB0</b>	
Download <sup>1)</sup>		
• WinCC Unified Clients Panel Operate (1)	<b>6AV2151-1JW00-0LBO</b>	
• WinCC Unified Clients Panel Operate (5x1)	<b>6AV2157-5JV00-0LBO</b>	
• WinCC Unified Clients Operate (1)	<b>6AV2157-1JW00-0LBO</b>	
• WinCC Unified Clients Operate (3)	<b>6AV2157-3JW00-0LBO</b>	
• WinCC Unified Clients Operate (10)	<b>6AV2157-2CW00-0LBO</b>	
• WinCC Unified Clients Operate (max. per RT server)	<b>6AV2157-0XW00-0LBO</b>	
• WinCC Unified Clients Operate (5x1)	<b>6AV2157-5JW00-0LBO</b>	
<b>WinCC Unified Client (Monitor)</b>		
Data storage medium		
• WinCC Unified Clients Panel Monitor (1)	<b>6AV2151-1JM00-0AB0</b>	
• WinCC Unified Clients Monitor (1)	<b>6AV2157-1JM00-0AB0</b>	
• WinCC Unified Clients Monitor (3)	<b>6AV2157-3JM00-0AB0</b>	
• WinCC Unified Clients Monitor (10)	<b>6AV2157-2CM00-0AB0</b>	
• WinCC Unified Clients Monitor (max. per RT server)	<b>6AV2157-0XM00-0AB0</b>	
Download <sup>1)</sup>		
• WinCC Unified Clients Panel Monitor (1)	<b>6AV2151-1JM00-0LBO</b>	
• WinCC Unified Clients Monitor (1)	<b>6AV2157-1JM00-0LBO</b>	
• WinCC Unified Clients Monitor (3)	<b>6AV2157-3JM00-0LBO</b>	
• WinCC Unified Clients Monitor (10)	<b>6AV2157-2CM00-0LBO</b>	
• WinCC Unified Clients Monitor (max. per RT server)	<b>6AV2157-0XM00-0LBO</b>	

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

**HMI software**

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

**SIMATIC WinCC Unified options > WinCC Unified Database Storage****Overview****SIMATIC WinCC Unified options****WinCC Unified Database Storage**

SIMATIC WinCC Unified PC uses a file-based database (SQLite) in the basic system for the archiving of process values and messages. The WinCC Unified Databased Storage option is available for use with greater quantity frameworks or lengthy archiving periods. All archive data is stored in an MS SQL server after installing the option and the license.

Licensing

SIMATIC WinCC Unified PC:

- One license per WinCC Unified PC Runtime is required for activating the functionality.
- Alarms can be logged without an additional license.
- Licenses for the number of logging tags used are required for the archiving of process values (tags). This number can be increased at any time via additive WinCC Unified logging tags (countable licenses).

**Ordering data****Article No.****SIMATIC WinCC Unified options****WinCC Unified Database Storage V18**

- Data storage medium
- Download <sup>1)</sup>

**6AV2154-0BS01-8AA0****6AV2154-0BS01-8LA0****Upgrade V16..V17 -> V18**

- Data storage medium
- Download <sup>1)</sup>

**6AV2154-0BS31-8AA0****6AV2154-0BS31-8LA0****WinCC Unified Database Storage V16**

- Data storage medium
- Download <sup>1)</sup>

**6AV2154-0BS01-7AA0****6AV2154-0BS01-7LA0**

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

## Overview

### WinCC Unified Logging

Option for WinCC Unified for archiving of process values and messages. Process value archiving for the recording, compression and storage of measured values and alarm logging to record events. Online evaluation of process value archives and alarm logs with display and possible operations, for example representation of trends and display of tables, as well as further processing. Powerful standard functions permit user-friendly and flexible utilization of the logs.

### Licensing

#### SIMATIC HMI Unified Comfort Panels:

- Messages can be logged without an additional license.
- Process values (tags) can be archived without an additional license.
- Utilization of file-based archiving, with the possibility of a maximum 5 000 logging tags

#### SIMATIC WinCC Unified PC:

- Messages can be logged without an additional license.
- Graded licenses for the number of logging tags used are available for the archiving of process values (tags). This number can be increased at any time via additive WinCC Unified Logging Tags (countable licenses).
- The licenses are divided into 100, 500, 1 000, 5 000, 10 000 and 30 000 logging tags.
- A maximum of 5 000 logging tags are possible with utilization of the file-based archiving (default)
- When using the database-based archiving (optional), the number of logging tags is limited by the performance capability of the PC system being used.

## Benefits

- Process value logging is used to record and archives process data from the plant.
- The alarm log is used to archive any alarms which are issued in the monitored process.
- This archiving can be used to analyze fault states and to document the process.
- A subsequent evaluation of the archived process data then provides you with essential information regarding the operating state of a plant.
- The logs allow hazardous conditions and faults to be identified in good time, known as predictive diagnostics, which in turn avoids downtimes
- Increase of product quality and productivity due to regular evaluation of the logs

## Ordering data

## Article No.

### SIMATIC WinCC Unified options

#### WinCC Unified Logging

Data storage medium

• WinCC Unified Logging Tags (100)	<b>6AV2157-2DA00-0AB0</b>
• WinCC Unified Logging Tags (500)	<b>6AV2157-1EA00-0AB0</b>
• WinCC Unified Logging Tags (1000)	<b>6AV2157-2EA00-0AB0</b>
• WinCC Unified Logging Tags (5000)	<b>6AV2157-1FA00-0AB0</b>
• WinCC Unified Logging Tags (10k)	<b>6AV2157-2FA00-0AB0</b>
• WinCC Unified Logging Tags (30k)	<b>6AV2157-6FA00-0AB0</b>
Download <sup>1)</sup>	
• WinCC Unified Logging Tags (100)	<b>6AV2157-2DA00-0LB0</b>
• WinCC Unified Logging Tags (500)	<b>6AV2157-1EA00-0LB0</b>
• WinCC Unified Logging Tags (1000)	<b>6AV2157-2EA00-0LB0</b>
• WinCC Unified Logging Tags (5000)	<b>6AV2157-1FA00-0LB0</b>
• WinCC Unified Logging Tags (10k)	<b>6AV2157-2FA00-0LB0</b>
• WinCC Unified Logging Tags (30k)	<b>6AV2157-6FA00-0LB0</b>

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

## More information

More information is available on the internet under <http://www.siemens.com/wincc-unified-system>.

## HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

### SIMATIC WinCC Unified options > WinCC Unified Parameter Control

#### Overview

##### **WinCC Unified Parameter Control**

Option for SIMATIC WinCC Unified for the generation and management of parameter sets which contain associated machine or production data. The structure of a user data type (PLC UDT or HMI UDT) can be adopted for one or more parameter set types and can be changed automatically using a new user data type version.

##### Licensing:

SIMATIC HMI Unified Comfort Panels:

- No license is required

SIMATIC WinCC Unified PC:

- One license per WinCC Unified PC Runtime is required for activating the functionality.

#### Benefits

- An expansive selection of parameters can be exchanged between the operator panel and PLC manually or automatically in order to convert production to another product variant.
- Simple operator guidance due to configurable image object
- Export/import of parameter sets for creation or further processing with other tools (e.g. MS Excel)

#### Ordering data

#### Article No.

##### SIMATIC WinCC Unified options

##### **WinCC Unified Parameter Control V18**

Data storage medium

- WinCC Unified Parameter Control (PC) V18

**6AV2154-0BP01-8AB0**

Download <sup>1)</sup>

- WinCC Unified Parameter Control (PC) V18

**6AV2154-0BP01-8LB0**

##### **WinCC Unified Parameter Control V17**

Data storage medium

- WinCC Unified Parameter Control (PC) V17

**6AV2154-0BP01-7AB0**

Download <sup>1)</sup>

- WinCC Unified Parameter Control (PC) V17

**6AV2154-0BP01-7LB0**

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

#### More information

More information is available on the internet under <http://www.siemens.com/wincc-unified-system>.

**Overview****WinCC Unified Report Execution**

An Excel Add-in is included in the scope of supply of WinCC Unified to connect WinCC Unified data (tags, alarms, etc.) with an Excel report template.

The report templates are imported into the WinCC Unified Runtime without the engineering system at runtime. The reports can be created automatically or manually, stored in the format (Excel, PDF), and sent via secured or unsecured email.

The corresponding execution parameters (execution time, trigger, email contacts) are configured in the control for automatic report generation.

Licensing:

No license is required for the creation of reports in Excel and manual execution of the reports in Excel or from the Report Runtime Control.

For each WinCC Unified RT (HMI Unified Comfort Panel or PC), a WinCC Unified Report Execution license is required for the automated cyclic report dependent on requirements and events.

When upgrading to a new WinCC Unified version, no additional upgrade license is required. This option is upgraded with the upgrade license of the Unified base system.

**Benefits**WinCC Unified Report Execution

- Full transparency via WinCC Unified Tags, Logging Tags and Alarms
- Filter mechanism for the selection of alarms and tags
- Insertion of individual values and time series data
- Call of the WinCC Unified alarm statistics
- Automatic insertion of pre-defined formulas in time-series data
- Individual creation of report templates with the familiar MS Excel and Excel Online
- Activation of created report templates during the runtime without Engineering System
- Automated cyclic report creation based on requirements, context or events
- Individual reports in Excel format without Excel installation
- Individual reports in PDF format with Excel or LibreOffice-Calc installation
- Sending of created reports via email

**Ordering data****Article No.****SIMATIC WinCC Unified options****WinCC Unified Report Execution V18**

- WinCC Unified Report
- Data storage medium
  - Download <sup>1)</sup>

**6AV2157-0BQ01-8AB0**  
**6AV2157-0BQ01-8LB0**

**WinCC Unified Report Execution V17**

- WinCC Unified Report
- Data storage medium
  - Download <sup>1)</sup>

**6AV2157-0BQ01-7AB0**  
**6AV2157-0BQ01-7LB0**

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

**More information**

More information is available on the internet under <http://www.siemens.com/wincc-unified-system>.

**HMI software**

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

**SIMATIC WinCC Unified options > WinCC Unified Collaboration****Overview****WinCC Unified Runtime Collaboration**

The option for Unified Collaboration offers the possibility to connect several Unified systems (Panels and PC) with each other and to exchange data in runtime. For example, process displays from other stations can be referenced and shown in a display window to easily and efficiently create plant overview displays.

**Licensing**

SIMATIC HMI Unified Comfort Panels and SIMATIC WinCC Unified PC:

Each WinCC Unified Station (Panel or PC) to be connected via Collaboration requires a corresponding license.

The volume and type of data exchanged is not limited. The configuration of Collaboration in the engineering system does not require additional licensing.

**Benefits**

- Configuration of distributed Unified systems
- Integration and display of contents of other Unified stations without duplicated configuration work
- Cross-project configuration possible via export and import

**Ordering data****Article No.****SIMATIC WinCC Unified options****WinCC Unified Collaboration V18**

Data storage medium

- WinCC Unified Collaboration (1)
- WinCC Unified Collaboration (3x1)

**6AV2154-0BR01-8AB0****6AV2154-3JR01-8AB0**Download <sup>1)</sup>

- WinCC Unified Collaboration (1)
- WinCC Unified Collaboration (3x1)

**6AV2154-0BR01-8LB0****6AV2154-3JR01-8LB0****WinCC Unified Collaboration V17**

Data storage medium

- WinCC Unified Collaboration

**6AV2154-0BR01-7AB0**Download <sup>1)</sup>

- WinCC Unified Collaboration

**6AV2154-0BR01-7LB0**

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

**More information**

More information is available on the internet under

<http://www.siemens.com/wincc-unified-system>.

## Overview

### ***Plant Intelligence options***

With the SIMATIC WinCC Unified Plant Intelligence options, it is possible to expand SIMATIC WinCC Unified Runtime in line with the requirements on the production plant and visualize it in HMI.

The options allow you to plan production processes and analyze and optimize the overall effectiveness of your plant.

#### Note:

The SIMATIC WinCC Unified Plant Intelligence options can be used on a PC system. The technological plant hierarchy is a prerequisite for using the SIMATIC WinCC Unified Plant Intelligence options.

#### WinCC Unified Calendar:

Planning, configuration and management of events and actions in one general calendar in WinCC Unified (including connection of tags or scripts).

#### WinCC Unified Performance Insight:

Definition, calculation and analysis of plant-specific KPIs for individual plant units, machines or entire production lines in machine or line-oriented production plants.

## HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

### SIMATIC WinCC Unified Plant Intelligence options > WinCC Unified Calendar

#### Overview

##### WinCC Unified Calendar

Recurring, calendar-related working times (shifts) and processes (switching commands) can be planned and modified in advance using the WinCC Unified Calendar.

Planning is based on predefined templates and a time model. This time model is used equally for the "WinCC Unified Calendar" and "WinCC Unified Performance Insight" options.

A technological system hierarchy for the project is created in the TIA Portal. One main calendar is assigned to one branch (main node or root node) within this hierarchy. For runtime (within WinCC Unified Runtime), templates can be created for this main calendar and planning for working times and processes can be defined. Planning takes effect automatically for its "hierarchical children"; they can be supplemented or modified there.

The "WinCC Unified Calendar" option is only available for the WinCC Unified PC system.

#### Benefits

- Definition of uniform time categories and the selection of usable process tags as a switching command in the TIA Portal
- Planning of working times and processes during runtime
  - Management of shift and day templates, as well as switching actions relative to shift events (start, end)
  - Creation of planning based on templates
  - Modification of planning of hierarchically subordinate system components
  - Definition of recurring, cyclic shifts
- Import and export of templates and planning
- Runtime openness (API) interface
- Use of maintained shifts as criteria for calculating indicators via the "WinCC Unified Performance Insight" option

#### Application

WinCC Unified Calendar serves user groups which have structured a plant via a plant hierarchy and want to define recurring events within this hierarchy.

#### Design

With WinCC Unified Calendar licensing, it is possible to manage templates and the use/planning within a main node via the option. Modifications and adaptations of planning hierarchically subordinate system components is possible. The license is stored on the assigned WinCC Unified runtime station. If other main nodes are created and managed on this WinCC Unified runtime station, additional extension licenses for each additional main node are necessary. These extension licenses are additive (countable licenses).

The necessary runtime and engineering components are supplied with the licenses.

#### Ordering data

#### Article No.

<b>WinCC Unified Calendar V18</b> Download <sup>1)</sup> <ul style="list-style-type: none"> <li>• WinCC Unified Calendar Base</li> <li>• WinCC Unified Calendar Extension (1)</li> </ul>	<b>6AV2156-0BC01-8LA0</b> <b>6AV2156-1JC00-0LB0</b>
<b>WinCC Unified Calendar Base Upgrade V16..V17 -&gt; V18</b> Download <sup>1)</sup>	<b>6AV2156-0BC31-8LA0</b>
<b>WinCC Unified Calendar V17</b> Download <sup>1)</sup> <ul style="list-style-type: none"> <li>• WinCC Unified Calendar Base</li> <li>• WinCC Unified Calendar Extension (1)</li> </ul>	<b>6AV2156-0BC01-7LA0</b> <b>6AV2156-1JC00-0LB0</b>
<b>WinCC Unified Calendar Base Upgrade V16 -&gt; V17</b> Download <sup>1)</sup>	<b>6AV2156-0BC31-7LA0</b>

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

#### More information

Additional information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

## Overview

### WinCC Unified Performance Insight

The WinCC Unified Performance Insight can be used to calculate and analyze plant-specific indicators for individual plant units, machines or entire production lines in machine or line-oriented production plants with WinCC Unified PC systems.

#### Licensing:

A version-specific Runtime basic license is required to use the option.

In addition, every plant object to which a Performance Insight configuration (e.g. KPI, operand) is assigned either directly or via the plant object type is an "analyzed plant object" in the licensing context.

Graded licenses are available for analyzing plant objects. This number can be increased at any time via additive plant objects (countable licenses). The licenses are divided into 10, 30, 100 and 300 plant objects.

The configuration of Performance Insight in the engineering does not require a license.

## Benefits

Demonstration of weak points in production processes and deriving optimization potential.

- Flexible - individual calculation of plant-specific indicators in WinCC Unified
- Creating relationships - recognizing indicators in context, e.g. availability per shift
- Optimally informed - analyzing indicators in WinCC Unified Runtime as a bar graph, Gantt chart or table even via Web
- Expandable - adding indicators in existing plants without production losses
- Getting results fast - short configuration time and familiarization time thanks to integration in WinCC Unified

## Application

All user groups benefit from the Performance Insight, from the application engineer to management-level evaluators. The engineer can use the application environment integrated in WinCC Unified to derive individual formulas for calculating performance indicators.

KPIs and operands from Performance Insight are automatically created in event- or time-controlled Excel reports and used by management for production analysis and documentation.

For maintenance, the web client of the WinCC Unified can be used for analysis with the bar (for performance), progression (Gantt) and table controls.

Performance indicators can be displayed on local user interfaces using standard WinCC Unified resources to keep machine operators up to date.

## Design

Fault analyses provide information about the frequency and duration of machine or plant downtimes. The included controls can be effortlessly integrated in WinCC Unified process pictures.

The determined data gives information on the effectiveness of individual machines and of entire production plants. The transparency of the data allows for a quick response and countermeasures in the event of faults, which increases the availability of the machine. Structuring of the production plant constituting central elements for evaluation (equipment efficiency)

- Can be used for individual machines or even complete production plants
- Easy integration in existing WinCC Unified plants
- Cyclic or event-controlled calculation of indicators (KPIs)

All of the analysis results are integrated in the form of controls in WinCC Unified screens. Bar (performance), trend (Gantt) and table views are available in WinCC Unified process pictures. Complete transparency throughout the machine park as the basis for optimizing plant productivity via automatic execution of reports.

- Recognition of production relationships
- Calculation of downtimes and localization of sources
- Weak-point analysis in production processes.

## Ordering data

## Article No.

### WinCC Unified Performance Insight

#### Base V18

Download; email address required for delivery

- WinCC Unified Performance Insight (PC) Base incl. 3 analyzed plant objects
- WinCC Unified Performance Insight (PC) Base Upgrade V16, V17 to V18

**6AV2156-0BP01-8LA0**

**6AV2156-0BP31-8LA0**

#### Base V17

Download; email address required for delivery

- WinCC Unified Performance Insight (PC) Base incl. 3 analyzed plant objects
- WinCC Unified Performance Insight (PC) Base Upgrade V16 to V17

**6AV2156-0BP01-7LA0**

**6AV2156-0BP31-7LA0**

#### Extension

Download; email address required for delivery

- 30 analyzed plant objects
- 100 analyzed plant objects

**6AV2156-6CP00-0LB0**

**6AV2156-2DP00-0LB0**

## More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-unified-system>

## HMI software

TIA Portal

SIMATIC WinCC Unified (TIA Portal)

### Industrial Edge apps for SIMATIC WinCC Unified > SIMATIC WinCC Unified Online Engineering for Industrial Edge

#### Overview

The following apps are currently offered for WinCC Unified:

- SIMATIC WinCC Unified Online Engineering for Industrial Edge
- SIMATIC WinCC Unified Runtime for Industrial Edge

#### **SIMATIC WinCC Unified Online Engineering for Industrial Edge**

The SIMATIC WinCC Unified for Industrial Edge system combines first-class SIMATIC HMI solutions with Industrial Edge. It provides an engineering app for easy creation of dynamic visualizations and app-based monitoring and control of machines, where data from production can be combined with information from other Edge apps.

<https://www.dex.siemens.com/edge/manufacturing-process-industries/simatic-wincc-unified-online-engineering>

#### Benefits

- Quick development of HMI solutions - create comprehensive, dynamic visualizations with one single no-code engineering app for all visualization tasks (e.g. connectivity, screen design, alarms, logging, etc.)
- Worry-free thanks to proven HMI functionality with integrated data collection/acquisition, logging and alerting meeting industrial requirements in terms of performance capability and quality
- Uniform alarms on local, remote and mobile devices thanks to integrated alarm forwarding to the Notifier app
- Flexible extension of the HMI solution with other Edge apps - possible at any time thanks to seamless integration with Edge infrastructure services

#### Application

- Suitable for a large number of industrial applications
- For new and existing systems

#### Function

Implement Edge-based HMI solutions that permit maximum freedom in the choice of working environment. With centrally managed applications, the engineering, commissioning and maintenance of globally distributed plants become even more efficient, as engineering and runtime are installed in parallel. In addition, the SIMATIC WinCC Unified Apps for Industrial Edge are certified according to ISO 9001 and thus meet high quality requirements.

#### Ordering data

#### Article No.

##### **SIMATIC WinCC Unified Online Engineering for Industrial Edge**

Local Engineering \*Freemium\*;  
12-month license, includes 1 Seat;  
email address required for delivery;  
prerequisite: Industrial Edge  
Access (6ES7823-0EE00-4AX0)

**6AV2153-0BB70-0LX5**

## Overview

### **SIMATIC WinCC Unified Runtime for Industrial Edge**

The SIMATIC WinCC Unified for Industrial Edge system combines first-class SIMATIC HMI solutions with Industrial Edge.

It provides an engineering app for easy creation of dynamic visualizations and app-based monitoring and control of machines, where data from production can be combined with information from other Edge apps.

<https://www.dex.siemens.com/edge/manufacturing-process-industries/simatic-wincc-unified-online-engineering>

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## Ordering data

## Article No.

### **SIMATIC WinCC Unified Runtime for Industrial Edge**

12-month license,  
1 Client Operate, 1 Client Monitor;  
email address required for delivery;  
prerequisite: Industrial Edge  
Access (6ES7823-0EE00-4AX0)

2500 PowerTags

**6AV2154-2MB70-0LX0**

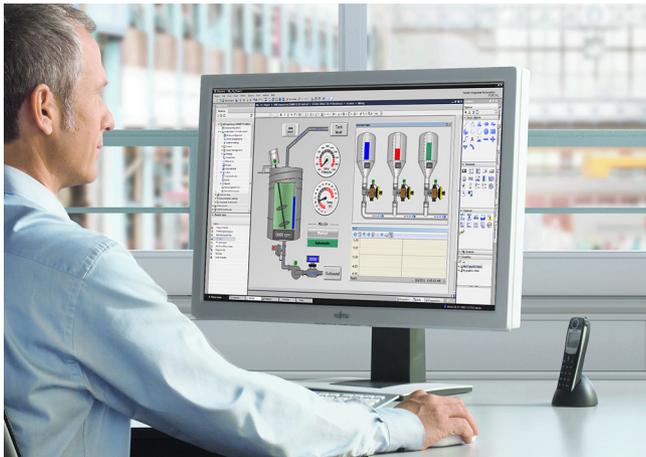
## HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

### Introduction

#### Overview



#### SIMATIC WinCC Runtime Professional visualization software

- PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients. WinCC Runtime Professional is the information hub for corporation-wide vertical integration.
- Industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration, can be expanded flexibly with VB and C scripts
- Basic package expandable by means of option packages
- Also included are APIs for the Runtime to utilize the open programming interfaces

<http://www.siemens.com/wincc-professional>

#### ***SIMATIC WinCC (TIA Portal) engineering software***

Family of configuration systems with WinCC Basic, Comfort, Advanced and Professional for SIMATIC operator panels, as well as for the WinCC Runtime Advanced and WinCC Runtime Professional PC-based visualization systems.

#### SIMATIC WinCC Runtime Advanced visualization software

- PC-based operator control and monitoring solution for single-user systems directly at the machine
- Basic package for visualization, reporting and logging, user administration, can be expanded flexibly with VB scripts
- Basic package expandable by means of option packages
- Can be integrated into automation solutions based on TCP/IP networks
- Expanded service concepts with remote operation, diagnostics and administration over the intranet and Internet in combination with Email communication

<http://www.siemens.com/wincc-advanced>

## Overview

- Integrated family of engineering tools for configuring SIMATIC HMI operator panels, as well as for the PC-based visualization systems WinCC Runtime Advanced and WinCC Runtime Professional.
- WinCC (TIA Portal) is based on the new central engineering framework Totally Integrated Automation Portal (TIA Portal), which offers the user a uniform, efficient and intuitive solution to all automation tasks.
- WinCC (TIA Portal) also offers uniform engineering from the Basic Panel through to SCADA applications.
- Together with the STEP 7 (TIA Portal) products, WinCC (TIA Portal) forms the optimum solution for integrated, efficient engineering.

Current version:

- SIMATIC WinCC Basic V18
- SIMATIC WinCC Comfort V18
- SIMATIC WinCC Advanced V18
- SIMATIC WinCC Professional V18

## Benefits

- The integrated configuration software reduces training, maintenance and service overhead and protects the customer's investments.
- Minimized engineering overhead and reduction of lifecycle costs thanks to Totally Integrated Automation (TIA)
- Minimized configuration overhead due to reuse of scalable and dynamizable objects
- Intelligent tools for efficient and simple configuration:
  - Wizard for defining the basic structure of the HMI project
  - Table-based editors simplify the generation and processing of similar types of objects, e.g. for tags, texts, or alarms.
  - Complex configuration tasks such as the definition of paths of motion or the creation of the fundamental operator prompting are simplified by means of graphical configuration.
- Comprehensive support of multi-language configurations for worldwide use
  - Selectable views for entering configuration data in several languages
  - System and user-specific text lexicons
  - Export/import of language-dependent texts
- Security of investment due to
  - Import of the configuration from WinCC V7.3, V7.4 and V7.5

## Application

SIMATIC WinCC in the editions Basic, Comfort, Advanced and Professional are innovative engineering tools for configuring SIMATIC HMI operator panels, as well as for the PC-based visualization systems WinCC Runtime Advanced and WinCC Runtime Professional.

Depending on the selected product, various target systems can be configured:

### WinCC Basic

- Basic Panels 1<sup>st</sup> Generation
- Basic Panels 2<sup>nd</sup> Generation

### WinCC Comfort

As WinCC Basic, plus:

- Comfort Panels
- Mobile Panels 2<sup>nd</sup> Generation
- Mobile Panels x77 Series

### WinCC Advanced

As WinCC Comfort, plus:

- SIMATIC PCs with WinCC Runtime Advanced:
  - SIMATIC Rack PCs
  - SIMATIC Box PCs
  - SIMATIC Panel PCs
  - SIMATIC S7 Open Controllers
- Standard PC with WinCC Runtime Advanced
- SINUMERIK PC: PCU 50.3, PCU 50.5

### WinCC Professional

As WinCC Advanced, plus:

- SIMATIC PCs with WinCC Runtime Professional
  - SIMATIC Rack PCs
  - SIMATIC Box PCs
  - SIMATIC Panel PCs
- Standard PC with WinCC Runtime Professional

## Design

The functionalities of the engineering tools of the SIMATIC WinCC family are based on each other. The available editors are largely determined by the respective configurable target systems and their function. A more comprehensive engineering tool such as WinCC Advanced can always be used to configure lower-level target devices as well (e.g. Basic Panels)

A PowerPack can be used to upgrade from a smaller edition to a larger one. This does not apply to WinCC Basic.

The functionality of WinCC Engineering tools already contains the configuration support of the available Runtime options for SIMATIC Panels, WinCC Runtime Advanced or WinCC Runtime Professional, irrespective of the purchased RT licenses. A separate license is required for the target system when using the configured Runtime options.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Engineering****Function****Integration into automation systems**

Integration into the SIMATIC Totally Integrated Automation Portal (TIA Portal)

- Shared data management and uniform symbols via the controller and HMI
- Optimum interaction between the controller and HMI in a working environment
- System diagnostics as an integral component
- Shared use of communication settings and process point definitions
- Simple dragging and dropping of tags from STEP 7 to an HMI device, e.g. onto a screen
- Excellent support for the new SIMATIC S7-1500 Controllers
  - With symbolic addressing
  - Access to the new memory-optimized data blocks
  - New alarm and diagnostics concept

**Configuration interface**

- Intuitive user interfaces with maximum degree of user friendliness
- Comprehensive and fast access to editors and project data
- Adaptive user interface of engineering tools depending on configured target system
- User-definable user interface settings, e.g. layout, toolbars
- Integrated mass data operations for efficient configuration

**Project handling**

- Device-independent configuration data can be used on a variety of target systems without the need for conversion. The interface adapts itself to the functional possibilities of the target device.
- Cross-device utilization of common configuration data (e.g. message classes, text library) in multi-device projects
- Wizard-assisted definition of basic structure of HMI projects (e.g. display layout, operator prompting)

**Screen editor with comprehensive options for efficient and fast screen configuration**

- Generation of interconnected screen objects via drag-and-drop operation, e.g. tags for the creation of input/output fields with process interfacing or buttons with screen selection function
- Definition of screen templates and functions (comparable with the Slide Master in MS PowerPoint)
- User-friendly editor for the creation of faceplates with defined external interface from screen objects
- Graphics-based configuration of motion paths
- Layer technology with up to 32 layers
- Tools for the Align, Rotate and Mirror functions

**Import/export**

- Of tags, links, text lists, and alarms

**Tabular editors**

- Quick and easy generation and modification of configuration objects of the same type, e.g. tags, texts or messages, in tabular editors
- Intelligent default settings depending on previously configured data, e.g. automatic incrementing of addresses when generating consecutive tags
- Simple access to the properties of an object without superfluous user intervention
- Simultaneous modification of common object properties

**Object-based data management with user-friendly search and edit options**

- Configuration of alarms and logs directly on the HMI tag, no switching between different editors
- Cross-reference list with direct access to all objects, e.g. for editing or selection
- Search for objects in entire project
- Text search and replace functions

**Project documentation**

- Selective project documentation, the following contents can be printed:
  - An entire project
  - One or more project-associated devices
  - Contents of an editor
  - Libraries

**Libraries for predefined/user-defined configuration objects**

- Storage of all configuration objects in the library, e.g. blocks and even entire screens or tags
- Faceplates can be constructed from simple screen objects on a customer-specific or project-specific basis. Changes to these faceplates can be made centrally in the block definition.
- A large number of scalable and dynamizable screen objects is included in the scope of supply
- Size-scalable graphics for industrial applications are included in the scope of supply
- Preview function for library objects

## Function

### Language support

- Multilingual project creation (max. 32 languages) in editors thanks to selectable views
- Central management of language-specific texts and graphics in libraries
- Edit, export and import of texts for translation
- Language-specific graphics

### Visual Basic and C-Script Support

- IntelliSense function for fast programming of access to runtime objects
- Simple creation of control sequences in script code
- Visual Basic Script debugging in simulator and WinCC Runtime Advanced and WinCC Runtime Professional

### Test and commissioning support

- Simulation of HMI projects on engineering PC
- Marking of incomplete or incorrect configuration directly in the respective editor
- Jump to error cause based on alarm messages in the Compiler

### Migration of existing HMI projects

- Data transfer in projects from WinCC flexible via migration tool, see under <https://support.industry.siemens.com/cs/ww/en/view/58638200>
- Data transfer in projects from WinCC

## System requirements

WinCC Engineering software	
<b>Processor type (recommended)</b>	Intel® Core™ i5-8400H (2.5 to 4.2 GHz)
<b>RAM (recommended)</b>	16 GB or more (32 GB for large projects)
<b>Hard disk</b>	SSD with at least 50 GB storage space available
<b>Operating systems</b>	64-bit operating systems <ul style="list-style-type: none"> <li>• Windows 10 Professional Version 21H1 / 21H2</li> <li>• Windows 10 Enterprise Version 21H1 / 21H2</li> <li>• Windows 10 Enterprise LTSC 2016 / 2019 / 2021</li> <li>• Windows 11 Home Version 21H2</li> <li>• Windows 11 Professional Version 21H2</li> <li>• Windows 11 Enterprise Version 21H2</li> <li>• Windows Server 2016 / 2019 / 2022 Standard</li> </ul>
<b>Screen resolution</b>	Recommended 1 920 x 1 080
<b>Optical drive</b>	DVD-ROM

### Note:

Opening several instances of WinCC on your configuration PC at the same time may result in more demanding hardware requirements.

In addition to WinCC, Windows also requires space on the hard disk; e.g. free storage space should be available for the swap file. The following formula has proven itself in the past:  
Size of swap file = 3 x size of RAM.

For more information, refer to your Windows documentation

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Engineering****Ordering data****Article No.****SIMATIC WinCC basic software****SIMATIC WinCC Basic V18**

- Data storage medium
- Download <sup>1)</sup>

6AV2100-0AA08-0AA5  
6AV2100-0AA08-0AH5

**SIMATIC WinCC Comfort V18**

- Data storage medium
- Download <sup>1)</sup>

6AV2101-0AA08-0AA5  
6AV2101-0AA08-0AH5

**SIMATIC WinCC Advanced V18**

- Data storage medium
- Download <sup>1)</sup>

6AV2102-0AA08-0AA5  
6AV2102-0AA08-0AH5

**SIMATIC WinCC Professional V18**

Data storage medium

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-0DA08-0AA5  
6AV2103-0HA08-0AA5  
6AV2103-0XA08-0AA5

Download <sup>1)</sup>

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-0DA08-0AH5  
6AV2103-0HA08-0AH5  
6AV2103-0XA08-0AH5

**SIMATIC STEP 7 /  
SIMATIC WinCC Trial Licenses**

**SIMATIC STEP 7 Basic/  
Professional;  
SIMATIC WinCC Basic/  
Comfort/Advanced V18,  
trial license, on data storage  
medium, 21 day trial**

6AV2102-0AA08-0AA7

**SIMATIC STEP 7 Basic/  
Professional;  
SIMATIC WinCC Professional V18,  
Trial License on data storage  
medium, 21 day trial**

6AV2103-0AA08-0AA7

**SIMATIC 50 h Engineering V18**

With STEP 7 Professional Combo,  
WinCC Professional  
(incl. WinCC flexible 2008) and  
STEP 7 Safety Advanced  
(incl. Distributed Safety)

6ES7823-1GE08-0YA5

**PowerPacks  
(without version change)****SIMATIC WinCC Basic -> Comfort**

- Data storage medium
- Download <sup>1)</sup>

6AV2101-2AA00-0BD5  
6AV2101-2AA00-0BJ5

**SIMATIC WinCC Comfort ->  
Advanced**

- Data storage medium
- Download <sup>1)</sup>

6AV2102-2AA00-0BD5  
6AV2102-2AA00-0BJ5

**SIMATIC WinCC Advanced ->  
Professional**

Data storage medium

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-2AD00-0BD5  
6AV2103-2DH00-0BD5  
6AV2103-2HX00-0BD5

Download<sup>1)</sup>

- 512 PowerTags
- 4 096 PowerTags
- Max. PowerTags

6AV2103-2AD00-0BJ5  
6AV2103-2DH00-0BJ5  
6AV2103-2HX00-0BJ5

**Article No.****Upgrades****WinCC V11..17 -> WinCC V18**

Data storage medium

- SIMATIC WinCC Basic
- SIMATIC WinCC Comfort
- SIMATIC WinCC Advanced
- SIMATIC WinCC Professional  
512 PowerTags
- SIMATIC WinCC Professional  
4 096 PowerTags
- SIMATIC WinCC Professional max.  
PowerTags

6AV2100-3AA08-0AE5  
6AV2101-3AA08-0AE5  
6AV2102-3AA08-0AE5  
6AV2103-3DA08-0AE5

6AV2103-3HA08-0AE5

6AV2103-3XA08-0AE5

Download <sup>1)</sup>

- SIMATIC WinCC Basic
- SIMATIC WinCC Comfort
- SIMATIC WinCC Advanced
- SIMATIC WinCC Professional  
512 PowerTags
- SIMATIC WinCC Professional  
4 096 PowerTags
- SIMATIC WinCC Professional max.  
PowerTags

6AV2100-3AA08-0AK5  
6AV2101-3AA08-0AK5  
6AV2102-3AA08-0AK5  
6AV2103-3DA08-0AK5

6AV2103-3HA08-0AK5

6AV2103-3XA08-0AK5

**WinCC flexible 2008 to  
WinCC V18**

- WinCC flexible Compact to  
WinCC Comfort
- WinCC flexible Standard to  
WinCC Comfort

6AV2101-4AB08-0AE5

6AV2101-4BB08-0AE5

Download <sup>1)</sup>

- WinCC flexible Compact to  
WinCC Comfort
- WinCC flexible Standard to  
WinCC Comfort

6AV2101-4AB08-0AK5

6AV2101-4BB08-0AK5

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

Ordering data	Article No.	Article No.
<b>SIMATIC WinCC basic software</b>		
<b>SIMATIC WinCC Basic V17</b> • Data storage medium • Download <sup>1)</sup>	<b>6AV2100-0AA07-0AA5</b> <b>6AV2100-0AA07-0AH5</b>	
<b>SIMATIC WinCC Comfort V17</b> • Data storage medium • Download <sup>1)</sup>	<b>6AV2101-0AA07-0AA5</b> <b>6AV2101-0AA07-0AH5</b>	
<b>SIMATIC WinCC Advanced V17</b> • Data storage medium • Download <sup>1)</sup>	<b>6AV2102-0AA07-0AA5</b> <b>6AV2102-0AA07-0AH5</b>	
<b>SIMATIC WinCC Professional V17</b> Data storage medium • 512 PowerTags • 4 096 PowerTags • Max. PowerTags Download <sup>1)</sup> • 512 PowerTags • 4 096 PowerTags • Max. PowerTags	<b>6AV2103-0DA07-0AA5</b> <b>6AV2103-0HA07-0AA5</b> <b>6AV2103-0XA07-0AA5</b>  <b>6AV2103-0DA07-0AH5</b> <b>6AV2103-0HA07-0AH5</b> <b>6AV2103-0XA07-0AH5</b>	
<b>SIMATIC STEP 7 / SIMATIC WinCC Trial Licenses</b>		
<b>SIMATIC STEP 7 Basic/ Professional; SIMATIC WinCC Basic/Comfort/ Advanced V17, trial license on DVD, 21 day trial</b>	<b>6AV2102-0AA07-0AA7</b>	
<b>SIMATIC STEP 7 Professional; SIMATIC WinCC Professional V17, Trial License on DVD, 21 day trial</b>	<b>6AV2103-0AA07-0AA7</b>	
<b>SIMATIC 50 h Engineering V17</b> With STEP 7 Professional Combo, WinCC Professional (incl. WinCC flexible 2008) and STEP 7 Safety Advanced (incl. Distributed Safety)	<b>6ES7823-1GE07-0YA5</b>	
		<b>Software Update Service</b> For a period of 12 months and for a fixed price, the customer is automatically provided with all upgrades and Service Packs for each installed WinCC engineering system or option. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration.
		<b>Software Update Service (Standard Edition)</b> The delivery is implemented according to the number of ordered SUS products (e.g. 10 upgrade packages with 10 DVDs, 10 USB flash drives, etc.) • SIMATIC WinCC Comfort • SIMATIC WinCC Advanced • SIMATIC WinCC Professional 512 PowerTags • SIMATIC WinCC Professional 4 096 PowerTags • SIMATIC WinCC Professional max. PowerTags Download <sup>1)</sup> Email address required for delivery • SIMATIC WinCC Comfort • SIMATIC WinCC Advanced • SIMATIC WinCC Professional 512 PowerTags • SIMATIC WinCC Professional 4 096 PowerTags • SIMATIC WinCC Professional max. PowerTags
		<b>6AV6612-0AA00-0AL0</b> <b>6AV6613-0AA00-0AL0</b> <b>6AV2103-0DA00-0AL0</b>  <b>6AV2103-0HA00-0AL0</b>  <b>6AV2103-0XA00-0AL0</b>  <b>6AV6612-0AA00-0AY0</b> <b>6AV6613-0AA00-0AY0</b> <b>6AV2103-0DA00-0AY0</b>  <b>6AV2103-0HA00-0AY0</b>  <b>6AV2103-0XA00-0AY0</b>
		<b>Software Update Service (Compact Edition)</b> The delivery items are combined. For several contracts, only 1 package with 1 data storage medium set, 1 USB flash drive with the corresponding number of licenses and the corresponding number of CoLs will be supplied. Delivery items to be combined must be ordered as one item. • SIMATIC WinCC Comfort • SIMATIC WinCC Advanced • SIMATIC WinCC Professional 512 PowerTags • SIMATIC WinCC Professional 4 096 PowerTags • SIMATIC WinCC Professional max. PowerTags
		<b>6AV6612-0AA00-0AM0</b> <b>6AV6613-0AA00-0AM0</b> <b>6AV2103-0DA00-0AM0</b>  <b>6AV2103-0HA00-0AM0</b>  <b>6AV2103-0XA00-0AM0</b>

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

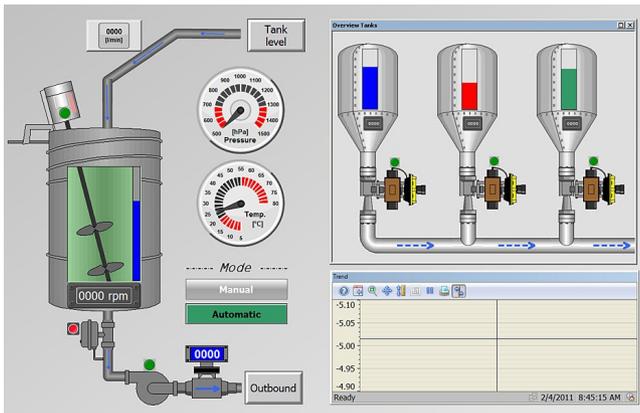
### More information

More information is available on the internet under <http://www.siemens.com/wincc-unified-system>.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime****Overview****SIMATIC WinCC Runtime Professional visualization software**

- PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients. WinCC Runtime Professional is the information hub for corporation-wide vertical integration.
- Industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration, can be expanded flexibly with VB and C scripts
- Basic package expandable by means of option packages
- Also included are APIs for the Runtime to utilize the open programming interfaces

Additional information is available on the Internet at:

<http://www.siemens.com/wincc-professional>

**SIMATIC WinCC Runtime Advanced visualization software**

- PC-based operator control and monitoring solution for single-user systems directly at the machine
- Basic package for visualization, reporting and logging, user administration, can be expanded flexibly with VB scripts
- Basic package expandable by means of option packages
- Can be integrated into automation solutions based on TCP/IP networks
- Expanded service concepts with remote operation, diagnostics and administration over the intranet and Internet in combination with email communication

<http://www.siemens.com/wincc-advanced>

## Overview

PC-based operator control and monitoring system for single-user systems directly at the machine. SIMATIC WinCC Runtime Advanced V17 is configured with the SIMATIC WinCC Advanced V17, SIMATIC WinCC Professional V17, SIMATIC WinCC Advanced V18 or SIMATIC WinCC Professional V18 configuration software.

## Benefits

- Functions for all visualization tasks:
  - Operator functions
  - Graphics and trend displays
  - Alarm logging
  - Report system
  - Archiving (option)
  - Recipe management (option)
  - Audit Trail (option)
- Flexible runtime functionality due to Visual Basic scripts
- Service concepts with remote operation, diagnostics and administration via intranet/Internet as well as email communication increase availability (option)
- Support for simple distributed automation solutions based on TCP/IP networks at the machine-level (option)
- Part of the Totally Integrated Automation Portal
  - Direct access to the tag and message configuration of the SIMATIC Controller
  - Excellent support of the new SIMATIC S7-1500 Controller With symbolic addressing
  - Access to the new memory-optimized data blocks
  - New alarm and diagnostics concept (incl. ProDiag)
  - Integrated diagnostic functions for increasing productivity

## Application

SIMATIC WinCC Runtime Advanced is the high-performance visualization software for simple, machine-oriented visualization tasks. It can be used as a single-user solution for all automation applications in production automation, process automation and building services automation.

SIMATIC WinCC Runtime Advanced can be used in combination with the following operator panels:

- SIMATIC Rack PC:
  - IPC347, IPC547, IPC647, IPC847
- SIMATIC Box PC:
  - IPC227, IPC427, IPC627, IPC827
- SIMATIC Panel PC:
  - IPC277, IPC477, IPC677, Panel PC Ex OG
- SIMATIC S7 Open Controller: ET 200SP Open Controller
- SINUMERIK PC: PCU 50.3, PCU 50.5
- Standard PCs with resolutions (W x H in pixels) of:
  - 4:3 format: 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200
  - Widescreen format: 800 x 480, 1280 x 800, 1366 x 768, 1440 x 900, 1680 x 1050, 1920 x 1080, 1920 x 1200, 1980 x 1080

## Design

SIMATIC WinCC Runtime Advanced is available as a software package with 128, 512, 2 048, 4 096, 8 192 and 16 384 PowerTags.

The term PowerTags is used to identify process tags and area pointers that have a process link to the controller. Tags without process links, constant limit values of tags, and messages (up to 4 000 bit-triggered messages) are also available for additional system performance. The range of functions of WinCC Runtime Advanced includes the centralized HMI components for visualizing and reporting, and it can be expanded to suit requirements and costs by using optional packages.

SIMATIC WinCC Runtime Advanced is configured with the SIMATIC WinCC Advanced or SIMATIC WinCC Professional configuration software.

## Function

### Visualization via Windows-compliant user interface

Made up of parameterizable screen objects and faceplates created on a project-specific basis:

- Numeric and alphanumeric input/output fields
- Static text and graphic display plus vector graphics
- Dynamizable graphics from HMI symbol library
- Bar graph, trend curve graph with scroll and zoom function as well as read line
- Signal-specific text and graphic lists
- Buttons and switches for operator-process communication
- Editing fields for process values (signals)
- Analog display, slider as example for further screen objects
- Project-specific faceplates created from basic objects of the system
- Graphic displays for various standard graphic formats, e.g. bitmaps, .jpg, .wmf

### Alarms and messages

- Discrete alarms and analog alarms as well as event-driven Alarm-S/Alarm-D message procedure with SIMATIC S7
- The new ProDiag alarm and diagnostics concept of the S7-1500 Controller is also supported
- Freely-definable message classes for definition of acknowledgment response and display of alarm events

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Advanced****Function****Logging of alarms and process values<sup>1)</sup>**

- Logging in files (e.g. CSV or TXT file) and Microsoft SQL databases
- Online evaluation of process value and alarm logs
- Evaluation of process value and alarm logs using standard Microsoft tools such as Excel

**Recipes<sup>1)</sup>**

- Generation of data records for machine data or production data
- Display or entry of data records via a configurable screen object or via process screens distributed within the project
- Transmission of data records from or to the PLC
- Import/export of data records from/to CSV files for further processing with other tools (e.g. MS Excel)

**Documentation of process data, alarm events, and recipes**

- Time or event-driven report output
- User-definable layout

**Flexible expansion of integrated system function using Visual Basic script****Language support for multilingual projects**

- Up to 32 online languages
- Language-dependent texts and graphics
- Language selection during runtime

**User-oriented access protection according to requirements of regulated sectors**

- Authentication with user ID and password
- User group-specific rights
- Central system-wide user administration based on SIMATIC Logon<sup>1)</sup>
- Monitoring of changes by operators in runtime operation<sup>1)</sup>
- Recording of operator actions in an Audit Trail<sup>1)</sup>

**Onboard PLC connection to many different PLCs**

- Communication via native drivers and standard OPC channel
- Simultaneous connection using several protocols: OPC Client and SIMATIC HMI HTTP protocol are additive, i.e. they can be used in conjunction with other PLC connections

**Open communication between HMI systems and with higher-level systems**

- OPC Servers
  - Use of the visualization system as a data server (OPC Server) for higher-level automation components, e.g. control systems or systems in the office area
  - OPC DA Server: tags, e.g. process values
- Communication between HMI systems is established on the basis of Ethernet networks, or via the intranet/internet
  - Read and write access to tags. The WinCC Runtime Advanced or SIMATIC Panels provide other SIMATIC HMI systems or office applications with data (tags)
- Sending of emails on demand or event-driven
  - e.g. to maintenance personnel via SMTP server (Simple Mail Transfer Protocol)
  - The optional use of email/SMS gateways enables access to standard networks (external service provider required)
- System diagnostics via device-specific HTML pages. The following functions are available:
  - Starting and stopping the HMI runtime for maintenance
  - Remote access to recipe data records, passwords and information specific to the HMI system
  - Access to the HMI system files via a file explorer
  - Download of configuration data via the intranet/internet
  - Supplement with own HTML pages

**WinCC Sm@rtServer for the remote control via the intranet and internet<sup>1)</sup>**

- Display and control of process screens on remote PC or Panel
- A SIMATIC HMI system can be used to control or monitor another system remotely; entry level for client/server configurations for distributed operator stations or for solutions with head-end stations or control rooms

<sup>1)</sup> Option for SIMATIC WinCC Runtime Advanced; runtime licenses must be purchased separately. More information is available under "WinCC options".

Function	Ordering data	Article No.
<b>System requirements</b>		
<b>SIMATIC WinCC Runtime Advanced</b>		
<b>Processor type (min.)</b> <sup>1)</sup>	64-bit operating system: at least Intel® Celeron™ 2.2 GHz or comparable	
<b>RAM (min.)</b> <sup>2)</sup>	4 GB or more	
<b>Hard disk</b>	8 GB disk space available	
<b>Operating systems</b>	64-bit operating systems: <ul style="list-style-type: none"> <li>• Windows 10 Professional Version 21H1 / 21H2</li> <li>• Windows 10 Enterprise Version 21H1 / 21H2</li> <li>• Windows 10 Enterprise LTSC 2016 / 2019 / 2021</li> <li>• Windows 11 Professional Version 21H2</li> <li>• Windows 11 Enterprise Version 21H2</li> <li>• Windows Server 2016 / 2019 / 2022 Standard Edition</li> </ul>	
<b>Optical drive</b>	DVD-ROM	
<p><sup>1)</sup> In combination with options, more powerful systems may be required</p> <p><sup>2)</sup> The required RAM is determined primarily by the size of the graphics used.</p> <p><b>Note:</b></p> <p>In addition to WinCC, Windows also requires space on the hard disk; e.g. free storage space should be available for the swap file. The following formula has proven itself in the past: Size of swap file = 3 x size of RAM.</p> <p>For more information, refer to your Windows documentation.</p>		
	<p><b>SIMATIC WinCC Runtime Advanced V17</b></p> <p>Configurable with SIMATIC WinCC (TIA Portal) V17 and V18</p> <p><b>Basic software</b></p> <p><u>Data storage medium</u></p> <ul style="list-style-type: none"> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 16 384 PowerTags</li> </ul> <p><u>As download</u><sup>1)</sup></p> <p>Email address required for delivery</p> <ul style="list-style-type: none"> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 16 384 PowerTags</li> </ul>	<p><b>6AV2104-0BA07-0AA0</b></p> <p><b>6AV2104-0DA07-0AA0</b></p> <p><b>6AV2104-0FA07-0AA0</b></p> <p><b>6AV2104-0HA07-0AA0</b></p> <p><b>6AV2104-0KA07-0AA0</b></p> <p><b>6AV2104-0LA07-0AA0</b></p>
	<p><b>PowerPacks (version-independent)</b></p> <p><u>Data storage medium</u></p> <ul style="list-style-type: none"> <li>• 128 PowerTags to 512 PowerTags</li> <li>• 512 PowerTags to 2 048 PowerTags</li> <li>• 2 048 PowerTags to 4 096 PowerTags</li> <li>• 4 096 PowerTags to 8 192 PowerTags</li> <li>• 8 192 PowerTags to 16 384 PowerTags</li> </ul> <p><u>As download</u><sup>1)</sup></p> <p>Email address required for delivery</p> <ul style="list-style-type: none"> <li>• 128 PowerTags to 512 PowerTags</li> <li>• 512 PowerTags to 2 048 PowerTags</li> <li>• 2 048 PowerTags to 4 096 PowerTags</li> <li>• 4 096 PowerTags to 8 192 PowerTags</li> <li>• 8 192 PowerTags to 16 384 PowerTags</li> </ul>	<p><b>6AV2104-2BD00-0BD0</b></p> <p><b>6AV2104-2DF00-0BD0</b></p> <p><b>6AV2104-2FH00-0BD0</b></p> <p><b>6AV2104-2HK00-0BD0</b></p> <p><b>6AV2104-2KL00-0BD0</b></p> <p><b>6AV2104-2BD00-0BJ0</b></p> <p><b>6AV2104-2DF00-0BJ0</b></p> <p><b>6AV2104-2FH00-0BJ0</b></p> <p><b>6AV2104-2HK00-0BJ0</b></p> <p><b>6AV2104-2KL00-0BJ0</b></p>

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Advanced****Ordering data****Article No.****Article No.****Upgrades****SIMATIC WinCC Runtime Advanced V11..16 to V17**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

As download<sup>1)</sup>

Email address required for delivery

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

6AV2104-3BB07-0AE0  
6AV2104-3DD07-0AE0  
6AV2104-3FF07-0AE0  
6AV2104-3HH07-0AE0  
6AV2104-3KK07-0AE0

6AV2104-3BB07-0AK0  
6AV2104-3DD07-0AK0  
6AV2104-3FF07-0AK0  
6AV2104-3HH07-0AK0  
6AV2104-3KK07-0AK0

**SIMATIC WinCC flexible 2008 to SIMATIC WinCC Runtime Advanced V17**

- 128 PowerTags to 128 PowerTags
- 512 PowerTags to 512 PowerTags
- 2 048 PowerTags to 2 048 PowerTags
- 4 096 PowerTags to 4 096 PowerTags
- 8 000 PowerTags to 8 192 PowerTags

As download<sup>1)</sup>

Email address required for delivery

- 128 PowerTags to 128 PowerTags
- 512 PowerTags to 512 PowerTags
- 2 048 PowerTags to 2 048 PowerTags
- 4 096 PowerTags to 4 096 PowerTags
- 8 000 PowerTags to 8 192 PowerTags

6AV2104-4BB07-0AE0  
6AV2104-4DD07-0AE0  
6AV2104-4FF07-0AE0

6AV2104-4HH07-0AE0

6AV2104-4KK07-0AE0

6AV2104-4BB07-0AK0  
6AV2104-4DD07-0AK0  
6AV2104-4FF07-0AK0

6AV2104-4HH07-0AK0

6AV2104-4KK07-0AK0

**Options for WinCC (TIA Portal)****Upgrade for WinCC flexible Panel Options (Sm@rtAccess/Sm@rtService/Audit)**

Runtime software, single license; without software, without documentation; Class A

- License key on USB flash drive
- License key download; email address required for delivery

6AV2107-4XP00-0BF0  
6AV2107-4XP00-0BK0

**SIMATIC WinCC Runtime Advanced V16**

Configurable with SIMATIC WinCC (TIA Portal) V16

**Basic software****Data storage medium**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 16 384 PowerTags

As download<sup>1)</sup>

Email address required for delivery

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 16 384 PowerTags

6AV2104-0BA06-0AA0  
6AV2104-0DA06-0AA0  
6AV2104-0FA06-0AA0  
6AV2104-0HA06-0AA0  
6AV2104-0KA06-0AA0  
6AV2104-0LA06-0AA0

6AV2104-0BA06-0AH0  
6AV2104-0DA06-0AH0  
6AV2104-0FA06-0AH0  
6AV2104-0HA06-0AH0  
6AV2104-0KA06-0AH0  
6AV2104-0LA06-0AH0

**Upgrades****SIMATIC WinCC Runtime Advanced V11..15.1 to V16**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

As download<sup>1)</sup>

Email address required for delivery

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 - 16 384 PowerTags

6AV2104-3BB06-0AE0  
6AV2104-3DD06-0AE0  
6AV2104-3FF06-0AE0  
6AV2104-3HH06-0AE0  
6AV2104-3KK06-0AE0

6AV2104-3BB06-0AK0  
6AV2104-3DD06-0AK0  
6AV2104-3FF06-0AK0  
6AV2104-3HH06-0AK0  
6AV2104-3KK06-0AK0

**SIMATIC WinCC flexible 2008 to SIMATIC WinCC Runtime Advanced V16**

- 128 PowerTags to 128 PowerTags<sup>2)</sup>
- 512 PowerTags to 512 PowerTags<sup>2)</sup>
- 2 048 PowerTags to 2 048 PowerTags<sup>2)</sup>
- 4 096 PowerTags to 4 096 PowerTags<sup>2)</sup>
- 8 000 PowerTags to 8 192 PowerTags<sup>2)</sup>

As download<sup>1)</sup>

Email address required for delivery

- 128 PowerTags to 128 PowerTags<sup>2)</sup>
- 512 PowerTags to 512 PowerTags<sup>2)</sup>
- 2 048 PowerTags to 2 048 PowerTags<sup>2)</sup>
- 4 096 PowerTags to 4 096 PowerTags<sup>2)</sup>
- 8 000 PowerTags to 8 192 PowerTags<sup>2)</sup>

6AV2104-4BB06-0AE0  
6AV2104-4DD06-0AE0  
6AV2104-4FF06-0AE0  
6AV2104-4HH06-0AE0  
6AV2104-4KK06-0AE0

6AV2104-4BB06-0AK0  
6AV2104-4DD06-0AK0  
6AV2104-4FF06-0AK0  
6AV2104-4HH06-0AK0  
6AV2104-4KK06-0AK0

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

<sup>2)</sup> Each including 1 upgrade license to the WinCC Runtime Advanced options

## Technical specifications

The following tables of system limitations provide assistance in estimating whether a specific project is still within the system limitations for WinCC Runtime Advanced.

The stated maximum values are not additive. Proper functioning of configurations that make full use of all system limits on the HMI devices cannot be guaranteed. In addition to the limitations specified, allowances must be made for restrictions in configuration memory resources.

SIMATIC WinCC Runtime Advanced	
<b>Tags</b>	
Number of tags in the project	24 576
Number of PowerTags	128–16 384
Number of elements per array	1 600
Number of local tags	8 192
<b>Alarms</b>	
Number of alarm classes	32
Number of discrete alarms	6 000
Number of analog alarms	500
Length of an alarm in characters	80
Number of process values per alarm	8
Size of the alarm buffer	2 048
Number of queued alarm events	500
<b>Screens</b>	
Number of screens	750
Number of fields per screen	600
Number of tags per screen	400
Number of complex objects per screen <sup>1)</sup>	40
<b>Recipes</b>	
Number of recipes	1 000
Number of elements per recipe <sup>2)</sup>	2 000
User data length in KB per data record	512
Number of data records per recipe	5 000
<b>Logs</b>	
Number of logs	100
Number of entries per log (including all log segments) <sup>3)</sup>	500 000
Number of log segments	400
Cyclical trigger for tag logging	1 s
Number of tags that can be logged per log	24 576

SIMATIC WinCC Runtime Advanced	
<b>Trends</b>	
Number of trends	800
<b>Text lists and graphics lists</b>	
Number of graphics lists	500
Number of text lists	500
Number of entries per text or graphics list	3 500
Number of graphic objects	24 576
Number of text elements	40 000
<b>Scripts</b>	
Number of scripts	200
<b>Communication</b>	
Number of connections	8
Number of connections based on "SIMATIC HMI HTTP"	16
Maximum number of connected Sm@rtClients (including a service client)	4 <sup>4)</sup>
<b>Online help</b>	
Number of characters in a help text	500
<b>Languages</b>	
Number of runtime languages	32
<b>Scheduler</b>	
Time-triggered tasks <sup>5)</sup>	48
<b>User administration</b>	
Number of user groups	50
Number of user authorizations	32
Number of users	100

<sup>1)</sup> Complex objects are: Bars, sliders, symbol library, clock, and all objects from the Controls area.

<sup>2)</sup> When using arrays, each array element represents a recipe element

<sup>3)</sup> For the "segmented circular log" logging method, the number of entries for all sequence logs is valid. The product derived from the number of circular logs times the number of data records in this log may not be exceeded.

<sup>4)</sup> Up to three Sm@rtClients can interconnect with the Sm@rtServer on Panel PC 477.

<sup>5)</sup> Event-triggered tasks are not relevant for the system limits.

### More information

More information is available on the internet under <http://www.siemens.com/wincc-advanced>.

## HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

### SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional

#### Overview

PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients.

SIMATIC WinCC Runtime Professional is the information hub for corporation-wide vertical integration. SIMATIC WinCC Runtime Professional is configured with the SIMATIC WinCC Professional configuration software.

#### Benefits

- Functions for all visualization tasks:
  - Operator functions
  - Graphics and trend displays
  - Alarm logging
  - Report system
  - Archiving (option)
  - Recipe management (option)
- Universally scalable
  - Expandable from single station to client-server configurations
  - Process visualization via the web with the WinCC WebNavigator
- Open standards for easy integration
  - Efficient real-time database MS SQL Server
  - Open for application modules with ActiveX controls
  - Visual Basic for Applications for individual expansions
  - OPC for cross-vendor communication
- Part of the Totally Integrated Automation Portal
  - Direct access to the tag and message configuration of the SIMATIC Controller
  - Excellent support for the new SIMATIC S7-1500 Controllers
  - With symbolic addressing
  - Access to the new memory-optimized data blocks
  - New ProDiag alarm and diagnostics concept
  - Integrated diagnostics functions for increasing productivity

#### Application

SIMATIC WinCC Runtime Professional is designed for visualization and operator control of processes, production flows, machines and plants. With its powerful process interface, especially to the SIMATIC family, and the secure data logging, WinCC Runtime Professional enables solutions for the process control.

The sector-neutral basic system enables universal usage in all automation applications.

SIMATIC WinCC Runtime Professional can be used in combination with the following operator panels:

SIMATIC PCs:

- SIMATIC Rack PC: IPC547, IPC647, IPC847
- SIMATIC Box PC: IPC427, IPC627, IPC827
- SIMATIC Panel PC: IPC477, IPC677
- Standard PC

#### Design

SIMATIC WinCC Runtime Professional is available as a software package with 128, 512, 2 048, 4 096, 8 192, 65 536, 102 400, 153 600 and 262 144 PowerTags.

PowerTags are data points that are connected to controllers or other data sources via a WinCC Runtime Professional channel. Up to 32 alarms can be obtained from one data point. Moreover, internal tags without coupling are available for additional system performance. WinCC Runtime Professional also contains 500 archive tags. Additional archive licenses can be obtained for greater quantity structures.

#### **Licenses for a multi-user configuration**

The system software with the required number of PowerTags and additionally the SIMATIC WinCC Server for Runtime Professional option must be installed on the server. For the clients in the basic configuration, a SIMATIC WinCC Client for Runtime Professional license is sufficient.

## Function

### Visualization via Windows-compliant user interface

Made up of parameterizable screen objects and faceplates created on a project-specific basis:

- Numeric and alphanumeric input/output fields
- Static text and graphic display plus vector graphics
- Dynamizable graphics from HMI symbol library
- Bar graph, trend curve graph with scroll and zoom function as well as read line
- Signal-specific text and graphic lists
- Buttons and switches for operator-process communication
- Editing fields for process values (signals)
- Analog display, slider as example for further screen objects
- Project-specific faceplates created from basic objects of the system
- Graphic displays for various standard graphic formats, e.g. bitmaps, .jpg, .wmf, .svg

### Alarms and messages

- Discrete alarms and analog alarms, as well as event-driven Alarm-S/Alarm-D message procedure with SIMATIC S7
- The new ProDiag alarm and diagnostics concept of the S7-1500 Controller is also supported
- Freely-definable message classes for definition of acknowledgment response and display of alarm events

### Logging of messages and process values <sup>1)</sup>

- Signaling system for detecting and archiving events with display and control options according to DIN 19235
- Process logging for the acquisition, compression and storage of measured values
- Online evaluation of process value and alarm logs

### Recipes <sup>1)</sup>

- Generation of data records for machine data or production data
- Display or entry of data records via a configurable screen object or via process screens distributed within the project
- Transmission of data records from or to the PLC
- Import/export of data records for further processing with other tools (e.g. MS Excel)

### Documentation of process data, alarm events, and recipes

- Time or event-driven report output
- User-definable layout

### Flexible expansion by means of Visual Basic Script and ANSI-C

- Programming interfaces for individual access to data and functions of WinCC Runtime Professional and for the integration in user programs with VBA, VB Script, C-API, C-Script (ANSI-C)

### Open communication between HMI systems and with higher-level systems

- OPC Server/Client  
Use of the visualization system as a data server (OPC Server) for higher-level automation components such as control systems or systems in the office area
  - OPC DA Server: tags, e.g. process values
  - OPC HDA Server: logged process values
  - OPC A&E Server: Alarms
  - OPC XML DA Server: tags, e.g. process values
  - OPC UA DA Server: tags, e.g. process values
  - OPC UA DA Client: Tags, e.g. process values
- OLE DB Server
  - Standardized and user-friendly access to WinCC log data (MS SQL Server 2005).
  - Access via the OLE DB provider supplies all WinCC log data available along with the accompanying process values, as well as alarm and user texts.
  - The WinCC OLE DB provider also supports analysis functions such as minimum, maximum, alarm hit list, etc.
- WinCC WebUX for Runtime Professional <sup>1)</sup>
  - The WebUX option enables platform and browser-independent operator control and monitoring via the internet or the in-house intranet or LAN.
  - Installation on the terminal is not necessary – an HTML5-compatible browser is sufficient. WebUX can then also be used on mobile terminals.
- WinCC WebNavigator for Runtime Professional<sup>1)</sup>
  - Option for SIMATIC WinCC Runtime Professional for operator control and monitoring of plants over the internet, company Intranet or LAN.
  - Configuration from a web server with the SIMATIC WinCC Runtime Professional software as a single-user, client or server version and a web client that enables operator control and monitoring of a current WinCC Runtime Professional project via an internet browser with ActiveX support. The WinCC basic system does not have to be installed on the client computer.
- WinCC DataMonitor for Runtime Professional <sup>1)</sup>
  - The WinCC DataMonitor is used for display and evaluation of current process states and historical data on office PCs using standard tools such as Microsoft internet Explorer or Microsoft Excel. The DataMonitor Client is supported by a web server with current and historical process data and alarms. All staff ranging from machine operators to corporate managers can use the DataMonitor to obtain information.

<sup>1)</sup> Option for SIMATIC WinCC Runtime Professional; runtime licenses must be purchased separately. More information is available under "WinCC options".

### Language support for multilingual projects

- Language-dependent texts and graphics
- Language selection during runtime

### Onboard PLC connection to many different PLCs

- Communication via native drivers and standard OPC channel
- For communication with subordinate PLCs (SIMATIC protocols, PROFIBUS DP, PROFIBUS FMS, DDE and OPC Server included in the scope of supply)

### Note:

For communication, the supplied SIMATIC Net V17 must be installed.

Before installing SIMATIC WinCC RT Professional, please always ensure compatibility with the add-on packages and options you require and use.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional****Function**

System requirements	SIMATIC WinCC Runtime Professional
<b>Processor type (min.)</b> <sup>1)</sup>	<ul style="list-style-type: none"> <li>64-bit operating system: at least Intel® Celeron™ 2.2 GHz or comparable</li> </ul>
<b>RAM (min.)</b> <sup>2)</sup>	8 GB (4 GB for WinCC RT Professional client)
<b>Free hard disk space</b> <sup>3)</sup>	8 GB on system drive "C:"
<b>Operating systems</b>	64-bit operating systems: <ul style="list-style-type: none"> <li>Windows 10 Professional Version 21H1 / 21H2</li> <li>Windows 10 Enterprise Version 21H1 / 21H2</li> <li>Windows 10 Enterprise LTSC 2016 / 2019 / 2021</li> <li>Windows 11 Professional Version 21H2</li> <li>Windows 11 Enterprise Version 21H2</li> <li>Windows Server 2016 / 2019 / 2022 Standard (full installation)</li> </ul>
<b>Graphics card</b>	32 MB RAM, 24-bit color depth
<b>Network</b>	Ethernet 10 Mbps or higher
<b>Optical drive</b>	DVD-ROM

<sup>1)</sup> In combination with options, more powerful systems may be required

<sup>2)</sup> The required RAM is determined primarily by the size of the graphics used.

<sup>3)</sup> Without taking archives into account.

**Note:**

In addition to WinCC, Windows also requires space on the hard disk; e.g. free storage space should be available for the swap file.

The following formula has proven itself in the past:  
Size of swap file = 3 x size of RAM.

For more information, refer to your Windows documentation.

**Integration****Integration in company-wide solutions (IT and business integration)**

WinCC Runtime Professional is strictly based on Microsoft technology, which provides for the greatest possible compatibility and integration ability.

Cross-manufacturer communication is also a simply exercise. The reason: WinCC Runtime Professional can be used as an OPC client and server, and in addition to access to current process values, it also supports standards such as OPC HDA (Historical Data Access), OPC Alarm & Events, OPC UA Data Access and OPC XML Data Access.

Just as important: Visual Basic Scripting (VBS) as an easy-to-learn, open Runtime language. If desired, professional application developers can also use ANSI-C.

WinCC Runtime Professional integrates a powerful and scalable Historian function based on the Microsoft SQL Server in the basic system.

Thus the user is given all possibilities: from high-performance archiving of current process data, to long-term archiving with high data compression, through to a central information hub in the form of a company-wide Process Historian. Open interfaces form the basis for an effective IT and business integration.

**Ordering data****Article No.****SIMATIC WinCC Runtime Professional V18****Basic software**

- 128 PowerTags
  - 512 PowerTags
  - 2 048 PowerTags
  - 4 096 PowerTags
  - 8 192 PowerTags
  - 65 536 PowerTags
  - 102 400 PowerTags
  - 153 600 PowerTags
  - 262 144 PowerTags
  - Client for Runtime Professional
- Incl. 500 archive tags each

**As download** <sup>1)</sup>

Email address required for delivery.

- 128 PowerTags
  - 512 PowerTags
  - 2 048 PowerTags
  - 4 096 PowerTags
  - 8 192 PowerTags
  - 65 536 PowerTags
  - 102 400 PowerTags
  - 153 600 PowerTags
  - 262 144 PowerTags
  - Client for Runtime Professional
- Incl. 500 archive tags each

**SIMATIC WinCC Runtime Professional ASIA V18**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags
- 102 400 PowerTags
- 153 600 PowerTags
- 262 144 PowerTags

Incl. 500 archive tags each

6AV2105-0BA08-0AA0  
6AV2105-0DA08-0AA0  
6AV2105-0FA08-0AA0  
6AV2105-0HA08-0AA0  
6AV2105-0KA08-0AA0  
6AV2105-0MA08-0AA0  
6AV2105-0PA08-0AA0  
6AV2105-0RA08-0AA0  
6AV2105-0TA08-0AA0  
6AV2107-0DB08-0AA0

6AV2105-0BA08-0AH0  
6AV2105-0DA08-0AH0  
6AV2105-0FA08-0AH0  
6AV2105-0HA08-0AH0  
6AV2105-0KA08-0AH0  
6AV2105-0MA08-0AH0  
6AV2105-0PA08-0AH0  
6AV2105-0RA08-0AH0  
6AV2105-0TA08-0AH0  
6AV2107-0DB08-0AH0

6AV2105-0BA18-0AA0  
6AV2105-0DA18-0AA0  
6AV2105-0FA18-0AA0  
6AV2105-0HA18-0AA0  
6AV2105-0KA18-0AA0  
6AV2105-0MA18-0AA0  
6AV2105-0PA18-0AA0  
6AV2105-0RA18-0AA0  
6AV2105-0TA18-0AA0

Ordering data	Article No.	Article No.
<p><b>PowerPacks</b> (version-independent)</p> <p><b>SIMATIC WinCC Runtime Professional and SIMATIC WinCC Runtime Professional ASIA</b></p> <ul style="list-style-type: none"> <li>• 128 to 512 PowerTags</li> <li>• 512 to 2 048 PowerTags</li> <li>• 2 048 to 4 096 PowerTags</li> <li>• 4 096 to 8 192 PowerTags</li> <li>• 8 192 to 65 536 PowerTags</li> <li>• 65 536 to 102 400 PowerTags</li> <li>• 102 400 to 153 600 PowerTags</li> <li>• 153 600 to 262 144 PowerTags</li> </ul> <p>As download<sup>1)</sup> Email address required for delivery.</p> <ul style="list-style-type: none"> <li>• 128 to 512 PowerTags</li> <li>• 512 to 2 048 PowerTags</li> <li>• 2 048 to 4 096 PowerTags</li> <li>• 4 096 to 8 192 PowerTags</li> <li>• 8 192 to 65 536 PowerTags</li> <li>• 65 536 to 102 400 PowerTags</li> <li>• 102 400 to 153 600 PowerTags</li> <li>• 153 600 to 262 144 PowerTags</li> </ul>	<p><b>6AV2105-2BD00-0BD0</b> <b>6AV2105-2DF00-0BD0</b> <b>6AV2105-2FH00-0BD0</b> <b>6AV2105-2HK00-0BD0</b> <b>6AV2105-2KM00-0BD0</b> <b>6AV2105-2MP00-0BD0</b> <b>6AV2105-2PR00-0BD0</b> <b>6AV2105-2RT00-0BD0</b></p> <p><b>6AV2105-2BD00-0BJ0</b> <b>6AV2105-2DF00-0BJ0</b> <b>6AV2105-2FH00-0BJ0</b> <b>6AV2105-2HK00-0BJ0</b> <b>6AV2105-2KM00-0BJ0</b> <b>6AV2105-2MP00-0BJ0</b> <b>6AV2105-2PR00-0BJ0</b> <b>6AV2105-2RT00-0BJ0</b></p>	<p><b>Upgrades V11..17 to WinCC V18</b></p> <p><b>SIMATIC WinCC Runtime Professional and SIMATIC WinCC Runtime Professional ASIA</b></p> <ul style="list-style-type: none"> <li>• SIMATIC WinCC Runtime Professional 128 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 512 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 2 048 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 4 096 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 8 192 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 64k to 256k PowerTags</li> <li>• Client for Runtime Professional</li> </ul> <p>As download<sup>1)</sup> Email address required for delivery.</p> <ul style="list-style-type: none"> <li>• SIMATIC WinCC Runtime Professional 128 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 512 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 2 048 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 4 096 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 8 192 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 64k to 256k PowerTags</li> <li>• Client for Runtime Professional</li> </ul>
		<p><b>6AV2105-3BB08-0AEO</b> <b>6AV2105-3DD08-0AEO</b> <b>6AV2105-3FF08-0AEO</b> <b>6AV2105-3HH08-0AEO</b> <b>6AV2105-3KK08-0AEO</b> <b>6AV2105-3MM08-0AEO</b> <b>6AV2107-3DB08-0AEO</b> <b>6AV2105-3BB08-0AKO</b> <b>6AV2105-3DD08-0AKO</b> <b>6AV2105-3FF08-0AKO</b> <b>6AV2105-3HH08-0AKO</b> <b>6AV2105-3KK08-0AKO</b> <b>6AV2105-3MM08-0AKO</b> <b>6AV2107-3DB08-0AKO</b></p>

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional****Ordering data****Article No.****Article No.****SIMATIC WinCC Runtime Professional V17****Basic software**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags
- 102 400 PowerTags
- 153 600 PowerTags
- 262 144 PowerTags
- Client for Runtime Professional

Incl. 500 archive tags each

**As download<sup>1)</sup>**

Email address required for delivery.

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags
- 102 400 PowerTags
- 153 600 PowerTags
- 262 144 PowerTags
- Client for Runtime Professional

Incl. 500 archive tags each

**SIMATIC WinCC Runtime Professional ASIA V17**

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags
- 102 400 PowerTags
- 153 600 PowerTags
- 262 144 PowerTags

Incl. 500 archive tags each

6AV2105-0BA07-0AA0  
6AV2105-0DA07-0AA0  
6AV2105-0FA07-0AA0  
6AV2105-0HA07-0AA0  
6AV2105-0KA07-0AA0  
6AV2105-0MA07-0AA0  
6AV2105-0PA07-0AA0  
6AV2105-0RA07-0AA0  
6AV2105-0TA07-0AA0  
6AV2107-0DB07-0AA0

6AV2105-0BA07-0AH0  
6AV2105-0DA07-0AH0  
6AV2105-0FA07-0AH0  
6AV2105-0HA07-0AH0  
6AV2105-0KA07-0AH0  
6AV2105-0MA07-0AH0  
6AV2105-0PA07-0AH0  
6AV2105-0RA07-0AH0  
6AV2105-0TA07-0AH0  
6AV2107-0DB07-0AH0

6AV2105-0BA17-0AA0  
6AV2105-0DA17-0AA0  
6AV2105-0FA17-0AA0  
6AV2105-0HA17-0AA0  
6AV2105-0KA17-0AA0  
6AV2105-0MA17-0AA0  
6AV2105-0PA17-0AA0  
6AV2105-0RA17-0AA0  
6AV2105-0TA17-0AA0

**Upgrades V11..16 to WinCC V17****SIMATIC WinCC Runtime Professional V11..15.16 and****SIMATIC WinCC Runtime Professional ASIA V11..V16 to V17**

- SIMATIC WinCC Runtime Professional 128 PowerTags
  - SIMATIC WinCC Runtime Professional 512 PowerTags
  - SIMATIC WinCC Runtime Professional 2 048 PowerTags
  - SIMATIC WinCC Runtime Professional 4 096 PowerTags
  - SIMATIC WinCC Runtime Professional 8 192 PowerTags
  - SIMATIC WinCC Runtime Professional 64k to 256k PowerTags
  - Client for Runtime Professional
- As download<sup>1)</sup>  
Email address required for delivery.
- SIMATIC WinCC Runtime Professional 128 PowerTags
  - SIMATIC WinCC Runtime Professional 512 PowerTags
  - SIMATIC WinCC Runtime Professional 2 048 PowerTags
  - SIMATIC WinCC Runtime Professional 4 096 PowerTags
  - SIMATIC WinCC Runtime Professional 8 192 PowerTags
  - SIMATIC WinCC Runtime Professional 64k to 256k PowerTags
  - Client for Runtime Professional

6AV2105-3BB07-0AE0

6AV2105-3DD07-0AE0

6AV2105-3FF07-0AE0

6AV2105-3HH07-0AE0

6AV2105-3KK07-0AE0

6AV2105-3MM07-0AE0

6AV2107-3DB07-0AE0

6AV2105-3BB07-0AK0

6AV2105-3DD07-0AK0

6AV2105-3FF07-0AK0

6AV2105-3HH07-0AK0

6AV2105-3KK07-0AK0

6AV2105-3MM07-0AK0

6AV2107-3DB07-0AK0

Ordering data	Article No.	Article No.
<p><b>Upgrades</b></p> <p><b>to SIMATIC WinCC RT Professional V17</b></p> <ul style="list-style-type: none"> <li>• SIMATIC WinCC Runtime Professional 128 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 512 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 2 048 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 8 192 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 64k to 256k PowerTags</li> <li>• Client for Runtime Professional As download<sup>1)</sup> Email address required for delivery.</li> <li>• SIMATIC WinCC Runtime Professional 128 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 512 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 2 048 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 8 192 PowerTags</li> <li>• SIMATIC WinCC Runtime Professional 64k to 256k PowerTags</li> <li>• Client for Runtime Professional</li> </ul>	<p><b>6AV2105-4BB07-0AE0</b></p> <p><b>6AV2105-4DD07-0AE0</b></p> <p><b>6AV2105-4FF07-0AE0</b></p> <p><b>6AV2105-4KK07-0AE0</b></p> <p><b>6AV2105-4MM07-0AE0</b></p> <p><b>6AV2107-4DB07-0AE0</b></p> <p><b>6AV2105-4BB07-0AK0</b></p> <p><b>6AV2105-4DD07-0AK0</b></p> <p><b>6AV2105-4FF07-0AK0</b></p> <p><b>6AV2105-4KK07-0AK0</b></p> <p><b>6AV2105-4MM07-0AK0</b></p> <p><b>6AV2107-4DB07-0AK0</b></p>	<p><b>Software Update Service (SUS)</b></p> <p><b>SIMATIC WinCC RT Professional Software Update Service (SUS);</b> Under this contract, you receive all current software versions for a period of one year. The contract is automatically extended for one more year unless it is canceled three months before expiration. Delivery and service period: 1 year from date of invoice Condition for contract: current software version</p> <ul style="list-style-type: none"> <li>• standard</li> <li>• as download; email address required for delivery</li> </ul> <p><b>SIMATIC WinCC RT Professional Client Software Update Service (SUS);</b> Under this contract, you receive all current software versions for a period of one year. The contract is automatically extended for one more year unless it is canceled three months before expiration. Delivery and service period: 1 year from date of invoice Condition for contract: current client version</p> <ul style="list-style-type: none"> <li>• standard</li> <li>• as download; email address required for delivery</li> </ul> <p><b>6AV2105-0XA00-0AL0</b> <b>6AV2105-0XA00-0AY0</b></p> <p><b>6AV2107-0DB00-0AL0</b> <b>6AV2107-0DB00-0AY0</b></p>

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found under <http://www.siemens.com/tia-online-software-delivery>

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime Professional****Technical specifications**

The following tables of system limits provide assistance in estimating whether a specific project is still within the system limitations for WinCC Runtime Professional. The stated maximum values are not additive.

We cannot guarantee proper functioning of configurations that make full use of all system limits on the HMI devices. In addition to the limitations specified, allowances must be made for restrictions in configuration memory resources.

	<b>SIMATIC WinCC Runtime Professional</b>
<b>Alarms</b>	
Configurable alarms per server/single user	150,000
PowerTags per alarm line	10
User text blocks per alarm line	10
Message classes	256
Alarm types	16
Alarm priorities	17 (0...16)
<b>Alarms in Runtime</b>	
Alarms per alarm log	Unlimited <sup>1)</sup>
Alarms per short-term log list	1,000
Alarms per long-term log list	1,000 <sup>2)</sup>
Alarms per alarm display	5,000 <sup>3)</sup>
<b>Screens</b>	
Objects per screen <sup>4)</sup>	Unlimited <sup>5)</sup>
Levels per screen	32
Screens per project	Unlimited <sup>5)</sup>
Instances of fixed faceplates in a process screen	31 instances of the same picture type
Screen size in pixels	10 000 x 10 000
Nesting levels of screen objects	20
<b>Recipes</b>	
Number of recipes	Unlimited <sup>5)</sup>
Number of recipe elements	500 <sup>6)</sup>
Number of recipe data records	10,000 <sup>6)</sup>
Number of views	Unlimited <sup>5)</sup>

	<b>SIMATIC WinCC Runtime Professional</b>
<b>Logs</b>	
Trend views per screen	25
Trends per trend view	80
Tables per screen	25
Columns per table	12
Values per table	30,000
Logs per single-user station/server	100
Log tags per single-user station/server <sup>7)</sup>	80,000
<b>Trends</b>	
Trend views per image	25
Trends per trend view	80
<b>User administration</b>	
Number of user groups	128
Number of user rights	999
Number of users	128
<b>Configurations – Quantity structure in a multi-user system</b>	
WinCC Clients in a system	32 <sup>8)</sup> <sup>9)</sup>
Web clients in a system	150 <sup>10)</sup>

<sup>1)</sup> Limited by system resources.

<sup>2)</sup> On single-user station or server or on client per server if "LongTimeArchiveConsistency" is set to "No". On single-user station, server, or client if "LongTimeArchiveConsistency" is set to "Yes".

<sup>3)</sup> On single-user station or server or on client per server.

<sup>4)</sup> The number and complexity of the objects affect the performance.

<sup>5)</sup> Limited by system resources.

<sup>6)</sup> The sum of the number of recipe elements and number of data records must not exceed a value of 1,000,000

<sup>7)</sup> Dependent on the Logging PowerPack used for the log tags. 500 log tags are contained in the basis version.

<sup>8)</sup> If the server is also used as an operator station, the number of clients for this server is reduced to four.

<sup>9)</sup> Mixed configuration: 32 clients + 3 web clients

<sup>10)</sup> Mixed configuration: 50 web clients + 1 WinCC Client

**More information**

More information is available on the internet under

<http://www.siemens.com/wincc-professional>.

## Overview

### Communication – SIMATIC WinCC Runtime Advanced

WinCC Advanced is an open visualization system and offers the option of connecting the most diverse control systems.

#### Number of connectable controllers

WinCC Advanced permits the parallel coupling of up to 8 controllers.  
Connection to controllers from other manufacturers.

The following "Coupling overview" table includes lists of third-party protocols and controllers from other manufacturers which are directly supported by WinCC Advanced. Generally it is also possible to connect controllers from other manufacturers via OPC (OLE for Process Control).

### Coupling overview for WinCC Runtime Advanced

Protocol	Description	PC interface
<b>SIMATIC S7</b>		
<b>Ethernet TCP/IP (S7 communication)</b>	Channel for communication via Ethernet TCP/IP with max. 8 x SIMATIC S7 controllers S7-1200, S7-1500 S7-300, S7-400, S7-200 with CP 243-1	CP 1612 A2 CP 1623
<b>MPI, PROFIBUS (S7 communication)</b>	Channel for communication via MPI, PROFIBUS with max. 8 x SIMATIC S7 controllers S7-1200 with CM 1243-5 (DP master), S7-1500 S7-300, S7-400, S7-200 (passive S7-200 only)	CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623
<b>PPI (PPI protocol)</b>	Channel for communication via PPI with 1 x SIMATIC S7-200 (network operation, e.g. parallel PG possible)	CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623
<b>Software interface (S7 communication)</b>	Channel for communication via software interface with WinAC	
<b>SINUMERIK <sup>2)</sup></b>		
<b>Ethernet TCP/IP (S7 communication)</b>	Channel for communication via Ethernet TCP/IP with SINUMERIK 840D sl	CP 1612 A2 CP 1623
<b>MPI (S7 communication)</b>	Channel for communication via MPI with SINUMERIK 840D sl	CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623

Current notes and information about OPC servers from many different suppliers can be found at:  
<http://www.opcfoundation.org/>

WinCC Advanced supports the standards:

- OPC Data Access 2.05a
- OPC UA Data Access 1.01
- OPC XML Data Access 1.00 (client via DCOM/XML gateway)

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime communication****Overview**

Protocol	Description	PC interface
<b>Controllers from other manufacturers (WinCC V11.0 and higher) <sup>3)</sup></b>		
<b>Allen Bradley DF1</b>	Channel for communication with Allen Bradley controllers via DF1 protocol The controllers SLC500 / MicroLogix and PLC5 are supported <sup>3)</sup>	COM1/COM2
<b>Mitsubishi MC TCP/IP</b>	Channel for communication with max. 4 x Mitsubishi controllers via Ethernet TCP/IP with Mitsubishi MC TCP/IP protocol The FX3, Q, and iQ/QnUD controller series are supported	CP 1612 A2
<b>Mitsubishi FX</b>	Channel for communication with Mitsubishi controllers via FX protocol The FX1N, FX2N controllers are supported	COM1/COM2
<b>Modbus TCP/IP</b>	Channel for communication with max. 4 x Modicon controllers via Ethernet TCP/IP using the Modbus TCP/IP protocol The Quantum, Momentum, Premium, TSX Micro, Compact and M340 controllers are supported	CP 1612 A2
<b>Modbus RTU</b>	Channel for communication with Modicon controllers via the Modbus RTU protocol The Quantum, Momentum, and Compact controllers are supported	COM1/COM2
<b>Omron Link / Multi Link</b>	Channel for communication with Omron controllers via the Link/Multi protocol The CP1x, CJ1x, CJ2H, CS1x, and CP2MC controllers are supported	COM1/COM2
<b>Cross-vendor</b>		
<b>OPC client <sup>1) 4)</sup> for OPC DA, OPC UA DA, XML DA</b>	Channel for OPC communication, WinCC can acquire data from OPC server applications	CP 1612 A2
<b>OPC server for OPC DA</b>	Server applications for OPC communication; WinCC provides process data to OPC clients	CP 1612 A2

<sup>1)</sup> HTTP and OPC communication can be used in combination with the other couplings; regarding SIMATIC Panels that support HTTP or OPC communication, see the overview under "System interfaces (WinCC V11)".

<sup>2)</sup> "SINUMERIK Operate WinCC RT Advanced" license required; for more information, see Catalog NC 60.

<sup>3)</sup> For detailed information regarding supported controllers, see "System interfaces (WinCC V11)"

<sup>4)</sup> Application note:  
Parallel use of the OPC client channel allows, for example, connection to an SNMP OPC server for visualization of the data present there. The SNMP OPC server enables monitoring of any network components (e.g. switches) that support the SNMP protocol. More information can be found under SIMATIC NET communications systems/SNMP OPC server.

**Overview**
**Communication – SIMATIC WinCC Runtime Professional**

WinCC Professional is an open process visualization system and offers the option of connecting the most diverse control systems.

Released communication software

Only communication software with the listed (or higher) product versions should be used. Corresponding SIMATIC NET upgrades are available for the upgrading of older versions.

Number of connectable controllers

With CP 1623, a maximum of 64 S7 controllers can be connected via Industrial Ethernet; with CP 5612/CP 5622 a maximum of 8 and with CP 5613 A3 a maximum of 44 S7 controllers via PROFIBUS. With approx. 10 or more controllers, the use of Industrial Ethernet is recommended.

Client-server communication

Communication between the clients and the server is implemented using the TCP/IP protocol. The construction of a separate PC-LAN is recommended. For small projects with correspondingly small message frame advent, a SIMATIC NET Industrial Ethernet can be used for both process communication (WinCC/server ↔ PLC) and for PC-PC communication (WinCC/client ↔ WinCC/server)

Controllers from other manufacturers

The following "Coupling overview" table includes lists of third-party protocols and controllers from other manufacturers which are directly supported by WinCC Professional. Generally it is also possible to connect controllers from other manufacturers via OPC (OLE for Process Control).

Current notes and information about OPC servers from many different suppliers can be found at:  
<http://www.opcfoundation.org/>

WinCC Professional supports the standards:

- OPC Data Access 2.05a
- OPC Data Access 3.00
- OPC UA Data Access 1.01
- OPC XML Data Access 1.00
- OPC HDA 1.20
- OPC A&E 1.10

**Coupling overview for WinCC Runtime Professional**

Protocol	Description	PC interface
<b>SIMATIC S7</b>		
<b>SIMATIC S7</b>	Protocol Suite with channel units for communication with SIMATIC S7 via <ul style="list-style-type: none"> <li>• Ethernet TCP/IP (S7 communication) to S7-1200, S7-1500, S7-300, S7-400</li> <li>• MPI, PROFIBUS (S7 communication) to S7-1200 with CM 1243-5 (DP master), S7-1500, S7-300, S7-400</li> <li>• Software interface (S7 communication) to WinAC</li> </ul>	CP 5612 CP 5622 CP 5711 CP 5613 A3 CP 5623
<b>Controllers from other manufacturers (WinCC V11.0 and higher)</b>		
<b>Allen Bradley Ethernet IP</b>	Channel for communication with Allen Bradley controllers via Ethernet TCP/IP with Ethernet IP protocol The ControlLogix / CompactLogix, SLC500 / MicroLogix, and PLC5 controllers are supported	CP 1612 A2
<b>Mitsubishi MC TCP/IP</b>	Channel for communication with Mitsubishi controllers via Ethernet TCP/IP with Mitsubishi MC TCP/IP protocol The FX3, Q, and iQ/QnUD controller series are supported	CP 1612 A2
<b>Modbus TCP/IP</b>	Channel for communication with Modicon controllers via Ethernet TCP/IP using the Modbus TCP/IP protocol The Quantum, Momentum, Premium, TSX Micro, Compact and M340 controllers are supported	CP 1612 A2
<b>Cross-vendor</b>		
<b>OPC client <sup>1)</sup> for OPC DA, OPC XML DA</b>	Channel for OPC communication, WinCC can acquire data from OPC server applications	CP 1612 A2
<b>OPC server for OPC DA, OPC UA DA, OPC XML DA, OPC A&amp;E, OPC HDA</b>	Server applications for OPC communication; WinCC provides process data to OPC clients	CP 1612 A2

<sup>1)</sup> Application note:

Parallel use of the OPC client channel allows, for example, connection to an SNMP OPC server for visualization of the data present there. The SNMP OPC server enables monitoring of any network components (e.g. switches) that support the SNMP protocol. More information can be found under SIMATIC NET communications systems/SNMP OPC server.

## HMI software

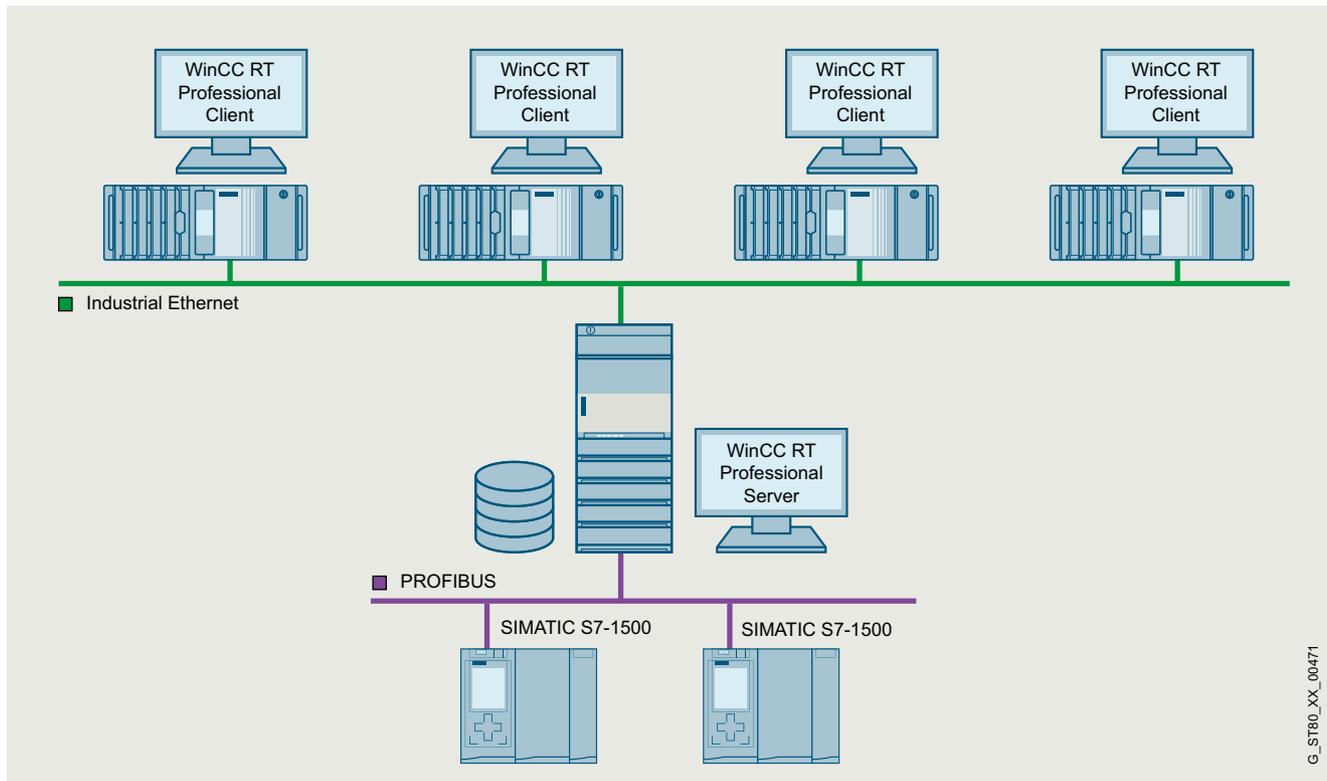
TIA Portal

SIMATIC WinCC (TIA Portal)

### SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime communication

#### Overview

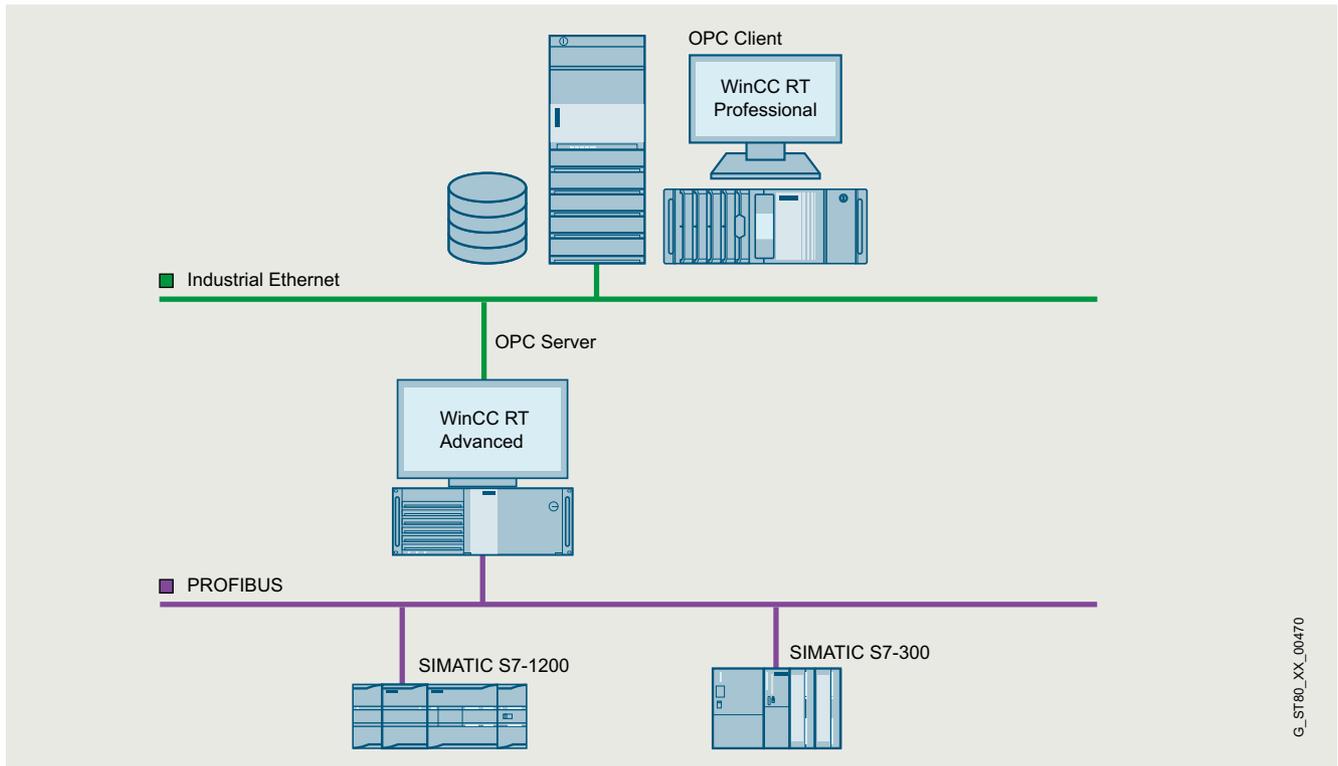
#### Communications examples



WinCC Runtime Professional multi-user system with operable server

G\_ST80\_XX\_00471

**Overview**



OPC coupling

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) Runtime > WinCC Runtime communication****Ordering data****Article No.****Article No.**

**SIMATIC WinCC (TIA Portal) communication**  
Communication via Industrial Ethernet TCP/IP

**SIMATIC NET SOFTNET-IE S7 V18**

Software for S7 and S5-compatible communication, incl. OPC server, PG/OP communication and NCM PC, up to 64 connections, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A

- Single license for 1 installation
- Upgrade package for SIMATIC NET from Edition 2006

**6GK1704-1CW18-0AA0**  
**6GK1704-1CW00-3AE0**

**SOFTNET-IE S7 Extended V18**

Software for S7-, S5-compatible communication, OPC; PG/OP communication, proj. SW up to 255 connections (S7) or 512 connections (S7-1200/S7-1500); single license for 1 installation

**6GK1704-1BW18-0AA0**

**SIMATIC NET SOFTNET-IE S7 LEAN V18**

(included in the scope of delivery of WinCC Runtime Professional)

Software for S7-compatible and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC, up to 8 connections, single license for one installation of runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A

- Single license for 1 installation
- Upgrade package for SIMATIC NET from Edition 2006

**6GK1704-1LW18-0AA0**  
**6GK1704-1LW00-3AE0**

**SIMATIC NET HARDNET-IE S7 V18**

Software for S7, open communication; OPC, PG/OP communication, project software; up to 120 connections; single license for one installation of runtime software, software and electronic manual on DVD; license key on USB flash drive; Class A

- Single license for 1 installation
- Upgrade package for SIMATIC NET from Edition 2006

**6GK1716-1CB18-0AA0**  
**6GK1716-1CB00-3AE0**

**CP 1623**

PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)

**6GK1162-3AA00**

**Communication via PROFIBUS****CP 5612**

PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in the WinCC basic package)

**6GK1561-2AA00**

**CP 5622**

PCI Express X1 card (32-bit) for connection of PG/PC to PROFIBUS (communications software included in WinCC basic package)

**6GK1562-2AA00**

**CP 5711**

USB adapter (USB V2.0) for connecting a PG/notebook to PROFIBUS or MPI (communications software included in WinCC Basic package)

**6GK1571-1AA00**

**CP 5613 A3**

PCI Card (32-bit) for connecting a PC to PROFIBUS (communication software must be ordered separately)

**6GK1561-3AA02**

**CP 5623**

PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)

**6GK1562-3AA00**

## Overview

### **Options for SIMATIC Panels, SIMATIC WinCC Runtime Advanced and SIMATIC WinCC Runtime Professional**

#### SIMATIC ProDiag

- Fully-integrated TIA solution for machine and plant diagnostics
- Saves the need for programming diagnostics in the CPU during the engineering phase and provides support for troubleshooting directly on the HMI without an engineering system using diagnostic overviews and PLC code

#### SIMATIC Logon

- Creates user administration on a central computer to which one or more WinCC stations can be connected over Ethernet networks.
- With each user logon/logoff on one of the connected stations, SIMATIC Logon checks whether a user password has been created and that the required authorizations exist.
- SIMATIC Logon supports the user in combination with the Audit option in meeting requirements in accordance with FDA 21 CFR Part 11 and EU178.

### **Options for SIMATIC WinCC Runtime Advanced and SIMATIC WinCC Runtime Professional**

#### SIMATIC WinCC Logging

- Logging of messages and process values
- Online evaluation of process value logs and alarm logs
- Evaluation of process value and alarm logs using standard MS tools such as Excel

#### SIMATIC WinCC Recipes

- Generation and management of data records for machine or production data
- Display or entry of data records via a configurable screen object or via process pictures distributed within the project
- Transmission of data records from or to the PLC
- Import/export of data records for further processing with other tools (e.g. MS Excel)

### **Options for SIMATIC Panels and SIMATIC WinCC Runtime Advanced**

#### SIMATIC WinCC Audit

- Recording of operator actions in an Audit Trail
- Electronic signature for important user actions relevant to production
- Audit supports users in meeting special quality requirements, e.g.
  - Production plants requiring validation according to FDA 21 CFR Part 11
  - In respect of traceability according to EU 175/2002 (EU directive)

#### SIMATIC WinCC Sm@rtServer

- Flexible solution for location-independent access to HMI systems
- Remote maintenance of machines and plants via the Internet/intranet
- Reduced downtimes for machines and plants due to direct remote access
- Flexible solution for location-independent access to machines and plants

### **Options for SIMATIC WinCC Runtime Professional**

#### SIMATIC WinCC DataMonitor

- Display and evaluation of current process states and historical data on office PCs with standard tools.
- Information can be individually compiled online during runtime via the Internet/intranet.

#### WinCC IndustrialDataBridge for WinCC Runtime Professional (V13 SP1 and higher)

Using the SIMATIC WinCC IndustrialDataBridge, communication links between different data sources and data targets can be created by means of simple configuration/parameter assignment. The WinCC IndustrialDataBridge can either be integrated into WinCC or used as a stand-alone application (not in conjunction with WinCC).

#### SIMATIC Information Server 2014 SP3

The SIMATIC Information Server 2014 SP3 is an open, web-based reporting system for interactive areas. Reports can be used in Internet Explorer, for Excel, Word or PowerPoint, as well as for Adobe Reader (pdf). The SIMATIC Information Server has access to archived process values and messages, and can be used either directly in conjunction with WinCC / WinCC/RT Professional / PCS7 OS or with SIMATIC Process Historian 2014.

For more detailed information on the SIMATIC Information Server and article numbers, see SCADA System SIMATIC WinCC.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) options****Overview**SIMATIC Process Historian 2014

The SIMATIC Process Historian 2014 is a powerful, long-term archive server solution that stores the WinCC process values and messages in a central database. The system offers full scalability for performance and scope: It records and stores data from one or more WinCC, WinCC/RT Professional and PCS 7 projects. The number of connected single stations, servers, or redundant server pairs is unrestricted. SIMATIC Process Historian is designed for use throughout your plant, and is positioned below the corporate management level (ERP, MES).

For more detailed information on the SIMATIC Process Historian and article numbers, see SCADA System SIMATIC WinCC.

SIMATIC WinCC Redundancy

For assembling a high-performance, fail-safe, client-server system. One WinCC/Redundancy package is required for each redundant pair of servers.

SIMATIC WinCC Server and SIMATIC WinCC Client

For assembling a high-performance client-server system

- A number of coordinated HMI stations can be operated in a single group with networked automation systems
- Client/server solution:
  - One server supplies up to 32 connected clients with process and archive data, messages, screens and reports.

SIMATIC WinCC WebNavigator

- Operator control and monitoring of plants via the Internet or the in-house intranet/LAN
- Web Client permits the operator control and monitoring of a current WinCC Runtime Professional project via an Internet browser with ActiveX support

SIMATIC WinCC WebUX

- Mobile operator control and monitoring via the Internet or the in-house intranet/LAN, using commercially available mobile devices.
- Platform and browser can be used independently on HTML5-capable and SVG-capable data terminal equipment without installation on the client.

**Overview of the individual options**

Options	WinCC RT Advanced	WinCC RT Professional	SIMATIC Panels
SIMATIC ProDiag	•	•	•
SIMATIC Logon	•	•	•
WinCC Logging	•	•	• 1)
WinCC Recipes	•	•	• 1)
WinCC Audit	•	-	•
WinCC Sm@rtServer	• 1)	-	• 1)
WinCC DataMonitor	-	•	-
WinCC IndustrialDataBridge	-	•	-
SIMATIC Information Server	-	•	-
SIMATIC Process Historian	-	•	-
WinCC Redundancy	-	•	-
WinCC Server/WinCC Client	-	•	-
WinCC WebNavigator	-	•	-
WinCC WebUX	-	•	-

- possible

1) integrated in basic system

<http://www.siemens.com/wincc-tia-portal-options>

## Overview



- Option for connecting SIMATIC Panels and PCs with SIMATIC WinCC Runtime Advanced as well as WinCC Runtime Professional to a central user administration.
- Creates user administration on a central computer to which one or more panels or WinCC stations can be connected over Ethernet.
- With each logging-on/off of a user on one of the connected stations, SIMATIC Logon checks whether a user password has been created and that the required privileges exist.

### **SIMATIC Logon for Panels and WinCC Runtime Advanced**

- All users of the SIMATIC Panels or WinCC Runtime Advanced stations can be managed plant-wide from a central location
- Supports the user in combination with the Audit option in meeting requirements in accordance with FDA 21 CFR Part 11 and EU178.
- Licensing:  
SIMATIC Logon (basic license) and SIMATIC Logon Remote Access (3-pack license) for the connection of 3 panels or WinCC Runtime Advanced stations to a central user administration. Additional stations can be connected by using further SIMATIC Logon Remote Access licenses (3-pack/10-pack).

### **SIMATIC Logon for WinCC Runtime Professional**

- All users of WinCC Runtime Professional can be managed plant-wide from a central location.
- The central user management with SL utilizes Windows mechanisms and must be installed on all participating WinCC Runtime Professional stations.
- Licensing:  
SIMATIC Logon (basic license) is included in the basic package of WinCC Runtime Professional

## Benefits

- Centralized configuration of all access authorizations of a distributed system avoids unnecessary travel times. Time-consuming multiple configurations for each individual local station become unnecessary. Accordingly, users can be easily configured from a central location.
- All access data apply throughout the plant on every connected station. Additional access data on local subsystems is no longer necessary.

## Design

### **SIMATIC Logon for Panels and WinCC Runtime Advanced**

SIMATIC Logon and SIMATIC Logon Remote Access are installed on a central station.

The following Runtime stations are connected to the central station via the Ethernet network:

- PCs with WinCC Runtime Advanced
- SIMATIC Panels from the 177 series or higher (with Ethernet interface)
- SIMATIC Mobile Panels from the 177 series or higher (with Ethernet interface)
- SIMATIC Multi Panels
- SIMATIC Comfort Panels

### **SIMATIC Logon for WinCC Runtime Professional**

The SIMATIC Logon can be used for the central user management of several WinCC Runtime Professional stations. Operation in a Windows Workgroup or even in a domain is possible.

## Function

Users receive a unique user ID, user name and password. This information is encrypted and stored at a central point (for SIMATIC Logon in the Windows user management). Functions such as changing the password, automatic log-off after a predefined time and lockout after several incorrect entries of a password ensure maximum security of operation.

In addition, SIMATIC Logon allows setting up new users online, plant-wide and across applications, or blocking of existing users. SIMATIC Logon also supports electronic signature.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) options > SIMATIC Logon****Ordering data****Article No.****SIMATIC Logon V1.6**Basic license <sup>1)</sup>

For Panels or WinCC Runtime Advanced stations, the corresponding number of additional SIMATIC Logon Remote Access licenses is required.

No SIMATIC Logon Remote Access licenses are required for WinCC Runtime Professional

**6ES7658-7BX61-0YA0****SIMATIC Logon upgrade to V1.6****6ES7658-7BX61-0YE0****SIMATIC Logon Remote Access (3 clients)**

Remote Access for 3 clients; single license for 3 SIMATIC Logon Remote Access clients; the number of licensed clients is determined from the sum of the installed SIMATIC Logon Remote Access licenses.

**6ES7658-7BA00-2YB0****SIMATIC Logon Remote Access (10 clients)**

Remote Access for 10 clients; single license for 10 SIMATIC Logon Remote Access clients; the number of licensed clients is determined from the sum of the installed SIMATIC Logon Remote Access licenses.

**6ES7658-7BB00-2YB0****More information**

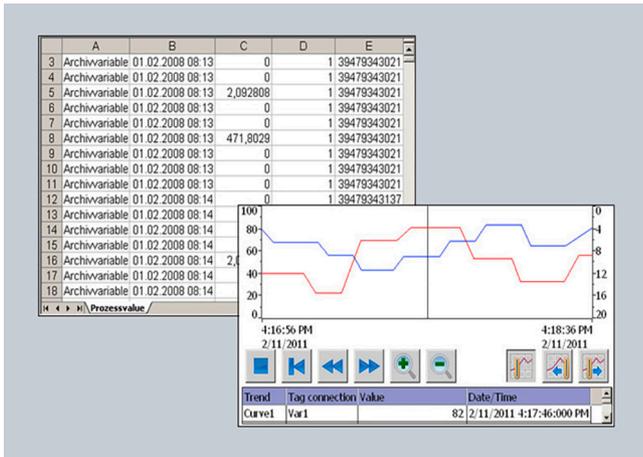
More information is available at:

<http://www.siemens.com/simatic-logon>

3

<sup>1)</sup> SIMATIC Logon V1.5 included in scope of supply of WinCC Runtime Professional.

## Overview



- Option for SIMATIC WinCC Runtime Advanced and WinCC Runtime Professional for logging process values and alarms
- Logging of process values and alarms supports the acquisition and processing of process data from an industrial plant or machine. Evaluation of the logged process data provides information about the operating states of the plant or machine
- Licensing:
  - SIMATIC Panels / Multi Panels / Comfort Panels: No license is required.
  - WinCC Runtime Advanced: One license is required per operator station
  - WinCC Runtime Professional: 500 Logging Tags are already included in the basic package. The number of Logging Tags can be increased by means of additional licenses

## Benefits

- Alarm and process value logs enable predictive diagnostics, which avoids downtimes
- Early detection of danger and fault conditions
- Increase of the product quality and the productivity thanks to regular analysis of the alarm and process value logs

## Application

- Transfer of the logs for evaluation and long-term archiving
- Detection of recurring error states
- Optimization of maintenance cycles
- Ensuring quality standards
- Quality assurance and checking the utilization of production sequences
- Documentation of process sequences

## Function

- Time-controlled as well as manual or process-controlled swapping out of process data and alarms for long-term archiving
- During runtime, swapped out data are read in and selectively analyzed using WinCC Runtime Professional
  - Presentation and evaluation of archived process data based on a configurable trend display. Reading of the values is facilitated by a read line.
  - Presentation and evaluation of archived alarms based on a configurable alarm view.
  - User-friendly navigation in the logs
- External evaluation of the logs using MS standard tools
- Various log types are supported: sequence and circular logs
- Logging of process values and alarms on external, Windows-supported storage media
  - SIMATIC Panels and WinCC Runtime Advanced: CSV files, RDB files, Microsoft SQL Server via ODBC
  - WinCC Runtime Professional: Microsoft SQL Server 2005
- Powerful standard functions permit user-friendly and flexible utilization of the logs

## HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

### SIMATIC WinCC (TIA Portal) options > WinCC Logging

#### Ordering data

#### Article No.

##### SIMATIC WinCC Logging for Runtime Advanced <sup>1)</sup>

- Single license, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

6AV2107-0GA00-0BB0

6AV2107-0GA00-0BH0

##### SIMATIC WinCC Recipes + Logging for Runtime Advanced <sup>1)</sup>

- Single license per option, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

6AV2107-0HA00-0BB0

6AV2107-0HA00-0BH0

##### SIMATIC WinCC Logging for Runtime Professional 1500 logging tags

- Single license, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

6AV2107-0GB00-0BB0

6AV2107-0GB00-0BH0

##### SIMATIC WinCC Logging for Runtime Professional 5 000 logging tags

- Single license, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

6AV2107-0GD00-0BB0

6AV2107-0GD00-0BH0

##### WinCC Logging Upgrade for SIMATIC WinCC Archives V7.0 (10 licenses)

- Single license per option, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

6AV2107-4GX00-0BF0

#### Technical specifications

WinCC Logging for Runtime Advanced	
	The values specified are maximum values
Number of logs	100
Archivable data	Process values, alarms
Cyclical trigger for archiving process values (variables)	1 s
Max. number of entries per log (incl. sequence log)	500,000 <sup>1)</sup>
Log types	Circular logs, sequence logs (max. 400 per log)
Data storage format	CSV (Comma Separated Variable), RDB (Runtime Data Base), Microsoft SQL database (database not included in scope of delivery)

<sup>1)</sup> Dependent on memory medium used

WinCC Logging for Runtime Professional	
	The values specified are maximum values
Number of logs per single-user station/server	100
Archivable data	Process values, alarms
Measured values per second, max.	Server/single-user station: 5 000 per sec.
Log tags per single-user station/server	80,000 <sup>2)</sup>
Log types	Circular log with and without long-term logging
Data storage format	Microsoft SQL 2008 database

<sup>2)</sup> Dependent on the Logging PowerPack used for the log tags. 500 log tags are contained in the basis version.

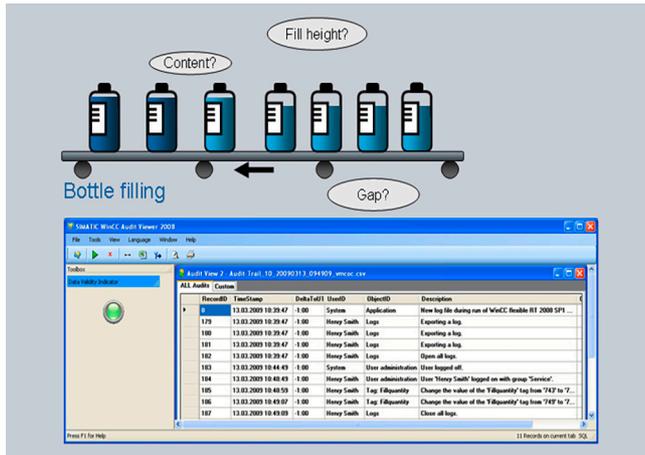
#### More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-logging-tia-portal>

<sup>1)</sup> One license is required for each operator station. A license is not required for the engineering system for configuring the runtime option.

<sup>2)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

**Overview**


- Option for SIMATIC WinCC Runtime Advanced as well as SIMATIC Panels for recording operations in an Audit Trail, and electronic signature
- The Audit Trail is furnished with a security mechanism that displays subsequent manipulations.
- A user-friendly configuration function, which is included as standard in WinCC, is used to define the following:
  - Which operator actions should be recorded in the Audit Trail during runtime
  - Which important operator actions during runtime require electronic signature/comments
- Available for the following SIMATIC HMI systems:
  - Comfort Panels
  - Mobile Panels
  - TP/OP 277
  - MP 277
  - MP 377
  - WinCC Runtime Advanced
- Licensing:
  - A license for SIMATIC WinCC Logging and SIMATIC WinCC Audit is required for every operator station (panel or PC).

**Benefits**

- Audit supports the user in meeting special quality requirements, e.g.
  - Production plant requiring validation according to 21 CFR Part 11 FDA <sup>1)</sup>
  - In respect of traceability according to EU 175/2002 <sup>2)</sup>
- The entries in the Audit Trail are uniquely assigned to users. This means that responsibilities are clearly identifiable.
- The Audit Trail, stored as a CSV file <sup>3)</sup>, can be checked via a security mechanism to find out if subsequent changes have been made.
- For particularly important user actions, e.g. starting production or loading new recipes, electronic signatures and comments can be configured and then called up and logged during runtime.

<sup>1)</sup> The FDA (Food and Drug Administration) is the American public health body

<sup>2)</sup> 21 CFR Part 11- law on plant validation

<sup>3)</sup> CSV Comma Separated Values

**Ordering data**
**Article No.**
**SIMATIC WinCC Audit for SIMATIC Comfort/Mobile Panels**

- Single license, license key only on USB flash drive
- As download <sup>1)</sup> Single license, license key download only Email address required for delivery

**6AV2107-ORP00-0BB0**
**6AV2107-ORP00-0BH0**
**SIMATIC WinCC Audit for Runtime Advanced <sup>2)</sup>**

- Single license, license key only on USB flash drive
- As download <sup>1)</sup> Single license, license key download only Email address required for delivery

**6AV2107-ORA00-0BB0**
**6AV2107-ORA00-0BH0**

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

<sup>2)</sup> The following license is also required: SIMATIC WinCC Logging for Runtime Advanced

**Technical specifications**

	WinCC Audit
Storage location for Audit Trail when used on the Panel	Plug-in Flash memory card or via Ethernet in the higher-level PC
Storage location for Audit Trail when using WinCC Runtime Advanced	Local hard disk or via Ethernet in the higher-level PC
<b>Execution platform</b>	
SIMATIC Panels	Mobile Panel 277, TP/OP 277
SIMATIC Multi Panels	MP 277, MP 377
SIMATIC Comfort Panels	all
PC systems	SIMATIC WinCC Runtime Advanced

**More information**

More information is available at:

<http://www.siemens.com/wincc-audit-tia-portal>

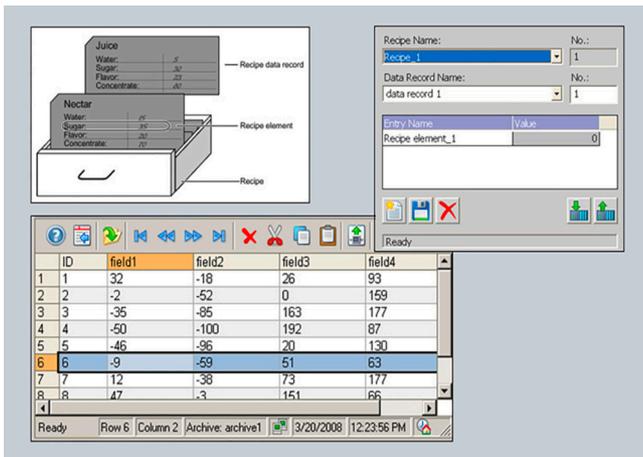
## HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

### SIMATIC WinCC (TIA Portal) options > WinCC Recipes

#### Overview



- Option for SIMATIC WinCC Runtime Advanced and WinCC Runtime Professional for managing data records in recipes that contain related machine or production data
- The data in a data set can be transferred, for example, from the control unit to the PLC to switch production to a different product variant
- Licensing:
  - SIMATIC Panels / Multi Panels / Comfort Panels:  
No license is required.
  - WinCC Runtime Advanced:  
One license is required per operator station
  - WinCC Runtime Professional:  
A license is only required on the server (or single-user system).

#### Benefits

- Generation and management of machine parameters and production data on the basis of data records, and exchange with the automation device, e.g. with the machine.
- Clear tabular representation of the data elements with the aid of a configurable screen object, or depiction in technological relationships across several process screens.
- Simple operator guidance through standard functions.
- Export/import of data records for further processing with other tools (e.g. MS Excel)

#### Function

- Input of data records (e.g. operating parameters of a machine, production data for a plastics machine) on the HMI device as well as their storage and transfer to the control
- Display or entry of data records via a configurable screen object or via several process screens distributed within the project
- The data record elements are coupled with the process via a direct tag connection
- Transmission of data records from or to the controller
- Powerful interfaces enable a synchronized data exchange with the controller.
- Storage of data records on local data carriers or on remote data servers via networks
- Logging of data records, e.g. as batch report/shift report
- User-friendly and flexible management of data records by powerful standard functions

The recipes and the associated data records are created using a separate, user-friendly WinCC Engineering editor and data is pre-assigned to them.

A configurable table object is used for displaying the data at runtime. Furthermore, the individual data record elements can also be displayed directly based on standard input/output fields across several process screens. In this way, the data in technological views can be presented clearly to the operator.

Import and export functions support the importing and exporting of data via external applications (e.g. MS Excel).

**Ordering data****Article No.****SIMATIC WinCC Recipes for Runtime Advanced**<sup>1)</sup>

- Single license, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

**6AV2107-0JA00-0BB0****6AV2107-0JA00-0BH0****SIMATIC WinCC Recipes + Logging for Runtime Advanced**<sup>1)</sup>

- Single license, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

**6AV2107-0HA00-0BB0****6AV2107-0HA00-0BH0****SIMATIC WinCC Recipes for Runtime Professional**<sup>1)</sup>

- Single license, license key only on USB flash drive
- As download<sup>2)</sup>  
Single license, license key download only  
Email address required for delivery

**6AV2107-0JB00-0BB0****6AV2107-0JB00-0BH0**

<sup>1)</sup> One license is required for each operator console. A license is not required for the engineering system for configuring the runtime option.

<sup>2)</sup> Current information and availability regarding the new delivery form can be found at: <http://www.siemens.com/tia-online-software-delivery>

**Technical specifications**

<b>WinCC Recipes for Runtime Advanced</b>	
	The values specified are maximum values
Number of recipes	1 000
Number of elements per recipe <sup>1)</sup>	2 000
User data length in KB per data record	256
Number of data records per recipe	5 000

<sup>1)</sup> When using arrays, each array element represents a recipe element

<b>WinCC Recipes for Runtime Professional</b>	
	The values specified are maximum values
Number of recipes	1 000 <sup>2)</sup>
Number of elements per recipe <sup>1)</sup>	500 <sup>3)</sup>
User data length in KB per data record	3 000 <sup>3)</sup>
Number of data records per recipe	3 000 <sup>2)</sup>

<sup>1)</sup> When using arrays, each array element represents a recipe element

<sup>2)</sup> Limited by system resources.

<sup>3)</sup> The product of the number of recipe elements and the number of data records must not exceed a value of 320 000.

**More information**

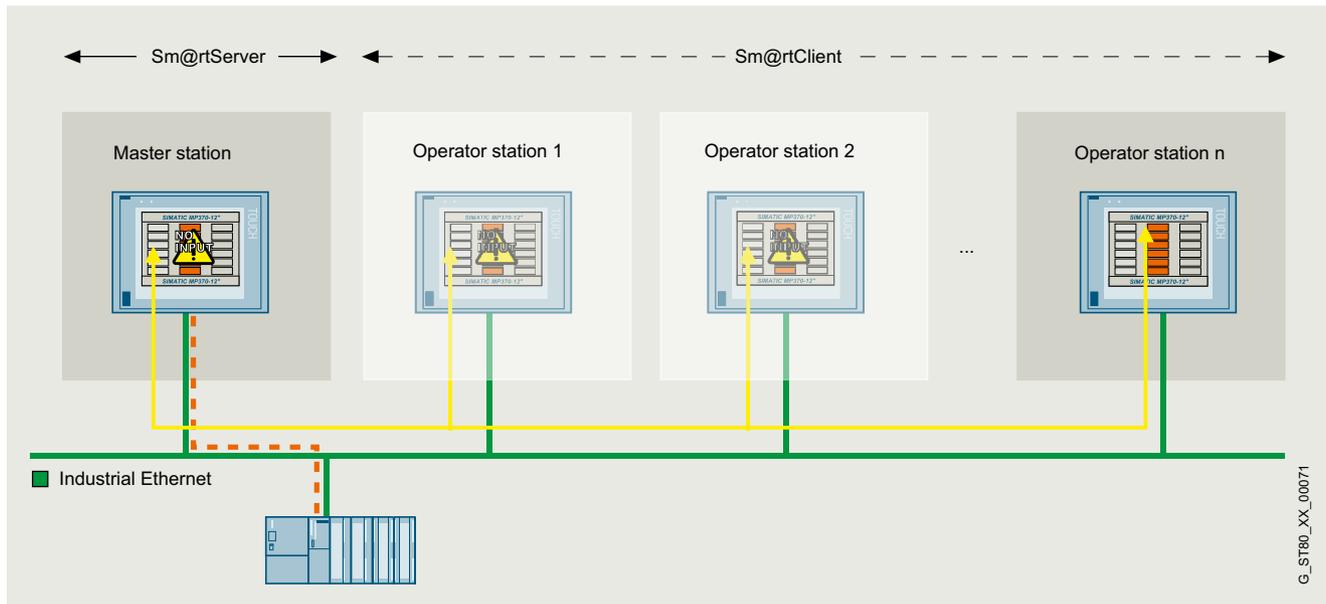
More information is available at:

<http://www.siemens.com/wincc-recipes-tia-portal>

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) options > WinCC Sm@rtServer****Overview**

- Option for SIMATIC WinCC Runtime Advanced plus SIMATIC Panels for communication between various SIMATIC HMI systems.
- Available for the following SIMATIC HMI systems:
  - Basic Panels 2<sup>nd</sup> Generation (with Ethernet interface)
  - Comfort Panels
  - Mobile Panel 2<sup>nd</sup> Generation, Mobile Panel 277, Mobile Panel 177 PN
  - TP 177B PN/DP, OP 177B PN/DP
  - TP 277, OP 277
  - MP 177, MP 277, MP 377
  - WinCC Runtime Advanced
- A SIMATIC HMI system can be used to control or monitor another system remotely; entry level for client/server configurations for distributed operator stations or for solutions with head end or control room
- Local operation, visualization and data processing are as possible as plant-wide access to information. Integrated information flows ensure an overview of the status of all processes.
- Licensing:
  - The "SIMATIC WinCC Sm@rtServer for Panel" or "SIMATIC WinCC Sm@rtServer for Basic Panel" or "SIMATIC WinCC Sm@rtServer for Runtime Advanced" license must be installed on the server operator panel.
  - For Basic Panels as of V17, for Comfort / Mobile Panels as of V14, and for WinCC Runtime Advanced as of version V14 SP1, a license is no longer required.
  - A license is not required for the engineering system for configuring the runtime option.

Note:

When accessing the operator stations via the Sm@rtServer option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

Additional information on the topic of industrial security is available on the Internet at:

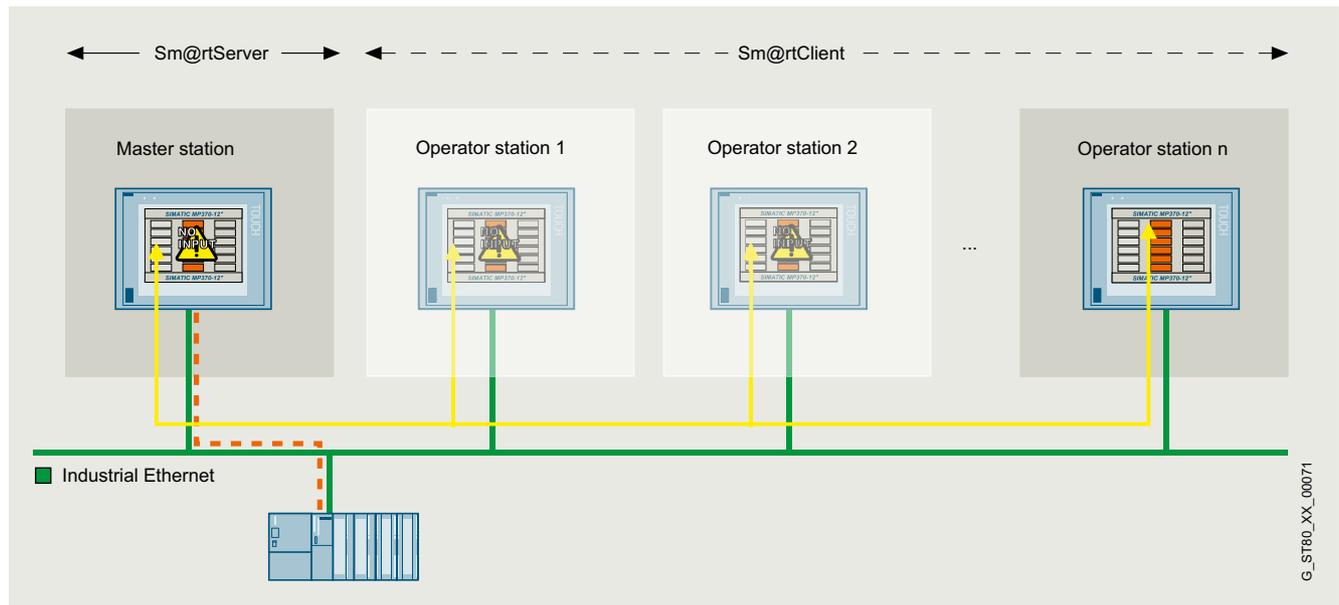
<http://www.siemens.com/industrialsecurity>

### Benefits

- Flexible solution for remote access to HMI systems
- Quick elimination of malfunctions or downtimes – thus increasing the productivity – through global access to machines/plants by the service and maintenance personnel.
- Avoidance of on-site service calls.

### Application

- Operator control and monitoring of machines covering large areas with several operator stations by one operator.
- Operator control and monitoring of machine-level HMI systems from one central station (e.g. head-end station of a production line or from a control room)
- Remote maintenance and servicing of machines/plants over the Internet/Intranet



Application of the Sm@rtClient concept: Coordinated operation of several operator stations

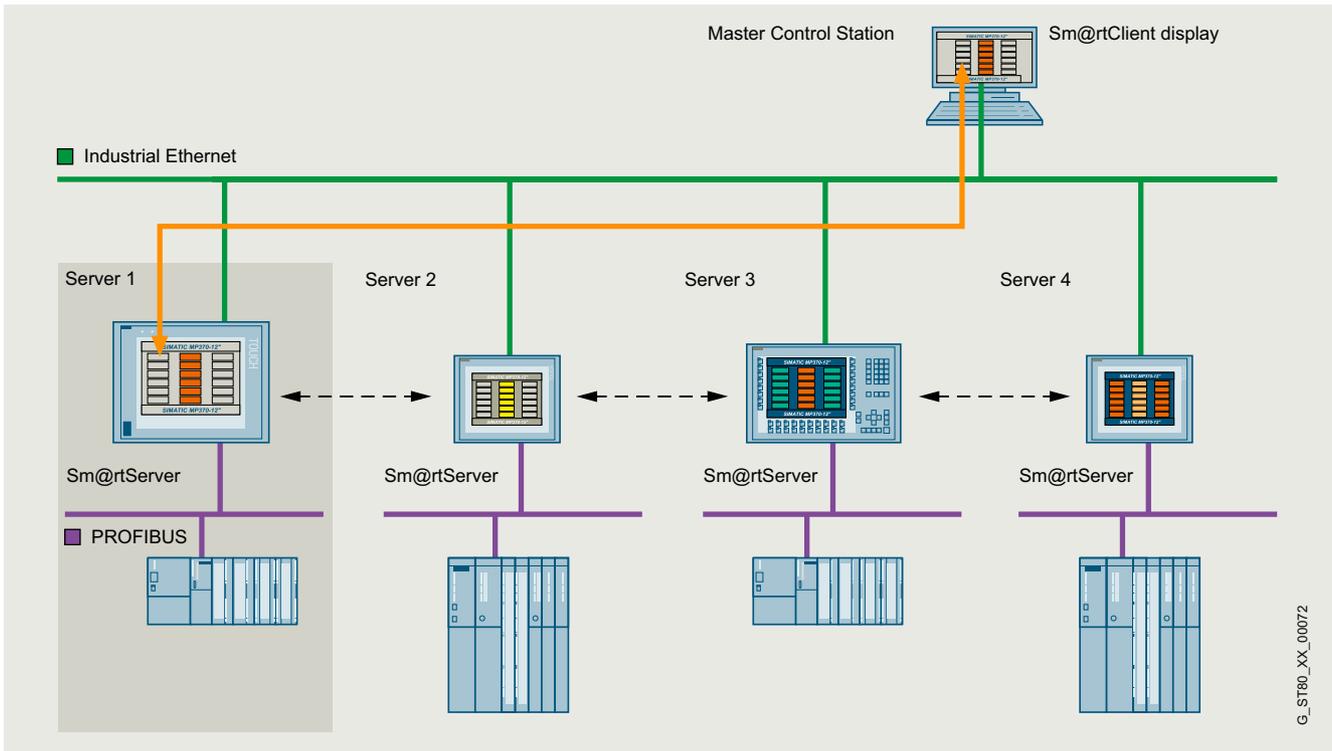
# HMI software

TIA Portal  
SIMATIC WinCC (TIA Portal)

## SIMATIC WinCC (TIA Portal) options > WinCC Sm@rtServer

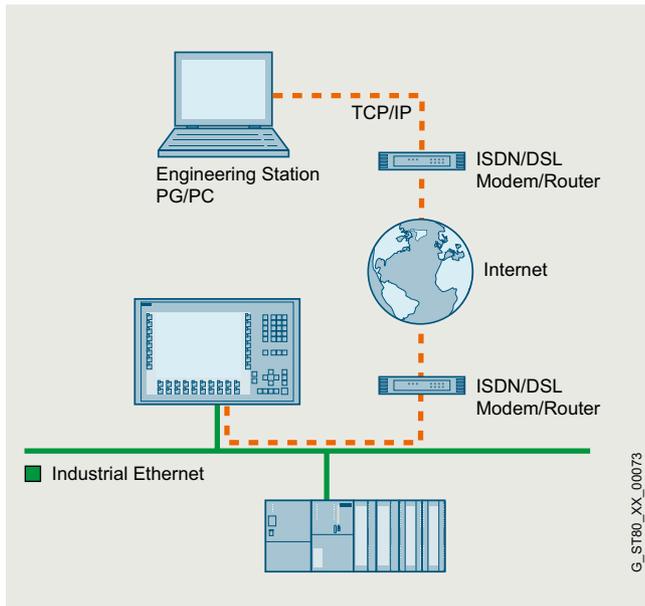
### Application

3

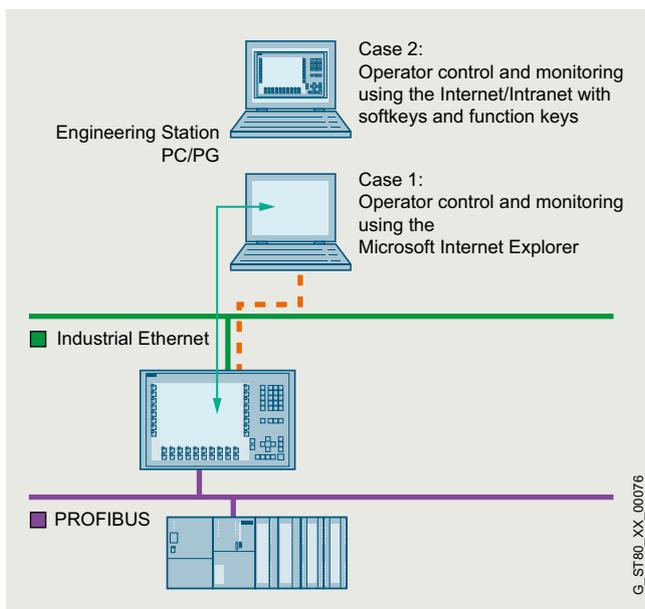


Use of the Sm@rtClient display: Operator control and monitoring of machine-level HMI systems from one central station

## Application



Remote operator control and monitoring of SIMATIC HMI systems using Industrial Ethernet and/or via the Intranet/Internet



Remote operator control and monitoring of SIMATIC HMI systems using Industrial Ethernet and/or via the Intranet/Internet

## Function

### Coordinated operation of several operator stations:

- The HMI application and communication with the controller takes place via the master station. "Sm@rtClients" can be activated from here in the case of machines/plants with larger dimensions which require a larger number of operator panels. The Sm@rtClients are then provided with access to the master station and thus to the process. Access procedures guarantee that only one operator system can actively access the process at any given time.
- Embedded in process screens, a configurable screen object (Sm@rtClient display) represents the screen of the relevant HMI system (Sm@rtServer)
- Powerful standard functions permit user-friendly and flexible operation of the display

### Remote control of an operating station:

- The HMI application and communication with the controller takes place via the HMI system. Using the Sm@rtServer, the HMI systems in the machines/systems can be serviced remotely. An access process ensures that only one operator (either locally at the machine or remotely via Internet Explorer) can actively access the process at one time.
- Microsoft Internet Explorer V6.0 SP1 or higher is sufficient for accessing an HMI system.

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) options > WinCC Sm@rtServer****Ordering data****Article No.****WinCC Sm@rtServer for SIMATIC Basic Panels <sup>1) 5)</sup>**

- Single license  
License key only on USB flash drive
- As download<sup>2)</sup>  
Single license,  
license key download only  
Email address required for delivery

**6AV2107-0CR00-0BB0****6AV2107-0CR00-0BH0****WinCC Sm@rtServer for SIMATIC Panels <sup>1) 3)</sup>**

- Single license  
License key only on USB flash drive
- As download<sup>2)</sup>  
Single license,  
license key download only  
Email address required for delivery

**6AV2107-0CP00-0BB0****6AV2107-0CP00-0BH0****WinCC Sm@rtServer for Runtime Advanced <sup>1) 4)</sup>**

- Single license  
License key only on USB flash drive
- As download<sup>2)</sup>  
Single license,  
license key download only  
Email address required for delivery

**6AV2107-0CA00-0BB0****6AV2107-0CA00-0BH0**

- <sup>1)</sup> The license must be installed on the Sm@rtServer operator panel. A license is not required for the engineering system for configuring the runtime option.
- <sup>2)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>
- <sup>3)</sup> The license is no longer required for version V14 or higher
- <sup>4)</sup> The license is no longer required for version V14 SP1 or higher
- <sup>5)</sup> The license is no longer required for version V17 or higher

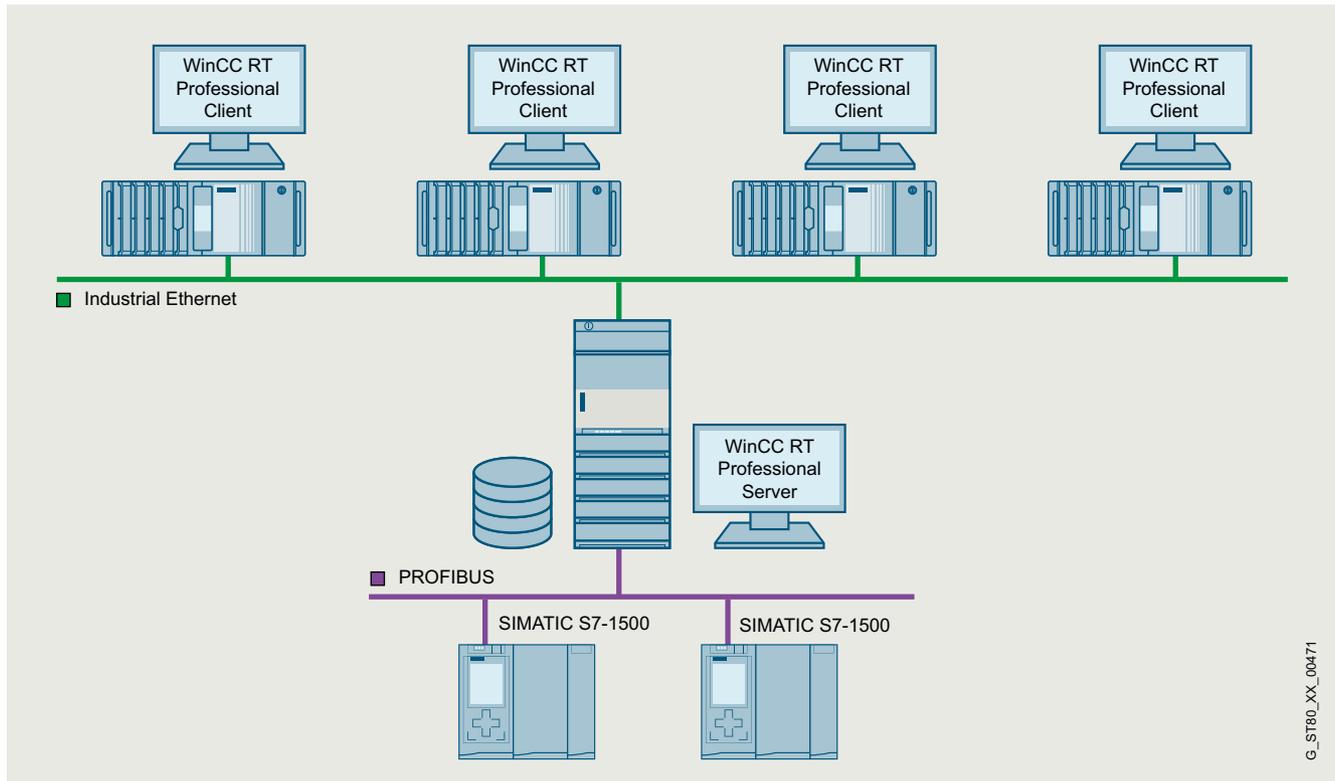
**Technical specifications**

<b>WinCC Sm@rtServer</b>	
	The values specified are maximum values
<b>Execution platform</b>	
SIMATIC Basic Panels 2 <sup>nd</sup> Generation	All devices with Ethernet interfaces
SIMATIC Comfort Panels	all
SIMATIC Panels	Mobile Panel 177 PN, Mobile Panel 277, TP/OP 177B PN/DP, TP/OP 277
SIMATIC Multi Panels	MP 177, MP 277, MP 377
PC systems	SIMATIC WinCC Runtime Advanced
<b>Number of Sm@rtClients that can simultaneously connect to a Sm@rtServer</b>	
SIMATIC Basic Panels 2 <sup>nd</sup> Generation	1 client
Comfort Panel, Mobile Panel 2 <sup>nd</sup> Generation as Sm@rtServer	2 clients for 4" devices 3 clients for 7", 9", 12" and 15" devices 2 clients for 19" devices 1 client for 22" devices
Mobile Panel 177 PN, TP/OP 177B PN/DP, MP 177 as Sm@rtServer	2 clients
Mobile Panel 277, TP/OP 277, MP 277 as Sm@rtServer	3 clients for 6" devices 2 clients for 8" and 10" devices
MP 377 as Sm@rtServer	3 clients for 12" devices 2 clients for 15" devices 1 client for 19" devices
WinCC Runtime Advanced as Sm@rtServer	5 clients

**More information**

More information is available at:

<http://www.siemens.com/wincc-smartserver-tia-portal>

**Overview**


- Option for SIMATIC WinCC Runtime Professional, which permits the configuration of a powerful client/server system
- One of the following operating systems must be available to install the option on the server:  
Windows Server 2003 R2 SP2,  
Windows Server 2008 SP2 or  
Windows XP Professional.  
When using Windows XP Professional,  
a maximum of 3 clients can be connected.
- A number of coordinated HMI stations can be operated in a single group with networked automation systems.
- Client/server solution: One server supplies up to 32 connected clients with process and archive data, alarms, screens and reports.
  - Requirement: Network connection (TCP/IP) between the server PC and the connected clients.
- Licensing:
  - A WinCC Runtime Professional license on the server with the appropriate number of PowerTags and the "WinCC Server for RT Professional" license.
  - The "WinCC Client for RT Professional" license on the clients.

## HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

### SIMATIC WinCC (TIA Portal) options > WinCC Server / WinCC Client

#### Benefits

- Integrated scalability from the single-user system to the client/server solution
- Considerably expanded quantity structure, relieves the load on the individual servers, and thus better performance through the distribution of the overall application or of the tasks among several servers

#### Application

In a complex plant, WinCC Runtime Professional can be configured as a distributed system depending on the requirements:

- Functional distribution (e.g. alarm server, log server, etc.), or
- Distribution corresponding to the physical plant structure (e.g. body-in-white, paint shop, etc.).

#### Function

All process data of a WinCC project is stored in different Runtime databases, e.g. alarms, trend values, etc. These Runtime databases are located on a central computer, the WinCC Server, instead on each HMI device. The operator stations, i.e. the WinCC Clients, then access the WinCC Server.

WinCC Clients and WinCC Server are independent systems. You can also connect WinCC Clients subsequently. Alternatively, you can activate and deactivate a project from a WinCC Client.

#### Ordering data

#### Article No.

##### SIMATIC WinCC Server for Runtime Professional

- Single license, license key only on USB flash drive

6AV2107-0EB00-0BB0

##### As download<sup>1)</sup>

- Single license, license key download only, Email address required for delivery

6AV2107-0EB00-0BH0

##### SIMATIC WinCC Client for Runtime Professional

##### V17

- Single license, license key on USB flash drive, software and documentation on DVD
- Single license, software and license key download. Email address required for delivery

6AV2107-0DB07-0AA0

6AV2107-0DB07-0AH0

##### SIMATIC WinCC Client for Runtime Professional ASIA V17

Single license, license key on USB flash drive, software and documentation on DVD

6AV2107-0DB17-0AA0

##### V16

- Single license, license key on USB flash drive, software and documentation on DVD

6AV2107-0DB06-0AA0

##### As download<sup>1)</sup>

- Single license, software and license key download. Email address required for delivery

6AV2107-0DB06-0AH0

##### SIMATIC WinCC Client for Runtime Professional ASIA V16

Single license, license key on USB flash drive, software and documentation on DVD

6AV2107-0DB16-0AA0

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

A license is not required for the engineering system for configuring the runtime option.

#### More information

More information is available at:

<http://www.siemens.com/wincc-server-tia-portal>

### Overview

Option for SIMATIC WinCC (TIA Portal), supporting the parallel operation of two interfaced WinCC single-user systems or process data servers for mutual monitoring

If one of the two server PCs or one of the two WinCC stations fails, the second one will take over control of the entire system. Once the failed server or station is restored to operation, the contents of all the message and process value archives are copied to it.

One WinCC Redundancy package is required for each redundant pair of servers.

### Benefits

- Increased system availability with gap-free data integrity
- Automatic switchover of the client when a server fails or the communication to the server fails
- Continuous operation and visualization through automatic switchover of the clients to the intact server
- Automatic synchronization of all archives in the background after a fault is cleared

### Function

Normally, two WinCC stations or process data servers run in parallel. Each station has its own process connection and its own data archives. WinCC Redundancy ensures automatic matching of system and user archive data.

If one of the two server computers or WinCC stations fails, the second will take over the archiving of messages and process data, thereby ensuring seamless data integrity. In client/server mode, the clients are automatically switched from the failed server to the redundant partner. This ensures continuous plant visualization and operation on every operator station.

When the failed partner resumes operation, all process values, messages and data archived during the fail period are automatically matched with the partner. This process runs in the background and does not affect plant continuity. Once this is complete, two equivalent servers/stations will be available again.

Communication with the SIMATIC S7 PLC can also be configured with redundancy (an H Series SIMATIC S7 is required) by plugging in two communication modules and configuring two communication paths (S7-REDCONNECT software package). The use of failsafe H Series SIMATIC S7 PLCs can, if required, further increase availability at control level.

### Ordering data

#### SIMATIC WinCC Redundancy for Runtime Professional

- Single license for 2 installations, license key on USB flash drive, software and documentation on DVD
- As download<sup>1)</sup>  
Single license for 2 installations, license key download only  
Email address required for delivery

### Article No.

**6AV2107-0FB00-0BB0**

**6AV2107-0FB00-0BH0**

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

A license is not required for the engineering system for configuring the runtime option.

### More information

More information is available at:

<http://www.siemens.com/wincc-redundancy-tia-portal>

**HMI software**

TIA Portal

SIMATIC WinCC (TIA Portal)

**SIMATIC WinCC (TIA Portal) options > WinCC WebNavigator****Overview****WinCC WebNavigator**

- Option for SIMATIC WinCC or WinCC Runtime Professional for operating and monitoring plants over the Internet, company Intranet or LAN.
- Configuration from:
  - A web server with SIMATIC WinCC as single-user or server version and a web client that permits operator control and monitoring of a current WinCC project using the Internet Explorer. In combination with WinCC V7, the WebNavigator Server can be operated on a MultiClient

**Licenses**

- A (server-based) license is required for the WebNavigator. This is a graduated license based on the number of simultaneous web client access operations and can be incremented at any time using additive web client licenses (countable licenses).
- The WebNavigator client software can be installed as many times as required without the need for a license.
- A (client-based) license is required for the WebNavigator diagnostics. This provides access to all web servers with a WebNavigator Server or WebNavigator Diagnostic Server license.
- The WinCC/WebUX and WinCC/WebNavigator licenses can be combined, if necessary.

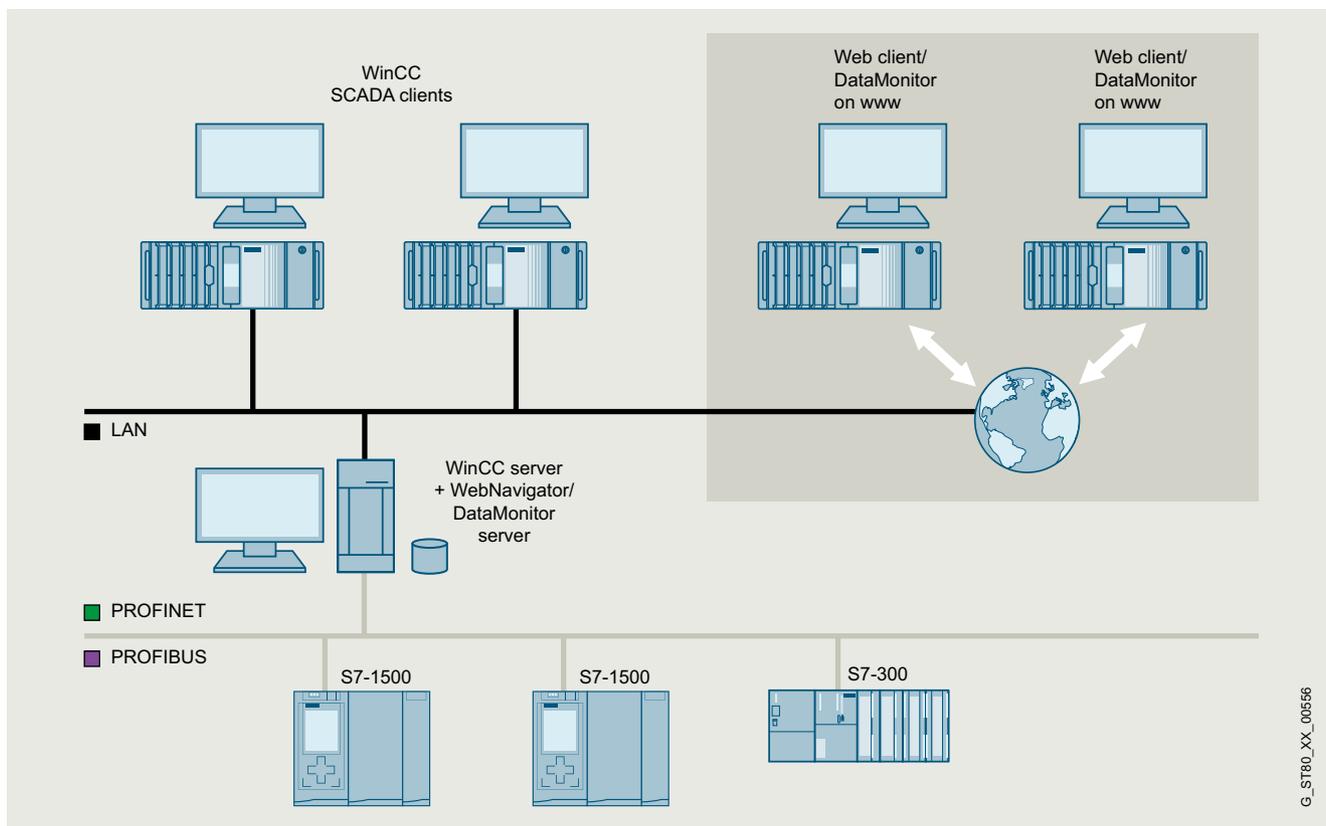
You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

**Note:**

When accessing the operator stations via the WinCC WebNavigator option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

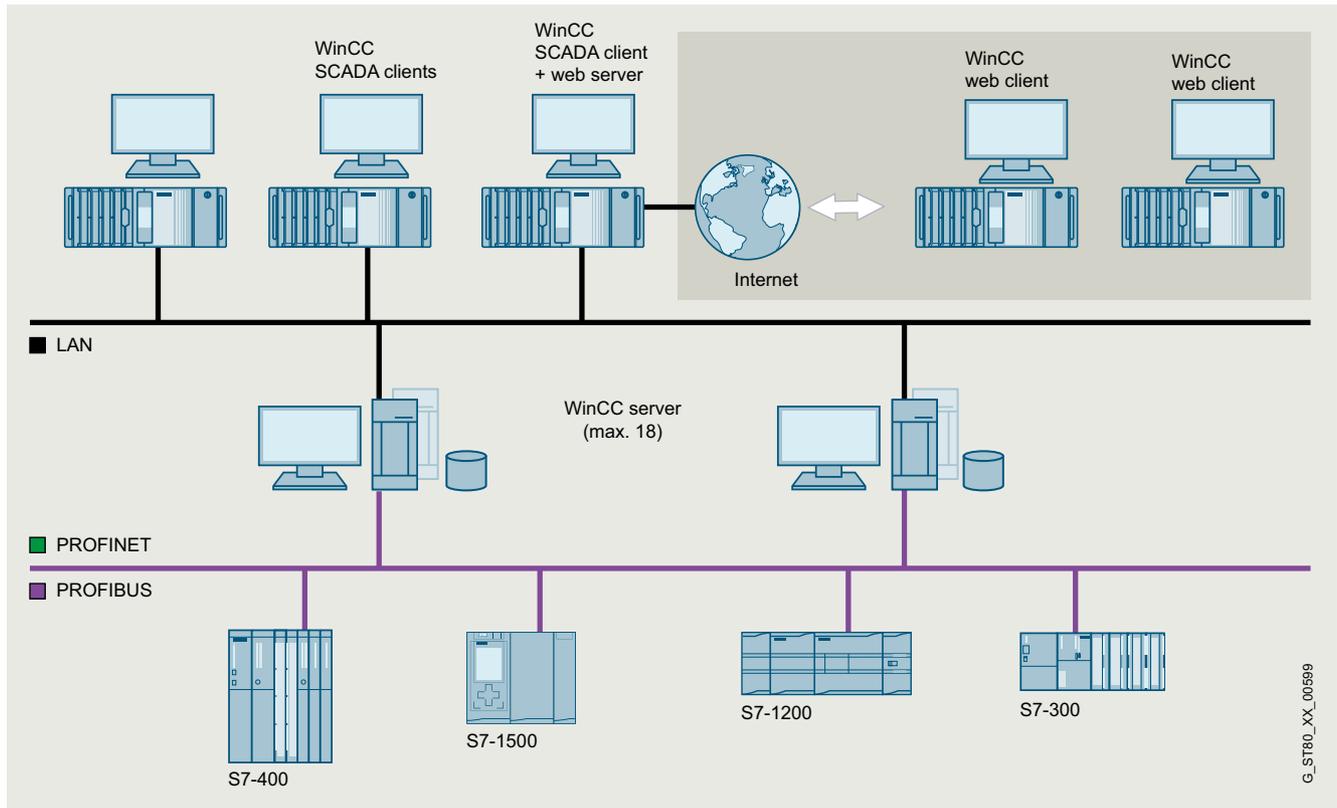
You will find more information on the topic of Industrial Security on the Internet at:

<http://www.siemens.com/industrialsecurity>



WinCC Server as web server

G\_ST80\_XX\_00556

**Benefits**


WinCC MultiClient as web server

**Benefits**

- Operator control and monitoring across long distances and on different platforms (PC, local panel, mobile PDA)
- Large configurations with up to 150 operator stations (depending on the plant complexity and communication load)
- Optimally tailored clients for operating and monitoring, analysis, service and diagnostics
- Acceptance of configuration data for the web, generally without changes
- Minimum maintenance costs due to central software administration
- With the WinCC Web Viewer (WinCC Viewer RT), the process screens can be displayed on the web client independently of the Internet Explorer. Settings for the client are made on the client itself. The WinCC Web Viewer can also be used in conjunction with the MS Terminal Service.
- The SIMATIC WinCC WebNavigator can also be operated in "view only" mode and is thus used as tool for monitoring and navigating using Internet Explorer or WinCC Web Viewer (WinCC Viewer RT).
- Security is increased by adjustable automatic logout. If an automatic logout is to take place, an absolute or inactive time period can be set.

## HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

### SIMATIC WinCC (TIA Portal) options > WinCC WebNavigator

#### Application

In addition to the standard WebNavigator licensing, there is the "Diagnostics Client" with identical functionality but different licensing. It is especially suitable for the following applications:

- Remote diagnostics/operation of several unmanned WinCC server stations
- Central control rooms that monitor several web servers via one user interface
- Maintenance personnel who require guaranteed access to the server at any time, regardless of the number of users already logged on to the server.  
On the server side, only one WebNavigator Diagnostics Server license or, alternatively, one Standard WebNavigator license is required.

#### Design

##### Thin Client solutions

The WebNavigator can also run under Windows Server 2008 R2 SP1 or Windows Server 2012 R2 terminal services.

The Windows Server 2008 R2 SP1 or Windows Server 2012 R2 operating system is required.

This makes it possible, for example, to connect SIMATIC Thin Clients to the WinCC server as visualization stations.

For this purpose, the Windows terminal services must be installed on the PC on which the web client is installed.

The Windows Server 2008 R2 SP1 or Windows Server 2012 R2 operating system is required.

Up to 25 Thin Clients can be connected to one terminal server.

Applications:

- Mobile devices
- Handhelds
- Rugged on-site visualizations

#### Function

The WinCC basic system makes setting up and configuring a WebNavigator Server very easy. WinCC process screens to be visualized via the Internet are created as usual using the graphic editor.

To display WinCC process screens on the web client, the Microsoft Internet Explorer or supplied browser-independent WinCC Web Viewer (WinCC Viewer RT) is used.

The operator on the web client is integrated in the central WinCC user administration and can operate and monitor the system according to the configured access rights.

The WebNavigator supports all standard security mechanisms that can be used for applications on the Internet, e.g. routers, firewalls and proxy servers.

#### Ordering data

#### Article No.

##### SIMATIC WinCC WebNavigator as from Runtime Professional V14 and WinCC as from V7.4 <sup>2)</sup>

Single license, license key on USB flash drive

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)
- 100 client licenses (countable)

As download <sup>1)</sup>

Single license, license key download. Email address mandatory

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)
- 100 client licenses (countable)

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6AV6362-1AF00-0BB0  
6AV6362-1AJ00-0BB0  
6AV6362-1AM00-0BB0

##### SIMATIC WinCC WebNavigator Diagnostics Client

For WinCC V14 Runtime Professional and WinCC as from V7.4

- Standard scope of supply
- As download

6AV6362-1BA00-0BB0  
6AV6362-1BA00-0AH0

##### WinCC WebNavigator Load Balancing

For WinCC V7.4 only

- Load Balancing
- Load Balancing Step Up

As download

RT-SW, single license, license key download. Email address mandatory

- Load Balancing
- Load Balancing Step Up

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6AV6362-1GA00-0BB0

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6AV6362-1GA00-0AH0

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

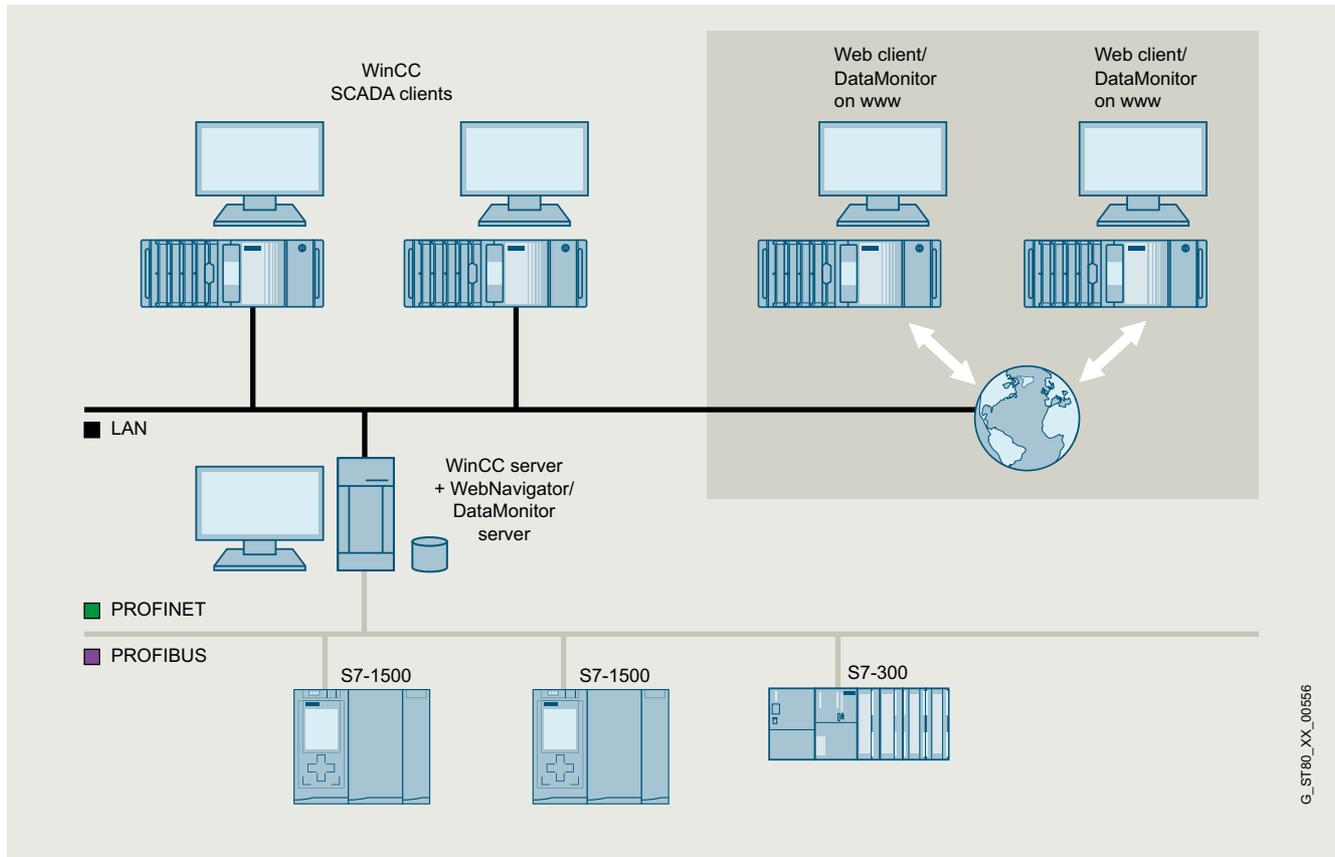
<sup>2)</sup> As from WinCC V14 the licenses are cumulative (countable), i.e. one 10 client license and one 30 client license permit access by 40 clients.

A license is not required for the engineering system for configuring the runtime option.

#### More information

You can find more information at:

<http://www.siemens.com/wincc-webnavigator>

**Overview**


WinCC DataMonitor

- The WinCC DataMonitor is used for display and evaluation of current process states and historical data on office PCs using standard tools such as Microsoft Internet Explorer or Microsoft Excel. The DataMonitor Client is supported by a web server with current and historical process data and alarms. All staff ranging from machine operators to corporate managers can use the DataMonitor to obtain information. In combination with WinCC V7 and with the aid of the multiclient architecture, access can be made to several lower-level WinCC stations.
- DataMonitor is a suite of Internet-capable tools:
  - **Process Screens**  
Tool exclusively for monitoring and navigating via WinCC or WinCC Runtime Professional screens using the WinCC Web Viewer (WinCCViewer RT) in the "view only" mode
  - **Excel Workbooks**  
Logging tool that integrates WinCC or WinCC Runtime Professional Archive and online values into Microsoft Excel and supports online analysis
  - **Published Reports**  
Event- or time-driven execution of Excel or PDF reports for the output of process data and analysis results.
  - **WebCenter**  
Individual configuration of Internet pages and compilation of information within a portal.
- DataMonitor does not require manual client installation because it loads the required components from the DataMonitor server
- There is no installation required on the client for the WebCenter, Trends and Alarms functions.

Licenses

- A (server-based) license is required for the WinCC DataMonitor. This is a graduated license based on the number of simultaneous web client access operations and can be incremented at any time using additive web client licenses (countable licenses).
- The DataMonitor Client software can be installed as many times as required without the need for a license.

Additional information is available on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here:  
<http://www.siemens.com/simatic-licenses>

## HMI software

TIA Portal

SIMATIC WinCC (TIA Portal)

### SIMATIC WinCC (TIA Portal) options > WinCC DataMonitor

#### Benefits

- Information can be compiled online individually during runtime via the Internet/Intranet.
- Efficiently monitor and analyze production lines.
- Easily collect and distribute information.
- Substantiate decisions with reports.
- View production status anywhere and anytime.

#### Highlights:

- With the WebCenter function, archive tags can be accessed without changing the configuration system.
- Dedicated Internet pages can be created for displaying data with the WebCenter.  
For this purpose, for example, a bar chart, a pie chart or a trend graph is available.
- The analyses can be made with relative or absolute time specification.  
This enables comparisons of identical time periods on different days.
- Reports can be made available on the DataMonitor server or emailed automatically based on time intervals or triggered by events.
- Support of Microsoft Internet Explorer version, including "tabbed browsing".

#### Function

- All tools are fully Internet-compatible and, therefore, support access via any type of connection (LAN, GSM, radio, modem, Internet, etc.).
- All popular security mechanisms such as login/password, firewalls, encryption, etc. are supported.
- Users can combine the available tools at will.  
Licensing only takes into account simultaneous access to one web server.
- For display purposes, screens from the WinCC project can be used or special overview displays configured.  
Animations, scripts, navigation and access rights remain valid.
- The WinCC DataMonitor has purely a display function
- Company-wide Excel reports, which contain historical and current process values, can be stored centrally for general access (reports, statistics).  
However, local queries to meet individual requirements can also be compiled and executed online.  
Plot and trend displays are supported for archive data already swapped out.
- Enhanced user management for the WebCenter in order to assign individual Internet pages and created reports to specific user groups.
- A search function simplifies the management of connections to the WinCC server

#### Ordering data

##### SIMATIC WinCC DataMonitor as from Runtime Professional V14 and WinCC as from V7.4 <sup>2)</sup>

Standard scope of supply

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)

As download <sup>1)</sup>

- 1 client license (countable)
- 3 client licenses (countable)
- 10 client licenses (countable)
- 30 client licenses (countable)

#### Article No.

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6AV6362-3AD00-0BB0  
6AV6362-3AF00-0BB0  
6AV6362-3AJ00-0BB0

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6AV6362-3AF00-0AH0  
6AV6362-3AJ00-0AH0

<sup>1)</sup> Current information and availability regarding the new type of delivery can be found at: <http://www.siemens.com/tia-online-software-delivery>

<sup>2)</sup> As from WinCC V14 the licenses are cumulative (countable), i.e. one 10 client license and one 30 client license permit access by 40 clients.

A license is not required for the engineering system for configuring the runtime option.

#### More information

You can find more information at:

<http://www.siemens.com/wincc-datamonitor>

### Overview

The TIA Portal Cloud Connector enables access to local PG/PC interfaces and connected SIMATIC hardware from the TIA Portal Engineering while the engineering is taking place via a remote desktop on a server of a private cloud.

### Licensing

- The "<https://support.industry.siemens.com/cs/ww/en/view/109739390>" apply for software for use with separately licensed TIA Portal products that have been released for use with the Cloud Connector.
- The software is part of the STEP 7/WinCC (TIA Portal) DVD and/or the program download.

### Benefits

- Central software management on a private cloud server for various TIA Portal Engineering software and versions – making local installation on the workstation computer superfluous
- Online access from the server via the workstation to PLC/HMI hardware in the laboratory or in a production cell

### Application

- Central management of the engineering software
- Online access to PLC/HMI:
  - Server in subnet 1
  - Personal computer and PLC/HMI in subnet 2

### Function

- The TIA Portal Cloud Connector tunnels the S7 communication between engineering software on the server and the local interfaces of the personal computer
- In order to activate communication, the TIA Portal Cloud Connector must be started at both ends – server and personal computer.
- Communication takes place as standard with TCP/IP (uncoded). A coded HTTPS connection can be used starting with Windows 8.1. For this purpose, authentication and encryption certificates must be exchanged between server and personal computer.
- Using his/her personal computer, the user can be connected to the server via a remote desktop and directly access PLC/HMI hardware connected to the personal computer online.

### Ordering data

#### TIA Portal Cloud Connector

- Single license; software is component of STEP 7 / WinCC V14 and higher. Only the Certificates of License (CoL) are delivered with the license.
- Data storage medium package
  - Download including license key <sup>1)</sup>  
Email address required for delivery

### Article No.

**6ES7823-1CA00-0YA0**  
**6ES7823-1CE00-0YA0**

<sup>1)</sup> For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

## HMI software

### TIA Portal options

#### SIMATIC Visualization Architect

##### Overview

##### **SIMATIC Visualization Architect (SiVArc)**

##### Challenge:

- To standardize the user interfaces of the visualizations throughout the plant
- Significant reduction of the engineering costs for generating the visualizations
- To make the in-house work standard usable

##### Solution:

- Automatic generation and creation of the visualizations, based on the program code of the PLC and corresponding visualization objects within the framework of system-wide library concepts.

##### **Licensing**

- The software can be installed on multiple computers. The number of existing licenses determines the number of computers on which the software can be used simultaneously (floating license).
- An upgrade to the subsequent version is offered for users of previous versions.
- A rental license is available for temporary use
- A trial license is available for testing purposes.
- It is possible to conclude Software Update Service (SUS) contracts

You can find more information on the Software Update Service, license types, Online Software Delivery and handling your SW licenses with the Automation License Manager under this

<http://www.siemens.com/simatic-licenses>.

##### Benefits

- Automatic creation of visualizations – drastic reduction of the engineering time
- Reduction of the commissioning times by the early detection and avoidance of faults
- Adaptation at the touch of a button to the visualizations on the basis of changes/adaptations in the control program

##### Function

- Support of controllers:
  - S7-1200, S7-1500, ET200SP
- Support of HMI:
  - Basic Panels, Comfort Panels and Mobile Panels of the 2<sup>nd</sup> Generation
- Support of PC-based:
  - WinCC Runtime Advanced, WinCC Runtime Professional, S7-1500 Software Controller
- SiVArc is configured using rules (not programmed!)

## Ordering data

## Article No.

**SIMATIC Visualization Architect V18**As package

- SIMATIC Visualization Architect V18
- SIMATIC Visualization Architect V18 Rental
- SIMATIC Visualization Architect V18 Trial  
Download in Customer Support Portal

6AV2107-0PX08-0AA5

6AV2107-0PX08-0AA6

6AV2107-0PX08-0AA7

As download <sup>1)</sup>

- SIMATIC Visualization Architect V18
- SIMATIC Visualization Architect V18 Rental

6AV2107-0PX08-0AH5

6AV2107-0PX08-0AH6

**Upgrade****SIMATIC Visualization Architect**

Engineering software in the TIA Portal;  
software and documentation on CD,  
License key on USB flash drive  
Class A; 6 languages: en, de,  
fr, es, it, zh

**V17 -> V18**

- As package
- As download<sup>1)</sup>  
Email address required for delivery

6AV2107-3PX08-0AA5

6AV2107-3PX08-0AH5

**V16 -> V17**

- As package
- As download<sup>1)</sup>  
Email address required for delivery

6AV2107-3PX07-0AA5

6AV2107-3PX07-0AH5

**Software Update Service (SUS)****SIMATIC Visualization Architect**

Within the framework of the SUS contract, you are provided with all software updates for the SiVArc product at no cost over a period of one year from the date of invoice. The contract is automatically extended by a further year unless canceled three months before expiration. The prerequisite for agreeing to an SUS is the presence of the current version.

- As package
- As download<sup>1)</sup>  
Email address required for delivery

6AV2107-0PX00-0ALO

6AV2107-0PX00-0AY0

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## Technical specifications

**SIMATIC Visualization Architect**

## Operating system requirements

In accordance with the requirements of the TIA Portal components:

- SIMATIC STEP 7 (TIA Portal)
- SIMATIC WinCC Unified, Professional, Advanced, Comfort, Basic

## Supported STEP 7 version

SIMATIC STEP 7 V18

## Supported WinCC versions

SIMATIC WinCC V18 Unified, Professional, Advanced, Comfort, Basic

## More information

Up-to-date information and availability can be found under <http://www.siemens.com/sivarc>.

## HMI software

### TIA Portal options

## SIMATIC ProDiag

### Overview

The TIA Portal option ProDiag makes it possible to monitor a machine or plant and to intervene in the event of a fault. The monitoring messages which can be generated for the various faults provide specific information on the monitoring mode, location and cause of the fault. Information on troubleshooting can be provided in addition. Plant operators can then not only recognize faults, they can also identify any potential danger in advance and take appropriate countermeasures.

### Licensing

- The runtime license for controllers includes 250 supervisions or an unlimited number of supervisions per CPU. From FW 2.0 onwards, the software can run on S7-1500/ET 200SP CPUs regardless of the TIA Portal version.
- For the visualization of the messages, the controls are licensed according to the HMI runtime platforms.

You can find more information on the Software Update Service, license types, Online Software Delivery and handling your SW licenses with the Automation License Manager under this

<http://www.siemens.com/simatic-licenses>.

### Benefits

- Automatic code generation in the CPU, without altering the code of the user program
- Message texts are derived automatically from the information existing in the project
- Simple visualization on the HMI by means of prepared controls
- Machine and plant diagnostics without programming device directly on the HMI

### Application

SIMATIC ProDiag is the fully-integrated TIA solution for machine and plant diagnostics. It saves the need for programming diagnostics in the CPU during the engineering phase and provides support for troubleshooting on the HMI.

### Function

- Central, cycle-exact time stamping of the fault messages
- Automatic generation of the monitoring logic and message calls
- Automatic updating of the SIMATIC HMI when changing the message configuration for 3 languages
- HMI systems do not have to exit runtime mode in the event of changes
- Directly available in the language editors LAD, FBD, SCL and STL
- Monitoring can be parameterized at a later date on F blocks and know-how-protected blocks
- Central definition of message structure for the project
- HMI Control for displaying the current status of the configured ProDiag monitoring functions
- HMI Control for displaying the current status of GRAPH sequencers
- HMI Control for displaying the current program status of a ProDiag message or a GRAPH sequencer
- HMI Control of the faulty operand of the user program

### Ordering data

### Article No.

#### SIMATIC ProDiag for HMI

##### For WinCC Unified PC Runtime

Controls for SIMATIC WinCC Unified as of V18

- Package with data storage medium
  - Download incl. license key <sup>1)</sup>
- Email address required for delivery

6AV2157-0BD01-8AB0  
6AV2157-0BD01-8LB0

##### For WinCC Runtime Advanced

Controls for SIMATIC WinCC as of V14.

- Package with data storage medium
  - Download incl. license key <sup>1)</sup>
- Email address required for delivery

6AV2107-0UA00-0BB0  
6AV2107-0UA00-0BH0

##### For WinCC Runtime Professional

Controls for SIMATIC WinCC as of V14

- Package with data storage medium
  - Download incl. license key <sup>1)</sup>
- Email address required for delivery

6AV2107-0UB00-0BB0  
6AV2107-0UB00-0BH0

##### For SIMATIC Comfort / Mobile Panels

Controls for SIMATIC WinCC as of V14.

- Package with data storage medium
  - Download incl. license key <sup>1)</sup>
- Email address required for delivery

6AV2107-0UP00-0BB0  
6AV2107-0UP00-0BH0

#### SIMATIC ProDiag S7-1500

##### For 250 monitoring functions

For SIMATIC S7-1500 CPUs and ET 200SP CPUs with FW 2.0 and higher.

Independent of the TIA Portal version.

- Package with data storage medium
  - Download incl. license key <sup>1)</sup>
- Email address required for delivery

6ES7823-0AA00-1AA0  
6ES7823-0AE00-1AA0

##### For all configured monitoring functions on a CPU

For SIMATIC S7-1500 CPUs and ET 200SP CPUs with FW 2.0 and higher.

Independent of the TIA Portal version.

- Package with data storage medium
  - Download incl. license key <sup>1)</sup>
- Email address required for delivery

6ES7823-0AA00-1DA0  
6ES7823-0AE00-1DA0

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

### Technical specifications

#### Can be used for

SIMATIC ProDiag for HMI	For all Comfort and Mobile Panels, WinCC Runtime Advanced and WinCC Runtime Professional as of TIA Portal V14 For WinCC Unified PC Runtime as of TIA Portal V18
SIMATIC ProDiag for S7-1500	For all S7-1500 CPUs and ET 200SP CPUs with FW V2.0 and higher

### Software download

Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## Overview

**SIMATIC WinCC V7/V8 SCADA system**

WinCC V8.0 seamlessly continues the success story of WinCC V7.x.

On the one hand fully compatible with existing projects, on the other hand with many new functions. From improvements in engineering to new possibilities in Runtime and WebUX, all the way to data exchange with IT and cloud systems, e.g. via the new REST Connector.

The scalable and open SCADA system for maximum plant transparency and productivity

- **Efficiency:**  
As a key to greater productivity, SIMATIC WinCC combines efficient engineering with high-performance archiving and maximum data security. With integrated diagnostics functions and flexible production analysis, you shorten the time-to-market and also reduce your plant standstill times. SIMATIC WinCC is the basis for efficient operations management and intelligent production analyses, so it offers a secure basis for deciding on optimization measures, and thus more productivity at lower cost.
- **Scalability:**  
With SIMATIC WinCC, it is possible to implement plants in all industrial sectors and technologies, and easily expand or modernize them by means of options or add-ons, in functional terms or sector-specifically. You can benefit from the redundancy concepts for enhanced availability, or decide on centralized archiving and analysis of plant information. SIMATIC WinCC offers stationary and mobile solutions to cover increasing demands.

- **Innovation:**  
With innovative technology, you have all the important information in view at all times. In this way, SIMATIC WinCC simplifies intuitive operation and monitoring of the production plant – even remotely. Stay informed with mobile SCADA solutions anywhere and at any time – including with existing tablet and smartphone hardware. The use of multi-touch gestures in the industrial environment opens the door to modern operator concepts.
- **Openness:**  
Since international standards and system-internal script and programming interfaces are supported, special requests can also be easily implemented. SIMATIC WinCC backs cross-manufacturer communication for integrating existing hardware, as well as for simple integration into the IT world. WinCC specialists are available worldwide as qualified solution providers. These certified and centrally audited partners are ready to implement your individual SCADA project even in diversified client-server architectures with redundancy, or in applications with energy data management systems. SIMATIC WinCC is designed to be independent of any specific technology or industrial sector, modular in structure, and easy to expand. It is used worldwide in single-user applications in mechanical engineering, as well as in complex multi-user solutions with redundant servers or Web-based client access. References from many industries prove the versatility and performance capability.

<http://www.siemens.com/wincc-v7>

## HMI software

### SIMATIC WinCC V7/V8

#### SIMATIC WinCC V7/V8 basic software

#### Overview



SIMATIC WinCC V8

- PC-based operator control and monitoring system for visualizing and operating processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems with redundant servers and cross-location solutions with web clients. WinCC is the information hub for corporation-wide vertical integration.
- The basic system configuration (WinCC Basic Software) includes industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration and visualization.
- The WinCC Basic Software forms the core of a wide range of different applications. Based on the open programming interfaces, a wide range of WinCC options (from Siemens Industry Automation) and WinCC Add-ons have been developed (by Siemens-internal and external partners).
- WinCC can be operated with every PC that meets the given HW requirements. The SIMATIC IPC product range is available in particular for the industrial use of WinCC systems. SIMATIC IPCs impress with their powerful PC technology, are designed for round-the-clock operation, and can be operated in both office areas and harsh industrial environments.

Current version:

#### **SIMATIC WinCC V8.0**

WinCC V8.0 supports the Microsoft operating systems listed below:

- Windows 11 Professional, Enterprise (64-bit)
- Windows 10 Professional, Enterprise (64-bit)
- Windows Server 2022 Standard, Datacenter (64-bit)
- Windows Server 2019 Standard, Datacenter (64-bit)

For details (e.g. information about specific Windows editions) and, if applicable, updated compatibility statements, see:

[https://support.industry.siemens.com/kompatool/index.html?lang=de&TopicID=WinCC\\_V8\\_0](https://support.industry.siemens.com/kompatool/index.html?lang=de&TopicID=WinCC_V8_0)

#### **SIMATIC SCADA and SIMATIC IPCs**

Perfect interaction for optimum productivity.

- Price advantage as "Package" comprising hardware and software
- System-tested solutions reduce testing overhead
- Simple ordering and synchronized logistics

Only if ordered together with the SIMATIC IPC.

### Benefits

- All-purpose
  - Solutions for all sectors
  - Multi-language for worldwide usage
  - Can be integrated into all automation solutions
- All operator control & monitoring functions on board
  - User administration
  - Operator control and monitoring
  - Reporting, acknowledging, and archiving of events
  - Collecting, consolidating and archiving measured values (including long-term backup)
  - Logging and documenting of process and configuration data
- Can be configured simply and efficiently
  - Configuration wizards let the user focus on the essentials
  - In the picture by means of cross-reference lists and screen property displays
  - Configuration of multi-language applications
  - Configuration tool for configuring bulk data
- Universally scalable
  - Expandable from single station to client-server configurations
  - Increased availability by means of redundant servers
  - Process visualization via the Web with the WinCC WebNavigator or WebUX
- Open standards for simple integration
  - Efficient real-time database MS SQL Server
  - Open for application modules with ActiveX and web controls
  - Powerful scripting for individual extensions
  - OPC, MQTT and REST for cross-vendor communication
- Process visualization with Plant Intelligence
  - Integrated evaluation functions for the online analysis (statistical process control)
  - Production optimization with the help of diverse options
- Expandable using options and add-ons
  - Options for scalable configurations
  - Options for increasing the availability
  - Options for IT & business integration
  - Options for SCADA expansions
  - Options for validation in accordance with FDA 21 CFR Part 11
  - Options for the use of telecontrol protocols
- Part of Totally Integrated Automation
  - Direct access to the tag and message configuration of the SIMATIC control system
  - Integrated diagnostic functions for increasing productivity

### Application

SIMATIC WinCC is designed for visualization and operation of processes, production flows, machines and plants. With its powerful process interface, especially to the SIMATIC family, and the secure data archiving, WinCC enables highly available solutions for the process control.

The sector-neutral basic system enables universal usage in all automation applications. Sector-specific solutions can, for example, be implemented using WinCC options (e.g. FDA options for the pharmaceutical industry) and sector-specific add-ons (e.g. for the water industry).

### Design

SIMATIC WinCC is available as a complete package and as a runtime package with 128, 512, 2 048, 8 192, 65 536, 102 400, 153 600, 262 144 PowerTags. PowerTags are data points that are connected to controllers or other data sources over a WinCC channel. Up to 32 alarms can be obtained from one data point. Moreover, internal tags without coupling are available for additional system performance. In addition WinCC also contains 512 archive tags. Additional archive licenses can be obtained for larger quantity structures.

#### **Licenses for a multi-user configuration**

The system software with the required number of PowerTags and additionally the option WinCC/Server must be installed on the WinCC server. In the basic configuration, one RT Client License is sufficient for the WinCC Clients <sup>1)</sup>.

An RC Client License is required to configure on clients <sup>1)</sup>. Remote configuration is possible if WinCC Clients without their own project (Uni Client) are configured on the server project.

<sup>1)</sup> The SQL Server Express is installed for RT / RC Clients.

## HMI software

### SIMATIC WinCC V7/V8

#### SIMATIC WinCC V7/V8 basic software

##### Function

The powerful configuration functions of SIMATIC WinCC contribute to a reduced engineering and training overhead and lead to a more flexible use of personnel and greater operational reliability.

Anyone familiar with Microsoft Windows can also operate the WinCC Explorer, the central switching point of WinCC. Even large quantities of data can be processed intuitively and efficiently with the WinCC Configuration Studio.

In combination with other SIMATIC components, the system is also equipped with supplementary functions, such as process diagnostics and maintenance. All SIMATIC engineering tools work together in the configuration of the functions.

SIMATIC WinCC offers a complete basic functionality for process visualization and operation. To this end WinCC has a number of editors and interfaces that can be used to individually configure this functionality according to the respective application. Expansions of a WinCC station for control tasks are also possible with minimal engineering effort.

##### Interfaces

	Task or configurable runtime functionality
Communication channels	For communication with lower-level controllers/field devices: S7-300/400, S7-1200/1500, OPC, OPC UA, SIMATIC S5, Modbus TCP, Allen Bradley, Mitsubishi, Omron, Sinumerik, etc.
Standard interfaces	For connecting other IT applications to WinCC: OLE-DB, OPC UA, MQTT, REST, etc.
Programming interfaces	For the individual access to data and functions of WinCC and for the integration in user programs with VBA, VB Script, C-API (ODK), C-Script (ANSI-C)

##### Integration

###### Archiving and data exchange

WinCC integrates a powerful and scalable archiving feature using database technology. This provides the user with a variety of options: from high-performance archiving of current process data, to long-term archiving with high data compression, through to a connection to the central information hub in the form of a company-wide Process Historian. Versatile clients and tools for evaluation, the open interfaces, and special options (Connectivity Pack, Connectivity Station, IndustrialDataBridge) provide the basis for effective IT and business integration.

WinCC offers various security mechanisms, such as encrypted communication, to ensure secure operation of the plant. If external networks are accessed, for example, suitable protective measures (incl. IT security measures, such as network segmentation) should still also be taken.

More information is available on the topic of Industrial Security on the Internet at:

<http://www.siemens.com/industrialsecurity>

###### Integration in automation solutions

WinCC is an open process visualization system and provides the option to connect the most diverse controllers.

###### S7 communication software

Use communications software with the listed product versions. Corresponding SIMATIC NET upgrades are available for upgrading older versions.

###### Connection to third-party controllers

If a native driver is not available, OPC or OPC UA is available for connection to third-party controllers.

Current notes and information about OPC Servers from various suppliers can be found at:

<http://www.opcfoundation.org>

WinCC supports:

- OPC UA server for DA, A&C, and HDA
- OPC server for DA, A&E, and HDA
- OPC UA client for DA, A&C, and methods
- OPC client for DA

## Ordering data

## Article No.

## Article No.

## SIMATIC WinCC system software

## V8.0

## Runtime Packages on DVD

- Incl. 512 archive tags each;  
language/script versions:  
en, de, fr, it, es; with license for
- WinCC RT Client
  - 128 PowerTags (RT 128)
  - 512 PowerTags (RT 512)
  - 2 048 PowerTags (RT 2 048)
  - 8 192 PowerTags (RT 8 192)
  - 65 536 PowerTags (RT 65 536)
  - 102 400 PowerTags (RT 102 400)
  - 153 600 PowerTags (RT 153 600)
  - 262 144 PowerTags (RT 262 144)

6AV6381-2CA08-0AX0  
6AV6381-2BC08-0AX0  
6AV6381-2BD08-0AX0  
6AV6381-2BE08-0AX0  
6AV6381-2BH08-0AX0  
6AV6381-2BF08-0AX0  
6AV6381-2BJ08-0AX0  
6AV6381-2BK08-0AX0  
6AV6381-2BL08-0AX0

## As download

- WinCC RT Client
- 128 PowerTags (RT 128)
- 512 PowerTags (RT 512)
- 2 048 PowerTags (RT 2 048)
- 8 192 PowerTags (RT 8 192)
- 65 536 PowerTags (RT 65 536)
- 102 400 PowerTags (RT 102 400)
- 153 600 PowerTags (RT 153 600)
- 262 144 PowerTags (RT 262 144)

6AV6381-2CA08-0AH0  
6AV6381-2BC08-0AH0  
6AV6381-2BD08-0AH0  
6AV6381-2BE08-0AH0  
6AV6381-2BH08-0AH0  
6AV6381-2BF08-0AH0  
6AV6381-2BJ08-0AH0  
6AV6381-2BK08-0AH0  
6AV6381-2BL08-0AH0

## Complete packages on DVD

- Language versions:  
en, de, fr, it, es; with license for
- WinCC RC Client
  - 128 PowerTags (RC 128)
  - 512 PowerTags (RC 512)
  - 2 048 PowerTags (RC 2 048)
  - 8 192 PowerTags (RC 8 192)
  - 65 536 PowerTags (RC 65 536)
  - 102 400 PowerTags (RC 102 400)
  - 153 600 PowerTags (RC 153 600)
  - 262 144 PowerTags (RC 262 144)

6AV6381-2CB08-0AX0  
6AV6381-2BM08-0AX0  
6AV6381-2BN08-0AX0  
6AV6381-2BP08-0AX0  
6AV6381-2BS08-0AX0  
6AV6381-2BQ08-0AX0  
6AV6381-2BT08-0AX0  
6AV6381-2BU08-0AX0  
6AV6381-2BV08-0AX0

## As download

- WinCC RC Client
- 128 PowerTags (RC 128)
- 512 PowerTags (RC 512)
- 2 048 PowerTags (RC 2 048)
- 8 192 PowerTags (RC 8 192)
- 65 536 PowerTags (RC 65 536)
- 102 400 PowerTags (RC 102 400)
- 153 600 PowerTags (RC 153 600)
- 262 144 PowerTags (RC 262 144)

6AV6381-2CB08-0AH0  
6AV6381-2BM08-0AH0  
6AV6381-2BN08-0AH0  
6AV6381-2BP08-0AH0  
6AV6381-2BS08-0AH0  
6AV6381-2BQ08-0AH0  
6AV6381-2BT08-0AH0  
6AV6381-2BU08-0AH0  
6AV6381-2BV08-0AH0

## V8.0 ASIA

## Runtime Packages on DVD

- Language/script versions:  
en, zh-CN, zh-TW, ko, ja;  
with license for
- WinCC RT Client
  - 128 PowerTags (RT 128)
  - 512 PowerTags (RT 512)
  - 2 048 PowerTags (RT 2 048)
  - 8 192 PowerTags (RT 8 192)
  - 65 536 PowerTags (RT 65 536)
  - 102 400 PowerTags (RT 102 400)
  - 153 600 PowerTags (RT 153 600)
  - 262 144 PowerTags (RT 262 144)

6AV6381-2CA08-0AV0  
6AV6381-2BC08-0AV0  
6AV6381-2BD08-0AV0  
6AV6381-2BE08-0AV0  
6AV6381-2BH08-0AV0  
6AV6381-2BF08-0AV0  
6AV6381-2BJ08-0AV0  
6AV6381-2BK08-0AV0  
6AV6381-2BL08-0AV0

## Complete packages on DVD

- Language versions:  
en, zh-CN, zh-TW, ko, ja;  
with license for
- WinCC RC Client
  - 128 PowerTags (RC 128)
  - 512 PowerTags (RC 512)
  - 2 048 PowerTags (RC 2 048)
  - 8 192 PowerTags (RC 8 192)
  - 65 536 PowerTags (RC 65 536)
  - 102 400 PowerTags (RC 102 400)
  - 153 600 PowerTags (RC 153 600)
  - 262 144 PowerTags (RC 262 144)

6AV6381-2CB08-0AV0  
6AV6381-2BM08-0AV0  
6AV6381-2BN08-0AV0  
6AV6381-2BP08-0AV0  
6AV6381-2BS08-0AV0  
6AV6381-2BQ08-0AV0  
6AV6381-2BT08-0AV0  
6AV6381-2BU08-0AV0  
6AV6381-2BV08-0AV0

## V8.0 PowerPacks

## For upgrading from:

## Runtime Packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD08-0AX0  
6AV6371-2BG08-0AX0  
6AV6371-2BN08-0AX0  
6AV6371-2BP08-0AX0  
6AV6371-2BQ08-0AX0  
6AV6371-2BR08-0AX0

## As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD08-0AJ0  
6AV6371-2BG08-0AJ0  
6AV6371-2BM08-0AJ0  
6AV6371-2BN08-0AJ0  
6AV6371-2BP08-0AJ0  
6AV6371-2BQ08-0AJ0  
6AV6371-2BR08-0AJ0

## Complete packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD18-0AX0  
6AV6371-2BG18-0AX0  
6AV6371-2BM18-0AX0  
6AV6371-2BN18-0AX0  
6AV6371-2BP18-0AX0  
6AV6371-2BQ18-0AX0  
6AV6371-2BR18-0AX0

## As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD18-0AJ0  
6AV6371-2BG18-0AJ0  
6AV6371-2BM18-0AJ0  
6AV6371-2BN18-0AJ0  
6AV6371-2BP18-0AJ0  
6AV6371-2BQ18-0AJ0  
6AV6371-2BR18-0AJ0

# HMI software

## SIMATIC WinCC V7/V8

### SIMATIC WinCC V7/V8 basic software

#### Ordering data

##### V8.0 Archive

- 1 500 archive tags (countable)
- 5 000 archive tags (countable)
- 10 000 archive tags (countable)
- 30 000 archive tags (countable)

##### As download

- 1 500 archive tags (countable)
- 5 000 archive tags (countable)
- 10 000 archive tags (countable)
- 30 000 archive tags (countable)

##### SIMATIC WinCC software packages for IPC

##### SIMATIC WinCC V8.0 Runtime

- WinCC RT Client
- 128 PowerTags
- 512 PowerTags
- 2048 PowerTags
- 8192 PowerTags
- 65536 PowerTags

##### SIMATIC WinCC V8.0 Runtime ASIA

- WinCC RT Client
- 128 PowerTags
- 512 PowerTags
- 2048 PowerTags
- 8192 PowerTags
- 65536 PowerTags

##### SIMATIC WinCC Upgrades/ Software Update Service

##### SIMATIC WinCC V8.0 Upgrade <sup>1) 2)</sup>

##### For upgrading the RT version

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

##### As download

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

#### Article No.

6AV6371-1DQ18-0AX0  
6AV6371-1DQ18-0BX0  
6AV6371-1DQ18-0CX0  
6AV6371-1DQ18-0EX0

6AV6371-1HQ18-0AX0  
6AV6371-1HQ18-0BX0  
6AV6371-1HQ18-0CX0  
6AV6371-1HQ18-0EX0

6AV6382-2AA08-0AX0  
6AV6382-2CA08-0AX0  
6AV6382-2DA08-0AX0  
6AV6382-2EA08-0AX0  
6AV6382-2HA08-0AX0  
6AV6382-2FA08-0AX0

6AV6382-2AA08-0AV0  
6AV6382-2CA08-0AV0  
6AV6382-2DA08-0AV0  
6AV6382-2EA08-0AV0  
6AV6382-2HA08-0AV0  
6AV6382-2FA08-0AV0

6AV6381-2AA08-0AX4  
6AV6381-2AA08-0AX3

6AV6381-2AA08-0AK4  
6AV6381-2AA08-0AK3

#### Article No.

##### For upgrading the RC version

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

##### As download

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

##### For upgrading the Client RT version

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

##### As download

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

##### For upgrading the Client RC version

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

##### As download

- From V7.5 to V8.0
- From V7.3/V7.4 to V8.0

##### SIMATIC WinCC Software Update Service (SUS) <sup>3) 4)</sup>

##### SIMATIC WinCC V8 Update

Software Update Service for WinCC basic software and options:

- 1 license
- 3 licenses
- 10 licenses

##### As download

- 1 license
- 3 licenses
- 10 licenses

6AV6381-2AB08-0AX4  
6AV6381-2AB08-0AX3

6AV6381-2AB08-0AK4  
6AV6381-2AB08-0AK3

6AV6381-2CA08-0AX4  
6AV6381-2CA08-0AX3

6AV6381-2CA08-0AK4  
6AV6381-2CA08-0AK3

6AV6381-2CB08-0AX4  
6AV6381-2CB08-0AX3

6AV6381-2CB08-0AK4  
6AV6381-2CB08-0AK3

6AV6381-1AA00-0AX5  
6AV6381-1AA00-0BX5  
6AV6381-1AA00-0CX5

6AV6381-1KA00-0AX5  
6AV6381-1KA00-0BX5  
6AV6381-1KA00-0CX5

<sup>1)</sup> According to licensing provisions, 1 upgrade package must be ordered for each WinCC station

<sup>2)</sup> The upgrade from V7.X RT/RC ASIA to V8.0 ASIA is performed via the "standard package"

<sup>3)</sup> The Software Update Service is valid for 1 year. The contract is automatically extended by 1 more year unless canceled 3 months prior to expiration. In accordance with the license conditions, 1 Software Update Service each must be ordered per WinCC station.

<sup>4)</sup> Requires the current software version

Ordering data	Article No.	Article No.	
<b>SIMATIC WinCC V8.0 communication via Industrial Ethernet/PROFIBUS</b>  <b>SOFTNET-IE S7 Version 18</b> Software for S7 and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC, up to 64 connections; single license for one installation of runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 1612 A2; English/German <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> </ul>	<b>6GK1704-1CW18-0AA0</b> <b>6GK1704-1CW00-3AE0</b>	<b>Communication via PROFIBUS</b>  <b>CP 5612</b> PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)  <b>CP 5622</b> PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)  <b>CP 5711</b> USB adapter for connecting a PG/PC to PROFIBUS or MPI (communications software included in WinCC Basic Package)	<b>6GK1561-2AA00</b>   <b>6GK1562-2AA00</b>   <b>6GK1571-1AA00</b>
<b>SOFTNET-IE S7 Lean Version 18 (license included in scope of supply of WinCC V8.0)</b> Software for S7 and S5-compatible communication including OPC Server, PG/OP communication and NCM PC; up to 8 connections; single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A For CP 1612 A2, English/German <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> </ul>	<b>6GK1704-1LW18-0AA0</b>	<b>CP 5613 A3</b> PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)  <b>CP 5614 A3</b> PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)  <b>CP 5623</b> PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	<b>6GK1561-3AA02</b>  <b>6GK1561-4AA02</b>  <b>6GK1562-3AA00</b>
<b>CP 1623</b> PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	<b>6GK1162-3AA00</b>	<b>HARDNET-PB S7</b> Software for S7 communication incl. PG/OP communication, FDL, OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 5613 A3, CP 5614 A3, CP 5623 English/German <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> </ul>	<b>6GK1713-5CB18-0AA0</b> <b>6GK1713-5CB00-3AE0</b>
<b>HARDNET-IE S7 V18</b> Software for S7 and S5-compatible communication incl. OPC Server, PG/OP communication and NCM PC, single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 1613 A2, CP 1623, CP 1628; English/German <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> </ul>	<b>6GK1716-1CB18-0AA0</b> <b>6GK1716-1CB00-3AE0</b>	<b>HARDNET-PB DP</b> Software for DP protocol incl. PG/OP communication, FDL, DP OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A3, CP 5614 A3, CP 5623; English/German <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> </ul>	<b>6GK1713-5DB18-0AA0</b> <b>6GK1713-5DB00-3AE0</b>

# HMI software

## SIMATIC WinCC V7/V8

### SIMATIC WinCC V7/V8 basic software

#### Ordering data

#### Article No.

#### Article No.

#### SIMATIC WinCC system software

##### V7.5 SP2

#### Runtime Packages on DVD

- Incl. 512 archive tags each;  
language/script versions:  
en, de, fr, it, es; with license for
- WinCC RT Client
  - 128 PowerTags (RT 128)
  - 512 PowerTags (RT 512)
  - 2 048 PowerTags (RT 2 048)
  - 8 192 PowerTags (RT 8 192)
  - 65 536 PowerTags (RT 65 536)
  - 102 400 PowerTags (RT 102 400)
  - 153 600 PowerTags (RT 153 600)
  - 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-5AX0  
6AV6381-2BC07-5AX0  
6AV6381-2BD07-5AX0  
6AV6381-2BE07-5AX0  
6AV6381-2BH07-5AX0  
6AV6381-2BF07-5AX0  
6AV6381-2BJ07-5AX0  
6AV6381-2BK07-5AX0  
6AV6381-2BL07-5AX0

#### As download

- WinCC RT Client
- 128 PowerTags (RT 128)
- 512 PowerTags (RT 512)
- 2 048 PowerTags (RT 2 048)
- 8 192 PowerTags (RT 8 192)
- 65 536 PowerTags (RT 65 536)
- 102 400 PowerTags (RT 102 400)
- 153 600 PowerTags (RT 153 600)
- 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-5AH0  
6AV6381-2BC07-5AH0  
6AV6381-2BD07-5AH0  
6AV6381-2BE07-5AH0  
6AV6381-2BH07-5AH0  
6AV6381-2BF07-5AH0  
6AV6381-2BJ07-5AH0  
6AV6381-2BK07-5AH0  
6AV6381-2BL07-5AH0

#### Complete packages on DVD

- Language versions: en, de, fr, it, es;  
with license for
- WinCC RC Client
  - 128 PowerTags (RC 128)
  - 512 PowerTags (RC 512)
  - 2 048 PowerTags (RC 2 048)
  - 8 192 PowerTags (RC 8 192)
  - 65 536 PowerTags (RC 65 536)
  - 102 400 PowerTags (RC 102 400)
  - 153 600 PowerTags (RC 153 600)
  - 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-5AX0  
6AV6381-2BM07-5AX0  
6AV6381-2BN07-5AX0  
6AV6381-2BP07-5AX0  
6AV6381-2BS07-5AX0  
6AV6381-2BQ07-5AX0  
6AV6381-2BT07-5AX0  
6AV6381-2BU07-5AX0  
6AV6381-2BV07-5AX0

#### As download

- WinCC RC Client
- 128 PowerTags (RC 128)
- 512 PowerTags (RC 512)
- 2 048 PowerTags (RC 2 048)
- 8 192 PowerTags (RC 8 192)
- 65 536 PowerTags (RC 65 536)
- 102 400 PowerTags (RC 102 400)
- 153 600 PowerTags (RC 153 600)
- 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-5AH0  
6AV6381-2BM07-5AH0  
6AV6381-2BN07-5AH0  
6AV6381-2BP07-5AH0  
6AV6381-2BS07-5AH0  
6AV6381-2BQ07-5AH0  
6AV6381-2BT07-5AH0  
6AV6381-2BU07-5AH0  
6AV6381-2BV07-5AH0

#### V7.5 SP2 ASIA

#### Runtime Packages on DVD

- Language/script versions:  
en, zh-CN, zh-TW, ko, ja;  
with license for
- WinCC RT Client
  - 128 PowerTags (RT 128)
  - 512 PowerTags (RT 512)
  - 2 048 PowerTags (RT 2 048)
  - 8 192 PowerTags (RT 8 192)
  - 65 536 PowerTags (RT 65 536)
  - 102 400 PowerTags (RT 102 400)
  - 153 600 PowerTags (RT 153 600)
  - 262 144 PowerTags (RT 262 144)

6AV6381-2CA07-5AV0  
6AV6381-2BC07-5AV0  
6AV6381-2BD07-5AV0  
6AV6381-2BE07-5AV0  
6AV6381-2BH07-5AV0  
6AV6381-2BF07-5AV0  
6AV6381-2BJ07-5AV0  
6AV6381-2BK07-5AV0  
6AV6381-2BL07-5AV0

#### Complete packages on DVD

- Language versions: en,  
zh-CN, zh-TW, ko, ja;  
with license for
- WinCC RC Client
  - 128 PowerTags (RC 128)
  - 512 PowerTags (RC 512)
  - 2 048 PowerTags (RC 2 048)
  - 8 192 PowerTags (RC 8 192)
  - 65 536 PowerTags (RC 65 536)
  - 102 400 PowerTags (RC 102 400)
  - 153 600 PowerTags (RC 153 600)
  - 262 144 PowerTags (RC 262 144)

6AV6381-2CB07-5AV0  
6AV6381-2BM07-5AV0  
6AV6381-2BN07-5AV0  
6AV6381-2BP07-5AV0  
6AV6381-2BS07-5AV0  
6AV6381-2BQ07-5AV0  
6AV6381-2BT07-5AV0  
6AV6381-2BU07-5AV0  
6AV6381-2BV07-5AV0

#### V7.5 SP2 PowerPacks

#### For upgrading from:

#### Runtime Packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD07-5AX0  
6AV6371-2BG07-5AX0  
6AV6371-2BM07-5AX0  
6AV6371-2BN07-5AX0  
6AV6371-2BP07-5AX0  
6AV6371-2BQ07-5AX0  
6AV6371-2BR07-5AX0

#### As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD07-5AJ0  
6AV6371-2BG07-5AJ0  
6AV6371-2BM07-5AJ0  
6AV6371-2BN07-5AJ0  
6AV6371-2BP07-5AJ0  
6AV6371-2BQ07-5AJ0  
6AV6371-2BR07-5AJ0

#### Complete packages

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD17-5AX0  
6AV6371-2BG17-5AX0  
6AV6371-2BM17-5AX0  
6AV6371-2BN17-5AX0  
6AV6371-2BP17-5AX0  
6AV6371-2BQ17-5AX0  
6AV6371-2BR17-5AX0

#### As download

- 128 to 512 PowerTags
- 512 to 2 048 PowerTags
- 2 048 to 8 192 PowerTags
- 8 192 to 65 536 PowerTags
- 65 536 to 102 400 PowerTags
- 102 400 to 153 600 PowerTags
- 153 600 to 262 144 PowerTags

6AV6371-2BD17-5AJ0  
6AV6371-2BG17-5AJ0  
6AV6371-2BM17-5AJ0  
6AV6371-2BN17-5AJ0  
6AV6371-2BP17-5AJ0  
6AV6371-2BQ17-5AJ0  
6AV6371-2BR17-5AJ0

Ordering data	Article No.	Article No.
<b>V7.5 SP2 archives</b> <ul style="list-style-type: none"> <li>• 1 500 archive tags (countable)</li> <li>• 5 000 archive tags (countable)</li> <li>• 10 000 archive tags (countable)</li> <li>• 30 000 archive tags (countable)</li> </ul>	<b>6AV6371-1DQ17-5AX0</b> <b>6AV6371-1DQ17-5BX0</b> <b>6AV6371-1DQ17-5CX0</b> <b>6AV6371-1DQ17-5EX0</b>	<b>SIMATIC WinCC Upgrades/ Software Update Service</b> <b>SIMATIC WinCC V7.5 SP2 Upgrade <sup>1)</sup></b>
<b>As download</b> <ul style="list-style-type: none"> <li>• 1 500 archive tags (countable)</li> <li>• 5 000 archive tags (countable)</li> <li>• 10 000 archive tags (countable)</li> <li>• 30 000 archive tags (countable)</li> </ul>	<b>6AV6371-1HQ17-5AX0</b> <b>6AV6371-1HQ17-5BX0</b> <b>6AV6371-1HQ17-5CX0</b> <b>6AV6371-1HQ17-5EX0</b>	<b>For upgrading the RT version</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.5 SP2</li> <li>• From V7.4 to V7.5 SP2</li> <li>• From V7.2/7.3 ASIA to V7.5 SP2 ASIA <sup>2)</sup></li> <li>• From V7.4 ASIA to V7.5 SP2 ASIA <sup>2)</sup></li> </ul>
<b>SIMATIC WinCC software packages for IPC</b> <b>SIMATIC WinCC V7.5 SP2 Runtime</b> <ul style="list-style-type: none"> <li>• WinCC RT Client</li> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 65 536 PowerTags</li> </ul>	<b>6AV6382-2AA07-5AX0</b> <b>6AV6382-2CA07-5AX0</b> <b>6AV6382-2DA07-5AX0</b> <b>6AV6382-2EA07-5AX0</b> <b>6AV6382-2HA07-5AX0</b> <b>6AV6382-2FA07-5AX0</b>	<b>As download</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.5 SP2</li> <li>• From V7.4 to V7.5 SP2</li> </ul>
<b>SIMATIC WinCC V7.5 SP2 Runtime ASIA</b> <ul style="list-style-type: none"> <li>• WinCC RT Client</li> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 65 536 PowerTags</li> </ul>	<b>6AV6382-2AA07-5AV0</b> <b>6AV6382-2CA07-5AV0</b> <b>6AV6382-2DA07-5AV0</b> <b>6AV6382-2EA07-5AV0</b> <b>6AV6382-2HA07-5AV0</b> <b>6AV6382-2FA07-5AV0</b>	<b>For upgrading the RC version</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.5 SP2</li> <li>• From V7.4 to V7.5 SP2</li> <li>• From V7.2/7.3 ASIA to V7.5 SP2 ASIA <sup>2)</sup></li> <li>• From V7.4 ASIA to V7.5 SP2 ASIA <sup>2)</sup></li> </ul>
		<b>As download</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.5 SP2</li> <li>• From V7.4 to V7.5 SP2</li> </ul>
		<b>For upgrading the Client RT version</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.5 SP2</li> <li>• From V7.4 to V7.5 SP2</li> <li>• From V7.2/7.3 ASIA to V7.5 SP2 ASIA</li> <li>• From V7.5 ASIA to V7.5 SP2 ASIA</li> </ul>
		<b>As download</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.5 SP2</li> <li>• From V7.4 to V7.5 SP2</li> </ul>
		<b>For upgrading the Client RC version</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.4 SP2</li> <li>• From V7.4 to V7.5 SP2</li> <li>• From V7.2/7.3 ASIA to V7.5 SP2 ASIA</li> <li>• From V7.4 ASIA to V7.5 SP2 ASIA</li> </ul>
		<b>As download</b> <ul style="list-style-type: none"> <li>• From V7.2/7.3 to V7.4 SP2</li> <li>• From V7.2/7.3 to V7.5 SP2</li> <li>• From V7.4 to V7.5 SP2</li> </ul>
		<b>SIMATIC WinCC Software Update Service (SUS) <sup>3) 4) 5)</sup></b> <b>SIMATIC WinCC V7 Update</b> Software Update Service for WinCC basic software and options: <ul style="list-style-type: none"> <li>• 1 license</li> <li>• 3 licenses</li> <li>• 10 licenses</li> </ul>
		<b>As download</b> <ul style="list-style-type: none"> <li>• 1 license</li> <li>• 3 licenses</li> <li>• 10 licenses</li> </ul>

<sup>1)</sup> According to licensing provisions, 1 upgrade package must be ordered for each WinCC station

<sup>2)</sup> Upgrading from V7.X RT/RC ASIA to V7.5 ASIA is carried out using the "respective non-Asia Package"

<sup>3)</sup> The Software Update Service is valid for 1 year. The contract is automatically extended by 1 more year unless canceled 3 months prior to expiration. According to licensing provisions, 1 Software Update Service must be ordered for each WinCC station.

<sup>4)</sup> Requires the current software version

<sup>5)</sup> SUS is available as download

## HMI software

### SIMATIC WinCC V7/V8

#### SIMATIC WinCC V7/V8 basic software

Ordering data	Article No.	Article No.
<p><b>SIMATIC WinCC V7.5 SP2 communication</b></p> <p>Communication via Industrial Ethernet/PROFIBUS</p> <p><b>SOFTNET-IE S7 Version 16</b></p> <p>Software for S7 and S5-compatible communication incl. OPC Server, PG/OP communication and NCM PC; up to 64 connections; single license for one installation of Runtime software, software and electronic manual on CD-ROM; license key on USB flash drive, Class A</p> <p>For CP 1612 A2 English/German</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> <li>• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005</li> </ul>	<p><b>6GK1704-1CW16-0AA0</b></p> <p><b>6GK1704-1CW00-3AE0</b></p> <p><b>6GK1704-1CW00-3AE1</b></p>	<p><b>Communication via PROFIBUS</b></p> <p><b>CP 5612</b></p> <p>PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)</p> <p><b>6GK1561-2AA00</b></p> <p><b>CP 5622</b></p> <p>PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC Basic Package)</p> <p><b>6GK1562-2AA00</b></p> <p><b>CP 5711</b></p> <p>USB adapter for connecting a PG/PC to PROFIBUS or MPI (communications software included in WinCC Basic Package)</p> <p><b>6GK1571-1AA00</b></p> <p><b>CP 5613 A3</b></p> <p>PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)</p> <p><b>6GK1561-3AA02</b></p> <p><b>CP 5614 A3</b></p> <p>PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)</p> <p><b>6GK1561-4AA02</b></p> <p><b>CP 5623</b></p> <p>PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)</p> <p><b>6GK1562-3AA00</b></p> <p><b>HARDNET-PB S7</b></p> <p>Software for S7 communication incl. PG/OP communication, FDL, OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A</p> <p>for CP 5613 A3, CP 5614 A3, CP 5623</p> <p>English/German</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> <li>• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005</li> </ul> <p><b>6GK1713-5CB16-0AA0</b></p> <p><b>6GK1713-5CB00-3AE0</b></p> <p><b>6GK1713-5CB00-3AE1</b></p> <p><b>HARDNET-PB DP</b></p> <p>Software for DP protocol incl. PG/OP communication, FDL, DP OPC Server, Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A</p> <p>for CP 5613 A3, CP 5614 A3, CP 5623; English/German</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> <li>• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005</li> </ul> <p><b>6GK1713-5DB16-0AA0</b></p> <p><b>6GK1713-5DB00-3AE0</b></p> <p><b>6GK1713-5DB00-3AE1</b></p>
<p><b>SOFTNET-IE S7 Lean Version 16 (license included in scope of supply of WinCC V7.5 SP2)</b></p> <p>Software for S7 and S5-compatible communication including OPC Server, PG/OP communication and NCM PC; up to 8 connections; single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A</p> <p>For CP 1612 A2, English/German</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> <li>• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005</li> </ul>	<p><b>6GK1704-1LW16-0AA0</b></p> <p><b>6GK1704-1LW00-3AE0</b></p> <p><b>6GK1704-1LW00-3AE1</b></p>	
<p><b>CP 1623</b></p> <p>PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)</p>	<p><b>6GK1162-3AA00</b></p>	
<p><b>HARDNET-IE S7 V16</b></p> <p>Software for S7 and S5-compatible communication incl. OPC Server, PG/OP communication and NCM PC, single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A</p> <p>for CP 1613 A2, CP 1623, CP 1628; English/German</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Upgrade package for SIMATIC NET Edition 2006 or higher</li> <li>• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005</li> </ul>	<p><b>6GK1716-1CB16-0AA0</b></p> <p><b>6GK1716-1CB00-3AE0</b></p> <p><b>6GK1716-1CB00-3AE1</b></p>	

**Technical specifications**

Type	SIMATIC WinCC V8.0
<b>PC hardware requirements</b>	
<b>Processor type</b>	
• Minimum	Single-user station/server: Dual-core; 2.5 GHz
• Recommended	Client: Dual-core; 2.5 GHz Single-user station/server: Multi-core; 3.5 GHz Client: Multi-core; 3 GHz <sup>2)</sup>
<b>Work memory RAM</b>	
• Minimum	Windows 10 (64-bit) • Single-user station/server: 4 GB • Client: 2 GB
• Recommended	Windows Server 2019 / Windows Server 2022 Server: 4 GB Windows 10 (64-bit) • Single-user station/server: 4 GB • Client: 4 GB Windows Server 2019 / Windows Server 2022 Server: 8 GB
<b>Graphics resolution</b>	
• Minimum	1 024 x 768
• Recommended	1 920 x 1 080
<b>Hard disk</b>	
• Minimum	Single-user station/server: 80 GB Client: 20 GB
• Recommended	WebClient/DataMonitor Client: 5 GB Single-user station/server: 160 GB Client: 40 GB WebClient/DataMonitor Client: 10 GB
<b>DVD-ROM/USB interface</b>	For software installation and license transfer

**More information**
**WinCC language versions**

SIMATIC WinCC is also offered in simplified Chinese, traditional Chinese, Korean and Japanese especially for Asian markets. These WinCC versions are intended for machine manufacturers, plant constructors and exporters who supply the regions of China, Taiwan, Korea and Japan.

WinCC ASIA includes all familiar WinCC functions and offers in addition the configuration user interface in the respective national language and English. The online help is available in simplified Chinese, traditional Chinese, Korean, Japanese and English. A Chinese, Korean, Japanese or multilingual Windows operating system is required for operation.

The runtime licenses are language-neutral. The English handling program (Automation License Manager – ALM) is executable under the Chinese, Korean and Japanese Windows versions.

In order to use the Asian languages in WinCC, an Asia hardware dongle is required.

**IPC packages**

There are attractive packages available with SIMATIC Rack PCs (IPC347, IPC547, IPC647, IPC847), SIMATIC Box PCs (IPC227, IPC427, IPC627, IPC827) and SIMATIC Panel PCs (IPC277, IPC477, IPC677) for a completely matched software and hardware package. These IPCs can be configured in different ways for use as single station, server or client.

<http://www.siemens.com/scada-ipc>

**Downloads:**

In most cases, the products can also be obtained as software downloads.

You can find more information on the Software Update Service, license forms, Online Software Delivery and handling your SW licenses with the Automation License Manager here:

<http://www.siemens.com/simatic-licenses>

## HMI software

### SIMATIC WinCC V7/V8

#### SIMATIC WinCC V7/V8 options

##### Overview



The universal WinCC Basic Software is the basis for modular expansions. These functional expansions can be obtained in the form of WinCC options and as WinCC Premium add-ons.

WinCC options are created by WinCC Development and are Siemens Industry Automation products. You can obtain support from our Advisory Services and via the central hotline.

##### **Options for scalable plant configurations**

- WinCC/Server  
For configuring a powerful client/server system
- WinCC/Redundancy  
For increasing system availability through redundancy
- WinCC Web Navigator  
For operator control and monitoring of plants via the Internet, in-house intranet or LAN
- WinCC WebUX  
HTML5 client access for operator control and monitoring of plants, independent of platforms and web browsers, via the Internet, in-house intranet or LAN
- SIMATIC Process Historian  
Central, scalable long-term archive for the whole plant
- SIMATIC TeleControl  
For connecting outlying stations (remote terminal units = RTUs) via telecontrol protocols in a WinCC SCADA system

##### **Options for greater efficiency in operations management**

- WinCC /User Archives  
For managing data records in user archives
- WinCC/DataMonitor  
For displaying and evaluating current process states and historical data on office PCs with standard tools
- WinCC/Performance Monitor  
For analysis and optimization of production on the basis of individual performance indicators
- WinCC/Audit
  - Change management
  - Generation of Audit Trails for engineering and runtime
- WinCC/Calendar Scheduler  
Calendar-based planning of events
- WinCC/ChangeControl
  - Change and version management
  - Generation of Audit Trails for engineering
- WinCC/Event Notifier  
For sending of notifications triggered by specific events in the WinCC message system
- SIMATIC Information Server  
Web-based, integrated reporting from production to management, based on archived data

##### **Options for openness and individual system expansions**

- WinCC/Connectivity Pack  
Access to WinCC logs via OPC HDA, OPC A&E, OPC XML Server, OPC UA Server/Client and WinCC OLE DB /OLE DB, Cloud Connect via MQTT, REST API and REST Connector
- WinCC/Connectivity Station  
Gateway to WinCC server data via OPC HDA, OPC A&E, OPC UA Server/Client, and WinCC OLE DB /OLE DB from independent computers
- WinCC IndustrialDataBridge  
Configurable connection to databases and IT systems
- WinCC/ODK (Open Development Kit)  
For the use of open programming interfaces and the generation of customer-specific WinCC ActiveX objects

##### **More information**

##### **SIMATIC WinCC options**

<http://www.siemens.com/simatic-wincc-options>

## Overview

### **SIMATIC TeleControl**

SIMATIC TeleControl for WinCC supports connection to outlying stations (Remote Terminal Units = RTUs) via telecontrol protocols.

- SIMATIC TeleControl V7.4 has been released for use with WinCC V7.4.
- For compatibility with WinCC 7.4 SP1, use TeleControl V7.4 update 1
- SIMATIC TeleControl V7.4 supports the combination with WinCC as a Windows service

### Licenses

- SIMATIC TeleControl for WinCC consists of an engineering and a runtime component
- The engineering software is supplied with a floating license. The floating license allows installation of the software on any number of computers. This means one user per license can use the software independently of the computer used or a specific workstation.
- The runtime software is supplied as a single license for one server and allows a specific number of stations to be connected depending on the license.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

## Benefits

SIMATIC TeleControl for WinCC V7.4 can not only integrate newly configured RTUs, but it can also integrate units which already exist in outlying areas by means of DNP3 or IEC 870-5-101/104 drivers. For communication with the outstations, SIMATIC TeleControl for WinCC V7.4 uses the SINAUT ST7 and DNP3 protocols (both via serial and TCP/IP communication connections) as well as IEC 870-5-101 (serial) and IEC 870-5-104 (Ethernet TCP/IP).

The serial RTU link is possible via the following components, which can be connected directly via WinCC (single station or server):

- SINAUT TIM communication modules (SINAUT ST7 telecontrol protocol)
- TCP/IP serial converter (telecontrol protocols DNP3, IEC 870-5-101)

Equipment from MOXA or Lantronix, for example, can be used as TCP/IP serial converters.

By means of Ethernet TCP/IP, the RTUs can be connected directly or via TCP/IP WAN routers to the SIMATIC WinCC system bus (SINAUT ST7, DNP3, IEC 870-5-104 telecontrol protocols). When using the SINAUT ST7 telecontrol protocol, the SINAUT TIM communication module can be used in addition to the TCP/IP WAN router or as an alternative.

## Application

Telecontrol communication over the wide area network is largely determined by the communication infrastructure which already exists. Various transmission media such as dedicated line, analog or digital telephone networks, wireless networks (GSM or private), DSL or GPRS can also be combined with each other.

### **SINAUT ST7 telecontrol protocol**

Detailed information for implementing telecontrol applications with the SINAUT ST 7 telecontrol protocol via the Industry Mall.

### **IEC 60870-5-101/104 telecontrol protocols**

More detailed information for implementing telecontrol applications with the IEC 60870-5-101/104 telecontrol protocols via the Industry Mall.

### **DNP3 telecontrol protocol**

SIMATIC TeleControl for WinCC V7.4 also supports the DNP3 telecontrol protocol. Widely distributed outstations (RTUs) can be controlled and monitored with the DNP3 telecontrol protocol via serial or Ethernet TCP/IP communication links by means of the telecontrol center in SIMATIC WinCC.

The control center integrated with SIMATIC TeleControl into the SCADA system is the master during telecontrol communication. The slaves are represented by the remote stations. SIMATIC S7-1200, SIMATIC S7-1500, SIMATIC Distributed Controllers ET 200SP, SIMATIC S7-300/S7-300F and S7-400/S7-400F/S7-400H/S7-400FH controllers as well as RTU3000C and third-party RTUs can be used as remote stations.

Further hardware and software components round off the range of products:

- TIM communication modules
- TCP/IP converters – serial and MD modem modules
- Mobile radio components (GSM/GPRS)
- TCP/IP routers and switches
- SCALANCE S security modules
- Dedicated line accessories
- Cables
- Engineering package for configuration of DNP3 data objects, stations, networks and connections as well as for diagnostics

In order to implement telecontrol networks, basic topologies including point-to-point, multi-point, star and ring can be configured using classic or TCP/IP-based media. These can be combined flexibly depending on the existing infrastructure.

Classic WAN media:

- Dedicated line via modem, e.g. SINAUT MD2
- Private radio networks
- Analog telephone network
- Digital ISDN network
- GSM, UMTS, LTE mobile network

TCP/IP-based WAN media:

- Ethernet networks, e.g. SCALANCE X with fiber-optic cables
- Industrial Wireless LAN with SCALANCE W
- Public networks and the Internet using DSL and/or GPRS

## HMI software

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

### SIMATIC TeleControl

#### Function

##### Special characteristics of DNP3 communication

- Change-driven data transmission
  - Change-driven transmission of process data between RTU and control center
  - Signaling of RTU, control center or connection failure
  - Automatic data updating for all communication partners involved following troubleshooting and following the startup of the RTU or control center
- Chronological processing of process data
  - Time tagging of all data frames at the place of origin allows process data to be archived by the process control system in the correct chronological order
  - The time of the DNP3 stations in the WAN can be synchronized via SIMATIC WinCC (including summertime/wintertime switchover)
- Local data storage
  - The TIM communication module can temporarily store (for several hours or even days) message frames should the connection or the communication partner fail
  - Intermediate storage of message frames of lower priority in the case of priority-controlled data transmission (with dial-up networks or quantity-dependent data transmission costs)

##### Operating modes

The DNP3 telecontrol protocol supports the following operating modes:

- Polling
- Polling with time slot procedure
- Multi-master polling with time slot procedure
- Spontaneous mode in dial-up networks
- Spontaneous mode in the TCP/IP-based WAN

#### Integration

Integration of SIMATIC WinCC/TeleControl for WinCC V7.4 into the WinCC SCADA system offers particular advantages for the sectors water/wastewater, as well as oil and gas, especially in the case of the following types of plant:

- Freshwater treatment and distribution
- Wastewater treatment plants
- Oil and gas pipelines and water pipes
- Oil and gas drilling fields and the associated treatment plants

In these types of plant, remote outstations such as pumping stations, valve stations or automated stations for wellheads must be integrated.

Through the support of communication protocols for RTUs such as SINAUT ST7, SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following advanced communication concepts:

- Reduction in the transferred data volume by means of event-controlled communication mechanisms for alarm and measured value information.
- Time synchronization of RTUs and correct time stamping of all data in the RTU.
- Tolerance of lower bandwidth, high latency or lack of reliability of communication lines
- Prevention of data loss due to communications failure through data backup in the RTU
- Support of communication media with serial interface (dedicated lines, dial-up connections over analog telephone lines and ISDN lines), various radio devices (standard, spread spectrum modulation), microwave and GSM
- Support for TCP/IP-based WANs (Wide Area Networks) such as DSL, GPRS or Ethernet radio networks
- Support for redundant communication connections
- Expanded communication diagnostics functions for RTU communication connection
- Remote programming of RTUs
- Support for different communication topologies – Point-to-point, multidrop (multistation mode) and hierarchic network structures
- High quality server redundancy scheme without data loss in the case of server failure

Through the support of communication protocols for RTUs such as IEC 60870-5 and DNP3, SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following advanced communication concepts:

- Reduction in the transferred data volume by means of event-controlled communication mechanisms for alarm and measured value information.
- Time synchronization of RTUs and correct time stamping of all data in the RTU.
- Tolerance of lower bandwidth, high latency or lack of reliability of communication lines
- Prevention of data loss due to communications failure through data backup in the RTU (not all non-Siemens RTUs support this)
- Support of communication media with serial interface (dedicated lines, dial-up connections over analog telephone lines and ISDN lines), various radio devices (standard, spread spectrum modulation), microwave and GSM
- Support for TCP/IP-based WANs (Wide Area Networks) such as DSL, GPRS or Ethernet radio networks
- Support for redundant communication connections
- Expanded communication diagnostics functions for RTU communication connection
- Remote programming of RTUs
- Support for different communication topologies – Point-to-point, multidrop (multistation mode) and hierarchic network structures
- High quality server redundancy scheme without data loss in the case of server failure

## Integration

### Outstations/remote terminal units

SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following preferred outstations for local distributed automation:

- Controller integrated into ET 200S (IEC 870-5-101/104 telecontrol protocols); for cost-sensitive applications, up to approx. 30 I/O signals or approx. 200 data points
- Controller integrated into RTU3030C (DNP3, IEC 60870-5-104 telecontrol protocols); for very compact and energy-saving applications, up to approx. 16 I/O signals or approx. 150 data points
- S7-1200/S7-1200F Controller (DNP3, IEC 60870-5-104 telecontrol protocols); up to 150 I/O signals or approx. 2 000 data points
- S7-1500 Controller (IEC 60870-5-101/104 telecontrol protocols); up to 250 I/O signals or approx. 4 000 data points
- S7-300/S7-300F Controller (SINAUT ST7, DNP3, IEC 60870-5-101/104 telecontrol protocols); for extremely flexible configuration, up to 100 I/O signals or approx. 2 000 data points
- S7-400/S7-400F Controller (SINAUT ST7, DNP3, IEC 60870-5-101/104 telecontrol protocols); up to 500 I/O signals or approx. 5 000 data points
- Redundant S7-400H/S7-400FH Controller (DNP3 and IEC 60870-5-101/104 telecontrol protocols); up to 500 I/O signals or approx. 5 000 data points
- Third-party station with the IEC 60870-5-101/104 and DNP3 telecontrol protocols (depending on type of station)
- ET 200SP / ET 200SP F Distributed Controllers (telecontrol protocols DNP3, IEC 60870-5-104); extremely flexible configuration options; number of I/O signals / data points depend on the CPU type

The following table provides an overview of the current options for connecting to these outstations:

**Spectrum of outstations and integration versions**

Telecontrol protocol		SINAUT ST 7		DNP3		IEC 60870-5-101	IEC 60870-5-104
Type of communication		Serial	Ethernet TCP/IP	Serial	Ethernet TCP/IP	Serial	Ethernet TCP/IP
Interface		TIM 4R-IE	TCP/IP WAN router or/and TIM 4R-IE	TCP/IP serial converter	TCP/IP WAN router	TCP/IP serial converter	TCP/IP WAN router
RTU/ interface	ET 200S with integr. CPU (corresponds to S7-314)	-	-	-	-	IM 151-7 CPU or IM 151-8 PN/DP CPU as well as 1 SI module + SIPLUS RIC library	IM 151-8 PN/DP CPU + SIPLUS RIC library
	S7-1200/S7-1200F	-	CP 1243-8 IRC	-	CP 1243-1	-	CP 1243 – 1 IEC
	ET 200SP with integr. CPU CPU1510SP(F)-1PN CPU1512SP(F)-1PN	-	CP 1542SP-1 IRC	-	CP 1542SP-1 IRC	-	CP 1542SP-1 IRC
	S7-1500	TIM 1531 IRC	TIM 1531 IRC	-	-	CM PtP + SIPLUS RIC Library	SIPLUS RIC Library
	RTU3000C	-	UMTS modem integrated or external WAN router	-	UMTS modem integrated or external WAN router	-	UMTS modem integrated or external WAN router
	S7-300/S7-300F	TIM 3V-IE	TIM 3V-IE	TIM 3V-IE DNP3	TIM 3V-IE DNP3	CP 341 + SIPLUS RIC library	CP 343 + IEC on S7 or integr. PN interface + SIPLUS RIC Library
	S7-400/S7-400F	TIM 4R-IE	TIM 4R-IE	TIM 4R-IE DNP3	TIM 4R-IE DNP3	CP 441 + SIPLUS RIC library	CP 443 + SIPLUS RIC library or integrated PN interface + SIPLUS RIC library
	S7-400H/S7-400FH	-	-	TIM 4R-IE DNP3	TIM 4R-IE DNP3	ET 200M + 2 x CP 341 + SIPLUS RIC library	CP 443 + SIPLUS RIC library
Third-party station		-	-	Depends on type of station		Depends on type of station	
Dial-up lines		•	-	•	-	-	-
Dedicated line and radio networks		•	•	•	•	•	•
Master-slave		•	•	•	•	•	•
Peer-to-peer		•	•	-	-	•	•
Mesh networks		•	•	•	•	•	•
Time tagging in RTU		•	•	•	•	•	•
RTU time synchronization		•	•	•	•	•	•
Data buffering in RTU		•	•	•	•	•	•
Routing with SIMATIC PDM		•	•	-	-	-	•
International standard		-	-	•	•	•	•

**HMI software**

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

**SIMATIC TeleControl****Ordering data****Article No.****Article No.****SIMATIC TeleControl for WinCC****SIMATIC TeleControl 7.4 for WinCC Basic Engineering**

Software package with SIMATIC Telecontrol for WinCC 7.4 engineering software, floating license for 1 user; runs with Windows 7 Ultimate and Enterprise 32/64-bit, Windows 10 LTSB 2015 (64-bit), Windows Server 2008 R2 Standard 64-bit or Windows Server 2012 R2 Standard 64-bit, electronic documentation on CD/DVD, two languages (English, German)

**Type of delivery:**

License key memory stick, certificate of license including terms and conditions, SIMATIC WinCC Data Medium Package V7.4 and CD "WinCC TeleControl Option V7.4"

**6DL5000-7AA47-0XA5****SIMATIC TeleControl V7.4 for WinCC Server Runtime**

Software package with SIMATIC Telecontrol for WinCC 7.4 engineering software, single license for 1 user; runs with Windows 7 Ultimate and Enterprise 32/64-bit, Windows 10 LTSB 2015 (64-bit), Windows Server 2008 R2 Standard 64-bit or Windows Server 2012 R2 Standard 64-bit, electronic documentation on CD/DVD, two languages (English, German)

**Type of delivery:**

License key memory stick, certificate of license including terms and conditions, SIMATIC WinCC Data Medium Package V7.4 and CD "WinCC TeleControl Option V7.4"

- 6 stations
- 12 stations
- 256 stations
- unlimited

**6DL5002-7AA47-0XA0**  
**6DL5002-7AB47-0XA0**  
**6DL5002-7AE47-0XA0**  
**6DL5002-7AF47-0XA0**

**Upgrades****SIMATIC TeleControl for WinCC, upgrade V7.0 to V7.4**

Upgrade package; single license for 1 installation, E-SW and documentation on DVD; license key on USB flash drive, Class A; two languages (English, German). Executable under Windows 7 Ult/Server 2008 R2/Server 2012 R2

**6DL5002-7AA47-0XE0****Driver software for telecontrol protocols****TeleControl SINAUT driver**

Runtime license for a WinCC stand-alone system or WinCC Server, single license for 1 installation.  
**Requirement:**  
 SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations)  
**Type of delivery:**  
 License key memory stick, certificate of license including terms and conditions

**6DL5101-8AX00-0XB0****TeleControl DNP3 driver**

Runtime license for a WinCC stand-alone system or WinCC Server, single license for 1 installation.  
**Requirement:**  
 SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations)  
**Type of delivery:**  
 License key memory stick, certificate of license including terms and conditions

**6DL5101-8EX00-0XB0****TeleControl IEC 870-5-101/-104 driver**

Runtime license for one WinCC Single Station or one WinCC Server, single license for 1 installation  
**Requirement:**  
 SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations)  
**Type of delivery:**  
 License key memory stick, certificate of license including terms and conditions

**6DL5101-8CX00-0XB0****More information**

For an overview of the complete performance range on the Internet, visit:

Service & Support:

International:

<https://support.industry.siemens.com/cs/?lc=en-DE>

Technical Support (Hotline):

International:

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

More information on telecontrol (RTUs):

International:

<http://www.siemens.com/telecontrol>

## Overview

### WinCC/Audit & WinCC/ChangeControl

- **WinCC/ChangeControl** is used to **trace engineering changes** in a tamper-proof long-term Audit Trail database, called the Audit Trail for short.  
All engineering changes are automatically recorded in the Audit Trail. This provides a traceable record of every change that has been made, as well as enabling the causes to be deduced and the system downtimes to be minimized.  
To begin tracing at defined project statuses, a project version definition is provided that contains all data and files of a WinCC project version. The project version definition naturally provides the ability to reactivate earlier project versions. Document management is also provided, which manages and archives intermediate statuses for system graphics, reports or user files and stores change information of the user. The audit viewer with helpful filter functions enables the Audit Trail to be quickly and easily evaluated, exported or even printed out.
- **WinCC/Audit** is based on the same Audit Trail database and the same audit viewer as WinCC ChangeControl. However, the focus of WinCC Audit is the **traceability of all operator actions** during production, i.e. during the runtime of WinCC. All operations are automatically recorded in the Audit Trail at RT. In addition, WinCC Audit offers additional functions for secure and traceable plant operation, such as electronic signature for certain operating actions.
- The WinCC/Audit or WinCC/ChangeControl options and SIMATIC Logon support users in the validation of their plants and meet the requirements according to FDA CFR 21 Part 11.

#### Licenses (as of WinCC V8.0)

The complete license WinCC Audit RC includes the licenses for runtime and configuration of WinCC ChangeControl and WinCC Audit.

Licensing applies to one engineering station (configuration) and one operating station (runtime) for which an Audit Trail is to be generated.

An RC license also always includes a runtime (RT) license. Only one RT license is required for each additional operating station with Audit Trail.

In case of WinCC Server (for UNI or web clients), an Audit RT Server license must be used.

However, the clients on such a server do not require their own licensing.

The individual functional areas can also be purchased independently of each other via the WinCC ChangeControl or WinCC Audit RC Base single licenses.

## Benefits

- Quick and easy traceability configuration
- Gap-free and automated recording of engineering changes and operator actions in an Audit Trail
- Reduction in plant downtimes thanks to fast analysis of the gap-free recorded Audit Trail information
- Logging of defined WinCC project status with all database information and files of the application
- Gap-free documentation of the project version definition procedures with version number, user and comments

- Complete tracing support by WinCC single and multi-station systems, single and multi-project solutions, Client/Server architecture
- Additional protection of selected operating actions by electronic signature
- Extensive reduction in engineering outlay in order to meet the requirements of FDA 21 CFR Part11 & EU 178/2002
- Compliance with the requirements of the Food and Drug Administration (FDA) for the food, beverages and tobacco industries

## Design

WinCC/ChangeControl and WinCC/Audit consist of five components:

- The Audit Editor for configuration the Audit Trail content
- The project version definition for archiving WinCC projects
- Document management for automatic archiving and versioning of WinCC plant screens, scripts, reports, and project-specific documents, and the recording of the associated change information
- The Audit Viewer for visualizing, exporting and printing the WinCC Audit Trail. The viewer is available as an executable program under Windows, as well as OCX with WinCC Runtime.
- The Audit Trail, which tracks all changes in respect of both engineering and plant operation in a separate SQL database. The Audit Trail can be set up as a central Audit Trail for a number of projects or even just for a single project.

WinCC/ChangeControl and WinCC/Audit support both single-user and multi-user systems, client/server architectures and even the WinCC redundancy system. No redundant Audit Trail is created however.

## Function

### WinCC/ChangeControl

WinCC/ChangeControl is a functional subset of WinCC/Audit. WinCC/ChangeControl is for tracing engineering changes in the engineering phase or in online operation. All change data is recorded in an Audit Trail.

There are two types of engineering changes:

- those that change the WinCC database or are executed through the WinCC Explorer, such as e.g. changes to tag management or creating a user group,
- and those
- limited to changing files, the so-called document management.

The document management manages plant screens, scripts and log layouts and customer-specific documents and stores respective intermediate versions as backups. All of these documents or files are subject to a change process, i.e. documents can be booked out for processing, booked in for finalization and intermediate versions can be retrieved from backup storage with a rollback function.

The project version definition as a component of WinCC /ChangeControl archives WinCC projects and creates reproducible project statuses or defined start time points for starting tracing. An Audit Trail is also provided with information on who has created which project version or which version has been reproduced or deleted.

**HMI software**

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

**WinCC/Audit & WinCC/ChangeControl****Function**

Configuring the Audit Trail, the project version definition and the document management is simple, quick and comfortable.

The Audit Trail data is visualized from WinCC via the audit viewer, an executable program under Windows.

The data can also be evaluated with the audit viewer OCX in Runtime by WinCC however. Users select the desired view of the Audit Trail information via filters or selection criteria and can export the data to an Excel file or print it on a printer.

Audit Trail information is tamper-proof and can thus not be modified or deleted. An export function can be used to swap out the Audit Trail to an XML file or to archive it.

**WinCC/Audit**

WinCC/Audit has all of the functionality of WinCC/ChangeControl and is also used for tracing operator operations in RT operation. Tracing can be used for determining who, when and what conditions the machine has undergone. In addition to recording operator activities, the Audit Trail also records the starting and modifying of recipes or operator logs.

In addition, the user can perform activities of an individual nature at specific objects or events, such as pressing a function button, moving sliders and other actions, while using a so-called audit entry function to record these activities in the Audit Trail.

A WinCC/ChangeControl RC license or a WinCC/Audit RC license is required for configuring the Audit Trail. One RT license is required for each station (client/server) to be monitored. One RC license always includes one RT license.

**Ordering data****Article No.****WinCC/ChangeControl****WinCC ChangeControl V8.0**

- Standard scope of supply
- As download

**6AV6371-1DV28-0AX0**  
**6AV6371-1HV28-0AX0**

**WinCC/Audit****WinCC/Audit RC V8.0**

For configuration of ChangeControl and Audit incl. RT

- Standard scope of supply
- As download

**6AV6371-1DV18-0AX0**  
**6AV6371-1HV18-0AX0**

**WinCC/Audit RC Base V8.0**

For configuration of Audit incl. RT

- Standard scope of supply
- As download

**6AV6371-1DV48-0AX0**  
**6AV6371-1HV48-0AX0**

**WinCC/Audit RT V8.0**

Creation of Audit Trails in RT

- WinCC Audit RT V8.0
- WinCC Audit RT Server V8.0
- WinCC Audit RT Server PowerPack

**6AV6371-1DV08-0AX0**  
**6AV6371-1DV38-0AX0**  
**6AV6371-1BV38-0AX0**

As download

- WinCC Audit RT V8.0
- WinCC Audit RT Server V8.0
- WinCC Audit RT Server PowerPack

**6AV6371-1HV08-0AX0**  
**6AV6371-1HV38-0AX0**  
**6AV6371-1JV38-0AX0**

**Upgrades****V7.5 to V8.0**

- For WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

**6AV6371-1DV08-0BX4**  
**6AV6371-1DV18-0BX4**

As download

- WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

**6AV6371-1KV08-0BX4**  
**6AV6371-1KV18-0BX4**

**V7.3/7.4 to V8.0**

- For WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

**6AV6371-1DV08-0BX3**  
**6AV6371-1DV18-0BX3**

As download

- WinCC/Audit RT
- For WinCC/Audit RC or WinCC/ChangeControl

**6AV6371-1KV08-0BX3**  
**6AV6371-1KV18-0BX3**

Ordering data	Article No.
<b>WinCC/ChangeControl</b> <b>WinCC/ChangeControl V7.5 SP2</b>  For the configuration of the Audit Trail incl. RT <ul style="list-style-type: none"> <li>• Standard scope of supply</li> <li>• As download</li> </ul>	<b>6AV6371-1DV27-5AX0</b> <b>6AV6371-1HV27-5AX0</b>
<b>WinCC/Audit</b> <b>WinCC/Audit RC V7.5 SP2</b>  For the configuration of the Audit Trail incl. RT <ul style="list-style-type: none"> <li>• Standard scope of supply</li> <li>• As download</li> </ul>	<b>6AV6371-1DV17-5AX0</b> <b>6AV6371-1HV17-5AX0</b>
<b>WinCC/Audit RT V7.5 SP2</b>  Creation of Audit Trails in RT <ul style="list-style-type: none"> <li>• Standard scope of supply</li> <li>• As download</li> </ul>	<b>6AV6371-1DV07-5AX0</b> <b>6AV6371-1HV07-5AX0</b>
<b>Upgrades</b>	
<b>V7.4 to V7.5 SP2</b> <ul style="list-style-type: none"> <li>• For WinCC/Audit RT</li> <li>• For WinCC/Audit RC or WinCC/ChangeControl</li> </ul>	<b>6AV6371-1DV07-5BX4</b> <b>6AV6371-1DV17-5BX4</b>
<u>As download</u> <ul style="list-style-type: none"> <li>• WinCC/Audit RT</li> <li>• For WinCC/Audit RC or WinCC/ChangeControl</li> </ul>	<b>6AV6371-1KV07-5BX4</b> <b>6AV6371-1KV17-5BX4</b>
<b>V7.2/7.3 to V7.5 SP2</b> <ul style="list-style-type: none"> <li>• For WinCC/Audit RT</li> <li>• For WinCC/Audit RC or WinCC/ChangeControl</li> </ul>	<b>6AV6371-1DV07-5BX3</b> <b>6AV6371-1DV17-5BX3</b>
<u>As download</u> <ul style="list-style-type: none"> <li>• WinCC/Audit RT</li> <li>• For WinCC/Audit RC or WinCC/ChangeControl</li> </ul>	<b>6AV6371-1KV07-5BX3</b> <b>6AV6371-1KV17-5BX3</b>

### More information

More information is available at:

<http://www.siemens.com/wincc-audit>

Information on the declarations of conformity for SIMATIC WinCC can be found at:

<https://new.siemens.com/global/en/markets/pharma-industry/good-manufacturing-practice.html>

**HMI software**

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

**WinCC/Calendar Scheduler****Overview****WinCC/Calendar Scheduler**

- Option for SIMATIC WinCC for managing events in a calendar.
- Setting WinCC variables or starting global scripts at defined times.

Licenses

- WinCC/Calendar Scheduler comprises engineering and runtime software, with licensing either on the WinCC server or single-user system
- A common "Upgrade for WinCC Calendar options" software package is used to upgrade to a new version.

**Benefits**

- Simple operation, configuration and planning of events thanks to handling in the style of Microsoft Office Calendar
- Simple configuration of the actions by parameterization (execution of WinCC scripts or writing of WinCC tags at certain times)
- Configuration of recurring events taking account of configurable public holidays, vacation periods, and maintenance periods
- Secure operation of the plant taking account of different authentication levels
- Clear representation of events at runtime by means of Calendar Runtime Control
- Flexible use in all typical WinCC plant configurations client/server, redundant systems, WebNavigator

**Function**

With the WinCC Calendar Scheduler, events and their associated actions can be configured in a user-friendly and clear way in an editor in WinCC Explorer.

The events are represented in a calendar. The period represented can be freely selected. Recurring events can be defined as serial events with any desired exceptions.

The events are displayed in a .Net control. The Calendar Scheduler is easy and intuitive to operate and supports drag & drop during configuration and runtime.

**Ordering data****Article No.****WinCC/Calendar Scheduler**

- WinCC V8.0
- WinCC V7.5 SP2

As download

- WinCC V8.0
- WinCC V7.5 SP2

**6AV6372-1DC08-0AX0**  
**6AV6372-1DC07-5AX0**

**Upgrade**

- V7.5 SP2 -> V8.0
- V7.3/7.4 -> V8.0
- V7.4 -> V7.5 SP2
- V7.2/7.3 -> V7.5 SP2

**6AV6372-1DC08-0AX4**  
**6AV6372-1DC08-0AX3**  
**6AV6372-1DC07-5AX4**  
**6AV6372-1DC07-5AX3**

As download

- V7.5 SP2 -> V8.0
- V7.3/7.4 -> V8.0
- V7.4 -> V7.5 SP2
- V7.2/7.3 -> V7.5 SP2

**6AV6372-1KC08-0AX4**  
**6AV6372-1KC08-0AX3**  
**6AV6372-1KC07-5AX4**  
**6AV6372-1KC07-5AX3**

**More information**

You can find more information at:

<http://www.siemens.com/wincc-calendar-options>

## Overview

### **WinCC/Connectivity Pack & WinCC Connectivity Station**

Cross-manufacturer communication in the automation sector has always been of primary importance for WinCC. This is even more true for the exchange of preprocessed production data for higher-level information systems (e.g. MES = Management Execution System, ERP = Enterprise Resource Planning or Office packages = MS Excel, MS Access, etc.).

WinCC has integrated OPC and OPC UA servers that provide access to online and archive data. In addition to OPC, the Connectivity Pack also activates the access options via OLE DB and, as of WinCC V8.0, also MQTT Cloud Connect, REST API, and REST Connector.

- The following OPC access operations are possible with the Connectivity Pack:
  - OPC UA server for DA, A&C, and HDA
  - OPC server for A&E and HDA

Access via OPC DA is also possible without Connectivity Pack. The Connectivity Station offers OPC UA, OPC and OLE DB access also via a station without WinCC installation.

#### Licensing

- A Connectivity Pack license is required for each WinCC system to be accessed.
- When using the Connectivity Station it is not necessary to install additional Connectivity Pack licenses on the WinCC systems being accessed.
- In order to use the OPC interfaces of the Connectivity Station on a computer without the WinCC installation, you need the "WinCC Connectivity Station" license.
- For sole use of the OPC interfaces of a WinCC installation, only the "Connectivity Pack" license is required.

The Connectivity Station is configured via the SIMATIC Manager.

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

## Benefits

- Access to variables, historical WinCC data, alarm data and user archives from any computer
- Options for analyzing and evaluating process data with specialist tools or user-defined applications

## Function

As an OPC HDA server, WinCC makes historical data from the WinCC archive system available to other applications.

An OPC HDA client (e.g. a reporting tool) can define the time interval for the required data by entering a start and end time. OPC HDA servers also support the generation of a variety of aggregate functions on the server itself (e.g. standard deviation, variance, mean values, integral values, etc.), thereby helping to relieve the load on the network, as only preprocessed data are transmitted.

OPC A&E servers are used to forward WinCC messages (along with all associated process values) to any client at production or enterprise control level.

Filter mechanisms and subscriptions ensure that only selected modified data are transmitted. Acknowledgement is of course also supported.

WinCC OLE DB makes standardized and user-friendly access to WinCC archive data possible (MS SQL Server).

In exactly the same way as access via the OPC HDA and OPC A&E interfaces, access via the WinCC OLE DB Provider makes all WinCC archive data available along with the associated process values and message/user texts. The WinCC OLE DB Provider also supports analysis functions such as minimum, maximum, message hit list, etc.

WinCC Cloud Connect, the REST API and the WinCC REST Connector provide you with additional options for exchanging data with other systems via MQTT and REST. Be it for connecting WinCC to a cloud, such as MindSphere, or for communicating with MES/MOM systems such as Opcenter or other IT systems.

### **Connectivity Station**

If no visualization is required at a station, any Windows computer with access to WinCC via OPC and OLE DB can be configured via the Connectivity Station. This permits access to WinCC stations with server packages from a central computer without WinCC installation. The WinCC stations can be accessed via the following interfaces:

- OPC interfaces of the Connectivity Station
- OLE DB interface of the Connectivity Pack

The two access variants are autonomous access options with different ranges of functions.

#### OPC interfaces of the Connectivity Station

The Connectivity Station provides interfaces via which you can access the following using an OPC client.

- OPC UA (DA, A&C and HDA)
- OPC (DA, A&E and HDA)

**HMI software**

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

**WinCC/Connectivity Pack & WinCC Connectivity Station****Ordering data****Article No.****WinCC/Connectivity Pack & WinCC/Connectivity Station****V8.0****Basic Packages**

- WinCC/Connectivity Pack V8.0 <sup>1)</sup>
- WinCC/Connectivity Station V8.0 <sup>1)</sup>

**6AV6371-1DR08-0AX0****6AV6371-1DR18-0AX0**As download

- WinCC/Connectivity Pack V8.0
- WinCC/Connectivity Station V8.0

**6AV6371-1HR08-0AX0****6AV6371-1HR18-0AX0****V7.5 SP2****Basic Packages**

- WinCC/Connectivity Pack V7.5 SP2 <sup>1)</sup>
- WinCC/Connectivity Station V7.5 SP2 <sup>1)</sup>

**6AV6371-1DR07-5AX0****6AV6371-1DR17-5AX0**As download

- WinCC/Connectivity Pack V7.5 SP2
- WinCC/Connectivity Station V7.5 SP2

**6AV6371-1HR07-5AX0****6AV6371-1HR17-5AX0**<sup>1)</sup> Upgrades are included in the WinCC Basic Software upgrades**More information**

You can find more information at:

<http://www.siemens.com/wincc-connectivity-pack>

## Overview

### WinCC/Event Notifier

- Option for SIMATIC WinCC for notifying selected persons by email in specified time slots
- Notification depends on events occurring in the WinCC Message System
- Escalation levels, i.e. Group 2 is only notified when nobody "on site" or from Group 1 has reacted within a specified time
- Final notification of all persons previously notified in connection with the specific event about the reaction that has taken place

### Licenses

- WinCC/Event Notifier comprises engineering and runtime software, with licensing either on the WinCC server or single-user system
- A common "Upgrade for WinCC Calendar options" software package is used to upgrade to a new version.

## Benefits

- Simple operation, configuration and planning of notifications thanks to handling like the Microsoft Office Calendar
- Easy configuration of the notifications including support of the WinCC Runtime languages by connecting to the WinCC Message System
- Configuration of recurring events taking account of configurable public holidays, vacation periods, and maintenance periods
- Secure operation of the plant taking account of different authentication levels
- Clear display and intuitive operation at runtime by means of Calendar Control
- Flexible use in all typical WinCC plant configurations single station, client/server, redundant systems, WebNavigator

## Function

The WinCC Event Notifier enables the following to be configured in a clear and user-friendly manner via the Calendar Options Editor in the WinCC Explorer:

- The email service for sending and receiving messages
- The messages by selecting configured messages in the WinCC Alarm System as well the setup and contents of the message by selecting the message blocks
- Contacts by selecting predefined persons from the WinCC user administration.

In a calendar it is then possible to select the persons to be notified within the opened time slot from the existing contacts. If several persons or groups of persons are set up for the same time slot, escalation levels can be implemented by assigning different escalation times (= dead time before notification). The period represented by the calendar can be freely selected. Recurring events can be defined as serial events with any desired exceptions.

The calendar can also be integrated as .Net Control in WinCC screens; the appearance of the calendar controls at runtime is configurable. Via the calendar control, you can create time slots during runtime with contacts who should be notified upon occurrence of the configured events in the WinCC Alarm System. In addition, the calendar control allows the creation of new contacts by means of selection from the WinCC user management.

The Event Notifier is easy and intuitive to operate and supports drag & drop during configuration and runtime.

## Ordering data

### Article No.

#### WinCC/Event Notifier

- For WinCC V8.0
- For WinCC V7.5 SP2

#### As download

- For WinCC V8.0
- For WinCC V7.5 SP2

**6AV6372-1DD08-0AX0**  
**6AV6372-1DD07-5AX0**

**6AV6372-1HD08-0AX0**  
**6AV6372-1HD07-5AX0**

#### Upgrade

#### (joint upgrade package for Calendar Scheduler and Event Notifier)

- V7.5 -> V8.0
- V7.3/7.4 -> V8.0
- V7.4 -> V7.5 SP2
- V7.2/7.3 -> V7.5 SP2

#### As download

- V7.5 -> V8.0
- V7.3/7.4 -> V8.0
- V7.4 -> V7.5 SP2
- V7.2/7.3 -> V7.5 SP2

**6AV6372-1DC08-0AX4**  
**6AV6372-1DC08-0AX3**  
**6AV6372-1DC07-5AX4**  
**6AV6372-1DC07-5AX3**

**6AV6372-1KC08-0AX4**  
**6AV6372-1KC08-0AX3**  
**6AV6372-1KC07-5AX4**  
**6AV6372-1KC07-5AX3**

## More information

You can find more information at:

<http://www.siemens.com/wincc-calendar-options>

## HMI software

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

### WinCC/Open Development Kit (ODK)

#### Overview

##### **WinCC/ODK (Open Development Kit)**

- WinCC option for utilization of the exposed programming interfaces that can be used to access data and functions of the WinCC configuration and WinCC runtime system
- The interfaces are designed as "C-Application Programming Interface" (C-API)

##### Licenses

The scope of supply of WinCC/ODK includes many examples and comprehensive documentation.

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

#### Benefits

- Individual system expansions via an open standard programming language
- Access to data and functions of the WinCC configuration and runtime system
- Development of your own applications and add-ons for the WinCC basic system

#### Function

API functions are configuration and runtime functions, such as:

- MSRTCreateMsg: Creates a message
- DMGetValue: Determines the value of a tag
- PDLRTSetProp: Sets the object properties in a display

They can be used as follows:

- Within WinCC, e.g. in global scripts or within the scope of C actions in the Graphics Designer
- In Windows applications in the C programming language (the current version of Microsoft Visual C++ is required as a developer's environment for WinCC)

#### Ordering data

##### **SIMATIC WinCC/ODK**

Open Development Kit, option for SIMATIC WinCC

- V8.0
- V7.5 SP2

##### As download

- V8.0
- V7.5 SP2

#### Article No.

**6AV6371-1CC08-0AX0**  
**6AV6371-1CC07-5AX0**

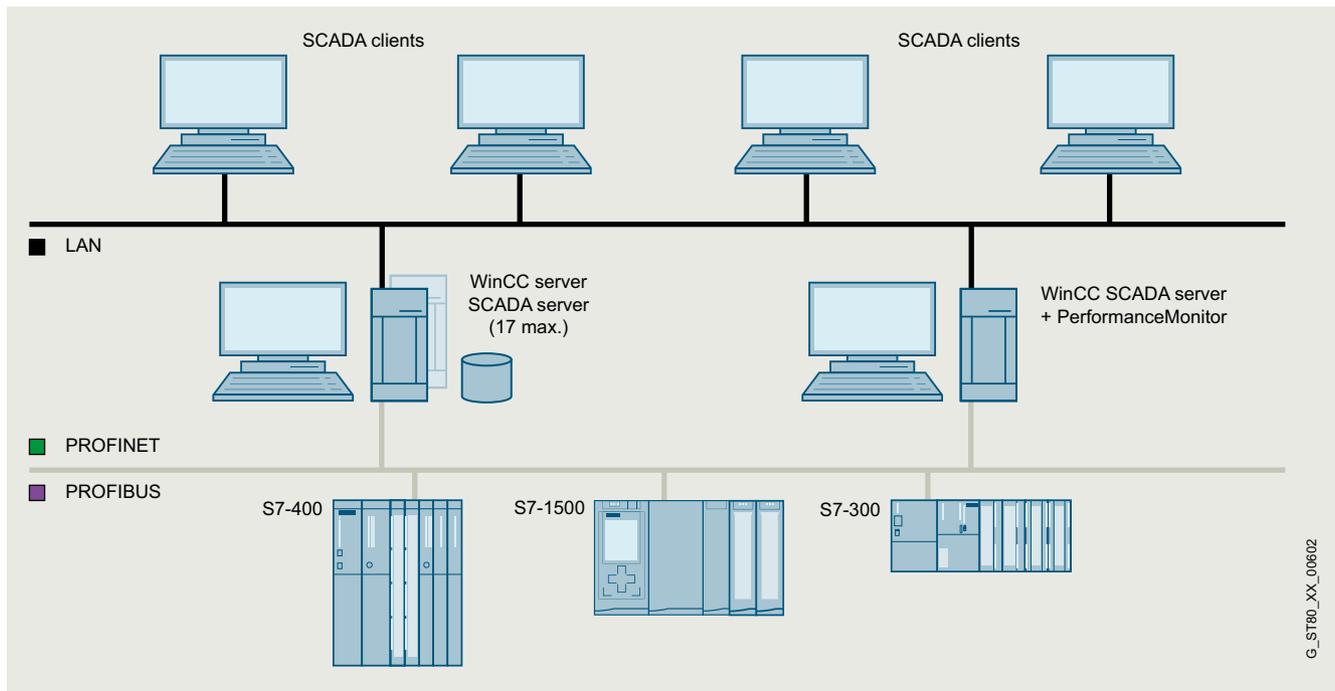
**6AV6371-1GC08-0AX0**  
**6AV6371-1GC07-5AX0**

#### More information

You can find more information at:

<http://www.siemens.com/wincc-odk>

## Overview



WinCC/PerformanceMonitor

### **WinCC/PerformanceMonitor – Analysis and optimization of production on the basis of individual performance indicators**

The WinCC/PerformanceMonitor facilitates flexible calculation and powerful analysis of plant-specific key performance indicators (KPIs). The indicators provide the basis for deriving optimization potential, thus enabling productivity enhancement.

They relate to individual machine groups, plant sections or production lines. The elements to be monitored are designated as equipment. Indicators are calculated based on operands which are derived from already configured WinCC tags. By combining them with associated values, more accurate production correlations can be highlighted, such as quality/supplier dependencies. The calculation formulas used are quick and simple to create in WinCC.

Analysis of the indicators and their operands can be carried out in the WinCC system at any time. Indicators, along with their associated values if required, can be clearly displayed in bar graphs, allowing easy comparison. In addition, the input values of each performance indicator can be shown via an integrated analysis function (drill-down). The Gantt chart illustrates the chronological sequence of the operands. The table display lists the archived values, allowing subsequent correction if required. Performance indicators calculated online, either cyclically or triggered by a tag, can be written to WinCC tags for further processing in WinCC, and display in WinCC images, for example.

The PerformanceMonitor can be combined with the WebNavigator for distribution on the Internet, and with the Information Server for reporting purposes. Integration into WinCC ensures fast configuration and complete transparency across all machine and plant data as a basis for optimizing plant productivity.

- The WinCC/PerformanceMonitor can be installed on a WinCC stand-alone system, WinCC server or WinCC client project (WinCC RT Client license), and consists of an engineering client as well as a runtime user interface.
- The WinCC/PerformanceMonitor provides ActiveX control elements for embedding in WinCC images.
  - PerformanceControl: Bar graphs for displaying performance indicators in relation to context values, showing the operands for cause analysis in each case.
  - Gantt chart: Chronological sequence of time-based operands
  - TableControl: Tabular listing of operands with post correction option.
- With the help of the integrated configuration environment, operands are calculated (based on tags) which can be used to calculate key statistics at the set evaluation time.
- For analysis via intranet or Internet, the controls of the WinCC/PerformanceMonitor are available when using the WinCC/WebNavigator.
- The SIMATIC Information Server can be used for generating plant-specific, web-based reports (predefined and expandable).

#### Licensing:

- The basic package comprises a configuration environment, runtime controls (bars, Gantt, tables) and a license for archiving 30 values.
- The logged values (operands, context) form the basis of the analysis. If more values are to be archived, the number of (additive) archive values can be increased in steps of 30, 100, 300 or 1 000 (countable tags).

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

## HMI software

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

### WinCC/PerformanceMonitor

#### Benefits

##### **Management and quality assurance**

Complete transparency throughout the machine park as the basis for optimizing plant productivity.

- Recording of downtimes, localizing causes and reasons for failure times, and monitoring of equipment efficiency.
- Decision making based on performance indicators.
- Global availability of information server reports means they can be used by different user groups.
- Recognition of production correlations by combining associated values with indicators such as material used.

##### Servicing and maintenance

Support through cyclic and process-event triggered calculation of characteristics:

- Standardization of new plants by defining controller-based status information for key figure calculation
- Individual, targeted analysis using plant-specific performance indicators.
- Weak-point analysis in production processes and recording of undesirable process activities.
- Cause analysis by examining "drill down to operands" calculation basis.
- Identification of the events that lead to cost-intensive failures.

##### Line management and plant operator

The operator is always kept up-to-date by graphical display of the characteristics.

- Later modification of archived input values.
- Continuous information at the operator interface thanks to integration in the WinCC user interface.
- Alarm messaging of limit violations and trend recording through cyclic calculation of characteristics.
- Integration into the WinCC system means it is not necessary to train operating personnel
- Quick detection of weaknesses in the process using cyclic calculation of characteristics.

##### WinCC Engineering

- Quick configuration of WinCC operator displays with WinCC and web-based reports from the Information Server.
- Minimal networking overhead by using the WinCC infrastructure in the local network as well as for the Internet.
- Short familiarization times and simple configuration using familiar tools for user interfaces and reports (WinCC, SIMATIC Information Server)
- Minimal configuration overhead due to the type-instance concept
- Minimal administrative overhead by using the WinCC infrastructure in the local network as well as for the Internet.

#### Highlights

Creation of performance indicators by the WinCC engineer with subsequent utilization by all user groups in the manufacturing company on WinCC stations or Internet clients.

#### Application

All user groups benefit from the PerformanceMonitor, from the application engineer to management-level evaluators. The engineer can use the application environment integrated in WinCC to derive individual formulas for calculating performance indicators.

Management uses Web-based reporting without the need for installation on standard computers. For maintenance, the web client of the WebNavigator can be used for analysis with the bar (for performance), progression (Gantt) and table controls. Performance indicators can be displayed on local user interfaces using standard WinCC resources to keep machine operators up to date. The service engineer can analyze the plant from his/her workstation using the WinCC Client, the Webclient of the WinCC/WebNavigator, for example. At the management level, it is possible to access Web-based reports without the need for installation on standard computers.

#### Function

- Structuring of the production plant in equipment units constituting central elements for evaluation
- Use of structured tags in order to facilitate implementation of machine status models
- WinCC tags are compressed to an operand using formulas
- Calculated operands are stored in the archive
- Archived operands are used as input values for calculating performance indicators
- Bar graphs for analyzing performance indicators and root cause determination (drill down)  
Indicator input values (operands) can be displayed if required.
- Tabular presentation of all operands (input values)
- Progression diagrams (Gantt charts) of time-based operands
- Cyclic or event-triggered calculation results are written to WinCC tags
- WinCC Runtime, alarm logging and trend logging can utilize cyclically-calculated values
- Database information and evaluations can be displayed at every WinCC station
- Information server reports can be displayed on independent PC workstations

Ordering data	Article No.	Ordering data	Article No.
<b>WinCC/PerformanceMonitor</b>  <b>WinCC/PerformanceMonitor Basic Package</b> Including 30 PerformanceMonitor archive tags <ul style="list-style-type: none"> <li>• WinCC/PerformanceMonitor V8.0</li> <li>• WinCC/PerformanceMonitor V7.5 SP2</li> </ul> <u>As download</u> <ul style="list-style-type: none"> <li>• WinCC/PerformanceMonitor V8.0</li> <li>• WinCC/PerformanceMonitor V7.5 SP2</li> </ul>	<b>6AV6372-2DG08-0AA0</b> <b>6AV6372-2DG07-5AA0</b>  <b>6AV6372-2HG08-0AA0</b> <b>6AV6372-2HG07-5AA0</b>	<b>WinCC/PerformanceMonitor Upgrade</b>  <b>V7.5 SP2 to V8.0</b> <ul style="list-style-type: none"> <li>• Standard software</li> <li>• As download</li> </ul> <b>V7.3/7.4 to V8.0</b> <ul style="list-style-type: none"> <li>• Standard software</li> <li>• As download</li> </ul> <b>V7.4 to V7.5 SP2</b> <ul style="list-style-type: none"> <li>• Standard software</li> <li>• As download</li> </ul> <b>V7.2/7.3 to V7.5 SP2</b> <ul style="list-style-type: none"> <li>• Standard software</li> <li>• As download</li> </ul>	<b>6AV6372-2DG08-0AX4</b> <b>6AV6372-2KG08-0AX4</b>  <b>6AV6372-2DG08-0AX3</b> <b>6AV6372-2KG08-0AX3</b>  <b>6AV6372-2DG07-5AX4</b> <b>6AV6372-2KG07-5AX4</b>  <b>6AV6372-2DG07-5AX3</b> <b>6AV6372-2KG07-5AX3</b>
<b>Option for WinCC/PerformanceMonitor V7.5 SP2 and V8.0 Basic package</b> <ul style="list-style-type: none"> <li>• 30 additive PerformanceMonitor archive tags</li> <li>• 100 additive PerformanceMonitor archive tags</li> <li>• 300 additive PerformanceMonitor archive tags</li> <li>• 1 000 additive PerformanceMonitor archive tags</li> </ul> <u>As download</u> <ul style="list-style-type: none"> <li>• 30 additive PerformanceMonitor archive tags</li> <li>• 100 additive PerformanceMonitor archive tags</li> <li>• 300 additive PerformanceMonitor archive tags</li> <li>• 1 000 additive PerformanceMonitor archive tags</li> </ul>	<b>6AV6372-2CG20-0BA0</b> <b>6AV6372-2CG20-0CA0</b> <b>6AV6372-2CG20-0DA0</b> <b>6AV6372-2CG20-0EA0</b>  <b>6AV6372-2JG20-0BA0</b> <b>6AV6372-2JG20-0CA0</b> <b>6AV6372-2JG20-0DA0</b> <b>6AV6372-2JG20-0EA0</b>		

**More information**

You can find more information at:

<http://www.siemens.com/wincc-performancemonitor>

## HMI software

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

### WinCC/Redundancy

#### Overview

##### WinCC/Redundancy

- Option for SIMATIC WinCC, supporting the parallel operation of two interfaced WinCC single-user systems or process data servers for mutual monitoring
- If one of the two server PCs or one of the two WinCC stations fails, the second one will take over control of the entire system. Once the failed server or station is restored to operation, the process value archives are copied to the restored partner.

##### Licenses

The WinCC/Redundancy option includes licenses for both redundant servers. A Redundancy license is required on each of the two servers in addition to other necessary licenses.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

#### Benefits

- Increased system availability with continuous data integrity
- Automatic changeover of client in the event of failure of a server or failure of the communication to a server
- Continuous operator control and visualization thanks to automatic client changeover to the intact server
- Automatic updating of all archives in the background after rectification of the fault

#### Function

Normally, two WinCC stations or process data servers run in parallel. Each station has its own process connection and its own data archives. WinCC/Redundancy ensures automatic matching of system and user archive data.

If one of the two server computers or WinCC stations fails, the second will take over the archiving of messages and process data, thereby ensuring seamless data integrity. In client/server mode, the clients are automatically switched from the failed server to the redundant partner. This ensures continuous plant visualization and operation on every operator station.

When the failed partner resumes operation, all process values, messages and data archived during the fail period are automatically matched with the partner. This process runs in the background and does not affect plant continuity. Once this is complete, two equivalent servers/stations will be available again.

Communication with the SIMATIC S7 PLC can also be configured with redundancy (an H Series SIMATIC S7 is required) by plugging in two communication modules and configuring two communication paths (S7-REDCONNECT software package). The use of failsafe H Series SIMATIC S7 PLCs can, if required, further increase availability at control level.

#### Ordering data

#### Article No.

##### SIMATIC WinCC/Redundancy V8.0

- Runtime software, single license for 2 installations
- As download, Runtime software, single license for 2 installations

**6AV6371-1CF08-0AX0****6AV6371-1HF08-0AX0**

##### SIMATIC WinCC/Redundancy V7.5 SP2

- Runtime software, single license for 2 installations
- As download, Runtime software, single license for 2 installations

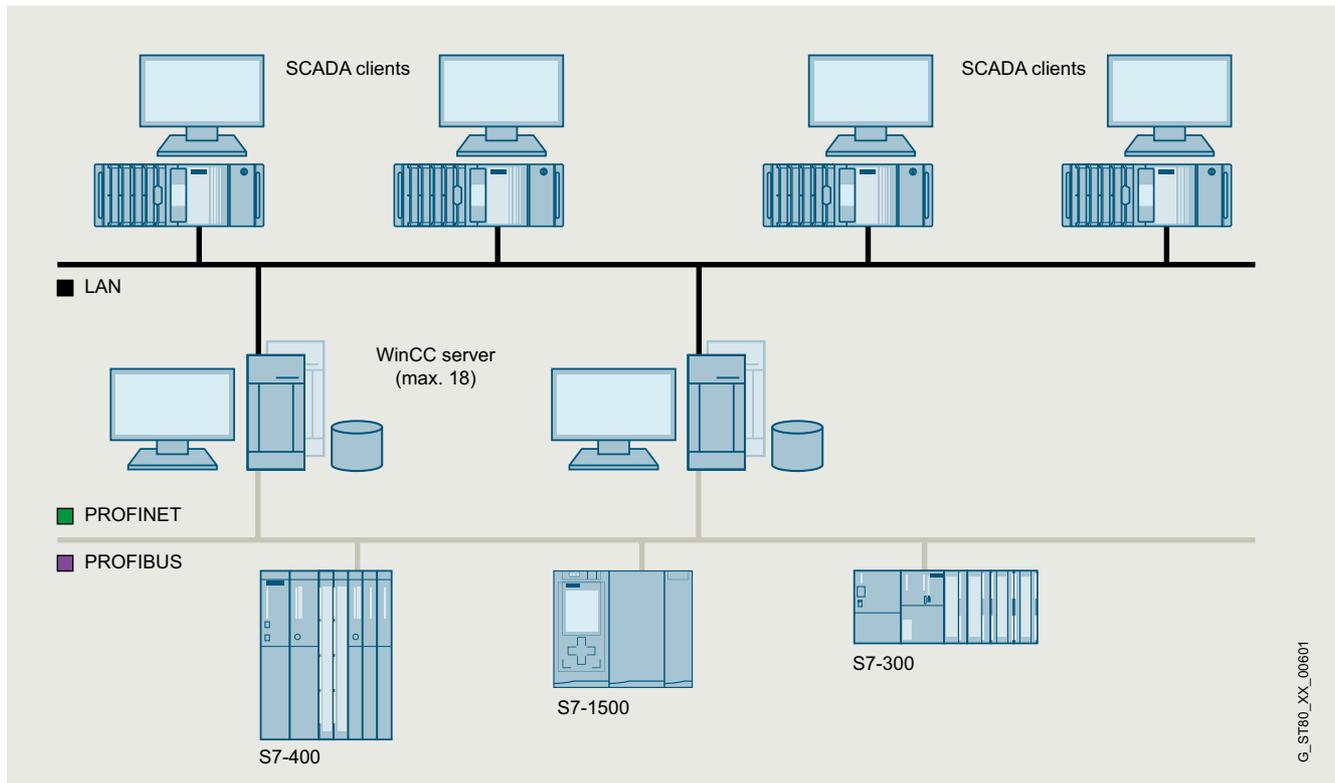
**6AV6371-1CF07-5AX0****6AV6371-1HF07-5AX0**

#### More information

You can find more information at:

<http://www.siemens.com/wincc-redundancy>

## Overview



### **SIMATIC WinCC/Server**

- Option for SIMATIC WinCC, which permits the configuration of a powerful client/server system.
- A maximum of 3 clients can be connected to non-server operating systems.
- A number of coordinated HMI stations can be operated in a single group with networked automation systems
- Client/server solution:
  - Client without its own project ("UNI-Client"): One (redundant) server can supply up to 64 clients with process and archive data, messages, images and reports. The clients act as display and operating stations for the project on the server.
  - Client with its own project ("MULTI-Client"): One client can simultaneously access up to 18 (redundant) servers. These servers make the data and images available. This data can be collectively processed and displayed in the client project in order, for example, to implement a system overview across several servers. In this case, one server can supply data to as many as 50 clients.
- Requirement: Network connection (TCP/IP) between the server PC and the connected clients

### Licenses:

The following licenses are required for configuring a multi-user system:

- WinCC Server license on the server in addition to a WinCC RT license (a server license is required for each server)
- One WinCC RT Client license on each client.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

## HMI software

SIMATIC WinCC V7/V8

SIMATIC WinCC V7/V8 options

### WinCC/Server

#### Benefits

- Plant-wide scalability from the single-user system to the client/server solution
- Significantly higher quantity framework, relieving the individual servers and better performance due to distributing the complete application or tasks over several servers
- Low-cost configuration on the client is possible (the minimum RC license is sufficient)

#### Application

In a complex plant, WinCC can also be configured as a distributed system according to requirements:

- Functional distribution (e.g. message servers, archive servers, etc.) or
- Distribution according to the physical plant structure (e.g. body-in-white, paintshop, etc.)

#### Function

Each client can access more than one server at a time. Clients can also be used for configuration on the server.

A configuration of WinCC clients as a central Web server - as a distributed system if required - with an overview of all server projects in the system is also possible.

For WinCC clients, only the smallest runtime license WinCC RT client is required. In order to also facilitate configuration on WinCC clients, the smallest complete license WinCC RC client is required. Remote configuration is possible if WinCC clients without their own project (Uniclents) on the server project are configured. This makes it possible to configure inexpensive operator and configuration stations in a network.

#### Ordering data

#### Article No.

**SIMATIC WinCC/Server V8.0**

- Runtime software, single license
- As download,  
Runtime software, single license

**6AV6371-1CA08-0AX0**  
**6AV6371-1HA08-0AX0**

**SIMATIC WinCC/Server V7.5 SP2**

- Runtime software, single license
- As download,  
Runtime software, single license

**6AV6371-1CA07-5AX0**  
**6AV6371-1HA07-5AX0**

#### More information

You can find more information at:

<http://www.siemens.com/wincc-server>

## Overview

### WinCC/UserArchives

- Option for SIMATIC WinCC for managing data records in user archives that contain related data.
- WinCC and its automation partners (e.g. a SIMATIC S7-300/400 controller) write these data records and exchange them if required.

The WinCC/UserArchives option can also be used in the context of the WinCC/WebNavigator (see also WinCC/WebNavigator option).

### Licenses

A license is only required for the server (or single-user system).

You can find more information on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

## Benefits

- Storing and managing of any user data in data sets
- Flexible display using ActiveX controls
- Simple linking of data set fields to the process via direct tag linking
- Import/export functions for further processing with other tools (e.g. MS Excel)

## Function

- Input of parameter sets (e.g. operating parameters of a machine) in WinCC, storage of the sets in the user archive, and forwarding to the automation level
- Continuous acquisition of production parameters by the automation system and forwarding of the parameters to WinCC at the end of the shift
- Acquisition of batch data
- Specification of production parameters
- Management of warehousing data

WinCC user archives are created and assigned data in a user-friendly way using a dedicated editor. Special ActiveX controls are used for displaying data from the user archives at runtime.

Data sets and fields from user archives are linked to the process via direct tag linking.

Import and export functions support read-in/out of data via external applications (e.g. MS Excel). Freely selectable filter criteria allow clear representation of data sets.

WinCC provides functions for free organization of the data storage in the user archives that affect archives, data sets and fields. Archives can thus be generated, opened, closed, or reset, and data sets or field contents can be read, written or overwritten.

Sequence archives can accommodate batch data, shift production data, or also product quality data, and meet legal obligations for verification thanks to gap-free recording.

## Ordering data

### Article No.

#### SIMATIC WinCC/UserArchives

- Option for SIMATIC WinCC V8.0, Runtime software, single license
- Option for SIMATIC WinCC V7.5 SP2, Runtime software, single license

#### As download

- Option for SIMATIC WinCC V8.0, Runtime software, single license
- Option for SIMATIC WinCC V7.5 SP2, Runtime software, single license

**6AV6371-1CB08-0AX0**

**6AV6371-1CB07-5AX0**

**6AV6371-1HB08-0AX0**

**6AV6371-1HB07-5AX0**

## More information

You can find more information at:

<http://www.siemens.com/wincc-user-archives>

# HMI software

## SIMATIC WinCC Open Architecture

### Introduction

#### Overview

##### **SIMATIC WinCC Open Architecture**

The SCADA System SIMATIC WinCC Open Architecture (WinCC OA) addresses applications with a high demand for customer-specific adaptations, large and/or complex applications, as well as projects that demand special system requirements and functions.

SIMATIC WinCC OA stands for:

- Object orientation supports efficient engineering and flexible plant expansion
- Up to 2 048 servers for distributed systems
- Scalable – from small, single-user systems to networked, redundant high-end systems with more than 10 million PowerTags
- Can be used on any platform, and is available for Windows, Linux, iOS and Android
- Hot standby redundancy and Disaster Recovery system assure maximum fail-safety and availability
- Platform for customized solutions
- Extensive driver and interfacing options: S7, S7 PLUS, OPC, OPC UA, Modbus, Rockwell EtherNet/IP, IEC 61850, IEC 60870-5-101/104, DNP3, XML, TCP/IP

Apart from the software, SIMATIC WinCC OA also offers a large spectrum of services and preconfigured supplementary functionalities, such as:

- Single server: products required for operation of a single-user station
- Server: Server Basic Package and expansions with PowerTags (I/Os)
- User interfaces: all available user interface licenses and engineering licenses for one server
- Driver: a wide range of additional connection options for one server
- Add-ons: functional expansions within a WinCC OA Server and supplementary functions based on the server
- IPC Packages: special offers for SIMATIC WinCC OA Servers, purchased together with a SIEMENS PC platform
- Development Packages: special offers for development environments and expansions
- Solution Frameworks: pre-defined projects with pre-implemented functions such as extended maintenance applications, tree views of a plant or simulation options with SIMATIC WinCC OA
- Trade goods: commodities for SIMATIC WinCC OA

##### SIMATIC WinCC OA IOT Suite

The product spectrum of SIMATIC WinCC OA is extended towards IoT with the SIMATIC WinCC Open Architecture IOT Suite.

This is based on the standard product SIMATIC WinCC OA and comprises two components:

- IOT Box and IOT OPA

##### SIMATIC WinCC OA Services

SIMATIC WinCC OA offers a multitude of support such as consulting, solution portfolio or special implementations (e.g. driver extensions or creation of new ones), as well as hotline support. A large number of training courses is also offered for the multitude of WinCC Open Architecture possibilities. This offer is rounded out with travel expense flat rates to ensure the deployment of our employees on site.

##### **End User License Agreement**

The current End User License Agreement (EULA) can be found under:

<https://www.winccoa.com/downloads/detail/eula-end-user-license-agreement.html>

##### Product warranty

During the 12-month warranty period, faults will be corrected at ETM's discretion either by a workaround, a patch or a new WinCC OA version. For resolved defects, the warranty is extended by max. 3 months for the corrected area in WinCC OA (starting from the availability of the patch correcting the fault). An upgrade to the latest WinCC OA version is not part of the product warranty!

##### **Definitions:**

- "Update" means a modification or expansion of the current software release, including additional functionalities
- "Upgrade" means replacing the current software version with the next higher version.

### Overview

#### SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture (OA) is a SCADA system for visualizing and operating processes, production flows, machines and plants in all industrial sectors.

SIMATIC WinCC OA is built consistently on object-oriented structures. Due to this consistent and well-considered use of object-oriented structures, from process images to the database, the engineering costs improve for SIMATIC WinCC OA customers.

Distributed systems enable the connection of up to 2 048 autonomous SIMATIC WinCC Open Architecture systems via a single network. Each subsystem can be configured either as single-user or multi-user system, each of which may be redundant or non-redundant.

#### Current version:

SIMATIC WinCC Open Architecture V3.19

#### New in Version 3.19:

- Top highlight: The fastest WinCC OA to date with up to 5x higher Event Manager throughput
- Dashboard
  - Native HTML5 dashboarding
  - ULC UX, SVG & video widget
- Archiving
  - Online backup
  - Multiple alarm groups
  - Own backends possible via backend API
- Connectivity
  - DNP3 secure authentication
  - NTCIP driver
  - BACnet AWS profile support
  - OPC UA: Methods, dynamic alarm conditions, support of structures
  - MQTT Publisher
- Other
  - Docker & Cloud & Edge support (full support with subsequent patches)
  - Facilitated license management directly in WinCC OA
  - MES connection (Opcenter Execution Core)
  - PM Add-ons connection

#### Supported platforms:

- Windows 2019 Server
- Windows 2022 Server
- Windows 10 CB Version 21H2
- Windows 10 LTSC 2021
- Windows 11
- Red Hat Enterprise Linux 9
- Oracle Linux 9
- SIEMENS Industrial OS 3.3
- Docker - Debian 11
- VMware ESXi 7
- vSphere HA Cluster

You can find the supported platforms for older versions in the Knowledge Base (<https://www.winccoa.com/knowledge-base.html>) of the WinCC OA Portal.

#### Note:

Native 64-bit support.

#### Software services:

Four types of software services are available. They are ordered for each WinCC OA software component.

Software service	Short description	Available service periods	Renewable
POS	Patch Only Service	1 year	Yes
SUS	Software Update Service	1 year	Yes
SMS	Software Maintenance Service	1 year	Yes
UPG	One Upgrade	n/a	No

An exact description of the respective options can be found under **More information**.

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC Open Architecture Software and Software Services

##### Benefits

Efficient engineering and flexible plant expansion

- Object orientation
- Unlimited number of data points
- Mass engineering
- Multi-language with UTF-8 support

Object-oriented data model

- Mapping of setpoint and measured values for a physical plant object onto a structured data point
- Data point comprises a tree structure with data point elements
- The individual process values are mapped onto the data point elements
- Any number of data points can be instanced from one defined data point structure (data point type), e.g. 20 pumps of the same type.
- Data point types can be embedded in other data point types, which enables more complex plant objects to be generated (e.g. one pump station comprises 2 pumps).
- Graphical plant symbols can be linked with a data point type. They only need to be drawn once, but can be used for all instances of the linked type.
- Savings in engineering outlay.

Freely scalable

- From a small single-user system up to a networked, redundant high-end system
- Distributed systems of up to 2 048 servers

Platform-independent

- Available for Windows, Linux, iOS and Android

Native 64-bit support

- More system memory is usable due to native 64-bit support
- This means that larger data quantity structures per server can be processed

Maximum fail-safety and availability

- Hot standby redundancy
- Disaster Recovery System (2x2 redundancy)
- IEC 61508 SIL 3 certified
- Certifications for PROFIsafe and PROFINET
- Certifications according to 62443 4-1 and IEC 62443 4-2

Quick and easy implementation of new processes

- Platform for customized solutions
  - Graphical user interfaces and wizards facilitate the creation of visualization interfaces
  - Installation of existing object libraries and rapid adaptation to customer requirements
  - Easy creation of new processes via NodeRED connection
- Swift adaptation of plant control and visualization to current market requirements
- Company-internal programming and in-house developments enable independence and protection of intellectual property
- Structure of standardized solutions permits continuous use
- Support of brand labeling
- Individual brand names for OEM developments
- Remote operator stations and mobile operability
  - Desktop UI
  - Mobile UI
  - ULC UX
  - Web Dashboard

Openness thanks to comprehensive driver and interface options:

- TCP/IP: SIMATIC S7, SIMATIC S7 PLUS, MQTT, PROFINET/PROFISAFE, TLS Gateway, Modbus, Ethernet/IP, SNMP, BACnet, NTCIP, SINUMERIK
- OPC UA: DA, AC, HA (client & server)
- OPC: DA, AE, HDA (client & server)
- Telecontrol drivers: SSI, IEC 60870-5-101, -104, DNP3, SINAUT, IEC 61850/61400, RK512
- API

Seamless traceability of system states by means of high-performance archiving:

- Data archiving in value archives (internal database format)
- Data archiving in external databases:
  - Use of Oracle databases
  - Open databases that support time series (e.g. InfluxDB)
  - Databases with SQL-like query mechanisms
  - Use of archived data for reports and trends
  - Storage of archived data locally or centrally – optionally both

Extendable by means of Add-ons and Solution Frameworks:

- Add-on for integration of video management systems (VIDEO)
- Add-on for increasing availability (Redundancy in Hot Standby, Disaster Recovery System, etc.)
- Add-on for clarity in distributed systems (Plant Model overview, CNS, GIS Viewer, etc.)
- Add-on for efficient building automation technology (BACnet)

## Application

The SCADA System SIMATIC WinCC Open Architecture addresses applications with a high demand for customer-specific adaptations, large and/or complex applications, as well as projects that demand special system requirements and functions.

SIMATIC WinCC Open Architecture demonstrates its high performance in networked and redundant high-end control systems in particular. Integrated, high-performance communication is guaranteed from the field level to the control station, from the machine to the company headquarters. In every situation, high availability, reliable information, fast interaction, and user friendliness are guaranteed. Applications can also be changed without interrupting the process.

Profitability, efficiency and safety are therefore always in equilibrium. SIMATIC WinCC Open Architecture displays its reliability in a wide range of business-critical applications.

With SIMATIC WinCC Open Architecture, ideas can be quickly and easily converted into new applications. SIMATIC WinCC Open Architecture is open for independent in-house developments and also enables own product branding.

Thanks to its special system properties, SIMATIC WinCC Open Architecture meets the highest demands especially in the case of traffic solutions, building management systems and supply systems (power, telecommunication networks, water, oil and gas, etc.).

## Design

SIMATIC WinCC Open Architecture is available as a single-user station Runtime license, multi-user Runtime license, web client license, and parameterization and development license.

With SIMATIC WinCC Open Architecture, one of the factors for determining the required license is the number of inputs and outputs (I/O), referred to as PowerTags hereafter, to be processed.

### WinCC OA PowerTag licensing

In the context of WinCC OA, a PowerTag is a data point element (DPE):

- 1) For which data is either sent or received via a driver (e.g. S7 driver reads data from a PLC)
- 2) That originates from a different WinCC OA Server (distributed systems)
- 3) Whose data is exchanged with other software (third-party systems)
- 4) The number of internal data point elements (without external communication) is not limited

### Notes on the PowerTag definition:

This definition is the generally valid definition of PowerTag licensing of WinCC OA systems.

The total number of calculated PowerTags must be rounded up to the next higher PowerTag license scale.

About 1): Data that is communicated via a driver can be determined based on the number of WinCC OA I/O address configs.

About 2): A hierarchically distributed system (i.e. a system that sees its own data and the data of the lower-system systems, but the lower-level systems only see their own data - see OneWay Dist) requires the total number of all licensed PowerTags of the lower-level systems plus the directly connected PowerTags. The license must be rounded up to the next higher license scale.

About 3): For the connection to external systems, all data point elements that contain data to be sent or received are counted.

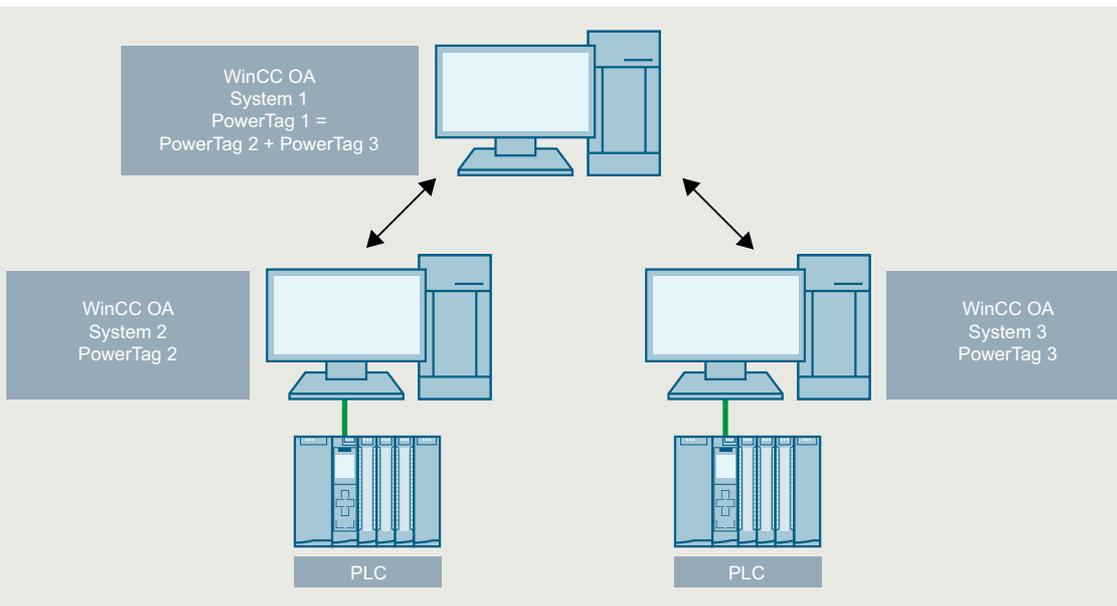
About 4): The exchange of internal data point elements between WinCC systems is not counted as PowerTags. This means that all other data point elements (without I/O address config and not exchanged with external systems) are not counted as PowerTags.

# HMI software

## SIMATIC WinCC Open Architecture

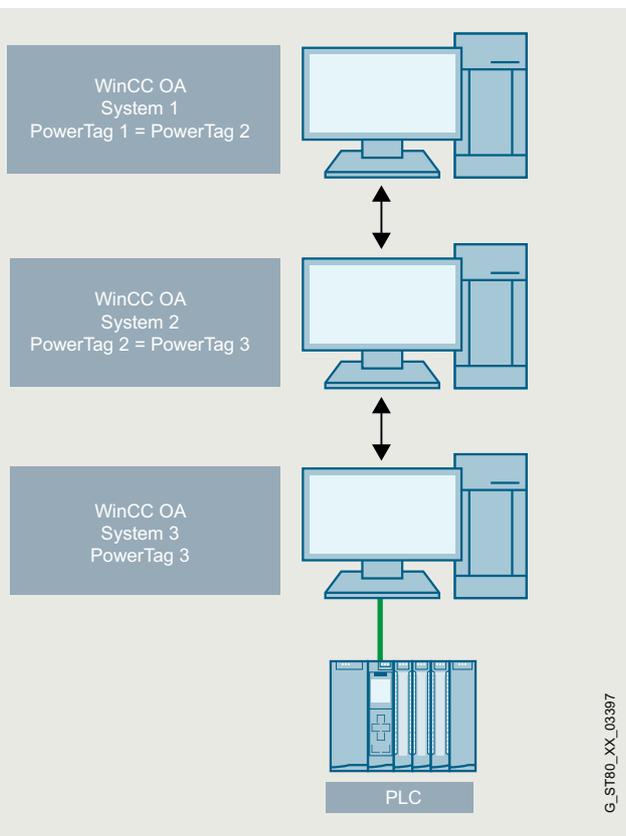
### SIMATIC WinCC Open Architecture Software and Software Services

#### Design



G\_ST80\_XX\_03396

WinCC OA hierarchical system example 1

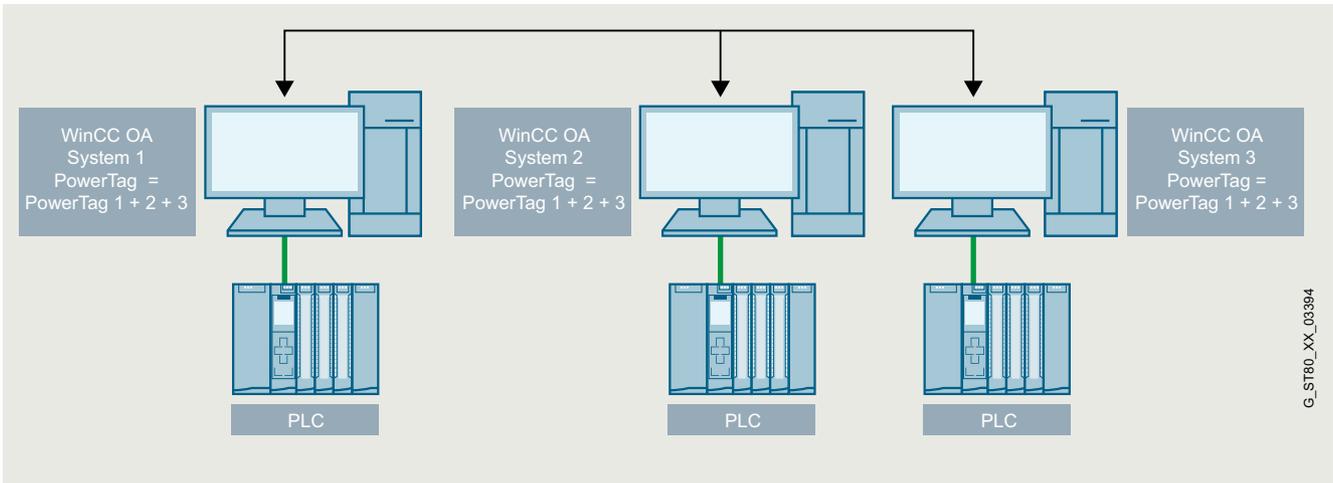


G\_ST80\_XX\_03397

WinCC OA hierarchical system example 2

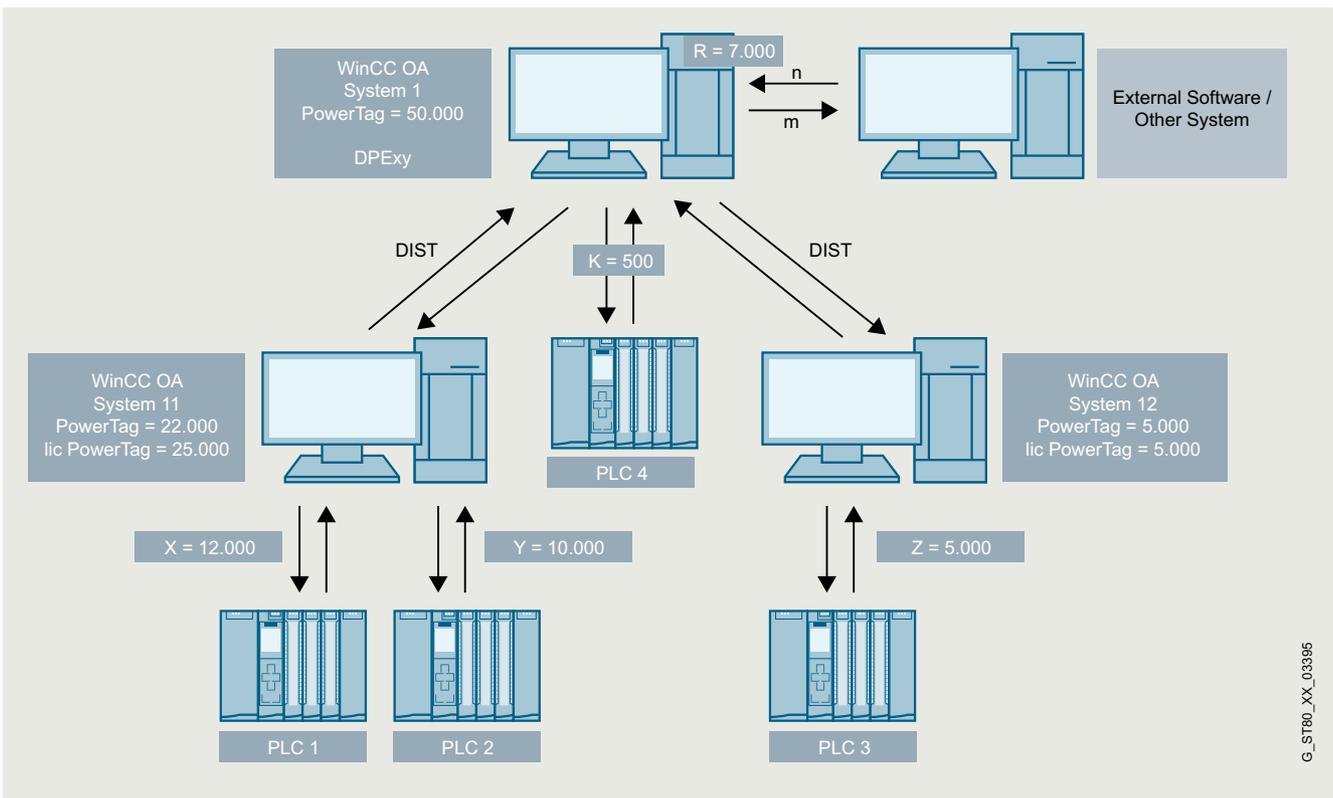
**Design**

With a distributed system on the same level, the PowerTags of all connected systems are added up and the next higher license scale is rounded up (this means that all systems have the same number of PowerTags for licensing).



WinCC OA example of a distributed system on the same level

To aid understanding, an example of a typical hierarchically distributed system is outlined below, consisting of 3 WinCC OA systems, a number of PLCs and an external system.



WinCC OA example of licensing in a hierarchically distributed system

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC Open Architecture Software and Software Services

##### Design

###### Number of PowerTags of system 1:

- $R = n + m$  ...Data from external software/other system
- $K = \text{PowerTags of PLC4}$
- $\text{System 1} = \text{lic PowerTagsSystem11} + \text{lic PowerTagsSystem12} + K + R$
- $\text{System 1} = 25\,000 + 5\,000 + 500 + 7\,000 = 37\,500$
- License is adapted to the next higher PowerTag package
- System 1 licenses = 50 000 PowerTags

###### Number of PowerTags of system 11:

- $X = \text{PowerTags of PLC 1}$
- $X = \text{PowerTags of PLC 2}$
- $\text{System 11} = X + Y$
- $\text{System 11} = 12\,000 + 10\,000 = 22\,000$
- License is adapted to the next higher PowerTag package
- System 11 licenses = 25 000 PowerTags

###### Number of PowerTags of system 12:

- $Z = \text{PowerTags of PLC 3}$
- $\text{System 12} = Z = 5\,000$
- System 12 licenses = 5 000 PowerTags

The licenses are available either with an unlimited number of PowerTags or with graded limitations of 500 to 250 000 PowerTags.

###### BACnet object licensing

BACnet objects are extensions of WinCC OA servers by a defined number of BACnet objects. As a prerequisite, the server must contain a WinCC OA – BACnet license in order to be extended with BACnet objects.

WinCC OA regards a BACnet object as an object communicated by the BACnet driver, whose content is exchanged either via the BACnet driver or with other WinCC OA servers (distributed systems).

For a redundant server configuration, both WinCC OA Server licenses must be extended to the same number of BACnet objects. A BACnet object extension can only be ordered within the same WinCC OA version. The packages on a server are counted cumulatively and can be extended at a later point in time. A single BACnet object package cannot be divided among several servers for licensing reasons.

###### BACnet Pack

BACnet Packs are another possibility to increase the BACnet objects of a WinCC OA Server. Purchasing a BACnet Pack, however, only increases the system to the next higher number of BACnet objects. In this way, systems that are too small can be extended quickly and economically.

Example: A server with 1k BACnet objects was purchased, but it turns out that 5k are needed.

The customer can then purchase a 1k/3k BACnet Pack and a 3k/5k BACnet Pack in addition.

For a redundant server configuration, both WinCC OA Server licenses must be extended to the same number of BACnet objects.

Therefore, both servers need the same BACnet Pack extensions.

###### Multi-user systems

The multi-user runtime license allows working simultaneously on different PCs, with the licensing taking place via the server. The active clients are counted in this case. Clients that can be installed natively as well as web-based user interfaces in common web browsers allow visualization and operation of plant screens via an encrypted HTTP connection between the server and the respective client.

The parameterization and development licenses extend a runtime license with the option of configuration and parameterization. They each require a server license.

#### Function

SIMATIC WinCC Open Architecture is a very modular SCADA system. The required functionalities are realized by specific, functional entities created for various tasks. In SIMATIC WinCC Open Architecture, these units are called "Managers" – they are also independent processes in software terms.

WinCC OA Manager	Task
<b>Event Manager (EV)</b>	<p>The Event Manager (EV) is the processing center in WinCC OA. This unit provides a constantly updated image of all process tags in the memory. Every other functional unit (Manager) that wants to access the data receives it from the process image of the Event Manager and does not have to communicate directly with a PLC. Conversely, a command from an operator station is initially set only as a value change in the process image of the Event Manager. The associated driver then forwards it to the corresponding target device (e.g. PLC) automatically.</p> <p>The Event Manager is a kind of central data distributor, in effect the communication center for WinCC OA. Furthermore, this Manager also carries out the alarm handling and can execute various arithmetic functions autonomously.</p>
<b>Driver Manager (D)</b>	<p>The lowest level in a WinCC OA System is represented by the process connections, referred to in WinCC OA as drivers (D). These are special programs that handle the communication with the control and field level. Since numerous different forms of communication are possible with the PLCs or telecontrol nodes, there are different drivers that can be selected. In very simple terms, the driver is a unit for converting a particular protocol into the internal communication form of WinCC OA.</p> <p>The driver reads the current states, measured values or counter values from the field and, in the opposite direction, it forwards commands and setpoints to the lower-level PLCs (= the term "PLC" should be used here and below to represent all possible devices of the basic automation (PLC, DDC, telecontrol system, etc.)).</p>
<b>Data Manager (DB)</b>	<p>The Data Manager (DB) represents the link to the database. On one hand, it involves the parameterization data of an application that is to be stored in such a database. On the other hand, it involves the historical recording of changes in values or alarms. If a user wishes to query historical data at a later date, then the Data Manager completes this request and not the database itself.</p>

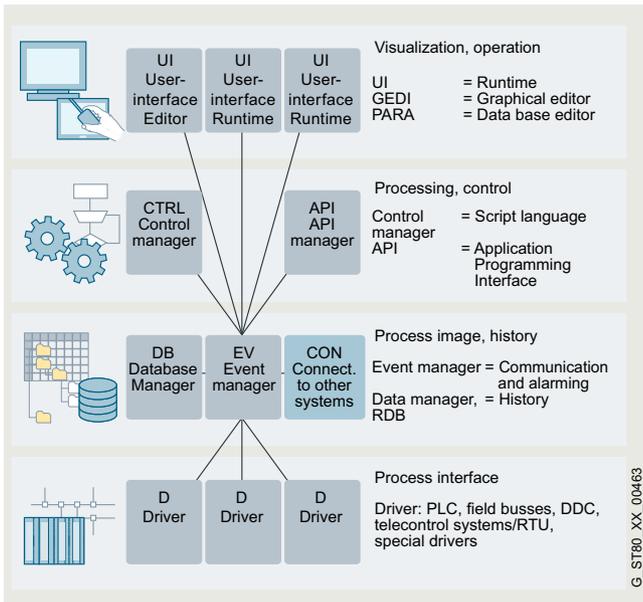
WinCC OA Manager	Task
<b>Control Manager (CTRL)</b>	<p>WinCC OA has numerous options for implementing your own algorithms and processing. The two most important are the internal language Control (CTRL) and the general application programming interface (API).</p> <p>Control is an extremely powerful scripting language. The processing is interpretative, so that no compilation is required. The syntax is almost identical with ANSI-C, with some modifications for simplification. This is a fully developed, procedural high-level language with multi-threading (= quasi-parallel processing of individual programs; the system itself carries out the processing check). The language offers a comprehensive function library for tasks of the control and visualization technology. Control can be used as a stand-alone process (Control Manager), for animation and user interface design or for standardized, data object-oriented processing functions.</p> <p>The API (WinCC OA API) represents the most powerful form of functional extension. It is configured as a C++ class library and allows the software developer to implement individual functions as an independent, additional manager (forecast system, simulation, tools, proprietary databases, etc.).</p>
<b>User Interface Manager (UI)</b>	<p>The interface to the user is created by the User Interface Manager (UI). This is a graphical editor (GED), a database editor (PARA) or the general user interface of the application (Vision module). The user interface serves to display values, issue commands or track alarms in the alarm list. Trends and reports are also usually part of the UI. From a programming viewpoint, the user interaction in WinCC OA is completely isolated from the background processing – it is merely a view of the data of the current process image or the history.</p>

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC Open Architecture Software and Software Services

#### Function



A WinCC OA System consists of function-specific units, the managers.

More managers are available for special tasks such as redundancy, management for distributed systems, web server, reporting, simulation, COM etc.

The powerful configuration functions contribute to reducing the engineering and training requirements and lead to increased flexibility and operational reliability.

Additional functions	Task
<b>Access to external databases</b>	<p>The database interfaces offer the possibility of access to external databases. Under Windows, the link is established via the ADO Standard. ADO (ActiveX Data Objects) is an interface developed by Microsoft for vendor-independent access to data sources of all types, primarily databases. The data source for ADO is an OLE DB Provider, although ODBC-compatible databases can also be addressed via an internal wrapper. In Linux, the Qt library is used as an interface to relational databases. Access in this case is either direct via the native DB-API or via ODBC.</p> <p>Additional interfaces such as RDB to Oracle or the new archiving interface to open databases such as InfluxDB support the connection of external, also freely available (open source) databases for optimal archiving and protection of the stored data.</p>
<b>API (Application Programming Interface)</b>	<p>The API offers a series of functions that enable WinCC OA to be extended with special managers. A manager is a program that communicates with the system via a protocol defined by WinCC OA.</p>
<b>COM (Component Object Model)</b>	<p>This is a specification for the development of modular software components that can be used by each COM-compatible application. COM components can easily be integrated into such applications and can even be removed from an application during runtime. COM components can be programmed in a host of different languages, although C++ is usually used for this purpose. The specifications OLE, ActiveX and DirectX are based on the COM technology.</p>

## Function

Additional functions	Task
<b>Control extension</b>	Extension that allows C++ functions to be added to the programming language. Realization via API
<b>Panel topology/summation signal</b>	Generation of panel hierarchies/topologies in existing or new projects and automatic creation of summation signals of the alarm data points that are located in the Panels of the topology.
<b>Encryption of Panels and CTRL scripts/libraries</b>	Allows your Panels or scripts to be encrypted, thereby protecting your knowledge and work.
<b>Script Wizard</b>	Easy-to-use tool that simplifies the creation of animated, graphical plant symbols, which saves time during engineering. It offers a large number of animation types and functional elements.
<b>Simple Symbols</b>	Basic Package of plant symbols, which were created with the Script Wizard and can be mapped directly to data point elements. These can be adapted quickly and easily to the specific requirements of the customer.
<b>Easy Faceplates</b>	Simple parameter assignment of predefined pop-up windows that display details of the associated plant symbol. Without any additional drawing outlay, several standard functions per object can be activated for the detail view (alarm display, trend display, measured value table, setpoint value table, address table, notes).
<b>Drag and Draw</b>	Several representative graphical objects can be defined and configured for each plant object in the data model (data point type). These are pre-configured and need only be moved to the panel via drag-and-drop when the plant pictures are drawn. This saves valuable time during engineering.

Additional functions	Task
<b>NodeRED interface</b>	With a new communication interface, WinCC OA supports the integration of NodeRED via a secure web socket server. The graphical editor can be used for easier process mapping and creation on a graphical interface. Pre-defined process chains can be created and modified as easily as on the drawing board. WinCC OA offers its own communication node package, and its own processes created using Node.js can also be integrated.
<b>Multilingual capability</b>	Thanks to the UTF-8 format as the standard for written languages it's possible to use almost all fonts and characters in projects. You can choose from 72 language options. User rights enable the definition of a standard language. In addition it is easy to change the display language during operation. Dictionaries can be made with a special tool or according to individual requirements.
<b>Server-side authentication</b>	The verification of logon data on the server side enables connection of third-party systems including the customer's own solutions for user authentication.
<b>Distributed systems</b>	Permits the coupling of two or more autonomous WinCC OA Systems via a network. Each sub-system of a distributed system can be configured either as a single-user or multi-user system, each of which may be redundant or non-redundant. A sub-system in this context means a server on which an Event Manager is running, whereby in case of redundancy both redundantly operating servers are considered as one system. All process data is mapped to local data points and each system can process data from other systems.
<b>Redundancy (see figure below)</b>	The failure safety in a redundant system is implemented by means of hot standby. Hot standby is a hardware-independent solution for high availability. This is a safety concept that consists of two interconnected server systems. Both servers are constantly in operation and are subject to the same functional loading (but only one server is ever active; the second synchronizes the data with the primary unit during runtime). On the failure of one unit, an "on-the-fly changeover" takes place and the previously passive server assumes the leading role. This guarantees access to data or functions at all times.



### Integration

#### Integration in automation solutions

SIMATIC WinCC Open Architecture is an open SCADA system with comprehensive drivers and flexible options for connection to other external systems.

Depending on the communications protocol and the bus hardware used, specific drivers are used in each case:

- Serial protocols: RK512, 3964R, etc.
- Ethernet: Industrial Ethernet (S7, S7 PLUS), Modbus TCP (OpenModbus), Ethernet IP (AB), etc.
- Telecontrol systems: SINAUT, SSI (Ethernet), IEC 61850/61400, IEC 60870-5-101, IEC 60870-5-104, etc.
- Vendor-independent interfaces: OPC UA, etc.
- Cloud connections: SIEMENS MindSphere Connector, MQTT, AWS, Azure

In SIMATIC WinCC Open Architecture, several drivers can be operated in parallel. These can be of the same type or also of different types. It is possible in a SIMATIC WinCC Open Architecture system, for example, to establish connections via the S7 protocol to a SIMATIC Controller, via IEC 60870-5-104 to a telecontrol system, and via OPC DA to any OPC Server at the same time.

#### Connection overview

Protocol	Description
<b>BACnet over IP – driver</b>	BACnet (Building Automation and Control Networks) is a standardized protocol for building automation and has been set by the ASHRAE (American Society of Heating, Refrigerating and Air-conditioning Engineers) as a guideline to provide a uniform and cross-company standard for data communication within and between building automation systems.  The BACnet Standard 2004 is supported in accordance with the PIC list (see product documentation)
<b>DNP3</b>	The DNP3 (Distributed Network Protocol 3) driver is an open, rugged and modern protocol which exhibits characteristics and strengths similar to the IEC driver. The transfer of any number of frames with different data types takes place between the WinCC OA System (Master) and the remote stations (Slave).
<b>Ethernet/IP</b>	Ethernet/IP is used for communication with several PLC generations and families from Rockwell Automation / Allen Bradley. The protocol is part of the application layer and is based on the standard TCP/IP network protocol.
<b>IEC 60870-5-101, -104</b>	IEC drivers are standardized telecontrol drivers that can process proprietary frames. IEC stands for International Electrotechnical Commission, the international standardization committee for electrical engineering. <ul style="list-style-type: none"> <li>• IEC 60870-5-104 for data exchange via TCP/IP</li> <li>• IEC 60870-5-101 for serial connection</li> </ul>

Protocol	Description
<b>IEC 61850/61400</b>	IEC 61850 and IEC 61400 Client defines an architecture for satisfying the requirements of electrical station automation. It defines a data model and the communication services for interaction with and between the elements of a substation, such as power supply units, circuit breakers, protective devices etc. A description language and a system configuration language (SCL) have been defined for technical purposes.
<b>Modbus TCP</b>	Modbus/TCP is based on the serial Modbus protocol, which was adapted for TCP/IP. The Modbus/TCP driver can be used simultaneously for Modbus/TCP or UNICOS.
<b>MQTT</b>	The driver and publisher enable communication via the MQTT protocol, both northbound and southbound, at high data throughput (no MQTT broker included)
<b>NTCIP</b>	The NTCIP driver enables an integrative connection of variable message signs directly in WinCC OA.
<b>OPC Client (Data Access)</b>	<ul style="list-style-type: none"> <li>• Compatibility with specifications DA 1.0 and 2.05a</li> <li>• Connection to inproc, local or remote server</li> <li>• Connection with up to 20 servers at the same time</li> <li>• Monitoring of the connection to the server and automatic reconnection if the connection is interrupted.</li> <li>• Address browsing if supported by the server.</li> <li>• Benefits of the CALL-R functionality for CALL-R servers (simplified parameter assignment)</li> </ul>
<b>OPC Server (Data Access)</b>	<ul style="list-style-type: none"> <li>• Corresponds to Data Access 2.05a specification (reading/writing of online values).</li> <li>• Is to be started as a manager just like other drivers.</li> <li>• The provided DPEs (server -&gt; client) can be easily and quickly defined via data point groups.</li> <li>• DPEs can be declared as readable (read-only access is permitted; Group OPCRead) or as writable items (Group OPCWrite).</li> <li>• Clients can browse the WinCC OA OPC Server hierarchically.</li> </ul>
<b>OPC Alarms &amp; Events</b>	OPC Alarms & Events (abbreviated to OPC A&E) is, in addition to Data Access, a further standard for performing central alarm management on a cross-vendor basis. OPC A&E is used to ensure the link to other control systems and the display of alarms/events in a hierarchical system.
<b>OPC Historical Data Access</b>	OPC Historical Data Access (OPC HDA) is used to exchange archived process data. This is in contrast to the OPC Data Access (OPC DA) specification that deals with real-time data.
<b>OPC UA (Unified Architecture)</b>	WinCC OA supports the OPC UA Data Access (DA), Alarms & Conditions (AC) and Historical Access (HA) standards.
<b>Serial: RK512/3964R</b>	Is used for interfacing a PLC via the 3964R/RK512 protocol
<b>S7 TCP/IP</b>	TCP/IP driver for Siemens Industrial Ethernet
<b>S7 PLUS</b>	Drivers for S7 1200 and 1500; Supports alarm messages, online browsing, TIA importer for versions V13, V14 and V15

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC Open Architecture Software and Software Services

#### Integration

Protocol	Description
<b>SSI</b>	Is used for the interfacing of SAT telecontrol systems. The data is exchanged via the LAN (Ethernet, IEEE 802.3); the frame formats used are the SSI formats defined by SAT. The SK 1703 telecontrol components with a suitable communication card (KE/ET) are supported.
<b>SINAUT</b>	SINAUT (Siemens Network AUTomation) is a communication protocol for automated monitoring and control of remote process stations on the basis of SIMATIC S7. Communication takes place via TCP/IP.
<b>SNMP Manager &amp; Agent</b>	SNMP (Simple Network Management Protocol) is a protocol for monitoring network elements (servers, workstations, routers, switches, hubs, etc.) and their functions. <ul style="list-style-type: none"> <li>• SNMP Manager supports SNMP V1, V2, and V3</li> <li>• SNMP Agent supports SNMP V1 and V2</li> </ul>
<b>S-Bus</b>	The WinCC OA S-Bus driver is used to link SAIA PCD control devices to WinCC OA projects. Client mode of the SAIA S-Bus driver is used. Communication takes place over UDP; the serial version of the protocol is not supported.

Further drivers on request or via C++ API

#### Technical specifications

Type	SIMATIC WinCC Open Architecture V3.19
<b>Operating system</b>	<ul style="list-style-type: none"> <li>• Windows 2019 Server</li> <li>• Windows 2022 Server</li> <li>• Windows 10 CB Version 21H2</li> <li>• Windows 10 LTSC 2021</li> <li>• Windows 11</li> <li>• Red Hat Enterprise Linux 9</li> <li>• Oracle Linux 9</li> <li>• SIEMENS Industrial OS 3.3</li> <li>• Docker - Debian 11</li> <li>• VMware ESXi 7</li> <li>• vSphere HA Cluster</li> <li>• ITC V3</li> </ul>
<b>Mobile operating system</b>	<ul style="list-style-type: none"> <li>• Android 6 and higher</li> <li>• iOS 13 and higher</li> </ul>
<b>Supported browsers</b>	<ul style="list-style-type: none"> <li>• Are updated continuously, see software requirements in the online documentation</li> </ul>
<b>Supported databases</b>	<ul style="list-style-type: none"> <li>• Oracle Client version: 19c</li> <li>• Oracle Server version: 19c</li> <li>• InfluxDBv1.8</li> <li>• PostgreSQL V13</li> </ul>
<b>PC hardware requirements <sup>1)</sup></b>	
<b>Processor type</b>	Intel Pentium or equivalent
Minimum	Intel Pentium IV 1.6 GHz (or better) <sup>2)3)</sup>
Recommended	<ul style="list-style-type: none"> <li>• Client: Intel Pentium IV/Core2/i3, 2 GHz <sup>2)3)</sup></li> <li>• Server: Intel Core i3 CPU Dual, 3 GHz <sup>2)</sup></li> <li>• Server large system <sup>4)</sup>: Intel(R) Core(TM) i5/i7 CPU Dual / Quad, 3 GHz <sup>2)3)</sup></li> </ul>

Type	SIMATIC WinCC Open Architecture V3.19
<b>Work memory RAM</b>	
Minimum	2 GB <sup>2)</sup>
Recommended	<ul style="list-style-type: none"> <li>• Client: 2 GB <sup>2)3)</sup></li> <li>• Server: 8 GB <sup>2)3)</sup></li> <li>• Server large system: 16 GB <sup>2)</sup></li> </ul>
<b>Hard disk (available memory for installation)</b>	
Minimum	HD with 800 MB available <sup>2)</sup>
Recommended	Server large system with local logging: SCSI LVD Controller, WIDE SCSI / LVD HDD or comparable storage system with at least 500 MB of available space <sup>2)</sup>
<b>Screen and graphics card (TrueColor)</b>	
Minimum	1024 x 768 <sup>2)</sup>
Recommended	1280 x 1024 <sup>2)</sup>
<b>Mouse and keyboard</b>	Mouse, keyboard
<b>DVD drive</b>	Possible for software installation, also via web installation or USB flash drive
<b>Local power user rights</b>	<ul style="list-style-type: none"> <li>• For installation</li> <li>• For operation</li> </ul>

<sup>1)</sup> For actual use in plants, the hardware requirements are largely dependent on the project size and the dynamic response of the process variables. Use the most rugged, high-quality hardware possible with corresponding functionalities such as redundant power supply units or RAID or SSD hard disks. WinCC OA supports dual and multi-processor mode and benefits significantly from the fact that each WinCC OA Manager can be assigned to one processor core as a system process. At the same time, however, it is important that the individual cores offer the highest possible performance (high clocking), since load-critical core processes such as the event manager run on exactly one core (for this reason, multi-core machines with many low-clocked cores are unsuitable for WinCC OA). As for RAM, CPU and HDD, the usual rule applies: more is better

<sup>2)</sup> System requirements generally only refer to the latest WinCC OA Version under the supported versions of the Windows and Linux operating systems.

<sup>3)</sup> A precondition for the minimum requirement is that the operating system used does not have any greater requirements itself

<sup>4)</sup> With a large system it is essential that the system permits not only the highest data point numbers but also a high dynamic response.

### Technical specifications

WinCC OA is ideally suited for use in very large distributed systems. The optimum design of such systems demands corresponding system knowledge of WinCC OA. Due to the event-oriented processing, individual design parameters can be increased or reduced as necessary in actual applications.

Type	SIMATIC WinCC Open Architecture
<b>Functionality/quantity structure</b>	
Number of messages	150,000 <sup>2)</sup>
Message text (number of characters)	System-limited <sup>1)</sup>
Message archive	System-limited <sup>1)</sup>
Process values per message	1 process value + up to 32 alarm associated values per message
Continuous load of messages, max.	500/s <sup>2)</sup>
Message burst, max.	15,000/10 s every 5 min <sup>2)</sup>
<b>Archives</b>	
Archive data points	Max. 250,000 per server <sup>2)</sup>
Archive types	< 20 parallel archives, different retention period for each archive
Data storage format	Oracle, InfluxDB, MSSQL, Postgre or file system
Measured values per second, max.	Server/single-user station: 12,000/s <sup>2) 3)</sup>
<b>User archive</b>	
Archives	System-limited <sup>1)</sup>
Type	SIMATIC WinCC Open Architecture
Table size	System-limited by database
<b>Graphics system</b>	
Number of screens	System-limited <sup>1)</sup>
Number of objects per screen	System-limited <sup>1)</sup>
Number of controllable fields per screen	System-limited <sup>1)</sup>
Process tags	< 750,000 per server <sup>2)</sup>
<b>User administration</b>	
User accounts	< 4096
Configuration languages	3 (en, de, ru)
Runtime languages	40 (of which 8 Asian)
<b>Multi-user system</b>	
Server	< 2048 <sup>2) 4)</sup>
Number of clients	System-limited <sup>2) 5)</sup>

<sup>1)</sup> Dependent on the available storage space

<sup>2)</sup> Dependent on the system configuration and the system load (due to the event-oriented architecture, the system load is essentially determined by the change rates of the values to be processed)

<sup>3)</sup> By means of high-performance hardware configuration (one archiving cluster and approx. 120 distributed systems that archive parallel values in the cluster): 200,000 archived value changes per second

<sup>4)</sup> Physical limit: <2048, in practice systems have already been implemented with up to 550 distributed systems

<sup>5)</sup> Physical limit: < 255 clients per server, recommended: Max. 100 clients per server

### More information

#### WinCC OA Software Services

Three types of continuous software services are available – POS, SUS and SMS.

In addition, a one-off Software Upgrade (UPG) can also be purchased.

The relevant MLFBs have a specific structure here, as shown in the table below.

License	MLFB
WinCC OA Software license V3.19	6AV6355-1AA47-7xxx
WinCC OA One-Time Upgrade (UPG) V3.19	6AV6355-1CA47-7xxx
WinCC OA Software Upgrade Service (SUS)	6AV6355-1DA00-0xxx
WinCC OA Software Maintenance Service (SMS)	6AV6355-1FA00-0xxx
WinCC OA Patch Only Service (POS)	6AV6355-1GA00-0xxx

If these standard license services do not meet your specific project requirements, an individual license service contract can be offered.

Please contact your sales representative for this.

To obtain access to ETM Customer Care for product support, you need the license container ID in order to verify the license configuration and determine the active license services.

#### Overview of software services

After a license is purchased, one of the following service contracts can be entered into during the warranty period (POS/SUS/SMS).

The service period is one year and is automatically extended if it is not terminated in writing by one of the contract partners three months before the end of the contract period. (There may be exceptions for specific regions).

Invoicing for the annual contract takes place at the beginning of the service period.

WinCC OA Software Services can be agreed for the current release and the last two WinCC OA releases.

Software service MLFBs are version-independent and take on the version of the license on import.

#### Note:

The following applies to all orders: If a type of software service (POS/SUS/SMS/UPG) has been selected, this must be additionally specified for the entire order. A similar support option must be added for each item in the order. The license and service MLFB numbers must match exactly; otherwise, it can occur that an update cannot be installed or the license is not functional or only partially functional after an update.

Security patches which resolve security issues published on the Siemens product CERT, can also always be obtained without software service

(<https://www.siemens.com/cert/en/cert-security-advisories.htm>).

#### Software service during the warranty period

The customer has the right to download software patches for one year after purchase. The right to avail of the Hotline Team does not apply, but faults can be reported via

<https://support.industry.siemens.com/My/ww/en/requests#createRequest>.

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC Open Architecture Software and Software Services

##### More information

###### WinCC OA Patch Only Service (POS)

Customers with a valid "Patch Only Service" are authorized to download the latest generally available patches from the WinCC OA Portal/Download area (<https://www.winccoa.com>) and install them on each server covered by this software service. Switching from a POS to an SUS can be performed by procuring the discounted POS upgrade. The POS service flat fee is not offset against any other active license services.

###### WinCC OA Software Upgrade Service (SUS)

The Software Upgrade Service contains all services of the POS as well as:

- Upgrade authorization to available versions of WinCC OA (major release v3.xx).

###### NOTICE:

The Software Upgrade Service does not include:

- WinCC OA product support by ETM Customer Care
- Individual troubleshooting
- Installation, implementation and activation of upgrades and/or updates

###### WinCC OA Software Maintenance Service (SMS)

The Software Maintenance Service contains all services of the SUS as well as:

- Individual troubleshooting according to WinCC OA Product Support classification
- 24/7 online submissions of product support requests via Siemens Industry Online Support (<https://support.industry.siemens.com/cs/start?lc=en-BG>)
- Obtaining more support hours.

You can find details on this in the WinCC OA Support node. A predefined number of support hours is included depending on the number of licensed PowerTags.

###### NOTICE:

The Software Maintenance Service does not include:

- Installation, implementation and activation of upgrades and/or updates
- WinCC OA product support of versions that are no longer supported
- Project-specific issues and questions (e.g. relating to engineering). Consulting can be offered in these cases
- Telephone assistance in the development of new WinCC OA Managers with C++ and C#.
- Support, remote or on-site, to reproduce a fault. This can be provided by a WinCC OA Consultant via a separate Consulting agreement.

###### One-time software version upgrade / One Time Upgrade (UPG)

The One Time Upgrade for plant licenses is calculated based on the current license price of the installed WinCC OA license options and is available for all license options. Customers who procure a One Time Upgrade have a one-time authorization as of WinCC OA Version 3.13 to upgrade to the latest version and to download patches of this version that are generally available at the time of purchase from the WinCC OA Portal/Download area (<https://www.winccoa.com>). These can only be installed on servers for which a One Time Upgrade has been purchased.

###### NOTICE:

WinCC OA Support supports the current release and the last two WinCC OA releases.

The One Time Upgrade does not include:

- WinCC OA product support by ETM Customer Care
- Individual troubleshooting
- Installation, implementation and activation of updates and/or releases

An SUS or SMS can be ordered for a license upgraded with UPG.

The warranty period of a UPG license is 12 months.

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

**Overview**

A WinCC Open Architecture (WinCC OA) single station or single operator station is a compact WinCC OA server configuration which, in contrast to a regular WinCC OA server license, cannot be extended by additional PowerTags or add-ons. Includes alarm messaging, extended trend, historical recording and SSL encryption.

**Benefits**

- Common configuration of frequently used services for small solutions
- Easy to order due to bundled product
- Simple basis for standardization through configuration options directly at the station
- Flexible use by offering open, widely used standards such as OPC and OPC UA

**Application**

For small, compact solutions, the single station configuration offers a quick ordering option without special requirements.

Based on customer experience, this bundle was created to provide an optimal, yet open basis for simple, small solutions.

This bundle is not intended to be the basis for small stations in a system network, as there are no plans to extend for distributed systems or redundancy. A restriction to certain hardware types is not planned for this bundle. For certain hardware types, "Runtime Packages" have therefore been put together, which offer further advantages when using Siemens hardware.

**Design****PowerTags**

The WinCC OA Single Station contains a maximum of 500 PowerTags. In contrast to Server Basic licenses, however, Single Station licenses **cannot** be extended with additional PowerTag Packages.

**UIs**

The Single Station license includes a Desktop UI license and a license for one WinCC OA OPERATOR Device. More information on this can be found in the <User Interfaces> section

**Drivers**

A Single Station license contains technical licenses for S7 and S7 Plus (8 connections) drivers, as well as one OPC and one OPC UA Client each. More information on drivers can be found in the <Drivers> section.

**Add-ons**

Single Stations include an OPC Server and a WinCC OA Web Server. More information on options can be found in the <Add-ons> section.

**WinCC OA Para Single Station**

The single station can additionally be extended by a development and parameter assignment license. The WinCC OA PARA Single Station license contains a graphical editor including symbol catalogs, a script development environment and a test framework. An existing WinCC OA Single Station license is required for the purchase. When the PARA Single Station license is procured, the UI contained in the Single Station package can be used either for parameterization or for operator control and display functions, but not for both at the same time. This special PARA license can only be ordered in conjunction with the Single Station package.

**Ordering data****Article No.****V3.19****WinCC OA - Single Station V3.19**

License for single operator station with max. 500 PowerTags (bit, integer)

- Single Station
- Single Station UPG

**6AV6355-1AA47-7AA0**  
**6AV6355-1CA47-7AA0**

**WinCC OA - Para Single Station V3.19**

Development and parameter assignment license for WinCC OA - Single Station

- Para Single Station
- Para Single Station UPG

**6AV6355-1AA47-7AA1**  
**6AV6355-1CA47-7AA1**

**V3.18****WinCC OA - Single Station V3.18**

License for single operator station with max. 500 PowerTags (bit, integer)

- Single Station
- Single Station UPG

**6AV6355-1AA31-8AA0**  
**6AV6355-1CA31-8AA0**

**WinCC OA - Para Single Station V3.18**

Development and parameter assignment license for WinCC OA - Single Station

- Para Single Station
- Para Single Station UPG

**6AV6355-1AA31-8AA1**  
**6AV6355-1CA31-8AA1**

**V3.17****WinCC OA - Single Station V3.17**

License for single operator station with max. 500 PowerTags (bit, integer)

- Single Station
- Single Station UPG

**6AV6355-1AA31-7AA0**  
**6AV6355-1CA31-7AA0**

**WinCC OA - Para Single Station V3.17**

Development and parameter assignment license for WinCC OA - Single Station

- Para Single Station
- Para Single Station UPG

**6AV6355-1AA31-7AA1**  
**6AV6355-1CA31-7AA1**

**Software Services - version-independent****WinCC OA - Single Station**

- Single Station SUS
- Single Station SMS
- Single Station POS

**6AV6355-1DA00-0AA0**  
**6AV6355-1FA00-0AA0**  
**6AV6355-1GA00-0AA0**

**WinCC OA - Para Single Station**

- Para Single Station SUS
- Para Single Station SMS
- Para Single Station POS

**6AV6355-1DA00-0AA1**  
**6AV6355-1FA00-0AA1**  
**6AV6355-1GA00-0AA1**

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## HMI software

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

### WinCC Open Architecture Server

#### Overview

##### **WinCC Open Architecture Server**

A WinCC Open Architecture (WinCC OA) server consists of a WinCC OA Server Basic license, the corresponding number of WinCC OA PowerTag licenses and additional options.

The WinCC OA Server Basic license contains:

- Alarm messaging
- Extended trend
- Historical recordings (NDB and NGA)
- S7 and S7 Plus (8 connections) drivers
- SSL encryption
- OPC Client
- OPC Server
- OPC UA Client
- 1 WinCC OA Web Server
- 1 WinCC OA OPERATOR (1 Device)

Other required options can be licensed in addition, unless the packages involved are not extendable.

The Server Basic License does **not** include an external data connection (PowerTags/BACnet objects). These must be purchased for proper operation.

From version 3.18, a dedicated licensing of PowerTag and BACnet objects is necessary.

This possibility enables additive ordering of several PowerTag/BACnet object packages on one server or separate ordering and moving of PowerTag/BACnet object packages to different servers by the customer.

PowerTags/BACnet objects can also be increased step by step by means of PowerPacks.

#### Benefits

- Individual adaptation to the needs of the project and the customer through different PowerTag/BACnet object packages
- Customer-oriented options for moving packages as required
- Possibility to let the project grow with the requirements and to quickly extend it
- A basic set of common drivers already included in the Basic Package
- Extension of server packages from single workstations to multi-server architectures

#### Application

Server packages are the basis of every WinCC OA project. PowerTags correspond to the previously communicated logic of the definition of I/Os where external communication is evaluated. BACnet objects are treated like IOs. Starting from the server package, it must also be considered how the "service" contract and the "redundancy" of the systems are defined. More information about the maintenance agreement can be found under "Support".

The flexibility of the newly available PowerTag/BACnet object packages as an assignment option for different servers facilitates planning of the overall project as well as customer-oriented design based on need and changes of the packages. This method makes it possible, for example, for customers to order new PowerTag/BACnet object packages and then assign them to the servers in the project.

Due to the different sizes of the packages, there is also the possibility to implement solutions ranging from single stations to several 100 servers in a network.

The PowerPacks also offer a more cost-effective way to increase insufficient PowerTag/BACnet object packages. By purchasing such a PowerPack, you can increase the available PowerTags on the server to the next higher package size.

The technical licenses included in the Basic Package can be viewed in detail in the license tool CodeMeter WebAdmin; accordingly, the included features do not need to be ordered separately. These technical licenses are part of the bundle and therefore not individually transferable to other containers.

There are special overall solutions for specific devices – these "IPC Packages" include more services. These cannot be moved and extensions are not possible with these packages. Issuance of these special packages is always combined with the purchase of specific SIEMENS hardware. This is in addition to the license purchase – i.e. as an additional item in an order.

For small, standardized single station solutions, a (non-extendable) bundle product "Single Station" is also available, which offers advantages for our customers both in terms of price and simplified ordering.

## Design

The **WinCC OA Server Basic license** includes alarm messaging, extended trend, historical recording and SSL encryption.

Additional services are available as follows:

- **UIs**  
The WinCC OA Server Basic license includes **one** WinCC OA OPERATOR license; beyond this, no UIs are included and must be ordered separately. More information on this can be found in the <User Interfaces> section.
- **Drivers**  
A Server Basic license contains technical licenses for S7 and S7 Plus (8 connections) drivers, as well as one OPC and one OPC UA Client each. More information on drivers can be found in the <Drivers> section.
- **Add-ons**  
WinCC OA Server Basic includes a web server.

Options required in addition can also be licensed, if the basic license allows it.

More information on options can be found under <Add-ons>.

### PowerTag packages (PowerTags)

PowerTag packages are extensions of WinCC OA servers by a defined number of PowerTags. In the context of WinCC OA, a PowerTag is a data point element (DPE), the content of which is exchanged either via drivers (e.g. S7 Driver communicates with a PLC), with other WinCC OA Servers (distributed systems) or with other software systems. Internal data point elements, i.e. DPEs without communication to the outside, are not counted for the licensing.

For a redundant server configuration, both WinCC OA Server licenses must be extended to the same number of PowerTags. A PowerTag extension can only be ordered within the same WinCC OA version. The packages on a server are counted cumulatively and can be extended at a later point in time.

A single PowerTag Package **cannot** be split between several servers due to the license.

### PowerPacks

PowerPacks are another possibility to increase the PowerTags of a WinCC OA Server. Purchasing a PowerPack, however, only increases the system to the next higher number of PowerTags. In this way, systems that are too small can be extended quickly and economically.

Example: A server with a 10k PowerTag Package was purchased, but it turns out that 25k is needed. The customer can then purchase a 10k/15k PowerPack and a 15k/25k PowerPack in addition.

For a redundant server configuration, both WinCC OA Server licenses must be extended to the same number of PowerTags. Therefore, both servers need the same PowerPack extensions.

### BACnet objects

BACnet objects are extensions of WinCC OA servers by a defined number of BACnet objects. As a prerequisite, the server must have a WinCC OA – BACnet license in order to be extended with BACnet objects.

WinCC OA regards a BACnet object as an object communicated by the BACnet driver, whose content is exchanged either via the BACnet driver or with other WinCC OA servers (distributed systems).

For a redundant server configuration, both WinCC OA Server licenses must be extended to the same number of BACnet objects. A BACnet object extension can only be ordered within the same WinCC OA version. The packages on a server are counted cumulatively and can be extended at a later point in time. A single BACnet object package cannot be divided among multiple servers due to licensing restrictions.

### BACnet Pack

BACnet Packs are another possibility to increase the BACnet objects of a WinCC OA Server. Purchasing a BACnet Pack, however, only increases the system to the next higher number of BACnet objects.

In this way, systems that are too small can be extended quickly and economically.

Example: A server with 1k BACnet objects was purchased, but it turns out that 5k are needed.

The customer can then purchase a 1k/3k BACnet Pack and a 3k/5k BACnet Pack in addition.

For a redundant server configuration, both WinCC OA Server licenses must be extended to the same number of BACnet objects. Therefore, both servers need the same BACnet Pack extensions.

**HMI software**

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**WinCC Open Architecture Server****Ordering data****Article No.****Article No.****V3.19****WinCC OA - Server Basic V3.19**

License for WinCC OA Server without external data connection and UIs.

- Server Basic
- Server Basic UPG

**6AV6355-1AA47-7BA0****6AV6355-1CA47-7BA0****WinCC OA - PowerTags V3.19**

Extension of a WinCC OA Server license by a fixed number of PowerTags.

- 1k PowerTags
- 1k PowerTags UPG
- 3k PowerTags
- 3k PowerTags UPG
- 5k PowerTags
- 5k PowerTags UPG
- 10k PowerTags
- 10k PowerTags UPG
- 15k PowerTags
- 15k PowerTags UPG
- 25k PowerTags
- 25k PowerTags UPG
- 50k PowerTags
- 50k PowerTags UPG
- 75k PowerTags
- 75k PowerTags UPG
- 100k PowerTags
- 100k PowerTags UPG
- 150k PowerTags
- 150k PowerTags UPG
- 200k PowerTags
- 200k PowerTags UPG
- 250k PowerTags
- 250k PowerTags UPG
- Unlimited PowerTags
- Unlimited PowerTags UPG

**6AV6355-1AA47-7BB0****6AV6355-1CA47-7BB0****6AV6355-1AA47-7BB1****6AV6355-1CA47-7BB1****6AV6355-1AA47-7BB2****6AV6355-1CA47-7BB2****6AV6355-1AA47-7BB3****6AV6355-1CA47-7BB3****6AV6355-1AA47-7BB4****6AV6355-1CA47-7BB4****6AV6355-1AA47-7BB5****6AV6355-1CA47-7BB5****6AV6355-1AA47-7BB6****6AV6355-1CA47-7BB6****6AV6355-1AA47-7BB7****6AV6355-1CA47-7BB7****6AV6355-1AA47-7BB8****6AV6355-1CA47-7BB8****6AV6355-1AA47-7BC0****6AV6355-1CA47-7BC0****6AV6355-1AA47-7BC1****6AV6355-1CA47-7BC1****6AV6355-1AA47-7BC2****6AV6355-1CA47-7BC2****6AV6355-1AA47-7BC3****6AV6355-1CA47-7BC3****WinCC OA - PowerPacks V3.19**

Extension for step-by-step increase of PowerTags

- 1k/3k PowerPack
- 1k/3k PowerPack UPG
- 3k/5k PowerPack
- 3k/5k PowerPack UPG
- 5k/10k PowerPack
- 5k/10k PowerPack UPG
- 10k/15k PowerPack
- 10k/15k PowerPack UPG
- 15k/25k PowerPack
- 15k/25k PowerPack UPG
- 25k/50k PowerPack
- 25k/50k PowerPack UPG
- 50k/75k PowerPack
- 50k/75k PowerPack UPG
- 75k/100k PowerPack
- 75k/100k PowerPack UPG
- 100k/150k PowerPack
- 100k/150k PowerPack UPG
- 150k/200k PowerPack
- 150k/200k PowerPack UPG
- 200k/250k PowerPack
- 200k/250k PowerPack UPG
- 250k/Unlimited PowerPack
- 250k/Unlimited PowerPack UPG

**6AV6355-1AA47-7BD0****6AV6355-1CA47-7BD0****6AV6355-1AA47-7BD1****6AV6355-1CA47-7BD1****6AV6355-1AA47-7BD2****6AV6355-1CA47-7BD2****6AV6355-1AA47-7BD3****6AV6355-1CA47-7BD3****6AV6355-1AA47-7BD4****6AV6355-1CA47-7BD4****6AV6355-1AA47-7BD5****6AV6355-1CA47-7BD5****6AV6355-1AA47-7BD6****6AV6355-1CA47-7BD6****6AV6355-1AA47-7BD7****6AV6355-1CA47-7BD7****6AV6355-1AA47-7BE0****6AV6355-1CA47-7BE0****6AV6355-1AA47-7BE1****6AV6355-1CA47-7BE1****6AV6355-1AA47-7BE2****6AV6355-1CA47-7BE2****6AV6355-1AA47-7BE3****6AV6355-1CA47-7BE3**

Ordering data	Article No.	Article No.
<b>V3.18</b>		
<b>WinCC OA - Server Basic V3.18</b> License for WinCC OA Server without external data connection and UIs. • Server Basic • Server Basic UPG	<b>6AV6355-1AA31-8BA0</b> <b>6AV6355-1CA31-8BA0</b>	
<b>WinCC OA - PowerTags V3.18</b> Extension of a WinCC OA Server license by a fixed number of PowerTags. • 1k PowerTags • 1k PowerTags UPG • 3k PowerTags • 3k PowerTags UPG • 5k PowerTags • 5k PowerTags UPG • 10k PowerTags • 10k PowerTags UPG • 15k PowerTags • 15k PowerTags UPG • 25k PowerTags • 25k PowerTags UPG • 50k PowerTags • 50k PowerTags UPG • 75k PowerTags • 75k PowerTags UPG • 100k PowerTags • 100k PowerTags UPG • 150k PowerTags • 150k PowerTags UPG • 200k PowerTags • 200k PowerTags UPG • 250k PowerTags • 250k PowerTags UPG • Unlimited PowerTags • Unlimited PowerTags UPG	<b>6AV6355-1AA31-8BB0</b> <b>6AV6355-1CA31-8BB0</b> <b>6AV6355-1AA31-8BB1</b> <b>6AV6355-1CA31-8BB1</b> <b>6AV6355-1AA31-8BB2</b> <b>6AV6355-1CA31-8BB2</b> <b>6AV6355-1AA31-8BB3</b> <b>6AV6355-1CA31-8BB3</b> <b>6AV6355-1AA31-8BB4</b> <b>6AV6355-1CA31-8BB4</b> <b>6AV6355-1AA31-8BB5</b> <b>6AV6355-1CA31-8BB5</b> <b>6AV6355-1AA31-8BB6</b> <b>6AV6355-1CA31-8BB6</b> <b>6AV6355-1AA31-8BB7</b> <b>6AV6355-1CA31-8BB7</b> <b>6AV6355-1AA31-8BB8</b> <b>6AV6355-1CA31-8BB8</b> <b>6AV6355-1AA31-8BC0</b> <b>6AV6355-1CA31-8BC0</b> <b>6AV6355-1AA31-8BC1</b> <b>6AV6355-1CA31-8BC1</b> <b>6AV6355-1AA31-8BC2</b> <b>6AV6355-1CA31-8BC2</b> <b>6AV6355-1AA31-8BC3</b> <b>6AV6355-1CA31-8BC3</b>	
		<b>WinCC OA - PowerPacks V3.18</b> Extension for step-by-step increase of PowerTags • 1k/3k PowerPack • 1k/3k PowerPack UPG • 3k/5k PowerPack • 3k/5k PowerPack UPG • 5k/10k PowerPack • 5k/10k PowerPack UPG • 10k/15k PowerPack • 10k/15k PowerPack UPG • 15k/25k PowerPack • 15k/25k PowerPack UPG • 25k/50k PowerPack • 25k/50k PowerPack UPG • 50k/75k PowerPack • 50k/75k PowerPack UPG • 75k/100k PowerPack • 75k/100k PowerPack UPG • 100k/150k PowerPack • 100k/150k PowerPack UPG • 150k/200k PowerPack • 150k/200k PowerPack UPG • 200k/250k PowerPack • 200k/250k PowerPack UPG • 250k/Unlimited PowerPack • 250k/Unlimited PowerPack UPG
		<b>6AV6355-1AA31-8BD0</b> <b>6AV6355-1CA31-8BD0</b> <b>6AV6355-1AA31-8BD1</b> <b>6AV6355-1CA31-8BD1</b> <b>6AV6355-1AA31-8BD2</b> <b>6AV6355-1CA31-8BD2</b> <b>6AV6355-1AA31-8BD3</b> <b>6AV6355-1CA31-8BD3</b> <b>6AV6355-1AA31-8BD4</b> <b>6AV6355-1CA31-8BD4</b> <b>6AV6355-1AA31-8BD5</b> <b>6AV6355-1CA31-8BD5</b> <b>6AV6355-1AA31-8BD6</b> <b>6AV6355-1CA31-8BD6</b> <b>6AV6355-1AA31-8BD7</b> <b>6AV6355-1CA31-8BD7</b> <b>6AV6355-1AA31-8BE0</b> <b>6AV6355-1CA31-8BE0</b> <b>6AV6355-1AA31-8BE1</b> <b>6AV6355-1CA31-8BE1</b> <b>6AV6355-1AA31-8BE2</b> <b>6AV6355-1CA31-8BE2</b> <b>6AV6355-1AA31-8BE3</b> <b>6AV6355-1CA31-8BE3</b>

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Server****Ordering data****Article No.****Article No.****V3.17****WinCC OA - Server Basic V3.17**

License for WinCC OA Server without external data connection and UIs.

- Server Basic
- Server Basic UPG

**6AV6355-1AA31-7BA0**  
**6AV6355-1CA31-7BA0**

**WinCC OA - PowerTags V3.17**

Extension of a WinCC OA Server license by a fixed number of PowerTags.

- 1k PowerTags
- 1k PowerTags UPG
- 3k PowerTags
- 3k PowerTags UPG
- 5k PowerTags
- 5k PowerTags UPG
- 10k PowerTags
- 10k PowerTags UPG
- 15k PowerTags
- 15k PowerTags UPG
- 25k PowerTags
- 25k PowerTags UPG
- 50k PowerTags
- 50k PowerTags UPG
- 75k PowerTags
- 75k PowerTags UPG
- 100k PowerTags
- 100k PowerTags UPG
- 150k PowerTags
- 150k PowerTags UPG
- 200k PowerTags
- 200k PowerTags UPG
- 250k PowerTags
- 250k PowerTags UPG
- Unlimited PowerTags
- Unlimited PowerTags UPG

**6AV6355-1AA31-7BB0**  
**6AV6355-1CA31-7BB0**  
**6AV6355-1AA31-7BB1**  
**6AV6355-1CA31-7BB1**  
**6AV6355-1AA31-7BB2**  
**6AV6355-1CA31-7BB2**  
**6AV6355-1AA31-7BB3**  
**6AV6355-1CA31-7BB3**  
**6AV6355-1AA31-7BB4**  
**6AV6355-1CA31-7BB4**  
**6AV6355-1AA31-7BB5**  
**6AV6355-1CA31-7BB5**  
**6AV6355-1AA31-7BB6**  
**6AV6355-1CA31-7BB6**  
**6AV6355-1AA31-7BB7**  
**6AV6355-1CA31-7BB7**  
**6AV6355-1AA31-7BB8**  
**6AV6355-1CA31-7BB8**  
**6AV6355-1AA31-7BC0**  
**6AV6355-1CA31-7BC0**  
**6AV6355-1AA31-7BC1**  
**6AV6355-1CA31-7BC1**  
**6AV6355-1AA31-7BC2**  
**6AV6355-1CA31-7BC2**  
**6AV6355-1AA31-7BC3**  
**6AV6355-1CA31-7BC3**

**WinCC OA - PowerPacks V3.17**

Extension for step-by-step increase of PowerTags

- 1k/3k PowerPack
- 1k/3k PowerPack UPG
- 3k/5k PowerPack
- 3k/5k PowerPack UPG
- 5k/10k PowerPack
- 5k/10k PowerPack UPG
- 10k/15k PowerPack
- 10k/15k PowerPack UPG
- 15k/25k PowerPack
- 15k/25k PowerPack UPG
- 25k/50k PowerPack
- 25k/50k PowerPack UPG
- 50k/75k PowerPack
- 50k/75k PowerPack UPG
- 75k/100k PowerPack
- 75k/100k PowerPack UPG
- 100k/150k PowerPack
- 100k/150k PowerPack UPG
- 150k/200k PowerPack
- 150k/200k PowerPack UPG
- 200k/250k PowerPack
- 200k/250k PowerPack UPG
- 250k/Unlimited PowerPack
- 250k/Unlimited PowerPack UPG

**6AV6355-1AA31-7BD0**  
**6AV6355-1CA31-7BD0**  
**6AV6355-1AA31-7BD1**  
**6AV6355-1CA31-7BD1**  
**6AV6355-1AA31-7BD2**  
**6AV6355-1CA31-7BD2**  
**6AV6355-1AA31-7BD3**  
**6AV6355-1CA31-7BD3**  
**6AV6355-1AA31-7BD4**  
**6AV6355-1CA31-7BD4**  
**6AV6355-1AA31-7BD5**  
**6AV6355-1CA31-7BD5**  
**6AV6355-1AA31-7BD6**  
**6AV6355-1CA31-7BD6**  
**6AV6355-1AA31-7BD7**  
**6AV6355-1CA31-7BD7**  
**6AV6355-1AA31-7BE0**  
**6AV6355-1CA31-7BE0**  
**6AV6355-1AA31-7BE1**  
**6AV6355-1CA31-7BE1**  
**6AV6355-1AA31-7BE2**  
**6AV6355-1CA31-7BE2**  
**6AV6355-1AA31-7BE3**  
**6AV6355-1CA31-7BE3**

Ordering data	Article No.	Article No.	
<b>Software services - version-independent</b>			
<b>WinCC OA - Server Basic</b>			
<ul style="list-style-type: none"> <li>• Server Basic SUS</li> <li>• Server Basic SMS</li> <li>• Server Basic POS</li> </ul>	6AV6355-1DA00-0BA0 6AV6355-1FA00-0BA0 6AV6355-1GA00-0BA0		
<b>WinCC OA - PowerTags</b>			
Extension of a WinCC OA Server license by a fixed number of PowerTags. <ul style="list-style-type: none"> <li>• 1k PowerTags SUS</li> <li>• 1k PowerTags SMS</li> <li>• 1k PowerTags POS</li> <li>• 3k PowerTags SUS</li> <li>• 3k PowerTags SMS</li> <li>• 3k PowerTags POS</li> <li>• 5k PowerTags SUS</li> <li>• 5k PowerTags SMS</li> <li>• 5k PowerTags POS</li> <li>• 10k PowerTags SUS</li> <li>• 10k PowerTags SMS</li> <li>• 10k PowerTags POS</li> <li>• 15k PowerTags SUS</li> <li>• 15k PowerTags SMS</li> <li>• 15k PowerTags POS</li> <li>• 25k PowerTags SUS</li> <li>• 25k PowerTags SMS</li> <li>• 25k PowerTags POS</li> <li>• 50k PowerTags SUS</li> <li>• 50k PowerTags SMS</li> <li>• 50k PowerTags POS</li> <li>• 75k PowerTags SUS</li> <li>• 75k PowerTags SMS</li> <li>• 75k PowerTags POS</li> <li>• 100k PowerTags SUS</li> <li>• 100k PowerTags SMS</li> <li>• 100k PowerTags POS</li> <li>• 150k PowerTags SUS</li> <li>• 150k PowerTags SMS</li> <li>• 150k PowerTags POS</li> <li>• 200k PowerTags SUS</li> <li>• 200k PowerTags SMS</li> <li>• 200k PowerTags POS</li> <li>• 250k PowerTags SUS</li> <li>• 250k PowerTags SMS</li> <li>• 250k PowerTags POS</li> <li>• Unlimited PowerTags SUS</li> <li>• Unlimited PowerTags SMS</li> <li>• Unlimited PowerTags POS</li> </ul>	6AV6355-1DA00-0BB0 6AV6355-1FA00-0BB0 6AV6355-1GA00-0BB0 6AV6355-1DA00-0BB1 6AV6355-1FA00-0BB1 6AV6355-1GA00-0BB1 6AV6355-1DA00-0BB2 6AV6355-1FA00-0BB2 6AV6355-1GA00-0BB2 6AV6355-1DA00-0BB3 6AV6355-1FA00-0BB3 6AV6355-1GA00-0BB3 6AV6355-1DA00-0BB4 6AV6355-1FA00-0BB4 6AV6355-1GA00-0BB4 6AV6355-1DA00-0BB5 6AV6355-1FA00-0BB5 6AV6355-1GA00-0BB5 6AV6355-1DA00-0BB6 6AV6355-1FA00-0BB6 6AV6355-1GA00-0BB6 6AV6355-1DA00-0BB7 6AV6355-1FA00-0BB7 6AV6355-1GA00-0BB7 6AV6355-1DA00-0BB8 6AV6355-1FA00-0BB8 6AV6355-1GA00-0BB8 6AV6355-1DA00-0BC0 6AV6355-1FA00-0BC0 6AV6355-1GA00-0BC0 6AV6355-1DA00-0BC1 6AV6355-1FA00-0BC1 6AV6355-1GA00-0BC1 6AV6355-1DA00-0BC2 6AV6355-1FA00-0BC2 6AV6355-1GA00-0BC2 6AV6355-1DA00-0BC3 6AV6355-1FA00-0BC3 6AV6355-1GA00-0BC3		
		<b>WinCC OA - PowerPacks</b>	
		<ul style="list-style-type: none"> <li>• 1k/3k PowerPack SUS</li> <li>• 1k/3k PowerPack SMS</li> <li>• 1k/3k PowerPack POS</li> <li>• 3k/5k PowerPack SUS</li> <li>• 3k/5k PowerPack SMS</li> <li>• 3k/5k PowerPack POS</li> <li>• 5k/10k PowerPack SUS</li> <li>• 5k/10k PowerPack SMS</li> <li>• 5k/10k PowerPack POS</li> <li>• 10k/15k PowerPack SUS</li> <li>• 10k/15k PowerPack SMS</li> <li>• 10k/15k PowerPack POS</li> <li>• 15k/25k PowerPack SUS</li> <li>• 15k/25k PowerPack SMS</li> <li>• 15k/25k PowerPack POS</li> <li>• 25k/50k PowerPack SUS</li> <li>• 50k/75k PowerPack SMS</li> <li>• 15k/25k PowerPack POS</li> <li>• 50k/75k PowerPack SUS</li> <li>• 50k/75k PowerPack SMS</li> <li>• 50k/75k PowerPack POS</li> <li>• 75k/100k PowerPack SUS</li> <li>• 75k/100k PowerPack SMS</li> <li>• 75k/100k PowerPack POS</li> <li>• 100k/150k PowerPack SUS</li> <li>• 100k/150k PowerPack SMS</li> <li>• 100k/150k PowerPack POS</li> <li>• 150k/200k PowerPack SUS</li> <li>• 150k/200k PowerPack SMS</li> <li>• 150k/200k PowerPack POS</li> <li>• 200k/250k PowerPack SUS</li> <li>• 200k/250k PowerPack SMS</li> <li>• 200k/250k PowerPack POS</li> <li>• 250k/Unlimited PowerPack SUS</li> <li>• 250k/Unlimited PowerPack SMS</li> <li>• 250k/Unlimited PowerPack POS</li> </ul>	6AV6355-1DA00-0BD0 6AV6355-1FA00-0BD0 6AV6355-1GA00-0BD0 6AV6355-1DA00-0BD1 6AV6355-1FA00-0BD1 6AV6355-1GA00-0BD1 6AV6355-1DA00-0BD2 6AV6355-1FA00-0BD2 6AV6355-1GA00-0BD2 6AV6355-1DA00-0BD3 6AV6355-1FA00-0BD3 6AV6355-1GA00-0BD3 6AV6355-1DA00-0BD4 6AV6355-1FA00-0BD4 6AV6355-1GA00-0BD4 6AV6355-1DA00-0BD5 6AV6355-1FA00-0BD5 6AV6355-1GA00-0BD5 6AV6355-1DA00-0BD6 6AV6355-1FA00-0BD6 6AV6355-1GA00-0BD6 6AV6355-1DA00-0BD7 6AV6355-1FA00-0BD7 6AV6355-1GA00-0BD7 6AV6355-1DA00-0BE0 6AV6355-1FA00-0BE0 6AV6355-1GA00-0BE0 6AV6355-1DA00-0BE1 6AV6355-1FA00-0BE1 6AV6355-1GA00-0BE1 6AV6355-1DA00-0BE2 6AV6355-1FA00-0BE2 6AV6355-1GA00-0BE2 6AV6355-1DA00-0BE3 6AV6355-1FA00-0BE3 6AV6355-1GA00-0BE3

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## HMI software

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

### WinCC Open Architecture User Interfaces

#### Overview

##### **WinCC Open Architecture User Interfaces**

User interfaces (UIs) form the interface between software and user.

WinCC Open Architecture (WinCC OA) offers a variety of such interfaces: On the one hand for creating panel files, logic operations, libraries and much more in the form of a graphical editor (GEDI), for data point configurations and value management on the other hand (PARA).

The internal, general module (Vision) offers a simple possibility for user interfaces at operator stations (operator stations, workstation stations). The user interface serves to display values, issue commands or track alarms in the alarm list. Trends and reports are also usually part of the UI. From a programming viewpoint, the user interaction in WinCC Open Architecture is completely isolated from the background processing – it is merely a view of the data of the current process image or the history.

UIs on a server are counted cumulatively and can be extended at a later point in time by purchasing additional UI licenses.

UI packages cannot be split between several servers due to license restrictions.

#### Benefits

The editor tools offer possibilities for self-administration that can be quickly realized:

- Simple creation and adoption of existing elements of a user interface
- Graphical project administration, integration of existing libraries and configuration of different view variants (Content Management System, Standard-based, Shop View, language switching in runtime and much more)
- Simple parameter assignment and instantiation of data points (DP) and DP groups
- Basic license for bulk recordings and multi-user configuration.

The various client versions for operating stations offer decisive added value:

- Native clients for operator stations with extended possibilities
- Operation independent of operating system and identical look and feel of the user interfaces
- App download via Google Play or App Store
- Integration of security mechanisms (encryption, user notes, Audit Trails, authentication, user management, device releases) in remote units
- Web clients (ULC UX) as an alternative without mandatory installation on the terminals

#### Application

User interfaces provide the optimal interface between human and machine through visual support. There is a wide range of reasons for their use.

Thanks to the extensive set of different connection options and the possibility of using modern layout tools as well as state-of-the-art extensions and the embedding of 3rd party components, WinCC OA offers the perfect basis for the most modern monitoring and control solutions, ranging from mobile phone apps to monitor walls in centralized control rooms. Thanks to the secure connection via the Internet, nothing stands in the way of opening important displays via a standard web browser.

Active user interfaces are licensed at the same time for a solution. It may make sense to plan specific measures to increase performance above a certain scale – depending on the number, content, value quantity, rate of change and role of the operator stations.

#### Design

##### Desktop UI

Operator station license for extending an existing WinCC OA Server license. Simultaneous connections from active desktop UIs are counted. Packages are counted cumulatively.

##### Dashboard (as of V3.18)

Licenses for extending an existing WinCC OA Server license by a web-based dashboard display. Simultaneous connections from active dashboards are counted. Packages are counted cumulatively. Available in standard or REDU version, as well as Mobile Dashboard version optimized for mobile devices.

##### UltraLightClient User eXperience (ULC UX)

Licenses for UltraLightClient User eXperience web clients to extend an existing WinCC OA Server license. Simultaneous connections from active ULC UX clients are counted. Supports a subset of the Desktop UI functionality. Packages are counted cumulatively. Available in standard or REDU version.

##### Mobile UI

License for WinCC OA Mobile App for iOS or Android, to extend an existing WinCC OA Server license. The supported Android and iOS versions can be found in the respective App Store. Simultaneous connections from active mobile apps are counted. Packages are counted cumulatively. Available in standard or REDU version.

**Design**

Operator APP (available only for WinCC OA versions < V3.18!)

License for connecting an Operator app (for iOS) to a WinCC OA Server. SSL secured connection. Measured values and alarms can be queried, commands and acknowledgments can be sent. Configuration is performed in WinCC OA via a wizard. Each device must be assigned a license on the server. The Operator app can be obtained free of charge from the App Store.

Para

Development and parameter assignment license for WinCC OA Server with graphical editor (incl. symbol catalogs), script development environment and test framework. Requires WinCC OA Server Basic license. The parameterization package does not occupy an existing UI license in the server configuration. Parameterization during runtime is possible.

Available in standard, REDU or remote version.

REDU

Desktop UI, ULC UX, Mobile UI, Dashboards and Para have a REDU option in addition to the standard version. When creating a redundant system, the REDU option (x2) must be obtained for the desired UIs. More detailed information can be found under "Redundancy" in the "Add-ons" section.

**Ordering data****Article No.****V3.19****WinCC OA – Desktop UI V3.19**

Operator station licenses for extending a WinCC OA Server.

- 1 Desktop UI
- 1 Desktop UI UPG
- 10 Desktop UI
- 10 Desktop UI UPG
- 25 Desktop UI
- 25 Desktop UI UPG
- 50 Desktop UI
- 50 Desktop UI UPG
- 100 Desktop UI
- 100 Desktop UI UPG

**6AV6355-1AA47-7CA0**  
**6AV6355-1CA47-7CA0**  
**6AV6355-1AA47-7CA1**  
**6AV6355-1CA47-7CA1**  
**6AV6355-1AA47-7CA2**  
**6AV6355-1CA47-7CA2**  
**6AV6355-1AA47-7CA3**  
**6AV6355-1CA47-7CA3**  
**6AV6355-1AA47-7CA4**  
**6AV6355-1CA47-7CA4**

**WinCC OA – Desktop UI REDU V3.19**

Operator station licenses for extending a WinCC OA REDU Server.

- 1 Desktop UI REDU
- 1 Desktop UI REDU UPG
- 10 Desktop UI REDU
- 10 Desktop UI REDU UPG
- 25 Desktop UI REDU
- 25 Desktop UI REDU UPG
- 50 Desktop UI REDU
- 50 Desktop UI REDU UPG
- 100 Desktop UI REDU
- 100 Desktop UI REDU UPG

**6AV6355-1AA47-7CB0**  
**6AV6355-1CA47-7CB0**  
**6AV6355-1AA47-7CB1**  
**6AV6355-1CA47-7CB1**  
**6AV6355-1AA47-7CB2**  
**6AV6355-1CA47-7CB2**  
**6AV6355-1AA47-7CB3**  
**6AV6355-1CA47-7CB3**  
**6AV6355-1AA47-7CB4**  
**6AV6355-1CA47-7CB4**

**WinCC OA – ULC UX V3.19**

Licenses for UltraLightClient User eXperience web clients.

- 1 ULC UX
- 1 ULC UX UPG
- 10 ULC UX
- 10 ULC UX UPG
- 25 ULC UX
- 25 ULC UX UPG
- 50 ULC UX
- 50 ULC UX UPG
- 100 ULC UX
- 100 ULC UX UPG

**6AV6355-1AA47-7CC0**  
**6AV6355-1CA47-7CC0**  
**6AV6355-1AA47-7CC1**  
**6AV6355-1CA47-7CC1**  
**6AV6355-1AA47-7CC2**  
**6AV6355-1CA47-7CC2**  
**6AV6355-1AA47-7CC3**  
**6AV6355-1CA47-7CC3**  
**6AV6355-1AA47-7CC4**  
**6AV6355-1CA47-7CC4**

**WinCC OA - ULC UX REDU V3.19**

Licenses for UltraLightClient User eXperience web clients for REDU Server.

- 1 ULC UX REDU
- 1 ULC UX REDU UPG
- 10 ULC UX REDU
- 10 ULC UX REDU UPG
- 25 ULC UX REDU
- 25 ULC UX REDU UPG
- 50 ULC UX REDU
- 50 ULC UX REDU UPG
- 100 ULC UX REDU
- 100 ULC UX REDU UPG

**6AV6355-1AA47-7CD0**  
**6AV6355-1CA47-7CD0**  
**6AV6355-1AA47-7CD1**  
**6AV6355-1CA47-7CD1**  
**6AV6355-1AA47-7CD2**  
**6AV6355-1CA47-7CD2**  
**6AV6355-1AA47-7CD3**  
**6AV6355-1CA47-7CD3**  
**6AV6355-1AA47-7CD4**  
**6AV6355-1CA47-7CD4**

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture User Interfaces****Ordering data****Article No.****Article No.****WinCC OA - Mobile V3.19**

Licenses for WinCC OA Mobile App for iOS or Android.

- 1 Mobile
- 1 Mobile UPG
- 10 Mobiles
- 10 Mobiles UPG
- 25 Mobiles
- 25 Mobiles UPG
- 50 Mobiles
- 50 Mobiles UPG
- 100 Mobiles
- 100 Mobiles UPG

6AV6355-1AA47-7CE0  
6AV6355-1CA47-7CE0  
6AV6355-1AA47-7CE1  
6AV6355-1CA47-7CE1  
6AV6355-1AA47-7CE2  
6AV6355-1CA47-7CE2  
6AV6355-1AA47-7CE3  
6AV6355-1CA47-7CE3  
6AV6355-1AA47-7CE4  
6AV6355-1CA47-7CE4

**WinCC OA – Mobile REDU V3.19**

Licenses for WinCC OA Mobile App for iOS or Android for REDU Server.

- 1 Mobile REDU
- 1 Mobile REDU UPG
- 10 Mobiles REDU
- 10 Mobiles REDU UPG
- 25 Mobiles REDU
- 25 Mobiles REDU UPG
- 50 Mobiles REDU
- 50 Mobiles REDU UPG
- 100 Mobiles REDU
- 100 Mobiles REDU UPG

6AV6355-1AA47-7CF0  
6AV6355-1CA47-7CF0  
6AV6355-1AA47-7CF1  
6AV6355-1CA47-7CF1  
6AV6355-1AA47-7CF2  
6AV6355-1CA47-7CF2  
6AV6355-1AA47-7CF3  
6AV6355-1CA47-7CF3  
6AV6355-1AA47-7CF4  
6AV6355-1CA47-7CF4

**WinCC OA - Para Standard V3.19**

Development and parameter assignment license for WinCC OA Server.

- Para Standard
- Para Standard UPG

6AV6355-1AA47-7CH0  
6AV6355-1CA47-7CH0

**WinCC OA - Para Standard REDU V3.19**

Development and parameter assignment license for WinCC OA REDU Server.

- Para Standard REDU
- Para Standard REDU UPG

6AV6355-1AA47-7CH1  
6AV6355-1CA47-7CH1

**WinCC OA - Para Remote V3.19**

Remote development and parameter assignment license for WinCC OA Server.

- Para Remote
- Para Remote UPG

6AV6355-1AA47-7CH2  
6AV6355-1CA47-7CH2

**WinCC OA – Mobile Dashboard V3.19**

Licenses for native HTML5 dashboard display optimized for mobile devices.

- 1 Mobile Dashboard
- 1 Mobile Dashboard UPG
- 10 Mobile Dashboards
- 10 Mobile Dashboards UPG
- 25 Mobile Dashboards
- 25 Mobile Dashboards UPG
- 50 Mobile Dashboards
- 50 Mobile Dashboards UPG
- 100 Mobile Dashboards
- 100 Mobile Dashboards UPG

6AV6355-1AA47-7CJ0  
6AV6355-1CA47-7CJ0  
6AV6355-1AA47-7CJ1  
6AV6355-1CA47-7CJ1  
6AV6355-1AA47-7CJ2  
6AV6355-1CA47-7CJ2  
6AV6355-1AA47-7CJ3  
6AV6355-1CA47-7CJ3  
6AV6355-1AA47-7CJ4  
6AV6355-1CA47-7CJ4

**WinCC OA – Mobile Dashboard REDU V3.19**

Licenses for web-based dashboard display on redundant server, optimized for mobile devices:

- 1 Mobile Dashboard REDU
- 1 Mobile Dashboard REDU UPG
- 10 Mobile Dashboards REDU
- 10 Mobile Dashboards REDU UPG
- 25 Mobile Dashboards REDU
- 25 Mobile Dashboards REDU UPG
- 50 Mobile Dashboards REDU
- 50 Mobile Dashboards REDU UPG
- 100 Mobile Dashboards REDU
- 100 Mobile Dashboards REDU UPG

6AV6355-1AA47-7CK0  
6AV6355-1CA47-7CK0  
6AV6355-1AA47-7CK1  
6AV6355-1CA47-7CK1  
6AV6355-1AA47-7CK2  
6AV6355-1CA47-7CK2  
6AV6355-1AA47-7CK3  
6AV6355-1CA47-7CK3  
6AV6355-1AA47-7CK4  
6AV6355-1CA47-7CK4

**WinCC OA – Dashboard V3.19**

Licenses for web-based dashboard display

- 1 Dashboard
- 1 Dashboard UPG
- 10 Dashboards
- 10 Dashboards UPG
- 25 Dashboards
- 25 Dashboards UPG
- 50 Dashboards
- 50 Dashboards UPG
- 100 Dashboards
- 100 Dashboards UPG

6AV6355-1AA47-7CL0  
6AV6355-1CA47-7CL0  
6AV6355-1AA47-7CL1  
6AV6355-1CA47-7CL1  
6AV6355-1AA47-7CL2  
6AV6355-1CA47-7CL2  
6AV6355-1AA47-7CL3  
6AV6355-1CA47-7CL3  
6AV6355-1AA47-7CL4  
6AV6355-1CA47-7CL4

**WinCC OA – Dashboard REDU V3.19**

Licenses for web-based dashboard display on redundant server:

- 1 Dashboard REDU
- 1 Dashboard REDU UPG
- 10 Dashboards REDU
- 10 Dashboards REDU UPG
- 25 Dashboards REDU
- 25 Dashboards REDU UPG
- 50 Dashboards REDU
- 50 Dashboards REDU UPG
- 100 Dashboards REDU
- 100 Dashboards REDU UPG

6AV6355-1AA47-7CM0  
6AV6355-1CA47-7CM0  
6AV6355-1AA47-7CM1  
6AV6355-1CA47-7CM1  
6AV6355-1AA47-7CM2  
6AV6355-1CA47-7CM2  
6AV6355-1AA47-7CM3  
6AV6355-1CA47-7CM3  
6AV6355-1AA47-7CM4  
6AV6355-1CA47-7CM4

Ordering data	Article No.	Article No.
<b>V3.18</b>		
<b>WinCC OA – Desktop UI V3.18</b> Operator station licenses for extending a WinCC OA Server. <ul style="list-style-type: none"> <li>• 1 Desktop UI</li> <li>• 1 Desktop UI UPG</li> <li>• 10 Desktop UI</li> <li>• 10 Desktop UI UPG</li> <li>• 25 Desktop UI</li> <li>• 25 Desktop UI UPG</li> <li>• 50 Desktop UI</li> <li>• 50 Desktop UI UPG</li> <li>• 100 Desktop UI</li> <li>• 100 Desktop UI UPG</li> </ul>	<b>6AV6355-1AA31-8CA0</b> <b>6AV6355-1CA31-8CA0</b> <b>6AV6355-1AA31-8CA1</b> <b>6AV6355-1CA31-8CA1</b> <b>6AV6355-1AA31-8CA2</b> <b>6AV6355-1CA31-8CA2</b> <b>6AV6355-1AA31-8CA3</b> <b>6AV6355-1CA31-8CA3</b> <b>6AV6355-1AA31-8CA4</b> <b>6AV6355-1CA31-8CA4</b>	
<b>WinCC OA – Desktop UI REDU V3.18</b> Operator station licenses for extending a WinCC OA REDU Server. <ul style="list-style-type: none"> <li>• 1 Desktop UI REDU</li> <li>• 1 Desktop UI REDU UPG</li> <li>• 10 Desktop UI REDU</li> <li>• 10 Desktop UI REDU UPG</li> <li>• 25 Desktop UI REDU</li> <li>• 25 Desktop UI REDU UPG</li> <li>• 50 Desktop UI REDU</li> <li>• 50 Desktop UI REDU UPG</li> <li>• 100 Desktop UI REDU</li> <li>• 100 Desktop UI REDU UPG</li> </ul>	<b>6AV6355-1AA31-8CB0</b> <b>6AV6355-1CA31-8CB0</b> <b>6AV6355-1AA31-8CB1</b> <b>6AV6355-1CA31-8CB1</b> <b>6AV6355-1AA31-8CB2</b> <b>6AV6355-1CA31-8CB2</b> <b>6AV6355-1AA31-8CB3</b> <b>6AV6355-1CA31-8CB3</b> <b>6AV6355-1AA31-8CB4</b> <b>6AV6355-1CA31-8CB4</b>	
<b>WinCC OA – ULC UX V3.18</b> Licenses for UltraLightClient User eXperience web clients. <ul style="list-style-type: none"> <li>• 1 ULC UX</li> <li>• 1 ULC UX UPG</li> <li>• 10 ULC UX</li> <li>• 10 ULC UX UPG</li> <li>• 25 ULC UX</li> <li>• 25 ULC UX UPG</li> <li>• 50 ULC UX</li> <li>• 50 ULC UX UPG</li> <li>• 100 ULC UX</li> <li>• 100 ULC UX UPG</li> </ul>	<b>6AV6355-1AA31-8CC0</b> <b>6AV6355-1CA31-8CC0</b> <b>6AV6355-1AA31-8CC1</b> <b>6AV6355-1CA31-8CC1</b> <b>6AV6355-1AA31-8CC2</b> <b>6AV6355-1CA31-8CC2</b> <b>6AV6355-1AA31-8CC3</b> <b>6AV6355-1CA31-8CC3</b> <b>6AV6355-1AA31-8CC4</b> <b>6AV6355-1CA31-8CC4</b>	
<b>WinCC OA - ULC UX REDU V3.18</b> Licenses for UltraLightClient User eXperience web clients for REDU Server. <ul style="list-style-type: none"> <li>• 1 ULC UX REDU</li> <li>• 1 ULC UX REDU UPG</li> <li>• 10 ULC UX REDU</li> <li>• 10 ULC UX REDU UPG</li> <li>• 25 ULC UX REDU</li> <li>• 25 ULC UX REDU UPG</li> <li>• 50 ULC UX REDU</li> <li>• 50 ULC UX REDU UPG</li> <li>• 100 ULC UX REDU</li> <li>• 100 ULC UX REDU UPG</li> </ul>	<b>6AV6355-1AA31-8CD0</b> <b>6AV6355-1CA31-8CD0</b> <b>6AV6355-1AA31-8CD1</b> <b>6AV6355-1CA31-8CD1</b> <b>6AV6355-1AA31-8CD2</b> <b>6AV6355-1CA31-8CD2</b> <b>6AV6355-1AA31-8CD3</b> <b>6AV6355-1CA31-8CD3</b> <b>6AV6355-1AA31-8CD4</b> <b>6AV6355-1CA31-8CD4</b>	
		<b>WinCC OA - Mobile V3.18</b> Licenses for WinCC OA Mobile App for iOS or Android. <ul style="list-style-type: none"> <li>• 1 Mobile</li> <li>• 1 Mobile UPG</li> <li>• 10 Mobiles</li> <li>• 10 Mobiles UPG</li> <li>• 25 Mobiles</li> <li>• 25 Mobiles UPG</li> <li>• 50 Mobiles</li> <li>• 50 Mobiles UPG</li> <li>• 100 Mobiles</li> <li>• 100 Mobiles UPG</li> </ul>
		<b>WinCC OA – Mobile REDU V3.18</b> Licenses for WinCC OA Mobile App for iOS or Android for REDU Server. <ul style="list-style-type: none"> <li>• 1 Mobile REDU</li> <li>• 1 Mobile REDU UPG</li> <li>• 10 Mobiles REDU</li> <li>• 10 Mobiles REDU UPG</li> <li>• 25 Mobiles REDU</li> <li>• 25 Mobiles REDU UPG</li> <li>• 50 Mobiles REDU</li> <li>• 50 Mobiles REDU UPG</li> <li>• 100 Mobiles REDU</li> <li>• 100 Mobiles REDU UPG</li> </ul>
		<b>WinCC OA - Para Standard V3.18</b> Development and parameter assignment license for WinCC OA Server. <ul style="list-style-type: none"> <li>• Para Standard</li> <li>• Para Standard UPG</li> </ul>
		<b>WinCC OA - Para Standard REDU V3.18</b> Development and parameter assignment license for WinCC OA REDU Server. <ul style="list-style-type: none"> <li>• Para Standard REDU</li> <li>• Para Standard REDU UPG</li> </ul>
		<b>WinCC OA - Para Remote V3.18</b> Remote development and parameter assignment license for WinCC OA Server. <ul style="list-style-type: none"> <li>• Para Remote</li> <li>• Para Remote UPG</li> </ul>
		<b>6AV6355-1AA31-8CE0</b> <b>6AV6355-1CA31-8CE0</b> <b>6AV6355-1AA31-8CE1</b> <b>6AV6355-1CA31-8CE1</b> <b>6AV6355-1AA31-8CE2</b> <b>6AV6355-1CA31-8CE2</b> <b>6AV6355-1AA31-8CE3</b> <b>6AV6355-1CA31-8CE3</b> <b>6AV6355-1AA31-8CE4</b> <b>6AV6355-1CA31-8CE4</b>
		<b>6AV6355-1AA31-8CF0</b> <b>6AV6355-1CA31-8CF0</b> <b>6AV6355-1AA31-8CF1</b> <b>6AV6355-1CA31-8CF1</b> <b>6AV6355-1AA31-8CF2</b> <b>6AV6355-1CA31-8CF2</b> <b>6AV6355-1AA31-8CF3</b> <b>6AV6355-1CA31-8CF3</b> <b>6AV6355-1AA31-8CF4</b> <b>6AV6355-1CA31-8CF4</b>
		<b>6AV6355-1AA31-8CH0</b> <b>6AV6355-1CA31-8CH0</b>
		<b>6AV6355-1AA31-8CH1</b> <b>6AV6355-1CA31-8CH1</b>
		<b>6AV6355-1AA31-8CH2</b> <b>6AV6355-1CA31-8CH2</b>

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture User Interfaces****Ordering data****Article No.****Article No.****WinCC OA – Mobile Dashboard V3.18**

Licenses for native HTML5 dashboard display optimized for mobile devices.

- 1 Mobile Dashboard
- 1 Mobile Dashboard UPG
- 10 Mobile Dashboards
- 10 Mobile Dashboards UPG
- 25 Mobile Dashboards
- 25 Mobile Dashboards UPG
- 50 Mobile Dashboards
- 50 Mobile Dashboards UPG
- 100 Mobile Dashboards
- 100 Mobile Dashboards UPG

6AV6355-1AA31-8CJ0  
6AV6355-1CA31-8CJ0  
6AV6355-1AA31-8CJ1  
6AV6355-1CA31-8CJ1  
6AV6355-1AA31-8CJ2  
6AV6355-1CA31-8CJ2  
6AV6355-1AA31-8CJ3  
6AV6355-1CA31-8CJ3  
6AV6355-1AA31-8CJ4  
6AV6355-1CA31-8CJ4

**WinCC OA – Mobile Dashboard REDU V3.18**

Licenses for web-based dashboard display on redundant server, optimized for mobile devices:

- 1 Mobile Dashboard REDU
- 1 Mobile Dashboard REDU UPG
- 10 Mobile Dashboards REDU
- 10 Mobile Dashboards REDU UPG
- 25 Mobile Dashboards REDU
- 25 Mobile Dashboards REDU UPG
- 50 Mobile Dashboards REDU
- 50 Mobile Dashboards REDU UPG
- 100 Mobile Dashboards REDU
- 100 Mobile Dashboards REDU UPG

6AV6355-1AA31-8CK0  
6AV6355-1CA31-8CK0  
6AV6355-1AA31-8CK1  
6AV6355-1CA31-8CK1  
6AV6355-1AA31-8CK2  
6AV6355-1CA31-8CK2  
6AV6355-1AA31-8CK3  
6AV6355-1CA31-8CK3  
6AV6355-1AA31-8CK4  
6AV6355-1CA31-8CK4

**WinCC OA – Dashboard V3.18**

Licenses for web-based dashboard display

- 1 Dashboard
- 1 Dashboard UPG
- 10 Dashboards
- 10 Dashboards UPG
- 25 Dashboards
- 25 Dashboards UPG
- 50 Dashboards
- 50 Dashboards UPG
- 100 Dashboards
- 100 Dashboards UPG

6AV6355-1AA31-8CL0  
6AV6355-1CA31-8CL0  
6AV6355-1AA31-8CL1  
6AV6355-1CA31-8CL1  
6AV6355-1AA31-8CL2  
6AV6355-1CA31-8CL2  
6AV6355-1AA31-8CL3  
6AV6355-1CA31-8CL3  
6AV6355-1AA31-8CL4  
6AV6355-1CA31-8CL4

**WinCC OA – Dashboard REDU V3.18**

Licenses for web-based dashboard display on redundant server:

- 1 Dashboard REDU
- 1 Dashboard REDU UPG
- 10 Dashboards REDU
- 10 Dashboards REDU UPG
- 25 Dashboards REDU
- 25 Dashboards REDU UPG
- 50 Dashboards REDU
- 50 Dashboards REDU UPG
- 100 Dashboards REDU
- 100 Dashboards REDU UPG

6AV6355-1AA31-8CM0  
6AV6355-1CA31-8CM0  
6AV6355-1AA31-8CM1  
6AV6355-1CA31-8CM1  
6AV6355-1AA31-8CM2  
6AV6355-1CA31-8CM2  
6AV6355-1AA31-8CM3  
6AV6355-1CA31-8CM3  
6AV6355-1AA31-8CM4  
6AV6355-1CA31-8CM4

**V3.17****WinCC OA – Desktop UI V3.17**

Operator station licenses for extending a WinCC OA Server.

- 1 Desktop UI
- 1 Desktop UI UPG
- 10 Desktop UI
- 10 Desktop UI UPG
- 25 Desktop UI
- 25 Desktop UI UPG
- 50 Desktop UI
- 50 Desktop UI UPG
- 100 Desktop UI
- 100 Desktop UI UPG

6AV6355-1AA31-7CA0  
6AV6355-1CA31-7CA0  
6AV6355-1AA31-7CA1  
6AV6355-1CA31-7CA1  
6AV6355-1AA31-7CA2  
6AV6355-1CA31-7CA2  
6AV6355-1AA31-7CA3  
6AV6355-1CA31-7CA3  
6AV6355-1AA31-7CA4  
6AV6355-1CA31-7CA4

**WinCC OA – Desktop UI REDU V3.17**

Operator station licenses for extending a WinCC OA REDU Server.

- 1 Desktop UI REDU
- 1 Desktop UI REDU UPG
- 10 Desktop UI REDU
- 10 Desktop UI REDU UPG
- 25 Desktop UI REDU
- 25 Desktop UI REDU UPG
- 50 Desktop UI REDU
- 50 Desktop UI REDU UPG
- 100 Desktop UI REDU
- 100 Desktop UI REDU UPG

6AV6355-1AA31-7CB0  
6AV6355-1CA31-7CB0  
6AV6355-1AA31-7CB1  
6AV6355-1CA31-7CB1  
6AV6355-1AA31-7CB2  
6AV6355-1CA31-7CB2  
6AV6355-1AA31-7CB3  
6AV6355-1CA31-7CB3  
6AV6355-1AA31-7CB4  
6AV6355-1CA31-7CB4

**WinCC OA – ULC UX V3.17**

Licenses for UltraLightClient User eXperience web clients.

- 1 ULC UX
- 1 ULC UX UPG
- 10 ULC UX
- 10 ULC UX UPG
- 25 ULC UX
- 25 ULC UX UPG
- 50 ULC UX
- 50 ULC UX UPG
- 100 ULC UX
- 100 ULC UX UPG

6AV6355-1AA31-7CC0  
6AV6355-1CA31-7CC0  
6AV6355-1AA31-7CC1  
6AV6355-1CA31-7CC1  
6AV6355-1AA31-7CC2  
6AV6355-1CA31-7CC2  
6AV6355-1AA31-7CC3  
6AV6355-1CA31-7CC3  
6AV6355-1AA31-7CC4  
6AV6355-1CA31-7CC4

**WinCC OA - ULC UX REDU V3.17**

Licenses for UltraLightClient User eXperience web clients for REDU Server.

- 1 ULC UX REDU
- 1 ULC UX REDU UPG
- 10 ULC UX REDU
- 10 ULC UX REDU UPG
- 25 ULC UX REDU
- 25 ULC UX REDU UPG
- 50 ULC UX REDU
- 50 ULC UX REDU UPG
- 100 ULC UX REDU
- 100 ULC UX REDU UPG

6AV6355-1AA31-7CD0  
6AV6355-1CA31-7CD0  
6AV6355-1AA31-7CD1  
6AV6355-1CA31-7CD1  
6AV6355-1AA31-7CD2  
6AV6355-1CA31-7CD2  
6AV6355-1AA31-7CD3  
6AV6355-1CA31-7CD3  
6AV6355-1AA31-7CD4  
6AV6355-1CA31-7CD4

Ordering data	Article No.	Article No.
<b>WinCC OA - Mobile V3.17</b> Licenses for WinCC OA Mobile App for iOS or Android. <ul style="list-style-type: none"> <li>• 1 Mobile</li> <li>• 1 Mobile UPG</li> <li>• 10 Mobiles</li> <li>• 10 Mobiles UPG</li> <li>• 25 Mobiles</li> <li>• 25 Mobiles UPG</li> <li>• 50 Mobiles</li> <li>• 50 Mobiles UPG</li> <li>• 100 Mobiles</li> <li>• 100 Mobiles UPG</li> </ul>	6AV6355-1AA31-7CE0 6AV6355-1CA31-7CE0 6AV6355-1AA31-7CE1 6AV6355-1CA31-7CE1 6AV6355-1AA31-7CE2 6AV6355-1CA31-7CE2 6AV6355-1AA31-7CE3 6AV6355-1CA31-7CE3 6AV6355-1AA31-7CE4 6AV6355-1CA31-7CE4	<b>Software Services - version-independent</b> <b>WinCC OA – Desktop UI</b> <ul style="list-style-type: none"> <li>• 1 Desktop UI SUS</li> <li>• 1 Desktop UI SMS</li> <li>• 1 Desktop UI POS</li> <li>• 10 Desktop UI SUS</li> <li>• 10 Desktop UI SMS</li> <li>• 10 Desktop UI POS</li> <li>• 25 Desktop UI SUS</li> <li>• 25 Desktop UI SMS</li> <li>• 25 Desktop UI POS</li> <li>• 50 Desktop UI SUS</li> <li>• 50 Desktop UI SMS</li> <li>• 50 Desktop UI POS</li> <li>• 100 Desktop UI SUS</li> <li>• 100 Desktop UI SMS</li> <li>• 100 Desktop UI POS</li> </ul>
<b>WinCC OA – Mobile REDU V3.17</b> Licenses for WinCC OA Mobile App for iOS or Android for REDU Server. <ul style="list-style-type: none"> <li>• 1 Mobile REDU</li> <li>• 1 Mobile REDU UPG</li> <li>• 10 Mobiles REDU</li> <li>• 10 Mobiles REDU UPG</li> <li>• 25 Mobiles REDU</li> <li>• 25 Mobiles REDU UPG</li> <li>• 50 Mobiles REDU</li> <li>• 50 Mobiles REDU UPG</li> <li>• 100 Mobiles REDU</li> <li>• 100 Mobiles REDU UPG</li> </ul>	6AV6355-1AA31-7CF0 6AV6355-1CA31-7CF0 6AV6355-1AA31-7CF1 6AV6355-1CA31-7CF1 6AV6355-1AA31-7CF2 6AV6355-1CA31-7CF2 6AV6355-1AA31-7CF3 6AV6355-1CA31-7CF3 6AV6355-1AA31-7CF4 6AV6355-1CA31-7CF4	<b>WinCC OA – Desktop UI REDU</b> <ul style="list-style-type: none"> <li>• 1 Desktop UI REDU SUS</li> <li>• 1 Desktop UI REDU SMS</li> <li>• 1 Desktop UI REDU POS</li> <li>• 10 Desktop UI REDU SUS</li> <li>• 10 Desktop UI REDU SMS</li> <li>• 10 Desktop UI REDU POS</li> <li>• 25 Desktop UI REDU SUS</li> <li>• 25 Desktop UI REDU SMS</li> <li>• 25 Desktop UI REDU POS</li> <li>• 50 Desktop UI REDU SUS</li> <li>• 50 Desktop UI REDU SMS</li> <li>• 50 Desktop UI REDU POS</li> <li>• 100 Desktop UI REDU SUS</li> <li>• 100 Desktop UI REDU SMS</li> <li>• 100 Desktop UI REDU POS</li> </ul>
<b>WinCC OA - Operator V3.17</b> License for connecting an operator app to a WinCC OA Server. <ul style="list-style-type: none"> <li>• 1 Device</li> <li>• 1 Device UPG</li> <li>• 3 Devices</li> <li>• 3 Devices UPG</li> <li>• 10 Devices</li> <li>• 10 Devices UPG</li> <li>• 25 Devices</li> <li>• 25 Devices UPG</li> <li>• 50 Devices</li> <li>• 50 Devices UPG</li> </ul>	6AV6355-1AA31-7CG0 6AV6355-1CA31-7CG0 6AV6355-1AA31-7CG1 6AV6355-1CA31-7CG1 6AV6355-1AA31-7CG2 6AV6355-1CA31-7CG2 6AV6355-1AA31-7CG3 6AV6355-1CA31-7CG3 6AV6355-1AA31-7CG4 6AV6355-1CA31-7CG4	<b>WinCC OA – ULC UX</b> <ul style="list-style-type: none"> <li>• 1 ULC UX SUS</li> <li>• 1 ULC UX SMS</li> <li>• 1 ULC UX POS</li> <li>• 10 ULC UX SUS</li> <li>• 10 ULC UX SMS</li> <li>• 10 ULC UX POS</li> <li>• 25 ULC UX SUS</li> <li>• 25 ULC UX SMS</li> <li>• 25 ULC UX POS</li> <li>• 50 ULC UX SUS</li> <li>• 50 ULC UX SMS</li> <li>• 50 ULC UX POS</li> <li>• 100 ULC UX SUS</li> <li>• 100 ULC UX SMS</li> <li>• 100 ULC UX POS</li> </ul>
<b>WinCC OA - Para Standard V3.17</b> Development and parameter assignment license for WinCC OA Server. <ul style="list-style-type: none"> <li>• Para Standard</li> <li>• Para Standard UPG</li> </ul>	6AV6355-1AA31-7CH0 6AV6355-1CA31-7CH0	<ul style="list-style-type: none"> <li>6AV6355-1DA00-0CC0</li> <li>6AV6355-1FA00-0CC0</li> <li>6AV6355-1GA00-0CC0</li> <li>6AV6355-1DA00-0CC1</li> <li>6AV6355-1FA00-0CC1</li> <li>6AV6355-1GA00-0CC1</li> <li>6AV6355-1DA00-0CC2</li> <li>6AV6355-1FA00-0CC2</li> <li>6AV6355-1GA00-0CC2</li> <li>6AV6355-1DA00-0CC3</li> <li>6AV6355-1FA00-0CC3</li> <li>6AV6355-1GA00-0CC3</li> <li>6AV6355-1DA00-0CC4</li> <li>6AV6355-1FA00-0CC4</li> <li>6AV6355-1GA00-0CC4</li> </ul>
<b>WinCC OA - Para Standard REDU V3.17</b> Development and parameter assignment license for WinCC OA REDU Server. <ul style="list-style-type: none"> <li>• Para Standard REDU</li> <li>• Para Standard REDU UPG</li> </ul>	6AV6355-1AA31-7CH1 6AV6355-1CA31-7CH1	<b>WinCC OA – ULC UX REDU</b> <ul style="list-style-type: none"> <li>• 1 ULC UX REDU SUS</li> <li>• 1 ULC UX REDU SMS</li> <li>• 1 ULC UX REDU POS</li> <li>• 10 ULC UX REDU SUS</li> <li>• 10 ULC UX REDU SMS</li> <li>• 10 ULC UX REDU POS</li> <li>• 25 ULC UX REDU SUS</li> <li>• 25 ULC UX REDU SMS</li> <li>• 25 ULC UX REDU POS</li> <li>• 50 ULC UX REDU SUS</li> <li>• 50 ULC UX REDU SMS</li> <li>• 50 ULC UX REDU POS</li> <li>• 100 ULC UX REDU SUS</li> <li>• 100 ULC UX REDU SMS</li> <li>• 100 ULC UX REDU POS</li> </ul>
<b>WinCC OA - Para Remote V3.17</b> Remote development and parameter assignment license for WinCC OA Server. <ul style="list-style-type: none"> <li>• Para Remote</li> <li>• Para Remote UPG</li> </ul>	6AV6355-1AA31-7CH2 6AV6355-1CA31-7CH2	<ul style="list-style-type: none"> <li>6AV6355-1DA00-0CD0</li> <li>6AV6355-1FA00-0CD0</li> <li>6AV6355-1GA00-0CD0</li> <li>6AV6355-1DA00-0CD1</li> <li>6AV6355-1FA00-0CD1</li> <li>6AV6355-1GA00-0CD1</li> <li>6AV6355-1DA00-0CD2</li> <li>6AV6355-1FA00-0CD2</li> <li>6AV6355-1GA00-0CD2</li> <li>6AV6355-1DA00-0CD3</li> <li>6AV6355-1FA00-0CD3</li> <li>6AV6355-1GA00-0CD3</li> <li>6AV6355-1DA00-0CD4</li> <li>6AV6355-1FA00-0CD4</li> <li>6AV6355-1GA00-0CD4</li> </ul>

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture User Interfaces****Ordering data****Article No.****Article No.****WinCC OA – Mobile**

- 1 Mobile SUS
- 1 Mobile SMS
- 1 Mobile POS
- 10 Mobiles SUS
- 10 Mobiles SMS
- 10 Mobiles POS
- 25 Mobiles SUS
- 25 Mobiles SMS
- 25 Mobiles POS
- 50 Mobiles SUS
- 50 Mobiles SMS
- 50 Mobiles POS
- 100 Mobiles SUS
- 100 Mobiles SMS
- 100 Mobiles POS

6AV6355-1DA00-0CE0  
 6AV6355-1FA00-0CE0  
 6AV6355-1GA00-0CE0  
 6AV6355-1DA00-0CE1  
 6AV6355-1FA00-0CE1  
 6AV6355-1GA00-0CE1  
 6AV6355-1DA00-0CE2  
 6AV6355-1FA00-0CE2  
 6AV6355-1GA00-0CE2  
 6AV6355-1DA00-0CE3  
 6AV6355-1FA00-0CE3  
 6AV6355-1GA00-0CE3  
 6AV6355-1DA00-0CE4  
 6AV6355-1FA00-0CE4  
 6AV6355-1GA00-0CE4

**WinCC OA – Mobile Dashboard**

- 1 Mobile Dashboard SUS
- 1 Mobile Dashboard SMS
- 1 Mobile Dashboard POS
- 10 Mobile Dashboards SUS
- 10 Mobile Dashboards SMS
- 10 Mobile Dashboards POS
- 25 Mobile Dashboards SUS
- 25 Mobile Dashboards SMS
- 25 Mobile Dashboards POS
- 50 Mobile Dashboards SUS
- 50 Mobile Dashboards SMS
- 50 Mobile Dashboards POS
- 100 Mobile Dashboards SUS
- 100 Mobile Dashboards SMS
- 100 Mobile Dashboards POS

6AV6355-1DA00-0CJ0  
 6AV6355-1FA00-0CJ0  
 6AV6355-1GA00-0CJ0  
 6AV6355-1DA00-0CJ1  
 6AV6355-1FA00-0CJ1  
 6AV6355-1GA00-0CJ1  
 6AV6355-1DA00-0CJ2  
 6AV6355-1FA00-0CJ2  
 6AV6355-1GA00-0CJ2  
 6AV6355-1DA00-0CJ3  
 6AV6355-1FA00-0CJ3  
 6AV6355-1GA00-0CJ3  
 6AV6355-1DA00-0CJ4  
 6AV6355-1FA00-0CJ4  
 6AV6355-1GA00-0CJ4

**WinCC OA – Mobile REDU**

- 1 Mobile REDU SUS
- 1 Mobile REDU SMS
- 1 Mobile REDU POS
- 10 Mobiles REDU SUS
- 10 Mobiles REDU SMS
- 10 Mobiles REDU POS
- 25 Mobiles REDU SUS
- 25 Mobiles REDU SMS
- 25 Mobiles REDU POS
- 50 Mobiles REDU SUS
- 50 Mobiles REDU SMS
- 50 Mobiles REDU POS
- 100 Mobiles REDU SUS
- 100 Mobiles REDU SMS
- 100 Mobiles REDU POS

6AV6355-1DA00-0CF0  
 6AV6355-1FA00-0CF0  
 6AV6355-1GA00-0CF0  
 6AV6355-1DA00-0CF1  
 6AV6355-1FA00-0CF1  
 6AV6355-1GA00-0CF1  
 6AV6355-1DA00-0CF2  
 6AV6355-1FA00-0CF2  
 6AV6355-1GA00-0CF2  
 6AV6355-1DA00-0CF3  
 6AV6355-1FA00-0CF3  
 6AV6355-1GA00-0CF3  
 6AV6355-1DA00-0CF4  
 6AV6355-1FA00-0CF4  
 6AV6355-1GA00-0CF4

**WinCC OA – Mobile Dashboard REDU**

- 1 Mobile Dashboard REDU SUS
- 1 Mobile Dashboard REDU SMS
- 1 Mobile Dashboard REDU POS
- 10 Mobile Dashboards REDU SUS
- 10 Mobile Dashboards REDU SMS
- 10 Mobile Dashboards REDU POS
- 25 Mobile Dashboards REDU SUS
- 25 Mobile Dashboards REDU SMS
- 25 Mobile Dashboards REDU POS
- 50 Mobile Dashboards REDU SUS
- 50 Mobile Dashboards REDU SMS
- 50 Mobile Dashboards REDU POS
- 100 Mobile Dashboards REDU SUS
- 100 Mobile Dashboards REDU SMS
- 100 Mobile Dashboards REDU POS

6AV6355-1DA00-0CK0  
 6AV6355-1FA00-0CK0  
 6AV6355-1GA00-0CK0  
 6AV6355-1DA00-0CK1  
 6AV6355-1FA00-0CK1  
 6AV6355-1GA00-0CK1  
 6AV6355-1DA00-0CK2  
 6AV6355-1FA00-0CK2  
 6AV6355-1GA00-0CK2  
 6AV6355-1DA00-0CK3  
 6AV6355-1FA00-0CK3  
 6AV6355-1GA00-0CK3  
 6AV6355-1DA00-0CK4  
 6AV6355-1FA00-0CK4  
 6AV6355-1GA00-0CK4

**WinCC OA – Operator**

- 1 Device SUS
- 1 Device SMS
- 1 Device POS
- 3 Devices SUS
- 3 Devices SMS
- 3 Devices POS
- 10 Devices SUS
- 10 Devices SMS
- 10 Devices POS
- 25 Devices SUS
- 25 Devices SMS
- 25 Devices POS
- 50 Devices SUS
- 50 Devices SMS
- 50 Devices POS

6AV6355-1DA00-0CG0  
 6AV6355-1FA00-0CG0  
 6AV6355-1GA00-0CG0  
 6AV6355-1DA00-0CG1  
 6AV6355-1FA00-0CG1  
 6AV6355-1GA00-0CG1  
 6AV6355-1DA00-0CG2  
 6AV6355-1FA00-0CG2  
 6AV6355-1GA00-0CG2  
 6AV6355-1DA00-0CG3  
 6AV6355-1FA00-0CG3  
 6AV6355-1GA00-0CG3  
 6AV6355-1DA00-0CG4  
 6AV6355-1FA00-0CG4  
 6AV6355-1GA00-0CG4

**WinCC OA – Dashboard**

- 1 Dashboard SUS
- 1 Dashboard SMS
- 1 Dashboard POS
- 10 Dashboards SUS
- 10 Dashboards SMS
- 10 Dashboards POS
- 25 Dashboards SUS
- 25 Dashboards SMS
- 25 Dashboards POS
- 50 Dashboards SUS
- 50 Dashboards SMS
- 50 Dashboards POS
- 100 Dashboards SUS
- 100 Dashboards SMS
- 100 Dashboards POS

6AV6355-1DA00-0CL0  
 6AV6355-1FA00-0CL0  
 6AV6355-1GA00-0CL0  
 6AV6355-1DA00-0CL1  
 6AV6355-1FA00-0CL1  
 6AV6355-1GA00-0CL1  
 6AV6355-1DA00-0CL2  
 6AV6355-1FA00-0CL2  
 6AV6355-1GA00-0CL2  
 6AV6355-1DA00-0CL3  
 6AV6355-1FA00-0CL3  
 6AV6355-1GA00-0CL3  
 6AV6355-1DA00-0CL4  
 6AV6355-1FA00-0CL4  
 6AV6355-1GA00-0CL4

**WinCC OA – Para Standard**

- Para Standard SUS
- Para Standard SMS
- Para Standard POS

6AV6355-1DA00-0CH0  
 6AV6355-1FA00-0CH0  
 6AV6355-1GA00-0CH0

**WinCC OA – Para Standard REDU**

- Para Standard REDU SUS
- Para Standard REDU SMS
- Para Standard REDU POS

6AV6355-1DA00-0CH1  
 6AV6355-1FA00-0CH1  
 6AV6355-1GA00-0CH1

**WinCC OA - Para Remote**

- Para Remote SUS
- Para Remote SMS
- Para Remote POS

6AV6355-1DA00-0CH2  
 6AV6355-1FA00-0CH2  
 6AV6355-1GA00-0CH2

**WinCC OA – Dashboard REDU**

- 1 Dashboard REDU SUS
- 1 Dashboard REDU SMS
- 1 Dashboard REDU POS
- 10 Dashboards REDU SUS
- 10 Dashboards REDU SMS
- 10 Dashboards REDU POS
- 25 Dashboards REDU SUS
- 25 Dashboards REDU SMS
- 25 Dashboards REDU POS
- 50 Dashboards REDU SUS
- 50 Dashboards REDU SMS
- 50 Dashboards REDU POS
- 100 Dashboards REDU SUS
- 100 Dashboards REDU SMS
- 100 Dashboards REDU POS

6AV6355-1DA00-0CM0  
 6AV6355-1FA00-0CM0  
 6AV6355-1GA00-0CM0  
 6AV6355-1DA00-0CM1  
 6AV6355-1FA00-0CM1  
 6AV6355-1GA00-0CM1  
 6AV6355-1DA00-0CM2  
 6AV6355-1FA00-0CM2  
 6AV6355-1GA00-0CM2  
 6AV6355-1DA00-0CM3  
 6AV6355-1FA00-0CM3  
 6AV6355-1GA00-0CM3  
 6AV6355-1DA00-0CM4  
 6AV6355-1FA00-0CM4  
 6AV6355-1GA00-0CM4

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

**Overview****WinCC Open Architecture Drivers**

In WinCC Open Architecture (WinCC OA), drivers handle communication with the control and field level.

Since numerous and very different forms of communication are possible with the PLCs or telecontrol nodes, there are several different drivers that can be selected.

The PLC used or the associated communication bus determines which WinCC OA Driver is to be used.

The driver reads current states, measured or counted values from the field and, in the other direction, directs commands and setpoints to the lower-level PLCs.

**Benefits**

- Simple connection of devices with various protocols
- Open system with possibilities for flexible extension
- Different devices can be addressed in a project
- Platform-independent support of different PLCs
- Everything in one system, from serial ports to cloud connectivity

**Application**

Due to the high number of drivers, WinCC OA is suitable for complex projects and especially for retrofitting existing systems. In addition to proven Siemens standards and generally used open standards such as OPC UA or MQTT, special industry standards such as IEC 61400 and IEC 104 are also supported.

**Function**

Several different drivers can run simultaneously on one server in WinCC OA. Data transmission can be event-based or polled in scan cycles.

Pre-processing of data is included:

- Scaling/conversion in both directions
- Type transformations
- Smoothing (value, time, noise reduction, etc.)
- Optimized reading: "Poll on use mechanisms"
- With certain drivers, different polling groups and corresponding time-shifted polling times can be desynchronized (Sync on sec) for better load distribution on the managers.

Time stamping can be obtained from the I/O. Resolution up to 1 ms for value storage.

Regular retrieval and processing of values is based on driver-specific time periods.

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Drivers****Function**

Protocol	Description		
<b>S7</b>	Includes drivers for unlimited connection of S7-3xx and S7-4xx Controllers. S7-12xx and S7-15xx Controllers can be connected for a limited time (8, 64 or 512 connections). Connection of Open Controller, PLC-Sim, symbolic addressing, all protection levels and browsing of TIA Portal projects and online browsing of S7-1xxx Controllers.	<b>IEC 61850/61400</b>	IEC 61850 and IEC 61400 clients define an architecture that covers special needs in substation automation. As a driver for medium and high voltage technology, it defines a data model and the communications services for interaction with and between the elements of a substation, such as power supply units, circuit breakers, protective devices etc. A description language and a system configuration language (SCL) have been defined for technical purposes.  Consists of the IEC 61850 driver (client – according to IEC 61850 Standard Part 7 & Part 8 Edition 2 & IEC 61400-25) and the IEC 61850/61400 browser.
<b>PROFINET</b>	Driver for connecting programmable controllers that support this fieldbus. Requires a compatible PROFINET network adapter (e.g. CP1616) and enables consistent communication from the PLC to the SCADA system without protocol break.	<b>SAIA S-Bus</b>	The SAIA S-Bus driver is a serial driver that natively supports the SAIA S-Bus for connecting SAIA PCD control gear to WinCC OA projects.
<b>PROFIsafe</b>	Supports the safety-oriented PROFIsafe protocol. Requires a compatible PROFINET network adapter (e.g. CP1616). This license also includes the operation of PROFINET.	<b>TLS</b>	The TLS standard (Technische Lieferbedingungen für Streckenstationen – Technical Delivery Conditions for Remote Stations) defines the use and setup of traffic control systems in Austria. The WinCC OA TLS gateway is designed for communication with TLS-compliant devices. The gateway takes over the complete communication by providing the corresponding values according to the TLS standard or by reacting to their reception. The TLS gateway obtains its parameters via configuration files that define the operating mode and TLS terminals.
<b>BACnet</b>	BACnet provides an integrated BACnet-compliant online/offline engineering solution for building automation technology, including object library. Designed for heating, ventilation and air-conditioning, lighting control and safety technology. The BACnet license allows the use of the BACnet driver, diagnostics and the BACnet engineering environment. Possession of a WinCC OA Para license is a prerequisite. The engineering environment consists of BACnet object library (including faceplates), BACnet browser, EDE tool and EDE file interface.  BACnet objects are intended for dedicated use with the BACnet driver. They can be expanded additionally or with the help of BACnetpacks, which work in the same way as the WinCC OA PowerPacks.	<b>SSI</b>	The SSI (Synchronous Serial Interface) driver is used to connect SAT telecontrol systems. The data is exchanged via the LAN (Ethernet, IEEE 802.3); the frame formats used are the SSI formats defined by SAT. The SK 1703 telecontrol components with a suitable communication card (KE/ET) are supported.
<b>DNP3</b>	The DNP3 (Distributed Network Protocol 3) driver is an open, rugged and modern protocol with characteristics and strengths similar to the IEC driver. The transfer of any number of frames with different data types takes place between the WinCC OA System (Master) and the remote stations (Slave).	<b>Modbus</b>	Modbus TCP is based on the serial Modbus protocol (as part of IEC 61158), which was adapted for TCP/IP. The Modbus TCP driver can also be used for Modbus TCP or UNICOS.
<b>IEC 60870 101, 104</b>	IEC drivers are standardized telecontrol drivers that can process proprietary frames. IEC stands for International Electrotechnical Commission, the international standardization committee for electrical engineering. <ul style="list-style-type: none"> <li>IEC 60870-5-104 for data exchange via TCP/IP</li> <li>IEC 60870-5-101 for serial connection</li> </ul>	<b>RK512</b>	Serial driver for coupling via the RK512 protocol to the internal memory area of a SIEMENS S5 Controller.
		<b>SINAUT</b>	SINAUT ( <b>SI</b> emens <b>Ne</b> twork <b>AU</b> Tomation) is a communication protocol for automated monitoring and control of remote process stations on the basis of SIMATIC S7. Communication takes place via TCP/IP.
		<b>SNMP</b>	SNMP (Simple Network Management Protocol) is a protocol for monitoring network elements (servers, workstations, routers, switches, hubs, etc.) and their functions. It supports SNMP V1, V2 and V3.

Function	Ordering data	Article No.
<b>Cerberus</b> Cerberus/ DMS7000 is a fire, intrusion and gas alarm system from Siemens. The Cerberus driver guarantees communication to and from the central fire alarm systems and building security facilities in the event of a fire, gas or intruder alarm. Communication is realized via C-Bus (Cer-Ban) using the serial interface RS232 (MK 7022). This option is not available for Linux. <b>Caution:</b> This driver is no longer supported as of WinCC OA V3.19!	<b>V3.19</b> <b>WinCC OA - Driver S7 V3.19</b> Unlimited connection of S7-3x8x and S7-4xx, limited connection of S7-12xx and S7-15xx (options for max 64, 512) <ul style="list-style-type: none"> <li>• Driver S7 64</li> <li>• Driver S7 64 UPG</li> <li>• Driver S7 512</li> <li>• Driver S7 512 UPG</li> </ul> <b>WinCC OA - Driver PROFINET V3.19</b> Connection of PROFINET-compatible devices. Required PROFINET network adapter <ul style="list-style-type: none"> <li>• Driver PROFINET</li> <li>• Driver PROFINET UPG</li> </ul> <b>WinCC OA - Driver PROFIsafe V3.19</b> Safety-related PROFIsafe protocol. Required PROFINET network adapter. Includes operation of PROFINET. <ul style="list-style-type: none"> <li>• Driver PROFIsafe</li> <li>• Driver PROFIsafe UPG</li> </ul> <b>WinCC OA - BACnet V3.19</b> Use of BACnet drivers, diagnostics, BACnet engineering environment (BACnet object library (incl. faceplates), BACnet browser, EDE tool, EDE file interface) <ul style="list-style-type: none"> <li>• BACnet</li> <li>• BACnet UPG</li> </ul> <b>WinCC OA – BACnet objects V3.19</b> Dedicated PowerTags for use with the BACnet driver. <ul style="list-style-type: none"> <li>• BACnet objects 200</li> <li>• BACnet objects 200 UPG</li> <li>• BACnet objects 500</li> <li>• BACnet objects 500 UPG</li> <li>• BACnet objects 1k</li> <li>• BACnet objects 1k UPG</li> <li>• BACnet objects 3k</li> <li>• BACnet objects 3k UPG</li> <li>• BACnet objects 5k</li> <li>• BACnet objects 5k UPG</li> <li>• BACnet objects 30k</li> <li>• BACnet objects 30k UPG</li> <li>• BACnet objects unlimited</li> <li>• BACnet objects unlimited UPG</li> </ul> <b>WinCC OA - BACnetpacks V3.19</b> For the step-by-step increase of BACnet objects <ul style="list-style-type: none"> <li>• BACnetpack 200/500</li> <li>• BACnetpack 200/500 UPG</li> <li>• BACnetpack 500/1k</li> <li>• BACnetpack 500/1k UPG</li> <li>• BACnetpack 1k/3k</li> <li>• BACnetpack 1k/3k UPG</li> <li>• BACnetpack 3k/5k</li> <li>• BACnetpack 3k/5k UPG</li> <li>• BACnetpack 5k/30k</li> <li>• BACnetpack 5k/30k UPG</li> <li>• BACnetpack 30k/UL</li> <li>• BACnetpack 30k/UL UPG</li> </ul>	6AV6355-1AA47-7DA1 6AV6355-1CA47-7DA1 6AV6355-1AA47-7DA2 6AV6355-1CA47-7DA2  6AV6355-1AA47-7DA4 6AV6355-1CA47-7DA4  6AV6355-1AA47-7DA5 6AV6355-1CA47-7DA5  6AV6355-1AA47-7EB0 6AV6355-1CA47-7EB0  6AV6355-1AA47-7DL1 6AV6355-1CA47-7DL1 6AV6355-1AA47-7DL2 6AV6355-1CA47-7DL2 6AV6355-1AA47-7DL3 6AV6355-1CA47-7DL3 6AV6355-1AA47-7DL4 6AV6355-1CA47-7DL4 6AV6355-1AA47-7DL5 6AV6355-1CA47-7DL5 6AV6355-1AA47-7DL6 6AV6355-1CA47-7DL6 6AV6355-1AA47-7DL7 6AV6355-1CA47-7DL7  6AV6355-1AA47-7DM0 6AV6355-1CA47-7DM0 6AV6355-1AA47-7DM1 6AV6355-1CA47-7DM1 6AV6355-1AA47-7DM2 6AV6355-1CA47-7DM2 6AV6355-1AA47-7DM3 6AV6355-1CA47-7DM3 6AV6355-1AA47-7DM4 6AV6355-1CA47-7DM4 6AV6355-1AA47-7DM5 6AV6355-1CA47-7DM5
<b>EIP (EtherNet/IP)</b> Ethernet/IP is used for communication with several PLC generations and families from Rockwell Automation / Allen Bradley. The protocol is part of the application layer and is based on the standard TCP/IP network protocol.		
<b>Omron FINS</b> Driver for connection to Omron external control.		
<b>OPC UA Client</b> OPC UA Client allows access to process data and alarms from an OPC UA Server, according to the OPC Foundation standard.		
<b>OPC Client</b> OPC (OLE for Process Control) is the use of OLE/COM technology for process control systems. The WinCC OA OPC Client (DA, HDA & A&E) allows access to process data and alarms of an OPC Server, according to the specifications of the OPC Foundation.		
<b>MQTT</b> MQTT (Message Queuing Telemetry Transport) is a message protocol based on TCP/IP and is intended for communication in networks with limited bandwidth. An MQTT communication network consists of at least one server (broker) and several clients. A client can either publish data or subscribe to data. Communication is therefore based on the publish/subscribe principle. The MQTT license allows the coupling of a WinCC OA Server with a MQTT broker for simplified data exchange with other smart devices (sensors or actuators) or for simple cloud connection (AWS, Azure, etc.). <b>The MQTT Broker is not included in the license!</b>		
<b>NTCIP</b> Drivers based on the NTCIP 1203 Standard enable direct communication as a gateway between WinCC OA and variable message signs from different manufacturers.		
<b>Customer Interfaces</b> On request, additional interfaces can be provided against specification and corresponding product planning or developed by the customer. A corresponding interface must be taken into account and ordered for the license configuration.		

<sup>1)</sup> Further drivers on request or via C++ API

**HMI software**

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**WinCC Open Architecture Drivers****Ordering data****Article No.****WinCC OA - Driver DNP3 V3.19**

Connection of WinCC OA Server with devices via DNP3 protocol.

- Driver DNP3
- Driver DNP3 UPG

6AV6355-1AA47-7DB2  
6AV6355-1CA47-7DB2

**WinCC OA - Driver IEC 101 V3.19**

Serial driver according to IEC 60870-5-101

- Driver IEC 101
- Driver IEC 101 UPG

6AV6355-1AA47-7DC0  
6AV6355-1CA47-7DC0

**WinCC OA - Driver IEC 104 V3.19**

TCP/IP drivers according to IEC 60870-5-104

- Driver IEC 104
- Driver IEC 104 UPG

6AV6355-1AA47-7DC1  
6AV6355-1CA47-7DC1

**WinCC OA - Driver IEC 61850/61400 V3.19**

Medium- and high-voltage technology drivers according to IEC 61850.

Consists of IEC 61850 driver and IEC 61850/61400 browser

- Driver IEC 61850/61400
- Driver IEC 61850/61400 UPG

6AV6355-1AA47-7DC2  
6AV6355-1CA47-7DC2

**WinCC OA - Driver SAIA-S-Bus V3.19**

Serial driver for native SAIA S-Bus support

- Driver SAIA S-Bus
- Driver SAIA S-Bus UPG

6AV6355-1AA47-7DC3  
6AV6355-1CA47-7DC3

**WinCC OA - Driver TLS V3.19**

TLS gateway for setting up traffic control systems in Austria.

- Driver TLS
- Driver TLS UPG

6AV6355-1AA47-7DC4  
6AV6355-1CA47-7DC4

**WinCC OA - Driver SSI V3.1**

Synchronous Serial Interface, driver for Ethernet communication via satellite telecontrol components.

- Driver SSI
- Driver SSI UPG

6AV6355-1AA47-7DC5  
6AV6355-1CA47-7DC5

**WinCC OA - Driver Modbus V3.19**

Driver for the Modbus TCP standard (as part of IEC 61158)

- Driver Modbus
- Driver Modbus UPG

6AV6355-1AA47-7DD0  
6AV6355-1CA47-7DD0

**WinCC OA - Driver RK512 V3.19**

Serial driver for connecting to internal memory of SIEMENS S5 via RK512 protocol

- Driver RK512
- Driver RK512 UPG

6AV6355-1AA47-7DE0  
6AV6355-1CA47-7DE0

**WinCC OA - Driver SINAUT V3.19**

Siemens Network AUTomation for connection via SINAUT protocol.

- Driver SINAUT
- Driver SINAUT UPG

6AV6355-1AA47-7DF2  
6AV6355-1CA47-7DF2

**Article No.****WinCC OA - Driver SNMP V3.19**

Simple Network Management Protocol driver for network monitoring.

Supports SNMP up to version V3

- Driver SNMP
- Driver SNMP UPG

6AV6355-1AA47-7DG0  
6AV6355-1CA47-7DG0

**WinCC OA - Driver Cerberus V3.19**

For coupling with Siemens fire alarm system DMS7000/Cerberus.

- Driver Cerberus
- Driver Cerberus UPG

6AV6355-1AA47-7DH0  
6AV6355-1CA47-7DH0

**WinCC OA - Driver EIP V3.19**

Ethernet/IP driver for the connection of external PLCs (e.g. Allen Bradley, etc.)

- Driver EIP
- Driver EIP UPG

6AV6355-1AA47-7DJ0  
6AV6355-1CA47-7DJ0

**WinCC OA - Driver Omron FINS V3.19**

Omron FINS driver for connection to Omron PLCs

- Driver Omron FINS
- Driver Omron FINS UPG

6AV6355-1AA47-7DJ1  
6AV6355-1CA47-7DJ1

**WinCC OA - Driver MQTT Client V3.19**

Coupling of WinCC OA Server with an MQTT Broker (not included)

- Driver MQTT Client
- Driver MQTT Client UPG

6AV6355-1AA47-7DK2  
6AV6355-1CA47-7DK2

**WinCC OA - Driver NTCIP V3.19**

NTCIP 1203 Standard for communication with variable message signs

- Driver NTCIP
- Driver NTCIP UPG

6AV6355-1AA47-7DC6  
6AV6355-1CA47-7DC6

Ordering data	Article No.	Article No.
<b>V3.18</b>		
<b>WinCC OA - Driver S7 V3.18</b> Unlimited connection of S7-3x8x and S7-4xx, limited connection of S7-12xx and S7-15xx (options for max 64, 512) • Driver S7 64 • Driver S7 64 UPG • Driver S7 512 • Driver S7 512 UPG	6AV6355-1AA31-8DA1 6AV6355-1CA31-8DA1 6AV6355-1AA31-8DA2 6AV6355-1CA31-8DA2	<b>WinCC OA - Driver DNP3 V3.18</b> Connection of WinCC OA Server with devices via DNP3 protocol. • Driver DNP3 • Driver DNP3 UPG <b>6AV6355-1AA31-8DB2</b> <b>6AV6355-1CA31-8DB2</b>
<b>WinCC OA - Driver PROFINET V3.18</b> Connection of PROFINET-compatible devices. Required PROFINET network adapter • Driver PROFINET • Driver PROFINET UPG	6AV6355-1AA31-8DA4 6AV6355-1CA31-8DA4	<b>WinCC OA - Driver IEC 101 V3.18</b> Serial driver according to IEC 60870-5-101 • Driver IEC 101 • Driver IEC 101 UPG <b>6AV6355-1AA31-8DC0</b> <b>6AV6355-1CA31-8DC0</b>
<b>WinCC OA - Driver PROFIsafe V3.18</b> Safety-related PROFIsafe protocol. Required PROFINET network adapter. Includes operation of PROFINET. • Driver PROFIsafe • Driver PROFIsafe UPG	6AV6355-1AA31-8DA5 6AV6355-1CA31-8DA5	<b>WinCC OA - Driver IEC 104 V3.18</b> TCP/IP drivers according to IEC 60870-5-104 • Driver IEC 104 • Driver IEC 104 UPG <b>6AV6355-1AA31-8DC1</b> <b>6AV6355-1CA31-8DC1</b>
<b>WinCC OA - BACnet V3.18</b> Use of BACnet drivers, diagnostics, BACnet engineering environment (BACnet object library (incl. faceplates), BACnet browser, EDE tool, EDE file interface) • BACnet • BACnet UPG	6AV6355-1AA31-8EB0 6AV6355-1CA31-8EB0	<b>WinCC OA - Driver IEC 61850/61400 V3.18</b> Medium- and high-voltage technology drivers according to IEC 61850. Consists of IEC 61850 driver and IEC 61850/61400 browser • Driver IEC 61850/61400 • Driver IEC 61850/61400 UPG <b>6AV6355-1AA31-8DC2</b> <b>6AV6355-1CA31-8DC2</b>
<b>WinCC OA - BACnet objects V3.18</b> Dedicated PowerTags for use with the BACnet driver. • BACnet objects 200 • BACnet objects 200 UPG • BACnet objects 500 • BACnet objects 500 UPG • BACnet objects 1k • BACnet objects 1k UPG • BACnet objects 3k • BACnet objects 3k UPG • BACnet objects 5k • BACnet objects 5k UPG • BACnet objects 30k • BACnet objects 30k UPG • BACnet objects unlimited • BACnet objects unlimited UPG	6AV6355-1AA31-8DL1 6AV6355-1CA31-8DL1 6AV6355-1AA31-8DL2 6AV6355-1CA31-8DL2 6AV6355-1AA31-8DL3 6AV6355-1CA31-8DL3 6AV6355-1AA31-8DL4 6AV6355-1CA31-8DL4 6AV6355-1AA31-8DL5 6AV6355-1CA31-8DL5 6AV6355-1AA31-8DL6 6AV6355-1CA31-8DL6 6AV6355-1AA31-8DL7 6AV6355-1CA31-8DL7	<b>WinCC OA - Driver SAIA S-Bus V3.18</b> Serial driver for native SAIA S-Bus support • Driver SAIA S-Bus • Driver SAIA S-Bus UPG <b>6AV6355-1AA31-8DC3</b> <b>6AV6355-1CA31-8DC3</b>
<b>WinCC OA - BACnetpacks V3.18</b> For the step-by-step increase of BACnet objects • BACnetpack 200/500 • BACnetpack 200/500 UPG • BACnetpack 500/1k • BACnetpack 500/1k UPG • BACnetpack 1k/3k • BACnetpack 1k/3k UPG • BACnetpack 3k/5k • BACnetpack 3k/5k UPG • BACnetpack 5k/30k • BACnetpack 5k/30k UPG • BACnetpack 30k/UL • BACnetpack 30k/UL UPG	6AV6355-1AA31-8DM0 6AV6355-1CA31-8DM0 6AV6355-1AA31-8DM1 6AV6355-1CA31-8DM1 6AV6355-1AA31-8DM2 6AV6355-1CA31-8DM2 6AV6355-1AA31-8DM3 6AV6355-1CA31-8DM3 6AV6355-1AA31-8DM4 6AV6355-1CA31-8DM4 6AV6355-1AA31-8DM5 6AV6355-1CA31-8DM5	<b>WinCC OA - Driver TLS V3.18</b> TLS gateway for setting up traffic control systems in Austria. • Driver TLS • Driver TLS UPG <b>6AV6355-1AA31-8DC4</b> <b>6AV6355-1CA31-8DC4</b>
		<b>WinCC OA - Driver SSI V3.18</b> Synchronous Serial Interface, driver for Ethernet communication via satellite telecontrol components. • Driver SSI • Driver SSI UPG <b>6AV6355-1AA31-8DC5</b> <b>6AV6355-1CA31-8DC5</b>
		<b>WinCC OA - Driver Modbus V3.18</b> Driver for the Modbus TCP standard (as part of IEC 61158) • Driver Modbus • Driver Modbus UPG <b>6AV6355-1AA31-8DD0</b> <b>6AV6355-1CA31-8DD0</b>
		<b>WinCC OA - Driver RK512 V3.18</b> Serial driver for connecting to internal memory of SIEMENS S5 via RK512 protocol • Driver RK512 • Driver RK512 UPG <b>6AV6355-1AA31-8DE0</b> <b>6AV6355-1CA31-8DE0</b>

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**WinCC Open Architecture Drivers****Ordering data****Article No.****Article No.****WinCC OA - Driver SINAUT V3.18**

Siemens Network AUTomation for connection via SINAUT protocol.

- Driver SINAUT
- Driver SINAUT UPG

6AV6355-1AA31-8DF2  
6AV6355-1CA31-8DF2

**WinCC OA - Driver SNMP V3.18**

Simple Network Management Protocol driver for network monitoring.

Supports SNMP up to version V3

- Driver SNMP
- Driver SNMP UPG

6AV6355-1AA31-8DG0  
6AV6355-1CA31-8DG0

**WinCC OA - Driver Cerberus V3.18**

For coupling with Siemens fire alarm system DMS7000/Cerberus.

- Driver Cerberus
- Driver Cerberus UPG

6AV6355-1AA31-8DH0  
6AV6355-1CA31-8DH0

**WinCC OA - Driver EIP V3.18**

Ethernet/IP driver for the connection of external PLCs (e.g. Allen Bradley, etc.)

- Driver EIP
- Driver EIP UPG

6AV6355-1AA31-8DJ0  
6AV6355-1CA31-8DJ0

**WinCC OA - Driver Omron FINS V3.18**

Omron FINS driver for connection to Omron PLCs

- Driver Omron FINS
- Driver Omron FINS UPG

6AV6355-1AA31-8DJ1  
6AV6355-1CA31-8DJ1

**WinCC OA - Driver MQTT Client V3.18**

Coupling of WinCC OA Server with an MQTT Broker (not included)

- Driver MQTT Client
- Driver MQTT Client UPG

6AV6355-1AA31-8DK2  
6AV6355-1CA31-8DK2

**WinCC OA - Driver NTCIP V3.18**

NTCIP 1203 Standard for communication with variable message signs

- Driver NTCIP
- Driver NTCIP UPG

6AV6355-1AA31-8DC6  
6AV6355-1CA31-8DC6

**V3.17****WinCC OA - Driver S7 V3.17**

Unlimited connection of S7-3xx and S7-4xx.

Limited connection of S7-12xx and S7-15xx (options for max 64, 512)

- Driver S7 64
- Driver S7 64 UPG
- Driver S7 512
- Driver S7 512 UPG

6AV6355-1AA31-7DA1  
6AV6355-1CA31-7DA1  
6AV6355-1AA31-7DA2  
6AV6355-1CA31-7DA2

**WinCC OA - Driver PROFINET V3.17**

Connection of PROFINET-compatible devices. Required PROFINET network adapter

- Driver PROFINET
- Driver PROFINET UPG

6AV6355-1AA31-7DA4  
6AV6355-1CA31-7DA4

**WinCC OA - Driver PROFIsafe V3.17**

Safety-related PROFIsafe protocol. Required PROFINET network adapter. Includes operation of PROFINET.

- Driver PROFIsafe
- Driver PROFIsafe UPG

6AV6355-1AA31-7DA5  
6AV6355-1CA31-7DA5

**WinCC OA - BACnet V3.17**

Use of BACnet drivers, diagnostics, BACnet engineering environment (BACnet object library (incl. faceplates), BACnet browser, EDE tool, EDE file interface)

- BACnet
- BACnet UPG

6AV6355-1AA31-7EB0  
6AV6355-1CA31-7EB0

**WinCC OA – BACnet objects V3.17**

- BACnet objects 200
- BACnet objects 200 UPG
- BACnet objects 500
- BACnet objects 500 UPG
- BACnet objects 1k
- BACnet objects 1k UPG
- BACnet objects 3k
- BACnet objects 3k UPG
- BACnet objects 5k
- BACnet objects 5k UPG

6AV6355-1AA31-7DL1  
6AV6355-1CA31-7DL1  
6AV6355-1AA31-7DL2  
6AV6355-1CA31-7DL2  
6AV6355-1AA31-7DL3  
6AV6355-1CA31-7DL3  
6AV6355-1AA31-7DL4  
6AV6355-1CA31-7DL4  
6AV6355-1AA31-7DL5  
6AV6355-1CA31-7DL5

**WinCC OA - BACnetpacks V3.17**

For the step-by-step increase of BACnet objects

- BACnetpack 200/500
- BACnetpack 200/500 UPG
- BACnetpack 500/1k
- BACnetpack 500/1k UPG
- BACnetpack 1k/3k
- BACnetpack 1k/3k UPG
- BACnetpack 3k/5k
- BACnetpack 3k/5k UPG

6AV6355-1AA31-7DM0  
6AV6355-1CA31-7DM0  
6AV6355-1AA31-7DM1  
6AV6355-1CA31-7DM1  
6AV6355-1AA31-7DM2  
6AV6355-1CA31-7DM2  
6AV6355-1AA31-7DM3  
6AV6355-1CA31-7DM3

Ordering data	Article No.	Article No.	
<b>WinCC OA - Driver DNP3 V3.17</b> Connection of WinCC OA Server with devices via DNP3 protocol. (Options for max. 100, 1000) <ul style="list-style-type: none"> <li>• Driver DNP3 100</li> <li>• Driver DNP3 100 UPG</li> <li>• Driver DNP3 1000</li> <li>• Driver DNP3 1000 UPG</li> </ul>	6AV6355-1AA31-7DB0 6AV6355-1CA31-7DB0 6AV6355-1AA31-7DB1 6AV6355-1CA31-7DB1	<b>WinCC OA - Driver SINAUT 50 V3.17</b> Siemens Network AUTomation for connection via SINAUT protocol. (Options for max. 50, 250) <ul style="list-style-type: none"> <li>• Driver SINAUT 50</li> <li>• Driver SINAUT 50 UPG</li> <li>• Driver SINAUT 250</li> <li>• Driver SINAUT 250 UPG</li> </ul>	6AV6355-1AA31-7DF0 6AV6355-1CA31-7DF0 6AV6355-1AA31-7DF1 6AV6355-1CA31-7DF1
<b>WinCC OA - Driver IEC 101 V3.17</b> Serial driver according to IEC 60870-5-101 <ul style="list-style-type: none"> <li>• Driver IEC 101</li> <li>• Driver IEC 101 UPG</li> </ul>	6AV6355-1AA31-7DC0 6AV6355-1CA31-7DC0	<b>WinCC OA - Driver SNMP V3.17</b> Simple Network Management Protocol driver for network monitoring. Supports SNMP up to version V3 <ul style="list-style-type: none"> <li>• Driver SNMP</li> <li>• Driver SNMP UPG</li> </ul>	6AV6355-1AA31-7DG0 6AV6355-1CA31-7DG0
<b>WinCC OA - Driver IEC 104 V3.17</b> TCP/IP drivers according to IEC 60870-5-104 <ul style="list-style-type: none"> <li>• Driver IEC 104</li> <li>• Driver IEC 104 UPG</li> </ul>	6AV6355-1AA31-7DC1 6AV6355-1CA31-7DC1	<b>WinCC OA - Driver Cerberus V3.17</b> For coupling with Siemens fire alarm system DMS7000/Cerberus. <ul style="list-style-type: none"> <li>• Driver Cerberus</li> <li>• Driver Cerberus UPG</li> </ul>	6AV6355-1AA31-7DH0 6AV6355-1CA31-7DH0
<b>WinCC OA - Driver IEC 61850/61400 V3.17</b> Medium- and high-voltage technology drivers according to IEC 61850. Consists of IEC 61850 driver and IEC 61850/61400 browser <ul style="list-style-type: none"> <li>• Driver IEC 61850/61400</li> <li>• Driver IEC 61850/61400 UPG</li> </ul>	6AV6355-1AA31-7DC2 6AV6355-1CA31-7DC2	<b>WinCC OA - Driver EIP V3.17</b> Ethernet/IP driver for the connection of external PLCs (e.g. Allen Bradley, etc.) <ul style="list-style-type: none"> <li>• Driver EIP</li> <li>• Driver EIP UPG</li> </ul>	6AV6355-1AA31-7DJ0 6AV6355-1CA31-7DJ0
<b>WinCC OA - Driver SAIA S-Bus V3.17</b> Serial driver for native SAIA S-Bus support <ul style="list-style-type: none"> <li>• Driver SAIA S-Bus</li> <li>• Driver SAIA S-Bus UPG</li> </ul>	6AV6355-1AA31-7DC3 6AV6355-1CA31-7DC3	<b>WinCC OA - Driver MQTT Client V3.17</b> Coupling of WinCC OA Server with an MQTT Broker (not included) <ul style="list-style-type: none"> <li>• Driver MQTT Client</li> <li>• Driver MQTT Client UPG</li> </ul>	6AV6355-1AA31-7DK2 6AV6355-1CA31-7DK2
<b>WinCC OA - Driver TLS V3.17</b> TLS gateway for setting up traffic control systems in Austria. <ul style="list-style-type: none"> <li>• Driver TLS</li> <li>• Driver TLS UPG</li> </ul>	6AV6355-1AA31-7DC4 6AV6355-1CA31-7DC4		
<b>WinCC OA - Driver SSI V3.17</b> Synchronous Serial Interface, driver for Ethernet communication via satellite telecontrol components. <ul style="list-style-type: none"> <li>• Driver SSI</li> <li>• Driver SSI UPG</li> </ul>	6AV6355-1AA31-7DC5 6AV6355-1CA31-7DC5		
<b>WinCC OA - Driver Modbus V3.17</b> Driver for the Modbus TCP standard (as part of IEC 61158) <ul style="list-style-type: none"> <li>• Driver Modbus</li> <li>• Driver Modbus UPG</li> </ul>	6AV6355-1AA31-7DD0 6AV6355-1CA31-7DD0		
<b>WinCC OA - Driver RK512 V3.17</b> Serial driver for connecting to internal memory of SIEMENS S5 via RK512 protocol <ul style="list-style-type: none"> <li>• Driver RK512</li> <li>• Driver RK512 UPG</li> </ul>	6AV6355-1AA31-7DE0 6AV6355-1CA31-7DE0		

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SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Drivers****Ordering data****Article No.****Software Services -  
version-independent****WinCC OA – Driver S7**

- Driver S7 64 SUS
- Driver S7 64 SMS
- Driver S7 64 POS
- Driver S7 512 SUS
- Driver S7 512 SMS
- Driver S7 512 POS

6AV6355-1DA00-0DA1  
6AV6355-1FA00-0DA1  
6AV6355-1GA00-0DA1  
6AV6355-1DA00-0DA2  
6AV6355-1FA00-0DA2  
6AV6355-1GA00-0DA2

**WinCC OA – Driver PROFINET**

- Driver PROFINET SUS
- Driver PROFINET SMS
- Driver PROFINET POS

6AV6355-1DA00-0DA4  
6AV6355-1FA00-0DA4  
6AV6355-1GA00-0DA4

**WinCC OA – Driver PROFISafe**

- Driver PROFISafe SUS
- Driver PROFISafe SMS
- Driver PROFISafe POS

6AV6355-1DA00-0DA5  
6AV6355-1FA00-0DA5  
6AV6355-1GA00-0DA5

**WinCC OA - BACnet**

- BACnet SUS
- BACnet SMS
- BACnet POS

6AV6355-1DA00-0EB0  
6AV6355-1FA00-0EB0  
6AV6355-1GA00-0EB0

**WinCC OA – BACnet objects**

- BACnet objects 200 SUS
- BACnet objects 200 SMS
- BACnet objects 200 POS
- BACnet objects 500 SUS
- BACnet objects 500 SMS
- BACnet objects 500 POS
- BACnet objects 1k SUS
- BACnet objects 1k SMS
- BACnet objects 1k POS
- BACnet objects 3k SUS
- BACnet objects 3k SMS
- BACnet objects 3k POS
- BACnet objects 5k SUS
- BACnet objects 5k SMS
- BACnet objects 5k POS
- BACnet objects 30k SUS
- BACnet objects 30k SMS
- BACnet objects 30k POS
- BACnet objects unlimited SUS
- BACnet objects unlimited SMS
- BACnet objects unlimited POS

6AV6355-1DA00-0DL1  
6AV6355-1FA00-0DL1  
6AV6355-1GA00-0DL1  
6AV6355-1DA00-0DL2  
6AV6355-1FA00-0DL2  
6AV6355-1GA00-0DL2  
6AV6355-1DA00-0DL3  
6AV6355-1FA00-0DL3  
6AV6355-1GA00-0DL3  
6AV6355-1DA00-0DL4  
6AV6355-1FA00-0DL4  
6AV6355-1GA00-0DL4  
6AV6355-1DA00-0DL5  
6AV6355-1FA00-0DL5  
6AV6355-1GA00-0DL5  
6AV6355-1DA00-0DL6  
6AV6355-1FA00-0DL6  
6AV6355-1GA00-0DL6  
6AV6355-1DA00-0DL7  
6AV6355-1FA00-0DL7  
6AV6355-1GA00-0DL7

**WinCC OA - BACnetpacks**

- BACnetpack 200/500 SUS
- BACnetpack 200/500 SMS
- BACnetpack 200/500 POS
- BACnetpack 500/1k SUS
- BACnetpack 500/1k SMS
- BACnetpack 500/1k POS
- BACnetpack 1k/3k SUS
- BACnetpack 1k/3k SMS
- BACnetpack 1k/3k POS
- BACnetpack 3k/5k SUS
- BACnetpack 3k/5k SMS
- BACnetpack 3k/5k POS
- BACnetpack 5k/30k SUS
- BACnetpack 5k/30k SMS
- BACnetpack 5k/30k POS
- BACnetpack 30k/UL SUS
- BACnetpack 30k/UL SMS
- BACnetpack 30k/UL POS

6AV6355-1DA00-0DM0  
6AV6355-1FA00-0DM0  
6AV6355-1GA00-0DM0  
6AV6355-1DA00-0DM1  
6AV6355-1FA00-0DM1  
6AV6355-1GA00-0DM1  
6AV6355-1DA00-0DM2  
6AV6355-1FA00-0DM2  
6AV6355-1GA00-0DM2  
6AV6355-1DA00-0DM3  
6AV6355-1FA00-0DM3  
6AV6355-1GA00-0DM3  
6AV6355-1DA00-0DM4  
6AV6355-1FA00-0DM4  
6AV6355-1GA00-0DM4  
6AV6355-1DA00-0DM5  
6AV6355-1FA00-0DM5  
6AV6355-1GA00-0DM5

**Article No.****WinCC OA – Driver DNP3**

- Driver DNP3 SUS
- Driver DNP3 SMS
- Driver DNP3 POS
- Driver DNP3 100 SUS
- Driver DNP3 100 SMS
- Driver DNP3 100 POS
- Driver DNP3 1000 SUS
- Driver DNP3 1000 SMS
- Driver DNP3 1000 POS

6AV6355-1DA00-0DB2  
6AV6355-1FA00-0DB2  
6AV6355-1GA00-0DB2  
6AV6355-1DA00-0DB0  
6AV6355-1FA00-0DB0  
6AV6355-1GA00-0DB0  
6AV6355-1DA00-0DB1  
6AV6355-1FA00-0DB1  
6AV6355-1GA00-0DB1

**WinCC OA – Driver IEC 101**

- Driver IEC 101 SUS
- Driver IEC 101 SMS
- Driver IEC 101 POS

6AV6355-1DA00-0DC0  
6AV6355-1FA00-0DC0  
6AV6355-1GA00-0DC0

**WinCC OA – Driver IEC 104**

- Driver IEC 104 SUS
- Driver IEC 104 SMS
- Driver IEC 104 POS

6AV6355-1DA00-0DC1  
6AV6355-1FA00-0DC1  
6AV6355-1GA00-0DC1

**WinCC OA – Driver IEC  
61850/61400**

- Driver IEC 61850/61400 SUS
- Driver IEC 61850/61400 SMS
- Driver IEC 61850/61400 POS

6AV6355-1DA00-0DC2  
6AV6355-1FA00-0DC2  
6AV6355-1GA00-0DC2

**WinCC OA – Driver SAIA S-Bus**

- Driver SAIA S-Bus SUS
- Driver SAIA S-Bus SMS
- Driver SAIA S-Bus POS

6AV6355-1DA00-0DC3  
6AV6355-1FA00-0DC3  
6AV6355-1GA00-0DC3

**WinCC OA – Driver TLS**

- Driver TLS SUS
- Driver TLS SMS
- Driver TLS POS

6AV6355-1DA00-0DC4  
6AV6355-1FA00-0DC4  
6AV6355-1GA00-0DC4

**WinCC OA – Driver SSI**

- Driver SSI SUS
- Driver SSI SMS
- Driver SSI POS

6AV6355-1DA00-0DC5  
6AV6355-1FA00-0DC5  
6AV6355-1GA00-0DC5

**WinCC OA – Driver Modbus**

- Driver Modbus SUS
- Driver Modbus SMS
- Driver Modbus POS

6AV6355-1DA00-0DD0  
6AV6355-1FA00-0DD0  
6AV6355-1GA00-0DD0

**WinCC OA – Driver RK512**

- Driver RK512 SUS
- Driver RK512 SMS
- Driver RK512 POS

6AV6355-1DA00-0DE0  
6AV6355-1FA00-0DE0  
6AV6355-1GA00-0DE0

Ordering data	Article No.	Ordering data	Article No.
<b>WinCC OA - Driver SINAUT</b>		<b>WinCC OA – Driver EIP</b>	
• Driver SINAUT SUS	6AV6355-1DA00-0DF2	• Driver EIP SUS	6AV6355-1DA00-0DJ0
• Driver SINAUT SMS	6AV6355-1FA00-0DF2	• Driver EIP SMS	6AV6355-1FA00-0DJ0
• Driver SINAUT POS	6AV6355-1GA00-0DF2	• Driver EIP POS	6AV6355-1GA00-0DJ0
• Driver SINAUT 50 SUS	6AV6355-1DA00-0DF0	<b>WinCC OA – Driver Omron FINS</b>	
• Driver SINAUT 50 SMS	6AV6355-1FA00-0DF0	• Driver Omron FINS SUS	6AV6355-1DA00-0DJ1
• Driver SINAUT 50 POS	6AV6355-1GA00-0DF0	• Driver Omron FINS SMS	6AV6355-1FA00-0DJ1
• Driver SINAUT 250 SUS	6AV6355-1DA00-0DF1	• Driver Omron FINS POS	6AV6355-1GA00-0DJ1
• Driver SINAUT 250 SMS	6AV6355-1FA00-0DF1	<b>WinCC OA – Driver MQTT Client</b>	
• Driver SINAUT 250 POS	6AV6355-1GA00-0DF1	• Driver MQTT Client SUS	6AV6355-1DA00-0DK2
<b>WinCC OA – Driver SNMP</b>		• Driver MQTT Client SMS	6AV6355-1FA00-0DK2
• Driver SNMP SUS	6AV6355-1DA00-0DG0	• Driver MQTT Client POS	6AV6355-1GA00-0DK2
• Driver SNMP SMS	6AV6355-1FA00-0DG0	<b>WinCC OA NTCIP</b>	
• Driver SNMP POS	6AV6355-1GA00-0DG0	• Driver NTCIP SUS	6AV6355-1DA00-0DC6
<b>WinCC OA – Driver Cerberus</b>		• Driver NTCIP SMS	6AV6355-1FA00-0DC6
• Driver Cerberus SUS	6AV6355-1DA00-0DH0	• Driver NTCIP POS	6AV6355-1GA00-0DC6
• Driver Cerberus SMS	6AV6355-1FA00-0DH0		
• Driver Cerberus POS	6AV6355-1GA00-0DH0		

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## HMI software

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

### WinCC Open Architecture Add-ons

#### Overview

The WinCC Open Architecture (WinCC OA) basic software forms the core for many modular extensions.

These functional extensions are available in the form of WinCC Open Architecture Add-ons.

- RDB, DB Logger, NGA, CommCenter, Custom Component, Dist System, Redundancy, Disaster Recovery System (DRS), Secure Map, Maintenance, OPC UA Server, MindSphere, Modbus Server, OPC Server, Recipe, Report, Scheduler, Web Server
- SmartSCADA
  - SmartSCADA Toolbox
  - SmartSCADA KPI Extension
  - SmartSCADA Analytics
- Video
  - Video Light
  - Video Basic
  - Video Display
  - Video Sources
  - Video Workstation

#### Benefits

- Extensive range of additional services
- Add-ons based on customer requests: Optimally integrated through cooperation and years of experience
- Maintenance of the integrated product components is guaranteed with the product maintenance (according to maintenance contract conditions)
- Extensions to increase stability and security in the overall solution

#### Function

Add-on	Task
<b>RDB</b>	Relational database Add-on for connecting an Oracle database to a WinCC OA Server. Oracle licenses are not included in this license, but must be ordered separately. Requires one license per server.
<b>DB Logger</b>	Database Logger Add-on allows the export of freely selectable data from WinCC OA to an external database. The DB Logger offers parallel options for data outsourcing to allow data to be analyzed by various evaluation tools. It does not replace the RDB or the Value Archive
<b>NGA Standard</b>	The NGA Standard license allows use of the Next Generation Archiver in projects with up to 150 000 PowerTags. It contains the option to connect a freely selectable backend and can be extended by additional backend connections.
<b>NGA Premium</b>	The NGA Premium license can be used for large projects of more than 150 000 PowerTags. The connection of backends is the same as with the standard license
<b>NGA connection</b>	Enables the connection of another freely selectable backend for the Next Generation Archiver.
<b>CommCenter</b>	Modern alarm management / remote alarm messaging and communication with current standards via various media. The Communication Center creates synergies by using the various interfaces for remote alerting via the control system. Remote alarm messaging takes place via SMS and email.  Price per WinCC OA Server. Packaging according to the number of alarms (25, 250, 2500, unlimited). Packages are counted cumulatively and can be extended at a later point in time. Notice: These packages <b>cannot</b> be split between servers!
<b>Custom Component</b>	The Custom Component option extends a WinCC OA Server license by integrating a customer-specific manager, driver, script or graphic extension. One license is required for each customer-specific component.  In redundant systems, a license in the REDU version must be purchased for each server.
<b>Dist System</b>	Permits the coupling of two or more autonomous WinCC OA Systems via a network. Each subsystem of a distributed system can be configured either as a single-user or multi-user system, each of which may be redundant or non-redundant.  Up to 2048 servers can be connected. See special calculation rule for the PowerTag number of servers.

## Function

<b>Redundancy</b>	<p>The failure safety in a redundant system is implemented by means of hot standby. Hot standby is a hardware independent solution for high availability with bumpless switchover. This is a safety concept that consists of two interconnected server systems. Both servers are constantly in operation and are subject to the same functional loading (but only one server is ever active; the second synchronizes the data with the primary unit during runtime). On the failure of one unit, an "on-the-fly changeover" takes place and the previously passive server assumes the leading role. This guarantees access to data or functions at all times.</p> <p>Both servers in a redundant system require a WinCC OA Redundancy license. Use of the license options designated by REDU is also possible only in redundant systems. License options for which there is no REDU version must be purchased twice for a redundant system.</p>	<b>Map</b>	<p>Add-on for displaying state-of-the-art cartographic information in WinCC OA. Both Open Street Map as well as your own map material can be displayed. One license per UI is required. The maps can be used in WinCC OA Desktop UI and Ultralight UX. Map material is not included in the license. Can also be operated offline. WinCC OA objects can be displayed within the map material.</p> <p>The map license also authorizes the use of the GIS Viewer.</p>
<b>Disaster Recovery System (DRS)</b>	<p>Also known as 2x2 redundancy. Enables the operation of a remote Backup Control Center, whereby the WinCC OA redundancy concept is extended by a second hot standby system. This ensures that the functionality of the system is maintained on another system, even in the event of a complete failure or shutdown during, for example, maintenance of the first hot standby system.</p> <p>Use of a central Oracle database and one WinCC OA RDB option per server are prerequisites for operating a DRS. Example configurations can be viewed in the online help. Each server in this constellation requires a separate WinCC OA DRS license.</p>	<b>Maintenance</b>	<p>Add-on for basic maintenance management for recording operating hours, switching cycles, message handling and notepad function. One license for each WinCC OA Server is required for the application.</p>
<b>Secure</b>	<p>Extension of a WinCC OA Server with extended protection via Kerberos-based authentication. It allows each WinCC OA component to verify the identity of another component. WinCC OA Servers can verify the identity of the clients and clients can verify the identity of the servers. Kerberos also ensures that messages are not modified during transmission (Capture Replay attacks are prevented) and makes it possible to encrypt messages.</p>	<b>OPC UA Server</b>	<p>This OPC Foundation-compliant server for WinCC OA allows OPC UA Clients to query data. Supported standard: 'OPC UA Server 1.03' (mandatory functions).</p>
		<b>MindSphere</b>	<p>The MindSphere Connector enables native connection of a WinCC OA Server to MindSphere. The connection is guided by a wizard and the transmission and reading of data can be freely configured via scripting. This requires the operation of a valid MindSphere Tenant.</p>
		<b>Modbus Server</b>	<p>Modbus/TCP server allows Modbus/TCP clients to query data from a WinCC OA System and display it within the Modbus data model.</p>
		<b>OPC Server</b>	<p>OPC Foundation-compliant (legacy) server for WinCC OA allows OPC Clients to request data. Supported profiles: DA, HDA and A&amp;E. Supported standard: 'OPC 1.20' (mandatory functions). Not available under Linux.</p>
		<b>Recipe</b>	<p>WinCC OA recipes allow setpoints or commands for certain data point elements to be sent simultaneously. Based on "recipe types", which define the quantity of the assigned data point elements, recipes are created that send their values to the data point elements upon activation.</p> <p>Add-on for creating recipe types and instances, transfer of current process values as recipe, activation/download to data points, import and export (MS Excel). License required for each server.</p>

**HMI software**

SIMATIC WinCC Open Architecture

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**WinCC Open Architecture Add-ons****Benefits**

<b>Report</b>	<p>Web-based reporting is implemented using the standardized Simple Object Access Protocol (SOAP) reporting interface. Third-party reporting tools can thus be used without additional workload. The BIRT templates that are also provided, as well as the predefined reporting data, further simplify the reporting.</p> <ul style="list-style-type: none"> <li>• Web-capable reporting interface (SOAP): <ul style="list-style-type: none"> <li>- ECLIPSE BIRT (large number of reporting templates for ECLIPSE BIRT are also supplied)</li> <li>- Crystal Reports</li> <li>- SIMATIC Information Server</li> <li>- Microsoft Excel</li> </ul> </li> <li>• Online values, history</li> <li>• Support of compressed data, SQL, alarms</li> <li>• Diagnostic tools</li> <li>• Audit Trail</li> </ul> <p>Reporting Clients can be purchased in the scale 1, 2, 5 or 10. Packages are counted cumulatively and can be extended at a later point in time. Notice: These packages <b>cannot</b> be split between servers!</p> <p>In redundant systems, a license in the REDU version must be purchased for each server.</p>
<b>Scheduler</b>	<p>Permits the creation, parameterization and management of time programs that allow the time and event-driven triggering of specific actions.</p> <p>Daily, weekly and monthly programs as well as individual non-periodic events can be created, taking into account holidays, priority assignment and override functions. One license for each WinCC OA Server is required for the application.</p>
<b>Web Server</b>	<p>This option enables administration of different connections between WinCC OA Servers and WinCC OA ULC UX clients. Load balancing can be activated starting with a count of &gt;1. Multilevel architectures such as access to DMZ can be realized with remote web servers.</p>
<b>WebSocket connection</b>	<p>Extends a WinCC OA Server license by a WebSocket connection.</p>
<b>Load Balancing</b>	<p>This option enables load balancing of different connections between WinCC OA Servers and WinCC OA ULC UX clients. One license is required for each configured web server.</p>

**SmartSCADA**

The WinCC OA feature SmartSCADA is a tool for root cause analysis and plant optimization and can be used to support decision-making.

This makes it easy to identify areas with potential for increasing efficiency and achieving increases in system performance and availability. Wizards for key performance indicators (KPI), data mining and classification as well as an interface to statistics tool "R" make it easy to functionally integrate statistics into WinCC OA projects and perform all calculations directly in the SCADA system without programming. By training statistical models, system data can be examined and the models can be used in the system at runtime.

SmartSCADA license needs to be purchased twice for redundant servers.

<b>Add-on</b>	<b>Task</b>
<b>SmartSCADAToolbox</b>	SmartSCADA Toolbox enables creation of key performance indicator definitions and key performance indicator instances in the easy-to-use formula editor or freely in CONTROL. The devices are connected by means of a context-based search in the system model or in data points. The performance indicators can be calculated manually, event-driven or cyclically. Online engineering takes place in its own wizard (no Para license included). It includes 20 KPI instances.
<b>SmartSCADA KPI Extension</b>	SmartSCADA KPI Extension for SmartSCADA Toolbox, extends the toolbox by another 100 KPI instances.
<b>SmartSCADA Analytics</b>	SmartSCADA Analytics is a time-limited license for wizard-guided data analysis of historical data and teaching of statistical models for plant classification. Numerous evaluation tools are available through the integration of the "R" statistics toolbox. No para license included. Learned models can be calculated without this license. License expires after one year.

Function	Ordering data	Article No.												
<p><u>Video</u></p> <p>Enables the integration of a video management system in WinCC OA. Through the combination of SCADA and video monitoring in one system, the costs for separate video interfaces and the additional expense of maintenance and operation can be saved, and the period of training for operating personnel can also be reduced.</p>	<p><b>V3.19</b></p> <p><b>WinCC OA - RDB V3.19</b> For connecting the Oracle database to WinCC OA Server (Oracle licenses not included).</p> <ul style="list-style-type: none"> <li>• RDB</li> <li>• RDB UPG</li> </ul>	<p><b>6AV6355-1AA47-7EA0</b> <b>6AV6355-1CA47-7EA0</b></p>												
<table border="1"> <thead> <tr> <th>Add-on</th> <th>Task</th> </tr> </thead> <tbody> <tr> <td><b>Video Light</b></td> <td>The Video Light package allows the connection of 4 cameras/sources and an external video display. This package cannot be extended.</td> </tr> <tr> <td><b>Video Basic</b></td> <td>The Video Basic Package enables the native (via ONVIF) connection of cameras/sources to a WinCC OA System. All streams, recordings and playbacks are included. Video sources are counted per IP address and must be purchased separately. Linux and virtual machines are only supported to a limited extent.</td> </tr> <tr> <td><b>Video Display</b></td> <td>Adds an external display to the Video Basic system. A Video Display license is included in the Basic Package.  The Video Display is also available as REDU and DIST option</td> </tr> <tr> <td><b>Video Sources</b></td> <td>Extends the Video Basic system by a defined number of sources/cameras.  Includes all streaming, recording and playback functions. Video sources are counted per IP address.  Video Sources can be purchased in the packages of 1, 10, 25, 50, 100, 250 or 500, packages are counted cumulatively and can be extended at a later point in time. Notice: These packages <b>cannot</b> be split between servers!  In redundant systems, a license in the REDU version must be purchased for each server.</td> </tr> <tr> <td><b>Video Workstation</b></td> <td>Connection of an additional workstation for pure display/research of video data (incl. export) with limited functionality</td> </tr> </tbody> </table>	Add-on	Task	<b>Video Light</b>	The Video Light package allows the connection of 4 cameras/sources and an external video display. This package cannot be extended.	<b>Video Basic</b>	The Video Basic Package enables the native (via ONVIF) connection of cameras/sources to a WinCC OA System. All streams, recordings and playbacks are included. Video sources are counted per IP address and must be purchased separately. Linux and virtual machines are only supported to a limited extent.	<b>Video Display</b>	Adds an external display to the Video Basic system. A Video Display license is included in the Basic Package.  The Video Display is also available as REDU and DIST option	<b>Video Sources</b>	Extends the Video Basic system by a defined number of sources/cameras.  Includes all streaming, recording and playback functions. Video sources are counted per IP address.  Video Sources can be purchased in the packages of 1, 10, 25, 50, 100, 250 or 500, packages are counted cumulatively and can be extended at a later point in time. Notice: These packages <b>cannot</b> be split between servers!  In redundant systems, a license in the REDU version must be purchased for each server.	<b>Video Workstation</b>	Connection of an additional workstation for pure display/research of video data (incl. export) with limited functionality	<p><b>WinCC OA - DB Logger V3.19</b> Allows export of data from WinCC OA to external databases.</p> <ul style="list-style-type: none"> <li>• DB Logger</li> <li>• DB Logger UPG</li> </ul>	<p><b>6AV6355-1AA47-7EA1</b> <b>6AV6355-1CA47-7EA1</b></p>
Add-on	Task													
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<b>Video Workstation</b>	Connection of an additional workstation for pure display/research of video data (incl. export) with limited functionality													
	<p><b>WinCC OA – NGA Standard V3.19</b> Enables the use of the Next Generation Archiver in projects with up to 150,000 PowerTags</p> <ul style="list-style-type: none"> <li>• NGA Standard</li> <li>• NGA Standard UPG</li> </ul>	<p><b>6AV6355-1AA47-7EA2</b> <b>6AV6355-1CA47-7EA2</b></p>												
	<p><b>WinCC OA – NGA Premium V3.19</b> Enables the use of the Next Generation Archiver in large projects with more than 150,000 PowerTags</p> <ul style="list-style-type: none"> <li>• NGA Premium</li> <li>• NGA Premium UPG</li> </ul>	<p><b>6AV6355-1AA47-7EA3</b> <b>6AV6355-1CA47-7EA3</b></p>												
	<p><b>WinCC OA – NGA backend connection V3.19</b> Connection of another freely selectable backend for the NGA</p> <ul style="list-style-type: none"> <li>• NGA backend connection</li> <li>• NGA backend connection UPG</li> </ul>	<p><b>6AV6355-1AA47-7EA4</b> <b>6AV6355-1CA47-7EA4</b></p>												
	<p><b>WinCC OA - CommCenter 1 V3.19</b> Remote alarming Basic Package 25 alarms. Output as SMS or email possible.</p> <ul style="list-style-type: none"> <li>• CommCenter 1</li> <li>• CommCenter 1 UPG</li> </ul>	<p><b>6AV6355-1AA47-7EC0</b> <b>6AV6355-1CA47-7EC0</b></p>												
	<p><b>WinCC OA - CommCenter 2 V3.19</b> Remote alarming Basic Package 250 alarms. Output as SMS or email possible.</p> <ul style="list-style-type: none"> <li>• CommCenter 2</li> <li>• CommCenter 2 UPG</li> </ul>	<p><b>6AV6355-1AA47-7EC1</b> <b>6AV6355-1CA47-7EC1</b></p>												
	<p><b>WinCC OA - CommCenter 3 V3.19</b> Remote alarming Basic Package 2500 alarms. Output as SMS or email possible.</p> <ul style="list-style-type: none"> <li>• CommCenter 3</li> <li>• CommCenter 3 UPG</li> </ul>	<p><b>6AV6355-1AA47-7EC2</b> <b>6AV6355-1CA47-7EC2</b></p>												
	<p><b>WinCC OA - CommCenter 4 V3.19</b> Remote alarming Basic Package unlimited alarms. Output as SMS or email possible.</p> <ul style="list-style-type: none"> <li>• CommCenter 4</li> <li>• CommCenter 4 UPG</li> </ul>	<p><b>6AV6355-1AA47-7EC3</b> <b>6AV6355-1CA47-7EC3</b></p>												

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**WinCC Open Architecture Add-ons**

Ordering data	Article No.	Article No.	
<b>WinCC OA - Custom Comp V3.19</b> Integration of a customer-specific manager, driver, script or graphic extension. <ul style="list-style-type: none"> <li>• Custom Comp</li> <li>• Custom Comp UPG</li> </ul>	<b>6AV6355-1AA47-7ED2</b> <b>6AV6355-1CA47-7ED2</b>	<b>WinCC OA - MindSphere V3.19</b> Enables connection of WinCC OA Server to MindSphere. Requires operation of a valid MindSphere Tenant. <ul style="list-style-type: none"> <li>• MindSphere</li> <li>• MindSphere UPG</li> </ul>	<b>6AV6355-1AA47-7EK1</b> <b>6AV6355-1CA47-7EK1</b>
<b>WinCC OA - Custom Comp REDU V3.19</b> Integration of a customer-specific manager, driver, script or graphic extension for REDU system. <ul style="list-style-type: none"> <li>• Custom Comp REDU</li> <li>• Custom Comp REDU UPG</li> </ul>	<b>6AV6355-1AA47-7ED3</b> <b>6AV6355-1CA47-7ED3</b>	<b>WinCC OA - Modbus Server V3.19</b> Enables data of a WinCC OA System to be queried by Modbus/TCP clients. <ul style="list-style-type: none"> <li>• Modbus Server</li> <li>• Modbus Server UPG</li> </ul>	<b>6AV6355-1AA47-7EK2</b> <b>6AV6355-1CA47-7EK2</b>
<b>WinCC OA - Dist System V3.19</b> Extends a WinCC OA Server with the Multiserver option (up to 2048 servers). <ul style="list-style-type: none"> <li>• Dist System</li> <li>• Dist System UPG</li> </ul>	<b>6AV6355-1AA47-7EE0</b> <b>6AV6355-1CA47-7EE0</b>	<b>WinCC OA - Recipe V3.19</b> Creation of any recipe types and instances, transfer of the current process values as recipe. <ul style="list-style-type: none"> <li>• Recipe</li> <li>• Recipe UPG</li> </ul>	<b>6AV6355-1AA47-7EL0</b> <b>6AV6355-1CA47-7EL0</b>
<b>WinCC OA - Redundancy V3.19</b> High availability with bumpless switchover. Both servers need a license in REDU systems. <ul style="list-style-type: none"> <li>• Redundancy</li> <li>• Redundancy UPG</li> </ul>	<b>6AV6355-1AA47-7EF0</b> <b>6AV6355-1CA47-7EF0</b>	<b>WinCC OA - Report V3.19</b> Defined number of reporting clients for evaluation of WinCC OA data using a third-party tool. <ul style="list-style-type: none"> <li>• 1 Reporting Client</li> <li>• 1 Reporting Client UPG</li> <li>• 2 Reporting Clients</li> <li>• 2 Reporting Clients UPG</li> <li>• 5 Reporting Clients</li> <li>• 5 Reporting Clients UPG</li> <li>• 10 Reporting Clients</li> <li>• 10 Reporting Clients UPG</li> </ul>	<b>6AV6355-1AA47-7EM0</b> <b>6AV6355-1CA47-7EM0</b> <b>6AV6355-1AA47-7EM1</b> <b>6AV6355-1CA47-7EM1</b> <b>6AV6355-1AA47-7EM2</b> <b>6AV6355-1CA47-7EM2</b> <b>6AV6355-1AA47-7EM3</b> <b>6AV6355-1CA47-7EM3</b>
<b>WinCC OA - DRS V3.19</b> Disaster Recovery System, remote Backup Control Center. 2 redundant systems (4 servers in total). <ul style="list-style-type: none"> <li>• DRS</li> <li>• DRS UPG</li> </ul>	<b>6AV6355-1AA47-7EF1</b> <b>6AV6355-1CA47-7EF1</b>	<b>WinCC OA - Report REDU V3.19</b> Defined number of reporting clients for evaluation of WinCC OA data using a third-party tool for REDU systems. <ul style="list-style-type: none"> <li>• 1 Reporting Client REDU</li> <li>• 1 Reporting Client REDU UPG</li> <li>• 2 Reporting Clients REDU</li> <li>• 2 Reporting Clients REDU UPG</li> <li>• 5 Reporting Clients REDU</li> <li>• 5 Reporting Clients REDU UPG</li> <li>• 10 Reporting Clients REDU</li> <li>• 10 Reporting Clients REDU UPG</li> </ul>	<b>6AV6355-1AA47-7EM5</b> <b>6AV6355-1CA47-7EM5</b> <b>6AV6355-1AA47-7EM6</b> <b>6AV6355-1CA47-7EM6</b> <b>6AV6355-1AA47-7EM7</b> <b>6AV6355-1CA47-7EM7</b> <b>6AV6355-1AA47-7EM8</b> <b>6AV6355-1CA47-7EM8</b>
<b>WinCC OA - Secure V3.19</b> Extended protection with Kerberos. Increases IT security level by using ticket-based authentication. <ul style="list-style-type: none"> <li>• Secure</li> <li>• Secure UPG</li> </ul>	<b>6AV6355-1AA47-7EG0</b> <b>6AV6355-1CA47-7EG0</b>	<b>WinCC OA - Scheduler V3.19</b> Scheduling of daily, weekly and monthly programs, non-periodic events, priority assignment, override function. <ul style="list-style-type: none"> <li>• Scheduler</li> <li>• Scheduler UPG</li> </ul>	<b>6AV6355-1AA47-7EN0</b> <b>6AV6355-1CA47-7EN0</b>
<b>WinCC OA - Map V3.19</b> Display of maps in WinCC OA. Open Street Map as well as own map material are supported. <ul style="list-style-type: none"> <li>• Map</li> <li>• Map UPG</li> </ul>	<b>6AV6355-1AA47-7EH5</b> <b>6AV6355-1CA47-7EH5</b>	<b>WinCC OA - SmartSCADA Toolbox V3.19</b> Allows creation of key figure definitions and instances via formula editor or CONTROL. Contains 20 KPI instances. <ul style="list-style-type: none"> <li>• SmartSCADA Toolbox</li> <li>• SmartSCADA Toolbox UPG</li> </ul>	<b>6AV6355-1AA47-7EP0</b> <b>6AV6355-1CA47-7EP0</b>
<b>WinCC OA - Maintenance V3.19</b> Simple maintenance management. Operating hours, switching cycles, message handling and notepad function. <ul style="list-style-type: none"> <li>• Maintenance</li> <li>• Maintenance UPG</li> </ul>	<b>6AV6355-1AA47-7EJ0</b> <b>6AV6355-1CA47-7EJ0</b>		
<b>WinCC OA - OPC UA Server V3.19</b> OPC Foundation-compliant server for WinCC OA Server allows OPC UA Clients to query data. <ul style="list-style-type: none"> <li>• OPC UA Server</li> <li>• OPC UA Server UPG</li> </ul>	<b>6AV6355-1AA47-7EK0</b> <b>6AV6355-1CA47-7EK0</b>		

Ordering data	Article No.	Article No.
<b>WinCC OA – SmartSCADA KPI Ext. V3.19</b> Extends Toolbox by 100 KPI instances <ul style="list-style-type: none"> <li>SmartSCADA KPI Ext.</li> <li>SmartSCADA KPI Ext. UPG</li> </ul>	<b>6AV6355-1AA47-7EP1</b> <b>6AV6355-1CA47-7EP1</b>	<b>WinCC OA – Video Cameras V3.19</b> Extends Video Basic by a defined number of sources/cameras. <ul style="list-style-type: none"> <li>1 Extension</li> <li>1 Extension UPG</li> <li>10 Extensions</li> <li>10 Extensions UPG</li> <li>25 Extensions</li> <li>25 Extensions UPG</li> <li>50 Extensions</li> <li>50 Extensions UPG</li> <li>100 Extensions</li> <li>100 Extensions UPG</li> <li>250 Extensions</li> <li>250 Extensions UPG</li> <li>500 Extensions</li> <li>500 Extensions UPG</li> </ul>
<b>WinCC OA - SmartSCADA Analytics V3.19</b> Time-limited license (1 year) for data analysis and learning of statistical models. Contains statistical toolbox "R". <ul style="list-style-type: none"> <li>SmartSCADA Analytics</li> <li>SmartSCADA Analytics UPG</li> </ul>	<b>6AV6355-1AA47-7EP2</b> <b>6AV6355-1CA47-7EP2</b>	<b>6AV6355-1AA47-7ER0</b> <b>6AV6355-1CA47-7ER0</b> <b>6AV6355-1AA47-7ER1</b> <b>6AV6355-1CA47-7ER1</b> <b>6AV6355-1AA47-7ER2</b> <b>6AV6355-1CA47-7ER2</b> <b>6AV6355-1AA47-7ER3</b> <b>6AV6355-1CA47-7ER3</b> <b>6AV6355-1AA47-7ER4</b> <b>6AV6355-1CA47-7ER4</b> <b>6AV6355-1AA47-7ER5</b> <b>6AV6355-1CA47-7ER5</b> <b>6AV6355-1AA47-7ER6</b> <b>6AV6355-1CA47-7ER6</b>
<b>WinCC OA - Video Light V3.19</b> Allows connection of 4 cameras/sources and an external video display. Cannot be extended. <ul style="list-style-type: none"> <li>Video Light</li> <li>Video Light UPG</li> </ul>	<b>6AV6355-1AA47-7EQ0</b> <b>6AV6355-1CA47-7EQ0</b>	<b>WinCC OA – Video Workstation V3.19</b> Connection of an additional workstation for pure display/research of video data <ul style="list-style-type: none"> <li>Video Workstation</li> <li>Video Workstation UPG</li> </ul>
<b>WinCC OA - Video Basic V3.19</b> Enables native connection (ONVIF) of cameras/sources to a WinCC OA System. Includes all streaming, recording and playback functions. <p>Video Basic</p> <ul style="list-style-type: none"> <li>Video Basic UPG</li> </ul>	<b>6AV6355-1AA47-7EQ1</b> <b>6AV6355-1CA47-7EQ1</b>	<b>6AV6355-1AA47-7EQ4</b> <b>6AV6355-1CA47-7EQ4</b>
<b>WinCC OA - Video Basic REDU V3.19</b> Enables native connection (ONVIF) of cameras/sources to a redundant WinCC OA System. Includes all streaming, recording and playback functions. <ul style="list-style-type: none"> <li>Video Basic REDU</li> <li>Video Basic REDU UPG</li> </ul>	<b>6AV6355-1AA47-7EU0</b> <b>6AV6355-1CA47-7EU0</b>	<b>WinCC OA – Video Cameras REDU V3.19</b> Extends Video Basic in a REDU system by a defined number of sources/cameras. <ul style="list-style-type: none"> <li>1 Extension REDU</li> <li>1 Extension REDU UPG</li> <li>10 Extensions REDU</li> <li>10 Extensions REDU UPG</li> <li>25 Extensions REDU</li> <li>25 Extensions REDU UPG</li> <li>50 Extensions REDU</li> <li>50 Extensions REDU UPG</li> <li>100 Extensions REDU</li> <li>100 Extensions REDU UPG</li> <li>250 Extensions REDU</li> <li>250 Extensions REDU UPG</li> <li>500 Extensions REDU</li> <li>500 Extensions REDU UPG</li> </ul>
<b>WinCC OA - Video Display V3.19</b> Extends the Video Basic system by an external display. A Video Display license is included in the Basic Package. <ul style="list-style-type: none"> <li>Video Display</li> <li>Video Display UPG</li> </ul>	<b>6AV6355-1AA47-7EQ2</b> <b>6AV6355-1CA47-7EQ2</b>	<b>6AV6355-1AA47-7ES0</b> <b>6AV6355-1CA47-7ES0</b> <b>6AV6355-1AA47-7ES1</b> <b>6AV6355-1CA47-7ES1</b> <b>6AV6355-1AA47-7ES2</b> <b>6AV6355-1CA47-7ES2</b> <b>6AV6355-1AA47-7ES3</b> <b>6AV6355-1CA47-7ES3</b> <b>6AV6355-1AA47-7ES4</b> <b>6AV6355-1CA47-7ES4</b> <b>6AV6355-1AA47-7ES5</b> <b>6AV6355-1CA47-7ES5</b> <b>6AV6355-1AA47-7ES6</b> <b>6AV6355-1CA47-7ES6</b>
<b>WinCC OA - Video Display REDU V3.19</b> Extends Video Basic in a REDU system by an external display. A Video Display license is included in the Basic Package. <ul style="list-style-type: none"> <li>Video Display REDU</li> <li>Video Display REDU UPG</li> </ul>	<b>6AV6355-1AA47-7EU1</b> <b>6AV6355-1CA47-7EU1</b>	<b>WinCC OA – Load Balancing V3.19</b> Enables load balancing of connections between WinCC OA Servers and ULC UX <ul style="list-style-type: none"> <li>Load Balancing</li> <li>Load Balancing UPG</li> </ul>
<b>WinCC OA - Video Display DIST V3.19</b> Extends Video Basic in a DIST system by an external display. <ul style="list-style-type: none"> <li>Video Display DIST</li> <li>Video Display DIST UPG</li> </ul>	<b>6AV6355-1AA47-7EQ3</b> <b>6AV6355-1CA47-7EQ3</b>	<b>WinCC OA – WebSocket connection V3.19</b> Enables management of connections between WinCC OA Servers and WinCC OA ULC UX clients. <ul style="list-style-type: none"> <li>WebSocket connection</li> <li>WebSocket connection UPG</li> </ul>
		<b>6AV6355-1AA47-7ET1</b> <b>6AV6355-1CA47-7ET1</b>  <b>6AV6355-1AA47-7ET2</b> <b>6AV6355-1CA47-7ET2</b>

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Add-ons**

Ordering data	Article No.	Article No.
<b>V3.18</b> <b>WinCC OA - RDB V3.18</b> For connecting the Oracle database to WinCC OA Server (Oracle licenses not included). • RDB • RDB UPG	<b>6AV6355-1AA31-8EA0</b> <b>6AV6355-1CA31-8EA0</b>	<b>WinCC OA - Dist System V3.18</b> Extends a WinCC OA Server with the Multiserver option (up to 2048 servers). • Dist System • Dist System UPG
<b>WinCC OA - DB Logger V3.18</b> Allows export of data from WinCC OA to external databases. • DB Logger • DB Logger UPG	<b>6AV6355-1AA31-8EA1</b> <b>6AV6355-1CA31-8EA1</b>	<b>WinCC OA - Redundancy V3.18</b> High availability with bumpless switchover. Both servers need a license in REDU systems. • Redundancy • Redundancy UPG
<b>WinCC OA – NGA Standard V3.18</b> Enables the use of the Next Generation Archiver in projects with up to 150,000 PowerTags • NGA Standard • NGA Standard UPG	<b>6AV6355-1AA31-8EA2</b> <b>6AV6355-1CA31-8EA2</b>	<b>WinCC OA - DRS V3.18</b> Disaster Recovery System, remote Backup Control Center. 2 redundant systems (4 servers in total). • DRS • DRS UPG
<b>WinCC OA – NGA Premium V3.18</b> Enables the use of the Next Generation Archiver in large projects with more than 150,000 PowerTags • NGA Premium • NGA Premium UPG	<b>6AV6355-1AA31-8EA3</b> <b>6AV6355-1CA31-8EA3</b>	<b>WinCC OA - Secure V3.18</b> Extended protection with Kerberos. Increases IT security level by using ticket-based authentication. • Secure • Secure UPG
<b>WinCC OA – NGA backend connection V3.18</b> Connection of another freely selectable backend for the NGA • NGA backend connection • NGA backend connection UPG	<b>6AV6355-1AA31-8EA4</b> <b>6AV6355-1CA31-8EA4</b>	<b>WinCC OA - Map V3.18</b> Display of maps in WinCC OA. Open Street Map as well as own map material are supported. • Map • Map UPG
<b>WinCC OA - CommCenter 1 V3.18</b> Remote alarming Basic Package 25 alarms. Output as SMS or email possible. • CommCenter 1 • CommCenter 1 UPG	<b>6AV6355-1AA31-8EC0</b> <b>6AV6355-1CA31-8EC0</b>	<b>WinCC OA - Maintenance V3.18</b> Simple maintenance management. Operating hours, switching cycles, message handling and notepad function. • Maintenance • Maintenance UPG
<b>WinCC OA - CommCenter 2 V3.18</b> Remote alarming Basic Package 250 alarms. Output as SMS or email possible. • CommCenter 2 • CommCenter 2 UPG	<b>6AV6355-1AA31-8EC1</b> <b>6AV6355-1CA31-8EC1</b>	<b>WinCC OA - OPC UA Server V3.18</b> OPC Foundation-compliant server for WinCC OA Server allows OPC UA Clients to query data. • OPC UA Server • OPC UA Server UPG
<b>WinCC OA - CommCenter 3 V3.18</b> Remote alarming Basic Package 2500 alarms. Output as SMS or email possible. • CommCenter 3 • CommCenter 3 UPG	<b>6AV6355-1AA31-8EC2</b> <b>6AV6355-1CA31-8EC2</b>	<b>WinCC OA - MindSphere V3.18</b> Enables connection of WinCC OA Server to MindSphere. Requires operation of a valid MindSphere Tenant. • MindSphere • MindSphere UPG
<b>WinCC OA - CommCenter 4 V3.18</b> Remote alarming Basic Package unlimited alarms. Output as SMS or email possible. • CommCenter 4 • CommCenter 4 UPG	<b>6AV6355-1AA31-8EC3</b> <b>6AV6355-1CA31-8EC3</b>	<b>WinCC OA - Modbus Server V3.18</b> Enables data of a WinCC OA System to be queried by Modbus/TCP clients. • Modbus Server • Modbus Server UPG
<b>WinCC OA - Custom Comp V3.18</b> Integration of a customer-specific manager, driver, script or graphic extension. • Custom Comp • Custom Comp UPG	<b>6AV6355-1AA31-8ED2</b> <b>6AV6355-1CA31-8ED2</b>	<b>WinCC OA - Recipe V3.18</b> Creation of any recipe types and instances, transfer of the current process values as recipe. • Recipe • Recipe UPG
<b>WinCC OA - Custom Comp REDU V3.18</b> Integration of a customer-specific manager, driver, script or graphic extension for REDU system. • Custom Comp REDU • Custom Comp REDU UPG	<b>6AV6355-1AA31-8ED3</b> <b>6AV6355-1CA31-8ED3</b>	

Ordering data	Article No.	Article No.	
<b>WinCC OA - Report V3.18</b> Defined number of reporting clients for evaluation of WinCC OA data using a third-party tool. <ul style="list-style-type: none"> <li>• 1 Reporting Client</li> <li>• 1 Reporting Client UPG</li> <li>• 2 Reporting Clients</li> <li>• 2 Reporting Clients UPG</li> <li>• 5 Reporting Clients</li> <li>• 5 Reporting Clients UPG</li> <li>• 10 Reporting Clients</li> <li>• 10 Reporting Clients UPG</li> </ul>	6AV6355-1AA31-8EM0 6AV6355-1CA31-8EM0 6AV6355-1AA31-8EM1 6AV6355-1CA31-8EM1 6AV6355-1AA31-8EM2 6AV6355-1CA31-8EM2 6AV6355-1AA31-8EM3 6AV6355-1CA31-8EM3	<b>WinCC OA - Video Light V3.18</b> Allows connection of 4 cameras/sources and an external video display. Cannot be extended. <ul style="list-style-type: none"> <li>• Video Light</li> <li>• Video Light UPG</li> </ul>	6AV6355-1AA31-8EQ0 6AV6355-1CA31-8EQ0
<b>WinCC OA - Report REDU V3.18</b> Defined number of reporting clients for evaluation of WinCC OA data using a third-party tool for REDU systems. <ul style="list-style-type: none"> <li>• 1 Reporting Client REDU</li> <li>• 1 Reporting Client REDU UPG</li> <li>• 2 Reporting Clients REDU</li> <li>• 2 Reporting Clients REDU UPG</li> <li>• 5 Reporting Clients REDU</li> <li>• 5 Reporting Clients REDU UPG</li> <li>• 10 Reporting Clients REDU</li> <li>• 10 Reporting Clients REDU UPG</li> </ul>	6AV6355-1AA31-8EM5 6AV6355-1CA31-8EM5 6AV6355-1AA31-8EM6 6AV6355-1CA31-8EM6 6AV6355-1AA31-8EM7 6AV6355-1CA31-8EM7 6AV6355-1AA31-8EM8 6AV6355-1CA31-8EM8	<b>WinCC OA - Video Basic V3.18</b> Enables native connection (ONVIF) of cameras/sources to a WinCC OA System. Includes all streaming, recording and playback functions. <ul style="list-style-type: none"> <li>• Video Basic</li> <li>• Video Basic UPG</li> </ul>	6AV6355-1AA31-8EQ1 6AV6355-1CA31-8EQ1
<b>WinCC OA - Scheduler V3.18</b> Scheduling of daily, weekly and monthly programs, non-periodic events, priority assignment, override function. <ul style="list-style-type: none"> <li>• Scheduler</li> <li>• Scheduler UPG</li> </ul>	6AV6355-1AA31-8EN0 6AV6355-1CA31-8EN0	<b>WinCC OA - Video Basic REDU V3.18</b> Enables native connection (ONVIF) of cameras/sources to a redundant WinCC OA System. Includes all streaming, recording and playback functions. <ul style="list-style-type: none"> <li>• Video Basic REDU</li> <li>• Video Basic REDU UPG</li> </ul>	6AV6355-1AA31-8EU0 6AV6355-1CA31-8EU0
<b>WinCC OA - SmartSCADA Toolbox V3.18</b> Allows creation of key figure definitions and instances via formula editor or CONTROL. Contains 20 KPI instances. <ul style="list-style-type: none"> <li>• SmartSCADA Toolbox</li> <li>• SmartSCADA Toolbox UPG</li> </ul>	6AV6355-1AA31-8EP0 6AV6355-1CA31-8EP0	<b>WinCC OA - Video Display V3.18</b> Extends the Video Basic system by an external display. A Video Display license is included in the Basic Package. <ul style="list-style-type: none"> <li>• Video Display</li> <li>• Video Display UPG</li> </ul>	6AV6355-1AA31-8EQ2 6AV6355-1CA31-8EQ2
<b>WinCC OA - SmartSCADA KPI Ext. V3.18</b> Extends Toolbox by 100 KPI instances <ul style="list-style-type: none"> <li>• SmartSCADA KPI Ext.</li> <li>• SmartSCADA KPI Ext. UPG</li> </ul>	6AV6355-1AA31-8EP1 6AV6355-1CA31-8EP1	<b>WinCC OA - Video Display REDU V3.18</b> Extends Video Basic in a REDU system by an external display. A Video Display license is included in the Basic Package. <ul style="list-style-type: none"> <li>• Video Display REDU</li> <li>• Video Display REDU UPG</li> </ul>	6AV6355-1AA31-8EU1 6AV6355-1CA31-8EU1
<b>WinCC OA - SmartSCADA Analytics V3.18</b> Time-limited license (1 year) for data analysis and learning of statistical models. Contains statistical toolbox "R". <ul style="list-style-type: none"> <li>• SmartSCADA Analytics</li> <li>• SmartSCADA Analytics UPG</li> </ul>	6AV6355-1AA31-8EP2 6AV6355-1CA31-8EP2	<b>WinCC OA - Video Display DIST V3.18</b> Extends Video Basic in a DIST system by an external display. <ul style="list-style-type: none"> <li>• Video Display DIST</li> <li>• Video Display DIST UPG</li> </ul>	6AV6355-1AA31-8EQ3 6AV6355-1CA31-8EQ3
		<b>WinCC OA - Video Cameras V3.18</b> Extends Video Basic by a defined number of sources/cameras. <ul style="list-style-type: none"> <li>• 1 Extension</li> <li>• 1 Extension UPG</li> <li>• 10 Extensions</li> <li>• 10 Extensions UPG</li> <li>• 25 Extensions</li> <li>• 25 Extensions UPG</li> <li>• 50 Extensions</li> <li>• 50 Extensions UPG</li> <li>• 100 Extensions</li> <li>• 100 Extensions UPG</li> <li>• 250 Extensions</li> <li>• 250 Extensions UPG</li> <li>• 500 Extensions</li> <li>• 500 Extensions UPG</li> </ul>	6AV6355-1AA31-8ER0 6AV6355-1CA31-8ER0 6AV6355-1AA31-8ER1 6AV6355-1CA31-8ER1 6AV6355-1AA31-8ER2 6AV6355-1CA31-8ER2 6AV6355-1AA31-8ER3 6AV6355-1CA31-8ER3 6AV6355-1AA31-8ER4 6AV6355-1CA31-8ER4 6AV6355-1AA31-8ER5 6AV6355-1CA31-8ER5 6AV6355-1AA31-8ER6 6AV6355-1CA31-8ER6

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Add-ons****Ordering data****Article No.****Article No.****WinCC OA – Video Workstation V3.18**

Connection of an additional workstation for pure display/research of video data

- Video Workstation
- Video Workstation UPG

**6AV6355-1AA31-8EQ4**  
**6AV6355-1CA31-8EQ4**

**WinCC OA – Video Cameras REDU V3.18**

Extends Video Basic in a REDU system by a defined number of sources/cameras.

- 1 Extension REDU
- 1 Extension REDU UPG
- 10 Extensions REDU
- 10 Extensions REDU UPG
- 25 Extensions REDU
- 25 Extensions REDU UPG
- 50 Extensions REDU
- 50 Extensions REDU UPG
- 100 Extensions REDU
- 100 Extensions REDU UPG
- 250 Extensions REDU
- 250 Extensions REDU UPG
- 500 Extensions REDU
- 500 Extensions REDU UPG

**6AV6355-1AA31-8ES0**  
**6AV6355-1CA31-8ES0**  
**6AV6355-1AA31-8ES1**  
**6AV6355-1CA31-8ES1**  
**6AV6355-1AA31-8ES2**  
**6AV6355-1CA31-8ES2**  
**6AV6355-1AA31-8ES3**  
**6AV6355-1CA31-8ES3**  
**6AV6355-1AA31-8ES4**  
**6AV6355-1CA31-8ES4**  
**6AV6355-1AA31-8ES5**  
**6AV6355-1CA31-8ES5**  
**6AV6355-1AA31-8ES6**  
**6AV6355-1CA31-8ES6**

**WinCC OA – Load Balancing V3.18**

Enables load balancing of connections between WinCC OA Servers and ULC UX

- Load Balancing
- Load Balancing UPG

**6AV6355-1AA31-8ET1**  
**6AV6355-1CA31-8ET1**

**WinCC OA – WebSocket connection V3.18**

Enables management of connections between WinCC OA Servers and WinCC OA ULC UX clients.

- WebSocket connection
- WebSocket connection UPG

**6AV6355-1AA31-8ET2**  
**6AV6355-1CA31-8ET2**

**V3.17****WinCC OA - RDB V3.17**

For connecting the Oracle database to WinCC OA Server (Oracle licenses not included).

- RDB
- RDB UPG

**6AV6355-1AA31-7EA0**  
**6AV6355-1CA31-7EA0**

**WinCC OA - DB Logger V3.17**

Allows export of data from WinCC OA to external databases.

- DB Logger
- DB Logger UPG

**6AV6355-1AA31-7EA1**  
**6AV6355-1CA31-7EA1**

**WinCC OA - CommCenter 1 V3.17**

Remote alarming Basic Package 25 alarms. Output as SMS or email possible.

- CommCenter 1
- CommCenter 1 UPG

**6AV6355-1AA31-7EC0**  
**6AV6355-1CA31-7EC0**

**WinCC OA - CommCenter 2 V3.17**

Remote alarming Basic Package 250 alarms. Output as SMS or email possible.

- CommCenter 2
- CommCenter 2 UPG

**6AV6355-1AA31-7EC1**  
**6AV6355-1CA31-7EC1**

**WinCC OA - CommCenter 3 V3.17**

Remote alarming Basic Package 2500 alarms. Output as SMS or email possible.

- CommCenter 3
- CommCenter 3 UPG

**6AV6355-1AA31-7EC2**  
**6AV6355-1CA31-7EC2**

**WinCC OA - CommCenter 4 V3.17**

Remote alarming Basic Package unlimited alarms. Output as SMS or email possible.

- CommCenter 4
- CommCenter 4 UPG

**6AV6355-1AA31-7EC3**  
**6AV6355-1CA31-7EC3**

**WinCC OA - Custom Comp V3.17**

Integration of a customer-specific manager, driver, script or graphic extension.

- Custom Comp
- Custom Comp UPG

**6AV6355-1AA31-7ED2**  
**6AV6355-1CA31-7ED2**

**WinCC OA - Custom Comp REDU V3.17**

Integration of a customer-specific manager, driver, script or graphic extension for REDU system.

- Custom Comp REDU
- Custom Comp REDU UPG

**6AV6355-1AA31-7ED3**  
**6AV6355-1CA31-7ED3**

**WinCC OA - Dist System V3.17**

Extends a WinCC OA Server with the Multiserver option (up to 2048 servers).

- Dist System
- Dist System UPG

**6AV6355-1AA31-7EE0**  
**6AV6355-1CA31-7EE0**

**WinCC OA - Redundancy V3.17**

High availability with bumpless switchover. Both servers need a license in REDU systems.

- Redundancy
- Redundancy UPG

**6AV6355-1AA31-7EF0**  
**6AV6355-1CA31-7EF0**

Ordering data	Article No.	Article No.
<b>WinCC OA - DRS V3.17</b> Disaster Recovery System, remote Backup Control Center. 2 redundant systems (4 servers in total). <ul style="list-style-type: none"> <li>• DRS</li> <li>• DRS UPG</li> </ul>	<b>6AV6355-1AA31-7EF1</b> <b>6AV6355-1CA31-7EF1</b>	<b>WinCC OA - Report V3.17</b> Defined number of reporting clients for evaluation of WinCC OA data using a third-party tool. <ul style="list-style-type: none"> <li>• 1 Reporting Client</li> <li>• 1 Reporting Client UPG</li> <li>• 2 Reporting Clients</li> <li>• 2 Reporting Clients UPG</li> <li>• 5 Reporting Clients</li> <li>• 5 Reporting Clients UPG</li> <li>• 10 Reporting Clients</li> <li>• 10 Reporting Clients UPG</li> </ul>
<b>WinCC OA - Secure V3.17</b> Extended protection with Kerberos. Increases IT security level by using ticket-based authentication. <ul style="list-style-type: none"> <li>• Secure</li> <li>• Secure UPG</li> </ul>	<b>6AV6355-1AA31-7EG0</b> <b>6AV6355-1CA31-7EG0</b>	<b>WinCC OA - Report REDU V3.17</b> Defined number of reporting clients for evaluation of WinCC OA data using a third-party tool for REDU systems. <ul style="list-style-type: none"> <li>• 1 Reporting Client REDU</li> <li>• 1 Reporting Client REDU UPG</li> <li>• 2 Reporting Clients REDU</li> <li>• 2 Reporting Clients REDU UPG</li> <li>• 5 Reporting Clients REDU</li> <li>• 5 Reporting Clients REDU UPG</li> <li>• 10 Reporting Clients REDU</li> <li>• 10 Reporting Clients REDU UPG</li> </ul>
<b>WinCC OA - Map V3.17</b> Display of maps in WinCC OA. Open Street Map as well as own map material are supported. <ul style="list-style-type: none"> <li>• Map</li> <li>• Map UPG</li> </ul>	<b>6AV6355-1AA31-7EH5</b> <b>6AV6355-1CA31-7EH5</b>	<b>WinCC OA - Scheduler V3.17</b> Scheduling of daily, weekly and monthly programs, non-periodic events, priority assignment, override function. <ul style="list-style-type: none"> <li>• Scheduler</li> <li>• Scheduler UPG</li> </ul>
<b>WinCC OA - Maintenance V3.17</b> Simple maintenance management. Operating hours, switching cycles, message handling and notepad function. <ul style="list-style-type: none"> <li>• Maintenance</li> <li>• Maintenance UPG</li> </ul>	<b>6AV6355-1AA31-7EJ0</b> <b>6AV6355-1CA31-7EJ0</b>	<b>WinCC OA - SmartSCADA Toolbox V3.17</b> Allows creation of key figure definitions and instances via formula editor or CONTROL. Contains 20 KPI instances. <ul style="list-style-type: none"> <li>• SmartSCADA Toolbox</li> <li>• SmartSCADA Toolbox UPG</li> </ul>
<b>WinCC OA - OPC UA Server V3.17</b> OPC Foundation-compliant server for WinCC OA Server allows OPC UA Clients to query data. <ul style="list-style-type: none"> <li>• OPC UA Server</li> <li>• OPC UA Server UPG</li> </ul>	<b>6AV6355-1AA31-7EK0</b> <b>6AV6355-1CA31-7EK0</b>	<b>WinCC OA - SmartSCADA KPI Ext. V3.17</b> Extends Toolbox by 100 KPI instances <ul style="list-style-type: none"> <li>• SmartSCADA KPI Ext.</li> <li>• SmartSCADA KPI Ext. UPG</li> </ul>
<b>WinCC OA - MindSphere V3.17</b> Enables connection of WinCC OA Server to MindSphere. Requires operation of a valid MindSphere Tenant. <ul style="list-style-type: none"> <li>• MindSphere</li> <li>• MindSphere UPG</li> </ul>	<b>6AV6355-1AA31-7EK1</b> <b>6AV6355-1CA31-7EK1</b>	<b>WinCC OA - SmartSCADA Analytics V3.17</b> Time-limited license (1 year) for data analysis and learning of statistical models. Contains statistical toolbox "R". <ul style="list-style-type: none"> <li>• SmartSCADA Analytics</li> <li>• SmartSCADA Analytics UPG</li> </ul>
<b>WinCC OA - Modbus Server V3.17</b> Enables data of a WinCC OA System to be queried by Modbus/TCP clients. <ul style="list-style-type: none"> <li>• Modbus Server</li> <li>• Modbus Server UPG</li> </ul>	<b>6AV6355-1AA31-7EK2</b> <b>6AV6355-1CA31-7EK2</b>	<b>6AV6355-1AA31-7EM0</b> <b>6AV6355-1CA31-7EM0</b> <b>6AV6355-1AA31-7EM1</b> <b>6AV6355-1CA31-7EM1</b> <b>6AV6355-1AA31-7EM2</b> <b>6AV6355-1CA31-7EM2</b> <b>6AV6355-1AA31-7EM3</b> <b>6AV6355-1CA31-7EM3</b>
<b>WinCC OA - Recipe V3.17</b> Creation of any recipe types and instances, transfer of the current process values as recipe. <ul style="list-style-type: none"> <li>• Recipe</li> <li>• Recipe UPG</li> </ul>	<b>6AV6355-1AA31-7EL0</b> <b>6AV6355-1CA31-7EL0</b>	<b>6AV6355-1AA31-7EM5</b> <b>6AV6355-1CA31-7EM5</b> <b>6AV6355-1AA31-7EM6</b> <b>6AV6355-1CA31-7EM6</b> <b>6AV6355-1AA31-7EM7</b> <b>6AV6355-1CA31-7EM7</b> <b>6AV6355-1AA31-7EM8</b> <b>6AV6355-1CA31-7EM8</b>

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Add-ons****Ordering data****Article No.****Article No.****WinCC OA - Video Light V3.17**

Allows connection of 4 cameras/sources and an external video display. Cannot be extended.

- Video Light
- Video Light UPG

6AV6355-1AA31-7EQ0  
6AV6355-1CA31-7EQ0

**WinCC OA - Video Basic V3.17**

Enables native connection (ONVIF) of cameras/sources to a WinCC OA System. Includes all streaming, recording and playback functions.

- Video Basic
- Video Basic UPG

6AV6355-1AA31-7EQ1  
6AV6355-1CA31-7EQ1

**WinCC OA - Video Display V3.17**

Extends the Video Basic system by an external display. A Video Display license is included in the Basic Package.

- Video Display
- Video Display UPG

6AV6355-1AA31-7EQ2  
6AV6355-1CA31-7EQ2

**WinCC OA – Video V3.17**

Extends Video Basic by a defined number of sources/cameras.

- 1 Extension
- 1 Extension UPG
- 10 Extensions
- 10 Extensions UPG
- 25 Extensions
- 25 Extensions UPG
- 50 Extensions
- 50 Extensions UPG
- 100 Extensions
- 100 Extensions UPG
- 250 Extensions
- 250 Extensions UPG
- 500 Extensions
- 500 Extensions UPG

6AV6355-1AA31-7ER0  
6AV6355-1CA31-7ER0  
6AV6355-1AA31-7ER1  
6AV6355-1CA31-7ER1  
6AV6355-1AA31-7ER2  
6AV6355-1CA31-7ER2  
6AV6355-1AA31-7ER3  
6AV6355-1CA31-7ER3  
6AV6355-1AA31-7ER4  
6AV6355-1CA31-7ER4  
6AV6355-1AA31-7ER5  
6AV6355-1CA31-7ER5  
6AV6355-1AA31-7ER6  
6AV6355-1CA31-7ER6

**WinCC OA – Video REDU V3.17**

Extends Video Basic in a REDU system by a defined number of sources/cameras.

- 1 Extension REDU
- 1 Extension REDU UPG
- 10 Extensions REDU
- 10 Extensions REDU UPG
- 25 Extensions REDU
- 25 Extensions REDU UPG
- 50 Extensions REDU
- 50 Extensions REDU UPG
- 100 Extensions REDU
- 100 Extensions REDU UPG
- 250 Extensions REDU
- 250 Extensions REDU UPG
- 500 Extensions REDU
- 500 Extensions REDU UPG

6AV6355-1AA31-7ES0  
6AV6355-1CA31-7ES0  
6AV6355-1AA31-7ES1  
6AV6355-1CA31-7ES1  
6AV6355-1AA31-7ES2  
6AV6355-1CA31-7ES2  
6AV6355-1AA31-7ES3  
6AV6355-1CA31-7ES3  
6AV6355-1AA31-7ES4  
6AV6355-1CA31-7ES4  
6AV6355-1AA31-7ES5  
6AV6355-1CA31-7ES5  
6AV6355-1AA31-7ES6  
6AV6355-1CA31-7ES6

**WinCC OA - Web Server V3.17**

Enables management of connections between WinCC OA Servers and WinCC OA ULC UX clients.

- Web Server
- Web Server UPG

6AV6355-1AA31-7ET0  
6AV6355-1CA31-7ET0

**Software Services - version-independent****WinCC OA – RDB**

- RDB SUS
- RDB SMS
- RDB POS

6AV6355-1DA00-0EA0  
6AV6355-1FA00-0EA0  
6AV6355-1GA00-0EA0

**WinCC OA – DB Logger**

- DB Logger SUS
- DB Logger SMS
- DB Logger POS

6AV6355-1DA00-0EA1  
6AV6355-1FA00-0EA1  
6AV6355-1GA00-0EA1

**WinCC OA – NGA Standard**

- NGA Standard SUS
- NGA Standard SMS
- NGA Standard POS

6AV6355-1DA00-0EA2  
6AV6355-1FA00-0EA2  
6AV6355-1GA00-0EA2

**WinCC OA – NGA Premium**

- NGA Premium SUS
- NGA Premium SMS
- NGA Premium POS

6AV6355-1DA00-0EA3  
6AV6355-1FA00-0EA3  
6AV6355-1GA00-0EA3

**WinCC OA – NGA backend connection**

- NGA backend connection SUS
- NGA backend connection SMS
- NGA backend connection POS

6AV6355-1DA00-0EA4  
6AV6355-1FA00-0EA4  
6AV6355-1GA00-0EA4

**WinCC OA - CommCenter**

- CommCenter 1 SUS
- CommCenter 1 SMS
- CommCenter 1 POS

6AV6355-1DA00-0EC0  
6AV6355-1FA00-0EC0  
6AV6355-1GA00-0EC0

**WinCC OA – CommCenter 2**

- CommCenter 2 SUS
- CommCenter 2 SMS
- CommCenter 2 POS

6AV6355-1DA00-0EC1  
6AV6355-1FA00-0EC1  
6AV6355-1GA00-0EC1

**WinCC OA – CommCenter 3**

- CommCenter 3 SUS
- CommCenter 3 SMS
- CommCenter 3 POS

6AV6355-1DA00-0EC2  
6AV6355-1FA00-0EC2  
6AV6355-1GA00-0EC2

**WinCC OA – CommCenter 4**

- CommCenter 4 SUS
- CommCenter 4 SMS
- CommCenter 4 POS

6AV6355-1DA00-0EC3  
6AV6355-1FA00-0EC3  
6AV6355-1GA00-0EC3

**WinCC OA – Custom Comp**

- Custom Comp SUS
- Custom Comp SMS
- Custom Comp POS

6AV6355-1DA00-0ED2  
6AV6355-1FA00-0ED2  
6AV6355-1GA00-0ED2

**WinCC OA – Custom Comp REDU**

- Custom Comp REDU SUS
- Custom Comp REDU SMS
- Custom Comp REDU POS

6AV6355-1DA00-0ED3  
6AV6355-1FA00-0ED3  
6AV6355-1GA00-0ED3

**WinCC OA – Dist System**

- Dist System SUS
- Dist System SMS
- Dist System POS

6AV6355-1DA00-0EE0  
6AV6355-1FA00-0EE0  
6AV6355-1GA00-0EE0

**WinCC OA – Redundancy**

- Redundancy SUS
- Redundancy SMS
- Redundancy POS

6AV6355-1DA00-0EF0  
6AV6355-1FA00-0EF0  
6AV6355-1GA00-0EF0

Ordering data	Article No.	Article No.
<b>WinCC OA – DRS</b> • DRS SUS • DRS SMS • DRS POS	6AV6355-1DA00-0EF1 6AV6355-1FA00-0EF1 6AV6355-1GA00-0EF1	<b>WinCC OA – Scheduler</b> • Scheduler SUS • Scheduler SMS • Scheduler POS
<b>WinCC OA – Secure</b> • Secure SUS • Secure SMS • Secure POS	6AV6355-1DA00-0EG0 6AV6355-1FA00-0EG0 6AV6355-1GA00-0EG0	<b>WinCC OA – SmartSCADA Toolbox</b> • SmartSCADA Toolbox SUS • SmartSCADA Toolbox SMS • SmartSCADA Toolbox POS
<b>WinCC OA – Map</b> • Map SUS • Map SMS • Map POS	6AV6355-1DA00-0EH5 6AV6355-1FA00-0EH5 6AV6355-1GA00-0EH5	<b>WinCC OA – SmartSCADA KPI Ext.</b> • SmartSCADA KPI Ext. SUS • SmartSCADA KPI Ext. SMS • SmartSCADA KPI Ext. POS
<b>WinCC OA – Maintenance</b> • Maintenance SUS • Maintenance SMS • Maintenance POS	6AV6355-1DA00-0EJ0 6AV6355-1FA00-0EJ0 6AV6355-1GA00-0EJ0	<b>WinCC OA – SmartSCADA Analytics</b> • SmartSCADA Analytics SUS • SmartSCADA Analytics SMS • SmartSCADA Analytics POS
<b>WinCC OA – OPC UA Server</b> • OPC UA Server SUS • OPC UA Server SMS • OPC UA Server POS	6AV6355-1DA00-0EK0 6AV6355-1FA00-0EK0 6AV6355-1GA00-0EK0	<b>WinCC OA – Video Light</b> • Video Light SUS • Video Light SMS • Video Light POS
<b>WinCC OA – MindSphere</b> • MindSphere SUS • MindSphere SMS • MindSphere POS	6AV6355-1DA00-0EK1 6AV6355-1FA00-0EK1 6AV6355-1GA00-0EK1	<b>WinCC OA – Video Basic</b> • Video Basic SUS • Video Basic SMS • Video Basic POS
<b>WinCC OA – Modbus Server</b> • Modbus Server SUS • Modbus Server SMS • Modbus Server POS	6AV6355-1DA00-0EK2 6AV6355-1FA00-0EK2 6AV6355-1GA00-0EK2	<b>WinCC OA – Video Display</b> • Video Display SUS • Video Display SMS • Video Display POS
<b>WinCC OA – Recipe</b> • Recipe SUS • Recipe SMS • Recipe POS	6AV6355-1DA00-0EL0 6AV6355-1FA00-0EL0 6AV6355-1GA00-0EL0	<b>WinCC OA - Video Basic REDU</b> • Video Basic REDU SUS • Video Basic REDU SMS • Video Basic REDU POS
<b>WinCC OA – Report</b> • 1 Reporting Client SUS • 1 Reporting Client SMS • 1 Reporting Client POS • 2 Reporting Clients SUS • 2 Reporting Clients SMS • 2 Reporting Clients POS • 5 Reporting Clients SUS • 5 Reporting Clients SMS • 5 Reporting Clients POS • 10 Reporting Clients SUS • 10 Reporting Clients SMS • 10 Reporting Clients POS	6AV6355-1DA00-0EM0 6AV6355-1FA00-0EM0 6AV6355-1GA00-0EM0 6AV6355-1DA00-0EM1 6AV6355-1FA00-0EM1 6AV6355-1GA00-0EM1 6AV6355-1DA00-0EM2 6AV6355-1FA00-0EM2 6AV6355-1GA00-0EM2 6AV6355-1DA00-0EM3 6AV6355-1FA00-0EM3 6AV6355-1GA00-0EM3	<b>WinCC OA - Video Display REDU</b> • Video Display REDU SUS • Video Display REDU SMS • Video Display REDU POS
<b>WinCC OA – Report REDU</b> • 1 Reporting Client REDU SUS • 1 Reporting Client REDU SMS • 1 Reporting Client REDU POS • 2 Reporting Clients REDU SUS • 2 Reporting Clients REDU SMS • 2 Reporting Clients REDU POS • 5 Reporting Clients REDU SUS • 5 Reporting Clients REDU SMS • 5 Reporting Clients REDU POS • 10 Reporting Clients REDU SUS • 10 Reporting Clients REDU SMS • 10 Reporting Clients REDU POS	6AV6355-1DA00-0EM5 6AV6355-1FA00-0EM5 6AV6355-1GA00-0EM5 6AV6355-1DA00-0EM6 6AV6355-1FA00-0EM6 6AV6355-1GA00-0EM6 6AV6355-1DA00-0EM7 6AV6355-1FA00-0EM7 6AV6355-1GA00-0EM7 6AV6355-1DA00-0EM8 6AV6355-1FA00-0EM8 6AV6355-1GA00-0EM8	<b>WinCC OA – Video Display DIST</b> • Video Display DIST SUS • Video Display DIST SMS • Video Display DIST POS

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Add-ons****Ordering data****Article No.****Article No.****WinCC OA – Video Cameras**

- 1 Extension SUS
- 1 Extension SMS
- 1 Extension POS
- 10 Extensions SUS
- 10 Extensions SMS
- 10 Extensions POS
- 25 Extensions SUS
- 25 Extensions SMS
- 25 Extensions POS
- 50 Extensions SUS
- 50 Extensions SMS
- 50 Extensions POS
- 100 Extensions SUS
- 100 Extensions SMS
- 100 Extensions POS
- 250 Extensions SUS
- 250 Extensions SMS
- 250 Extensions POS
- 500 Extensions SUS
- 500 Extensions SMS
- 500 Extensions POS

6AV6355-1DA00-0ER0  
 6AV6355-1FA00-0ER0  
 6AV6355-1GA00-0ER0  
 6AV6355-1DA00-0ER1  
 6AV6355-1FA00-0ER1  
 6AV6355-1GA00-0ER1  
 6AV6355-1DA00-0ER2  
 6AV6355-1FA00-0ER2  
 6AV6355-1GA00-0ER2  
 6AV6355-1DA00-0ER3  
 6AV6355-1FA00-0ER3  
 6AV6355-1GA00-0ER3  
 6AV6355-1DA00-0ER4  
 6AV6355-1FA00-0ER4  
 6AV6355-1GA00-0ER4  
 6AV6355-1DA00-0ER5  
 6AV6355-1FA00-0ER5  
 6AV6355-1GA00-0ER5  
 6AV6355-1DA00-0ER6  
 6AV6355-1FA00-0ER6  
 6AV6355-1GA00-0ER6

**WinCC OA – Video Cameras REDU**

- 1 Extension REDU SUS
- 1 Extension REDU SMS
- 1 Extension REDU POS
- 10 Extensions REDU SUS
- 10 Extensions REDU SMS
- 10 Extensions REDU POS
- 25 Extensions REDU SUS
- 25 Extensions REDU SMS
- 25 Extensions REDU POS
- 50 Extensions REDU SUS
- 50 Extensions REDU SMS
- 50 Extensions REDU POS
- 100 Extensions REDU SUS
- 100 Extensions REDU SMS
- 100 Extensions REDU POS
- 250 Extensions REDU SUS
- 250 Extensions REDU SMS
- 250 Extensions REDU POS
- 500 Extensions REDU SUS
- 500 Extensions REDU SMS
- 500 Extensions REDU POS

6AV6355-1DA00-0ES0  
 6AV6355-1FA00-0ES0  
 6AV6355-1GA00-0ES0  
 6AV6355-1DA00-0ES1  
 6AV6355-1FA00-0ES1  
 6AV6355-1GA00-0ES1  
 6AV6355-1DA00-0ES2  
 6AV6355-1FA00-0ES2  
 6AV6355-1GA00-0ES2  
 6AV6355-1DA00-0ES3  
 6AV6355-1FA00-0ES3  
 6AV6355-1GA00-0ES3  
 6AV6355-1DA00-0ES4  
 6AV6355-1FA00-0ES4  
 6AV6355-1GA00-0ES4  
 6AV6355-1DA00-0ES5  
 6AV6355-1FA00-0ES5  
 6AV6355-1GA00-0ES5  
 6AV6355-1DA00-0ES6  
 6AV6355-1FA00-0ES6  
 6AV6355-1GA00-0ES6

**WinCC OA – Video Workstation**

- WinCC OA – Video Workstation SUS
- WinCC OA – Video Workstation SMS
- WinCC OA – Video Workstation POS

6AV6355-1DA00-0EQ4  
 6AV6355-1FA00-0EQ4  
 6AV6355-1GA00-0EQ4

**WinCC OA – Web Server**

- Web Server SUS
- Web Server SMS
- Web Server POS

6AV6355-1DA00-0ET0  
 6AV6355-1FA00-0ET0  
 6AV6355-1GA00-0ET0

**WinCC OA – Load Balancing**

- Load Balancing SUS
- Load Balancing SMS
- Load Balancing POS

6AV6355-1DA00-0ET1  
 6AV6355-1FA00-0ET1  
 6AV6355-1GA00-0ET1

**WinCC OA – WebSocket connection**

- WebSocket connection SUS
- WebSocket connection SMS
- WebSocket connection POS

6AV6355-1DA00-0ET2  
 6AV6355-1FA00-0ET2  
 6AV6355-1GA00-0ET2

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## Overview

WinCC Open Architecture (WinCC OA) IPC Packages are compact WinCC OA functional units designed for SIMATIC IPC hardware. They are sophisticated solutions which are offered as a bundle with corresponding Nanobox PCs, perfect for fast deployment.

The licenses allow the use of WinCC OA on SIMATIC IPCs of the 127, 227, and 277 series and on IOT2050. These packages cannot be extended with further WinCC OA options, except the option with 4096 PowerTags.

The general WinCC OA Software or hardware requirements apply to the IPC Packages specified above.

These packages can only be ordered in combination with the corresponding additional hardware item.

SUS contracts can be purchased for IPC Packages, but no SMS.

## Benefits

- Quick to order
- Proven package concept based on numerous customer requests
- Common protocols are immediately available – without extra charge
- Lower licensing costs through product bundles

## Application

In the course of the joint product lines of the SIMATIC family, an optimized ordering process was made possible for the Nanoboxes. When hardware and license are ordered at the same time, a combination package has been put together which includes as a product bundle common product extensions for small but flexible and open solutions and can therefore be used without major product configuration.

Since these are special bundled products, extension with additional services is not possible. A support extension cannot be used in this case either.

The application is suitable for single station solutions as well as for standardized extensions in an architecture network as a remote unit or subsystem.

## Design

### PowerTags

IPC Packages are offered with different PowerTag Packages. The staggering allows 128, 256, 512, 2048 or 4096 PowerTags. In contrast to Server Basic licenses, Runtime Package licenses **cannot** be extended with additional PowerTag Packages, except for the 4096 PowerTags option.

The PowerTags purchased here also cannot be moved to other servers. A whole range of common options is provided by ordering a package.

### UIs

A UI license (Desktop UI) is included in the package. More information on this can be found in the <User Interfaces> section

### Drivers

PowerTags	128	256	512	2 048	4 096
Included options	OPC UA / DA Server, DIST, NGA Standard	OPC UA / DA Server, DIST, RDB <sup>3)</sup> , NGA Standard	OPC UA / DA Server, DIST, RDB <sup>3)</sup> , NGA Standard	OPC UA / DA Server, DIST, RDB <sup>3)</sup> , NGA Standard	OPC UA / DA Server, DIST, RDB, NGA Standard
Included drivers	Selection of 2 desired WinCC OA Drivers <sup>1)2)</sup>	Selection of 3 desired WinCC OA Drivers <sup>1)</sup>	Selection of 3 desired WinCC OA Drivers <sup>1)</sup>	Selection of 3 desired WinCC OA Drivers <sup>1)</sup>	S7, OPC UA Client, OPC DA Client
Extendable	No	No	No	No	With all WinCC OA options
IPCs	IOT2050	IOT2050, IPC127E / IPC2x7E / IPC2x7G / ET 200SP	IOT2050, IPC127E / IPC2x7E / IPC2x7G / ET 200SP	IOT2050, IPC127E / IPC2x7E / IPC2x7G / ET 200SP	IPC127E / IPC2x7E / IPC2x7G / ET 200SP

<sup>1)</sup> 3 instances of each available WinCC OA Driver without any additional option. Example: S7 + MQTT + IEC104

<sup>2)</sup> Only on IOT 2050 supported drivers

<sup>3)</sup> RDB cannot be used on IOT2050 devices

More information on drivers can be found under <Drivers>.

## HMI software

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

### WinCC Open Architecture IPC Packages

#### Design

##### Add-ons

IPC Packages include a Dist option, an RDB option (except for 128 package) and an NGA standard. More information on options can be found under <Add-ons>.

##### Hardware

The following hardware versions are supported by WinCC OA:

##### SIMATIC IPC2x7E

Hardware components	Specification
OS	Windows 10 Enterprise 2019 LTSC, 64-bit
Processor	Intel Celeron (N2807 / N2930)
RAM	2/4/8 GB
Hard disk	SSD / HDD
Graphics	Intel HD Graphics / DisplayPort
Network adapter	2x 10/100/1000 Mbps, RJ45

##### SIMATIC IPC2x7G

Hardware components	Specification
OS	Windows 10 Enterprise 2019 LTSC, 64-bit
Processor	Atom X6413E (4-core)
RAM	4/8/16 GB
Hard disk	SSD
Graphics	Intel HD Graphics / DisplayPort
Network adapter	3x 10/100/1000 Mbps

##### SIMATIC IPC127E

Hardware components	Specification
OS	Windows 10 Enterprise 2016 LTSB, 64-bit
Processor	Intel Atom (E3930 / E3940)
RAM	2/4 GB
Hard disk	SSD
Graphics	Intel HD Graphics / DisplayPort
Network adapter	2/3x Ethernet RJ45

##### SIMATIC IOT2050

Hardware components	Specification
OS	Industrial OS 2.1/2.2
Processor	ARM TI AM6548 HS
RAM	1/2 GB
Hard disk	SSD
Graphics	DisplayPort
Network adapter	2x Ethernet RJ45

<sup>1)</sup> Detailed information about installation of WinCC OA on IOT2050 hardware can be viewed in the online documentation.

##### SIMATIC ET 200SP

Hardware components	Specification
OS	WES 7E 32-bit/ WES 7P 64-bit, Windows 10 Enterprise LTSB 2016
RAM	4/8 GB
Memory	CFast card
Network adapter	1x Ethernet RJ45

#### Ordering data

#### Article No.

V3.19

##### WinCC OA IPC Package V3.19

- 128 PowerTags
- 256 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags

6AV6355-1AA47-7FA4  
6AV6355-1AA47-7FA0  
6AV6355-1AA47-7FA1  
6AV6355-1AA47-7FA2  
6AV6355-1AA47-7FA3

V3.18

##### WinCC OA IPC Package V3.18

- 128 PowerTags
- 256 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags

6AV6355-1AA31-8FA4  
6AV6355-1AA31-8FA0  
6AV6355-1AA31-8FA1  
6AV6355-1AA31-8FA2  
6AV6355-1AA31-8FA3

V3.17

##### WinCC OA IPC Package V3.17

- 256 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags

6AV6355-1AA31-7FA0  
6AV6355-1AA31-7FA1  
6AV6355-1AA31-7FA2  
6AV6355-1AA31-7FA3

##### Software Services - version-independent

##### WinCC OA IPC Package

- 128 PowerTags SUS
- 128 PowerTags POS
- 256 PowerTags SUS
- 256 PowerTags POS
- 512 PowerTags SUS
- 512 PowerTags POS
- 2 048 PowerTags SUS
- 2 048 PowerTags POS
- 4 096 PowerTags SUS
- 4 096 PowerTags POS

6AV6355-1DA00-0FA4  
6AV6355-1GA00-0FA4  
6AV6355-1DA00-0FA0  
6AV6355-1GA00-0FA0  
6AV6355-1DA00-0FA1  
6AV6355-1GA00-0FA1  
6AV6355-1DA00-0FA2  
6AV6355-1GA00-0FA2  
6AV6355-1DA00-0FA3  
6AV6355-1GA00-0FA3

#### More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

**Overview**WinCC Open Architecture inhouse licenses

WinCC Open Architecture (WinCC OA) inhouse licenses are time-limited developer licenses recommended for certified partners.

This license comprises a one-year right of usage under the following conditions:

- ETM provides a WinCC Open Architecture (WinCC OA) license with unlimited PowerTags and all license options (excluding SmartSCADA, Video and BACnet). Two development licenses are required to create a redundant system. The extensions listed above can also be purchased separately.
  - This development license is for internal use and cannot be forwarded to third parties.
  - This development license cannot be used either for customer tests (e.g. SAT, FAT) or in productive plants.
- Support and problem solution, as well as remote maintenance during office hours, up to the number of hours per year included in the license package for customer's employees on WinCC OA.

Remark

The workload for resolving product faults that were reported and reproducible is not deducted from this number of hours.

- The license is invoiced each year in advance. The agreement is valid for one year and is then extended by a further year if neither of the contract parties cancels the contract 3 months before its expiry.

Upgrade of inhouse Development licenses

WinCC OA Inhouse Development licenses are version-independent. They can therefore be used even after a version change.

To use new license features, customers need to upgrade their Inhouse Development licenses.

Upgrades and updates of the WinCC OA Inhouse Development license to new WinCC OA versions during the contract period must be performed by the customers themselves. They receive an email notification relating to this.

To perform the update, customers need to log into the WinCC OA license portal with their license key and upgrade the desired licenses there. They can do this any time after receiving the email notification.

**Benefits**

Flexible development possibilities for new solutions through open configurability of contents and interfaces

- Annual renewal and included software upgrades at no additional cost
- Included telephone support

**Application**

These licenses are designed for, but not limited to, developments by partners.

Innovative additional services such as video or Smart SCADA can also be used with the appropriate extensions.

**Design****Inhouse DEV PARA**

Extension for the Inhouse DEV Package by a full PARA license. With graphical editor (incl. symbol catalogs), script development environment and test framework.

**Inhouse DEV BACnet**

Extension of the WinCC OA Inhouse DEV Package by the complete BACnet development environment including EDE tool, EDE file interface, BACnet object library, BACnet driver and BACnet browser.

**Inhouse DEV Video**

Extension of the WinCC OA Inhouse DEV Package by a complete developer video package with unlimited video sources (cameras).

**Inhouse DEV SmartSCADA**

Extension of the WinCC OA Inhouse DEV Package by a complete developer package for SmartSCADA for use of the KPI framework with unlimited KPI instances. Notice: Analytics model is not included and is not sold as a developer license. The standard Analytics Toolbox package can be added for an additional charge.

API Interface

Application programming interface. The API offers a series of functions that enable WinCC OA to be extended with special managers. A manager is a program that communicates with the system via a protocol defined by WinCC OA. The license allows the development of own drivers using C++. One license is required for each WinCC OA Para Standard. For first-time orders, participation in a WinCC OA WS - Developer Workshop is strongly recommended.

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Development Packages****Ordering data****Article No.****WinCC OA – Inhouse DEV Package**

1 WinCC OA Server license (functionally unlimited) with almost all options (except Video, BACnet, SmartSCADA), 10 hotline hours, automatically extended after one year

- 1 Inhouse DEV Package
- 2 Inhouse DEV Packages
- 5 Inhouse DEV Packages
- 10 Inhouse DEV Packages

**6AV6355-1EA00-0GA0****6AV6355-1EA00-0GA1****6AV6355-1EA00-0GA2****6AV6355-1EA00-0GA3****WinCC OA – Inhouse DEV PARA**

Extends WinCC OA Inhouse DEV Package by additional PARA licenses. Automatically extended after 1 year.

- 1 Inhouse DEV PARA
- 2 Inhouse DEV PARA
- 5 Inhouse DEV PARA
- 10 Inhouse DEV PARA

**6AV6355-1EA00-0GB0****6AV6355-1EA00-0GB1****6AV6355-1EA00-0GB2****6AV6355-1EA00-0GB3****WinCC OA – Inhouse DEV BACnet**

BACnet development environment including EDE tool, EDE file interface, BACnet object library, BACnet driver, BACnet browser, automatically extended after 1 year.

**6AV6355-1EA00-0GC0****WinCC OA – Inhouse DEV Video**

Developer video package, unlimited sources/cameras, automatically extended after 1 year.

**6AV6355-1EA00-0GC1****WinCC OA – Inhouse DEV SmartSCADA**

SmartSCADA developer package, KPI framework with unlimited KPI instances, automatically extended after 1 year.

**6AV6355-1EA00-0GC2****WinCC OA - API Interface**

Application programming interfaces for the development of own drivers (C++).

**6AV6355-1EA00-0GD0****More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

#### Overview

Solution Frameworks are license packages for the implementation of specific applications at the customer. Each package contains a quota of consulting hours.

#### Design

##### Topology Package

The Topology package is an application framework for topological coloring of network representations. A qualitative statement is made as to which parts (nodes, line sections etc.) of a network are directly connected to specific feeders. This package includes one day of consulting services (WinCC Open Architecture - Consulting 8h) for project-specific integration.

##### APM Package

The Advanced Playback Manager software offers the possibility to play back the system status of a real-time system in a test simulation system. Snapshot (time), playback (time range) and training sequence are included functions. The APM package does not include simulation of the process or the connected PLCs.

This package includes one day of consulting services (WinCC Open Architecture - Consulting 8h) for project integration.

A WinCC Open Architecture RDB license (ORACLE connection) is required for the application.

##### AMS Packages

The Advanced Maintenance Suite (AMS) Package includes the application with a maximum number of alarm/event DPs to assigned checklists, AMS Reports and AMS Importers. All I/O DPs that are linked to a list and trigger work orders are counted. AMS Reports also requires a license for Crystal Reports 2016 (RT V13.0). One day consulting service (WinCC Open Architecture - Consulting 8h) is included.

AMS Reports and Importer are not available for Linux distributions.

AMS Packages are available in different sizes (see table below). An existing WinCC Open Architecture Server is required for the application. The package does not include further support.

AMS Package	Qty. alarm/ event DP	License validity	Extendable
Starter	20	90 days	No
Entry	20	Unlimited	No
Small	100	Unlimited	No
Medium	1 000	Unlimited	No
Large	5 000	Unlimited	Yes, via WinCC OA AMS Package Extension
Unlimited	Unlimited	Unlimited	No

The WinCC Open Architecture AMS Package Extension includes an upgrade for Advanced Maintenance Station packages by 1,000 I/O each. It is only applicable to the WinCC Open Architecture - AMS Package Large.

#### Ordering data

#### Article No.

##### V3.19

##### WinCC OA - Topology Package V3.19

Application framework for topological coloring of network representations + consulting

- Topology Package
- Topology Package UPG

6AV6355-1AA47-7HA0

6AV6355-1CA47-7HA0

##### WinCC OA - APM Package V3.19

Playback of real-time system status in test simulation system + consulting.

- APM Package
- APM Package UPG

6AV6355-1AA47-7HB0

6AV6355-1CA47-7HB0

##### AMS Package Starter V3.19

90-day trial license for Advanced Maintenance Suite + consulting

- APM Package
- APM Package UPG

6AV6355-1AA47-7HC0

6AV6355-1CA47-7HC0

##### WinCC OA - AMS Package Entry V3.19

Advanced Maintenance Suite with max. 20 alarm/event DP + consulting

- AMS Package Entry
- AMS Package Entry UPG

6AV6355-1AA47-7HC1

6AV6355-1CA47-7HC1

##### WinCC OA - AMS Package Small V3.19

Advanced Maintenance Suite with max. 100 alarm/event DP + consulting

- AMS Package Small
- AMS Package Small UPG

6AV6355-1AA47-7HC2

6AV6355-1CA47-7HC2

##### WinCC OA - AMS Package Medium V3.19

Advanced Maintenance Suite with max. 1000 alarm/event DP + consulting

- AMS Package Medium
- AMS Package Medium UPG

6AV6355-1AA47-7HC3

6AV6355-1CA47-7HC3

##### WinCC OA - AMS Package Large V3.19

Advanced Maintenance Suite with max. 5000 alarm/event DP + consulting

- AMS Package Large
- AMS Package Large UPG

6AV6355-1AA47-7HC4

6AV6355-1CA47-7HC4

##### WinCC OA - AMS Package Unlimited V3.19

Advanced Maintenance Suite with unlimited alarm/event DP + consulting

- AMS Package Unlimited
- AMS Package Unlimited UPG

6AV6355-1AA47-7HC5

6AV6355-1CA47-7HC5

##### WinCC OA - AMS Package Extension V3.19

Upgrade for Advanced Maintenance Suite Package Large by 1,000 alarm/event DPs

- AMS Package Extension
- AMS Package Extension UPG

6AV6355-1AA47-7HC6

6AV6355-1CA47-7HC6

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Software and Software Services

**WinCC Open Architecture Solution Frameworks****Ordering data****Article No.****Article No.****V3.18****WinCC OA - Topology Package V3.18**

Application framework for topological coloring of network representations + consulting.

- Topology Package
- Topology Package UPG

6AV6355-1AA31-8HA0  
6AV6355-1CA31-8HA0

**WinCC OA - APM Package V3.18**

Playback of real-time system status in test simulation system + consulting.

- APM Package
- APM Package UPG

6AV6355-1AA31-8HB0  
6AV6355-1CA31-8HB0

**AMS Package Starter**

90-day trial license for Advanced Maintenance Suite

6AV6355-1AA31-8HC0

**WinCC OA - AMS Package Entry V3.18**

Advanced Maintenance Suite with max. 20 alarm/event DP + consulting.

- AMS Package Entry
- AMS Package Entry UPG

6AV6355-1AA31-8HC1  
6AV6355-1CA31-8HC1

**WinCC OA - AMS Package Small V3.18**

Advanced Maintenance Suite with max. 100 alarm/event DP + consulting.

- AMS Package Small
- AMS Package Small UPG

6AV6355-1AA31-8HC2  
6AV6355-1CA31-8HC2

**WinCC OA - AMS Package Medium V3.18**

Advanced Maintenance Suite with max. 1 000 alarm/event DP + consulting.

- AMS Package Medium
- AMS Package Medium UPG

6AV6355-1AA31-8HC3  
6AV6355-1CA31-8HC3

**WinCC OA - AMS Package Large V3.18**

Advanced Maintenance Suite with max. 5 000 alarm/event DP + consulting.

- AMS Package Large
- AMS Package Large UPG

6AV6355-1AA31-8HC4  
6AV6355-1CA31-8HC4

**WinCC OA - AMS Package Unlimited V3.18**

Advanced Maintenance Suite with unlimited alarm/event DP + consulting.

- AMS Package Unlimited
- AMS Package Unlimited UPG

6AV6355-1AA31-8HC5  
6AV6355-1CA31-8HC5

**WinCC OA - AMS Package Extension V3.18**

Upgrade for Advanced Maintenance Suite Package Large by 1 000 alarm/event DP.

- AMS Package Extension
- AMS Package Extension UPG

6AV6355-1AA31-8HC6  
6AV6355-1CA31-8HC6

**V3.17****WinCC OA - Topology Package V3.17**

Application framework for topological coloring of network representations + consulting.

- Topology Package
- Topology Package UPG

6AV6355-1AA31-7HA0  
6AV6355-1CA31-7HA0

**WinCC OA - APM Package V3.17**

Playback of real-time system status in test simulation system + consulting.

- APM Package
- APM Package UPG

6AV6355-1AA31-7HB0  
6AV6355-1CA31-7HB0

**WinCC OA - AMS Package Starter V3.17**

90-day trial license for Advanced Maintenance Suite + consulting.

6AV6355-1AA31-7HC0

**WinCC OA - AMS Package Entry V3.17**

Advanced Maintenance Suite with max. 20 alarm/event DP + consulting.

- AMS Package Entry
- AMS Package Entry UPG

6AV6355-1AA31-7HC1  
6AV6355-1CA31-7HC1

**WinCC OA - AMS Package Small V3.17**

Advanced Maintenance Suite with max. 100 alarm/event DP + consulting.

- AMS Package Small
- AMS Package Small UPG

6AV6355-1AA31-7HC2  
6AV6355-1CA31-7HC2

**WinCC OA - AMS Package Medium V3.17**

Advanced Maintenance Suite with max. 1 000 alarm/event DP + consulting.

- AMS Package Medium
- AMS Package Medium UPG

6AV6355-1AA31-7HC3  
6AV6355-1CA31-7HC3

**WinCC OA - AMS Package Large V3.17**

Advanced Maintenance Suite with max. 5 000 alarm/event DP + consulting.

- AMS Package Large
- AMS Package Large UPG

6AV6355-1AA31-7HC4  
6AV6355-1CA31-7HC4

**WinCC OA - AMS Package Unlimited V3.17**

Advanced Maintenance Suite with unlimited alarm/event DP + consulting.

- AMS Package Unlimited
- AMS Package Unlimited UPG

6AV6355-1AA31-7HC5  
6AV6355-1CA31-7HC5

**WinCC OA - AMS Package Extension V3.17**

Upgrade for Advanced Maintenance Suite Package Large by 1 000 alarm/event DP.

- AMS Package Extension
- AMS Package Extension UPG

6AV6355-1AA31-7HC6  
6AV6355-1CA31-7HC6

3

Ordering data	Article No.
<b>Software Services - version-independent</b>	
<b>WinCC OA – Topology Package</b>	
• Topology Package SUS	6AV6355-1DA00-0HA0
• Topology Package SMS	6AV6355-1FA00-0HA0
• Topology Package POS	6AV6355-1GA00-0HA0
<b>WinCC OA - APM Package</b>	
• APM Package SUS	6AV6355-1DA00-0HB0
• APM Package SMS	6AV6355-1FA00-0HB0
• APM Package POS	6AV6355-1GA00-0HB0
<b>WinCC OA - AMS Package Entry</b>	
• AMS Package Entry SUS	6AV6355-1DA00-0HC1
• AMS Package Entry SMS	6AV6355-1FA00-0HC1
• AMS Package Entry POS	6AV6355-1GA00-0HC1
<b>WinCC OA - AMS Package Small</b>	
• AMS Package Small SUS	6AV6355-1DA00-0HC2
• AMS Package Small SMS	6AV6355-1FA00-0HC2
• AMS Package Small POS	6AV6355-1GA00-0HC2
<b>WinCC OA - AMS Package Medium</b>	
• AMS Package Medium SUS	6AV6355-1DA00-0HC3
• AMS Package Medium SMS	6AV6355-1FA00-0HC3
• AMS Package Medium POS	6AV6355-1GA00-0HC3
<b>WinCC OA - AMS Package Large</b>	
• AMS Package Large SUS	6AV6355-1DA00-0HC4
• AMS Package Large SMS	6AV6355-1FA00-0HC4
• AMS Package Large POS	6AV6355-1GA00-0HC4
<b>WinCC OA - AMS Package Unlimited</b>	
• AMS Package Unlimited SUS	6AV6355-1DA00-0HC5
• AMS Package Unlimited SMS	6AV6355-1FA00-0HC5
• AMS Package Unlimited POS	6AV6355-1GA00-0HC5
<b>WinCC OA - AMS Package Extension</b>	
• AMS Package Extension SUS	6AV6355-1DA00-0HC6
• AMS Package Extension SMS	6AV6355-1FA00-0HC6
• AMS Package Extension POS	6AV6355-1GA00-0HC6

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC Open Architecture Services

##### Overview

##### **SIMATIC WinCC Open Architecture Services**

SIMATIC WinCC Open Architecture (WinCC OA) is a SCADA system for visualizing and operating processes, production flows, machines and plants in all industrial sectors.

This high degree of flexibility requires comprehensive support for our customers and especially our partners. WinCC OA staff are happy to provide support for a wide range of challenges.

Services are offered in the following categories:

- Support: Support for errors within the scope of maintenance and update contracts
- Consulting: Consulting and configuration activities
- Solution: Development activities based on precise, technical specifications
- Trainings: Defined trainings and hands-on trainings
- Travel costs: For consulting or trainings on site
- Trade goods: Third-party goods sold through WinCC OA

##### Note:

These are services of the product supplier.

##### More information

More information is available on the Internet at:

<http://www.winccoa.com>

Information about the training courses and booking training:

<https://www.winccoa.com/support/training.html>

Information about WinCC OA Support:

<https://www.winccoa.com/support.html>

## Overview

### WinCC Open Architecture Support

The WinCC Open Architecture (WinCC OA) support can only be purchased in addition to a currently valid Software Maintenance Service (SMS) or Inhouse Development Package. Support requests can be submitted online around the clock, 365 days a year. Service requests cannot be submitted by email.

The customer request is received by Siemens Industry Support (1st level), further processing is performed by the WinCC OA Product Support specialists (2nd level), who are available during Austrian normal working hours, Monday to Friday 9 am to 5 pm CEST/CET.

A support agreement is concluded for 12 months and must be renewed thereafter.

The corresponding pool of hours is also available for this period. Unused hours expire and will be charged for 12 months from the date of purchase.

Support hours are for general product information and product related support.

"WinCC OA Consulting" handles specific, project-related information.

### Benefits

- Competent advice on product questions from the product supplier
- Solution-oriented fault diagnostics
- Correction of the error based on best practice experience
- Possibility of future adoption through product maintenance of WinCC OA patches

### Design

Online Support Requests can be made directly to the Online Support Portal via the link <https://support.industry.siemens.com/My/ww/en/requests#createRequest>. Further communication in this regard takes place via email. You will be contacted by WinCC OA Product Support via email when they are working on your service request. You can reply to this email if you wish to send additional information.

During the initial contact, registration of the customer master data may take some time.

A member of the WinCC OA Product Support team will then perform further processing of your support request.

You can check the status of your service request and edit your service requests on the Siemens Support Portal (<http://www.siemens.com/industry/supportrequest>).

### What information is required for a service request to WinCC OA Support?

When making a service request to WinCC OA Support, the following information must always be included:

- WinCC OA version: Version number and service pack (if applicable)
- List of the installed WinCC OA patches
- Operating system
- System configuration: Single system, redundant system, distributed system
- Detailed problem description and/or step-by-step description, steps for reproducing the reported problem.
- Example:
  - WinCC OA version 3.18  
Patch level: P001  
Operating system: Windows10 64-bit  
System configuration: Redundant system
  - WinCC OA version 3.16  
Patch level: P025  
Operating system: Red Hat Enterprise 7.3  
System configuration: Distributed single system

### Problem classifications:

Only registered requests can be processed with appropriate priority. WinCC OA Product Support classifies each case according to its urgency. Information about WinCC OA versions and operating systems used is required for this.

The following problem classifications exist:

Priority	High (A)	Medium (B)	Low (C)
<b>Problem type</b>	Crash of a WinCC OA Core process, Inoperable system and similar	Limited functionality, operation only possible with time-/cost-intensive workaround solutions	Standard questions on the product and product properties, minor malfunctions
<b>Average reaction time <sup>1)</sup></b>	3 workdays	8 workdays	14 workdays

<sup>1)</sup> The reaction time is the time between the receipt of the product support request and the first response from ETM Customer Care. Please note that the reaction times are average processing times that only apply during Austrian working hours from Monday to Friday, 9 am to 5 pm CEST, unless your contract states otherwise.

**HMI software**

SIMATIC WinCC Open Architecture  
SIMATIC WinCC Open Architecture Services

**WinCC Open Architecture Support****Design**

Support for current and past versions:

Standard product support for SIMATIC WinCC Open Architecture includes the current as well as the last two versions. This does not apply to customers with a corresponding maintenance agreement concluded with ETM. If required, please contact us to discuss a possible migration to a higher version. WinCC OA Product Support supports the following versions (including Service Packs SP1 and SP2 and all official patches):

Date	Release	Supported versions		
		Current	Current-1	Current-2
May 2018	V3.16	V3.16	V3.15	V3.14
January 2020	V3.17	V3.17	V3.16	V3.15
May 2021	V3.18	V3.18	V3.17	V3.16

Notes on fault reporting:

Faults must be reported and delivered to WinCC OA Product Support in a reproducible manner - see <https://www.winccoa.com/support.html>. If WinCC OA Product Support receives too little information, or if the type of the fault makes it unlikely that the fault can be reproduced by WinCC OA Product Support using the WinCC OA Product Support standard test capabilities, WinCC OA Product Support may refuse to take steps to reproduce the fault. If WinCC OA Product Support does not receive a response to a support request within 3 months, the request will be closed. If WinCC OA Product Support does not receive any further feedback from the customer on a solution provided by WinCC OA Product Support within 28 days, the request will be closed automatically.

Total times for reproduction of faults by WinCC OA Product Support are limited by the total number of support hours. The customer must report the fault and make it reproducible on a supported WinCC OA version with all patches installed on an operating system supported by WinCC OA. If the fault originates from a WinCC OA third-party software component, WinCC OA Product Support notifies the relevant supplier of the fault and the respective support conditions of the supplier apply. Discontinuation of third-party software (e.g. database system) and/or operating system (e.g. Windows version) supported by WinCC OA leads automatically and immediately to the discontinuation of WinCC OA in combination with the discontinued third-party software and/or the operating system.

Access to Customer Care is reserved for customer employees trained on WinCC OA.

Support is provided by WinCC OA product specialists without customer-specific project know-how. (Specific project consulting can be provided by a WinCC OA consultant via a separate consulting agreement).

**Ordering data****Article No.****WinCC OA – Hotline Support**

Use of the hotline support to the extent of the hours ordered.

- 10 h
- 15 h
- 20 h

**6AV6355-2AA00-0BC1**  
**6AV6355-2AA00-0BC2**  
**6AV6355-2AA00-0BC3**

**WinCC OA replacement license issue**

Flat fee for issuing a replacement license.

**6AV6355-2AA00-0BC4**

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## Overview

Consulting refers to pure consulting activities with optional configuration support within the scope of the agreements as well as within the scope of special products ("Solution Frameworks"), which are to be adapted to individual customer requirements according to existing routines.

Consulting is a service provided by WinCC Open Architecture (WinCC OA). This is calculated at an hourly rate. It is based on 8 hours per working day during normal working hours, defined according to Austrian working days, Monday to Friday from 9 am to 5 pm CET. If this time is exceeded, the following surcharges apply:

- 50% outside of normal working hours (6 pm until 8 am) and on Saturdays
- 100% on Sundays and Austrian holidays

In the course of ordering a project, it is also possible to order a pool of hours of consulting services. Corresponding working hours are then removed from the pool.

The hourly rate refers to project-related, location-independent work – it does not require travel to the customer or to a location. If travel is desired, it must be ordered as <Travel costs>.

Travel time is viewed as working time and, if not agreed separately, is invoiced accordingly by ETM. The hours actually used, according to the timesheet, are invoiced.

"Trainings" as well as development of adapted product components ("Solutions") can be ordered separately.

Likewise, any telephone support within the scope of a maintenance contract is not linked to this contingent, but must be ordered separately (for details, see: "UPG", "SUS", "SMS"). Additional ordering of "Support" services is also possible, but is not automatically included in the consulting services.

Before making your order, please coordinate the availability of the WinCC OA trainers and consultants with ETM in good time at the email address: [wincc\\_oa.at@siemens.com](mailto:wincc_oa.at@siemens.com)

## Benefits

Consulting services help to put the finishing touches to your solution. With years of experience and the corresponding expert knowledge, we are available to provide advice and support for development of new, creative projects as well as advice on data security and optimization potential.

This cooperation can save valuable time and therefore money – faster implementation is possible. Faster go-to-market enables decisive advantages for your offer to the end customer.

## Application

- Sector-independent
- Consulting for complex project requirements
- Consulting for new partners with little practice based on WinCC OA
- Configurations for specific solutions
- Individual packages for customer-specific topics

## Ordering data

### Article No.

#### WinCC OA - Consulting

Includes staggered number of hours of consulting services

- |                   |                           |
|-------------------|---------------------------|
| • Consulting 1h   | <b>6AV6355-3AA00-0BA0</b> |
| • Consulting 8h   | <b>6AV6355-3AA00-0BA1</b> |
| • Consulting 25h  | <b>6AV6355-3AA00-0BA4</b> |
| • Consulting 50h  | <b>6AV6355-3AA00-0BA2</b> |
| • Consulting 100h | <b>6AV6355-3AA00-0BA3</b> |

## More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## HMI software

SIMATIC WinCC Open Architecture  
SIMATIC WinCC Open Architecture Services

### WinCC Open Architecture Solution

#### Overview

Solution is a customer-specific software development based on precise technical specifications.

Whether this development is positioned in the product, its effects on maintenance responsibility and handover to the customer must be clarified before the order is placed.

Solutions are a service provided by WinCC Open Architecture (WinCC OA).

This is calculated at an hourly rate. It is based on 8 hours per working day during normal working hours, defined according to Austrian working days, Monday to Friday from 9 am to 5 pm CET. Exceeding this time and activities outside normal working hours will be invoiced proportionately with increased costs.

The hourly rate refers to project-related, location-independent work – it does not require travel to the customer or to a location. Trainings, as well as pure consulting and configuration activities (consulting), can be ordered separately.

In the course of project implementation, it makes sense to make use of the various services (consulting) that are available as part of the support services.

#### General limitations:

- The amount of hours offered is not related to the actual effort required to implement the desired features, as not all necessary requirements are known to the client at the time of commissioning.
- Any warranty expenses incurred will also be billed to the existing pool or a new pool must be assigned.

#### Ordering data

#### Article No.

##### WinCC OA – Solution Custom

6AV6355-3CA00-0BB1

Customer-specific, individually offered software development according to specification.

##### WinCC OA – Solution 1 hour

6AV6355-3CA00-0BB0

1 hour hourly rate for software development according to specification.

#### More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

#### Application

##### Contractor's activities:

- Participation in the regular team meetings (e.g. standup, sprint planning, sprint review, etc.)
- Implementation of the features/tasks assigned by the client

The client must have a corresponding concept (requirement definition) for the feature to be developed and the exact technical specifications must be clarified.

##### Obligations of the client:

- The client has the role of project manager and product owner and also bears the risk for the technical implementation
- Definition of requirement by the client
- ETM suggests how a feature is technically possible before implementing it. The actual implementation then takes place in agreement with the client
- The client assumes total responsibility for the implementation
- The client must provide the test environment required for the implementation
- The client must provide a contact person for the duration of the project (project manager and technical contact persons)
- Provision of all information/documents (including system architecture and quantity structure, etc.), hardware and software licenses relevant for the contractor to carry out the project. ETM provides WinCC OA development licenses and hardware for its own employees.
- The period in which the service is to be provided shall be agreed with the contractor
- Conducting of reviews and the acceptance. A task implemented by the contractor is automatically accepted once the status has been set to "Done" for the first time by the client or the task enters productive operation

## Overview

Trainings for handling WinCC Open Architecture (WinCC OA) and various WinCC OA features in detail. Trainings are conducted by certified WinCC OA trainers. Price per participant.

Training courses can be booked directly on:  
<https://www.winccoa.com/support/training.html>.

Via the link, current requirements as well as additional detailed information regarding minimum hardware and software requirements can be accessed at any time.

The training courses normally take place at ETM in Eisenstadt however it is also possible to book trainings on-site at the customer's location.

The following applies for such on-site trainings:

- Longer lead times must be planned
- Minimum number of participants for trainings on site at the customer's location has increased
  - within the EU +2 (E.g. basic training minimum 5 instead of 3)
  - within the EU +3 (E.g. basic training minimum 6 instead of 3)
- Travel costs, accommodations and meals for the trainer are covered by the customer.  
More information on booking is available under <Travel costs>.

Customers can also book personal online training sessions. In this case, the minimum number of participants always increases by +2.

Travel costs, accommodations and meals for trainers do not have to be provided for online training courses.

Lunch is included in the price for trainings held at ETM in Eisenstadt. If possible, participants should bring their own notebooks to the training (64-bit operating system).

ETM reserves the right to postpone training courses to the next possible date if the minimum number of registrations is not reached.

Individual training can also be requested in addition to the training offer provided by ETM.

## Cancellation conditions

The customer may withdraw from the contract in writing at any time before the agreed start of a course.

If the cancellation is not made at least 10 calendar days before the start of the course, the customer will be charged 80% of the agreed total price for the course.

If the cancellation is made earlier, the cancellation is free of charge for the customer.

If a participant does not show up for the agreed training course without prior cancellation, 100% of the order value will be charged.

The termination of a training course is possible at any time. In this case we charge 100% of the order value.

**All mandatory ECC examinations (including late registrations or changes of training participants) must be performed by the SIEMENS unit responsible for the order (if AWV category 1).**

## Benefits

- Proven product knowledge of WinCC Open Architecture
- In-depth knowledge of specific areas of expertise such as security, architecture
- Development opportunities through partner program and ongoing support
- Exchange of project experience of other WinCC OA partners
- Certifications prove corresponding knowledge of the employees

## Application

Valuable starting points for using the software are offered for employees. As knowledge progresses, there are always opportunities to accumulate further knowledge and expand on it. Topics that are particularly in demand are also covered by our own training courses.

The standard training courses are all part of a certification and training strategy from which both partners and customers benefit and which is put together and recommended in cooperation with WinCC OA employees and years of experience.

Some partner contracts also include obligations for each partner to participate in certain training courses. Depending on the milestones achieved, various models are available for in-depth cooperation. These development paths must be agreed with the Sales department.

In the course of consulting activities in special cases, there is, of course, the possibility of organizing individual trainings and workshops tailored to the customer. In this case, this is to be clarified with "Consulting"

## HMI software

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Services

### WinCC Open Architecture Trainings

#### Design

##### Certified WinCC OA Basic Training

This trainer-led course provides the participants with the necessary knowledge to successfully design and create a WinCC OA application within one week. This course is aimed at employees who want to gain initial experience in WinCC OA. Course participants require computer skills (MS Windows, keyboard and mouse) as well as knowledge of PLCs and networks. Basic knowledge in programming is advantageous. Participants should bring along a suitable laptop on which a WinCC OA Training version will be installed for practice purposes.

Minimum of 3 registrations. Training is limited to a maximum of 10 participants.

##### Certified WinCC OA Extended Engineer Workshop

In this three-day course, participants will gain a deeper insight into the internal mechanisms and details of WinCC OA. Topics include debugging, performance, communication between the individual managers and "Do's and Don'ts" in scripting. To get the maximum benefits from these topics, a current customer project is used as a basis for discussion and the mechanisms are shown and discussed. Additional topics (e.g. Add-ons of WinCC OA or special functions) can be selected and have to be agreed with the trainer in advance.

We recommend attending the Engineer Workshop only after initial project experiences – at the earliest 3 months after WinCC OA Basic Training.

Minimum of 2 registrations.

Training is limited to a maximum of 8 participants.

##### Certified WinCC OA Consultant

Over three days in this course, participants will gain the knowledge and skills required to create complex and large WinCC OA projects. Data structures, graphical references and system architectures of large, distributed and redundant systems are built, among other things. Troubleshooting and error analysis are further topics of this course. Here, too, further topics (e.g. Add-ons of WinCC OA or special functions) can be agreed with the trainer in advance.

Minimum 2 registrations.

The training is limited to max. 8 participants.

##### Certified WinCC OA Developer Workshop

In this three-day course, the participants obtain specialized knowledge and the skills required to use the WinCC OA API Toolkit. It shows how to design customer drivers, managers and/or CTRL extensions (dlls).

##### Certified WinCC OA Extended Developer Workshop

This trainer-led course provides experienced participants with the knowledge and skills necessary to use the WinCC OA API Toolkit in one week. In this course, participants will learn how to create special CTRL extensions (DLLs), managers and/or simple drivers.

Minimum 2 registrations

Training is limited to a maximum of 6 participants.

##### Certified WinCC OA Security Workshop

In this three-day, trainer-led workshop, experienced participants will gain the knowledge and skills required to use WinCC OA as a process control system in a secure network environment as described in the WinCC OA Security Guideline. This course offers participants an introduction to the security mechanisms available in WinCC OA.

Minimum 2 registrations.

Training is limited to a maximum of 8 participants.

##### Certified WinCC OA Safety Engineer Workshop

In this two-day trainer-led workshop, experienced participants will gain the specialist knowledge and the skills required to set up safety-relevant WinCC OA projects.

The specified framework and operating conditions are discussed in detail and the resulting effects on the customer project are discussed.

Minimum 2 registrations.

##### WinCC OA Update Training

This one-day course led by a trainer gives experienced WinCC OA specialists an insight into the latest performance features and functions of the current WinCC OA version. This course is obligatory for "Certified Engineer" or "Certified Consultant" in order to maintain the certification status already achieved.

Minimum of 5 registrations.

##### WinCC OA Object-oriented Programming

This trainer-led course over 2 days provides participants with the knowledge required to successfully use the script language CTRL++ integrated in WinCC OA for realizing object-oriented concepts as well as the concept of object-oriented Panel references. This course is thus aimed at employees who autonomously program in WinCC OA, both Panel-dependent and Panel-independent.

Minimum of 2 registrations.

##### WinCC OA Video Training

One-day training to learn the Video option of WinCC OA.

##### WinCC OA Video Expert Training

This trainer-led course over 2 days provides participants with the knowledge required to plan and successfully commission plants with video cameras using WinCC OA VIDEO.

In presentations and practical exercises, the course teaches the technical basics for installing distributed video systems, installing cameras and optimizing bandwidth requirements.

This course is aimed both at technical project managers who plan SCADA systems with video and at employees who use WinCC OA to program, set up and commission such systems.

## Design

### WinCC OA SmartSCADA Training

The two-day training course, led by a lecturer, offers experienced participants the opportunity to acquire the knowledge and skills required to use the WinCC OA SmartSCADA assistants (KPIs, data mining and classification) included in the scope of delivery of the SmartSCADA Add-on. A demo project with data for analysis serves as a training basis including exercises for participants. Minimum of 2 registrations. Training is limited to a maximum of 8 participants.

### WinCC OA BACnet Workshop

In this one and a half day training, experienced WinCC OA engineers will be familiarized with using the WinCC OA BACnet development environment. The topics covered are development environment, library, drivers and similar.

### WinCC OA AMS Workshop

This three-day workshop covers the administration and customization of the Advanced Maintenance Suite (AMS), how trouble tickets are dispatched and their status can be tracked, as well as the evaluation of the achieved results using reports.

### WinCC OA IOT Suite Admin Training

This one-day, trainer-led course conveys to participants the skills and knowledge required to successfully set up a Siemens Nanobox, such as an IPC227E, with Siemens Industrial OS, the IOT OPA (On Premise Administration) and the IOT Suite. Training on using the IOT Suite is also provided so that the participants can share their knowledge and train other IOT Suite users.

### WinCC OA - Project Specific Start Up Workshop

This startup workshop supports WinCC OA beginners in efficient project startup and enables participants to use the WinCC OA tool environment securely and with confidence.

Under the guidance of a WinCC OA consultant, the right procedures and basic settings are selected at the beginning of the project to ensure success.

The scope of the workshop is a combination of a 2-day workshop and 16 hours of consulting (unused hours expire 12 months after order).

## Ordering data

## Article No.

### **Certified WinCC OA Basic Training**

Training for getting started with WinCC OA.  
Duration: 5 days

**6AV6355-3BA00-0BA0**

### **Certified WinCC OA Engineer Workshop**

Training for future engineers of WinCC OA.  
Duration: 3 days

**6AV6355-3BA00-0BB0**

### **Certified WinCC OA Consultant**

Training for creating complex systems with WinCC OA.  
Duration: 3 days.

**6AV6355-3BA00-0BC0**

### **Certified WinCC OA Developer Workshop**

Training to obtain basic knowledge for development with WinCC OA.  
Duration: 3 days.

**6AV6355-3BA00-0BC1**

### **Certified WinCC OA Extended Developer WS**

Training for detailed knowledge of the WinCC OA API.  
Duration: 3 days.

**6AV6355-3BA00-0BC2**

### **Certified WinCC OA Security Workshop**

Training to learn security mechanisms in WinCC OA.  
Duration: 3 days.

**6AV6355-3BA00-0BC3**

### **Certified WinCC OA Safety Engineer WS**

Training for future SAFETY engineers of WinCC OA.  
Duration: 2 days

**6AV6355-3BA00-0BC4**

### **WinCC OA - Update Training**

Training for new functionalities in WinCC OA.  
Duration: 1 day.

**6AV6355-3BA00-0BD0**

### **WinCC OA - Object-oriented Programming**

Training for object-oriented programming and Panels.  
Duration: 2 days

**6AV6355-3BA00-0BE0**

**HMI software**

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Services

**WinCC Open Architecture Trainings****Ordering data****Article No.**

<b>WinCC OA - Video Training</b> Training to learn the Video option of WinCC OA. Duration: 1 day.	<b>6AV6355-3BA00-0BE1</b>
<b>WinCC OA –Video Expert Training</b> Training to expand knowledge on the Video option of WinCC OA. Duration: 2 days	<b>6AV6355-3BA00-0BE2</b>
<b>WinCC OA - SmartSCADA Training</b> Training for the use and handling of WinCC OA Add-on SmartSCADA. Duration: 2 days.	<b>6AV6355-3BA00-0BE3</b>
<b>WinCC OA – BACnet Workshop</b> Training to learn the BACNet option. Duration: 1.5 days	<b>6AV6355-3BA00-0BE4</b>
<b>WinCC OA – AMS Workshop</b> Training to learn the Advanced Maintenance Suite. Duration: 3 days	<b>6AV6355-3BA00-0BE5</b>
<b>WinCC OA – IOT Suite Admin Training</b> Training to learn the WinCC OA IOT Suite Duration: 1 day	<b>6AV6355-3BA00-0BK0</b>
<b>WinCC OA – Project Specific Start Up Workshop</b> Workshop for efficient project startup for WinCC OA beginners Duration: 2 days	<b>6AV6355-3BA00-0BF0</b>

**More information**

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

### Overview

Services for "Consulting" and "Training" are charged at an hourly rate. The hourly rate refers to project-related, location-independent work – it does not require travel to the customer or to a location.

Travel costs are to be agreed upon additionally and include cost for both time and travel for WinCC Open Architecture (WinCC OA) employees involved.  
A definite commitment for a trip must be agreed separately.

Depending on the distance and the agreed means of transport, flat-rate travel costs for arrival and departure or freely configurable contingents – also for longer stays and customizations – are offered.

### Benefits

- Better interaction within the team through getting to know one another in person
- Reduction of travel costs on the customer side
- More precise assessment of the situation and the project through on-site cooperation
- Better planning of project costs through greater transparency
- Adapted travel packages for easier travel planning

### Ordering data

### Article No.

#### WinCC OA – Travel costs

Fixed price for travel allowance, including travel time and costs.

- TC up to 100 km
- TC up to 300 km
- TC up to 500 km

**6AV6355-3DA00-0BF0**  
**6AV6355-3DA00-0BF1**  
**6AV6355-3DA00-0BF2**

#### WinCC OA – Travel costs flight EU

Fixed price for travel allowance for a flight within the EU.

**6AV6355-3DA00-0BF3**

#### WinCC OA – Travel costs journey time

Hourly rate for travel time

**6AV6355-3DA00-0BG0**

#### WinCC OA – Travel costs rental car

Fixed price travel allowance for a rental car per day

**6AV6355-3DA00-0BG1**

#### WinCC OA – Travel costs overnight accom.

Fixed price travel allowance for one overnight stay

**6AV6355-3DA00-0BG2**

#### WinCC OA – Travel costs meals

Fixed price for meals for one day

**6AV6355-3DA00-0BG3**

### More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## HMI software

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture Services

### WinCC Open Architecture Trade goods

#### Overview

Trade goods include WinCC Open Architecture components that are purchased and distributed under the name WinCC Open Architecture (WinCC OA).

These include third-party products such as licenses for Oracle DB, as well as hardware dongles, data storage media and certificates.

More information about licenses and shipping under "More information".

#### Design

##### Oracle licenses

###### General

The WinCC OA Basic Package includes the HDB database (flat file DB). Alternatively, historical data can be archived in Oracle. The WinCC OA RDB Add-on is required for this purpose. In terms of hardware, separate computers must be provided for Oracle databases.

In the event that Oracle makes changes to the price list, availability or licensing conditions in the meantime, WinCC OA reserves the right to adjust all Oracle prices and licensing conditions stated in this offer accordingly.

This reserved right to adjustment is valid from the time the offer is made until an Oracle license agreement with the end customer is legally valid.

If the Oracle licenses are not obtained via WinCC OA, WinCC OA provides no Oracle support. WinCC OA Support services end at the RDB-Oracle interface. WinCC OA does not provide any services for Oracle installation or for setting up the WinCC OA RDB Manager.

Please observe the supported operating systems according to the WinCC OA documentation and the Oracle documentation.

###### ASFU

As an option, Oracle licenses can be obtained as so-called ASFU (Application Specific Full Use) licenses. However, the use of an ASFU license is subject to certain technical requirements. These are listed in the attached Oracle License Agreement. The obligations of this agreement must be passed on by WinCC OA to the complete supply chain and must therefore be signed by the end customer. Only an agreement signed by the end customer allows use as ASFU license.

WinCC OA cannot supply the ASFU license until the ASFU Oracle agreement signed by the end customer is available.

If, in exceptional cases, supply of the ASFU license by WinCC OA is necessary before a signed ASFU Oracle agreement is available, this must be communicated in writing. If the ASFU Oracle agreement signed by the end customer is not submitted within 60 days after supply of the ASFU license via WinCC OA, 40% of the Oracle list price will be charged and the license will be upgraded to an Oracle FU license.

To be able to process the supply of the Oracle license, we need the following information with the order:

- End user name (company name)
- End user address, town, country
- End user contact details, email address
- Signed ASFU Oracle agreement

Note that Oracle Software Update License & Support is mandatory for the first year and is provided by WinCC OA. Oracle Software Update License & Support can be ordered directly for the subsequent years.

###### Full Use

As an option, Oracle licenses can be purchased as so-called FU (Full Use) licenses. Here, the end customer receives an email directly from Oracle with the download link. The contract (OLSA) between end customer and Oracle is confirmed by 1-click. However, the use of an FU license is subject to certain technical requirements.

To be able to process the supply of the Oracle license, we need the following information with the order:

- End user name (company name)
- End user address, town, country
- End user contact details, email address

Note that Oracle Software Update License & Support is mandatory for the first year and is provided by Oracle based on the CSI number of the license. For subsequent years, Oracle Software Update License & Support can be ordered directly from Oracle by the end customer.

###### Oracle configurations

All the following standard Oracle configurations are based on "Oracle Standard Edition 2" processor licenses in the selected license type (FU / ASFU).

###### One Single Oracle database server

Please note that the use of the "Oracle Standard Edition 2" is only permitted under the following hardware conditions:

Max. 2 CPU sockets and max. 2 CPUs per Oracle Server

###### Two Oracle database servers in a cluster configuration

Please note that the use of the "Oracle Standard Edition 2" is only permitted under the following hardware conditions:

Max. 4 CPU sockets and max. 2 CPUs per Oracle Server – The offer includes licenses for max. 2 CPUs.

Please note that operation of a cluster database in the cluster configuration is no longer supported as of Oracle version 19c Standard Edition 2.

The database can be installed in a cluster configuration, but only operated as single instance database.

In this case, the higher availability is guaranteed by "Switchover" and "Failover" methods. The database is only active on one cluster node in the cluster configuration.

###### DRS with one Single Oracle database server per location

Please note that the use of the "Oracle Standard Edition 2" is only permitted under the following hardware conditions:

Max. 2 CPU sockets and max. 2 CPUs per Oracle Server – The offer includes the license for 1 CPU.

## Design

### DRS with two Oracle database servers in a cluster configuration & one Single Oracle database server

Please note that the use of the "Oracle Standard Edition 2" is only permitted under the following hardware conditions:

- Single server: Max. 2 CPU sockets and max. 2 CPUs per Oracle Server
- Cluster: Max. 4 CPU sockets and max. 2 CPUs per Oracle Server

Please read the note in 4.2 for Oracle as of version 19c

### DRS with two Oracle database servers in a cluster configuration per location

Please note that the use of the "Oracle Standard Edition 2" is only permitted under the following hardware conditions: Max. 4 CPU sockets and max. 2 CPUs per Oracle Server.

Please read the note in 4.2 for Oracle as of version 19c.

## Hardware

### Hardware dongles

WinCC OA offers USB hardware dongles for operation with a license bound to the dongle. Dongles can also be used to temporarily replace hardware-bound licenses of operator stations or servers.

Dongles can be purchased in three different types.

The standard and micro versions are compatible with the CodeMeter licensing procedure introduced in WinCC OA V3.17. The WIBU version must be selected to operate WinCC OA V3.16 and lower with a hardware dongle.

### Data storage medium

WinCC OA installation software is available on DVD.

## Other

### Certificates

WinCC OA issues certificates for training graduates. Participation in WinCC OA Training conducted by a "Train-the-Trainer" certified trainer is a prerequisite.

### Express delivery

A flat fee is charged for express delivery of WinCC OA goods (WinCC OA on data storage medium, WinCC OA dongle etc.).

## Ordering data

## Article No.

### **WinCC OA – ORACLE SE2 ASFU** **6AV6355-4AA00-0AA0**

Oracle Standard Edition 2 Processor ASFU license including first year maintenance

### **WinCC OA – ORACLE SE2 ASFU SUS** **6AV6355-4AA00-0AA1**

One year maintenance for Oracle Standard Edition 2 processor license ASFU

### **WinCC OA – ORACLE SE2 FU (full use)** **6AV6355-4AA00-0AA2**

Oracle Standard Edition 2 Processor license SE2 full use including first year maintenance

### **WinCC OA – ORACLE SE2 FU SUS** **6AV6355-4AA00-0AA3**

One year maintenance for Oracle Standard Edition 2 processor license full use.

### **WinCC OA Dongle**

USB hardware dongle for dongle-bound licenses.

- WinCC OA – Dongle Standard **6AV6355-4BA00-0AB0**
- WinCC OA – Dongle Standard Micro **6AV6355-4BA00-0AB1**
- WinCC OA – Dongle (Wibukey, outdated) **6AV6355-4BA00-0AB2**

### **WinCC OA – On data storage medium V3.19** **6AV6355-4BA47-7AB3**

WinCC OA Software DVD – Version V3.19 on data storage medium

### **WinCC OA – On data storage medium V3.18** **6AV6355-4BA31-8AB3**

WinCC OA Software DVD – Version V3.18 on data storage medium

### **WinCC OA – On data storage medium V3.17** **6AV6355-4BA31-7AB3**

WinCC OA Software DVD – Version V3.17 on data storage medium

### **WinCC OA – Express delivery** **6AV6355-4BA00-0AB5**

Flat fee for express delivery of WinCC OA Trade goods.

## More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC OA IOT Suite

##### Overview

###### **SIMATIC WinCC OA IOT Suite**

SIMATIC WinCC OA IOT Suite is an IoT system consisting of an IOT Box on the machine for visualizing and analyzing processes, production sequences, machines and production lines in real-time and the IOT OPA as a maintenance service provider for all connected IOT Boxes, specially developed for the food and beverage industries.

The IOT Box is based on the SCADA system SIMATIC WinCC Open Architecture V3.16, which has been on the market for many years. A highly simplified user interface enables the machine operator without special previous knowledge and in a playful way to gain deeper insights into the process sequences and to generate a new level of transparency and analysis options for optimizing the processes of a machine by entering non-machine information.

###### Current version:

- SIMATIC IOT Suite V1.2

##### Benefits

The advantages result from the intelligent combination of direct, local function and central administration unit, coupled with the greatest possible ease of operation. This ensures a high level of acceptance by the user and the greatest possible central flexibility in maintenance and expandability.

##### Function

###### **SIMATIC WinCC OA IOT Suite**

The advantages result from the intelligent combination of direct, local function and central administration unit, coupled with the greatest possible ease of operation.

This ensures a high level of acceptance by the user and the greatest possible central flexibility in maintenance and expandability.

Runs on:

- SIEMENS Industrial OS V2

On the hardware platforms:

- SIMATIC IPC 2xx series (e.g. Nanobox),  
SIMATIC IPC 4xx series (e.g. Nanobox)

###### SIMATIC WinCC OA IOT Box

The IOT Box is a self-contained visualization system based on IPCs, Industrial OS and SIMATIC WinCC OA, which can be commissioned by the customer (maintenance or electrician) within a few hours. The currently available functionalities (apps) for connectivity, visualization or OEE (Overall Equipment Efficiency) are easy to configure and enable machine operators themselves to find the required insights for process optimization or to collect data and/or to exchange the data within the company using publish/subscribe mechanisms. A large number of apps are already available in the basic IOT Box.

Available apps	Task
<b>S7 App</b>	With the S7 App, nothing stands in the way of a connection to the conventional PLCs from SIEMENS. S7-300/-400 series, S7-1200/S7-1500 series and S5, as well as S7-200, LOGO 0BA7, LOGO 0BA8 and SINUMERIK PowerLine are supported.  You only need to know the (IP) address of the PLC and the type of PLC to establish a connection. Data points of the selected PLC can be imported using the I/O address or, if available, a CSV file
<b>S7 Plus App</b>	In contrast to the S7 App, the S7 Plus App allows access to modern SIMATIC PLCs via browsing.
<b>OPC UA Client App</b>	The OPC UA Client app enables you to query any data of an OPC UA Server and transfer it to the data management of the IOT Box. After selecting a server, its data management is automatically queried and displayed. Here, too, the data and their updating can be transferred to the IOT Box by simple selection.
<b>Subscribe App</b>	The Subscribe app is used by the IOT Box to request and retrieve data from another IOT Box, if it has been published on the source device. In general, no data is exchanged between the devices without explicit permission. This is an internal system communication with the highest security standards.
<b>Publish App</b>	You can use the Publish app to publish recorded, calculated or mapped data of an IOT Box to other IOT Boxes. In general, no data is exchanged between the devices without explicit permission. This is an internal system communication with the highest security standards.
<b>Data Mapping App</b>	The Data Mapping App enables you to map or convert collected data into importable structures. This serves to standardize data communication within a company. Pre-defined standard formats, such as OMAC, are already available. Others can be easily defined and imported via CSV files. You can also define your own data structures within the app and link their data management.

### Function

<b>Rules App</b>	Intelligent pre-processing of data is an essential part of data concentration. However, advanced logic can also be created and applied in the Rules app. A logical and arithmetic rule-based editor enables the creation of rules, which can also be instantiated at a later point in time. The basis is formed by a powerful scripting engine (CTRL), which executes any input of CTRL scripts. This means that not only logical or arithmetical logic operations can be realized.	<b>Update Center App</b>	The Update Center manages the apps and system software on the IOT Box. Via a connection to a central IOT OPA, the latest app extensions can be easily downloaded and installed without any user interaction. The app provides information about the latest available versions and updates and also allows the user to extend or reduce functionality/apps on the IOT Box. In the system environment, user administration can be used to specify whether this should be done locally by the user or centrally by IT.
<b>OEE App</b>	The OEE app is the heart of the IOT Box, as the first of many value-added applications to follow. Using input data from the Mapping app, this app calculates the efficiency of machines. A time reference can be introduced using a shift calendar and with the help of reasons for malfunctions (pre-defined or defined by the operator), information originating beyond the machine itself can also be included in an analysis. The user thus gains a new depth of analysis and optimization potential.	<b>Snapshot App</b>	The Snapshot App allows you to create snapshots of a collection of tags using various triggers. These tag snapshots are saved in the app itself and can be exported as CSV.
<b>Dashboard App</b>	The OEE app and the Dashboard app are used to display collected or calculated values. All available data can be displayed in specially structured display formats here. Using a tag browser, the data is simply dragged and dropped into the display areas, where a wide variety of display formats can be selected. The arrangement of the display elements is also freely selectable. The user is thus able to create and save required displays independently. Different images can also be created using several index tabs to allow quick access to all desired display formats and depths at runtime.	<b>System Log App</b>	The System Log App shows current and historical log entries on the IOT Box. These include system messages as well as update information and error messages.
		<b>System App</b>	The network settings of an IOT Box and the configuration of the time synchronization servers can be performed in the System App. It is also possible to connect to the associated IOT OPA to be able to use all services such as app updates or the OPA Filestore. The entire User Management of the Box as well as the CERT Store can be found in the System App.
		<b>S5 App</b>	The S5 App allows S5 PLCs to be connected to the IOT Suite via the H1 ISO protocol.
		<b>Ethernet IP App</b>	The Ethernet IP App allows various PLCs that support the PCCC Standard or the Native EIP Standard to be connected to the IOT Suite.
		<b>MindSphere App</b>	Data from the IOT Suite can be pushed to various MindSphere assets with the MindSphere App. The output data for this is individual IOT Suite tags.
		<b>Modbus App</b>	A Modbus TCP/IP client is integrated in the IOT Suite with the Modbus App. In addition to individual registers, subindices can also be addressed.
		<b>MQTT Client App</b>	The MQTT Client App enables the IOT Suite to connect to conventional MQTT brokers and subscribe to a wide range of topics.
		<b>MTConnect App</b>	Data from supported CNC machines can be read out with the MT Connect App.

## HMI software

### SIMATIC WinCC Open Architecture

#### SIMATIC WinCC OA IOT Suite

#### Function

##### SIMATIC WinCC OA IOT OPA

The IOT OPA is the central core of the IOT Suite and deals exclusively with the management, administration and maintenance of the connected IOT Boxes. It is possible to operate this web-based service both within a plant and in a cloud. An Internet connection is desirable, but not mandatory. Via the IOT OPA, new devices of the IOT Suite are integrated into the system or devices that are no longer needed are removed. It provides connected systems with the latest updates and app extensions. With an existing Internet connection to its central cloud storage, it can automatically download the latest apps and make them available to the system. This is also possible without an Internet connection, but requires the manual acquisition of this data. A status model of the IOT Box and the apps enables control of the specific data that can or may be distributed to specific IOT Boxes. An IOT OPA can also remotely update, functionally extend or reduce IOT Boxes within the administration. The initial installation of an IOT Box is also made possible by the IOT OPA, because all required applications and the system software are stored in its memory.

Runs on:

- Debian Buster

On the hardware platforms:

- All common PC platforms and virtualized environments

Functions	Task
<b>Dashboard</b>	The dashboard displays both the current status of the IOT OPA and the installed version.
<b>Applications</b>	You can find all available apps under Applications, including their version and status in the OPA store. From here, apps can be distributed to devices or their status can be changed.
<b>Devices</b>	The device view shows all connected IOT Boxes, including their status information. You can add new IOT Boxes and change their status here.
<b>Device Configuration</b>	The Device Configuration view displays detailed information about the connected IOT Box. This includes information about installed software (firmware, operating system, apps, etc.) as well as an update history, its name and local location.

<b>Backup and Restore</b>	From this display, you can upload configurations of a selected IOT Box to the IOT OPA or restore them to the IOT Box.
<b>Files</b>	The OPA Filestore describes a central data store that can be read and written both via the web server and via connected IOT Boxes. In this way, for example, an app can save data retentively and store it at a central storage location.
<b>Settings</b>	Different templates that relate to app installations can be configured in the properties of the IOT OPA. Here you can also find settings for synchronizing the IOT OPA with its central IOT repository on the Internet, so that you can obtain the latest updates and apps from it.
<b>Log</b>	This view shows the processes that have been executed on the IOT OPA. This allows the state of the IOT Box or actions performed with a connected IOT Box to be traced.

#### More information

##### Important:

All offered order numbers include only the SW licenses for operating an IOT Box and/or an IOT OPA. Hardware and operating systems are not included and must be purchased separately.

More information about hardware can be found under:

<https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/5101001?tree=CatalogTree>

And about the operating system under:

<https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/10355854?tree=CatalogTree>

The IOT OPA can be understood as a maintenance contract of an IOT Box in the conventional sense. The maintenance of the Box and the purchase of the latest apps and updates is ensured by commissioning the IOT OPA.

However, the IOT Boxes can also be operated without the IOT OPA, in which case they only lose the infrastructural services such as automated maintenance and extendibility, as well as the backup of a Box at a central location.

From a sustainability point of view, an internet connection is recommended both on an IOT Box and on the IOT OPA. Above all, an internet connection on the IOT OPA in connection with a Linux Repository is strongly recommended.

More information is available on the internet at:

<http://www.siemens.com/wincc-oa-iot-suite>

**Overview****WinCC IOT Box**

The IOT Box is a self-contained visualization system based on IPCs, Industrial OS and SIMATIC WinCC OA, which can be commissioned by the customer (maintenance or electrician) within a few hours. The currently available functionalities (apps) for connectivity, visualization or OEE (Overall Equipment Efficiency) are easy to configure and enable machine operators themselves to find the required insights for process optimization or to collect data and/or to exchange the data within the company using publish/subscribe mechanisms. A large number of apps are already available in the basic IOT Box.

**Benefits**

- Pre-processing of data in real-time
- Standardization and bundling of communication
- Automatic updates through connection to central storage (IOT-OPA)
- Extensions can be easily created by SIMATIC WinCC OA partners, for example
- Modular separation of connection management, display and formula creation increase the field of application

All required configurations can be made directly at the box or remotely via WinCC OA Desktop UI or Web UI.

**Function**

Available apps	Task
<b>S7 App</b>	With the S7 App, nothing stands in the way of a connection to the conventional PLCs from SIEMENS. S7-300/-400 series, S7-1200/S7-1500 series and S5, as well as S7-200, LOGO 0BA7, LOGO 0BA8 and SINUMERIK PowerLine are supported.  You only need to know the (IP) address of the PLC and the type of PLC to establish a connection. Data points of the selected PLC can be imported using the I/O address or, if available, a CSV file.
<b>S7 Plus App</b>	In contrast to the S7 App, the S7 Plus App allows access to modern SIMATIC PLCs via browsing.
<b>OPC UA Client App</b>	The OPC UA Client app enables you to query any data of an OPC UA Server and transfer it to the data management of the IOT Box. After selecting a server, its data management is automatically queried and displayed. This can then be transferred to the box by simply selecting the data points.
<b>Subscribe App</b>	The Subscribe app is used by the IOT Box to request and retrieve data from another IOT Box, if it has been published on the source device. In general, no data is exchanged between the devices without explicit permission. This is an internal system communication with the highest security standards.
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## HMI software

SIMATIC WinCC Open Architecture  
SIMATIC WinCC OA IOT Suite

### WinCC OA IOT Box

#### Function

<b>Rules App</b>	Intelligent pre-processing of data is an essential part of data concentration. However, advanced logic can also be created and applied in the Rules app. A logical and arithmetic rule-based editor enables the creation of rules, which can also be instantiated at a later point in time. The basis is formed by a powerful scripting engine (CTRL), which executes any input of CTRL scripts. This means that not only logical or arithmetical logic operations can be realized.
<b>OEE App</b>	The OEE app is the heart of the IOT Box, as the first of many value-added applications to follow. Using input data from the Mapping app, this app calculates the efficiency of machines. A time reference can be introduced using a shift calendar and with the help of reasons for malfunctions (pre-defined or defined by the operator), information originating beyond the machine itself can also be included in an analysis. The user thus gains a new depth of analysis and optimization potential.
<b>Dashboard App</b>	The OEE app and the Dashboard app are used to display collected or calculated values. All available data can be displayed in specially structured display formats here. Using a tag browser, the data is simply dragged and dropped into the display areas, where a wide variety of display formats can be selected. The arrangement of the display elements is also freely selectable. The user is thus able to create and save required displays independently. Different images can also be created using several index tabs to allow quick access to all desired display formats and depths at runtime.
<b>Update Center App</b>	The Update Center manages the apps and system software on the IOT Box. Via a connection to a central IOT OPA, the latest app extensions can be easily downloaded and installed without any user interaction. The app provides information about the latest available versions and updates and also allows the user to extend or reduce functionality/apps on the IOT Box. In the system environment, user administration can be used to specify whether this should be done locally by the user or centrally by IT.

<b>Snapshot App</b>	The Snapshot App allows you to create snapshots of a collection of tags using various triggers. These tag snapshots are saved in the app itself and can be exported as CSV.
<b>System Log App</b>	The System Log App shows current and historical log entries on the IOT Box. These include system messages as well as update information and error messages.
<b>System App</b>	The network settings of an IOT Box and the configuration of the time synchronization servers can be performed in the System App. It is also possible to connect to the associated IOT OPA to be able to use all services such as app updates or the OPA Filestore. The entire User Management of the Box as well as the CERT Store can be found in the System App.
<b>S5 App</b>	The S5 App allows S5 PLCs to be connected to the IOT Suite via the H1 ISO protocol.
<b>Ethernet IP App</b>	The Ethernet IP App allows various PLCs that support the PCCC Standard or the Native EIP Standard to be connected to the IOT Suite.
<b>MindSphere App</b>	Data from the IOT Suite can be pushed to various MindSphere assets with the MindSphere App. The output data for this is individual IOT Suite tags.
<b>Modbus App</b>	A Modbus TCP/IP client is integrated in the IOT Suite with the Modbus App. In addition to individual registers, subindices can also be addressed.
<b>MQTT Client App</b>	The MQTT Client App enables the IOT Suite to connect to conventional MQTT brokers and subscribe to a wide range of topics.
<b>MTConnect App</b>	Data from supported CNC machines can be read out with the MT Connect App.

#### Ordering data

#### Article No.

##### SIMATIC WinCC Open Architecture

##### WinCC OA IOT - IOT Box SW

Licenses for running the IOT Box SW on SIMATIC Nanobox (IPC2XX) and Industrial Linux

- 1x IOT Box SW
- 10x IOT Box SW
- 20x IOT Box SW

**6AV6356-1AA31-7AA0**  
**6AV6356-1AA31-7AA1**  
**6AV6356-1AA31-7AA2**

#### More information

More information is available on the Internet at:

<http://www.siemens.com/wincc-open-architecture>

## Overview

IOT OPA is the central core of the IOT Suite and deals exclusively with the management, administration and maintenance of the connected IOT Boxes. It is possible to operate this web-based service both within a plant and in a cloud.

An Internet connection is desirable, but not mandatory.

Via the IOT OPA, new devices of the IOT Suite are integrated into the system or devices that are no longer needed are removed. It provides the connected systems with the latest updates and app extensions. With an existing Internet connection to its central cloud storage, it can automatically download the latest apps and make them available to the system. This is also possible without an Internet connection, but requires the manual acquisition of this data.

A status model of the IOT Box and the apps enables control of the specific data that can or may be distributed to specific IOT Boxes. An IOT OPA can also remotely update, functionally extend or reduce IOT Boxes within the administration. The initial installation of an IOT Box is also made possible by the IOT OPA, because all required applications and the system software are stored in its memory.

Runs on:

- Debian Buster
- On the hardware platforms:  
All common PC platforms and virtualized environments

OPA licenses are limited in time with a validity of 1 year from purchase. The validity of the license is automatically extended upon expiration, if not canceled 3 months before the end of the year.

## Benefits

- Automatic distribution of apps and updates, including OS updates
- Simple and safe replacement of devices
- Centrally stores and manages apps and updates in the system
- Manages different statuses/versions of apps, updates and devices

## Function

Functions	Task
<b>Dashboard</b>	The dashboard displays both the current status of the IOT OPA and the installed version.
<b>Applications</b>	You can find all available apps under Applications, including their version and status in the OPA store. From here, apps can be distributed to devices or their status can be changed.
<b>Devices</b>	The device view shows all connected IOT Boxes, including their status information. You can add new IOT Boxes and change their status here.
<b>Device Configuration</b>	The Device Configuration view displays detailed information about the connected IOT Box. This includes information about installed software (firmware, operating system, apps, etc.) as well as an update history, its name and local location.
<b>Backup and Restore</b>	From this display, you can upload configurations of a selected IOT Box to the IOT OPA or restore them to the IOT Box.
<b>Files</b>	The OPA Filestore describes a central data store that can be read and written both via the web server and via connected IOT Boxes. In this way, for example, an app can save data tentatively and store it at a central storage location.
<b>Settings</b>	Different templates that relate to app installations can be configured in the properties of the IOT OPA. Here you can also find settings for synchronizing the IOT OPA with its central IOT repository on the Internet, so that you can obtain the latest updates and apps from it.
<b>Log</b>	This view shows the processes that have been executed on the IOT OPA. This allows the state of the IOT Box or actions performed with a connected IOT Box to be traced.

## Ordering data

## Article No.

### SIMATIC WinCC Open Architecture

#### WinCC OA IOT - OPA

Time-limited license (1 year).  
Secure administration of up to 10 WinCC OA IOT Box devices including updates

**6AV6356-1BA31-7BA0**

#### WinCC OA IOT - OPA Extension

Time-limited license (1 year).  
Extension for secure administration of up to 10 additional IOT Boxes

**6AV6356-1BA31-7BA1**

## More information

More information is available on the Internet at:

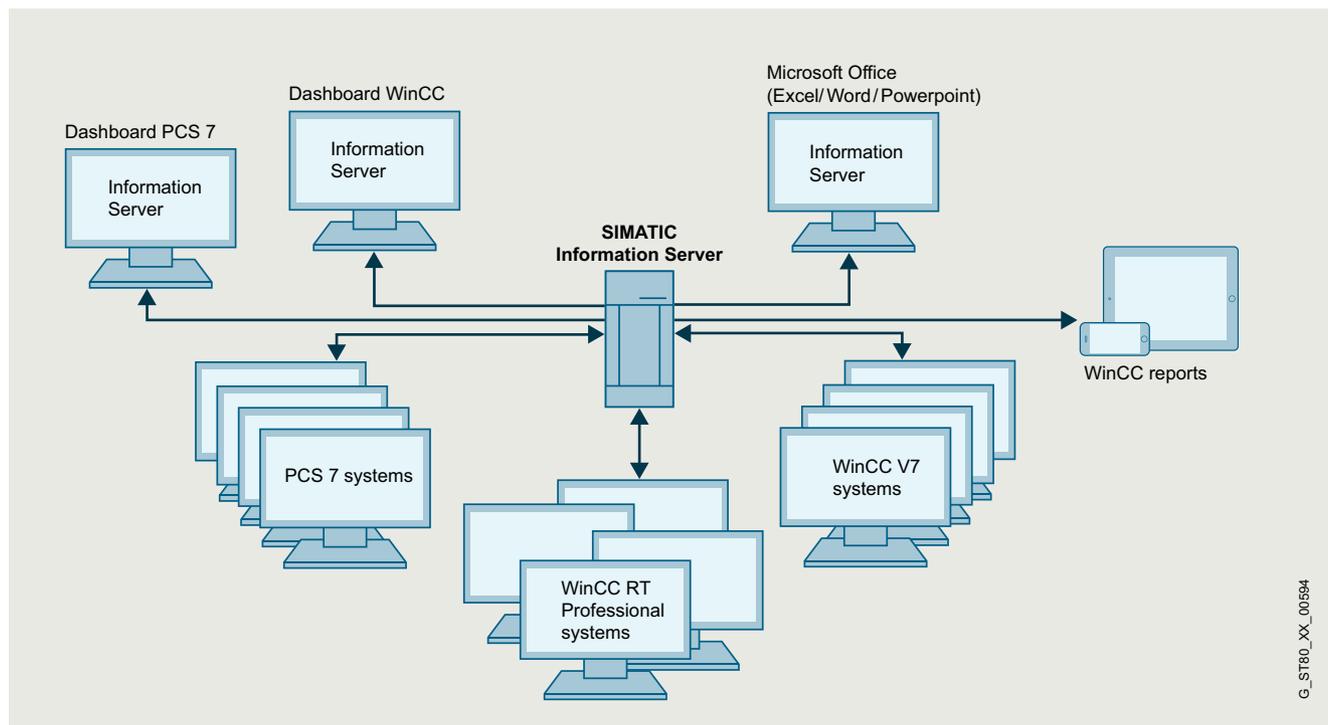
<http://www.siemens.com/wincc-open-architecture>

## HMI software

### SCADA software

## SIMATIC Information Server

### Overview



G\_STB0\_XX\_00594

### Information Server 2014 SP3

Information Server 2014 SP3 is an open, web-based reporting system for interactive areas.

Reports can be used in Internet Explorer, Excel, Word or PowerPoint, as well as for Adobe Reader (PDF).

The SIMATIC Information Server has access to archived process values and messages, and can be used either directly in conjunction with WinCC / WinCC/RT Professional / PCS 7 OS or with Process Historian 2014 SP3.

- Access to archived process values and messages from WinCC V7/V8, WinCC RT Professional and WinCC/PerformanceMonitor according to compatibility specifications
- Process Historian 2014 SP3
- Open reporting system with report templates in RDL or Excel format
- Through add-ins for Microsoft Office environments, direct access to the archived data of the Process Historian or WinCC can be easily established.
- Reports can be integrated directly in Word and Excel, thus greatly simplifying work steps.
- Process values can be displayed in tabular or graphic form depending on various filter functions
- Support of subscriptions for a cyclical or event-driven report generation, including sending of emails
- Web-based parameter assignment of the report templates
- Use of the standard tools MS Excel, MS Word and MS PowerPoint for individual report templates
- Reporting system based on MS Reporting Services for more complex individual report templates

- Can be used for HTML5-enabled tablet PCs larger than 10.5"
- Automatic cyclic and event-based reporting (PDF, Excel, Word, PowerPoint)
- Central storage and automatic transmission of reports created by email
- Data security thanks to access protection, user administration, SSL encryption and SMTP authentication

### Licenses

- Basic Packages include the program software as well as three client access licenses and a data source license. This gives access to one data source for up to three clients.
- The number of simultaneous client access operations can be incremented at any time using Information Server client access licenses.
- Additional data sources can be integrated at any time using additive data source licenses.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

**Benefits**

- Central, web-based reporting system as an interface for all corporate areas up to the management level.
- Easy handling thanks to the use of standard tools such as MS Word, Excel and PowerPoint
- Provision of freely configurable reports via Web-based dashboards
- Import of data from any number of WinCC, WinCC RT Professional and PCS 7 applications
- Transparent access to WinCC tag and alarm archive and to the data of the SIMATIC Process Historian

**Highlights**

- Set of frequently used report templates for process values, messages and batches
- Open reporting system for creating any number of new report templates
- Storage of configured (parameterized) report templates for faster access
- Export of reports in common document formats
- Support of subscriptions for cyclic report generation including email service
- Creation and storage of application-specific dashboards
- Role management for Windows users; supports workgroups and Active Directory; user rights can be assigned for specific projects
- Generation of reports and inserting as graphics in Microsoft Office Word documents
- Creation of Microsoft Excel, Word and PowerPoint reports for historical process values and messages as well as storage of the Excel report templates on the Information Server
- Support of subscriptions for Excel report templates
- Mobile access to reports via HTML5-enabled web browser, also from tablets > 10.5"

**Function**

- Easy creation and individual design of own web pages
- No web page programming knowledge (html, asp) is necessary
- Creation of meaningful reports with Office knowledge
- Easy parameterization of predefined report templates
- Creation of your own report templates based on the Microsoft Reporting Services
- High flexibility due to access to numerous WinCC projects and the SIMATIC Process Historian
- Use of Microsoft Word and Excel for individual reports
- Consistent configuration of the access protection
- Installation-free in HTML5-enabled browsers on Web client or tablet > 10.5"

**Ordering data****SIMATIC Information Server 2014 SP3 "Basic Package"**

- Information Server
- Information Server - Client access (3)
- Information Server - Data source access (1)

As download

- Information Server
- Information Server - Client access (3)
- Information Server - Data source access (1)

**SIMATIC Information Server**

Client and data source license, version-independent

- 1 Client access
- 3 Client access
- 5 Client access
- 10 Client access
- 1 Data source access
- 3 Data source access

As download

- 1 Client access
- 3 Client access
- 5 Client access
- 10 Client access
- 1 Data source access
- 3 Data source access

**Upgrade****Upgrade Information Server 2013 to Information Server 2014 SP3**As download**Upgrade Information Server 2013 to Information Server 2014 SP3****Article No.**

6AV6361-2AA01-4AA0

6AV6361-2AA01-4AH0

6AV6361-2BD00-0AD0  
6AV6361-2BE00-0AD0  
6AV6361-2BF00-0AD0  
6AV6361-2BG00-0AD0  
6AV6361-2CD00-0AD0  
6AV6361-2CE00-0AD0

6AV6361-2BD00-0AJ0  
6AV6361-2BE00-0AJ0  
6AV6361-2BF00-0AJ0  
6AV6361-2BG00-0AJ0  
6AV6361-2CD00-0AJ0  
6AV6361-2CE00-0AJ0

6AV6361-2AA01-4AE0

6AV6361-2AA01-4AK0

**More information**

More information is available at:

<http://www.siemens.com/simatic-information-server>

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager:

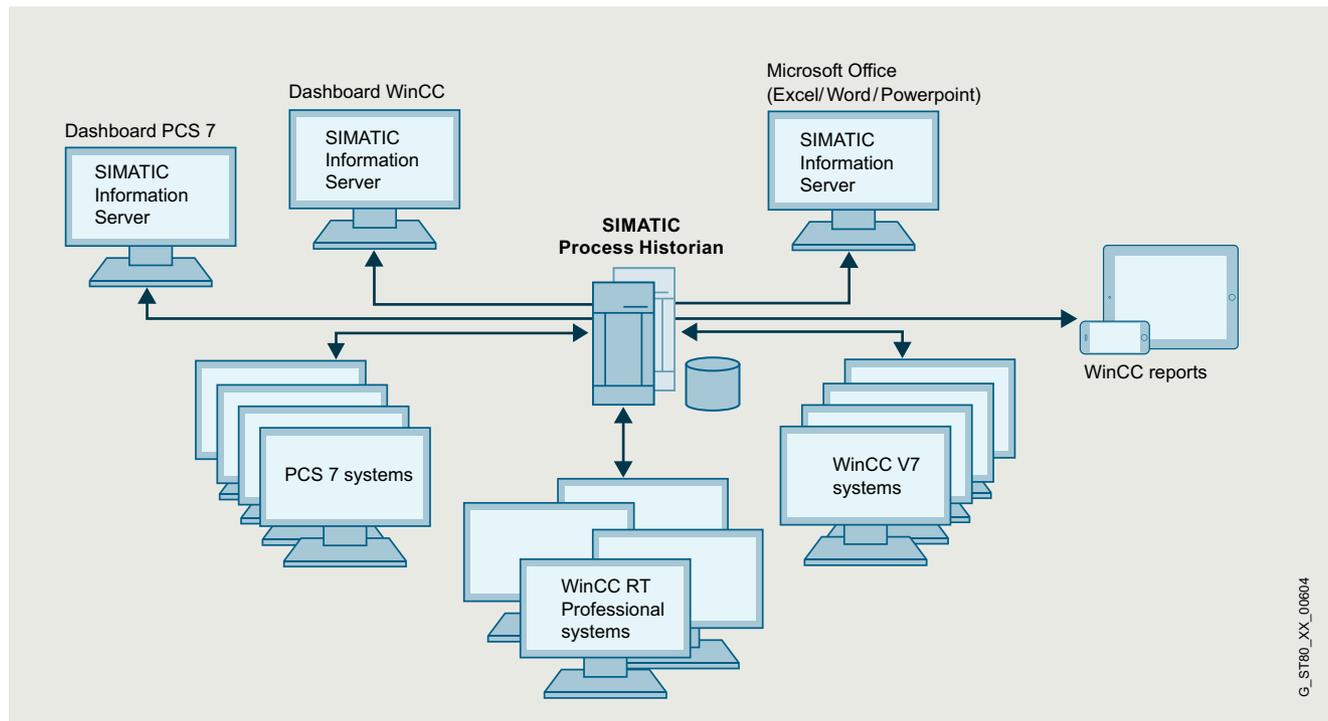
<http://www.siemens.com/simatic-licenses>

## HMI software

### SCADA software

## SIMATIC Process Historian

### Overview



G\_STB0\_XX\_00604

### SIMATIC Process Historian

The Process Historian is a high-performance, long-term archiving server solution that stores WinCC process values and messages in a central database. The system offers full scalability for performance and scope: It records and stores data from one or more WinCC, WinCC RT Professional and PCS 7 projects.

The number of connected single stations, servers, or redundant server pairs is unrestricted. SIMATIC Process Historian is designed for use throughout your plant, and is positioned below the corporate management level (ERP, MES).

The SIMATIC Information Server is used as a reporting system for the Process Historian. It accesses the central database of the Process Historian and visualizes the data in clear, user-friendly displays on WinCC stations or office PCs. The central Process Historian database provides access to real-time data throughout the plant.

This data is the key to sustainable plant optimization measures. Since the archive system can be fully integrated, no additional engineering is required. SIMATIC Process Historian uses the integrated relational database, SQL Server from Microsoft®. No complex reconfiguration is needed because the archive system is integrated into WinCC. Selected WinCC process values or messages are archived long-term on a time or event-driven basis.

The Process Historian is used for the long-term archiving of process values and messages.

#### SIMATIC Process Historian 2014 SP3

- Central, plant-wide long-term archive as corporate information hub
- Real-time archiving of process values and messages from WinCC V7/V8, WinCC RT Professional and WinCC/PerformanceMonitor according to compatibility specifications
- High performance with very large data volumes
- Data access via OPC UA server
- Migration support for data migration from WinCC/Storage plus, CAS Storage plus and WinCC segments.
- High availability thanks to redundancy concept with observer/witness server for increasing data security
- High degree of security due to integrated, complete backup and restore of all segments (Disaster Recovery)
- Enhanced data security through store and forward mechanism
- Scalable without breaks in production
- Maximum data transparency
- High degree of security thanks to integrated backup system
- Simple and fast management and diagnostics with the Process Historian Management "Dashboard"
- Batch functionality in accordance with PCS 7 specifications

**Overview**Licenses

- The Basic Package includes the runtime software and the single license for one installation.
- The SIMATIC Process Historian supports archiving of any amount of data.  
The archive data is licensed at the data source, for example, in WinCC systems (archive tags for WinCC V7 or logging tags of WinCC Logging for WinCC Professional RT).
- The redundancy package is required for the redundant Process Historian; existing Basic Package installations can be converted with the redundancy option.
- The OPC UA interface needs a separate license.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

**Benefits**

- Fully integrated archiving solution for large volumes of data
- Central, plant-wide long-term archive as corporate information hub
- Process data and messages from any number of subordinate WinCC systems can be archived
- Plant expansions can be implemented without interrupting the production process
- High availability in redundant mode
- High degree of security due to integrated backup system
- Database for analyses with the aim of optimizing the plant and thereby raising productivity

**Function**

- Real-time storage of the WinCC archive data (process values and messages) from any number of WinCC stations
- Visualization of the archive data on WinCC clients or WinCC single stations either directly or using the SIMATIC Information Server
- Process Historian configuration tool for fast, simple engineering
- The redundant Process Historian is based on the Microsoft SQL Server Mirroring (3rd system for controlling the availability of the redundancy)
- High degree of security due to integrated complete backup and restore of all segments
- During the initial configuration the database and the segmentation are set up
- The PH-Ready component is installed on the WinCC server for the process of archiving to the PH
- The PH automatically detects all connected WinCC server projects (via the PH-Ready component)
- The Process Historian Management "Dashboard" enables simple and fast management and diagnostics

**Ordering data****Article No.****SIMATIC Process Historian 2014 SP3**

- Basic Package, single license  
Contents: Set (1x DVD + 1x USB) **6AV6361-1AA01-4AA0**
- Redundancy Package, single license (Redundancy Complete) for 2 installations  
2 x Process Historian Server  
2 x Process Historian Server Redundancy  
contents: Set (1x DVD + 1x USB) **6AV6361-1BA01-4AA0**
- Redundancy for BSC PCK, single license, license key on USB flash drive **6AV6361-1CA00-0AD0**

As download

Email address essential for delivery

- Basic Package, single license, license key download **6AV6361-1AA01-4AH0**
- Redundancy Package, single license (Redundancy Complete) for 2 installations  
2 x Process Historian Server  
2 x Process Historian Server Redundancy,  
license key download **6AV6361-1BA01-4AH0**
- Redundancy for BSC PCK, single license, license key download **6AV6361-1CA00-0AJ0**

**Process Historian OPC UA Server**

- Runtime software, single license, license key on USB flash drive **6AV6361-1HA01-4AB0**
- Runtime software, single license, SW and license key download, Email address essential for delivery **6AV6361-1HA01-4AJ0**

**Upgrades****Upgrade of CAS (Central Archive Server)**

Upgrade of CAS V7.0 SP3 or Process Historian 2013 to Process Historian 2014 SP3

- SW and documentation on DVD; license key on USB flash drive, contents: Set (1x DVD + 1x USB) **6AV6361-1AA01-4AE0**
- SW and license key download, email address essential for delivery **6AV6361-1AA01-4AK0**

SIMATIC WinCC/CAS Upgrade Central Archive Server V6.2-> V7.0 SP3

- Upgrade from CAS V6.2 to V7.0 SP3 **6AV6371-1DQ17-0XX3**
- Upgrade from CAS V6.2 ASIA to V7.0 SP3 ASIA **6AV6371-1DQ17-0XV3**

**More information**

More information is available at:

<http://www.siemens.com/simatic-process-historian>

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager: <http://www.siemens.com/simatic-licenses>

## HMI software

### SCADA software

#### WinCC IndustrialDataBridge

##### Overview

###### WinCC IndustrialDataBridge

- The WinCC IndustrialDataBridge option uses standard interfaces in order to connect the automation world with the world of IT and to ensure a two-way information flow.
- Using the SIMATIC WinCC IndustrialDataBridge, communication links between different data sources and data targets can be created by means of simple configuration/parameter assignment. The IndustrialDataBridge can either be integrated into WinCC or used as a stand-alone application (not in conjunction with WinCC).
- Its use is very flexible, due to the support of different database formats and standard interfaces. On top of this, it offers easy configuration instead of programming, which permits fast and secure deployment.
- Data sources for WinCC IndustrialDataBridge can include WinCC Runtime Professional (V13 SP1 or higher).

###### Licenses

- WinCC/IDB basic license for 100 tags (connections between data points corresponds to one tag)
- Depending on the amount of data, the number of IDB tags can be increased through additive PowerPacks
- The licenses are additive for the number of connections as of version 7.4 (countable).

Additional information is available on the Software Update Service, license types, online software delivery and handling your software licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

##### Benefits

- Connection of the automation level to the IT world
- Integration of systems from different manufacturers via numerous standard interfaces (including OPC, OPC UA, OLE-DB, Office formats)
- Cost-effective and secure due to simple configuration by means of standard software without programming
- High-performance data exchange between several systems at the same time

##### Highlights

- No programming knowledge required
- Efficient due to transmission of individual data or block transfer (">", "<", "inside where...")
- Unicode support
- Support of Asian languages (Simplified Chinese, Japanese)
- Web Navigator; support of the WinCC IndustrialDataBridge controls in WinCC images
- WinCC IndustrialDataBridge runs as a system service, as an application in connection with WinCC Runtime Professional, or as a version-independent, standalone application

##### Design

The software comprises a configuration environment and a runtime environment. The different data interfaces are integrated via software modules. In each case, one module is required as the data source and one module as the data destination. The different modules can be combined in any way.

The connections between data source and data destination are created in the configuration environment. In the runtime environment, the IndustrialDataBridge establishes the connection autonomously and transfers the data of the linked variables.

##### Function

- WinCC IndustrialDataBridge establishes a link between the source and destination interfaces and transfers data on the basis of a change in value once a configured period of time has elapsed, or when a defined event occurs.
- WinCC IndustrialDataBridge exchanges data between the automation systems of different manufacturers.
- In WinCC it is possible to support access to tags, tag logging, alarm logging and user archive data.
- Possible storage of process data in Office formats such as Excel or Access. Databases can also be integrated for the archiving of larger aggregates.
- One of the features of WinCC IndustrialDataBridge is a send/receive interface which also enables data transfer to SIMATIC S5 or S7-300 stations or other send/receive-compatible devices.
- WinCC IndustrialDataBridge likewise enables SCADA and control systems from a variety of manufacturers to be linked via the OPC interface. In addition, communication via RFC1006 or Send/Receive is also supported.

**Function**

- SQL databases are available as data destinations for production data acquisition. Data can be transferred from the data source on an event-driven basis with the OPC module or sent directly from the PLC with the Send/Receive module.
- Integration of the WinCC IndustrialDataBridge runtime control into WinCC screens when installing the WinCC IndustrialDataBridge on a WinCC station.
- Independent text-based csv, txt and HTML files are created on reaching a programmable number of entries or if the value of a WinCC tag changes.
- Block transfer for databases through the support of the operators "<" and ">" in the Select instruction.
- Available providers (data sources) can be connected to any consumers (data targets) via the WinCC IndustrialDataBridge (see table below).

Functions for configuration:

- Graphic design of links using drag & drop
- Import and export of links
- Highlighting of selected links
- Renaming of links is possible at any time
- Fast switch for the configuration of the graphic links

Interfaces:

The table below shows the possible data sources and destinations.

Provider (data sources)	Consumer (data destinations)
<ul style="list-style-type: none"> <li>• MS Access 2003, 2007, 2010, 2013, 2016</li> <li>• MS SQL Server 2005, 2008, 2008 R2, 2012, 2014, 2016</li> <li>• MySQL 3.5, 5.1, 5.5, 5.6, 5.7</li> <li>• Oracle 8i, 10g, 11g, 12c Release 2, 12c</li> <li>• OPC Access 3.0</li> <li>• OPC XML 1.01</li> <li>• Send/Receive</li> <li>• WinCC OLE DB 7.2, 7.3, 7.4, 7.4 SP1, 7.5</li> <li>• WinCC UserArchives 7.2, 7.3, 7.4, 7.4 SP1, 7.5</li> <li>• WinCC RT Professional V13 SP1, V13 SP2, V14 SP1, V15, V15 SP1 (via OLE DB provider)</li> <li>• OPC UA DA (1.0.3) client</li> </ul>	<ul style="list-style-type: none"> <li>• MS Access 2003, 2007, 2010, 2013, 2016</li> <li>• MS SQL Server 2005, 2008, 2008 R2, 2012, 2014, 2016</li> <li>• MySQL 3.5, 5.1, 5.5, 5.6, 5.7</li> <li>• Oracle 8i, 10g, 11g, 12c Release 2, 12c</li> <li>• MS Excel 2003, 2007, 2010, 2013, 2016</li> <li>• OPC Data Access 3.0</li> <li>• OPC XML 1.01</li> <li>• IDB OPC Server</li> <li>• Send/Receive</li> <li>• WinCC User Archive 7.2, 7.3, 7.4, 7.4 SP1, 7.5</li> <li>• Configurable file editor for TXT / HTML / XML</li> <li>• CSV, TXT file</li> <li>• OPC UA DA (1.0.3) server (incl. status messages)</li> <li>• OPC UA DA (1.0.3) client</li> </ul>

**Ordering data****SIMATIC WinCC IndustrialDataBridge 7.5 for WinCC**

For data exchange with databases and OPC servers;  
language versions: English, German, Simplified Chinese, Japanese

- Basic package
- With 300 tags (countable)
- With 1 000 tags (countable)
- With 3 000 tags (countable)

As download

- Basic package
- With 300 tags (countable)
- With 1 000 tags (countable)
- With 3 000 tags (countable)

**SIMATIC WinCC IndustrialDataBridge 7.4 SP1 for WinCC**

For data exchange with databases and OPC servers;  
language versions: English, German, Simplified Chinese, Japanese

- Basic package
- With 300 tags (countable)
- With 1 000 tags (countable)
- With 3 000 tags (countable)

As download

- Basic package
- With 300 tags (countable)
- With 1 000 tags (countable)
- With 3 000 tags (countable)

**SIMATIC WinCC IndustrialDataBridge upgrade**

- From V7.4 to V7.5
- From V7.2/7.3 to V7.5
- From V7.x to V7.4 SP1
- From V7.x to V7.3

As download

- From V7.4 to V7.5
- From V7.2/7.3 to V7.5
- From V7.x to V7.4 SP1
- From V7.x to V7.3

**Article No.**

6AV6362-4AA07-5AA0  
6AV6362-4AD00-0BB0  
6AV6362-4AF00-0BB0  
6AV6362-4AH00-0BB0

6AV6362-4AA07-5AH0  
6AV6362-4AD00-0AH0  
6AV6362-4AF00-0AH0  
6AV6362-4AH00-0AH0

6AV6362-4AA07-4AA0  
6AV6362-4AD00-0BB0  
6AV6362-4AF00-0BB0  
6AV6362-4AH00-0BB0

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6AV6362-4AF00-0AH0  
6AV6362-4AH00-0AH0

6AV6362-4AA07-5AE1  
6AV6362-4AA07-5AE0  
6AV6362-4AA07-4AE0  
6AV6371-1DX07-3XX3

6AV6362-4AA07-5AK1  
6AV6362-4AA07-5AK0  
6AV6362-4AA07-4AK0  
6AV6371-1KX07-3XX3

**More information**

More information is available at:

<http://www.siemens.com/idb>

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here:

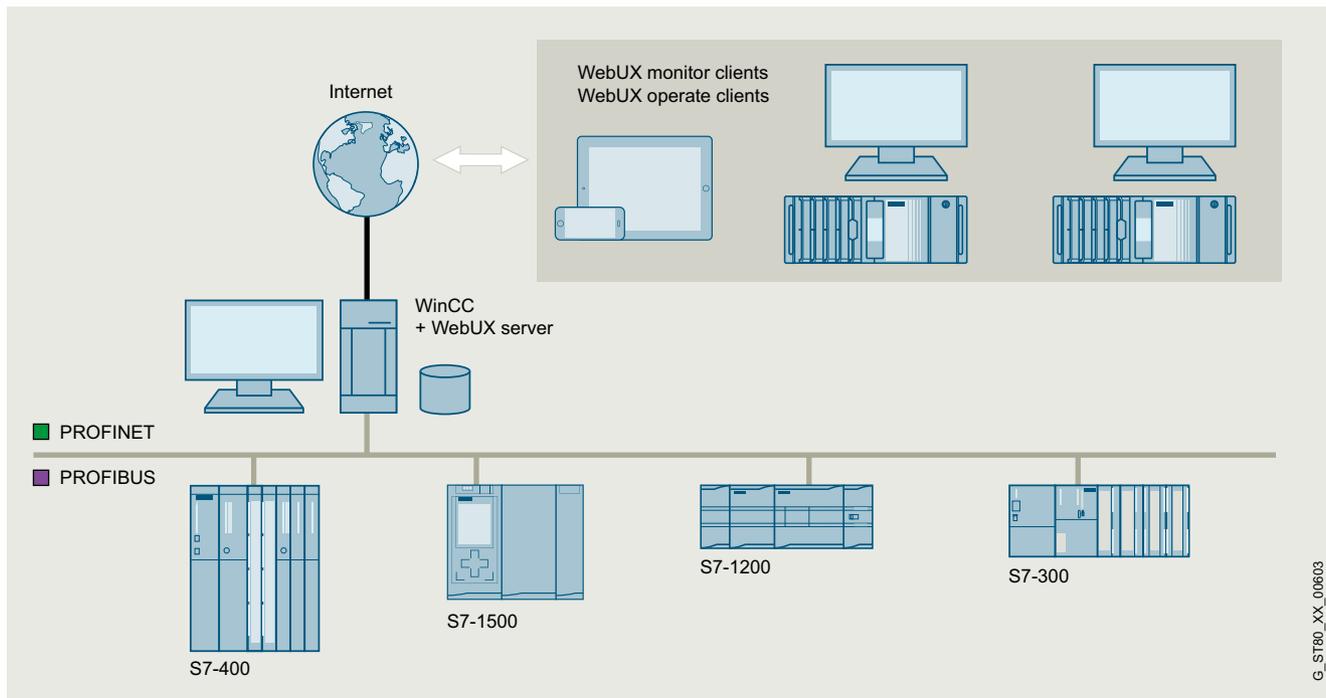
<http://www.siemens.com/simatic-licenses>

## HMI software

### SCADA software

## WinCC WebUX

### Overview



### WinCC WebUX

The WinCC WebUX option permits mobile, platform and browser-independent operator control and monitoring via the Internet or the in-house intranet or LAN.

WinCC WebUX is delivered with the WinCC system. Following installation, the WinCC Runtime system operates as WinCC WebUX server.

The images for the WinCC WebUX are created using the graphic editor. The WinCC picture is stored in the corresponding format in the project through the "web-capable" picture property. Using the service platform IIS (Internet Information Server), the files are made available for the Internet.

No installation on the client is required for using the WebUX. WinCC WebUX can be used independent of the industrial sector, for example in service for the acknowledgment of alarm messages, in quality assurance for monitoring important production data, or in management for obtaining a quick overview of key production figures.

The WebUX server itself does not require a basic license. Clients that are simultaneously logged into the server are licensed. Regarding licensing, it is differentiated between Monitor Clients (read only) and Operate Clients (reading and writing of values). WinCC WebUX can be used immediately due to a free Monitor Client that is included in the WinCC package.

### Licenses

- A (server-based) license is required to use the WebUX server. This is a graduated license based on the number of simultaneous web access operations and can be incremented at any time.
- We distinguish between Monitor and Operate Clients for licensing purposes.
- Flexible number of clients thanks to additive (countable) licenses (floating client)
- The WinCC/WebUX and WinCC/WebNavigator licenses can be combined, if necessary.
- The WinCC server version and version of the mobile clients do not have to be the same
- One free Monitor Client in the WinCC system

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

**Benefits**WinCC Engineering

- Fast configuration using the graphic editor
- No expensive training in web technologies is required due to the use of WinCC standard tools
- Can be used without complex additional configuration on the client

Maintenance, servicing and IT

- No WinCC-specific installation on the clients required
- No WinCC-specific maintenance at the data terminal equipment required
- The WinCC WebUX server version and version of the mobile clients do not have to be the same
- Standard user authorizations on the client suffice

Line management and plant operator

- Mobile operator control and monitoring using commercially available mobile devices
- Uniform look and feel both on the mobile devices and on the WinCC station
- Secure communication via HTTPS and SSL certificates
- No entry costs, since a Monitor client is included in the WinCC package
- Flexible licensing due to additive Floating Client licenses
- Secured plant data as a basis for decision-making

Highlights

- Can be used on HTML5-capable and SVG-capable data terminal equipment without installation on the client

**Function**

Supported functions in WebUX of WinCC V7.4/V14:

- Language selection by setting the Web language in the User Administrator
- Support of following WinCC objects:
  - Most WinCC standard objects and WinCC pipe objects
  - WinCC Smart objects (picture window, I/O field, graphic object, status display, text list, multi-line text, combo box, list box)
  - WinCC Windows objects
- The following WinCC controls are supported:
  - WinCC AlarmControl
  - WinCC OnlineTrendControl
  - OnlineTrend Web Control
  - OnlineTable Web Control
  - Ruler Web Control
  - Slider Control
  - Digital/Analog Clock Control
  - Gauge Control
  - WebBrowser Control
- Dynamizations by means of VB script or via the dynamics dialog
- User administration via SIMATIC Logon
- System events for user logon and logoff

Note:

Browser-dependent display is occasionally possible. Minor differences in display and behavior are possible for the different browser versions.

Please also note the supported functionalities in the respective documentations.

**Ordering data****Article No.**SIMATIC WinCC WebUX**Monitor clients:**

- 1 client (countable)
- 3 clients (countable)
- 10 clients (countable)
- 30 clients (countable)
- 100 clients (countable)

As download

- 1 client (countable)
- 3 clients (countable)
- 10 clients (countable)
- 30 clients (countable)
- 100 clients (countable)

**Operate clients**

- 1 client (countable)
- 3 clients (countable)
- 10 clients (countable)
- 30 clients (countable)
- 100 clients (countable)

As download

- 1 client (countable)
- 3 clients (countable)
- 10 clients (countable)
- 30 clients (countable)
- 100 clients (countable)

6AV6362-2AB00-0BB0  
6AV6362-2AD00-0BB0  
6AV6362-2AF00-0BB0  
6AV6362-2AJ00-0BB0  
6AV6362-2AM00-0BB0

6AV6362-2AB00-0AH0  
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6AV6362-2AJ00-0AH0  
6AV6362-2AM00-0AH0

6AV6362-2BB00-0BB0  
6AV6362-2BD00-0BB0  
6AV6362-2BF00-0BB0  
6AV6362-2BJ00-0BB0  
6AV6362-2BM00-0BB0

6AV6362-2BB00-0AH0  
6AV6362-2BD00-0AH0  
6AV6362-2BF00-0AH0  
6AV6362-2BJ00-0AH0  
6AV6362-2BM00-0AH0

Note:

The licenses are cumulative, i.e. one 10-client license and one 30-client license permit access by 40 clients.

Operate licenses can be used as Monitor licenses as of V14/V7.4.

Licenses from V7.3 can continue to be used in V7.4 without upgrading.

**More information**

You can find more information at:

<http://www.siemens.com/wincc-webux>

## HMI software

### SCADA software

#### Process management - Add-ons

#### Overview



- **PM-AGENT**  
enables the connection of several WinCC systems to the PM-products
- **UNIVERSAL PM-PACKAGE**  
in combination with a supplementary agreement, provides a cost-effective way to always work with the latest versions of the PM-products for testing and configuration purposes and is therefore aimed exclusively at resellers of PM-products and OEMs
- **COPYPROJECT**  
is used to duplicate a complete WinCC V7 project including all Runtime archive databases during runtime
- **PM-GRID CONTROL**  
enables display of data from different sources and is used wherever the flexible display of tables within the WinCC Runtime environment is required

#### WinCC Premium Add-ons

With the proven WinCC Premium Add-ons based on the SCADA software SIMATIC WinCC, Siemens offers a modularly expandable, complete solution for the optimum interaction of processes in production, quality assurance, maintenance and system integration. The products respond to a broad spectrum of today's challenges in digitalization and are consistently directed towards comprehensive and economical solutions based on standard software components.

The following Premium Add-ons are available:

- **PM-CONTROL**  
is a cross-industry recipe system for user-friendly creation and management of recipes with integrated order control
- **PM-QUALITY**  
is a modular and sector-independent archive system for order-related or batch-related acquisition of process and production data
- **PM-ANALYZE**  
is used for locating sources of error or weak spots in plants by analyzing messages and process values
- **PM-MAINT**  
is a sector and technology-neutral maintenance system for use in preventive maintenance.
- **PM-MES Interface**  
is a bidirectional communication interface between PM-CONTROL, PM-QUALITY and MES systems
- **PM-LOGON**  
offers the operator a convenient and fast logon to the operating system using a company ID card via a card reader
- **PM-OPEN EXPORT**  
offers a flexible, low-cost solution for exporting current process data and archive data from WinCC into freely formatted text files
- **PM-OPEN IMPORT**  
enables the WinCC flexible archives to be automatically read into the WinCC system
- **PM-OPEN MINDCONNECT**  
allows transparent access to production reports created by PM-QUALITY and/or PM-ANALYZE via the MindSphere app

#### More information

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

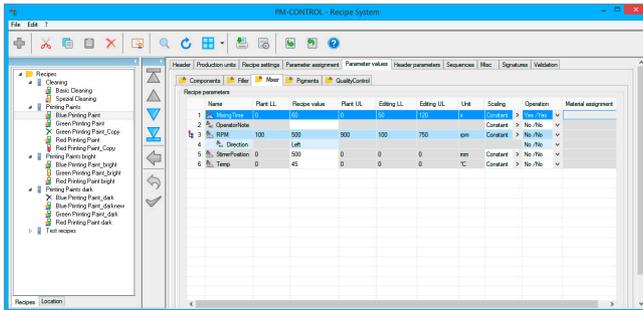
Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:

<http://www.siemens.com/process-management>

## Overview



PM-CONTROL system software

Production rules, recipes or parameter data records are required as specifications for production in a wide variety of industries; they must be managed in a high-performance database, monitored for changes and clearly presented. These specifications result in production orders which are used to plan the production sequence.

With PM-CONTROL, the user has flexible parameter control at his disposal, with an operator interface that can be seamlessly integrated into the WinCC user interface.

Parameters of different types are saved in data records as recipes. The logging of recipe changes in an Audit Trail, the support of single or duplicate electronic signatures and the automatic versioning of recipe data records make PM-CONTROL an ideal tool in the regulated industry.

PM-CONTROL is equipped for complex tasks with automatic scaling of quantities, dynamic calculation of recipe values combined with convenient order scheduling and including automatic transfer of scheduled orders to the production units.

Enhancements such as the graphic planning board for order display, the rule-based check of recipe parameters as well as the option for creating a completely customized recipe editor continue the trend toward more user-friendliness, transparency and flexibility. The openness of PM-CONTROL enables problem-free connection to higher-level host systems (e.g. MRP systems) at the plant and production management level.

Customized for simple use cases with manual retrieval of recipes from the recipe database, PM-CONTROL is offered in a compact version.

## Function

Integral "wizards" for setting up recipe data records and signing of production jobs, for example, provide the user with the best possible support for operation and reduce training time to an absolute minimum.

### Configuration

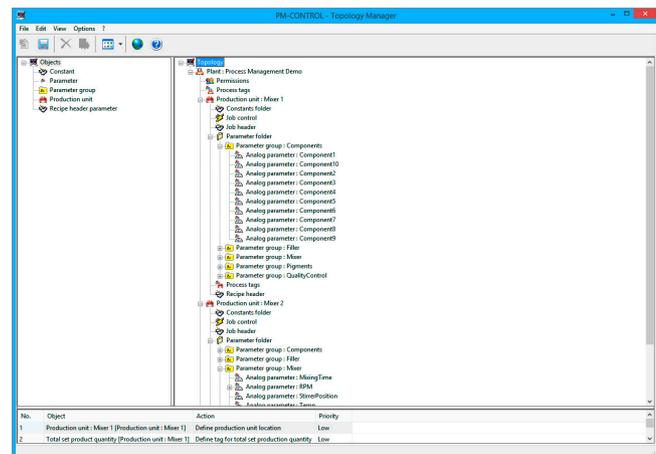
The production units for processing the orders are created in the Topology Manager with all the necessary parameters and the tag connections configured.

The settings for selecting the operating mode are determined by the input options in the job wizard:

- Jobs with / without target quantity
- Consideration of min. / max. limits
- Scheduled quantity for job distributed between multiple batches
- Individual parameter set or recipes comprise several steps

The defined authorizations and requirements for signatures have an effect on the operation of the recipe system and job control during runtime.

The integrated, central engineering library PM-LIBRARY allows the replacement and re-use of finished configurations.



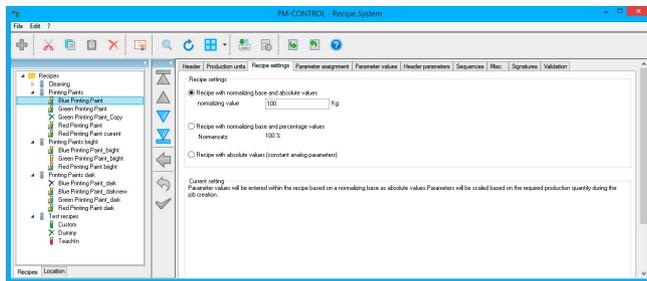
PM-CONTROL topology

**PM-CONTROL**

**Function**

Recipe system

The recipe data records are created based on the previously defined parameters. The recipe values are kept absolute for simple applications. In connection with PM-CONTROL job control, the recipe values can be scaled in linear fashion depending on the quantity, or they can be calculated according to a formula or depending on other recipe values, job values or current measured values. Configurable validation rules check the consistency of the recipe data. Optional definable sequence criteria point to impermissible production sequences in job planning.



PM-CONTROL recipe system

Job display

The job display provides an overview for each production unit regarding planned, current and completed jobs. New job creation is either based on a recipe or a production unit or generated from a template. A job comprises one or more batches or recipe steps.

The job data can be loaded automatically upon request by the production unit, with specification of a start time, or manually. Setpoints can be transferred to WinCC, PCS 7 as well as over OPC DA or OPC UA even if a job includes setpoints for more of these destinations in combination.

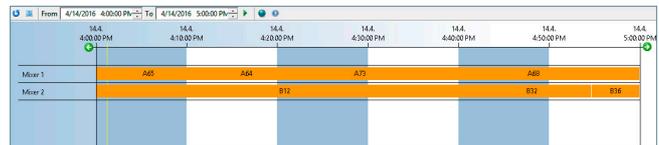
Recipe/job values can be modified not only for planned jobs but also for currently loaded jobs with the corresponding approval. If jobs are signed electronically, the signature is requested once again following any modification. The system's own Audit Trail records the change history with time stamp, logged-on user(s), parameter name, as well as old and new values for each batch or recipe step, making the process transparent and traceable.

The setting of a retention period governs the deletion of processed jobs.

PM-CONTROL job display

Planning board

The planning board display is a graphical representation of the estimated runtime for planned jobs. The time period under consideration can be adjusted as needed from the surrounding process picture so that the time period relevant for planning is always shown, for example, one day, one week, one month or only the next hour.



PM-CONTROL planning board

Ordering data	Article No.	More information
<p><b>PM-CONTROL system software</b>  <b>Type S "Compact" version</b>            Single-user/multi-user system server that runs on interconnected WinCC system and comprises a topology manager, recipe system, and ActiveX Control for recipe preselection (several autonomous production units)</p>	9AE7110-2SS10-1AA0	<p>Siemens AG            Digital Industries            WinCC Competence Center Mannheim            Tel.: +49 (0)621 1723-1010            Email: <a href="mailto:wincaddon.automation@siemens.com">wincaddon.automation@siemens.com</a>            More information is available on the Internet at:  <a href="http://www.siemens.com/process-management">http://www.siemens.com/process-management</a></p>
<p><b>PM-CONTROL system software</b>  <b>Type S "Standard" version</b>            Single-user/multi-user system server that runs on interconnected WinCC system and comprises a topology manager, recipe system, and order control (one production unit)</p>	9AE7110-2SS20-1AA0	
<p><b>PM-CONTROL system software</b>  <b>Type S "Professional" version</b>            Single-user/multi-user system server that runs on interconnected WinCC system and comprises a topology manager, recipe system, and order control (several autonomous and interlinked production units)</p>	9AE7110-2SS30-1AA0	
<p><b>PM-CONTROL system software</b>  <b>Type C</b>            Multi-user system client that runs with Type S system package (Compact, Standard, Professional) on an interconnected WinCC system or as Thin Client (without WinCC) with a recipe system and order control</p>	9AE7110-4SC03-1AA0	

Note:

Additional PM-CONTROL configurations available on request

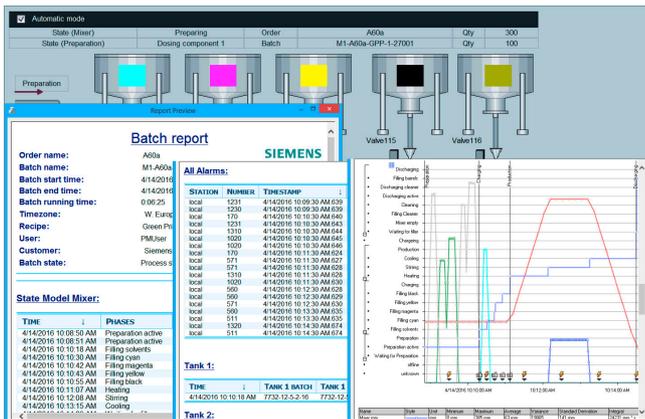
# HMI software

## SCADA software

### Process management - Add-ons

## PM-QUALITY

### Overview



PM-QUALITY system software

The proof of quality in the form of a manufacturing report, which is obligatory for FDA-regulated industries, is now a standard requirement in almost all industries.

The strengths of PM-QUALITY are the core functions of a comprehensive quality management system such as the complete acquisition, preparation and archiving of batch-related data such as trend curves, messages, production setpoint and actual values, Audit Trails and laboratory values.

Data from WinCC, PCS 7, WinCC (TIA) RT Professional and Advanced, via text sources, OPC/DA and OPC-UA can be combined from various sources, compiled into meaningful reports and archived over a long period. PM-QUALITY ensures the required transparency, both if seamlessly integrated into the user interface of WinCC, PCS 7 or WinCC RT Professional and Advanced (TIA Portal) and as a stand-alone application.

The processing of measured values with the aid of graphical calculation rules, the integration of day, week and shift logs with an integrated shift calendar, and the creating of reports in Microsoft Excel are consistent expansions of the proven functionality of PM-QUALITY.

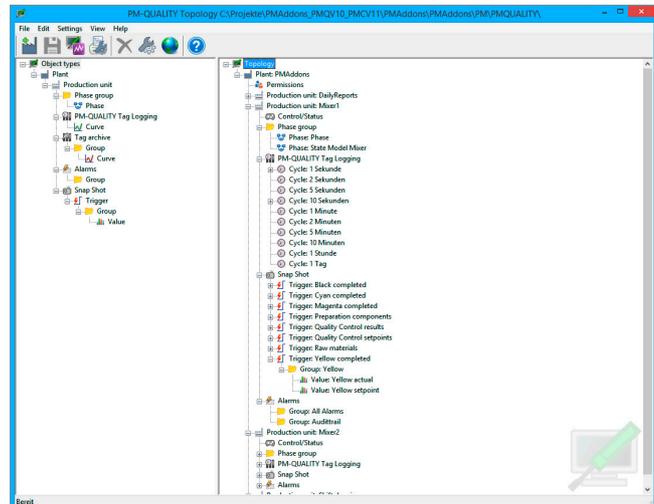
### Function

#### Configuration

The production units are configured in a topology manager with all data to be recorded that are relevant for the report generation. These are process value logs used for continuous acquisition of process values, snap shot triggers used for event-driven acquisition of process values, and alarm logs used exclusively for alarms and Audit Trail entries.

The production process can be structured using phases and state models. The individual phases or states are archived with time stamps. For complex processes that extend over several production units, the production units can be linked to form a plant unit. The reports include the data for a production unit or for the complete plant unit.

The integrated, central engineering library PM-LIBRARY allows the replacement and re-use of finished configurations.



PM-QUALITY Topology Manager

Overview

Data acquisition

Data acquisition is started either with a batch start or time-dependent, e.g. at the beginning of a shift, and finished after the batch or shift has been completed. A unique batch number is generated, under which the data is logged in the PM-QUALITY database.

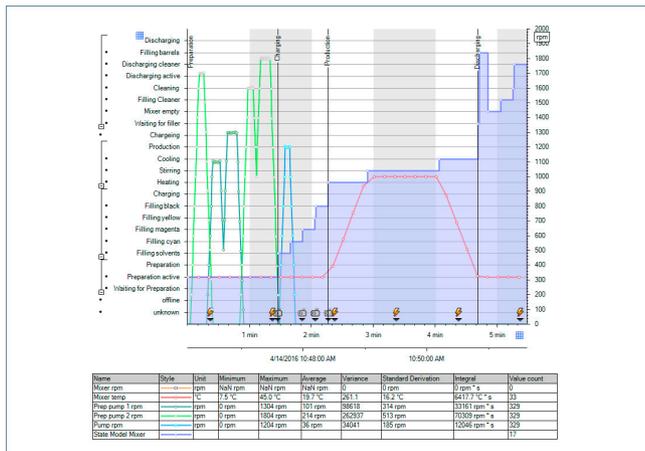
Data logging

Completed and released batches can be automatically exported for long-term archiving. Placeholders integrated in the export path ensure clear data storage. The Data View application or the PM-QUALITY Client is used to display the exported data.

Trend display in the process picture

The display of trends in which even several batch sequences can be compared becomes a comprehensive analysis tool with maximum operating convenience thanks to the simultaneous display of alarms, triggered recordings of measured values, phase lines, state models and comments. The integrated zoom function, the shifting of the axes and the display of specific time ranges enable precise evaluation of individual measuring points. Detailed information about each event is displayed in a tooltip. Comments can be subsequently inserted in time-based trend curves

The extremely flexible configuration of curve diagrams also offers the configuration of trend directions in the form f(x). The various configurations are stored in templates and can be called up again at any time. The ActiveX control is integrated in the process picture.

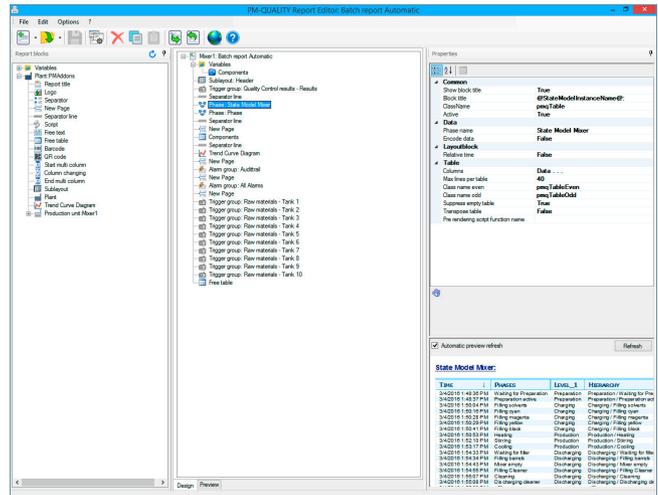


PM-QUALITY Trend Curve Control

Reporting

With the Report Layout Editor, different views of the batch archives can be conveniently implemented, conformant to existing design guidelines.

A large number of report blocks are available for design, which can be simply dragged and dropped into the report and configured. An integrated preview shows at any time the data of a selected batch based on the configured report. In addition to the standard report blocks offered, data evaluation can be inserted into the report using a VB script. A variety of style sheets is included in the scope of delivery, custom style sheets can be easily added.



PM-QUALITY Report Editor

3

# HMI software

## SCADA software

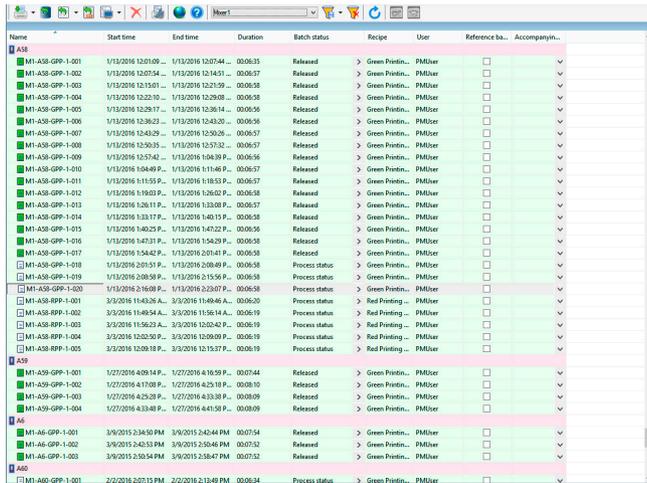
### Process management - Add-ons

## PM-QUALITY

### Function

#### Batch table in the process picture

Batches can be found again at any time thanks to individually configurable filters. The batch data can be displayed on the screen based on the selected report, output to a printer or exported in HTML, XML or database format. The ActiveX control is integrated in the process picture.



Name	Start time	End time	Duration	Batch status	Recipe	User	Reference ba...	Accompanyin...
ASB								
MI-ASB-GPP-1-001	1/13/2016 12:01:09	1/13/2016 12:07:44	00:06:35	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-002	1/13/2016 12:07:54	1/13/2016 12:14:21	00:06:27	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-003	1/13/2016 12:15:01	1/13/2016 12:21:59	00:06:58	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-004	1/13/2016 12:22:10	1/13/2016 12:29:08	00:06:58	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-005	1/13/2016 12:29:17	1/13/2016 12:36:14	00:06:56	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-006	1/13/2016 12:36:23	1/13/2016 12:43:25	00:06:56	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-007	1/13/2016 12:43:29	1/13/2016 12:50:29	00:06:57	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-008	1/13/2016 12:50:35	1/13/2016 12:57:32	00:06:57	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-009	1/13/2016 12:57:42	1/13/2016 1:04:39	00:06:56	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-010	1/13/2016 1:04:49	1/13/2016 1:11:46	00:06:57	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-011	1/13/2016 1:11:55	1/13/2016 1:18:53	00:06:57	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-012	1/13/2016 1:19:03	1/13/2016 1:26:02	00:06:58	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-013	1/13/2016 1:26:11	1/13/2016 1:33:08	00:06:57	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-014	1/13/2016 1:33:17	1/13/2016 1:40:15	00:06:58	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-015	1/13/2016 1:40:25	1/13/2016 1:47:22	00:06:56	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-016	1/13/2016 1:47:31	1/13/2016 1:54:29	00:06:58	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-017	1/13/2016 1:54:42	1/13/2016 2:01:41	00:06:58	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-018	1/13/2016 2:01:51	1/13/2016 2:08:49	00:06:58	Process status	Green Printin...	PMUser		
MI-ASB-GPP-1-019	1/13/2016 2:08:58	1/13/2016 2:15:56	00:06:58	Process status	Green Printin...	PMUser		
MI-ASB-GPP-1-020	1/13/2016 2:16:08	1/13/2016 2:23:07	00:06:58	Process status	Green Printin...	PMUser		
MI-ASB-RPP-1-001	3/3/2016 11:40:26 A.	3/3/2016 11:46:46 A.	00:06:20	Process status	Red Printing...	PMUser		
MI-ASB-RPP-1-002	3/3/2016 11:46:54 A.	3/3/2016 11:53:14 A.	00:06:19	Process status	Red Printing...	PMUser		
MI-ASB-RPP-1-003	3/3/2016 11:56:23 A.	3/3/2016 12:02:42 P.	00:06:19	Process status	Red Printing...	PMUser		
MI-ASB-RPP-1-004	3/3/2016 12:02:50 P.	3/3/2016 12:09:09 P.	00:06:19	Process status	Red Printing...	PMUser		
MI-ASB-RPP-1-005	3/3/2016 12:09:18 P.	3/3/2016 12:15:37 P.	00:06:19	Process status	Red Printing...	PMUser		
ASB								
MI-ASB-GPP-1-001	1/27/2016 4:09:14 P.	1/27/2016 4:16:59 P.	00:07:44	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-002	1/27/2016 4:17:08 P.	1/27/2016 4:25:18 P.	00:08:10	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-003	1/27/2016 4:25:29 P.	1/27/2016 4:33:39 P.	00:08:09	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-004	1/27/2016 4:33:48 P.	1/27/2016 4:41:58 P.	00:08:09	Released	Green Printin...	PMUser		
ASB								
MI-ASB-GPP-1-001	3/9/2015 3:46:50 PM	3/9/2015 3:44:44 PM	00:07:54	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-002	3/9/2015 3:45:53 PM	3/9/2015 3:50:48 PM	00:07:52	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-003	3/9/2015 3:50:54 PM	3/9/2015 3:58:47 PM	00:07:52	Released	Green Printin...	PMUser		
MI-ASB-GPP-1-001	3/2/2016 2:03:13 PM	3/2/2016 2:14:49 PM	00:06:34	Process status	Green Printin...	PMUser		

PM-QUALITY Batch Table Control

#### Redundancy option

PM-QUALITY features a redundancy function with the Data Center option. The batch data is recorded on two separate computers, each with one PM-QUALITY Server. After completion of a batch, the Data Center compares the data recorded by both PM-QUALITY Servers and exports the result to an export database.

### Ordering data

### Article No.

#### PM-QUALITY system software Type S "Standard" version

9AE7111-2SS20-1AA0

Single-user/multi-user system server that runs on an interconnected WinCC system for one production unit

#### PM-QUALITY system software Type S "Professional" version without Data Center

9AE7111-2SS30-1AA0

Single-user/multi-user system server that runs on an interconnected WinCC system for multiple autonomous and interlinked production units.

#### PM-QUALITY system software Type S "Professional" version with Data Center

9AE7111-2SS30-1BA0

For data redundancy synchronization. The system package is to be installed on both redundant computers.

#### PM-QUALITY system software Type C

9AE7111-4SC01-1AA0

Multi-user system client that runs with the Type S system package on an interconnected WinCC system or as Thin Client (without WinCC)

#### Note:

Additional PM-QUALITY configurations available on request.

### More information

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

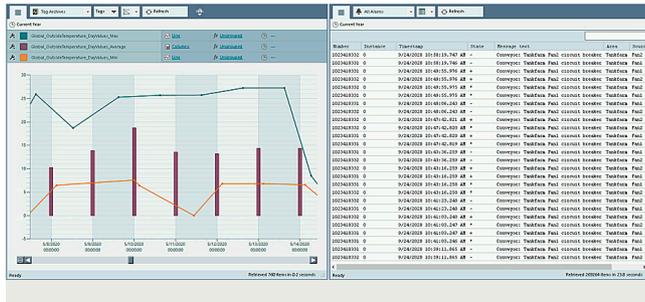
Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:

<http://www.siemens.com/process-management>

## Overview



## PM-ANALYZE

Recorded process values as well as hardware interrupts, fault, status and operation messages from various sources contain a wealth of information which often only becomes visible by means of computer-aided analysis. Reduced downtime and maintenance times, early detection of signs of wear and tear, localization of error sources or weak points are just a few examples. Problems in the production plant are signaled by alarms which are the starting point for evaluations and analyses with PM-ANALYZE.

PM-ANALYZE not only enables chronological display of process values and messages from different sources, but also offers an optimal overview with its convenient filters and analysis options, even with large amounts of data.

The process values represent the basis for the analysis and optimization of the production process. The extensive selection of charts for mapping the process values in PM-ANALYZE offers new perspectives for the representation and analysis of the production process. Problems in the production plant are signaled by alarms. Convenient filter settings limit the message display to the essential information.

One particular strength of PM-ANALYZE is simultaneous display of charts and messages in a single workspace. Alarms in tables and in statistical evaluations parallel to process values in charts show the spectrum of production data at a glance. Workspaces can either be integrated directly into process pictures or displayed and evaluated using a separate client application.

In addition, analysis events can be transferred directly to Microsoft Excel for further processing. This enables reports to be generated via Microsoft Excel, for example, where a report is generated daily and filled with data. Manual input forms can be used to add manual and laboratory values.

## Function

By combining and centrally archiving of process values and messages from PCS 7, WinCC and WinCC (TIA) RT Professional, the event log of the Windows operating system, as well as any other sources by means of text import, PM-ANALYZE makes it possible to localize complex interrelations.

### Configuration

The process value and alarm logs in the PM-SERVER application software included in the scope of delivery are the basis for evaluation. PM-SERVER provides the structure to merge process values and messages from different HMI systems in their own process value and alarm logs in the correct sequence or to enter them in the process value and alarm logs via text import.

Preparations for filtering in the PM-ANALYZE Client are made and the colors of the messages in the display area are configured in the PM-ANALYZE topology manager for the alarm logs.

### Process value display

The graphical representation of the process values in charts shows the course of the production process in a clear and concise manner. This can be either the process currently running or a process in the past. The process values are simply selected in a menu for display. The selection menu lists only those process values that are recorded in the configured process value log. The process values can be displayed in different charts. This includes points, lines, areas, bars and columns. A Gantt diagram can also be generated. All current messages in a selected alarm log, for example, can be displayed in a control center for monitoring. This display is updated automatically.

### Configuration of the process value display

In addition to direct display of process values, PM-ANALYZE is also able to perform aggregations and display the aggregated value. To do this, the process values are grouped over a definable period of time and the selected value is calculated. PM-ANALYZE offers the following aggregations: Minimum, maximum, average, total, first value or last value.

# HMI software

## SCADA software

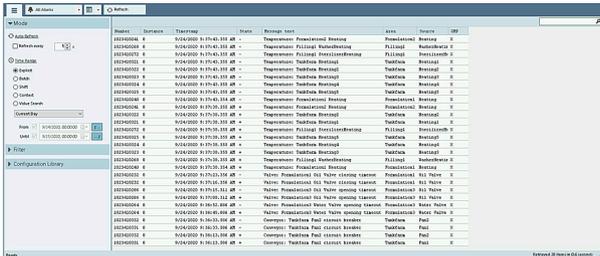
### Process management - Add-ons

## PM-ANALYZE

### Function

#### Message display

All current messages in a selected alarm log, for example, can be displayed in a control center for monitoring. This display is updated automatically.



WinCC Add-on PM-ANALYZE reports

#### Filter library

PM-ANALYZE offers a convenient filter library for backup of simple or hierarchical filter settings. Hierarchical filter settings with up to four levels facilitate faster localization of relevant messages. PM-ANALYZE determines the available filter values independently from the underlying database. Configured filter settings can either be saved globally for all users or specifically for the user that is logged in. The list of messages can be limited even further with the integrated quick search.

#### Analyses

The integrated statistical analysis functions which are conducted for the selected alarm log provide support in the analysis of errors or weak points. Messages are grouped with the optional grouping function and the analysis results are displayed in a clear structure.

- Frequency analysis for determining the most frequently occurring messages; results can be listed by specifying grouping criteria, such as origin, for message columns. This way you expand the traditional range of a Top X analysis (number) to a technological Top X analysis (origin). A score is assigned according to the frequency with which a message occurs.
- Frequency analysis for analyzing message traffic within a period of time, divided into smaller intervals to localize accumulations at a specific time; this way you can break down an entire month, for example, into days.
- Message duration analysis determines the message duration of the archived messages.

Flickering analysis for localization of messages that occur very frequently within a short period of time (bursts) and then do not occur again for a longer period of time; such burst packets can be reliably determined with the flickering analysis by means of an adjustable threshold value.

The PM-ANALYZE add-in for Microsoft Excel enables access to all process values and messages. Depending on the selected time range, the defined values can be output either as unformatted raw data for further processing or directly in a desired dynamic report format. Individual Excel files can serve as template for different reports here. This allows, for example, daily, weekly, annual or event reports to be generated.

### Ordering data

### Article No.

#### PM-ANALYZE Type S system software

9AE7112-1SS01-1AA0

Single-user/multi-user system server that runs on an interconnected WinCC system

#### PM-ANALYZE Type C system software

9AE7112-4SC01-1AA0

Multi-user system client that runs with system package Type S on an interconnected WinCC system or as thin client (without WinCC)

#### Note:

Additional PM-ANALYZE configurations available on request.

### More information

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

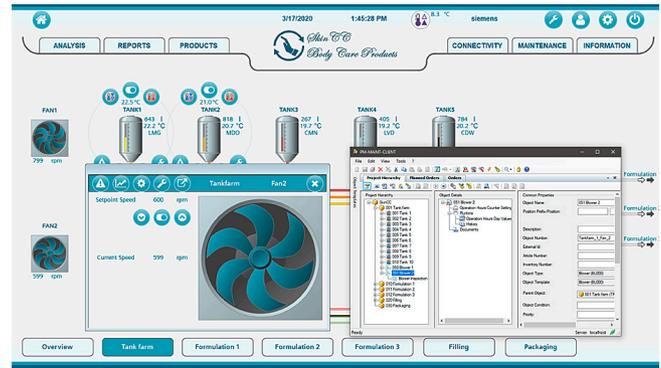
Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:  
<http://www.siemens.com/process-management>

Overview

State	Object Name	Object Number	Object Name	Object No.	Last Date	Obj.	Next Date	Running Obj.	Running Obj. No.
...	...	...	...	...	...	...	...	...	...

PM-MAINT comes with its own document management for backup of documents with maintenance-related information, such as technical data sheets, exploded views, photos, etc. The information can be assigned to the units and thus can be retrieved at any time.



PM-MAINT

Efficient maintenance planning is of crucial importance to ensure and maintain the maximum availability of a plant.

PM-MAINT is a maintenance management system for all industries and is designed for use on the production level. By providing various connection options to the existing automation landscape, PM-MAINT enables performance-based planning that is based on real machine runtimes and machining cycles in addition to purely calendar-based planning.

PM-MAINT supports maintenance in the recording and complete documentation of unplanned repairs by means of easy and comprehensible work sequences with a high level of user-friendliness.

Maintenance information calculated by PM-MAINT, such as recommended maintenance dates, can be displayed in the existing HMI user interface for the respective aggregates. Repair requests can easily be created directly by the machine operator.

All operator actions are recorded in a log and can be traced at any time.

WinCC PM-MAINT 1

Operation

The "Orders" view shows a list of all pending maintenance orders that were generated from the planned orders when the recommended maintenance date was reached. For better maintenance planning, an announcement can be created in due time prior to the order. All announcements are listed in a separate view.

The operator assigns a status to the individual orders depending on the progress of the maintenance work (in progress, feedback provided, completed). Information on the object status, the work done, expenses for personnel and material are documented in the order feedback which can also be created multiple times for any order. Formatting rules, such as the color of the different processing states increase the transparency of the view.

Function

The innovative user interface permits easy access to all maintenance-relevant information.

The convenient selection and filter options in the different views can be customized and adapted to suit your mode of operation. Views can be created for all users, individual user groups or separately for each user.

Configuration

An image of the maintenance-relevant units is created in the form of a tree topology in PM-MAINT. You can add your own object types to the available object types including properties. This means PM-MAINT perfectly adapts to your environment. Required actions, personnel, material, as well as special instructions are bundled into a unit in the planned task.

The maintenance interval can also be determined in parallel by runtime, number of switching cycles and/or a calendar interval. Evaluation is based on the current process values. The earliest calculated date is shown as the recommended maintenance date.

State	Type	Order Number	Order Name	Proposed Date	Planned Date	Object Number	Planned Order Number	Planned Order
...	...	...	...	...	...	...	...	...

WinCC PM-Maint jobs



**HMI software**

SCADA software

Process management - Add-ons

**PM-MAINT****Function**Repair requests

Repair requirements of the operators on site can be documented through seamless integration into the WinCC user interface, saved centrally and synchronized with maintenance. Information from maintenance, such as remaining operating hours until the next scheduled maintenance, can be displayed directly in WinCC.

Transparency and ease of use

The content of the different views shown here can be defined with convenient filter and formatting rules that are saved for individual users, user groups or globally. This means the familiar work environment is available every time you access PM-MAINT. Navigation between linked objects (e.g. from the maintenance object, to the planned order, to completed maintenance orders all the way to individual order feedback) offers access to all information in seconds thanks to context-dependent hyperlinks. Operating hours and switching cycles can be integrated from WinCC, PCS 7, WinCC flexible, WinCC (TIA) or via text import and OPC DA / OPC UA from additional sources for performance-based maintenance. All lists available in PM-MAINT can be forwarded directly to Microsoft Excel to make it easy to transfer maintenance information.

**Ordering data****Article No.****PM-MAINT Type S system software****9AE7104-2SS30-1AA0**

Single-user/multi-user system server that runs on an interconnected WinCC system

**PM-MAINT Type C system software****9AE7104-4SC00-1AA0**

Multi-user system client that runs with system package Type S on an interconnected WinCC system or as Thin Client (without WinCC)

Note:

Additional PM-MAINT configurations available on request.

**More information**

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

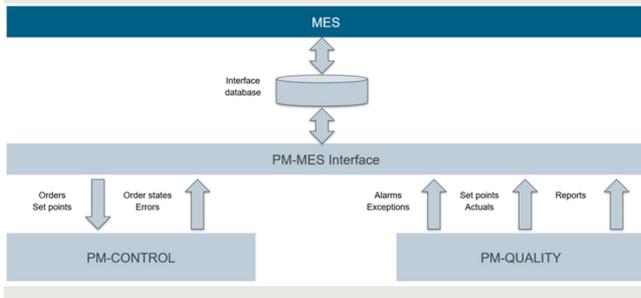
Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

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**Overview**



**PM-MES Interface**

The PM-MES interface enables seamless integration of the SCADA level with MES systems. It builds on the functionality of PM-CONTROL and PM-QUALITY to create a standardized API layer that can be used from the MES side without the need to create custom scripts on the SCADA side.

The PM-MES interface is a bidirectional communication interface between PM-CONTROL, PM-QUALITY and MES systems. Communication is implemented via a Microsoft SQL Server interface database.

**Ordering data**

**PM-MES Interface**  
 Single-user / multi-user system, can be run in conjunction with PM-CONTROL V11.6 and V11.7 and with PM-QUALITY V10.5 and V10.6

**Article No.**

**9AE7110-2SX30-1AA0**

**More information**

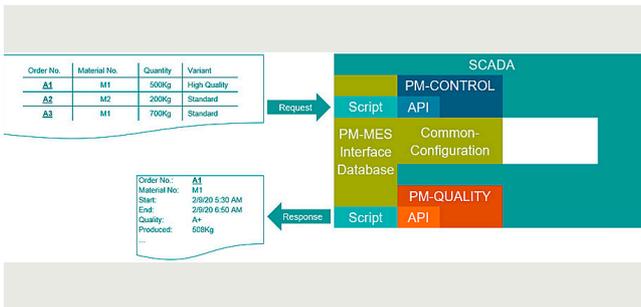
Siemens AG  
 Digital Industries  
 WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

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**Function**



WinCC PM MES 1

With PM-MES Interface, a MES system can create orders in PM-CONTROL, for example, override individual parameters in PM-CONTROL for each order (version management), retrieve batch records such as trends and snapshots from PM-QUALITY or request batch reporting from PM-QUALITY to retrieve the results for embedding in the Master Batch Record.

With this approach, the fundamental differences between the concepts on the planning side and the operational SCADA level can be standardized and aligned by using proven components instead of customer-specific programming.

**HMI software**

SCADA software

Process management - Add-ons

**PM-LOGON****Overview****PM-LOGON**

The PM-LOGON software product offers the operator a user-friendly and fast logon to the operating system with the company ID card via a card reader. PM-LOGON assigns an RFID card to an operator and logs the operator on to the target system as soon as the operator's RFID card enters the reader field of the connected RFID reader. In this way, PM-LOGON automates manual entry of user name and password at the target system.

**Function**

The distributed-designed PM-LOGON supports a wide range of readers that read the Unique ID (UID) of an RFID card. Each UID is assigned to a user either in an Active Directory (domain controller) or in the Windows user administration. The user can log on to different logon services / target systems depending on the operator panel used. SIMATIC Logon, OPC DA/UA and SOAP are available among others. The logon procedure can also be configured depending on the selected logon service. This also enables logon to be performed in the background or the logon dialog to be automatically filled out with user name/password.

**Ordering data****Article No.**

<b>PM-LOGON system software Type S</b>	<b>9AE7123-1SS01-1AA0</b>
<b>PM-LOGON system software Type C</b>	
License file for:	
• 10 users	<b>9AE7123-1SC00-1AA0</b>
• 50 users	<b>9AE7123-1SC01-1AA0</b>
• 100 users	<b>9AE7123-1SC02-1AA0</b>
• 500 users	<b>9AE7123-1SC03-1AA0</b>
• 1 000 users	<b>9AE7123-1SC04-1AA0</b>
• 2 000 users	<b>9AE7123-1SC05-1AA0</b>
• 5 000 users	<b>9AE7123-1SC06-1AA0</b>
• 10 000 users	<b>9AE7123-1SC07-1AA0</b>
<b>PM-LOGON key dongle</b>	<b>9AE7123-1SS01-1AA1</b>

**More information**

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

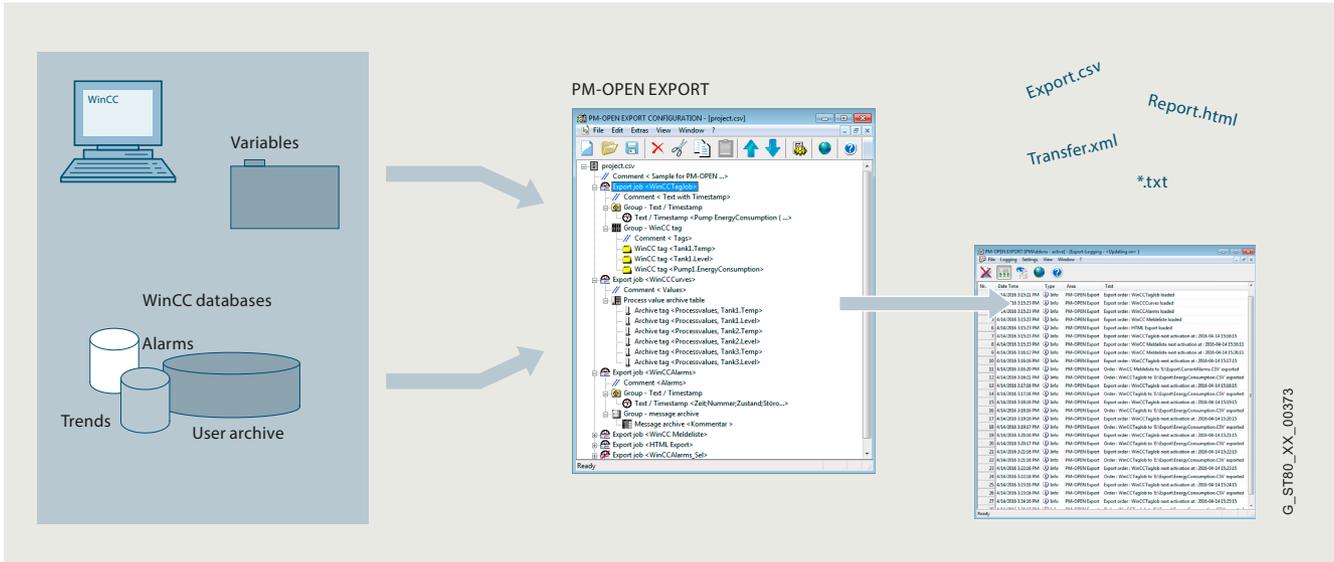
Tel.: +49 (0)621 1723-1010

Email: [winccaddon.automation@siemens.com](mailto:winccaddon.automation@siemens.com)

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Overview



PM-OPEN EXPORT

Flexible and low-cost solution, for exporting current process data (tags) and archive data (alarm log, process value log, user log) from WinCC / PCS 7 / WinCC RT Professional (TIA Portal) into freely formatted text files (ASCII, CSV, HTML/XML format).

Function

PM-OPEN EXPORT can export to any local memory media or to memory media shared on the network. For example, it can be used to make data available on a network server for further processing or analysis.

The configured export jobs are processed automatically in the "background". Triggering of the data export can be cyclical, time-controlled, or event-driven.

Flexible and individual structuring of the destination file is a significant benefit. As well as the exported data, the destination file can also contain, for example, static text and time stamps.

Another advantage of PM-OPEN EXPORT is the possibility of using it in redundant WinCC configurations.

Ordering data

PM-OPEN EXPORT system software

Single-user system; can run on interconnected WinCC system

Article No.

9AE7106-1SS01-1AA0

Note:

Additional PM-OPEN EXPORT configurations available on request.

More information

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

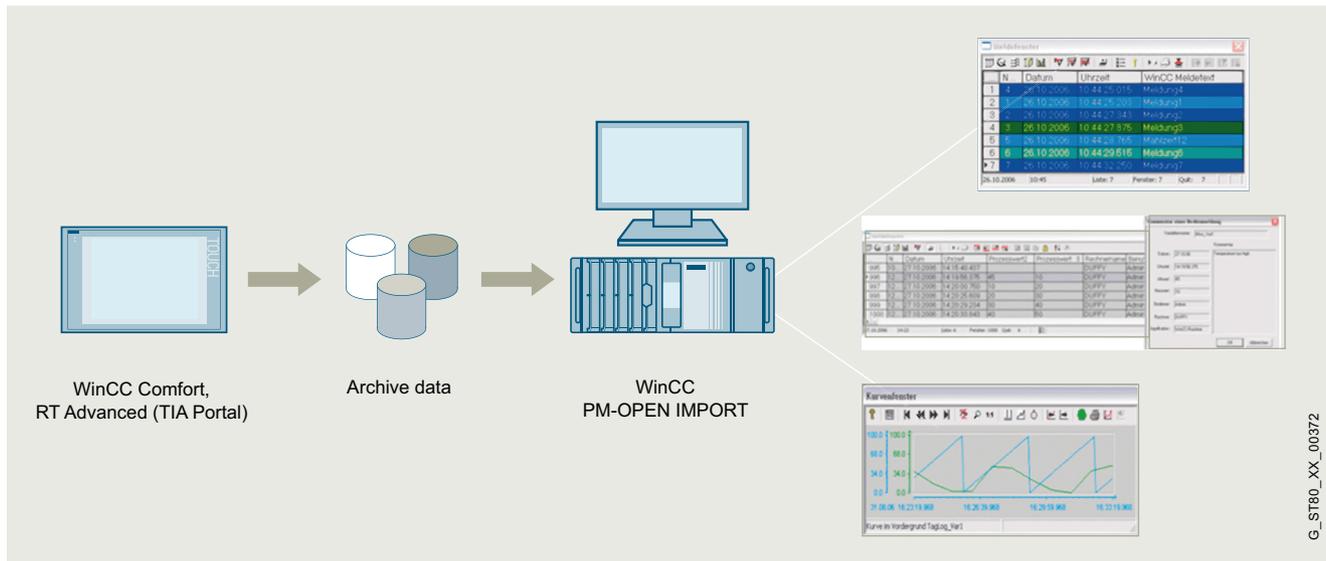
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**HMI software**

SCADA software

Process management - Add-ons

**PM-OPEN IMPORT****Overview**

G\_ST180\_XX\_00372

Process data (tags and messages) and operator actions (Audit Trail) are archived locally as CSV files on SIMATIC WinCC Comfort Panels or systems with WinCC RT Advanced (TIA Portal). With PM-OPEN IMPORT, this data can be centrally and chronologically compiled on a higher-level system and also be safely saved there in database format for the long term. The original time stamps are, of course, retained when importing the data into the WinCC system. The standard resources of the higher-level WinCC system (WinCC RT Professional (TIA Portal), WinCC, PCS 7) are used for display and evaluation.

With PM-OPEN IMPORT, the requirements for the safe, central and long-term archiving of relevant data in the overall automation landscape (from the panel to the higher-level SCADA system) are satisfied as per the guidelines of the Food and Drug Administration (FDA) 21 CFR Part 11 and the EU directive 178/2002.

**Function**

PM-OPEN IMPORT offers the following import functions:

- Import of WinCC Comfort / WinCC RT Advanced data logs  
The data logs in CSV format are imported into the WinCC Tag Logging or into the WinCC RT Professional archives and can be displayed as a table or as a trend using the standard controls.
- Import of WinCC Comfort / WinCC RT Advanced alarm logs  
The alarm logs in CSV format are imported into the WinCC Alarm Logging or into the WinCC RT Professional Messages and can be displayed as a table using the standard control
- Import of WinCC Comfort / WinCC RT Advanced Audit Trails  
Audit Trail logs in CSV format are imported into the WinCC Alarm Logging or into the WinCC RT Professional Messages and can be displayed like WinCC operating messages using the standard control. The data "User name," "Comment" and, if applicable, "Tag name," "Old value" and "New value" are also imported.

**Configuration**

Only one PM-OPEN IMPORT is required per WinCC PC. There is no software restriction on the number of systems that can be connected. Access on the WinCC side takes place exclusively via Ethernet on a Panel or PC Runtime with WinCC RT Advanced.

**Ordering data****Article No.****PM-OPEN IMPORT system software****9AE7114-1SS01-1AA0**

Single-user system; can run on interconnected WinCC system

Note:

Additional PM-OPEN IMPORT configurations available on request.

**More information**

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

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## Overview

### **PM-OPEN MINDCONNECT**

PM-OPEN MINDCONNECT automatically and securely uploads production reports generated by PM-QUALITY or PM-ANALYZE into the Siemens MindSphere Cloud. To facilitate this, a communication channel is established between a virtual asset defined in MindSphere and PM-OPEN MINDCONNECT. This enables a fully customizable solution where, for example, the distribution of reports is organized according to plant area, location or other suitable criteria.

## Function

To access the uploaded reports from anywhere, the MindSphere application PM-REPORT BROWSER, which is available for PM-OPEN MINDCONNECT, can be used.

### **PM-REPORT BROWSER**

PM-REPORT BROWSER provides user-friendly access to reports that have been created on site, e.g. with PM-QUALITY and/or PM-ANALYZE, and uploaded to MindSphere and ensures an optimal overview of the production. Reports are available on any device that can display a PDF file in a standard web browser. This provides seamless global access to PM-QUALITY or PM-ANALYZE production reports.

PM-OPEN MINDCONNECT is therefore a secure and ideal extension for existing PM-QUALITY or PM-ANALYZE installations on site and represents a cost-effective solution.

## Ordering data

### **PM-OPEN MINDCONNECT**

Single-user system, running on interconnected WinCC system with PM-ANALYZE or PM-QUALITY

## Article No.

**9AE7124-1SS01-1AA0**

## More information

Siemens AG  
 Digital Industries  
 WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:

<http://www.siemens.com/process-management>

**HMI software**

SCADA software

Process management - Add-ons

**PM-AGENT****Overview****PM-AGENT**

PM-AGENT is used for communication between PM-QUALITY, PM-CONTROL, PM-MAINT, PM-ANALYZE and PM-OPEN HOST/S with the SIMATIC WinCC / RT Professional / PCS 7 systems. Data from the above systems (tags, messages) can be sent and received.

**Function**

PM-CONTROL, PM-QUALITY, PM-MAINT and PM-ANALYZE are all based on the same infrastructure PM-Server, which performs the acquisition, pre-processing and distribution of all production relevant information, such as hardware interrupts, process values etc.

This enables the installation structure to be extended from a WinCC single station system to a centralized management infrastructure connected to several WinCC systems, even if different SCADA system versions are used.

The PM-AGENT is required to provide a uniform interface for communication with different SCADA systems via the network with services such as the coordination of a redundant server pair that, viewed from the outside, represent a single logical communication partner or the buffering of data in the event of network interruption.

PM-AGENT is available for WinCC V7, PCS 7, WinCC Runtime Professional and WinCC Runtime Unified.

**Ordering data****PM-AGENT**

Single-user station system; runs on interconnected WinCC system

- Sent by email
- Shipped by mail

**Article No.**

**9AE7117-2SS01-1AA0**  
**9AE7117-2SS01-1AA1**

**More information**

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:

<http://www.siemens.com/process-management>

## Overview

### UNIVERSAL PM-PACKAGE

The UNIVERSAL PM-PACKAGE, in combination with a supplementary agreement, provides a cost-effective way to always work with the latest versions of the PM-products for testing and configuration purposes and is therefore aimed exclusively at resellers of PM-products and OEMs.

## Function

The UPP consists of a USB dongle which, together with a license file on the respective product data medium, unlocks the version of the PM-product on the data storage medium for configuration, test and presentation purposes in all configuration versions.

The right of use is unlimited in time, non-exclusive and not transferable to third parties.

The UPP basic package contains single licenses for the products:

- PM-CONTROL as of V11
- PM-QUALITY as of V10
- PM-MAINT as of V10
- PM-ANALYZE as of V8
- PM-OPEN EXPORT as of V8
- PM-OPEN IMPORT as of V7
- PM-OPEN TCP/IP as of V9
- PM-OPEN HOST/S as of V8
- PM-LOGON as of V1
- PM-OPEN MINDCONNECT as of V1

This applies to all available versions, "Compact", "Standard" and "Professional".

## Ordering data

### Article No.

UNIVERSAL PM-PACKAGE

9AE7121-1AB01-0AA0

## More information

Siemens AG  
 Digital Industries  
 WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:  
<http://www.siemens.com/process-management>

**HMI software**

SCADA software

Process management - Add-ons

**COPYPROJECT****Overview*****COPYPROJECT***

COPYPROJECT is used to duplicate a complete WinCC V7 project including all runtime archive databases without exiting runtime.

Backups can be made in the background either manually or automatically, e.g. according to a daily schedule, whereby COPYPROJECT dynamically adapts the names of the destination directories to indicate the time of the backup.

**Function**

COPYPROJECT supports three different copy modes. The main function is to copy a complete active WinCC project. However, individual Microsoft SQL Server databases or individual directories can also be copied.

**Ordering data****Article No.****COPYPROJECT**

Single-user station system; runs on interconnected WinCC system

- Sent by email
- Shipped by mail

**9AE7141-2SS01-1AA0**  
**9AE7141-2SS01-1AA1**

**More information**

Siemens AG  
Digital Industries  
WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:

<http://www.siemens.com/process-management>

## Overview

### **PM-GRID CONTROL**

PM-GRID CONTROL enables display of data from different sources and is used wherever the flexible display of tables within the WinCC Runtime environment is required

## Function

Data can be prepared for display in various formats within the PM-GRID CONTROL. These include the display of a value together with a physical unit, a precisely definable number of digits before and after the decimal point, and a wide variety of date and time formats, which can also be automatically adapted depending on the country.

In addition, the control allows the setting of font sizes, foreground and background colors as well as the display of graphics for displaying indicators depending on the contained column values. Each table cell can also be individually formatted using VB script. The table contents can be sorted in ascending/descending order by clicking on the column header and columns that remain an integral part of the table view can be made static when scrolling.

## Ordering data

### Article No.

#### **PM-GRID CONTROL**

Single station system; can run on interconnected WinCC system

**9AE7141-2SS03-1AA0**

## More information

Siemens AG  
 Digital Industries  
 WinCC Competence Center Mannheim

Tel.: +49 (0)621 1723-1010

Email: [wincaddon.automation@siemens.com](mailto:wincaddon.automation@siemens.com)

More information is available on the Internet at:

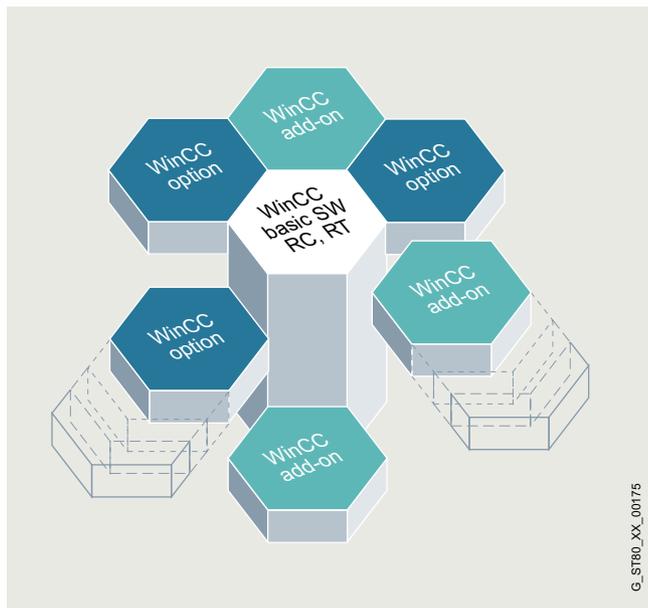
<http://www.siemens.com/process-management>

## HMI software

### SCADA software

## WinCC Add-ons and partner management

### Overview



### WinCC Premium Add-ons – Solutions for all sectors and technologies

The basic system is designed to be independent of any specific technology or industrial sector, to be modular and flexibly expandable and to permit not only simple single-user applications in mechanical engineering, but also complex multi-user solutions or even distributed systems with several servers and clients in plant engineering. WinCC Premium Add-ons are supplementary products that have been created by competent partners working in the specific sectors and technologies and represent interesting expansions for WinCC.

WinCC Premium Add-ons are not DF (Siemens) products, but the products of partners who are committed to complying with certain quality features and boundary conditions. The Premium Add-ons are checked, for example, in the Siemens Test Center for their compatibility with the basic WinCC system and supported in the first instance by the central hotline. As they are important application- and sector-specific add-on products for SIMATIC WinCC, they are marketed jointly by Siemens and the respective add-on suppliers. The WinCC Premium Add-on products can be found on the Internet (see More information) and in the "Online WinCC Premium Add-on Catalog".

#### Premium Add-ons for Connectivity:

- **PM-OPEN IMPORT system software**  
enables the WinCC flexible archives to be automatically read into the WinCC system.
- **PM-OPEN EXPORT system software**  
offers a flexible, low-cost solution for exporting current process data and archive data from WinCC into freely formatted text files.
- **PM-OPEN MINDCONNECT**  
allows transparent access to production reports created by PM-QUALITY and/or PM-ANALYZE via the MindSphere app.

- **TOP Server**  
is a proven OPC data integration platform with a large number of OPC device drivers.
- **TOP Server UCON**  
enables separate OPC device drivers to be created by Point-Click configuration.

#### Premium Add-on for process management:

- **PM-ANALYZE**  
is used for locating sources of error or weak spots in plants by analyzing messages and process values.
- **PM-CONTROL system software**  
is a cross-industry recipe system for user-friendly creation and management of recipes with integrated order control.
- **PM-QUALITY system software**  
is a modular and sector-independent archive system for order-related or batch-related acquisition of process and production data.
- **PM-MES Interface**  
Configurable bi-directional interface between WinCC in combination with PM-CONTROL/PM-QUALITY and MES systems for cost-effective implementation of vertical integration solutions without programming workload.

#### Premium Add-on for sector products:

- **ACRON 7 for WinCC**  
is used for long-term archiving and logging of process data for small to medium-sized plants, specifically in the water supply and treatment industry.
- **Sm@rtlib function library**  
provides function blocks for S7-300/400 as well as faceplates and icons for WinCC and WinCC flexible from the areas of process industry, HVAC, pharmaceuticals and energy.

#### Premium Add-on for configuration tools:

- **DCC TranslationEditor**  
for the efficient, secure translation of multilingual visualizations with in-built features for quality assurance.

#### Premium Add-on for diagnostics and maintenance:

- **ACC Alarm Management System**  
enables messages to be passed from the visualization system to mobile radio call receivers, such as cell phones or pagers, etc.
- **PM-MAINT system software**  
is a sector and technology-neutral maintenance system for use in preventive maintenance.

## Overview

### **Competent partners**

With SIMATIC WinCC, you not only get excellent products to suit your requirements, but we will also support you with selecting a partner for your automation solution. In our global network of Siemens Automation Solution Providers you will always find competent contacts in your area. In addition, Siemens-internal WinCC Competence Centers and WinCC Specialists support external system integrators with WinCC customer and industry-specific implementation of efficient solutions.

### **WinCC Competence Centers**

#### Mannheim: Process management

- Sector-independent solutions and products in the fields of production, environment, maintenance and diagnostics
- Connectivity tools, system integration, connection to SAP R/3
- Support of FDA validation and WinCC ODK

#### Stuttgart: Production technology

- Solutions for maintenance management
- Alarm management

#### Plano, Texas (USA)

Migration of FactoryLink to SIMATIC WinCC

- Support for customers with migration projects
- Optimization of automated migration tools
- Support for FactoryLink customers with CSS contracts

## More information

### **WinCC Competence Centers**

More information is available on the Internet at <http://www.siemens.com/process-management>

### **Siemens Solution Partners Automation**

More information is available on the Internet at: <http://www.siemens.com/automation/solutionpartner>

### **WinCC Specialists**

More information is available on the Internet at: <http://www.siemens.com/wincc-specialists>

### **WinCC Premium Add-ons**

More information is available on the Internet at: <http://www.siemens.com/wincc-addons>

## HMI software

### SIMATIC ProAgent process diagnostics software

#### SIMATIC ProAgent process diagnostics software

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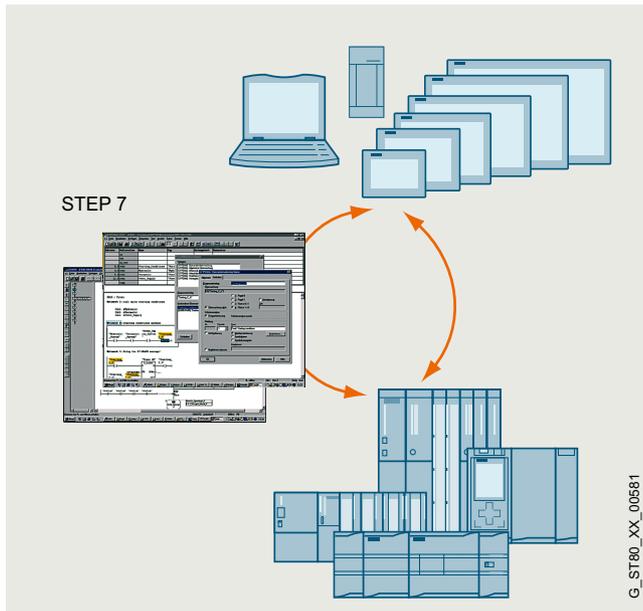
##### Overview

##### ***SIMATIC ProAgent***

The software options package for fast, targeted process fault diagnosis that

- provides plant and machine personnel with optimized support with troubleshooting and fault rectification,
- increases the plant availability, and
- reduces downtimes.

## Overview



- Process diagnosis software for quick and precise diagnosis of faults/errors in plants and machines for SIMATIC S7 and SIMATIC HMI
- Standardized diagnostics concept for various SIMATIC components: optimum interaction of STEP 7 engineering tools and SIMATIC HMI
- Standardized user interface

### Licensing

Runtime software, one license is required for each piece of target hardware.

Additional information is available on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here: <http://www.siemens.com/simatic-licenses>

## Benefits

- Integral component of Totally Integrated Automation (TIA): increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- ProAgent:
  - Provides optimum support for plant and machine personnel in respect of troubleshooting and fault rectification
  - Increases plant availability
  - Reduces downtimes
- No further configuration overhead for diagnostics functionality
- Frees up PLC capacity with regard to memory and program execution time
- No special operator know-how is required thanks to clearly comprehensible indication of the cause of error

## Application

Increased productivity is being achieved more and more by cutting costs. In this context, the focus is increasingly on maintenance. The emphasis here is on rectifying faults as quickly and efficiently as possible. Ideally, the operating personnel should also perform part of the maintenance tasks. The operating personnel are on-site, they are familiar with the procedures and can intervene quickly. This saves time and reduces costs. It is precisely here that ProAgent can assist operating personnel in identifying faults quickly, in particular in the automotive and machine tool industries.

In the event of a process fault, process fault diagnostics with SIMATIC ProAgent will provide information about the location and cause of that fault and support personnel with troubleshooting.

The ProAgent solution has been optimized specifically for use with SIMATIC S7-300/S7-400 and SIMATIC WinAC. It can be used in combination with the S7-PDIAG, S7-GRAPH and S7-HiGraph<sup>1)</sup> STEP 7 engineering tools. The ProAgent option package features standard displays that are updated with process-specific data during runtime.

<sup>1)</sup> Process diagnostics with S7-HiGraph in combination with TP/OP/MP 270/277, MP 370/377, and C7636 and PC RT systems.

## HMI software

### SIMATIC ProAgent process diagnostics software

#### SIMATIC WinCC/ProAgent

#### Function

- Context-sensitive diagnostics initiation due to process error message
- Output of operands with symbols and comment
- Switching is possible between LAD, STL and signal list
- Supporting fault rectification with direct process access when using the motion display
- Output of the faulty operands directly in the message including address, symbol and comment<sup>1)</sup>
- Consistency test in RT:  
Inconsistent diagnostics units are marked with icons. This permits quick locating of faults regarding configured data in the commissioning phase.
- Direct, unit-related entry point in the diagnostics display from user displays by using ProAgent functions
- Unit or message-related entry to STEP 7 (LAD/STL/FBD editor, S7-GRAF, HW CONFIG (upon system error messages)), supported fully automatically<sup>2)</sup>
- Unit or message-related entry to STEP 7, supported fully automatically<sup>3)</sup>
- Graphic display of step sequences

1) In connection with WinCC/ProAgent as of V6.0

2) WinCC/ProAgent as of V5.5 on PC RT

3) Only WinCC/ProAgent as of V5.5

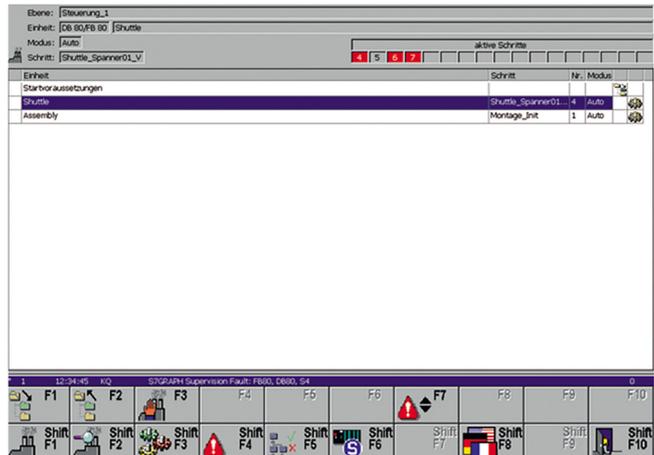
#### Standardized user interface with standard displays

- Message display
- Unit overview
- Diagnostics detail display
- Motion display
- Sequencer operating display

The displayed screen content is related to the previously selected units or messages. This means that the proper context-sensitive diagnostics screen can be called up based on a message or a selected technological unit.

#### Message display

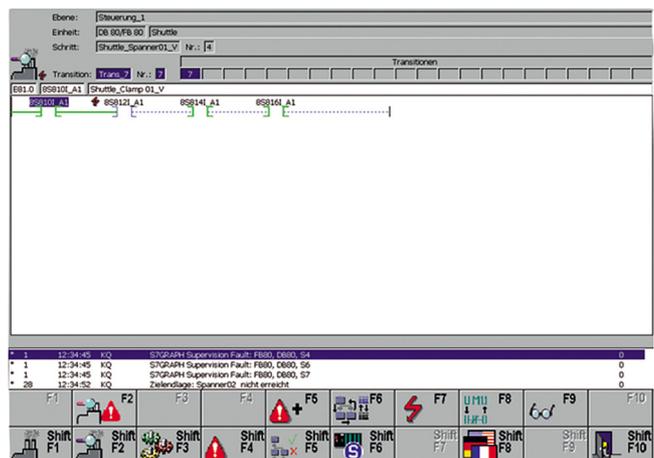
All of the existing process messages are shown in the message display. Context-sensitive branching to other diagnostics displays is also possible with a selected message. The operating personnel can also take the message directly from the erroneous operands and react immediately without having to perform any other operations on the HMI device. The function is available as of version 6.0 for WinCC/ProAgent.



#### Unit overview

The unit overview displays all technological units and the respective sub-units (system/machine components) in table form. In this display, the operator is able to recognize, for example, which operating mode or which status the respective unit is in. The operating mode can be changed by the operator if required.

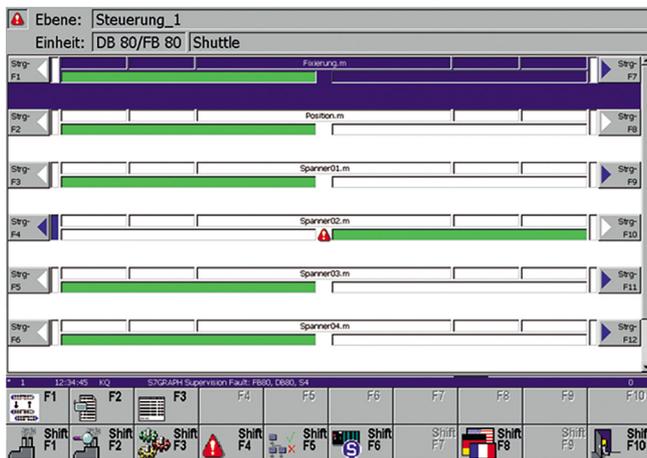
Faulty units are marked with attributes.



### Function

#### Diagnostics detail display

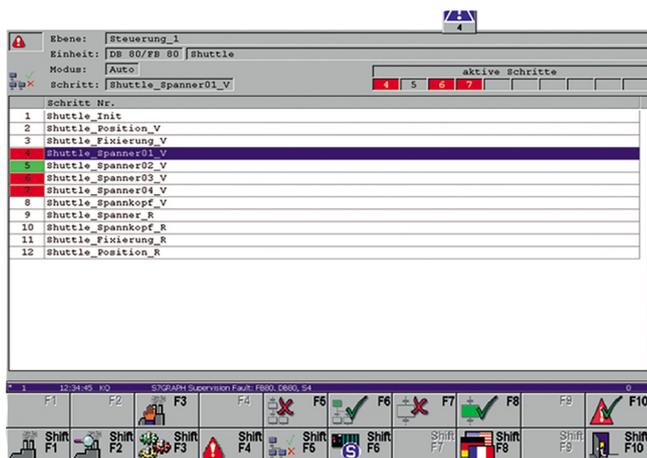
The diagnostics detail display shows the faulty operands at the time of origination of a process error. As an option, current status information can also be displayed. The diagnostics results are either displayed in a ladder diagram (LAD), statement list (STL), or in a clearly arranged signal list overview. The output of the operands depends on the display format with symbols and comments from the S7 symbol table. Only the operands that cause the fault are displayed and marked with a highlighted attribute. Switching to a display that calls up the current status of all operands in the controller is also possible.



#### Motion display

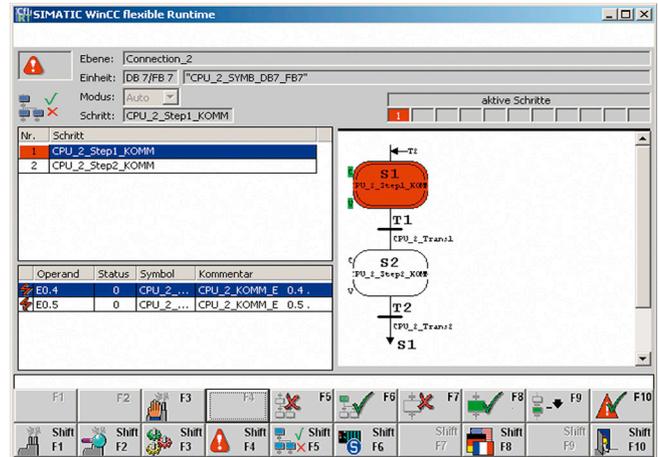
The motion display is used for supported fault rectification. Every motion line contains a comment line that describes the motion (e.g. x-axis), two actions for implementing the motion, response concerning the actuation of a motion and information on the respectively achieved end positions (max. 16).

The motion itself is controlled with softkeys on the side of SIMATIC Panels and Multi Panels. For time-critical motions, the actuation can be done directly through inputs of the controller (depending on the capabilities of the target hardware: 24 V direct keys, DP direct keys via PROFIBUS).



#### Sequencer operating display

The sequencer operating display supports sequencer control. This makes functions such as initializing and acknowledging sequencers, activating/deactivating individual steps and operating mode settings possible analog to the status/Force in S7-GRAPH. The steps are output to a list with step number/name. Attributes for identifying an active/faulty step give the operating personnel an overview of the current status of the step sequence.



#### Sequencer diagnostics display

WinCC/ProAgent<sup>1)</sup> also offer capabilities for graphic monitoring and sequencer diagnostics. This gives the user the ability to monitor active/faulty steps as well as the fault cause, e.g. faulty transition conditions, simultaneously on the HMI device.

<sup>1)</sup> WinCC/ProAgent as of V5.6 in combination with S7-GRAPH as of V5.1 (OCX is delivered as of S7-GRAPH 5.1)

**HMI software**

## SIMATIC ProAgent process diagnostics software

**SIMATIC WinCC/ProAgent****Ordering data****Article No.****SIMATIC WinCC/ProAgent**

Software option package for process diagnosis based on S7 GRAPH V5 and higher and S7 PDIAG V5 and higher; functional enhancement for SIMATIC WinCC; electronic documentation in English, French and German; functions and standard screens for use on a PC

(resolution 1024 x 768 pixels) and Panel PC 577/677/877 15" (resolution 1024 x 768 pixels) in English, French and German, runtime license (single license)

WinCC version:

- V7.5<sup>1)</sup>
- V7.4<sup>1)</sup>

**6AV6371-1DG07-5AX0**

**6AV6371-1DG07-4AX0**

As download

- V7.5<sup>1)</sup>
- V7.4<sup>1)</sup>

**6AV6371-1HG07-5AX0**

**6AV6371-1HG07-4AX0**

**Upgrade**

- V7.4 to V7.5<sup>1)</sup>
- V7.2/3 to V7.5<sup>1)</sup>
- V7.x to V7.4<sup>1)</sup>

**6AV6371-1DG07-5AX4**

**6AV6371-1DG07-5AX3**

**6AV6371-1DG07-4AX3**

As download

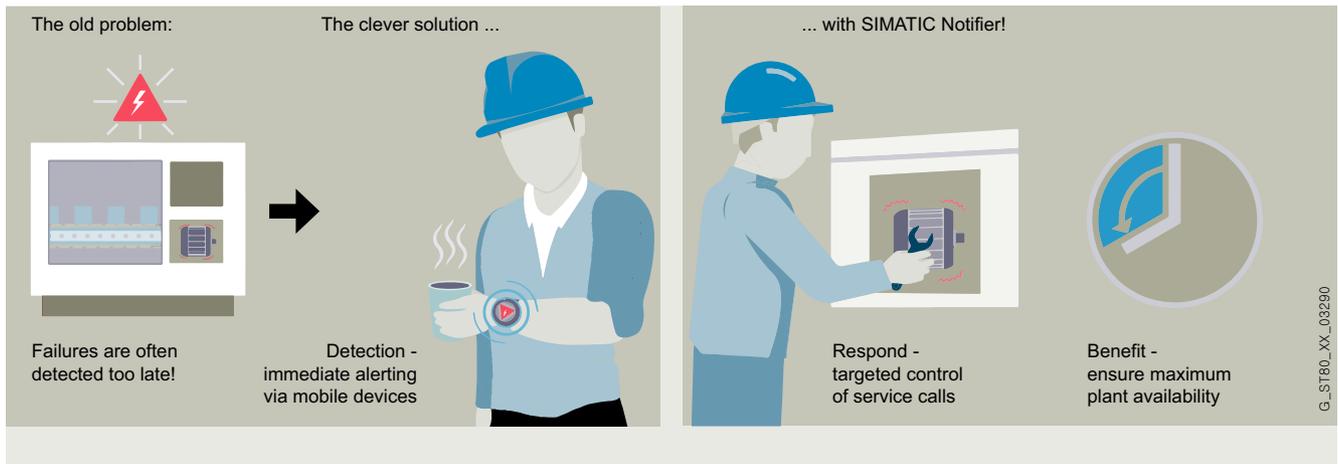
- V7.4 to V7.5<sup>1)</sup>
- V7.2/3 to V7.5<sup>1)</sup>
- V7.x to V7.4<sup>1)</sup>

**6AV6371-1KG07-5AX4**

**6AV6371-1KG07-5AX3**

**6AV6371-1KG07-4AX3**

<sup>1)</sup> Not multi-station-capable

**Overview**


SIMATIC Notifier

**SIMATIC Notifier: Detect. React. Benefit.**

SIMATIC Notifier is used to provide targeted notifications to employees on their smart devices. The web-based configuration is performed on the Notifier Server in advance for each individual device.

The SIMATIC Notifier Client app receives the notifications. S7, S7 Classic or OPC UA communication is required for integration into a system/machine.

Licenses:

- SIMATIC Notifier Server
- SIMATIC Notifier Client License (unlimited extension options, depending on the number of linked smart devices)

## HMI software

Notification software for mobile devices

### SIMATIC Notifier

#### Benefits

- Detection and localization of plant or machine faults
- Direct notification on smartwatches, smartphones and tablets
- Increased productivity by avoiding downtimes
- Increased freedom of movement and ability to reach employees via wireless LAN communication

#### Application

- Plants and machines with operator intervention
- Long production lines, individual machines or total systems
- Simple retrofit/integration
- Fast and user-friendly configuration
- Licensing based on number of connected smart devices (smartwatch, smartphone or tablet)

#### Function

- Notifications on smart devices
- User and role management
- Different notification categories: Alert, warning and information
- Customizable notification texts and triggering conditions
- "Take over" feature for team applications

#### Ordering data

#### Article No.

##### **SIMATIC Notifier Server 1.0 for Win7 or Win10 (64-bit)**

SIMATIC Notifier Server license key, download + SIMATIC Notifier Server software, download. Including a SIMATIC Notifier Client license. Email address required for delivery.

**6AV2170-0AA10-0AA0**

##### **SIMATIC Notifier Client license**

Freely expandable Client license, download. Email address required for delivery.

**6AV2170-0AA20-0AA0**

#### Technical specifications

	<b>SIMATIC Notifier</b>
<b>Machine integration</b>	S7 Classic, S7+, OPC UA
<b>Max. number of controllers/machines</b>	30x S7 or 30x OPC UA or 30x mixed configurations <sup>1)</sup>
<b>Max. number of variables per second per machine</b>	50 <sup>1)</sup>
<b>Max. number of variables per second per Notifier Server</b>	1500 <sup>1)</sup>
<b>Max. number of connected smart devices per Notifier Server</b>	50 <sup>1)</sup>
<b>Minimum requirements for smartwatch OS</b>	Android Wear 2
<b>Minimum requirements for a Windows PC</b>	Windows 7 or 10 (64-bit), 4 GB RAM; Internet Explorer or Google Chrome
<b>Availability</b>	In countries as per OSD country list (Online Software Delivery)

<sup>1)</sup> Depending on the performance of the Windows PC used

#### More information

More information is available at:

<http://www.siemens.com/simatic-notifier>

**Overview****BRAUMAT / SSTAR**

BRAUMAT / SSTAR is the tried and tested control system for the automation of recipe and batch-controlled production processes like those used in the food and beverages industry, but also in other industries.

The following industries can be cited as examples:

- Beer production
- Milk processing
- Battery manufacturing
- Mixing processes
- And other comparable batch-oriented production processes

The system software is attuned to the technological requirements of such production processes and contains the following functions, among others:

- PLC-based recipe control by processing the specified product recipes
- Operator control and monitoring system with server/client architecture
- Graphics-based recipe and order management
- Automatic weighing and dosage of raw materials and inputs
- Route control of pipe and valve-related transport procedures (e.g. in tank farms)
- Messaging and logging
- Test and diagnostics
- Engineering and configuration tools

**BRAUMAT / SSTAR Lean**

In addition to the BRAUMAT / SSTAR standard system ("Standard edition"), the Lean edition of BRAUMAT / SSTAR is also available.

This is especially aimed at the needs of smaller plants (e.g. microbreweries and craft breweries) or encapsulated plant units (e.g. thermal treatment such as 'short-time heating') and provides an easy and cost-effective entry-level system.

**Ordering data****Article No.**

<b>BRAUMAT / SSTAR</b>	
<b>BRAUMAT / SSTAR Engineering</b>	
<b>BRAUMAT / SSTAR Engineering V8.0</b>	
• As package	6DL5210-0AX08-0YA5
• Download <sup>1)</sup>	6DL5210-0AX08-0DA5
<b>Upgrade V7.5 -&gt; V8.0</b>	
• As package	6DL5210-0AX08-0YE5
• Download <sup>1)</sup>	6DL5210-0AX08-0DE5
<b>Upgrade V7.x -&gt; V8.0</b>	
• As package	6DL5210-0AX08-0YG5
• Download <sup>1)</sup>	6DL5210-0AX08-0DG5
<b>Upgrade 7.x -&gt; V7.5</b>	
• As package	6DL5210-0AX57-0YE5
• Download <sup>1)</sup>	6DL5210-0AX57-0DE5
<b>BRAUMAT / SSTAR IOS Server</b>	
<b>BRAUMAT / SSTAR IOS Server V8.0</b>	
• As package	6DL5210-1BX08-0YA0
• Download <sup>1)</sup>	6DL5210-1BX08-0DA0
<b>Upgrade V7.5 -&gt; V8.0</b>	
• As package	6DL5210-1BX08-0YE0
• Download <sup>1)</sup>	6DL5210-1BX08-0DE0
<b>Upgrade 7.x -&gt; V8.0</b>	
• As package	6DL5210-1BX08-0YG0
• Download <sup>1)</sup>	6DL5210-1BX08-0DG0
<b>BRAUMAT / SSTAR IOS Server V7.5</b>	
<b>Upgrade 7.x -&gt; V7.5</b>	
• As package	6DL5210-1BX57-0YE0
• Download <sup>1)</sup>	6DL5210-1BX57-0DE0
<b>BRAUMAT / SSTAR RCS Server (Route Control System)</b>	
<b>BRAUMAT / SSTAR RCS Server V8.0</b>	
• As package	6DL5210-1DX08-2YB0
• Download <sup>1)</sup>	6DL5210-1DX08-2DB0
<b>Upgrade V7.5 -&gt; V8.0</b>	
• As package	6DL5210-1DX08-2YE0
• Download <sup>1)</sup>	6DL5210-1DX08-2DE0
<b>Upgrade 7.x -&gt; V8.0</b>	
• As package	6DL5210-1DX08-2YG0
• Download <sup>1)</sup>	6DL5210-1DX08-2DG0
<b>BRAUMAT / SSTAR RCS Server V7.5</b>	
<b>Upgrade 7.x -&gt; V7.5</b>	
• As package	6DL5210-1DX57-2YE0
• Download <sup>1)</sup>	6DL5210-1DX57-2DE0

# Automation software

## BRAUMAT

### BRAUMAT / SISTRAR

Ordering data	Article No.	Ordering data	Article No.
<i>BRAUMAT / SISTRAR Multi Area Client</i>		<i>BRAUMAT / SISTRAR SQL Adapter Server</i>	
<b>BRAUMAT / SISTRAR Multi Area Client V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1CX08-0YB5 6DL5210-1CX08-0DB5	<b>BRAUMAT / SISTRAR SQL Adapter Server V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1GX08-2YB0 6DL5210-1GX08-2DB0
<b>Upgrade V7.5 -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1CX08-0YE5 6DL5210-1CX08-0DE5	<b>Upgrade V7.5 -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1GX08-2YE0 6DL5210-1GX08-2DE0
<b>Upgrade 7.x -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1CX08-0YG5 6DL5210-1CX08-0DG5	<b>Upgrade 7.x -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1GX08-2YG0 6DL5210-1GX08-2DG0
<i>BRAUMAT / SISTRAR Multi Area Client V7.5</i>		<i>BRAUMAT / SISTRAR SQL Adapter Server V7.5</i>	
<b>Upgrade 7.x -&gt; V7.5</b> • As package • Download <sup>1)</sup>	6DL5210-1CX57-0YE5 6DL5210-1CX57-0DE5	<b>Upgrade 7.x -&gt; V7.5</b> • As package • Download <sup>1)</sup>	6DL5210-1GX57-2YE0 6DL5210-1GX57-2DE0
<i>BRAUMAT / SISTRAR Single Area Client</i>		<i>BRAUMAT / SISTRAR MES API IOS</i>	
<b>BRAUMAT / SISTRAR Single Area Client V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1SX08-0YB5 6DL5210-1SX08-0DB5	<b>BRAUMAT / SISTRAR MES API IOS V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1JX08-2YB0 6DL5210-1JX08-2DB0
<b>BRAUMAT / SISTRAR Conversion Single -&gt; Multi Area Client V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1SX08-0YD5 6DL5210-1SX08-0DD5	<b>Upgrade V7.5 -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1JX08-2YE0 6DL5210-1JX08-2DE0
<i>BRAUMAT / SISTRAR PCU (Process Control Unit)</i>		<i>BRAUMAT / SISTRAR MES API Server</i>	
<b>BRAUMAT / SISTRAR PCU V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1EX08-0YB0 6DL5210-1EX08-0DB0	<b>BRAUMAT / SISTRAR MES API Server V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1KX08-2YB0 6DL5210-1KX08-2DB0
<b>Upgrade V7.5 -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1EX08-0YE0 6DL5210-1EX08-0DE0	<b>Upgrade V7.5 -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1KX08-2YE0 6DL5210-1KX08-2DE0
<b>Upgrade 7.x -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1EX08-0YG0 6DL5210-1EX08-0DG0	<b>Upgrade 7.x -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1KX08-2YG0 6DL5210-1KX08-2DG0
<i>BRAUMAT / SISTRAR PCU V7.5</i>		<b>Upgrade 7.x -&gt; V7.5</b> • As package • Download <sup>1)</sup>	6DL5210-1KX57-2YE0 6DL5210-1KX57-2DE0
<b>Upgrade 7.x -&gt; V7.5</b> • As package • Download <sup>1)</sup>	6DL5210-1EX57-0YE0 6DL5210-1EX57-0DE0	<i>BRAUMAT / SISTRAR SQL Adapter IOS</i>	
<i>BRAUMAT / SISTRAR SQL Adapter IOS</i>		<b>BRAUMAT / SISTRAR SQL Adapter IOS V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1FX08-2YB0 6DL5210-1FX08-2DB0
<b>BRAUMAT / SISTRAR SQL Adapter IOS V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1FX08-2YB0 6DL5210-1FX08-2DB0	<b>Upgrade V7.5 -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1FX08-2YE0 6DL5210-1FX08-2DE0
<b>Upgrade V7.5 -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1FX08-2YE0 6DL5210-1FX08-2DE0	<b>Upgrade 7.x -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1FX08-2YG0 6DL5210-1FX08-2DG0
<b>Upgrade 7.x -&gt; V8.0</b> • As package • Download <sup>1)</sup>	6DL5210-1FX08-2YG0 6DL5210-1FX08-2DG0	<i>BRAUMAT / SISTRAR SQL Adapter IOS V7.5</i>	
<i>BRAUMAT / SISTRAR SQL Adapter IOS V7.5</i>		<b>Upgrade 7.x -&gt; V7.5</b> • As package • Download <sup>1)</sup>	6DL5210-1FX57-2YE0 6DL5210-1FX57-2DE0
<b>Upgrade 7.x -&gt; V7.5</b> • As package • Download <sup>1)</sup>	6DL5210-1FX57-2YE0 6DL5210-1FX57-2DE0		

<sup>1)</sup> For up-to-date information and download availability, see:  
<http://www.siemens.com/tia-online-software-delivery>

Ordering data	Article No.	Ordering data	Article No.
<i>BRAUMAT / SISTRAR Lean</i>		<b>Upgrade Lean4 V7.5 -&gt; V8.0</b>	
<b>BRAUMAT / SISTRAR Lean V8.0</b>		• As package	6DL5210-1HB08-0YE0
• As package	6DL5210-1HB08-0YA0	• Download <sup>1)</sup>	6DL5210-1HB08-0DE0
• Download <sup>1)</sup>	6DL5210-1HB08-0DA0	<b>Upgrade Lean16 V7.5 &gt; V8.0</b>	
<b>PowerPack +12 V8.0</b>		• As package	6DL5210-1HD08-0YE0
• As package	6DL5210-1HX08-0YF0	• Download <sup>1)</sup>	6DL5210-1HD08-0DE0
• Download <sup>1)</sup>	6DL5210-1HX08-0DF0	<b>Upgrade Lean16 V7.x &gt; V8.0</b>	
<i>BRAUMAT / SISTRAR Convert Lean -&gt; IOS</i>		• As package	6DL5210-1HD08-0YG0
<b>Lean4 -&gt; IOS V8.0</b>		• Download <sup>1)</sup>	6DL5210-1HD08-0DG0
• As package	6DL5210-1HB08-0YD0	<b>Upgrade Lean28 V7.5 &gt; V8.0</b>	
• Download <sup>1)</sup>	6DL5210-1HB08-0DD0	• As package	6DL5210-1HF08-0YE0
<b>Lean16 -&gt; IOS V8.0</b>		• Download <sup>1)</sup>	6DL5210-1HF08-0DE0
• As package	6DL5210-1HD08-0YD0	<b>Upgrade Lean40 V7.5 &gt; V8.0</b>	
• Download <sup>1)</sup>	6DL5210-1HD08-0DD0	• As package	6DL5210-1HH08-0YE0
<b>Lean28 -&gt; IOS V8.0</b>		• Download <sup>1)</sup>	6DL5210-1HH08-0DE0
• As package	6DL5210-1HF08-0YD0	<b>Upgrade Lean16 V7.x &gt; V7.5</b>	
• Download <sup>1)</sup>	6DL5210-1HF08-0DD0	• As package	6DL5210-1HD57-0YE0
<b>Lean40 -&gt; IOS V8.0</b>		• Download <sup>1)</sup>	6DL5210-1HD57-0DE0
• As package	6DL5210-1HH08-0YD0		
• Download <sup>1)</sup>	6DL5210-1HH08-0DD0		

<sup>1)</sup> For up-to-date information and download availability, see:  
<http://www.siemens.com/tia-online-software-delivery>

### More information

More information is available on the Internet at:

BRAUMAT / SISTRAR:

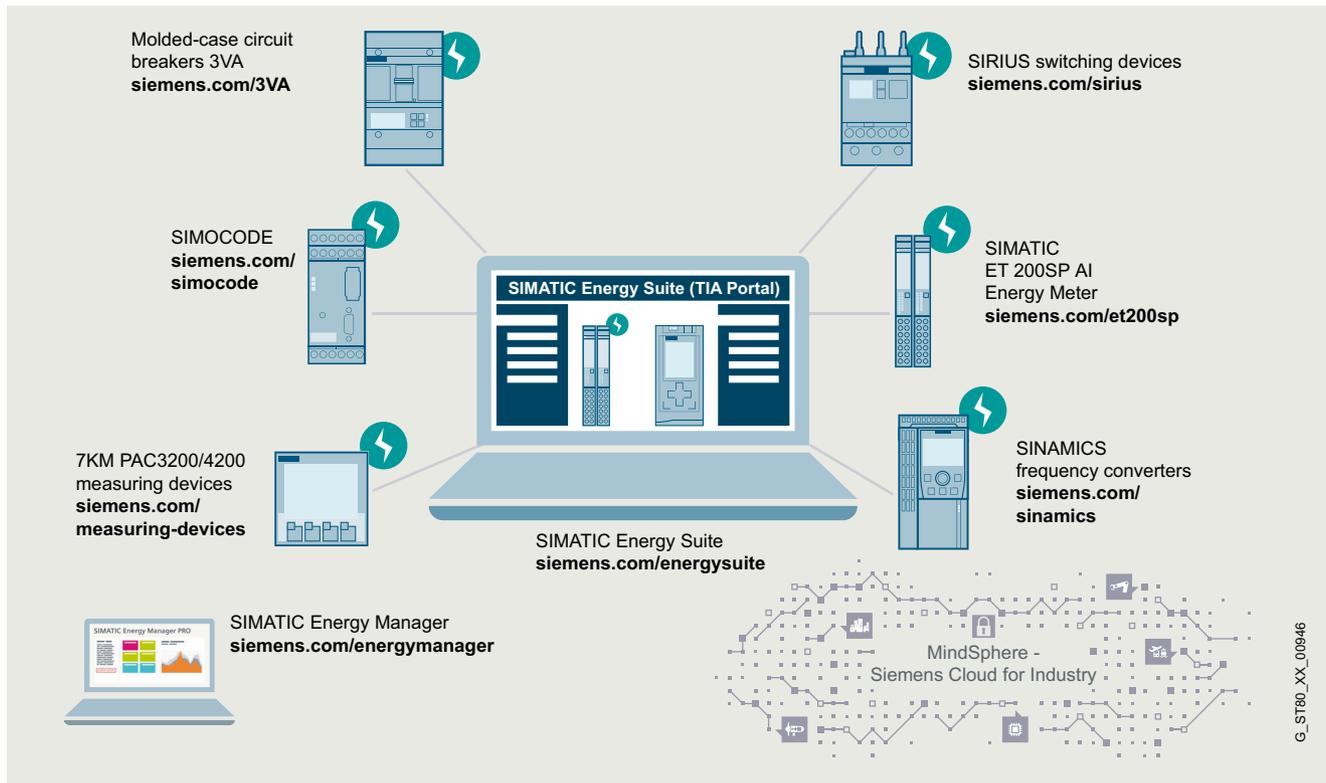
<https://www.siemens.com/braumat>

## Automation software

Software for energy management

### Software for energy management

#### Overview



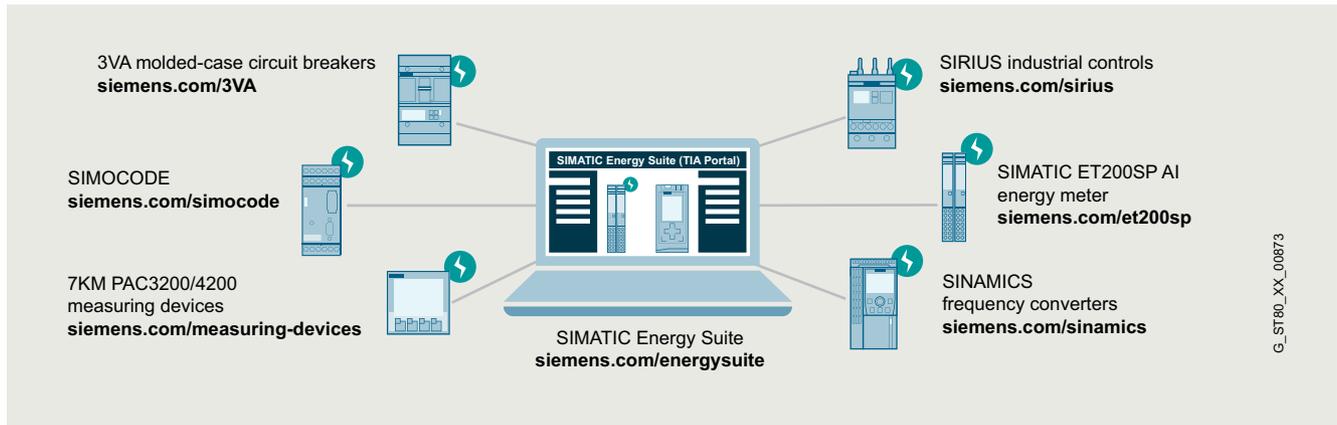
Energy Management, system overview

SIMATIC offers numerous reasons for corporate energy management in industrial plants. However, there is one in particular: It makes an important contribution towards improving plant productivity. This results in enhanced competitiveness.

Energy management with SIMATIC makes energy flows transparent in production plants. This supports the analysis and derivation of energy saving potential.

The result: Permanently increased efficiency, higher productivity and an improved cost situation.

<http://www.siemens.com/simatic-energy-management>

**Overview**

**SIMATIC Energy Suite – Energy data acquisition and load management**

A high energy consumption and automated production are typical for many industries. If you want to keep your energy costs under control in the long term and you are already focusing on the digital future, you will equip your plant with integrated energy measuring technology, thus anchoring your energy management in the automation of your production processes – which is where most energy is consumed.

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.

**Functional enhancement for energy efficiency evaluation of machines:**

Especially for evaluation of the product-related energy efficiency of machines, the S7 instruction "Energy efficiency monitor for machines" extends the scope of the SIMATIC Energy Suite functions.

As part of the instruction library of STEP 7 (TIA Portal), the function can be integrated in the machine control system by the machine manufacturer.

By linking the energy consumption, the production counter and the operating state, easy evaluation of the energy efficiency is possible based on energy performance indicators (EnPI).

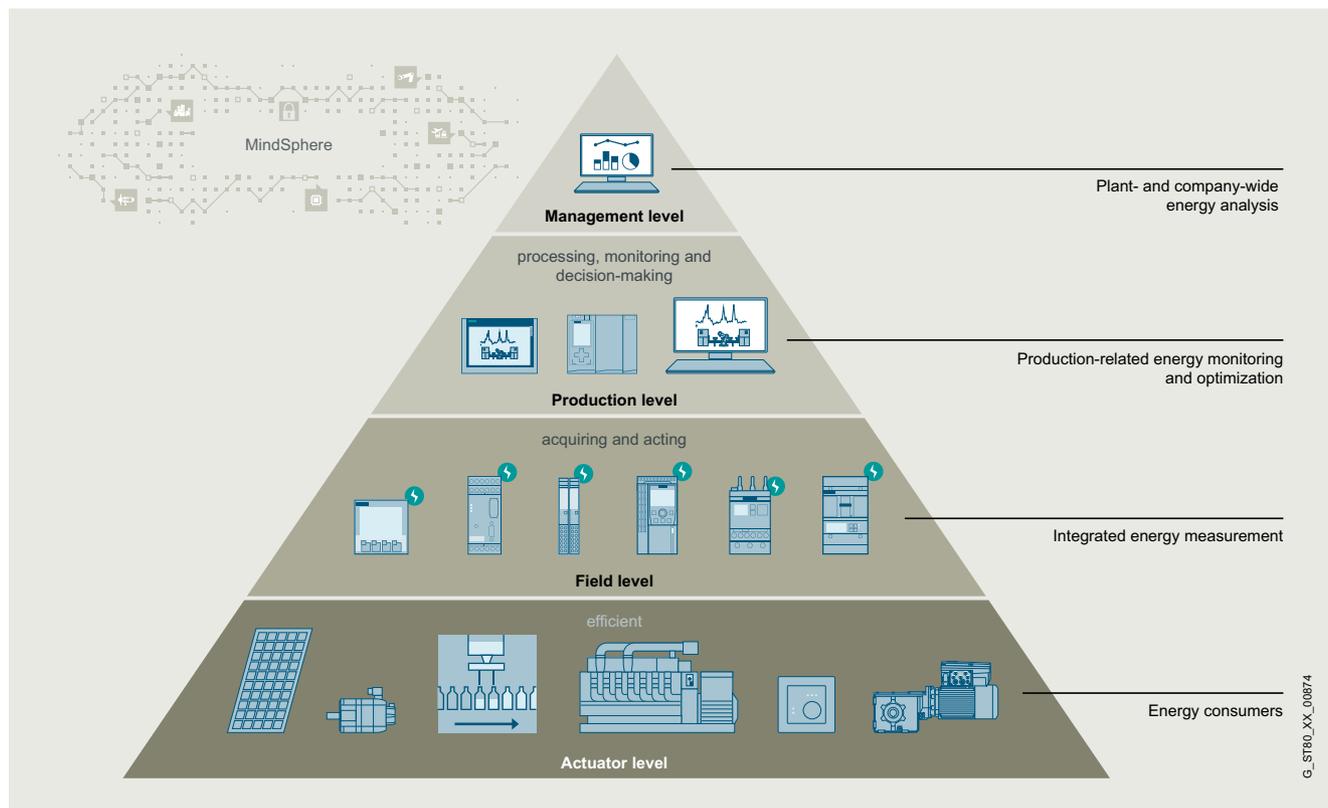
## Automation software

Software for energy management

### SIMATIC Energy Suite

Ordering data	Article No.	Article No.
<b>Engineering package</b> Includes installation medium, floating license for engineering as well as license certificates <sup>3)</sup> for 10 energy objects <sup>1)</sup> (2x5 EnO).		<b>SIMATIC Energy Suite S7-1500</b> SIMATIC Energy Suite S7-1500, 5 energy objects <sup>1)</sup> (1 x 5 EnO) • As package • Download <sup>4)</sup>
<b>SIMATIC Energy Suite V18 Engineering</b> including 10 energy objects <sup>1)</sup> (2x5 EnO) • As package • Download <sup>4)</sup>	<b>6AV2108-0AA08-0AA5</b> <b>6AV2108-0AA08-0AH5</b>	<b>6AV2108-0CF00-0BB0</b> <b>6AV2108-0CF00-0BH0</b>
<b>SIMATIC Energy Suite V17 Engineering</b> including 10 energy objects <sup>1)</sup> (2x5 EnO) • As package • Download <sup>4)</sup>	<b>6AV2108-0AA07-0AA5</b> <b>6AV2108-0AA07-0AH5</b>	<b>6AV2108-0CH00-0BB0</b> <b>6AV2108-0CH00-0BH0</b>
<b>SIMATIC Energy Suite V16 Engineering</b> including 10 energy objects <sup>1)</sup> (2x5 EnO) • As package • Download <sup>4)</sup>	<b>6AV2108-0AA06-0AA5</b> <b>6AV2108-0AA06-0AH5</b>	<b>6AV2108-0DF00-0BB0</b> <b>6AV2108-0DF00-0BH0</b>
<b>SIMATIC Energy Suite V18 Engineering</b> including 10 energy objects <sup>1)</sup> (2x5 EnO) • As package • Download <sup>4)</sup>	<b>6AV2108-0AA07-0AA5</b> <b>6AV2108-0AA07-0AH5</b>	<b>6AV2108-0FH00-0BB0</b> <b>6AV2108-0FH00-0BH0</b>
<b>SIMATIC Energy Suite V16 Engineering</b> including 10 energy objects <sup>1)</sup> (2x5 EnO) • As package • Download <sup>4)</sup>	<b>6AV2108-0AA06-0AA5</b> <b>6AV2108-0AA06-0AH5</b>	<b>6AV2108-0HH00-0BB0</b> <b>6AV2108-0HH00-0BH0</b>
<b>SIMATIC Energy Suite Upgrade V14...17 to V18</b> • As package • Download <sup>4)</sup>	<b>6AV2108-3AA08-0AE5</b> <b>6AV2108-3AA08-0AK5</b>	<b>S7 Energy Efficiency Monitor for Machines</b> Includes license certificate <sup>5)</sup> for activating the S7 instruction for energy efficiency evaluation especially for machines
<b>SIMATIC Energy Suite Upgrade V14...16 to V17</b> • As package • Download <sup>4)</sup>	<b>6AV2108-3AA07-0AE5</b> <b>6AV2108-3AA07-0AK5</b>	<b>S7 Energy Efficiency Monitor for Machines S7-1500 / S7-1200</b> • As package • Download <sup>4)</sup>
<b>SIMATIC Energy Suite Upgrade V14 or ...15 to V16</b> • As package • Download <sup>4)</sup>	<b>6AV2108-3AA06-0AE5</b> <b>6AV2108-3AA06-0AK5</b>	<b>6AV2108-1CF00-0BB0</b> <b>6AV2108-1CF00-0BH0</b>
<b>Trial package</b>		<sup>1)</sup> Energy objects (EnO) are used for licensing the recording functionality and the load management. This requires: - 1 recording object (measuring point) = 1x energy object - 1 actuator object (consumer or producer) = 3x energy objects <sup>2)</sup> PLC runtime licenses are countable and version-neutral <sup>3)</sup> The correct number of existing license certificates must be configured in the properties of the CPU hardware in the TIA Portal. <sup>4)</sup> Up-to-date information and download availability can be found under <a href="http://www.siemens.com/tia-online-software-delivery">http://www.siemens.com/tia-online-software-delivery</a> . <sup>5)</sup> The license number on the certificate is used to activate the S7 instruction; one license certificate is required for each machine.
<b>SIMATIC Energy Suite V18 Engineering Trial (21 days)</b> As package	<b>6AV2108-0AA08-0AA7</b>	<b>More information</b> More information is available on the Internet at: SIMATIC Energy Suite: <a href="http://www.siemens.com/simatic-energy-suite">http://www.siemens.com/simatic-energy-suite</a> Energy Support Library (EnSL): <a href="http://www.siemens.com/energysuite-hardware">http://www.siemens.com/energysuite-hardware</a>
<b>SIMATIC Energy Suite V16 Engineering Trial (21 days)</b> As package	<b>6AV2108-0AA07-0AA7</b>	
<b>SIMATIC Energy Suite V16 Engineering Trial (21 days)</b> As package	<b>6AV2108-0AA06-0AA7</b>	
<b>SIMATIC Energy Suite Engineering Software Update Service <sup>5)</sup></b> • Data storage medium package • Download <sup>4)</sup> Email address required for delivery	<b>6AV2108-0AA00-0AL0</b> <b>6AV2108-0AA00-0AY0</b>	
<b>PLC runtime licenses <sup>2)</sup></b> Includes license certificates <sup>3)</sup> for activating additional energy objects <sup>1)</sup> (EnO).		

## Overview

**SIMATIC Energy Manager V7.4 energy management system**

SIMATIC Energy Manager V7.4 makes energy flows and costs transparent – in both infrastructure and production.

SIMATIC Energy Manager provides users with a scalable, non-sector-specific energy data management system. Its functions range from energy monitoring, energy controlling, energy invoicing, baseline management and prognosis, through to the management of energy efficiency measures. Among other things, SIMATIC Energy Manager provides an extensive and easy-to-use report system, as well as a dynamic, widget-based web dashboard for analyzing and distributing data once it has been acquired and analyzed.

**SIMATIC Energy Manager** is available in a **Basic** and a **PRO** version.

Advantages:

- Appropriate energy efficiency measures can be devised based on performance indicators and display options. When implemented successfully, cost savings are achieved.
- Power monitoring offers the basis for a secure power supply
- Transparency at cost center level raises employee awareness and forms the basis for specifying clear, easy-to-understand aims, as well as for monitoring their achievement
- Technological processes and plants in production (for example: analysis based on machine status) can easily be connected and allow for energy performance evaluation
- Transparency combined with prognosis functions increases planning reliability and opens up new opportunities in energy procurement
- Energy controlling, with its flexible reporting and analysis functions, helps to ensure that efficient systems remains efficient
- Characteristic values can be freely defined to facilitate substantiated statements on increasing the efficiency of power generation systems and consumers
- Transparency – with the OPC UA (HA) server or the REST API, data can be made available to additional applications
- It fulfills the legal obligations for monitoring and reporting on greenhouse gas emissions (CO<sub>2</sub> emissions)

## Automation software

### Software for energy management

#### SIMATIC Energy Manager

##### Overview

###### Energy Manager Basic:

- Easy configuration of dashboards, charts and reports
- With power monitoring, it is possible to analyze detail data of the measuring instruments
- Configuration of data points and the OPC UA, OPC DA, OPC HDA, Energy Suite, WinCC/PCS 7, Modbus/TCP, Modbus/TCP, Desigo CC and ASCII interfaces, as well as manual data acquisition
- Transfer of historical energy data from the PAC 2200 CLP or PAC 4200 via Modbus TCP
- Definition of derived data points in order to store performance indicators as a time series and export them, for example.
- Simple authorization concept
- Web client available in the languages DE, EN, IT, FR, ES, ZH
- Configuration of performance indicators data with a formula editor
- Configuration of parameters to display prices or factors
- Tabular overview and options for structuring data sources, data points, performance indicators and parameters
- Configuration of essential settings, e.g. email settings, backup, units, regional settings, account settings
- Provision of data with the OPC UA server and a REST API

###### Energy Manager PRO:

- The S7 energy efficiency monitor as an instruction in the TIA Portal allows machine status-related energy data acquisition. Data is transferred to Energy Manager PRO via a communications module.
- Uniform and comparable display of efficiency indicators of machines/lines/cost centers
- Display of energy consumption and costs at machine level and cost center level
- Energy consumption and costs per workpiece or shift
- Benchmarking of same machines/workpieces from different manufacturers

###### Note:

Upgrading from SIMATIC Energy Manager 7.3 to SIMATIC Energy Manager 7.4 is possible at any time and is included in the SIMATIC Energy Manager SUS. With this upgrade, there is also the once-only option of upgrading licenses from a V7.x directly to the V7.4.

##### Ordering data

###### SIMATIC Energy Manager V7.4

###### Standard scope of supply

- SIMATIC Energy Manager Basic incl. 50 tags <sup>1)</sup>
- SIMATIC Energy Manager PRO incl. 50 tags <sup>1)</sup>
- SIMATIC Energy Manager PRO PowerPack Basic -> PRO
- Tag Package 50 <sup>1)</sup>
- Tag Package 100 <sup>1)</sup>
- Tag Package 250 <sup>1)</sup>
- Tag Package 500 <sup>1)</sup>
- Tag Package 1 000 <sup>1)</sup>
- Tag Package 5 000 <sup>1)</sup>
- Tag Package 30 000 <sup>1)</sup>

###### Download

- SIMATIC Energy Manager Basic incl. 50 tags <sup>1)</sup>
- SIMATIC Energy Manager PRO incl. 50 tags <sup>1)</sup>
- SIMATIC Energy Manager PRO PowerPack Basic -> PRO
- Tag Package 50 <sup>1)</sup>
- Tag Package 100 <sup>1)</sup>
- Tag Package 250 <sup>1)</sup>
- Tag Package 500 <sup>1)</sup>
- Tag Package 1 000 <sup>1)</sup>
- Tag Package 5 000 <sup>1)</sup>
- Tag Package 30 000 <sup>1)</sup>

###### SIMATIC Energy Manager extensions

###### Standard scope of supply

- SIMATIC Energy Manager, 3 web clients <sup>4)</sup>
- SIMATIC Energy Manager, 20 web clients <sup>4)</sup>
- SIMATIC Energy Manager, 60 web clients <sup>4)</sup>
- SIMATIC Energy Manager PRO client <sup>4)</sup>
- SIMATIC Energy Manager PRO planning and forecast
- SIMATIC Energy Manager PRO acquisition component

###### Download

- SIMATIC Energy Manager, 3 web clients <sup>4)</sup>
- SIMATIC Energy Manager, 20 web clients <sup>4)</sup>
- SIMATIC Energy Manager, 60 web clients <sup>4)</sup>
- SIMATIC Energy Manager PRO client <sup>4)</sup>
- SIMATIC Energy Manager PRO planning and forecast
- SIMATIC Energy Manager PRO acquisition component

##### Article No.

6AV6372-1DF07-4AX0

6AV6372-2DF07-4AX0

6AV6372-2DF07-4AX3

6AV6372-2DF07-0CX0

6AV6372-2DF07-0DX0

6AV6372-2DF07-0EX0

6AV6372-2DF07-0FX0

6AV6372-2DF07-0GX0

6AV6372-2DF07-0HX0

6AV6372-2DF07-0JX0

6AV6372-1DF07-4AH0

6AV6372-2DF07-4AH0

6AV6372-2DF07-4AH3

6AV6372-2DF07-0CH0

6AV6372-2DF07-0DH0

6AV6372-2DF07-0EH0

6AV6372-2DF07-0FH0

6AV6372-2DF07-0GH0

6AV6372-2DF07-0HH0

6AV6372-2DF07-0JH0

6AV6372-2DF27-0AX0

6AV6372-2DF27-0BX0

6AV6372-2DF27-0CX0

6AV6372-2DF37-0AX0

6AV6372-2DF47-0AX0

6AV6372-2DF57-0AX0

6AV6372-2DF27-0AH0

6AV6372-2DF27-0BH0

6AV6372-2DF27-0CH0

6AV6372-2DF37-0AH0

6AV6372-2DF47-0AH0

6AV6372-2DF57-0AH0

## Ordering data

## Article No.

## Article No.

**SIMATIC Energy Manager PRO  
Consumer Package**Standard scope of supply

- Consumer Package 1 with S7 EE-monitor<sup>3)</sup>
- Consumer Package 5 with S7 EE-monitor<sup>3)</sup>
- Consumer Package 25 with S7 EE-monitor<sup>3)</sup>
- Consumer Package 1 without S7 EE-monitor
- Consumer Package 5 without S7 EE-monitor
- Consumer Package 25 without S7 EE-monitor

6AV6372-2DF67-1AX0

6AV6372-2DF67-1BX0

6AV6372-2DF67-1CX0

6AV6372-2DF77-1AX0

6AV6372-2DF77-1BX0

6AV6372-2DF77-1CX0

Download

- Consumer Package 1 with S7 EE-monitor<sup>3)</sup>
- Consumer Package 5 with S7 EE-monitor<sup>3)</sup>
- Consumer Package 25 with S7 EE-monitor<sup>3)</sup>
- Consumer Package 1 without S7 EE-monitor
- Consumer Package 5 without S7 EE-monitor
- Consumer Package 25 without S7 EE-monitor

6AV6372-2DF67-1AH0

6AV6372-2DF67-1BH0

6AV6372-2DF67-1CH0

6AV6372-2DF77-1AH0

6AV6372-2DF77-1BH0

6AV6372-2DF77-1CH0

**SIMATIC Energy Manager SUS<sup>2)</sup>**Standard scope of supply

- For max. additional 50 tags and/or 1 Consumer Package<sup>2)</sup>
- For max. additional 100 tags and/or 5 Consumer Packages<sup>2)</sup>
- For max. additional 500 tags and/or 25 Consumer Packages<sup>2)</sup>
- For max. additional 5 000 tags and/or 100 Consumer Packages<sup>2)</sup>
- For more than 5 000 tags and/or 100 Consumer Packages<sup>2)</sup>

6AV6372-2DF00-0CLO

6AV6372-2DF00-0DLO

6AV6372-2DF00-0FLO

6AV6372-2DF00-0HLO

6AV6372-2DF70-0XLO

Download

- For max. additional 50 tags and/or 1 Consumer Package<sup>2)</sup>
- For max. additional 100 tags and/or 5 Consumer Packages<sup>2)</sup>
- For max. additional 500 tags and/or 25 Consumer Packages<sup>2)</sup>
- For max. additional 5 000 tags and/or 100 Consumer Packages<sup>2)</sup>
- For more than 5 000 tags and/or 100 Consumer Packages<sup>2)</sup>

6AV6372-2DF00-0CY0

6AV6372-2DF00-0DY0

6AV6372-2DF00-0FY0

6AV6372-2DF00-0HY0

6AV6372-2DF70-0XY0

**SIMATIC Energy Manager  
upgrades**Standard scope of supply

- Upgrade of systems with up to 50 tags and/or 1 Consumer Package
- Upgrade of systems with up to 100 tags and/or 5 Consumer Packages
- Upgrade of systems with up to 500 tags and/or 25 Consumer Packages
- Upgrade of systems with up to 5 000 tags and/or 100 Consumer Packages
- Upgrade of systems with more than 5 000 tags and/or more than 100 Consumer Packages

6AV6372-2DF07-4CX4

6AV6372-2DF07-4DX4

6AV6372-2DF07-4FX4

6AV6372-2DF07-4HX4

6AV6372-2DF77-4XX4

Download

- Upgrade of systems with up to 50 tags and/or 1 Consumer Package
- Upgrade of systems with up to 100 tags and/or 5 Consumer Packages
- Upgrade of systems with up to 500 tags and/or 25 Consumer Packages
- Upgrade of systems with up to 5 000 tags and/or 100 Consumer Packages
- Upgrade of systems with more than 5 000 tags and/or more than 100 Consumer Packages

6AV6372-2DF07-4CH4

6AV6372-2DF07-4DH4

6AV6372-2DF07-4FH4

6AV6372-2DF07-4HH4

6AV6372-2DF77-4XH4

**SIMATIC Energy Manager TRIAL**

6AV6372-2DF17-4AX0

Standard scope of supply

- 1) The tag packages dynamically expand the number of tags. The total number of tags is incremented by the value of the tag package in each case.
- 2) The SUS contract runs for 1 year. The contract is automatically extended by a further year unless canceled 3 months prior to expiration.
- 3) The license number on the certificate is used to activate the S7 instruction; a separate license certificate is required for each machine.
- 4) The client license and web client license are licensing which only takes into account one simultaneous access. Example: If 5 users use the Energy Manager via the web client but only 3 work with it simultaneously, only 3 web client licenses are necessary. The same applies for the desktop client.

**More information**

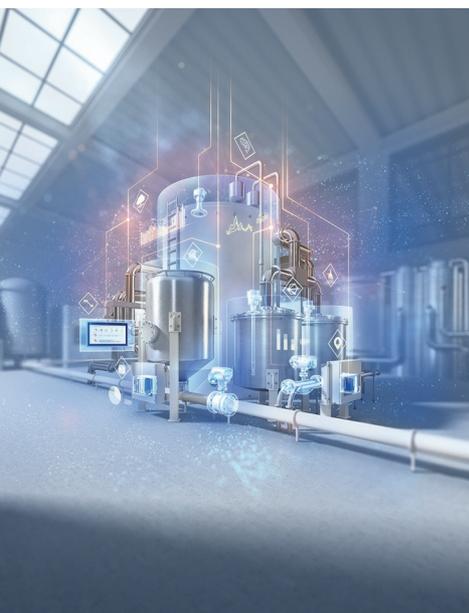
More information is available on the Internet at:

<http://www.siemens.com/energymanager>

## Automation software

### Notes

3

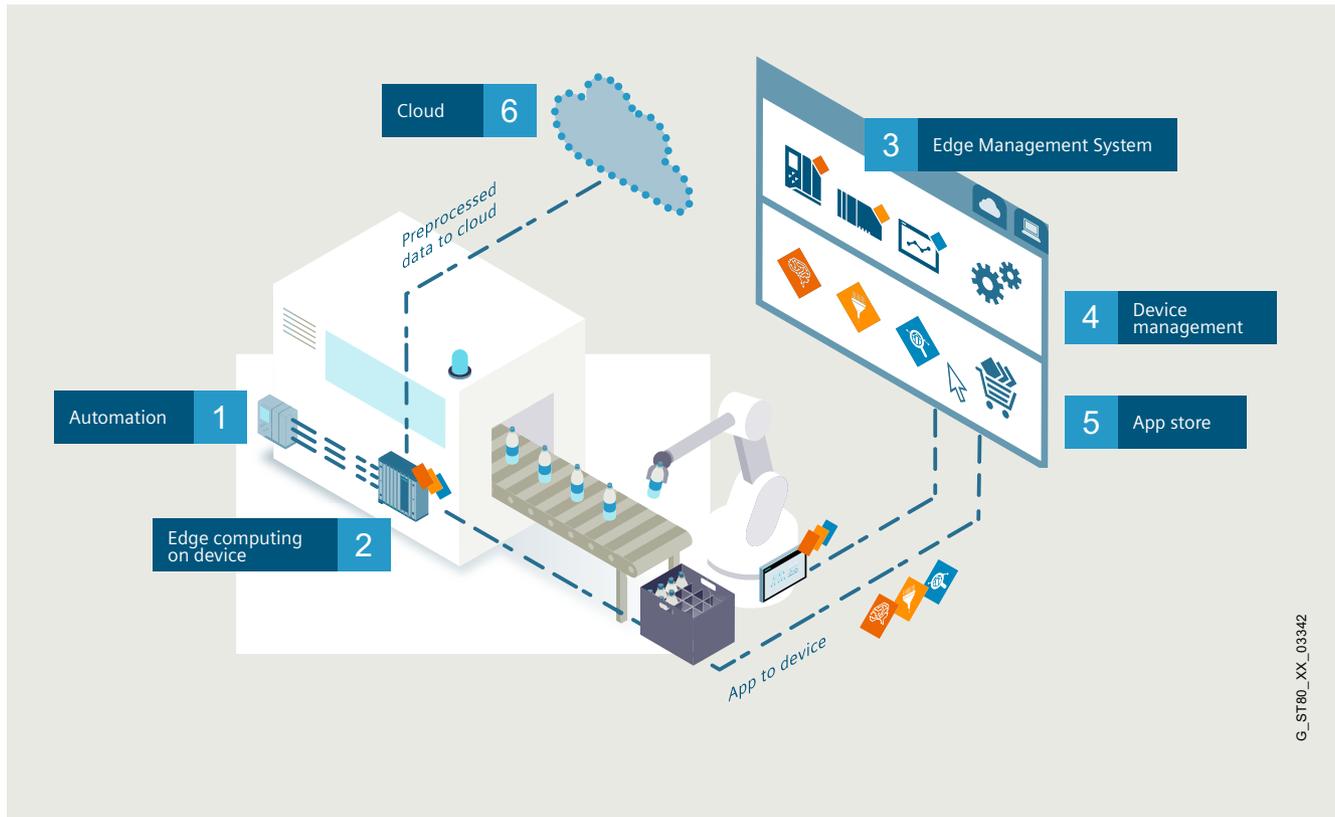


<b>4/2</b>	<b>Introduction</b>
<b>4/4</b>	<b>Industrial Edge Management</b>
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4/7	Data Service
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4/13	Modbus TCP Connector
4/14	Notifier
4/15	Performance Insight
4/16	PROFINET IO Connector
4/17	SIMATIC Automation Tool
4/18	SIMATIC S7+ Connector <b>NEW</b>
4/19	SIMATIC WinCC Unified Online Engineering for Industrial Edge <b>NEW</b>
4/20	SIMATIC WinCC Unified Runtime for Industrial Edge <b>NEW</b>
4/21	SLMP Connector
4/22	<u>Partner apps</u>
4/23	Audio Connector
4/23	Industrial Information Hub
4/23	SAM Speech Assistant for Machines
<b>4/24</b>	<b>Industrial Edge devices</b>
4/24	Edge devices with Industrial Edge Runtime
4/26	Industrial Edge Virtual Device

# Industrial Edge

## Introduction

### Overview



### Industrial Edge

Expands the industrial automation technology with openness and flexibility for simple and intuitive processing, analysis and saving of production data.

Provides an integrated and secure runtime environment for running high-level programming language-based Edge applications (on the basis of the Docker IT standard) for local and powerful data processing and analysis at the automation level.

As compared to conventional PC-based systems, Industrial Edge enables an integrated connection to automation and cloud systems without additional programming workload and offers the option to manage Edge devices and software worldwide with one central management system. This makes data processing solutions future-proof to the maximum possible extent and enables new possible applications such as centralized software administration and versioning, for example for global recipe management.

Industrial Edge comprises the following products:

- Industrial Edge devices with Industrial Edge Runtime for running Edge applications at the automation level
- Industrial Edge applications
- Industrial Edge Management for central management of Edge devices and applications
- Industrial Edge Hub as central entry point for Edge-related software downloads and additional information, such as user documentation.

### Benefits

- Increase in flexibility and openness of existing and new automation systems allows innovative data processing concepts
- Long-term security and scalability of innovative data processing software solutions across hundreds of devices based on open application standards such as Docker
- Time savings during development of high-level programming language-based software solutions in industrial environments thanks to:
  - Security by default – Manual security hardening of open PC systems is no longer necessary
  - Integrated connectivity to field or cloud – Manual programming and implementation of connectivity, such as OPC UA or SIMATIC S7, is no longer necessary
- Time savings and reduced workload thanks to convenient central administration and diagnostics of Edge devices and Edge applications
  - Reduction of on-site service costs due to the central remote updatability of software on Edge devices
  - Time savings and reduced workload for software updates with 1-click bulk app downloads
  - Reduction of error sources through the standardization of software (apps) using integrated version management
- Decreased dependency of cloud systems and enhanced data processing intelligence in the field through native integration of Edge applications in automation systems
  - Realization of soft real time and latency-critical applications for data processing through integration of Edge Runtime in automation systems
  - Reduction of additional hardware usage through native integration in control and visualization systems (SIMATIC) and network components (SCALANCE)
- Ready-made Edge applications make for a simple start in intelligent data processing and usage

### Application

Proprietary Edge applications or those developed by Siemens or third parties allow a wide variety of uses:

- Local production data processing and analysis based on high-level programming languages and artificial intelligence – can be used directly on the process without repercussions
- Local data collection, logging and archiving using object-oriented and relational databases for error localization with hitlists, directly at the process
- Production data harmonization and conversion of legacy protocols such as Modbus TCP to Industry 4.0 protocols such as OPC UA for data exchange with MES/IT systems
- IoT Gateway applications: Data transfer from automation systems to corporate IT/cloud infrastructure with local intelligence for data selection and processing
- Local production data visualization using web server, e.g. based on HTML5
- Coordinated intervention in automation systems (closed-loop) based on local, calculated analysis results, e.g. a 2D behavior simulation of machine components.

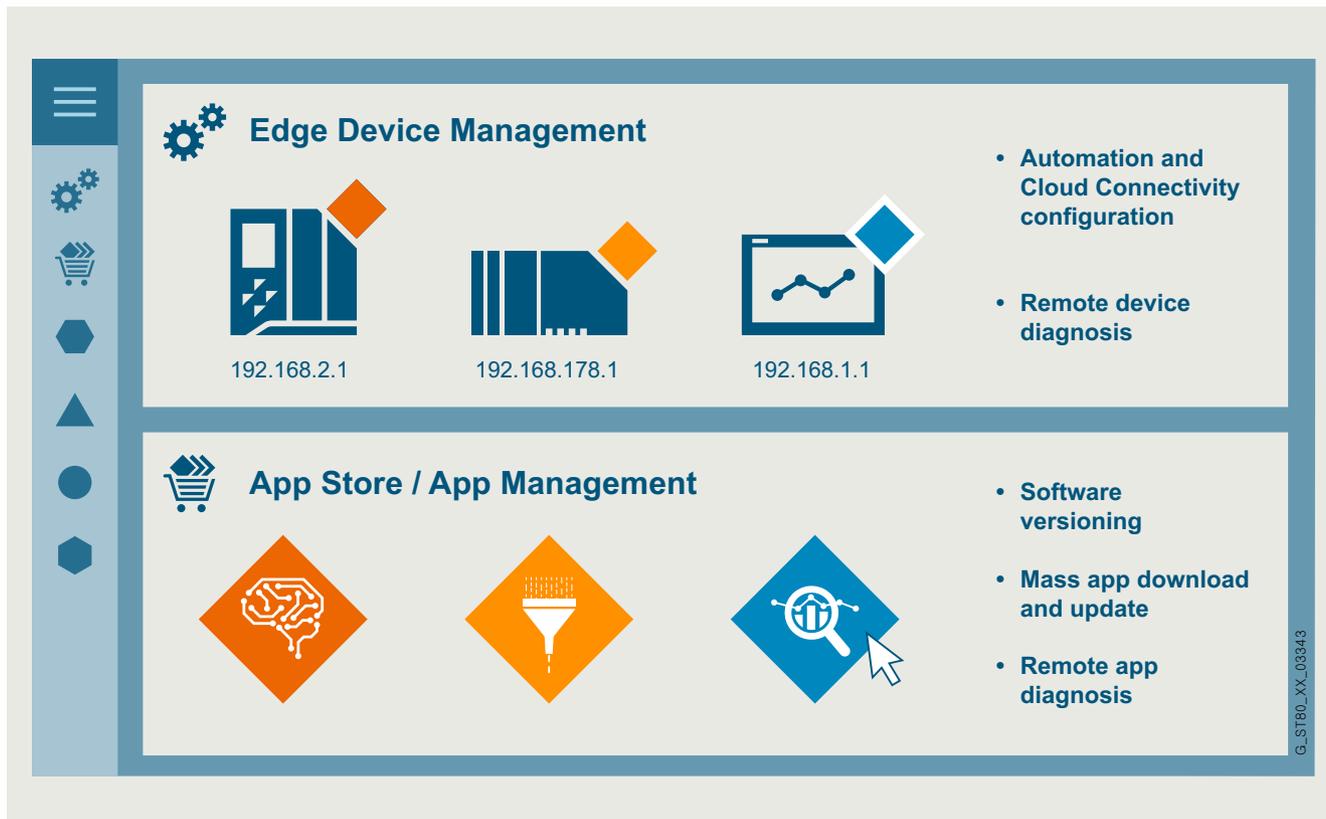
In principle, Industrial Edge is useful wherever multiple PC systems, preferably widely distributed, are used which today require more or less time-consuming manual maintenance and updating.

- Production and process automation
- Building automation
- Power engineering and distribution

### More information

You can find more information on the Internet at:

<http://www.siemens.com/industrial-edge>



### **Industrial Edge Management (central Edge devices and application software management)**

Industrial Edge Management is the central infrastructure with which all connected Edge devices and their software can efficiently be operated and managed over the complete life cycle within a factory or worldwide.

Instead of having to run software updates and security patches on each device individually, you control everything centrally from one system, which can be installed on-premises, within the IT infrastructure or in private/public cloud solutions as required.

The system is offered as:

- Installation for PCs and IT cloud infrastructures via an ISO image
- Software as a service solution based on Siemens MindSphere (planned)

Moreover, Industrial Edge Management offers access to innumerable Edge applications of customers, partners and Siemens in the context of the open ecosystem.

#### Unified Comfort Panel with integrated Edge device management

In addition to central management of all connected Edge devices, the SIMATIC HMI Unified Comfort Panel offers the possibility to run the Edge applications and to manage, start and stop Edge applications directly on the HMI.

### **Licenses**

#### Industrial Edge Hub Access:

To obtain access to the Industrial Edge Management software, you first need access to the Industrial Edge Hub, which is available globally.

This is done using the Industrial Edge Hub Access license. The Industrial Edge Hub contains all the information you need to commission an Industrial Edge solution such as documentation, software (Edge Management system, Edge App Publisher) for download.

The scope of supply includes the option of connecting and managing one (1) Edge device per Industrial Edge Management system free of charge.

#### Industrial Edge Management license:

An annual fee is charged for each additional Industrial Edge device that is connected with the central Edge management for the central update, firmware updates, security patches and continuous further development of the system.

Each connected device requires one (1) Industrial Edge Management license.

The previously customary one-off fee for software does not apply at all to the Industrial Edge Management. Licensing is implemented for a period of one year based on the number of connected Edge devices (software update contract).

### Benefits

- Maintenance and update work during operation, which previously had to be performed manually, e.g. using a USB flash drive on devices or remote desktop connections, is reduced due to the central software management.
- In addition, the commissioning workload (installing the operating system, security hardening, manual installation of application software, user management) for PC-based systems is reduced thanks to the ready-to-use Edge Runtime, on which any Industrial Edge applications can be installed.
- Industrial Edge allows the industrial application and use of Edge Computing on hundreds of machines and devices, also distributed globally.
- Security patches are provided by Siemens and can be rolled out to all devices in a centralized manner.
- The devices and applications can be adapted to new requirements at any time. Apps can be distributed to connected Edge devices with one click, meaning that the infrastructure grows with the customer's changes.

### Ordering data

### Article No.

#### Industrial Edge Hub Access

Enables access to additional Industrial Edge Hub and therefore to additional Industrial Edge software (Industrial Edge Management, Industrial Edge apps, and developer tools)  
Basic requirement for working with Industrial Edge.  
The scope of supply includes the option of managing one (1) Edge device per Edge management system free of charge.

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#### Industrial Edge Management license

License to manage one (1) additional Edge device centrally for 1 year and connect it to the Industrial Edge Management system

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### More information

You can find more information about products and solutions on the Internet at:

<http://www.siemens.com/wincc-v7>

## Industrial Edge

### Industrial Edge

#### Industrial Edge apps

#### Overview

##### **Industrial Edge applications**

Industrial Edge apps enable information technology such as object-oriented programming, databases, data layers and artificial intelligence to be embedded in the control level.

Industrial Edge apps enable innovative applications relating to diagnostics and analysis of large, highly frequent data volumes in the automation and manufacturing environment, such as preventive maintenance. They are provided by partners and by Siemens and can be developed for specific customers based on individual requirements.

The proprietary development of Industrial Edge apps takes place based on Docker technology with programming languages such as C, C++, C#, Java, Python, Node.js. Due to the use of container technology, developed Industrial Edge apps can be scaled up to the cloud across devices.

In line with the openness concept, Industrial Edge apps can combine any applications, for example web servers, web sockets, databases, complex calculations and more, including open source-based components. Integrated apps, e.g. based on the open source framework Node-Red or Mendix, allow you to get started quickly with local data processing.

The following Industrial Edge apps are already available or will be available soon:

- Data Service
- Energy Manager
- EtherNet/IP Connector
- IE Flow Creator
- Inventory
- LiveTwin
- Machine Insight
- Modbus TCP Connector
- Notifier
- Performance Insight
- PROFINET IO Connector
- SIMATIC Automation Tool
- SIMATIC S7+ Connector
- SIMATIC WinCC Unified Online Engineering for Industrial Edge
- SIMATIC WinCC Unified Runtime for Industrial Edge
- SLMP Connector
- Partner apps

Furthermore, a large number of applications are included in the Industrial Edge offering as standard, or can be obtained as an application example free of charge:

- Cloud Connector (available free of charge in the Industrial Edge Hub)
- SIMOTION Trace Connector (application example)

The following Industrial Edge apps and other apps will be available at a later time:

- Device Scanner Service

##### **Licenses**

There are no additional costs for Industrial Edge applications developed by you in high-level programming languages based on Docker.

Siemens applications are licensed individually and on an annual basis with a software update contract.

##### **More information**

More information is available at:

<https://new.siemens.com/global/en/products/automation/topic-areas/industrial-edge/it-specialists.html#IndustrialEdgeApps>

## Overview

### Data Service

Data Service is the tool to store and structure the data of the connected machine. In addition, calculated data, such as the KPIs of Performance Insight, is stored in the Data Service.

Higher-level apps, such as Performance Insight, access the structure and data storage of the Data Service and receive their machine data from it.

## Benefits

Overview of local machine and data store

- Connected – Immediately connectable with standardized connectors for industrial communication
- Fast – Easy connection to the database via an API
- Convenient – Aggregations are retrieved directly through the API
- Structured – Create and configure assets to map a structure
- Secure – Store data in a dedicated data structure

## Function

Data Service connects the plant to the app. All data sent via the plant bus ends up in the Data Service and can be stored there in a structured manner. The various connectors (e.g. S7 Connector in the Industrial Edge or Open Pipe in the Unified Comfort Panel) can serve as the plant bus.

Data Service is a centrally usable element for structuring and storing data that can be used by other Edge apps via an API interface so that they do not have to implement their own data management. Functions such as aggregations, data storage and structuring are available.

Each node in the structure is referred to as an asset and helps to divide the machine into different areas. Based on the structure, it is easier to provide specific data for all higher-level apps, such as Performance Insight or other apps, even those developed in-house.

## Ordering data

## Article No.

### Industrial Edge app Data Service

- 250 GB
- 4 TB
- Max.

6AV2170-1JA00-0AA0  
6AV2170-1JA01-0AA0  
6AV2170-1JA02-0AA0

### Development Kit <sup>1)</sup>

Free

### Ecosystem Version (50 GB)

Free

<sup>1)</sup> The Development Kit provides a simulation service to simulate the plant data. In addition, the data can be stored for up to one week or up to 20 GB.

## Industrial Edge

### Industrial Edge apps

#### Energy Manager

##### Overview

##### **Industrial Edge app – Energy Manager**

Energy Manager forms the basis for energy optimization – from the machine to the entire plant.

With Energy Manager, the user can define KPIs in a few simple steps and display them in a suitable way on the dashboard.

A pre-defined dashboard enables analysis of the consumption of various media, the costs and the corresponding CO2 emission.

Integrated analysis functionality enables rapid data analysis to generate information.

##### Benefits

- Flexible – Individual calculation of KPIs to derive energy efficiency measures
- Adaptable – Dashboards that can be quickly changed and adapted to the requirements of the respective user group at any time
- Optimally informed – Analysis of KPIs as diagram, value, gauge, pie, heatmap and Gantt chart
- Overview of energy flows in the Sankey diagram or display of energy data in a continuous line to indicate the utilization of plants
- Expandable – Addition of KPIs, dashboards to existing plants without production downtimes

##### Application

The Industrial Edge app Energy Manager serves all user groups in the company interested in energy data – from the operator of individual machines, the production manager, the energy manager to the manager who keeps an eye on energy budget compliance.

The Industrial Edge app Energy Manager provides users with a scalable and industry-independent energy data management system.

##### Function

With the Energy Manager Industrial Edge app, the energy measured values of the plants can be processed into meaningful KPIs.

A formula editor can be used to define KPIs, and these can be displayed on the dashboard in the same way as the measured values.

The calculated KPIs are visualized by means of dashboards, which are integrated directly in the app.

The dashboards can be individually adapted, deleted and edited at any time.

All widgets that are available for visualization can be adapted to your own requirements at any time.

A pre-defined dashboard allows the user to analyze the media consumption of a plant. In addition to the energy consumption, the costs and the CO2 emissions, the user also sees the consumption per unit, the energy costs per unit and the CO2 emissions per unit.

##### Ordering data

##### Article No.

##### Energy Manager

- Main Product; basic license; this includes the "Energy Manager" app and 3x assets <sup>1)</sup> <sup>2)</sup>
- Asset

**6AV2170-0JA20-0AA0**

**6AV2170-0JA21-0AA0**

<sup>1)</sup> An asset corresponds to a node in the tree structure. A node requires a license when an Energy Manager object (widget, dashboard, KPI) is used.

<sup>2)</sup> Each additional asset used by the customer for Energy Manager must be procured by means of an additional license.

**Overview**
**Ethernet/IP Connector**

Ethernet/IP Connector enables the connection of Ethernet/IP devices, for reading and writing process values from the automation technology.

It provides the data via IE data bus for Industrial Edge applications and services.

Industrial Edge app developers and users can use the data in their own and existing applications and services, e.g. Data Service.

Industrial Edge Connectors provide a unified data interface to reduce development work for Industrial Edge apps. This enables innovative & modular software solutions

Industrial Edge Connectors can be combined with SIEMENS Industrial Edge apps, e.g. Performance Insight, Notifier, Energy Manager, and many more.

**Benefits**

- Flexible application to connect existing machines or lines to an Industrial Edge device via Ethernet/IP
- Connection of machines without or with adaptation of machines
- Modular software architecture for flexible combination with other IE apps, IE services and IE connectors

**Function**

- Provides data via unified payload via MQTT for Industrial Edge apps and microservices
- Unified data interface for S7 Connector, Modbus TCP Connector, Ethernet/IP Connector and PROFINET IO Connector
- The following communication partners have been tested:
  - Allen-Bradley ControlLx
  - Allen-Bradley CompactLogix
  - Allen-Bradley MicroLogix
  - Allen-Bradley GuardLogix (standard tags)
  - Allen-Bradley SLC
  - Omron (CJ1/2 and CS1)

**Ordering data**
**Article No.**

**Ethernet/IP Connector**  
 Basic license per app installation  
 incl. connection to 16 Modbus TCP  
 servers

**6AV2170-0KA50-0AA0**

## Industrial Edge

### Industrial Edge apps

#### Inventory

##### Overview

###### **Industrial Edge app Inventory**

Industrial Edge app Inventory scans and visualizes the installed PROFINET & network components of a plant and machine.

The detected PROFINET & network components are aggregated in an overview, detail information displayed in a detail view, and release checks performed via whitelist/blacklist.

In addition, the installed PROFINET & network components can be started and managed centrally via MQTT.

##### Benefits

- Reduction of maintenance and operating costs
- Real-time overview of installed PROFINET & network components for optimization of maintenance intervals
- Check of hardware and software versions according to customer-specific releases

##### Application

- Suitable for a large number of industrial applications
- For new and existing systems

##### Function

- Integrated scan of automation components based on industrial standards
- Whitelist and blacklist support for customer-specific firmware releases
- MQTT interface for central management of installed PROFINET & network components

##### Ordering data

**Industrial Edge app Inventory**  
Basic license per app installation

##### Article No.

**6AV2170-0JA40-0AA0**

## Overview

Industrial Edge app LiveTwin enables users of Siemens Industrial Edge to easily and directly run 1D simulation models. LiveTwin Edge app can run a wide variety of 1D simulation models, such as simulations of mechatronic systems.

The following scenarios are possible:

- Export simulation models directly from MATLAB® Simulink®, Amesim, Open Modelica, and more than 100 other simulation tools and simply play them in the Siemens Edge devices. No additional engineering work is required.
- Execute simulations that were created in different domain-specific tools and wire all parts to each other.
- Use the natively supported interfaces of Siemens Industrial Edge to connect the simulation to the automation and further systems.

## Benefits

Due to the proximity of Industrial Edge to the process, a high-cycle (10 ms) data connection with the PLC is possible. LiveTwin support the calculation of virtual sensors, "Model Predictive Control", status monitoring and many other simulations.

## Application

For new and existing systems for:

- Process optimization
- Savings in hardware costs
- Predictive maintenance
- Reduction in downtimes

## Function

Industrial Edge app LiveTwin is compatible with the FMI standard <sup>1)</sup> and therefore compatible with the most important 1D simulation tools on the market, including Simcenter Amesim (for multi-physics models), MATLAB® Simulink®, Ansys and many others.

Industrial Edge app LiveTwin is software that is independent of the simulation tool. It is fully integrated in MATLAB® Simulink® and can run models that were exported to a destination with Simulink Coder as code in C++.

Industrial Edge app LiveTwin is integrated in the Siemens Industrial Edge ecosystem with the Industrial Edge app Flow Creator.

This integration enables the user to pre-process and collect data, among other things, with the wireframe of the Flow app and the portability of LiveTwin simulation models.

Users can import various models of different simulation tools directly into LiveTwin and create model instances, connect the models with Flow Creator, and run the various models together without additional runtime for each individual simulation software that was used originally to create the models. This shows the portability, compatibility and independence of the simulation software used.

<sup>1)</sup> Functional mockup interface: <https://fmi-standard.org/>

## Ordering data

## Article No.

LiveTwin Edge app

6AV2170-0BL00-0AA0

## Industrial Edge

### Industrial Edge apps

#### Machine Insight

##### Overview

##### **Machine Insight**

Machine Insight monitors industrial machines incl. automation components and provides an overview of the historical states of machines and plants.

In this way, maintenance engineers can retrospectively evaluate and analyze changes and states of the machines and resolve failure times after they have already been acknowledged.

Through this retrospective diagnostics, failure times of systems and machines can be reduced to a minimum.

##### Benefits

- Simple and retrospective diagnostics of machines and automation components to reduce downtimes
- Automatic logging of changes to simplify troubleshooting and trace warranties, e.g. program updates of the SIMATIC S7 CPU
- Visualization of machine and automation information in a patented Web UI to detect error causes quickly and easily

##### Function

- SIMATIC S7-1200 & S7-1500 support (system diagnostics and alarms)
- Logging of machine and device states
- Configuration of customer-specific machine states
- Automatic logging of machine changes

##### Ordering data

##### Article No.

##### Machine Insight

- Basic license per app installation incl. 1 diagnostics connection
- 1 additional S7-1200 diagnostics connection
- 1 additional S7-1500 diagnostics connection

**6AV2170-0JA30-0AA0**

**6AV2170-0JA31-0AA0**

**6AV2170-0JA32-0AA0**

## Overview

### Modbus TCP Connector

Modbus TCP Connector enables the connection of Modbus TCP devices, for reading and writing process values from the automation technology.

It provides the data via IE data bus for Industrial Edge applications and services.

Industrial Edge app developers and users can use the data in their own and existing applications and services, e.g. Data Service.

Industrial Edge Connectors provide a unified data interface to reduce development work for Industrial Edge apps. This enables innovative & modular software solutions.

Industrial Edge Connectors can be combined with SIEMENS Industrial Edge apps, e.g. Performance Insight, Notifier, Energy Manager, and many more.

## Benefits

- Flexible application to connect existing machines or lines to an Industrial Edge device via Modbus TCP
- Connection of machines without or with adaptation of machines
- Modular software architecture for flexible combination with other IE apps, IE services and IE connectors

## Function

- Provides data via unified payload via MQTT for Industrial Edge apps and microservices
- Unified data interface for S7 Connector, Modbus TCP Connector, Ethernet/IP Connector and PROFINET IO Connector
- The following communication partners have been tested:
  - Modicon Compact series
  - Modicon Quantum series
  - Modicon Momentum series
  - Modicon Premium series
  - Modicon Micro series
  - Modicon M340 series

## Ordering data

## Article No.

### Modbus TCP Connector

Industrial Edge Connector,  
12-month license,  
For communication with  
16 Modbus TCP servers  
Email address required for delivery  
Requirement: Industrial Edge  
Access (6ES7823-0EE00-4AX0)

**6AV2170-0KA40-0AA0**

### Accessories

#### Industrial Edge Access for Industrial Edge Hub

For Industrial Edge Hub  
and initial access to Industrial Edge  
software components.  
Requirement for working with  
Industrial Edge platform  
Email address essential for delivery  
Limited sales release

**6ES7823-0EE00-4AX0**

## Industrial Edge

### Industrial Edge apps

#### Notifier

##### Overview

###### **Industrial Edge app Notifier**

Industrial Edge app Notifier monitors customer-specific assets and sends notifications directly to employees' smartphones or smartwatches.

As soon as an employee accepts a notification, everyone can see who is handling the notification – this also simplifies the coordination of service technicians, for example.

Due to this fast reaction time of the operators, failure times of systems and machines can be reduced to a minimum.

##### Benefits

- Notifications are detected without delay and not only during the next manual check of the plants
- Notifications reach employees wherever they are

##### Application

- Suitable for a large number of industrial applications
- For maintenance and repair personnel to streamline the alarm messaging and coordination process
- For new and existing systems

##### Function

- Monitoring of plant and machine data
- Notifications are based on easy-to-manage user-defined rules
- Freely selectable notification texts
- Notifications on smartphones and smartwatches <sup>1)</sup> within a Wi-Fi network
- Supports notification types: Alert, warning and information

<sup>1)</sup> The availability and compatibility with various devices is continuously expanded. You must check before purchasing whether the desired device and operating system are already supported.

##### Ordering data

##### Article No.

###### **Ind. Edge app Notifier**

- Main Product;  
Basic license per app installation  
incl. 15 notification rules
- Additional Notification Rules;  
Basic license per app installation  
incl. 15 notification rules  
+ 15 additional notification rules

**6AV2170-0JA00-0AA0**

**6AV2170-0JA01-0AA0**

**Overview****Industrial Edge app Performance Insight**

Industrial Edge app Performance Insight provides the option to visualize and analyze machine parameters and process data directly on the device.

Individual key performance indicators (KPIs) can be calculated and visualized with Performance Insight. Built-in data aggregations enable the evaluation of existing data.

**Benefits**

- Show vulnerabilities in production processes and derive potentials for optimization
- Flexible due to individual calculation of plant-specific key performance indicators in the Edge environment
- Adaptable due to quickly modifiable dashboards which can be adapted at any time to the user's requirements
- Optimally informed due to analysis of KPIs as diagram, value, gauge, pie, heatmap and Gantt chart
- Expandable through addition of KPIs to existing plants without production downtimes

**Application**

Serves all user groups - from the operator of single machines who quickly requires a dashboard on site to monitor individual machines, through to the management that wants to obtain an overview of the most important plant KPIs.

**Function**

With the Industrial Edge app Performance Insight, the measured values of the plants can be processed into meaningful KPIs.

Using the KPI definition, recurring KPIs can be stored as templates and reused multiple times at the locations where they are needed.

All calculations can be individually adapted to customer requirements using the formula editor. The calculated KPIs are visualized by means of dashboards, which are integrated directly in the app. The dashboards can be individually adapted, deleted and edited at any time. All widgets that are available for visualization can be adapted to your own requirements at any time.

**Ordering data****Article No.****Industrial Edge app Performance Insight**

- Basic license per app installation incl. 3 assets
- 1 additional asset license

**6AV2170-OJA10-0AA0****6AV2170-OJA11-0AA0****Note:**

The basic license Performance Insight licenses the "Performance Insight" app and three assets <sup>1)</sup>.

Each additional asset used by the customer for Performance Insight must be procured by means of an additional license.

<sup>1)</sup> An asset corresponds to a node in the tree structure. A node requires a license when a Performance Insight object (widget, dashboard, KPI) is used.

## Industrial Edge

### Industrial Edge apps

#### PROFINET IO Connector

##### Overview

###### **PROFINET IO Connector**

PROFINET IO Connector enables reading and writing of process values in automation technology by connecting PROFINET IO devices, PLCs via I-device and data couplers (e.g. PN/PN coupler). PROFINET IO Connector makes the data available for Industrial Edge applications and services via the IE data bus.

Industrial Edge app developers and Industrial Edge app users can use the data in their own and existing applications and services, e.g. Data Service.

To reduce development work for Industrial Edge apps, Industrial Edge Connector provides a unified data interface and enables innovative & modular software solutions.

Industrial Edge Connectors can be combined with SIEMENS Industrial Edge apps, e.g. Performance Insight, Notifier, Energy Manager, and many more.

##### Benefits

- Fast data acquisition up to 1 ms for analysis in SIEMENS and third-party applications
- Flexible application to connect existing machines or lines via additional PROFINET IO devices, PLCs via I-device and data couplers (e.g. PN/PN couplers) to an Industrial Edge device
- Connection of PROFINET IO devices from SIEMENS and third-party vendors
- Connection of machines without or with adaptation of machines
- Modular software architecture for flexible combination with other IE apps, IE services and IE connectors

##### Function

- Integrated PROFINET IO controller functionality with update cycles up to 1ms
- Support of cyclic and acyclic PROFINET services
- Data provision in unified payload via MQTT for Industrial Edge apps and microservices
- Unified data interface for S7 Connector, Modbus TCP Connector, Ethernet/IP Connector and PROFINET IO Connector
- Configuration of PROFINET IO devices via TIA Portal
- Support of PROFINET IO devices from SIEMENS and third-party vendors via GSMDL file

##### Ordering data

##### Article No.

###### **PROFINET IO Connector**

###### **PROFINET IO Connector basic license**

Basic license per app installation incl. connection to 16 PROFINET IO devices

**6AV2170-0KA30-0AA0**

**Overview**
**SIMATIC Automation Tool**

The SIMATIC Automation Tool enables users to manage TIA automation components during commissioning, maintenance tasks and in case of service.

What makes the SIMATIC Automation Tool special is that it is based on TIA Portal projects and a CPU update can be performed independently of the engineering framework.

**Function**

- Integrated scan of automation components based on industrial standards
- Change of IP address and network mask for SIMATIC S7-1200 and S7-1500 modules
- Updating module firmware
- Updating module application software by transferring the TIA project file

**Benefits**

- Reduction of maintenance and operating costs
- Check of hardware and software versions
- Assignment of IP address and network mask during commissioning of SIMATIC modules
- Updating firmware and TIA projects on S7-1200 and S7-1500

**Ordering data**
**Article No.**
**SIMATIC Automation Tool**

- Basic license per app installation incl. 1x CPU test connection
- Basic license per app installation incl. 1x S7-1200 connection
- Basic license per app installation incl. 1x S7-1500 connection

**6AV6676-6EA00-0AA0**
**6AV6676-6EA00-0AA1**
**6AV6676-6EA00-0AA2**

## Industrial Edge

### Industrial Edge apps

#### SIMATIC S7+ Connector

##### Overview

The SIMATIC S7+ Connector is a southbound connector for Industrial Edge, which can be used to collect data from S7-1200/1500 PLCs and PLCSim Adv.

The SIMATIC S7+ Connector allows users to connect their applications via the Industrial Edge Management System to various SIMATIC S7 PLCs. It supports high-frequency data transmissions and can write data back to the PLC.

This high-performance connector supports the following PLCs: S7-1500 PLCs, S7-1200 PLCs, PLCSim Advanced and the Siemens Software Controllers.

The S7+ Connector is configured using Industrial Information Hub Configurator, which is available on the Industrial Edge Marketplace.

The SIMATIC S7+ Connector sets new standards in performance. All data types that are supported by TIA Portal are supported, including all time formats, arrays, and structures.

##### Benefits

Data from the SIMATIC S7+ Connector can be published on the Industrial Edge Databus in the standard MQTT payload format and works directly with the Industrial Information Hub (IIH). The data can be received and used in any application that accepts the standard Databus payload structure or works with the Industrial Information Hub (IIH). The preferred method of data storage (e.g. time series) is via the IIH data service.

##### Function

- Up to 20 connections in parallel
- Up to 100kHz tag change
- Up to 50ms to 200ms cycle time (depending on the target device)
- Subscribe and write back live data from 1500, 1200 PLCs, PLCSim Adv. and PROFINET Interface of the Siemens Software Controller
- All data types including arrays (as single tags) and structures (as single tags)
- Direct import of tags from TIA Portal if the SIMATIC S7+ Import Converter is installed
- On request: Scripting tool for bulk data import
- On request: Migration script from SIMATIC S7 Connector

##### Ordering data

##### Article No.

##### SIMATIC S7+ Connector

Industrial Edge Connector, for communication with S7-1200 / S7-1500 PLCs  
12-month license

**6AV2170-0KB20-0AA0**

**SIMATIC WinCC Unified Online Engineering for Industrial Edge**
**Overview**
***SIMATIC WinCC Unified Online Engineering for Industrial Edge***

The SIMATIC WinCC Unified for Industrial Edge system combines first-class SIMATIC HMI solutions with Industrial Edge. It provides an engineering app for easy creation of dynamic visualizations and app-based monitoring and control of machines, where data from production can be combined with information from other Edge apps.

<https://www.dex.siemens.com/edge/manufacturing-process-industries/simatic-wincc-unified-online-engineering>

**Benefits**

- Quick development of HMI solutions - create comprehensive, dynamic visualizations with one single no-code engineering app for all visualization tasks (e.g. connectivity, screen design, alarms, logging, etc.)
- Worry-free thanks to proven HMI functionality with integrated data collection/acquisition, logging and alerting meeting industrial requirements in terms of performance capability and quality
- Uniform alarms on local, remote and mobile devices thanks to integrated alarm forwarding to the Notifier app
- Flexible extension of the HMI solution with other Edge apps - possible at any time thanks to seamless integration with Edge infrastructure services

**Application**

- Suitable for a large number of industrial applications
- For new and existing systems

**Function**

Implement Edge-based HMI solutions that permit maximum freedom in the choice of working environment. With centrally managed applications, the engineering, commissioning and maintenance of globally distributed plants become even more efficient, as engineering and runtime are installed in parallel. In addition, the SIMATIC WinCC Unified Apps for Industrial Edge are certified according to ISO 9001 and thus meet high quality requirements.

**Ordering data**
**Article No.**
**SIMATIC WinCC Unified Online Engineering for Industrial Edge**
**6AV2153-0BB70-0LX5**

Local Engineering \*Freemium\*;  
 12-month license, includes 1 Seat;  
 email address required for delivery;  
 prerequisite: Industrial Edge  
 Access (6ES7823-0EE00-4AX0)

## Industrial Edge

### Industrial Edge apps

#### SIMATIC WinCC Unified Runtime for Industrial Edge

##### Overview

##### **SIMATIC WinCC Unified Runtime for Industrial Edge**

The SIMATIC WinCC Unified for Industrial Edge system combines first-class SIMATIC HMI solutions with Industrial Edge.

It provides an engineering app for easy creation of dynamic visualizations and app-based monitoring and control of machines, where data from production can be combined with information from other Edge apps.

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- Quick development of HMI solutions - create comprehensive, dynamic visualizations with one single no-code engineering app for all visualization tasks (e.g. connectivity, screen design, alarms, logging, etc.)
- Worry-free thanks to proven HMI functionality with integrated data collection/acquisition, logging and alerting meeting industrial requirements in terms of performance capability and quality
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##### Application

- Suitable for a large number of industrial applications
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Implement Edge-based HMI solutions that permit maximum freedom in the choice of working environment. With centrally managed applications, the engineering, commissioning and maintenance of globally distributed plants become even more efficient, as engineering and runtime are installed in parallel. In addition, the SIMATIC WinCC Unified Apps for Industrial Edge are certified according to ISO 9001 and thus meet high quality requirements.

##### Ordering data

##### Article No.

##### **SIMATIC WinCC Unified Runtime for Industrial Edge**

12-month license,  
1 Client Operate, 1 Client Monitor;  
email address required for delivery;  
prerequisite: Industrial Edge Access  
(6ES7823-0EE00-4AX0)

2500 PowerTags;

**6AV2154-2MB70-0LX0**

## Overview

### **SLMP Connector**

SLMP Connector enables the connection of SLMP devices for reading and writing process values from the automation technology. It provides the data via IE data bus for Industrial Edge applications and services.

Industrial Edge app developers and users can use the data in their own and existing applications and services, e.g. Data Service. Industrial Edge Connectors provide a unified data interface to reduce development work for Industrial Edge apps. This enables innovative and modular software solutions.

Industrial Edge Connectors can be combined with SIEMENS Industrial Edge apps, e.g. Performance Insight, Notifier, Energy Manager, and many more.

## Function

- Provides data via unified payload via MQTT for Industrial Edge apps and microservices
- Uniform data interface for S7 Connector, Modbus TCP Connector, Ethernet/IP Connector, SLMP Connector, and PROFINET IO Connector
- The following communication partners have been tested:
  - Mitsubishi iQR Services
  - Mitsubishi iQF Services

## Ordering data

### Article No.

SLMP Connector

6AV2170-0KA60-0AA0

## Benefits

- Flexible application to connect existing machines or lines to an Industrial Edge device via Ethernet/IP
- Connection of machines without or with adaptation of machines
- Modular software architecture for flexible combination with other IE apps, IE services and IE connectors

## Industrial Edge

Industrial Edge apps

### Partner apps

#### Overview

As a customer, you can find the right app for your application from partners and Siemens in the Industrial Edge Marketplace (<https://www.siemens.com/industrial-edge-marketplace>). On the open Industrial Edge platform, app developers and partners can develop applications and sell them via the Industrial Edge Marketplace.

If you wish to publish applications yourself in the future, please contact us at:

[industrialedge.industry@siemens.com](mailto:industrialedge.industry@siemens.com)

**Overview**
**Industrial Edge app Audio Connector**

The Industrial Edge app Audio Connector offers the possibility to connect several different USB audio input devices to an Industrial Edge Device and to make the audio data available on the Industrial Edge data bus.

Individually superimposed audio analysis apps can then be developed to analyze the audio data.

The Audio Connector app is part of the Connectivity Suite and can be configured via the 'IIH (Industrial Information Hub) Configurator'. Furthermore the Audio Connector is compatible to the existing Industrial Edge Connectors, e.g. SIMATIC S7 Connector, OPC Connector, Modbus TCP Connector, Ethernet/IP Connector, etc.

Can be ordered via Industrial Edge Marketplace/ Product overview:

[https://www.dex.siemens.com/edge/manufacturing-process-industries?viewState=ListView&cartID=&portalUser=&store=&cclcl=en\\_US&selected=edge](https://www.dex.siemens.com/edge/manufacturing-process-industries?viewState=ListView&cartID=&portalUser=&store=&cclcl=en_US&selected=edge)

**Overview**
**Industrial Edge app: Industrial Information Hub**

The Industrial Information Hub Edge app is an integration runtime software that connects OT with IT.

A large number of connectors allows the user to connect almost all brownfield devices and to transfer the machine parameters and process data into an OPC UA asset model.

This also allows old devices to be integrated into the modern IT landscape.

The Industrial Information Hub offers data pre-processing, long-term data memory, and a high-performance interface that allows the user to query the data from the asset model via semantic access.

Can be ordered via Industrial Edge Marketplace/ Product overview:

[https://www.dex.siemens.com/edge/manufacturing-process-industries?viewState=ListView&cartID=&portalUser=&store=&cclcl=en\\_US&selected=edge](https://www.dex.siemens.com/edge/manufacturing-process-industries?viewState=ListView&cartID=&portalUser=&store=&cclcl=en_US&selected=edge)

**SAM Speech Assistant for Machines**

Can be ordered via Industrial Edge Marketplace/ Product overview:

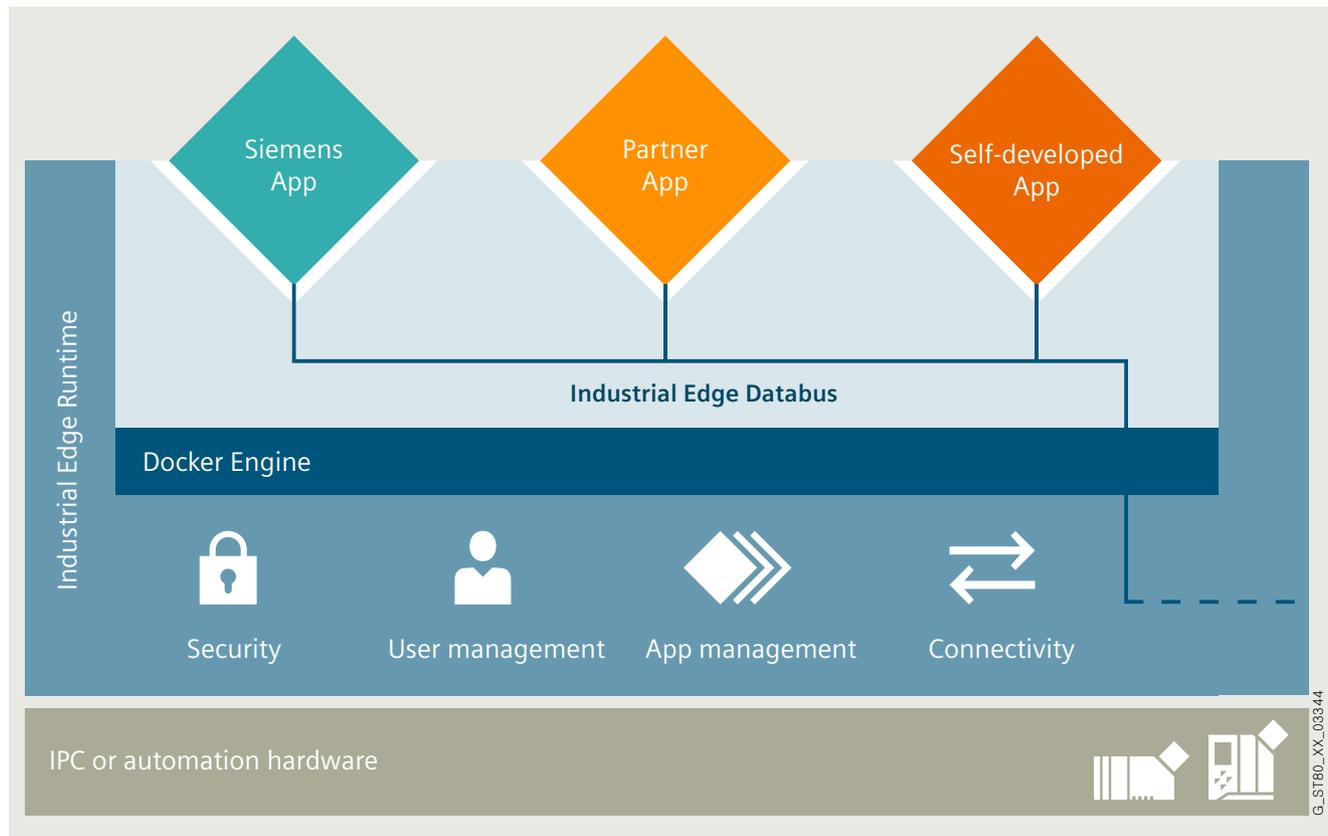
[https://www.dex.siemens.com/edge/manufacturing-process-industries?viewState=ListView&cartID=&portalUser=&store=&cclcl=en\\_US&selected=edge](https://www.dex.siemens.com/edge/manufacturing-process-industries?viewState=ListView&cartID=&portalUser=&store=&cclcl=en_US&selected=edge)

## Industrial Edge

Industrial Edge devices

### Edge devices with Industrial Edge Runtime

#### Overview



Industrial Edge Runtime

#### Edge devices with Industrial Edge Runtime

Industrial Edge Runtime enables secure, local execution of any number of Edge applications on different Edge systems.

- Providing the integrated connectivity of Industrial Edge Runtime to systems at the field, control and IT/cloud level reduces the software implementation workload on the customer end as compared to conventional data processing solutions based on Linux and Windows.
- Based on the open container standard Docker, Edge applications can be scaled and run on a wide range of Edge devices after being programmed once. Furthermore, this allows software to be broken up into manageable units and these units to be updated, started and stopped in a dedicated manner – remotely for maximum convenience.
- An integrated databus on Industrial Edge Runtime based on MQTT enables secure and controlled app-to-app communication as well as data exchange between external systems and Edge apps. In this way, interface dependencies are elegantly resolved – after being programmed once, apps can be integrated in various domains and automation systems.
- The Edge devices are commissioned and configured via Industrial Edge Management.

#### Dedicated Edge devices

Dedicated Edge devices with preinstalled Industrial Edge Runtime are supplied for the sole purpose of Edge-based data processing.

Industrial PCs of various performance classes are offered with preinstalled Edge Runtime:

- SIMATIC IPC227E (Article No.: **6ES7647-8BD31-0CW1**)
- SIMATIC IPC427E (Article No.: **6AG4141-5BC30-0FW8**)
- SIMATIC IPC847E (Article No.: **6AG4114-3RR15-0WY0**)

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## Overview

### Edge-enabled automation systems

These devices offer native support of Industrial Edge Runtime **in addition** to their technological function. This enables high-performance data processing with short latency times, as well as functional expansion through apps. By onboarding the devices to the central management system, any number of devices can be administered centrally.

The SIMATIC HMI Unified Comfort Panels are the first device family to be supplied "Edge-enabled" as standard (see "HMI devices -> Advanced HMI Panel-based -> SIMATIC HMI Unified Comfort Panels").

### **Licenses:**

For centralized management of distributed Edge devices and the Edge applications, additional usage fees are incurred per connected device in connection with Industrial Edge Management.

### Industrial Edge Virtual Device

The Industrial Edge Virtual Device allows you to implement Industrial Edge use cases in an IT infrastructure as a virtual machine.

## Ordering data

## Article No.

<b>SIMATIC IPC227E (Nanobox PC) with preinstalled Industrial Edge Runtime</b> 1 x DisplayPort; 2x 10/100/1000 Mbps; Ethernet RJ45; 1 x USB 3.0, 3 x USB 2.0; CFast slot; 24 V DC industrial power supply Industrial Edge (SIMATIC)	<b>6ES7647-8BD31-0CW1</b>
<b>SIMATIC IPC427E (Microbox PC)</b> Industrial Edge – SIMATIC; Core i5-6442EQ; 16 GB; without PCIe; without operating system; HD graphics onboard, 4x USB V3.0 (High Current), PCIe (optional), 3x Gbit Ethernet (IE/PN); 2x RS232/485; without removable mass storage; 240 GB solid-state drive SATA; DIN rail mounting; 24 V DC industrial power supply and TPM	<b>6AG4141-5BC30-0FW8</b>
<b>SIMATIC IPC847E (Rack PC)</b> 3x Gbit Ethernet (IE/PN); 1x DVI-D, 2x DP, 1x COM1, audio, 6x USB3.1; Xeon E-2278GE (8C/16T); 11 slots (8x PCIe, 3x PCI); 960 GB SSD 2.5 SATA; Enclosure with drive cage Type A (for removable trays); 100/240 V AC industrial power supply unit; 128 GB DDR4 SDRAM (4x 32 GB); Industrial Edge (SIMATIC); TPM 2.0	<b>6AG4114-3RR15-0WY0</b>

## Industrial Edge

### Industrial Edge devices

#### Industrial Edge Virtual Device

##### Overview

###### **Industrial Edge Virtual Device**

The Industrial Edge Virtual Device allows you to implement Industrial Edge use cases in an IT infrastructure as a virtual machine.

##### Benefits

- Fast implementation of development, test and demonstration environments for Industrial Edge
- Scalable Industrial Edge Runtime and use of availability options of the virtual infrastructure
- Use of Industrial Edge on existing IT infrastructure
- Functional compatibility with physical Industrial Edge Devices
- Uniform user experience with physical and virtual Edge Devices
- Flexible allocation of resources (CPU, RAM, storage) to the Industrial Edge Device for demand-oriented scaling

##### Application

- Hybrid setups of physical Industrial Edge Devices located close to the process and higher-level Industrial Edge Virtual Device – centrally managed with Industrial Edge Management
- Flexible environment for app developers and use case implementers
- Central implementation of Industrial Edge Use Cases on the IT infrastructure

##### Function

###### Requirements:

- Virtual infrastructure:
  - VMware ESXi: Version 6.7 or higher
- Minimum hardware requirements:
  - 1 vCPU core
  - 4 GB RAM
  - 15 GB virtual disk
  - 1 virtual network adapter
  - Industrial Edge Management and valid license for device onboarding

###### Constraints:

- No support of hardware-specific properties (e.g. certain interfaces)
- Currently no support for applications that require a certain time-deterministic behavior

##### Ordering data

##### Article No.

###### **Industrial Edge Virtual Device license**

License for one virtual machine with Industrial Edge Runtime; 12-month license; Email address required for delivery;

Limited sales release; Only the specific terms under apply  
<https://www.siemens.com/industrial-edge-specific-terms>

Requirements:  
 Industrial Edge Access (6ES7823-0EE00-4AX0) and Industrial Edge Management license for an Edge device (6ES7823-0EE00-4AY0)

**6ES7823-0EE10-0AA0**

## PC-based Automation

**5/3****Industrial PC**Rack PC

5/5 SIMATIC IPC347G  
 5/14 SIMATIC IPC547J  
 5/19 SIMATIC IPC647E  
 5/24 SIMATIC IPC847E  
 5/29 SIMATIC IPC1047E  
 5/35 SIMATIC IPC1047E

Box PC

5/40 SIMATIC IPC127E  
 5/49 SIMATIC IPC227G  
 5/56 SIMATIC IPC277E  
 5/59 SIMATIC IPC327G  
 5/64 SIMATIC IPC327G  
 5/68 SIMATIC IPC BX-39A **NEW**  
 5/71 SIMATIC IPC427E  
 5/76 SIMATIC IPC520A  
 5/78 SIMATIC IPC527G  
 5/86 SIMATIC IPC627E

Panel PC

5/90 SIMATIC IPC277G  
 5/95 SIMATIC IPC277E  
 5/102 SIMATIC IPC377G  
 5/107 SIMATIC IPC PX-39A **NEW**  
 5/110 SIMATIC IPC477E  
 5/118 SIMATIC IPC677E

Tablet PC

5/122 SIMATIC Industrial Tablet PC  
 5/125 System components for Tablet PC

Industrial monitors and Thin Clients

5/126 SIMATIC IFP Basic  
 5/129 SIMATIC Industrial Flat Panel  
 5/141 SIMATIC Industrial Thin Client

5/144 Devices for special requirements

5/145 Fully-enclosed IP65-protected devices  
 5/145 SIMATIC Industrial Flat Panel PRO  
 5/165 SIMATIC Industrial Thin Client PRO  
 5/172 SIMATIC IPC277G PRO **NEW**  
 5/175 SIMATIC IPC477E PRO  
 5/183 System components for fully-enclosed IP65-protected devices  
 5/184 Fixing elements  
 5/187 Extension Units and operator controls  
 5/204 Extension components  
 5/206 Devices with stainless steel fronts  
 5/206 SIMATIC Industrial Flat Panel IFP1900 INOX PRO  
 5/208 SIMATIC Industrial Flat Panel IFP2200 INOX MT ETH

5/210 IPC software

5/211 SIMATIC IPC Image & Partition Creator  
 5/212 SIMATIC IPC DiagMonitor  
 5/213 SIMATIC IPC FirmwareManager  
 5/214 SIMATIC Industrial OS

5/215 Software packages

5/215 Software packages for SIMATIC IPC

**5/218 Industrial IoT Gateway**

5/218 SIMATIC IOT2000  
 5/219 SIMATIC IOT2050  
 5/221 SIMATIC IOT2000 Input/Output Module  
 5/224 SIMATIC IOT2000 Input Module Sink/Source



### 5/226 **Software controllers**

- 5/226 SIMATIC S7-1500 Software Controllers
- 5/227 Standard CPUs
- 5/227 CPU 1507S
- 5/228 CPU 1508S
- 5/229 ODK 1500S
- 5/230 Fail-safe CPUs
- 5/230 CPU 1507S F
- 5/231 CPU 1508S F

### 5/232 **ET 200SP Open Controllers**

- 5/233 Standard CPUs
- 5/233 CPU 1515SP PC
- 5/234 CPU 1515SP PC2
- 5/235 Fail-safe CPUs
- 5/235 CPU 1515SP PC F
- 5/236 CPU 1515SP PC2 F
- 5/237 Technology CPUs
- 5/237 CPU 1515SP PC2 T
- 5/238 CPU 1515SP PC2 TF
- 5/239 SIPLUS ET 200SP Open Controllers
- 5/240 SIPLUS CPU 1515SP PC2
- 5/243 SIPLUS CPU 1515SP PC2 F

### 5/245 **SITOP power supply**

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- 5/245 SITOP PSU6200
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- 5/248 3-phase, 24 V DC
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- 5/267 Network management and diagnostics
- 5/267 SINEC NMS
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- 5/268 CP 5613 A3
- 5/269 CP 5614 A3
- 5/270 CP 5623
- 5/271 CP 5624
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- 5/273 CP 5622
- 5/274 CP 5711
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## Overview



### **SIMATIC Industrial PC**

Our reliable and innovative SIMATIC industrial PCs are the optimal PC hardware platform for PC-based Automation from Siemens.

#### Rack PC

Rack PCs are flexible, high-availability industrial PC systems for powerful yet compact applications using 19" technology.

#### Box PC

SIMATIC Box PCs provide mechanical engineers, plant engineers and control cabinet builders with particularly rugged industrial PC systems for use in powerful yet compact applications.

#### Panel PC

SIMATIC Panel PCs are suitable thanks to their high industrial compatibility for use in control cabinets, consoles and control panels, as well as directly on the machine. Typical areas of application can be found in both factory and process automation.

#### Tablet PC

The SIMATIC Industrial Tablet PC taps into new application areas within the scope of Industry 4.0. Designed for industrial use, the multiple functions of the SIMATIC ITP1000 deliver convincing results for day-to-day working. Typical applications are in maintenance/service, production and measuring and testing.

#### Industrial monitors and Thin Clients

Flexible operator input concepts can be implemented via Flat Panel monitors or Thin Clients. These are industry-standard LCD monitors with high-contrast displays that can be remotely located from the PC, or low-cost, rugged Thin Clients that offer HMI functionality over the network in larger plants spread over wide areas.

### **Devices for special requirements**

#### Fully-enclosed IP65-protected devices

The fully-enclosed devices (PRO devices) are ideal for industrial applications in harsh environments due to their extremely rugged design. They are, for example, specially designed for mounting on a support arm/pedestal.

<http://www.siemens.com/ip65-hmi-devices>

#### Devices with stainless steel fronts

SIMATIC HMI offers industry-specific versions for smooth use in accordance with regulations by modifying its standard devices. For the food and beverages industry, for example, we supply devices with stainless steel fronts, and for industries facing particularly harsh ambient conditions we offer fully-enclosed, dust and splash proof devices in a rugged aluminum enclosure with high IP65 degree of protection.

Panels and Panel PCs with touch screens and stainless steel fronts are designed for machine-level operator control and monitoring in the food and beverages industry.

<http://www.siemens.com/inox-hmi-devices>

#### Devices for hazardous areas

Intrinsically safe SIMATIC Panel PCs and Thin Clients specially designed for hazardous areas.

<http://www.siemens.com/simatic-hmi-ex>

#### IPC software

A graded concept is available for effective early detection of potential failures and minimization of actual downtimes. It consists of hardware and software expansion options specially developed for SIMATIC IPC, which can be used to increase availability on a system-specific basis, depending on safety requirements.

The following components are available:

- SIMATIC IPC Image & Partition Creator
- SIMATIC IPC DiagMonitor
- SIMATIC IPC Remote Manager
- SIMATIC IPC FirmwareManager
- SIMATIC Industrial OS

#### Software packages for SIMATIC IPCs

Software packages are offered for all available SIMATIC IPCs that, when ordered, produce genuine price advantages. All you have to do is: Select your SIMATIC IPC, configure it, and order it together with the SIMATIC Software WinCC RT Advanced, WinCC RT Professional and WinCC V7 software and also the SIMATIC WinAC RTX (F) Software Controller.

<http://www.siemens.com/simatic-ipc-packages>

## PC-based Automation

### Industrial PC

#### Introduction

#### More information

##### **Notes on the scope of delivery**

Microsoft operating systems are pre-installed in an OEM version.

The scope of supply also includes:

- Recovery CD for simple reinstallation of the operating system (not for IPC547G, IPC647D and IPC847D)
- Restore USB flash drive or restore DVD (only for IPC547G, IPC647D and IPC847D) for fast and very easy restoration of the PC delivery status
- "SIMATIC IPC Documentation and Drivers" on USB flash drive or DVD (only for IPC547G, IPC647D and IPC847D)
- Compact Operating Instructions (German/English/French/Spanish/Italian/Chinese)
- Electronic manual on "IPC Documentation and Drivers" data storage medium

More information is available on the Internet at:

<http://www.siemens.com/simatic-ipc>

## Overview



Rack PCs are flexible, high-availability industrial PC systems for powerful yet compact applications using 19" technology.

The following 5 device classes are available for various requirements:

**SIMATIC IPC347** – high performance at an optimized price

**SIMATIC IPC547** – latest technology and maximum performance at an attractive price

**SIMATIC IPC647** – maximum compactness combined with maximum industrial functionality

**SIMATIC IPC847** – maximum expandability combined with maximum industrial functionality

**SIMATIC IPC1047** – maximum performance and expandability

Shared industrial functionality of the IPC series 547, 647 and 847

- Maximum system performance for complex automation tasks and computationally intensive PC tasks in the industrial environment through use of Intel Core processors
- Designed for continuous 24-hour operation
- Monitoring and diagnostics functions (e.g. temperature, fan, watchdog)
- Front LED concept for efficient self-diagnostics, e.g. monitoring of hard disks in RAID1 configurations, fans or the status display for Ethernet
- RAID1 configuration (mirror disks), optionally in Hot Swap removable trays
- Hard disks with capacities up to 2 TB for large data volumes
- SSD (solid-state drive) SATA, also as RAID1 configuration, optional
- SSD (solid-state drive) M.2 NVMe
- Redundant AC power supply, optional
- Compact dimensions for installation in control cabinets only 500 mm deep
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- Lockable front door
- Service-friendly equipment design due to prepared telescopic rail mounting
- Service-friendly equipment design due, for example, to the replacement of filters/fans from the front without the need for tools, or opening of the enclosure with just one screw.
- Universal implementation as an industrial workstation or server
- Operating system preinstalled and activated for fast commissioning
- Fast restoration of the delivery status of the HDD thanks to restore DVD or USB flash drive
- High flexibility and expandability of components
- PCI and PCI Express expansion slots
- Independent industrial product design

## PC-based Automation

### Industrial PC

#### Rack PC

#### Overview

##### **SIMATIC IPC347G – high performance at an optimized price**

- Intel Pentium and Intel Core i processors, 6th generation
- Lockable front flap
- Uninterrupted duty at 40 °C ambient temperature without power loss
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- PCI and PCI Express expansion slots
- 7 configurations available ex stock at short notice
- Availability approx. 3 years
- Guaranteed spare parts availability for at least 3 years

##### **SIMATIC IPC547J – latest technology and maximum performance at an attractive price**

- Intel Core i processors 10th generation and Xeon
- Maximum processor performance in maximum configuration without loss of power (throttling) at ambient temperatures of up to 40 °C
- Optional RAID5 configuration (striping with parity) in Hot Swap removable trays
- RAID1 and RAID5 configurations with additional Hot Spare hard disk, optional
- Low noise output thanks to controlled fans
- Availability approx. 3 years
- Guaranteed spare parts availability for at least 3 years

##### **SIMATIC IPC647E – maximum compactness combined with maximum industrial functionality**

- Maximum compactness due to 4 free PCI/PCI Express slots for installing long expansion cards
- Maximum thermal stability up to 50 °C ambient temperature, even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Intel Core i processors 8th generation and Xeon
- ECC memory, optional
- High component/design continuity
- Motherboard developed and manufactured by Siemens
- Availability for at least 5 years
- Guaranteed spare parts availability for at least 5 years

##### **SIMATIC IPC847E – maximum expandability combined with maximum industrial functionality**

- Maximum expandability due to 11 free PCI/PCI Express slots for installing long expansion cards
- Maximum thermal stability up to 50 °C ambient temperature, even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Intel Core i processors 8th generation and Xeon
- Optional RAID5 configuration (striping with parity) in Hot Swap removable trays
- RAID1 and RAID5 configurations with additional Hot Spare hard disk or SSD SATA optional
- ECC memory, optional
- High component/design continuity
- Motherboard developed and manufactured by Siemens
- Availability for at least 5 years
- Guaranteed spare parts availability for at least 5 years

##### **SIMATIC IPC1047 – maximum performance and expandability**

- Maximum computing capacity due to two Intel® Xeon® CPUs
- Maximum graphic capacity
- Product design for industrial environment

## Technical specifications

Article number	<b>6AG4012-2....-0.X0</b> SIMATIC IPC347G (Rack PC, 19", 4 U)	<b>6AG4104-5....-....</b> SIMATIC IPC547J	<b>6AG4112-3....-.....</b> SIMATIC IPC647E (Rack PC)	<b>6AG4114-3....-....</b> SIMATIC IPC847E (Rack PC)	<b>6BK1801-1....-....</b> SIMATIC IPC1047E (Rack PC)
<b>General information</b>					
Product type designation		IPC547J	IPC647E	IPC847E	IPC1047E
<b>Installation type/mounting</b>					
Mounting	For horizontal and vertical mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)	For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)	For horizontal rack mounting
Design	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 2U	Rack PC, 19", 4U	Rack PC, 19", 4U
<b>Supply voltage</b>					
Type of supply voltage	100 - 240 V AC	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	110/230V AC (autorange) 50/60 Hz
<b>Line frequency</b>					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
<b>Mains buffering</b>					
• Mains/voltage failure stored energy time		20 ms	20 ms	20 ms	20 ms
<b>Processor</b>					
Processor type	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)	Intel Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB Cache); Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache); Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache); Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache); Intel Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache)	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)	2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz
Chipset	Intel H110	Intel W480E / Intel H410	Intel C246	Intel C246	Intel C621
<b>Graphic</b>					
Graphics controller		Intel® UHD Graphics 630	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp

## PC-based Automation

### Industrial PC

#### Rack PC

#### Technical specifications

Article number	6AG4012-2....-0.X0 SIMATIC IPC347G (Rack PC, 19, 4 U)	6AG4104-5....-.... SIMATIC IPC547J	6AG4112-3....-..... SIMATIC IPC647E (Rack PC)	6AG4114-3....-..... SIMATIC IPC847E (Rack PC)	6BK1801-1....-..... SIMATIC IPC1047E (Rack PC)
<b>Drives</b>					
Optical drives					No
Hard disk	HDD & SSD	1 TB HDD 3.5" SATA, 2x 1 TB HDD 3.5" SATA, 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA, RAID1, 2x 1 TB HDD 3.5" SATA, RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID5 3x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module, RAID5 3x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module	4 TB & 8 TB 3.5" SATA
SSD		Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD	Yes; 960 GB & 1.9 TB & 3.8 TB SATA SSD and 1 TB & 2 TB M.2 NVMe
Slot for drives		Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional			4x 3.5" HDD or 8x 2.5" SSD internal; 4x 3.5" HDD or 4x 2.5" SSD front changeable
<b>Memory</b>					
Type of memory					DDR4-SDRAM DIMM
Main memory	4 / 8 / 16 GB, supports up to 32 GB	4 GB to 128 GB DDR4 2933 SDRAM DIMM	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional	64 ... 512 GB

## Technical specifications

Article number	6AG4012-2....-0.X0 SIMATIC IPC347G (Rack PC, 19, 4 U)	6AG4104-5....-.... SIMATIC IPC547J	6AG4112-3....-..... SIMATIC IPC647E (Rack PC)	6AG4114-3....-..... SIMATIC IPC847E (Rack PC)	6BK1801-1....-..... SIMATIC IPC1047E (Rack PC)
<b>Hardware configuration</b>					
<b>Slots</b>					
• free slots	3x PCI, 1x PCIe (x16), 1x PCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	7 spare slots for expansions (all long); mainboard with H410 chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (1 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI; mainboard with W480E chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (4 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (4 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI	2 slots: 1x PCI Express (x16) (16 lanes), 1x PCI Express (x16) (4 lanes) or 4 slots: 2x PCI, 2x PCI Express (x16) (8 lanes) or 4 slots: 2x PCI Express (x16) (8 lanes), 1x PCI Express (x16) (4 lanes), 1x PCI Express (x16) (1 lane); expansion modules up to 312 mm in length can be used	9 slots: 7x PCI, 2x PCI Express (x16) (8 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (8 lanes), 5x PCI Express (x16) (4 lanes), 2x PCI Express (x4) (4 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (16 lanes), 3x PCI Express (x16) (4 lanes), 2x PCI Express (x16) (1 lane), 2x PCI Express (x4) (4 lanes); expansion modules up to a length of 312 mm can be used	6x PCIe slots (2x PCIe X8 + 4x PCIe X16)
<b>Interfaces</b>					
Interfaces/bus type		mainboard (H410 chip set): 2x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock, 1x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro; mainboard (W480E chip set): 3x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock, 2x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet	2x 1 GB LAN (RJ45), COM1, IPMI, VGA
PROFIBUS/MPI			can be implemented with plug-in card	can be implemented with plug-in card	

## PC-based Automation

### Industrial PC

#### Rack PC

#### Technical specifications

Article number	<b>6AG4012-2....-0.X0</b> SIMATIC IPC347G (Rack PC, 19, 4 U)	<b>6AG4104-5....-....</b> SIMATIC IPC547J	<b>6AG4112-3....-.....</b> SIMATIC IPC647E (Rack PC)	<b>6AG4114-3....-.....</b> SIMATIC IPC847E (Rack PC)	<b>6BK1801-1....-.....</b> SIMATIC IPC1047E (Rack PC)
USB port	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	mainboard (H410 chip set): USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock; mainboard (W480E chip set): USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed	2x front, 2x rear USB 3.0, 2x rear USB 2.0
Connection for keyboard/mouse serial interface	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header	USB COM1: 1x RS 232 or RS 485; COM2 (optional) 1x RS 232	USB COM1: 1x RS 232, COM2 (optional): 1x RS 232	USB COM1: 1x RS 232, COM2 (optional): 1x RS 232	USB 1x COM
Multimedia					
• Audio In/Out	Yes	Yes	Yes	Yes	No
• Microphone In	Yes	Yes	Yes	Yes	No
<b>Video interfaces</b>					
• Graphics interface	1x DisplayPort, 1x VGA	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)			VGA, with optional graphics card 3x or 4x DP1.4
<b>Industrial Ethernet</b>					
• Industrial Ethernet interface		2x or 3x Gigabit Ethernet (IE/PN), RJ45	3x Gigabit Ethernet (IE/PN), RJ45	3x Gigabit Ethernet (IE/PN), RJ45	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>					
<b>Monitoring functions</b>					
• Temperature monitoring		Yes	Yes	Yes	Yes
• Watchdog		Yes	Yes	Yes	
• Status LEDs	POWER, HDD	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM	Power, HDD, Ethernet 1, Ethernet 2, Ethernet 3, Watchdog, Temp, Fan, HDD1 alarm, HDD0 alarm	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM	POWER, HDD, FAN Fail
• Fan		Yes	Yes	Yes	Yes
• Monitoring function via network		Optional	Optional	Optional	Yes (per IPMI)

## Technical specifications

Article number	6AG4012-2....-0.X0	6AG4104-5....-....	6AG4112-3....-.....	6AG4114-3....-.....	6BK1801-1....-.....
	SIMATIC IPC347G (Rack PC, 19, 4 U)	SIMATIC IPC547J	SIMATIC IPC647E (Rack PC)	SIMATIC IPC847E (Rack PC)	SIMATIC IPC1047E (Rack PC)
<b>EMC</b>					
<b>Interference immunity against discharge of static electricity</b>					
<ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2				
<b>Interference immunity against high-frequency electromagnetic fields</b>					
<ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6			
<b>Interference immunity to cable-borne interference</b>					
<ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m			
	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m				
	±1 kV acc. to IEC 61000-4-4, Burst		±1 kV acc. to IEC 61000-4-4; burst, length < 3 m		
<b>Interference immunity against voltage surge</b>					
<ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge asymmetric				
	±1 kV acc. to IEC 61000-4-5, surge symmetric				
<b>Interference immunity to magnetic fields</b>					
<ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>		30 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	
<b>Emission of conducted and non-conducted interference</b>					
<ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>	IEC 61000-6-4, CISPR 22, FCC Class A	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3			
<b>Compliance with line harmonic distortion limits</b>					
<ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul>	Yes; EN 61000-3-2 Class D; EN 61000-3-3				
<b>Degree and class of protection</b>					
IP (at the front)	IP20	IP30	IP41	IP41	IP30
IP (rear)	IP20	IP20	IP20	IP20	IP20

## PC-based Automation

### Industrial PC

#### Rack PC

#### Technical specifications

Article number	6AG4012-2....-0.X0 SIMATIC IPC347G (Rack PC, 19, 4 U)	6AG4104-5....-.... SIMATIC IPC547J	6AG4112-3....-..... SIMATIC IPC647E (Rack PC)	6AG4114-3....-..... SIMATIC IPC847E (Rack PC)	6BK1801-1....-..... SIMATIC IPC1047E (Rack PC)
<b>Standards, approvals, certificates</b>					
CE mark		Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)			Yes; Industry
CSA approval		Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition			Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
UL approval		UL 61010-2-201 Second Edition, File E85972			Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)
cULus		Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition			Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
RCM (formerly C-TICK)		Yes	Yes	Yes	
KC approval		Yes	Yes	Yes	No; In application process
EAC (formerly Gost-R)		Yes	Yes	Yes	
FCC					Yes
EMC		EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3			
Dust protection		With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered			
<b>Marine approval</b>					
• Germanischer Lloyd (GL)			Yes; Only with SSD		
• American Bureau of Shipping (ABS)			Yes; Only with SSD		
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• Ambient temperature during operation	+5 °C to +40 °C	0 °C to +40 °C with full configuration	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration	0 °C to +40 °C with maximum configuration, up to +50 °C with basic configuration
<b>Relative humidity</b>					
• Relative humidity		Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)			permissible range for 0 to 31 °C: 5 ... 80 %; no condensation
• Operation, max.					80 %
<b>Vibrations</b>					
• Vibration resistance during operation acc. to IEC 60068-2-6		Tested according to IEC 60068-2-6; 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g)		10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>
<b>Shock testing</b>					
• Shock load during operation		Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis	Tested according to DIN IEC 60068-2-7: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks per axis	half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms

**Technical specifications**

Article number	<b>6AG4012-2....-0.X0</b> SIMATIC IPC347G (Rack PC, 19, 4 U)	<b>6AG4104-5....-....</b> SIMATIC IPC547J	<b>6AG4112-3....-.....</b> SIMATIC IPC647E (Rack PC)	<b>6AG4114-3....-....</b> SIMATIC IPC847E (Rack PC)	<b>6BK1801-1....-....</b> SIMATIC IPC1047E (Rack PC)
<b>Operating systems</b>					
pre-installed operating system		Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2019 Standard Edition incl. 5 clients, multi-language (64-bit)	Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)	Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)	Yes
Additional info on operating system without operating system		Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)			
		Yes	Yes	Yes	Yes
<b>Software</b>					
SIMATIC Software		Optional package with SIMATIC WinCC	Optional package with SIMATIC WinCC	Optional package with SIMATIC WinCC	
<b>Dimensions</b>					
Width	430 mm	430 mm	430 mm	430 mm	430 mm
Height	176 mm	177 mm; 4U	88 mm; 2U	177 mm; 4U	176.6 mm; 4U
Depth	465.8 mm	446 mm; Device with short enclosure: 356 mm	444 mm	444 mm	572 mm

**More information**

More information is available on the Internet at:

<http://www.siemens.com/simatic-pc>

## PC-based Automation

Industrial PC  
Rack PC

### SIMATIC IPC347G

#### Overview



#### **SIMATIC IPC347G**

SIMATIC IPC347G is an industrial PC in 19" rack design (4U).

It offers:

- Optimized price
- High performance
- 6th generation Intel Core i technology

#### Ordering data

##### Article No.

#### SIMATIC IPC347G

All-metal enclosure with high electromagnetic compatibility and mechanical ruggedness, dust protection through overpressure ventilation;  
Status LEDs: POWER, HDD;  
interfaces: 4x USB 3.0 on rear, 2x USB 2.0 on front, 2x USB 2.0 internal and 2x USB male connector, 2 x Gb Ethernet, 1 x DVI-DP, 1 x VGA, 2 x COM, 2 x PS/2, audio;  
Slots: 3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 tracks), 2x PCIe (x4) (1 track)

##### Processors

- Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache)
- Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache)
- Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache)

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A

B

C

##### Article No.

#### SIMATIC IPC347G

##### Drives (SATA)

- 1 x TB HDD
- 256 GB SSD
- 512 GB SSD

##### Memory configuration

- 4 GB DDR4 RAM
- 8 GB DDR4 RAM
- 16 GB DDR4 RAM
- 32 GB DDR4 RAM

##### Operating systems

- Without operating system; driver and documentation on USB flash drive
- Windows 10 IoT Enterprise Value (Pentium/i3/i5)
- Windows 10 IoT Enterprise High End (i7)

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A  
B  
C

1  
2  
3  
4

X

A

B

Ordering data	Article No.	Ordering data	Article No.
<p><i>Preferred variants (available at short notice ex stock)</i></p> <p><b>SIMATIC IPC347G</b></p> <p><b>Configuration 1</b></p> <p>Pentium Dual Core G4400 (2C/2T, 3.3 GHz, 3 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 4 GB DDR4 (1x 4 GB), no DVD +/-RW; Windows 10 IOT Enterprise for Pentium/i3/i5; 100/240 V industrial power supply unit, without power supply cord</p>	<b>6AG4012-2AA10-0AX0</b>	<p><i>Preferred variants (available at short notice ex stock)</i></p> <p><b>SIMATIC IPC347G</b></p> <p><b>Configuration 5</b></p> <p>Core i7 6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 8 GB DDR4 (1x 8 GB), no DVD +/-RW; Windows 10 IOT Enterprise for i7; 100/240 V industrial power supply unit, without power supply cord</p>	<b>6AG4012-2CA20-0BX0</b>
<p><b>Configuration 2</b></p> <p>Pentium Dual Core G4400 (2C/2T, 3.3 GHz, 3 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 4 GB DDR4 (1x 4 GB), no DVD +/-RW; without operating system; 100/240 V industrial power supply unit, without power supply cord</p>	<b>6AG4012-2AA10-0XX0</b>	<p><b>Configuration 6</b></p> <p>Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system</p>	<b>6AG4012-2AA20-0XX0</b>
<p><b>Configuration 3</b></p> <p>Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 4 GB DDR4 (1x 4 GB), no DVD +/-RW; Windows 10 IOT Enterprise for Pentium/i3/i5; 100/240 V industrial power supply unit, without power supply cord</p>	<b>6AG4012-2BA10-0AX0</b>	<p><b>Configuration 7</b></p> <p>Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache), 1 TB HDD, 8 GB DDR4 RAM, Windows 10 IoT Enterprise Value (Pentium/i3/i5)</p>	<b>6AG4012-2AA20-0AX0</b>
<p><b>Configuration 4</b></p> <p>Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 8 GB DDR4 (1x 8 GB), no DVD +/-RW; Windows 10 IOT Enterprise for Pentium/i3/i5; 100/240 V industrial power supply unit, without power supply cord</p>	<b>6AG4012-2BA20-0AX0</b>	<p><b>Configuration 8</b></p> <p>Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system</p>	<b>6AG4012-2BA20-0XX0</b>
		<p><b>Configuration 9</b></p> <p>Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache), 256 GB SSD, 8 GB DDR4 RAM, Windows 10 IoT Enterprise Value (Pentium/i3/i5)</p>	<b>6AG4012-2BB20-0AX0</b>
		<p><b>Configuration 10</b></p> <p>Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system</p>	<b>6AG4012-2CA20-0XX0</b>
		<p><b>Configuration 11</b></p> <p>Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache), 256 GB SSD, 8 GB DDR4 RAM, Windows 10 IoT Enterprise High End (i7)</p>	<b>6AG4012-2CB20-0BX0</b>

# PC-based Automation

Industrial PC  
Rack PC

## SIMATIC IPC347G

### Technical specifications

Article number	<b>6AG4012-2....-0.X0</b> SIMATIC IPC347G (Rack PC, 19", 4 U)
<b>Installation type/mounting</b>	
Mounting	For horizontal and vertical mounting
Design	Rack PC, 19", 4U
<b>Supply voltage</b>	
Type of supply voltage	100 - 240 V AC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Processor</b>	
Processor type	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)
Chipset	Intel H110
<b>Drives</b>	
Hard disk	HDD & SSD
<b>Memory</b>	
Main memory	4 / 8 / 16 GB, supports up to 32 GB
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)
<b>Interfaces</b>	
USB port	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB
Connection for keyboard/mouse serial interface	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort, 1x VGA
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Status LEDs	POWER, HDD

Article number	<b>6AG4012-2....-0.X0</b> SIMATIC IPC347G (Rack PC, 19", 4 U)
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	IEC 61000-6-4, CISPR 22, FCC Class A
<b>Compliance with line harmonic distortion limits</b>	
• Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3
<b>Degree and class of protection</b>	
IP (at the front)	IP20
IP (rear)	IP20
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	+5 °C to +40 °C
<b>Dimensions</b>	
Width	430 mm
Height	176 mm
Depth	465.8 mm

## Technical specifications

Article number	6AG4012-2AA10-0AX0	6AG4012-2AA10-0XX0	6AG4012-2BA10-0AX0	6AG4012-2BA20-0AX0	6AG4012-2CA20-0BX0
	SIMATIC IPC347G (Rack PC, 19", 4U)	SIMATIC IPC347G (Rack PC, 19", 4U)	SIMATIC IPC347G (Rack PC, 19", 4U)	SIMATIC IPC347G (Rack PC, 19", 4U)	SIMATIC IPC347G (Rack PC, 19", 4U)
<b>Installation type/mounting</b>					
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U
<b>Supply voltage</b>					
Type of supply voltage	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC
<b>Line frequency</b>					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
<b>Processor</b>					
Processor type	Intel Pentium G4400	Intel Pentium G4400	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)
Chipset	Intel H110				
<b>Drives</b>					
Hard disk	1 TB HDD				
<b>Memory</b>					
Main memory	4 GB (pre-installed), support up to 32 GB	4 GB (pre-installed), support up to 32 GB	4 GB (pre-installed), support up to 32 GB	8 GB (pre-installed), support up to 32 GB	8 GB (pre-installed), support up to 32 GB
<b>Hardware configuration</b>					
<b>Slots</b>					
• free slots	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	2	2	2	2	2
Number of PROFINET interfaces	2	2	2	2	2
USB port	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB
Connection for keyboard/mouse	2x PS/2	2x PS/2	2x PS/2	2x PS/2	2x PS/2
serial interface	2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header				
<b>Multimedia</b>					
• Audio In/Out	Yes	Yes	Yes	Yes	Yes
• Microphone In	Yes	Yes	Yes	Yes	Yes
<b>Video interfaces</b>					
• Graphics interface	1x DisplayPort, 1x VGA				
<b>Industrial Ethernet</b>					
• Industrial Ethernet interface					
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>					
<b>Monitoring functions</b>					
• Status LEDs	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD

**PC-based Automation**Industrial PC  
Rack PC**SIMATIC IPC347G****More information**

Article number	<b>6AG4012-2AA10-0AX0</b> SIMATIC IPC347G (Rack PC, 19, 4U)	<b>6AG4012-2AA10-0XX0</b> SIMATIC IPC347G (Rack PC, 19, 4U)	<b>6AG4012-2BA10-0AX0</b> SIMATIC IPC347G (Rack PC, 19, 4U)	<b>6AG4012-2BA20-0AX0</b> SIMATIC IPC347G (Rack PC, 19, 4U)	<b>6AG4012-2CA20-0BX0</b> SIMATIC IPC347G (Rack PC, 19, 4U)
<b>EMC</b>					
<b>Interference immunity against discharge of static electricity</b> • Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2				
<b>Interference immunity against high-frequency electromagnetic fields</b> • Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6				
<b>Interference immunity to cable-borne interference</b> • Interference immunity on supply cables • Interference immunity on signal cables >30m • Interference immunity on signal cables < 30m	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric  ±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m  ±1 kV acc. to IEC 61000-4-4, Burst				
<b>Interference immunity against voltage surge</b> • asymmetric interference • symmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±2 kV acc. to IEC 61000-4-5, surge asymmetric  ±1 kV acc. to IEC 61000-4-5, surge symmetric				
<b>Emission of conducted and non-conducted interference</b> • Interference emission via line/AC current cables	IEC 61000-6-4, CISPR 22, FCC Class A IEC 61000-6-4, CISPR 22, FCC Class A				
<b>Compliance with line harmonic distortion limits</b> • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3 Yes; EN 61000-3-2 Class D; EN 61000-3-3				
<b>Degree and class of protection</b> IP (rear)	IP20 IP20 IP20 IP20 IP20				
<b>Ambient conditions</b> <b>Ambient temperature during operation</b> • Ambient temperature during operation	+5 °C to +40 °C +5 °C to +40 °C +5 °C to +40 °C +5 °C to +40 °C +5 °C to +40 °C				
<b>Operating systems</b> pre-installed operating system  without operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI without operating system Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI No Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI No				
<b>Dimensions</b> Width Height Depth	430 mm 430 mm 430 mm 430 mm 176 mm 176 mm 176 mm 465.8 mm 465.8 mm 465.8 mm 465.8 mm 465.8 mm				

**More information**

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>



# PC-based Automation

Industrial PC  
Rack PC

## SIMATIC IPC547J

### Ordering data

#### SIMATIC IPC547J

### Article No.

6AG4104- 5 ■ ■ ■ ■ - ■ ■ ■ ■ ■

#### Drives

- 1 TB HDD 3.5" SATA **A**
- 1 TB HDD 3.5" SATA **B**
- 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) **C**
- 480 GB SSD 2.5" SATA **D**
- 2x 480 GB SSD 2.5" SATA **E**
- 960 GB SSD 2.5" SATA **F**
- RAID1, 2x 1 TB HDD 3.5" SATA **G**
- RAID1, 2x 480 GB SSD 2.5" SATA **H**
- RAID1, 2x 960 GB SSD 2.5" SATA **J**
- RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA **K**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA **L**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as HotSpare **M**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA (for operating system, if M.2 SSD not ordered) **N**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA **P**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as HotSpare **Q**
- Without drives **X**

#### Enclosure type / drive cage

- Enclosure (short) with drive cage Type C (for installation internal / 0.2 g vibration, 2 g shock), blue-chromated **0**
- Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock), blue chromated **1**
- Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock); coated **2**
- Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock); coated **3**
- Enclosure with drive cage type A (for removable trays on the front), coated **4**

#### Power supply unit, cable

- 100/240 V AC industrial power supply; without power cable **0**
- 100/240 V AC industrial power supply; power cable for Europe **1**
- 100/240 V AC industrial power supply; power cable for USA **2**
- 100/240 V AC industrial power supply; power cable for China **3**
- 2 x 100/240 V AC redundant industrial power supply; without power cable **4**
- 2 x 100/240 V AC redundant industrial power supply; 2x power cable for Europe **5**

### Article No.

6AG4104- 5 ■ ■ ■ ■ - ■ ■ ■ ■ ■

#### SIMATIC IPC547J

#### Memory configuration

- 4 GB DDR4 SDRAM (1x 4 GB), single channel **0**
- 8 GB DDR4 SDRAM (2x 4 GB), dual channel **1**
- 16 GB DDR4 SDRAM (2x 8 GB), dual channel **2**
- 32 GB DDR4 SDRAM (2x 16 GB), dual channel **3**
- 32 GB DDR4 SDRAM (2x 16 GB), dual channel **4**
- 64 GB DDR4 SDRAM (2x 32 GB), dual channel **5**

#### Expansions / hardware

- Without expansion **A**
- COM2 interface **B**
- 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) [only with W480E chip set] **C**
- 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) [only with W480E chip set] **D**
- PCIe x16 graphics card NVIDIA Quadro P400 (3x mDP: 3x adapter mDP on DP) (1 slot occupied) **J**
- PCIe x16 graphics card NVIDIA Quadro P2200 (4x DP: without adapter) (1 slot occupied) [only with W480E chip set / enclosure with drive cage Type A] **K**

#### Operating system (preinstalled and activated)

- Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i3/i5] **A**
- Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i7/i9/Xeon] **B**
- Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) [only with W480E chip set / Xeon] **N**
- Without operating system **X**

#### Software / adapters / security expansions

- Without expansions **0**
- SIMATIC IPC DiagMonitor software included **1**
- SIMATIC IPC Image & Partition Creator software included **2**
- SIMATIC IPC DiagMonitor + Image & Partition Creator software included **3**
- Adapter cable DP to VGA for onboard graphics / graphics card **4**
- Adapter cable DP to DVI-D for onboard graphics / graphics card **5**
- TPM 2.0 <sup>1)</sup> **8**

<sup>1)</sup> TPM = Trusted Platform Module

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

<http://www.siemens.com/ipc-configurators>

## Ordering data

## Article No.

**Accessories****Memory expansions**

- 4 GB DDR4 DIMM (1x 4)
- 8 GB DDR4 DIMM (1x 8)
- 16 GB DDR4 DIMM (1x 16)
- 32 GB DDR4 DIMM (1x 32)

6ES7648-2AL60-0QA0

6ES7648-2AL70-0QA0

6ES7648-2AL80-0QA0

6ES7648-2AL81-0QA0

**Removable drive bay**

For 3.5" hard disk (SATA/SAS) or 2.5" SSD (SATA), without drive

6ES7648-0EH00-1BA0

**Retainer**

For interlocking the internal USB port

6ES7648-1AA00-0XK0

**Mounting accessories**

Tower Kit for converting the rack IPC into an industrial tower PC

- For IPC547G/IPC547J
- For IPC547G/IPC547J (device with short enclosure)

6ES7648-1AA01-0XC0

6ES7648-1AA01-0XE0

**Adapter cable**

- Adapter cable DisplayPort to DVI-D for onboard graphics
- Adapter cable DisplayPort to VGA for onboard graphics

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

## Technical specifications

Article number	<b>6AG4104-5....-....</b> SIMATIC IPC547J
<b>General information</b>	
Product type designation	IPC547J
<b>Installation type/mounting</b>	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
Design	Rack PC, 19", 4U
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB Cache); Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache); Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache); Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache); Intel Core Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache)
Chipset	Intel W480E / Intel H410
<b>Graphic</b>	
Graphics controller	Intel® UHD Graphics 630

**PC-based Automation**Industrial PC  
Rack PC**SIMATIC IPC547J****Technical specifications**

Article number	<b>6AG4104-5....-....</b> SIMATIC IPC547J
<b>Drives</b>	
Hard disk	1 TB HDD 3.5" SATA, 2x 1 TB HDD 3.5" SATA, 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA, RAID1, 2x 1 TB HDD 3.5" SATA, RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare
SSD	Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
<b>Memory</b>	
Main memory	4 GB to 128 GB DDR4 2933 SDRAM DIMM
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	7 spare slots for expansions (all long); mainboard with H410 chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (1 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI; mainboard with W480E chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (4 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (4 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI

Article number	<b>6AG4104-5....-....</b> SIMATIC IPC547J
<b>Interfaces</b>	
Interfaces/bus type	mainboard (H410 chip set): 2x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock, 1x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro; mainboard (W480E chip set): 3x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock, 2x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro
USB port	mainboard (H410 chip set): USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock; mainboard (W480E chip set): USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock
Connection for keyboard/mouse serial interface	USB COM1: 1x RS 232 or RS 485; COM2 (optional) 1x RS 232
Multimedia	Yes
• Audio In/Out	Yes
• Microphone In	Yes
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x or 3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes

**Technical specifications**

Article number	<b>6AG4104-5....-....</b> SIMATIC IPC547J
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
<ul style="list-style-type: none"> <li>Temperature monitoring</li> <li>Watchdog</li> <li>Status LEDs</li> </ul>	Yes Yes POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM
<ul style="list-style-type: none"> <li>Fan</li> <li>Monitoring function via network</li> </ul>	Yes Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
<ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
<ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m ±1 kV acc. to IEC 61000-4-4, Burst cables
<b>Interference immunity against voltage surge</b>	
<ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	30 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
<ul style="list-style-type: none"> <li>Interference emission via line/AC current cables</li> </ul>	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
<b>Compliance with line harmonic distortion limits</b>	
<ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul>	Yes; EN 61000-3-2 Class D; EN 61000-3-3
<b>Degree and class of protection</b>	
IP (at the front)	IP30
IP (rear)	IP20

Article number	<b>6AG4104-5....-....</b> SIMATIC IPC547J
<b>Standards, approvals, certificates</b>	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C to +40 °C with full configuration
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis
<b>Operating systems</b>	
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2019 Standard Edition incl. 5 clients, multi-language (64-bit)
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC
<b>Dimensions</b>	
Width	430 mm
Height	177 mm; 4U
Depth	446 mm; Device with short enclosure: 356 mm

**More information**

More information is available on the internet at:

<http://www.siemens.com/ipc547j>

**PC-based Automation**

Industrial PC  
Rack PC

**SIMATIC IPC647E****Overview****SIMATIC IPC647E**

The SIMATIC IPC647E is a very rugged, high-performance industrial PC in 19" rack design (2 U) with excellent industrial functionality.

It offers:

- Extreme compactness
- Extreme ruggedness
- Intel® Core® i / Xeon technology 8th/9th Generation

**Ordering data****Article No.****SIMATIC IPC647E****6AG4112- 3**

Rack PC, 19", 2 U; Interfaces:  
3x Gbit Ethernet (IE/PN), RJ45;  
1x DVI-D; 2x DisplayPort;  
1x COM1; audio;  
4x USB 3.1, 2x USB 3.1 (type C)  
on the rear; 2x USB 3.0 on the front,  
1x USB 3.1 internal.  
1x M.2 slot internal;  
Temperature and fan monitoring,  
watchdog, card retainer

**Processor / motherboard**

- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)

A  
B  
C  
D  
E  
F  
G  
H  
J  
K  
L  
M  
N  
Q  
R

Ordering data	Article No.	Article No.
<b>SIMATIC IPC647E</b>	<b>6AG4112-</b>	<b>6AG4112-</b>
<u>Drives</u>	3 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	3 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
• 1 TB HDD 3.5" SATA	A	0
• 2x 1 TB HDD 3.5" SATA	B	1
• RAID1, 2x 1 TB HDD 3.5" SATA	C	2
• RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA	D	3
• RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA	E	4
• RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied)	K	5
• RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) + 480 GB SSD 2.5" SATA internal	L	6
• 1 TB HDD 3.5" SATA + 480 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered)	P	7
• 480 GB SSD 2.5" SATA	Q	8
• 960 GB SSD 2.5" SATA	R	
• 2x 480 GB SSD 2.5" SATA	S	
• RAID1, 2x 480 GB SSD 2.5" SATA	T	
• Without drives	X	
<u>Type of enclosure/power supplies</u>		
• Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 100/240 V AC industrial power supply	0	
• Enclosure with drive cage type A (for removable trays on the front); 100/240 V AC industrial power supply	1	
• Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 2x 100/240 V AC redundant industrial power supply	2	
• Enclosure with drive cage type A (for removable frames on the front); 2x 100/240 V AC redundant industrial power supply	3	
• Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 100/240 V AC industrial power supply	4	
• Enclosure with drive cage type A (for removable trays on the front) + COM2 interface; 100/240 V AC industrial power supply	5	
• Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 2x 100/240 V AC redundant industrial power supply	6	
• Enclosure with drive cage type A (for removable frames on the front) + COM2 port; 2x 100/240 V AC redundant industrial power supply	7	
<b>SIMATIC IPC647E</b>		
<u>Memory configuration</u>		
• 4 GB DDR4 SDRAM (1x 4 GB), single channel		0
• 8 GB DDR4 SDRAM (2x 4 GB), dual channel		1
• 16 GB DDR4 SDRAM (2x 8 GB), dual channel		2
• 32 GB DDR4 SDRAM (2x 16 GB), dual channel		3
• 64 GB DDR4 SDRAM (4x 16 GB), dual channel		4
• 128 GB DDR4 SDRAM (4x 32 GB), dual channel		5
• 16 GB DDR4 SDRAM (2x 8 GB), ECC, dual channel (only with Core i3/Xeon)		6
• 32 GB DDR4 SDRAM (2x 16 GB), ECC, dual channel (only with Core i3/Xeon)		7
• 64 GB DDR4 SDRAM (4x 16 GB), ECC, dual channel (only with Core i3/Xeon)		8
<u>Expansion hardware</u>		
• Without expansions		0
• PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied)		2
• 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system)		4
• 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) + PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied)		5
• 1 024 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system)		6
<u>Operating system (preinstalled and activated)</u>		
• Windows 10 Enterprise 2016 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i3/i5]		A
• Windows 10 Enterprise 2016 LTSC, multi-language (en, de, fr, it, sp), 64-bit, for Pentium Core i7/Xeon		B
• Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i3/i5]		C
• Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit, for Core i7/Xeon		D
• Windows Server 2016 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es)		H
• Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es)		J
• Without operating system		X

**PC-based Automation**Industrial PC  
Rack PC**SIMATIC IPC647E****Ordering data****Article No.****SIMATIC IPC647E****6AG4112-** 3 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■Software / adapters / security expansions

- SIMATIC IPC DiagMonitor software included
- SIMATIC IPC Image & Partition Creator software included
- SIMATIC IPC DiagMonitor + Image & Partition Creator software included
- Adapter cable DP to VGA for onboard graphics
- Adapter cable DP to DVI-D for onboard graphics
- Without expansions
- TPM<sup>1)</sup> 2.0 (not for China)

A  
B  
C  
H  
J  
X  
YCables, country-specific versions

- Without power supply cord
- Power supply cord for Europe
- Power supply cord for USA
- Power supply cord for China

0  
1  
2  
3<sup>1)</sup> TPM = Trusted Platform ModuleNote:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.  
The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>**Article No.**Accessories**Memory expansions**

- 4 GB DDR4 2666 SDRAM, DIMM
- 8 GB DDR4 2666 SDRAM, DIMM
- 16 GB DDR4 2666 SDRAM, DIMM
- 32 GB DDR4 2666 SDRAM, DIMM

**6ES7648-2AL60-0QA0**  
**6ES7648-2AL70-0QA0**  
**6ES7648-2AL80-0QA0**  
**6ES7648-2AL81-0QA0****Removable drive bay**

For 3.5" hard disk or 2.5" solid-state drive, SATA (without hard disk drive/solid-state drive)

**6ES7648-0EH00-1BA0****Retainer**

For mechanically interlocking the internal USB port

**6ES7648-1AA00-0XK0****Adapter cable**

- DisplayPort to DVI-D for onboard graphics
- DisplayPort to VGA for onboard graphics
- Mini-DisplayPort to VGA for graphics card
- Mini-DisplayPort to DVI-D for graphics card
- Mini-DisplayPort to DVI-D for graphics card (3 units per pack)
- Mini-DisplayPort to DisplayPort for graphics card
- Mini-DisplayPort to DisplayPort for graphics card (3 units per pack)

**6ES7648-3AF00-0XA0**  
**6ES7648-3AG00-0XA0**  
**6ES7648-3AL00-0XA0**  
**6ES7648-3AK00-0XA0**  
**6ES7648-3AK00-1XA0**  
**6ES7648-3AJ00-0XA0**  
**6ES7648-3AJ00-1XA0**

## Technical specifications

Article number	<b>6AG4112-3....-....</b> SIMATIC IPC647E (Rack PC)
<b>General information</b>	
Product type designation	IPC647E
<b>Installation type/mounting</b>	
Mounting	For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally
Design	Rack PC, 19", 2U
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)
Chipset	Intel C246
<b>Graphic</b>	
Graphics controller	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)
<b>Drives</b>	
Hard disk	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module
SSD	Yes: 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional

Article number	<b>6AG4112-3....-....</b> SIMATIC IPC647E (Rack PC)
<b>Memory</b>	
Main memory	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2 slots: 1x PCI Express (x16) (16 lanes), 1x PCI Express (x16) (4 lanes) or 4 slots: 2x PCI, 2x PCI Express (x16) (8 lanes) or 4 slots: 2x PCI Express (x16) (8 lanes), 1x PCI Express (x16) (4 lanes), 1x PCI Express (x16) (1 lane); expansion modules up to 312 mm in length can be used
<b>Interfaces</b>	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet
PROFIBUS/MPI	can be implemented with plug-in card
USB port	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed
Connection for keyboard/mouse serial interface	USB COM1: 1x RS 232, COM2 (optional): 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Power, HDD, Ethernet 1, Ethernet 2, Ethernet 3, Watchdog, Temp, Fan, HDD1 alarm, HDD0 alarm
• Fan	Yes
• Monitoring function via network	Optional

# PC-based Automation

Industrial PC  
Rack PC

## SIMATIC IPC647E

### Technical specifications

Article number	<b>6AG4112-3....-....</b> SIMATIC IPC647E (Rack PC)
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
<ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
<ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric  ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m ±1 kV acc. to IEC 61000-4-4; burst, length < 3 m
<b>Interference immunity against voltage surge</b>	
<ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
<ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
<b>Compliance with line harmonic distortion limits</b>	
<ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul>	Yes; EN 61000-3-2 Class D; EN 61000-3-3
<b>Standards, approvals, certificates</b>	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	Yes; UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered

Article number	<b>6AG4112-3....-....</b> SIMATIC IPC647E (Rack PC)
<b>Degree and class of protection</b>	
IP (at the front)	IP41
IP (rear)	IP20
<b>Marine approval</b>	
<ul style="list-style-type: none"> <li>Germanischer Lloyd (GL)</li> <li>American Bureau of Shipping (ABS)</li> </ul>	Yes; Only with SSD Yes; Only with SSD
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C to +50 °C with full configuration
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested according to DIN IEC 60068-2-7: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>	
pre-installed operating system	Windows 10 Enterprise 2016 LTSB, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC
<b>Dimensions</b>	
Width	430 mm
Height	88 mm; 2U
Depth	444 mm

### More information

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

## Overview

**SIMATIC IPC847E**

SIMATIC IPC847E is a very robust, high-performance industrial PC in 19" rack design (4 U) with excellent industrial functionality.

It offers:

- Maximum expandability
- Extreme ruggedness
- Intel® Core® i / Xeon technology 8th/9th generation

## Ordering data

## Article No.

## Article No.

**SIMATIC IPC847E**

6AG4114- 3 ■ ■ ■ ■ - ■ ■ ■ ■

Rack PC, 19", 4 U  
 Interfaces:  
 3x Gbit Ethernet (IE/PN), RJ45;  
 1x DVI-D; 2x DisplayPort;  
 1x COM1; audio; 4x USB 3.1,  
 2x USB 3.1 (type C) on the rear;  
 2x USB 3.0 on the front,  
 1x USB 3.1 internal.  
 Temperature and fan monitoring,  
 watchdog, card retainer

Processors / Boards

- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d). Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d). Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d). Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)

A  
B  
C  
D  
E  
F  
G**SIMATIC IPC847E**

6AG4114- 3 ■ ■ ■ ■ - ■ ■ ■ ■

Processors / Boards

- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)

H  
J  
K  
L  
M  
N  
Q  
R

**PC-based Automation**

Industrial PC

Rack PC

**SIMATIC IPC847E****Ordering data****Article No.****SIMATIC IPC847E****6AG4114- 3** ■ ■ ■ ■ - ■ ■ ■ ■ ■Drives

- 1 TB HDD 3.5" SATA **A**
- 2x 1 TB HDD 3.5" SATA **B**
- RAID1, 2x 1 TB HDD 3.5" SATA **C**
- RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA **D**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA **E**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as HotSpare **F**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 480 GB 2.5" SSD SATA (for operating system if M.2 SSD not ordered) **G**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA **H**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as HotSpare **J**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) **K**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) + 480 GB SSD 2.5" SATA **L**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) **M**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SAS + 2 TB HDD [Enterprise] 3.5" SAS as hot spare; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) **N**
- 1 TB HDD 3.5" SATA + 480 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) **P**
- 480 GB SSD 2.5" SATA **Q**
- 960 GB SSD 2.5" SATA **R**
- 2x 480 GB SSD 2.5" SATA **S**
- RAID1, 2x 480 GB SSD 2.5" SATA **T**
- Without drives **X**

**Article No.****SIMATIC IPC847E****6AG4114- 3** ■ ■ ■ ■ - ■ ■ ■ ■ ■Type of enclosure/power supplies

- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 100/240 V AC industrial power supply **0**
- Enclosure with drive cage type A (for removable trays on the front); 100/240 V AC industrial power supply **1**
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 2x 100/240 V AC redundant industrial power supply **2**
- Enclosure with drive cage type A (for removable trays on the front); 2x 100/240 V AC redundant industrial power supply **3**
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 100/240 V AC industrial power supply **4**
- Enclosure with drive cage type A (for removable trays on the front) + COM2 interface; 100/240 V AC industrial power supply **5**
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 2x 100/240 V AC redundant industrial power supply **6**
- Enclosure with drive cage Type A (for removable trays on the front) + COM2 port; 2x 100/240 V AC redundant industrial power supply **7**

## Ordering data

## Article No.

## Article No.

**SIMATIC IPC847E****6AG4114- 3 ■ ■ ■ ■ - ■ ■ ■ ■**Memory configuration

- 4 GB DDR4 SDRAM (1x 4 GB), single channel **0**
- 8 GB DDR4 SDRAM (2x 4 GB), dual channel **1**
- 16 GB DDR4 SDRAM (2x 8 GB), dual channel **2**
- 32 GB DDR4 SDRAM (2x 16 GB), dual channel **3**
- 64 GB DDR4 SDRAM (4x 16 GB), dual channel **4**
- 128 GB DDR4 SDRAM (4x 32 GB), dual channel **5**
- 16 GB DDR4 SDRAM (2x 8 GB), ECC, dual channel (only with Core i3/Xeon) **6**
- 32 GB DDR4 SDRAM (2x 16 GB), ECC, dual channel (only with Core i3/Xeon) **7**
- 64 GB DDR4 SDRAM (4x 16 GB), ECC, dual channel (only with Core i3/Xeon) **8**

Expansion hardware

- Without expansion **0**
- PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied) **1**
- PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied) **2**
- PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied) + PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied) **3**
- 512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) **4**
- 512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) + PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied) **5**
- 1 024 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) **6**

**SIMATIC IPC847E****6AG4114- 3 ■ ■ ■ ■ - ■ ■ ■ ■**Operating system (preinstalled and activated)

- Windows 10 Enterprise 2016 LTSC, multi-language (en, de, fr, it, es), 64-bit (for Core i3/i5) **A**
- Windows 10 Enterprise 2016 LTSC, multi-language (en, de, fr, it, es), 64-bit (for Core i7/Xeon) **B**
- Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit (for Core i3/i5) **C**
- Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit, (for Core i7/Xeon) **D**
- Windows Server 2016 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) **H**
- Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) **J**
- Without operating system **X**

Software / adapters / security expansions

- SIMATIC IPC DiagMonitor software included **A**
- SIMATIC IPC Image & Partition Creator software included **B**
- SIMATIC IPC DiagMonitor + Image & Partition Creator software included **C**
- Adapter cable DP to VGA for onboard graphics **H**
- Adapter cable DP to DVI-D for onboard graphics **J**
- Without expansions **X**
- TPM <sup>1)</sup> 2.0 (not for China) **Y**

Cables, country-specific versions

- Without power supply cord **0**
- Power supply cord for Europe **1**
- Power supply cord for USA **2**
- Power supply cord for China **3**

SIMATIC IPC847E (Rack PC)  
6AG4114-3RR15-0WY0Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

<sup>1)</sup> TPM = Trusted Platform Module

Option for Industrial Edge**SIMATIC IPC847E (Rack PC)**

3x Gbit Ethernet (IE/PN)  
 1x DVI-D, 2x DP,  
 1x COM1, audio, 6x USB3.1;  
 Xeon E-2278GE (8C/16T);  
 11 slots (8x PCIe, 3x PCI);  
 960 GB SSD 2.5 SATA;  
 Enclosure with drive cage  
 Type A (for removable trays);  
 100/240 V AC industrial power  
 supply unit;  
 128 GB DDR4 SDRAM (4x 32 GB);  
 Industrial Edge (Simatic);  
 TPM 2.0

**6AG4114-3RR15-0WY0**

## PC-based Automation

Industrial PC  
Rack PC

### SIMATIC IPC847E

#### Ordering data

#### Article No.

##### Accessories

##### Memory expansions

- 4 GB DDR4 2666 SDRAM, DIMM
- 8 GB DDR4 2666 SDRAM, DIMM
- 16 GB DDR4 2666 SDRAM, DIMM
- 32 GB DDR4 2666 SDRAM, DIMM

6ES7648-2AL60-0QA0

6ES7648-2AL70-0QA0

6ES7648-2AL80-0QA0

6ES7648-2AL81-0QA0

##### Removable drive bay

For 3.5" hard disk or 2.5" solid-state drive, SATA (without hard disk drive/solid-state drive)

6ES7648-0EH00-1BA0

##### Tower Kit

To convert the computer into an industrial tower PC

6ES7648-1AA01-0XC0

##### Retainer

For mechanically interlocking the internal USB port

6ES7648-1AA00-0XK0

##### Adapter cable

- DisplayPort to DVI-D for onboard graphics
- DisplayPort to VGA for onboard graphics
- Mini-DisplayPort to VGA for graphics card
- Mini-DisplayPort to DVI-D for graphics card
- Mini-DisplayPort to DVI-D for graphics card (3 units per pack)
- Mini-DisplayPort to DisplayPort for graphics card
- Mini-DisplayPort to DisplayPort for graphics card (3 units per pack)

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

6ES7648-3AL00-0XA0

6ES7648-3AK00-0XA0

6ES7648-3AK00-1XA0

6ES7648-3AJ00-0XA0

6ES7648-3AJ00-1XA0

#### Technical specifications

Article number	<b>6AG4114-3....-....</b> SIMATIC IPC847E (Rack PC)
<b>General information</b>	
Product type designation	IPC847E
<b>Installation type/mounting</b>	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
Design	Rack PC, 19", 4U
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)
Chipset	Intel C246
<b>Graphic</b>	
Graphics controller	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)

## Technical specifications

Article number	<b>6AG4114-3....-....</b> SIMATIC IPC847E (Rack PC)
<b>Drives</b>	
Hard disk	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID5 3x 2 TB 3.5" SATA HDD (Enterprise), RAID5 3x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module, RAID5 3x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module
SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
<b>Memory</b>	
Main memory	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	9 slots: 7x PCI, 2x PCI Express (x16) (8 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (8 lanes), 5x PCI Express (x16) (4 lanes), 2x PCI Express (x4) (4 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (16 lanes), 3x PCI Express (x16) (4 lanes), 2x PCI Express (x16) (1 lane), 2x PCI Express (x4) (4 lanes); expansion modules up to a length of 312 mm can be used
<b>Interfaces</b>	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet
PROFIBUS/MPI	can be implemented with plug-in card
USB port	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed
Connection for keyboard/mouse serial interface	USB COM1: 1x RS 232, COM2 (optional): 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes

Article number	<b>6AG4114-3....-....</b> SIMATIC IPC847E (Rack PC)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM
• Fan	Yes
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high- frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst, length < 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8

**PC-based Automation**Industrial PC  
Rack PC**SIMATIC IPC847E****Technical specifications**

Article number	<b>6AG4114-3....-....</b> SIMATIC IPC847E (Rack PC)
<b>Emission of conducted and non-conducted interference</b>	
<ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
<b>Compliance with line harmonic distortion limits</b>	
<ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul>	Yes; EN 61000-3-2 Class D; EN 61000-3-3
<b>Degree and class of protection</b>	
IP (at the front)	IP41
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	Yes; UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered

Article number	<b>6AG4114-3....-....</b> SIMATIC IPC847E (Rack PC)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C to +50 °C with full configuration
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks per axis
<b>Operating systems</b>	
pre-installed operating system	Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC
<b>Dimensions</b>	
Width	430 mm
Height	177 mm; 4U
Depth	444 mm

**More information**

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

Overview



**SIMATIC IPC1047E**

Industrial PC for maximum computing, memory and graphic capacity requirements with high expandability in 19" installation design (4 U).

It offers:

- Maximum CPU performance thanks to two Intel® Xeon® SP 2<sup>nd</sup> Gen Silver/ Gold
- Maximum GPU performance with NVIDIA® Quadro® RTX5000 or up to two RTX4000 graphics cards
- High system performance with M.2 NVME SSD and up to 2 TB RAM
- A lot of space for your data with up to 32 TB HDD or SSD
- High AI performance with NVIDIA® Quadro® RTX5000 or up to two RTX4000 graphics cards
- High expandability with 6x PCIe slots and fast data transfer through direct CPU connection of the PCIe lanes
- Product design and safety requirements for industrial environment

Ordering data

Article No.

SIMATIC IPC1047E	6BK1801-	1	■ ■ ■ ■ ■ - ■ ■ ■ ■ ■
Rack PC, 19", 4 U; 572 mm; 2x 1 GB LAN (RJ45); COM1; IPMI; 6 PCIe slots (2x PCIe x8 + 4x PCIe x16)			
<u>Processor</u>			
• 2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz	A		
• 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz	B		
• 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz	D		
• 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz	E		
<u>Drives/ mass storage</u>			
• 1x SSD 1 TB M.2 NVMe	A		
• 1x SSD 2 TB M.2 NVMe	B		
• 1x SSD 1 TB M.2 NVMe + 1x HDD 4 TB 3.5" SATA	C		
• 1x SSD 1 TB M.2 NVMe + 1x HDD 8 TB 3.5" SATA	D		
• 1x SSD 1 TB M.2 NVMe + 2x HDD 4 TB 3.5" SATA (HW RAID 1)	E		
• 1x SSD 1 TB M.2 NVMe + 4x HDD 8 TB 3.5" SATA (HW RAID 5 + hot spare)	F		
• 1x SSD 1 TB M.2 NVMe + 2x SSD 3.8 TB 2.5" SATA (HW RAID 1)	G		
• 1x SSD 1 TB M.2 NVMe + 3x SSD 3.8 TB 2.5" SATA (HW RAID 5)	H		
• 1x SSD 1 TB M.2 NVMe + 4x SSD 3.8 TB 2.5" SATA (HW RAID 5 + hot spare)	J		
• 2x SSD 960 GB 2.5" SATA (HW RAID 1) + 2x HDD 8 TB 3.5" SATA (HW RAID 1)	K		
• 2x SSD 960 GB 2.5" SATA (HW RAID 1) + 2x SSD 3.8 TB 2.5" SATA (HW RAID 1)	L		
• No drives	Y		

Article No.

SIMATIC IPC1047E	6BK1801-	1	■ ■ ■ ■ ■ - ■ ■ ■ ■ ■
<u>Memory configuration</u>			
• 64 GB 2400 MHz DDR4		0	
• 128 GB 2400 MHz DDR4		1	
• 192 GB 2400 MHz DDR4		2	
• 256 GB 2400 MHz DDR4		3	
• 384 GB 2400 MHz DDR4		4	
• 512 GB 2400 MHz DDR4		5	
<u>Graphics cards</u>			
• Without graphics card (onboard VGA)		0	
• 1x Nvidia Quadro P620 (1x PCIe x16 occupied)		1	
• 1x Nvidia Quadro RTX4000 (1x PCIe x16 occupied)		2	
• 1x Nvidia Quadro RTX5000 (1x PCIe x16 occupied) - only with 860 W power supply unit		3	
<u>Further plug-in cards</u>			
• Without plug-in cards			0
• Intel I350-T2 (2x 1 GB LAN)			1
• Intel I350-T4 (4x 1 GB LAN)			2
• Intel X540-T2 (2x 10 GB LAN)			3
<u>Operating system (pre-installed and activated, only with installed HDDs/ SSDs)</u>			
• Without operating system			A
• Windows 10 Enterprise LTSC 2019			B
• Windows Server 2019 - for XEON Silver 4210 (20C)			C
• Windows Server 2019 - for XEON Silver 4216 (32C)			D
• Windows Server 2019 - for XEON Gold 6226 (24C)			E
• Windows Server 2019 - for XEON Gold 6230 (40C)			F

**PC-based Automation**Industrial PC  
Rack PC**SIMATIC IPC1047E****Ordering data****Article No.****SIMATIC IPC1047E**

6BK1801- 1 ■ ■ ■ ■ - ■ ■ ■ ■

Power supply

- 860 W without power supply cable
- 860 W power supply cable EU
- 860 W power supply cable US
- 860 W power supply cable China
- 700 W, redundant, without power supply cable
- 700 W, redundant, power supply cable EU
- 700 W power supply cable US
- 700 W power supply cable China

A

B

C

D

E

F

G

H

Enclosure variant

- Holder for 4x 3.5" or 8x 2.5" SSD/HDD; internal drives
- Holder for 4x 3.5" or 4x 2.5" SSD/HDD; removable drive bay

0

1

**Article No.***Preferred versions***SIMATIC IPC1047E CPU**

6BK1801-1AA00-0BB0

- 2x Xeon SP Silver 4210 10C/ 20T - 2.2GHz/ 3.2GHz
- 1x SSD 1 TB M.2 NVMe
- 64 GB 2933 MHz DDR4 ECC
- Without graphics card (onboard VGA)
- Without plug-in cards
- Windows 10 Enterprise LTSB 2019
- 860 W power supply cable EU
- Holder for 4x 3.5" or 8x 2.5" SSD/HDD - internal drives

**SIMATIC IPC1047E GPU**

6BK1801-1AA02-0BB0

- 2x Intel Xeon SP Silver 4210 10C/ 20T - 2.2 GHz/ 3.2 GHz
- 1x SSD 1 TB M.2 NVMe
- 64 GB 2933 MHz DDR4 ECC
- 1x Nvidia Quadro RTX4000 (1x PCIe x16 occupied)
- Without plug-in cards
- Windows 10 Enterprise LTSB 2019
- 860 W power supply cable EU
- Holder for 4x 3.5" or 8x 2.5" SSD/HDD - internal drives

**SIMATIC IPC1047E Virtualize**

6BK1801-1EF10-0FF1

- 2x Intel Xeon SP Gold 6230 20C/ 40T - 2.1 GHz/ 3.9 GHz
- 1x SSD 1 TB M.2 NVMe + 4x HDD 8 TB 3.5" SATA (HW RAID 5 + hot spare)
- 128 GB 2933 MHz DDR4 ECC
- Without graphics card (onboard VGA)
- Without plug-in cards
- Windows Server 2019 - for XEON Gold 6230 (40C)
- 700 W, redundant, power supply cable EU
- Holder for 4x 3.5" or 4x 2.5" SSD/HDD - removable drive bay

Note:

For customer-specific configurations, please contact your Siemens sales specialist.

**Technical specifications**

Article number	<b>6BK1801-1....-....</b> SIMATIC IPC1047E (Rack PC)
<b>Installation type/mounting</b>	
Mounting	For horizontal rack mounting
Design	Rack PC, 19", 4U
<b>Supply voltage</b>	
Type of supply voltage	110/230V AC (autorange) 50/60 Hz
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz
Chipset	Intel C621
<b>Graphic</b>	
Graphics controller	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp
<b>Drives</b>	
Optical drives	No
Hard disk	4 TB & 8 TB 3.5" SATA
SSD	Yes; 960 GB & 1.9 TB & 3.8 TB SATA SSD and 1 TB & 2 TB M.2 NVMe
Slot for drives	4x 3.5" HDD or 8x 2.5" SSD internal; 4x 3.5" HDD or 4x 2.5" SSD front changeable
<b>Memory</b>	
Type of memory	DDR4-SDRAM DIMM
Main memory	64 ... 512 GB
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	6x PCIe slots (2x PCIe X8 + 4x PCIe X16)
<b>Interfaces</b>	
Interfaces/bus type	2x 1 GB LAN (RJ45), COM1, IPMI, VGA
USB port	2x front, 2x rear USB 3.0, 2x rear USB 2.0
Connection for keyboard/mouse serial interface	USB 1x COM
Multimedia	
• Audio In/Out	No
• Microphone In	No
<b>Video interfaces</b>	
• Graphics interface	VGA, with optional graphics card 3x or 4x DP1.4
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	<b>6BK1801-1....-....</b> SIMATIC IPC1047E (Rack PC)
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Status LEDs	POWER, HDD, FAN Fail
• Fan	Yes
• Monitoring function via network	Yes (per IPMI)
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Degree and class of protection</b>	
IP (at the front)	IP30
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes; Industry
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
UL approval	Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)
cULus	Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
KC approval	No; In application process
FCC	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to +40 °C with maximum configuration, up to +50 °C with basic configuration
<b>Relative humidity</b>	
• Relative humidity	permissible range for 0 to 31 °C: 5 ... 80 %; no condensation
• Operation, max.	80 %
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms
<b>Operating systems</b>	
pre-installed operating system	Yes
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
<b>Dimensions</b>	
Width	430 mm
Height	176.6 mm; 4U
Depth	572 mm

**PC-based Automation**

Industrial PC

Rack PC

**SIMATIC IPC1047E****Technical specifications**

Article number	<b>6BK1801-1AA00-0AA0</b> SIMATIC IPC1047E (Rack PC)	<b>6BK1801-1EF10-0FF1</b> SIMATIC IPC1047E (Rack PC)
<b>Installation type/mounting</b>		
Mounting	For horizontal rack mounting	For horizontal rack mounting
Design	Rack PC, 19", 4U	Rack PC, 19", 4U
<b>Supply voltage</b>		
Type of supply voltage	110/230V AC (autorange) 50/60 Hz	110/230V AC (autorange) 50/60 Hz
<b>Line frequency</b>		
• Rated value 50 Hz	Yes	Yes
• Rated value 60 Hz	Yes	Yes
<b>Mains buffering</b>		
• Mains/voltage failure stored energy time	20 ms	20 ms
<b>Processor</b>		
Processor type		2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz
Chipset		Intel C621
<b>Graphic</b>		
Graphics controller	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp
<b>Drives</b>		
Optical drives		No
Hard disk		4 TB & 8 TB 3.5" SATA
SSD	Yes	Yes; 960 GB & 1.9 TB & 3.8 TB SATA SSD and 1 TB & 2 TB M.2 NVMe
Slot for drives		4x 3.5" HDD or 8x 2.5" SSD internal; 4x 3.5" HDD or 4x 2.5" SSD front changeable
<b>Memory</b>		
Type of memory	DDR4-SDRAM DIMM	DDR4-SDRAM DIMM
Main memory		64 ... 512 GB
<b>Hardware configuration</b>		
<b>Slots</b>		
• free slots		6x PCIe slots (2x PCIe X8 + 4x PCIe X16)
<b>Interfaces</b>		
Interfaces/bus type		2x 1 GB LAN (RJ45), COM1, IPMI, VGA
USB port		2x front, 2x rear USB 3.0, 2x rear USB 2.0
Connection for keyboard/mouse	USB	USB
serial interface	1x COM	1x COM
Multimedia		
• Audio In/Out	No	No
• Microphone In	No	No
<b>Video interfaces</b>		
• Graphics interface	VGA, with optional graphics card 3x or 4x DP1.4	VGA, with optional graphics card 3x or 4x DP1.4
<b>Industrial Ethernet</b>		
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes
<b>Integrated Functions</b>		
<b>Monitoring functions</b>		
• Temperature monitoring	Yes	Yes
• Status LEDs	POWER, HDD, FAN Fail	POWER, HDD, FAN Fail
• Fan	Yes	Yes
• Monitoring function via network	Yes (per IPMI)	Yes (per IPMI)
<b>EMC</b>		
<b>Interference immunity against discharge of static electricity</b>		
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2

## Technical specifications

Article number	<b>6BK1801-1AA00-0AA0</b> SIMATIC IPC1047E (Rack PC)	<b>6BK1801-1EF10-0FF1</b> SIMATIC IPC1047E (Rack PC)
<b>Degree and class of protection</b>		
IP (at the front)	IP30	IP30
IP (rear)	IP20	IP20
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes; Industry
CSA approval	Yes	Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
UL approval	Yes	Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)
cULus	Yes	Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
KC approval	No	No; In application process
FCC	Yes	Yes
EMC		EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• Ambient temperature during operation	0 °C to +40 °C with maximum configuration, up to +50 °C with basic configuration	0 °C to +40 °C with maximum configuration, up to +50 °C with basic configuration
<b>Relative humidity</b>		
• Relative humidity		permissible range for 0 to 31 °C: 5 ... 80 %; no condensation
• Operation, max.	80 %	80 %
<b>Vibrations</b>		
• Vibration resistance during operation acc. to IEC 60068-2-6		10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>
<b>Shock testing</b>		
• Shock load during operation		half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms
<b>Operating systems</b>		
pre-installed operating system		Yes
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes	Yes
<b>Dimensions</b>		
Width	430 mm	430 mm
Height	176.6 mm; 4U	176.6 mm; 4U
Depth	572 mm	572 mm

### More information

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

## PC-based Automation

### Industrial PC

#### Box PC

#### Overview



#### SIMATIC Box PCs

SIMATIC Box PCs provide mechanical engineers, plant engineers and control cabinet builders with particularly rugged industrial PC systems for use in powerful yet compact applications.

The following device classes are available for various requirements:

- SIMATIC IPC127E: The ultra-compact, flexible, rugged industrial PC and IoT gateway in one
- SIMATIC IPC227 (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged
- SIMATIC IPC327: Fanless Basic Box PC at an appealing price
- SIMATIC IPC427 (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration
- SIMATIC IPC527: The powerful Box PC at an appealing price
- SIMATIC IPC627/IPC827 (Box PC): The high-end IPC – with maximum performance, functionality, and expansion capability

#### Shared industrial functionality:

- Extreme compactness
- Certification for global marketing
- System-tested with SIMATIC components
- High vibration/shock load during operation
- Wide operational temperature range
- Robust data storage with CompactFlash/CFast or solid-state drive (SSD)
- Varied mounting possibilities for flexibility with installation
- Designed for continuous 24-hour operation
- Integrated parameterizable monitoring functions (temperature, fan, watchdog)
- High service friendliness
- Operating system preinstalled and activated for fast commissioning
- Motherboard developed and manufactured by Siemens
- Availability for 3 to 6 years
- Repairs and spare parts service for 5 years
- High component/design continuity
- Long-term availability of PC components from the Intel embedded line

#### **SIMATIC IPC127 (Nanobox PC): Ultra-compact IoT gateway for data collection, pre-processing, and forwarding of data**

- High-performance gateway: IoT gateway for the acquisition/collection/processing/transmission of data / integration of machinery in Cloud/Edge solutions
- For retrofitting and new systems: Networking/retrofitting of digitizing tasks in brownfield and greenfield plants due to ultra-compact design
- Optimized price/performance ratio; ideal for high quantities

#### **SIMATIC IPC227 (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged**

- Maximum compactness with approx. 1 liter enclosure volume with integrated industrial power supply for minimum space requirements in the control cabinet
- Maximum flexibility thanks to several mounting options and interfaces on one side suitable for every installation situation
- Optimum variety of interfaces due to a large number of integrated interfaces such as a selectable serial connection and 2x or 3x teaming-capable Gigabit-Ethernet
- Maximum industrial functionality due to closed enclosure for optimum dust protection and non-volatile retentive memory
- Optimum adaptation to the application with additional PCIe slot or M.2 module slots

#### **SIMATIC IPC327: Fanless Basic Box PC at an appealing price**

- Low-cost platform for the industrial and industry-oriented field
- Flexible installation on the DIN rail or wall mounting, as well as simple connection of I/O devices due to a large number of interfaces
- Fanless industrial design
- Fast availability directly ex stock due to preferred versions

#### **SIMATIC IPC427 (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration**

- Fan-free operation
- High performance with maximum compactness and ruggedness for direct installation in the machine
- Optimized for embedded applications
- Flexibility expandable using one or two PCIe I/O cards (optional)
- Flexible installation options including DIN rail/wall/front portrait mounting, even outside control cabinets
- NVRAM for retentive data storage (optional)

## Overview

**SIMATIC IPC527: The powerful Box PC at an appealing price**

- High system performance for computation-intensive applications with compact dimensions
- High flexibility due to expansion options
- High degree of investment protection thanks to support of existing systems
- Industrial quality at an attractive price
- Fast availability directly ex stock due to preferred versions

**SIMATIC IPC627/IPC827 (Box PC): The high-end IPC – with maximum performance, functionality, and expansion capability**

- Maximum system performance for complex measuring, control and visualization tasks
- High flexibility with expansion slots and integral interfaces
- Flexible, space-saving installation with mounting brackets or portrait mounting kits
- Very rugged design for direct installation in the machine
- RAID1 controller onboard
- Maximum processor performance up to an ambient temperature of 55 °C
- High system availability
- Battery buffered SRAM as memory for WinAC data
- 4 signaling LEDs

## Technical specifications

Article number	<b>6AG4021-0A.1-...A0</b> SIMATIC IPC127E	<b>6ES7647-8C...-....</b> SIMATIC IPC227G	<b>6AG4022-0B...-....</b> SIMATIC IPC327G	<b>6AG4142-.....-....</b> SIMATIC IPC BX-39A	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)	<b>6ES7647-0JB00-0YA2</b> SIMATIC IPC520A	<b>6AG4025-0...0-...0</b> SIMATIC IPC527G (Box PC)	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>General information</b>								
Product type designation	IPC127E	IPC227G	IPC327G	SIMATIC IPC BX-39A	IPC427E	IPC520A		
<b>Installation type/mounting</b>								
Mounting	DIN rail, wall mounting, portrait mounting	DIN rail, wall mounting, portrait mounting	Rail or wall mounting	DIN rail, wall mounting, portrait mounting	DIN rail, wall mounting, portrait mounting	rail mounting, wall mounting, desk mounting	Wall mounting, portrait mounting, desktop mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>								
Type of supply voltage	24 V DC	24 V DC	24 V	24 V DC	24 V DC	24 V DC	100/240V AC (autorange) 50/60 Hz	100/240 V AC (autorange); 24 V DC
<b>Line frequency</b>								
• Rated value 50 Hz							Yes	Yes
• Rated value 60 Hz							Yes	Yes
<b>Mains buffering</b>								
• Mains/voltage failure stored energy time	5 ms	20 ms	20 ms	20 ms	20 ms	5 ms		20 ms
<b>Processor</b>								
Processor type	Intel Atom E3930 / E3940	Intel Atom X6211E / X6413E / X6414RE	Intel Atom X6413E	Intel® Celeron 6600HLE (2.1 GHz, 2C/2T) Intel® Xeon W-11155MLE (1.8/3.1 GHz, 4C/8T) Intel® Xeon W-11555MLE (1.9/4.4 GHz, 6C/12T) Intel® Xeon W-11865MLE (1.5/4.5 GHz, 8C/16T)	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)	NVIDIA Carmel ARM® v8.2 64-bit CPU, 2x @ 1.5 GHz, 4x @ 1.2 GHz	Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache)	Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
Chipset	SoC	SoC		Intel® RM590E	Intel C236 / Intel H110		Intel H110	Intel C246

## PC-based Automation

### Industrial PC

#### Box PC

#### Technical specifications

Article number	<b>6AG4021-0A.1-..A0</b> SIMATIC IPC127E	<b>6ES7647-8C...-....</b> SIMATIC IPC227G	<b>6AG4022-0B...-....</b> SIMATIC IPC327G	<b>6AG4142-....-....</b> SIMATIC IPC BX-39A	<b>6AG4141-....-....</b> SIMATIC IPC427E (MicroBOX PC)	<b>6ES7647-0JB00-0YA2</b> SIMATIC IPC520A	<b>6AG4025-0...0-...0</b> SIMATIC IPC527G (Box PC)	<b>6AG4131-3...-....</b> SIMATIC IPC627E (Box PC)
<b>Graphic</b>								
Graphics controller	Integrated	Integrated		Intel HD graphics controller	Intel HD graphics controller	384-core NVIDIA Volta™ GPU with 48 Tensor Cores @ 800 MHz	Onboard Intel HD graphics 530/510 integrated in processor	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
<b>Drives</b>								
Hard disk				M.2 SSD ≥ 240 GB	2.5" SATA ≥ 320 GB		1 TB HDD	2.5" SATA ≥ 320 GB
SSD	Yes; 32 / 64 / 128 GB	Yes; 256 Eco	Yes; 256 GB SSD/512 GB SSD	Yes; ≥ 240 GB optional	Yes; 128 / 240 / 480 GB	Yes; 16 GB eMMC	Yes; Optional	Yes; SSD M.2 NVMe 512 GB; SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB in removable drive bay
<b>Memory</b>								
Type of memory	DDR4 onboard	DDR4 SO-DIMM	DDR4	DDR4-3200 SO-DIMM	DDR4-2400 SO-DIMM	LPDDR4	DDR4-2133 SO-DIMM	DDR4-2666 DIMM
Main memory	2 / 4 GB RAM	2 / 4 / 8 / 16 Gbyte; inband ECC optional	4 GB, 8 GB, 16 GB	4 / 8 / 16 / 32 GB; ECC optional	4 / 8 / 16 GB, ECC optional	8 GB RAM	4 / 8 / 16 GB, supports up to 32 GB	4 / 8 / 16 / 32 / 64 GB
<b>Data areas and their retentivity</b>								
Retentive data area (incl. timers, counters, flags), max.				512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional			512 kbyte; 128 KB can be stored in the buffer time
<b>Hardware configuration</b>								
<b>Slots</b>								
• free slots		2x M.2	2x M.2	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	1x nano SIM card slot	1x PCIe (x16), optional 1x PCIe (x1), 2x PCI additionally	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer
<b>Digital inputs</b>								
Number of digital inputs						4		
<b>Input voltage</b>								
• Type of input voltage						24 V DC		
• for signal "0"						< 5 V DC		
• for signal "1"						> 12 V DC		
<b>Input current</b>								
• for signal "0", max. (permissible quiescent current)						1 mA		
• for signal "1", typ.						2.5 mA		

## Technical specifications

Article number	6AG4021-0A.1-...A0	6ES7647-8C...-....	6AG4022-0B...-....	6AG4142-....-....	6AG4141-....-....	6ES7647-0JB00-0YA2	6AG4025-0...0-...0	6AG4131-3...-....
	SIMATIC IPC127E	SIMATIC IPC227G	SIMATIC IPC327G	SIMATIC IPC BX-39A	SIMATIC IPC427E (MicroBOX PC)	SIMATIC IPC520A	SIMATIC IPC527G (Box PC)	SIMATIC IPC627E (Box PC)
<b>Digital outputs</b>								
Type of digital output						transistor		
Number of digital outputs						2		
Short-circuit protection						No		
<b>Output voltage</b>								
• Type of output voltage						DC		
• permissible voltage at output, min.						20.4 V		
• permissible voltage at output, max.						28.8 V		
<b>Output current</b>								
• for signal *1* rated value						0.5 A		
<b>Switching frequency</b>								
• with resistive load, max.						10 Hz		
• with inductive load, max.						0.5 Hz		
• mechanical, max.						10 Hz		
<b>Interfaces</b>								
Number of industrial Ethernet interfaces	3; Ethernet (2x RJ45, optional 3x RJ45)	3; 3x Ethernet (RJ45)	2; 2x RJ45 (independent)	4; 4x Gigabit Ethernet (IE/PN)	3; Ethernet (2x RJ45, optional 3x RJ45)	4; 4x RJ45 (2x support PoE PSE IEEE 802.3af 15 W)	3; 3x Gigabit Ethernet (IE/PN), RJ45 optional; 2x Gigabit Ethernet (IE/PN), RJ45 basic configuration	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces							3; 2 ports base configuration, 3 ports optional	
USB port	2x USB 3.0 / 4x USB 3.0	4x USB 3.1	4x USB 3.1; 3x USB 2.0	4x USB 3.2 Gen2	4x USB 3.0	3x USB 3.0, 1x USB 2.0	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional	6x USB 3.1 Gen. 2 (2x type C)
Connection for keyboard/mouse serial interface	USB / USB	USB / USB without / 1x / 2x COM (RS 232 / 485 / 422; selectable)	USB / USB	USB / USB 1x / 2x (optional) COM (RS 232 / 485 / 422; selectable)	USB / USB Without / 2x COM (RS 232 / 485 / 422; switchable)	USB / USB 1x COM (1x RS 232 / 422 / 485)	USB / USB 2x RS 232 / 485 / 422 combined, 2x RS 232 optional	USB / USB 1x COM
<b>Multimedia</b>								
• Audio In/Out							Yes	
• Microphone In							Yes	
<b>Video interfaces</b>								
• Graphics interface	1x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	1x DisplayPort	1x DisplayPort, 1x VGA	2x DisplayPort; 1x DVI-D
<b>Industrial Ethernet</b>								
• Industrial Ethernet interface	2x / 3x Ethernet (RJ45)	3x Ethernet (RJ45)	2x Ethernet (RJ45)	4x Ethernet (RJ45)	3x Ethernet (RJ45)	4x Ethernet (RJ45)	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

# PC-based Automation

## Industrial PC

### Box PC

#### Technical specifications

Article number	<b>6AG4021-0A.1...A0</b>	<b>6ES7647-8C...-....</b>	<b>6AG4022-0B...-....</b>	<b>6AG4142-.....-....</b>	<b>6AG4141-.....-....</b>	<b>6ES7647-0JB00-0YA2</b>	<b>6AG4025-0...0-...0</b>	<b>6AG4131-3...-....</b>
	SIMATIC IPC127E	SIMATIC IPC227G	SIMATIC IPC327G	SIMATIC IPC BX-39A	SIMATIC IPC427E (MicroBOX PC)	SIMATIC IPC520A	SIMATIC IPC527G (Box PC)	SIMATIC IPC627E (Box PC)
<b>Protocols</b>								
<b>Protocols (Ethernet)</b>								
• TCP/IP	Yes	Yes	Yes			Yes		
<b>Integrated Functions</b>								
<b>Monitoring functions</b>								
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes	Yes		Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes	Yes		Yes
• Status LEDs	1x power, 3x user	1x power, 3x user	POWER, HDD	1x power, 3x user	1x power, 3x user	1x Power, 1x User, 6x DIO	POWER, HDD	1x power, 3x user
• Fan	No	No	No	No	No	No		Yes
• Monitoring function via network	Optional	Optional		Optional	Optional			Optional
<b>EMC</b>								
<b>Interference immunity against discharge of static electricity</b>								
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>								
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6

## Technical specifications

Article number	6AG4021-0A.1...A0	6ES7647-8C...-....	6AG4022-0B...-....	6AG4142-....-....	6AG4141-....-....	6ES7647-0JB00-0YA2	6AG4025-0...0...0	6AG4131-3...-....
	SIMATIC IPC127E	SIMATIC IPC227G	SIMATIC IPC327G	SIMATIC IPC BX-39A	SIMATIC IPC427E (MicroBOX PC)	SIMATIC IPC520A	SIMATIC IPC527G (Box PC)	SIMATIC IPC627E (Box PC)
<b>Interference immunity to cable-borne interference</b>								
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge asymmetric		±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)		±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m		±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge		±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV (5 kHz/ 100 kHz) acc. to IEC 61000-4-4; burst; length < 30 m; ±2 kV (5 kHz/ 100 kHz) acc. to IEC 61000-4-4; burst; length > 30 m		±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV (5 kHz/ 100 kHz) acc. to IEC 61000-4-4; burst; length < 30 m; ±2 kV (5 kHz/ 100 kHz) acc. to IEC 61000-4-4; burst; length > 30 m		±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>								
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric		±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric			±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric		±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric			±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>								
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8		100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8		100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>								
• Interference emission via line/ AC current cables	EN 61000-6-4: 2007 +A1:2011 (industrial environments), EN 61000-6-3: 2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A		IEC 61000-6-3, IEC 61000-6-4, CAN/CSA CISPR 32 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-4: 2007 +A1:2011 (industrial environments), EN 61000-6-3: 2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A		EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

## PC-based Automation

### Industrial PC

#### Box PC

#### Technical specifications

Article number	<b>6AG4021-0A.1-..A0</b> SIMATIC IPC127E	<b>6ES7647-8C...-....</b> SIMATIC IPC227G	<b>6AG4022-0B...-....</b> SIMATIC IPC327G	<b>6AG4142-.....-....</b> SIMATIC IPC BX-39A	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)	<b>6ES7647-0JB00-0YA2</b> SIMATIC IPC520A	<b>6AG4025-0...0-...0</b> SIMATIC IPC527G (Box PC)	<b>6AG4131-3...-....</b> SIMATIC IPC627E (Box PC)
<b>Degree and class of protection</b>							IP20	
IP (at the front)							IP20	
IP (rear)							IP20	
<b>Standards, approvals, certificates</b>								
CE mark	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CSA approval			Yes			No; in preparation	Yes; No. 61010-1-12, No. 61010-2-201	
UL approval	Yes		Yes	Yes; UL 61010-2-201 Second Edition, File E85972	Yes	Yes	Yes	Yes
• UL 508				No	Yes			
cULus		Yes		Yes	Yes	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes
FM approval						in preparation		
RCM (formerly C-TICK)	Yes	Yes		Yes	Yes	Yes; C-Tick	Yes	Yes
KC approval		Yes	Yes	Yes	Yes	Yes; Reg. No.:R-R-S53-IPC520A	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes; EAC	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BSMI			Yes	No; in preparation		in preparation		
EMC	CE, EN 61000-6-4: 2007, EN 61000-6-2: 2005	CE, EN 61000-6-4: 2007, EN 61000-6-2: 2005		EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B, FCC Class A, KN32	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2			CE, EN 61000-6-3: 2007 +A1:2011, EN 61000-6-2: 2005
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm					
<b>Use in hazardous areas</b>								
• ATEX Zone 2				No; in preparation	Yes; Optional			
• IECEx Zone 2				No; in preparation	Yes; Optional			
• cULus Class I Zone 2, Division 2				No; in preparation	Yes; Optional			
<b>Marine approval</b>								
• Germanischer Lloyd (GL)				No; in preparation	Yes			
• American Bureau of Shipping (ABS)				No; in preparation	Yes			Yes
• Bureau Veritas (BV)				No; in preparation	Yes			
• Det Norske Veritas (DNV)				No; in preparation	Yes			Yes
• Korean Register of Shipping (KRS)				No; in preparation	Yes			
• Lloyds Register of Shipping (LRS)				No; in preparation	Yes			
• Nippon Kaiji Kyokai (Class NK)				No; in preparation	Yes			Yes

## Technical specifications

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	SIMATIC IPC127E	SIMATIC IPC227G	SIMATIC IPC327G	SIMATIC IPC BX-39A	SIMATIC IPC427E (MicroBOX PC)	SIMATIC IPC520A	SIMATIC IPC527G (Box PC)	SIMATIC IPC627E (Box PC)
<b>Ambient conditions</b>								
<b>Ambient temperature during operation</b>								
• Ambient temperature during operation	0 °C to 55 °C	0 °C to 55 °C	0 ... +40 °C	0 °C to 55 °C	0 °C to 55 °C	0 °C to 45 °C	0 to +45°C	+5 °C up to 55 °C
<b>Altitude during operation relating to sea level</b>								
• Installation altitude above sea level, max.				3 000 m				
<b>Relative humidity</b>								
• Relative humidity	5 ... 85 % at 30 °C, no condensation	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	5 ... 85 % at 30 °C, no condensation	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	5 ... 85 % at 30 °C, no condensation	8 ... 85 % at 30 °C, no condensation	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
• Operation, max.				85 %				
<b>Vibrations</b>								
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 200 Hz : 9.8m/s <sup>2</sup> (1 g) (except DIN Rail) 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g) (DIN Rail)	58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> ; tested according to IEC 60068-2-6	tested according to IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	tested according to IEC 60068-2-6: 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>	tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>								
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	with SSD: 150 m/s <sup>2</sup> , 11 ms, 5 g, 30 ms, tested accordance with IEC 60068-2-27	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks

## PC-based Automation

### Industrial PC

#### Box PC

#### Technical specifications

Article number	<b>6AG4021-0A.1-..A0</b> SIMATIC IPC127E	<b>6ES7647-8C...-....</b> SIMATIC IPC227G	<b>6AG4022-0B...-....</b> SIMATIC IPC327G	<b>6AG4142-....-....</b> SIMATIC IPC BX-39A	<b>6AG4141-....-....</b> SIMATIC IPC427E (MicroBOX PC)	<b>6ES7647-0JB00-0YA2</b> SIMATIC IPC520A	<b>6AG4025-0...0-...0</b> SIMATIC IPC527G (Box PC)	<b>6AG4131-3...-....</b> SIMATIC IPC627E (Box PC)
<b>Operating systems</b>								
pre-installed operating system	Windows 10 Enterprise 2016 LTSC or 2019 LTSC 64-bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	Windows 10 IoT Enterprise 2021 LTSC, Industrial OS	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	No	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit; Windows 10 Enterprise 2016 LTSC	Windows 10 Enterprise 2016 LTSC or 2019 LTSC 64-bit, MUI
Additional info on operating system							Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	
without operating system	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional		Yes	Yes; Optional
<b>Software</b>								
Pre-installed software					Edge SW (Simatic, Sinumerik), optional			
SIMATIC Software				Optional package with SIMATIC WinCC	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle			Optional package with SIMATIC WinCC
<b>Mechanics/material</b>								
Enclosure material (front)				Continuous-cast aluminum				
<b>Dimensions</b>								
Width		191 mm	254 mm	262 mm	262 mm	234 mm	260 mm	314 mm
Height		100 mm	132 mm	139.7 mm	139.7 mm	129 mm	135 mm	93 mm; For variant 5x PCI(e): 155 mm
Depth		64 mm	73 mm	62.6 mm	55.5 mm; without PCIe	71 mm	225 mm	301 mm; incl. mounting rail

#### More information

More information is available on the Internet at:

<http://www.siemens.com/simatic-pc>

## Overview



### **SIMATIC IPC127E:** **Ultra-compact IoT gateway for data collection, pre-processing, and forwarding of data**

Thanks to the ultra-compact enclosure, which has a volume of just 0.3 liters, the SIMATIC IPC127E can be easily – even subsequently – integrated into the control cabinet or directly on the machine with minimal space requirements.

The enclosed all-metal enclosure enables the new industrial PC to be used flexibly and maintenance-free even under harsh conditions. Thus the SIMATIC IPC127E makes it possible to reliably record / collect / process / transfer data directly in the production environment and can be flexibly used as an IoT gateway between the cloud or the corporate IT level and production. Thanks to pre-configured versions, the right product is available to users in a very short time.

## Ordering data

## Article No.

Ordering data	Article No.
<b>SIMATIC IPC127E</b>	<b>6AG4021- 0 A 1 - - A 0</b>
Processor / RAM / TPM	
• Atom E3930 (2C/2T) / 2 GB RAM	A
• Atom E3940 (4C/4T) / 4 GB RAM	B
• Atom E3930 (2C/2T) / 2 GB RAM / TPM	C
• Atom E3940 (4C/4T) / 4 GB RAM / TPM	D
Box type	
• Basic version; 2x Ethernet RJ45, 2x USB 3.0	1
• Extended version; 3x Ethernet RJ45, 4x USB 3.0	2
Operating system	
• None	0
• Windows 10 Enterprise LTSC 2016, 64-bit, MUI (de, en, es, fr, it)	1
• Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es)	2
Drives	
• 32 GB SSD	A
• 64 GB SSD	B
• 128 GB SSD	C

### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

**PC-based Automation**

Industrial PC

Box PC

**SIMATIC IPC127E****Ordering data****SIMATIC IPC127E****Configuration 1**

- Processor / RAM: 2 core / 2 GB RAM
- Box type: Base
- Operating system: None
- Drive: 32 GB SSD

**6AG4021-0AA11-0AA0****Configuration 2**

- Processor / RAM: 2 core / 2 GB RAM
- Box type: Extended
- Operating system: None
- Drive: 64 GB SSD

**6AG4021-0AA12-0BA0****Configuration 3**

- Processor / RAM: 4 core / 4 GB RAM
- Box type: Base
- Operating system: None
- Drive: 64 GB SSD

**6AG4021-0AB11-0BA0****Configuration 4**

- Processor / RAM: 4 core / 4 GB RAM
- Box type: Extended
- Operating system: None
- Drive: 128 GB SSD

**6AG4021-0AB12-0CA0****Configuration 5**

- Processor / RAM: 2 core / 2 GB RAM
- Box type: Base
- Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI
- Drive: 64 GB SSD

**6AG4021-0AA11-1BA0****Article No.****SIMATIC IPC127E****Configuration 6**

- Processor / RAM: 4 core / 4 GB RAM
- Box type: Base
- Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI
- Drive: 64 GB SSD

**6AG4021-0AB11-1BA0****Configuration 7**

- Processor / RAM: 4 core / 4 GB RAM
- Box type: Base
- Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI
- Drive: 128 GB SSD

**6AG4021-0AB11-1CA0****Configuration 8**

- Processor / RAM: 4 core / 4 GB RAM
- Box type: Extended
- Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI
- Drive: 64 GB SSD

**6AG4021-0AB12-1BA0****Configuration 9**

- Processor / RAM: 4 core / 4 GB RAM
- Box type: Extended
- Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI
- Drive: 128 GB SSD

**6AG4021-0AB12-1CA0**Note:

All configurations of the SIMATIC IPC127E do not include any mounting accessories. They must be ordered separately.

**Mounting accessories**

<b>DIN rail</b>	<b>6AG4021-0AA20-0AA1</b>
<b>Wall-mount</b>	<b>6AG4021-0AA20-0AA2</b>
<b>Book-mount Base</b>	<b>6AG4021-0AA20-0AA3</b>
<b>Book-mount Extended</b>	<b>6AG4021-0AA20-0AA4</b>
<b>Book-mount DIN-Rail</b>	<b>6AG4021-0AA20-0AA5</b>

## Technical specifications

Article number	<b>6AG4021-0A.1-..A0</b> SIMATIC IPC127E
<b>General information</b>	
Product type designation	IPC127E
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	5 ms
<b>Processor</b>	
Processor type	Intel Atom E3930 / E3940
Chipset	SoC
<b>Graphic</b>	
Graphics controller	Integrated
<b>Drives</b>	
SSD	Yes; 32 / 64 / 128 GB
<b>Memory</b>	
Type of memory	DDR4 onboard
Main memory	2 / 4 GB RAM
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; Ethernet (2x RJ45, optional 3x RJ45)
USB port	2x USB 3.0 / 4x USB 3.0
Connection for keyboard/mouse	USB / USB
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x / 3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Protocols</b>	
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	No
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6

Article number	<b>6AG4021-0A.1-..A0</b> SIMATIC IPC127E
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
RCM (formerly C-TICK)	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
Dust protection	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 55 °C
<b>Relative humidity</b>	
• Relative humidity	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3,5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
pre-installed operating system	Windows 10 Enterprise 2016 LTSC or 2019 LTSC 64-bit, MUI
without operating system	Yes; Optional

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC127E****Technical specifications**

Article number	<b>6AG4021-0AA11-0AA0</b> SIMATIC IPC127E	<b>6AG4021-0AA12-0BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB11-0BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB12-0CA0</b> SIMATIC IPC127E
<b>General information</b>				
Product type designation	IPC127E	IPC127E	IPC127E	IPC127E
<b>Installation type/mounting</b>				
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>				
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>				
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms
<b>Processor</b>				
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores
<b>Drives</b>				
SSD	Yes; 32 GB	Yes; 64 GB	Yes; 64 GB	Yes; 128 GB
<b>Memory</b>				
Type of memory	DDR4	DDR4	DDR4	DDR4
Main memory	2 GB RAM	2 GB RAM	4 GB RAM	4 GB RAM
<b>Interfaces</b>				
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces	2	3	2	3
USB port	2x USB 3.0	4x USB 3.0	2x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB
<b>Video interfaces</b>				
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort
<b>Industrial Ethernet</b>				
• Industrial Ethernet interface	2x Ethernet (RJ45)	3x Ethernet (RJ45)	2x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
<b>Protocols</b>				
<b>Protocols (Ethernet)</b>				
• TCP/IP	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>				
<b>Monitoring functions</b>				
• Temperature monitoring	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user
• Fan	No	No	No	No
<b>EMC</b>				
<b>Interference immunity against discharge of static electricity</b>				
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2			
<b>Interference immunity against high-frequency electromagnetic fields</b>				
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6			

## Technical specifications

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E	6AG4021-0AA12-0BA0 SIMATIC IPC127E	6AG4021-0AB11-0BA0 SIMATIC IPC127E	6AG4021-0AB12-0CA0 SIMATIC IPC127E
<b>Interference immunity to cable-borne interference</b>				
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)			
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m			
<b>Interference immunity to magnetic fields</b>				
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>				
• Interference emission via line/ AC current cables	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A			
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
<b>Relative humidity</b>				
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>				
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>			
<b>Shock testing</b>				
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms			
<b>Operating systems</b>				
pre-installed operating system	No	No	No	No
<b>Dimensions</b>				
Width	85 mm	85 mm	85 mm	85 mm
Height	85 mm	104 mm	85 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC127E****Technical specifications**

Article number	<b>6AG4021-0AA11-1BA0</b>	<b>6AG4021-0AB11-1BA0</b>	<b>6AG4021-0AB11-1CA0</b>	<b>6AG4021-0AB12-1BA0</b>	<b>6AG4021-0AB12-1CA0</b>
	SIMATIC IPC127E	SIMATIC IPC127E	SIMATIC IPC127E	SIMATIC IPC127E	SIMATIC IPC127E
<b>General information</b>					
Product type designation	IPC127E	IPC127E	IPC127E	IPC127E	IPC127E
<b>Installation type/mounting</b>					
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>					
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>					
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms	5 ms
<b>Processor</b>					
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores
<b>Drives</b>					
SSD	Yes; 64 GB	Yes; 64 GB	Yes; 128 GB	Yes; 64 GB	Yes; 128 GB
<b>Memory</b>					
Type of memory	DDR4	DDR4	DDR4	DDR4	DDR4
Main memory	2 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces	2	2	2	3	3
USB port	2x USB 3.0	2x USB 3.0	2x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
<b>Video interfaces</b>					
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort
<b>Industrial Ethernet</b>					
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
<b>Protocols</b>					
<b>Protocols (Ethernet)</b>					
• TCP/IP	Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>					
<b>Monitoring functions</b>					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user				
• Fan	No	No	No	No	No
<b>EMC</b>					
<b>Interference immunity against discharge of static electricity</b>					
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2				
<b>Interference immunity against high-frequency electromagnetic fields</b>					
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6				

## More information

Article number	6AG4021-0AA11-1BA0	6AG4021-0AB11-1BA0	6AG4021-0AB11-1CA0	6AG4021-0AB12-1BA0	6AG4021-0AB12-1CA0
	SIMATIC IPC127E	SIMATIC IPC127E	SIMATIC IPC127E	SIMATIC IPC127E	SIMATIC IPC127E
<b>Interference immunity to cable-borne interference</b>					
<ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	<ul style="list-style-type: none"> <li>±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)</li> <li>±2 kV acc. to IEC 61000-4-5, surge, length &gt; 30 m</li> <li>±1 kV acc. to IEC 61000-4-4; burst; length &lt; 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length &gt; 3 m</li> </ul>				
<b>Interference immunity to magnetic fields</b>					
<ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>					
<ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A				
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
<b>Relative humidity</b>					
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>					
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>				
<b>Shock testing</b>					
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>					
pre-installed operating system	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
<b>Dimensions</b>					
Width	85 mm	85 mm	85 mm	85 mm	85 mm
Height	85 mm	85 mm	85 mm	104 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm	41 mm

## More information

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC227G****Overview**

**SIMATIC IPC227G (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free, rugged and expandable**

The SIMATIC IPC227G Nanobox PC is an extremely compact and flexible embedded industrial PC.

Thanks to its closed, dust-protected all-metal enclosure, the IPC227G offers maximum industrial functionality for flexible use under harsh conditions – while remaining maintenance-free.

Modern interfaces and the options for two M.2 slots mean this Box PC can be easily integrated into the automation system and expanded. The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here in an ultra-compact design.

**Ordering data****Article No.**

Ordering data	Article No.
<b>SIMATIC IPC227G</b>	<b>6ES7647- 8 C</b>
<u>Processor</u>	
• Atom X6211E (2-core)	A
• Atom X6413E (4-core)	B
• Atom X6414RE (4-core)	C
• Atom X6211E (2-core)/TPM	D
• Atom X6413E (4-core)/TPM	E
• Atom X6414RE (4-core)/TPM	F
<u>Work memory</u>	
• 4 GB	1
• 8 GB	2
• 16 GB	3
<u>Hardwareconfiguration</u>	
• Without COM	1
• 1x COM	2
• 2x COM	3
<u>Mass storage</u>	
• Without mass storage	1
• 256 GB Eco SSD	2
<u>Hardwareextension</u>	
• None	A
<u>Software</u>	
• Without SIMATIC Software	A
• Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (de, en, es, fr, it)	B
<u>Mounting accessories</u>	
• None	0
• DIN rail	1
• Wall mounting	2
• Portrait mounting	3

**Note:**

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

**Technical specifications**

Article number	<b>6ES7647-8C...-....</b> SIMATIC IPC227G
<b>General information</b>	
Product type designation	IPC227G
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Atom X6211E / X6413E / X6414RE
Chipset	SoC
<b>Graphic</b>	
Graphics controller	Integrated
<b>Drives</b>	
SSD	Yes; 256 Eco
<b>Memory</b>	
Type of memory	DDR4 SO-DIMM
Main memory	2 / 4 / 8 / 16 Gbyte; inband ECC optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x M.2
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.1
Connection for keyboard/mouse serial interface	USB / USB without / 1x / 2x COM (RS 232 / 485 / 422; selectable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Protocols</b>	
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	No
• Monitoring function via network	Optional

Article number	<b>6ES7647-8C...-....</b> SIMATIC IPC227G
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length < 30 m; ±2 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length > 30 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
Dust protection	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 55 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC227G****Technical specifications**

Article number	<b>6ES7647-8C...-....</b> SIMATIC IPC227G
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 200 Hz : 9.8m/s <sup>2</sup> (1 g) (except DIN Rail) 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g) (DIN Rail)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
without operating system	Yes; Optional
<b>Dimensions</b>	
Width	191 mm
Height	100 mm
Depth	64 mm

**More information**

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

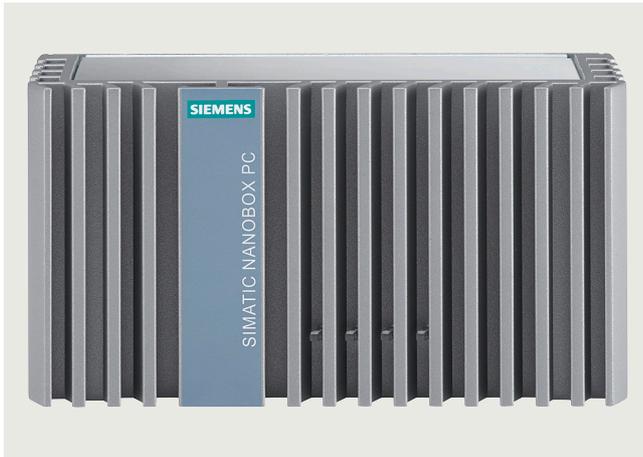
Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

Overview



**SIMATIC IPC227E (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged**

The SIMATIC IPC227E Nanobox PC is an extremely compact and flexible embedded industrial PC.

Thanks to its closed, dust-protected all-metal enclosure, the IPC227E offers maximum industrial functionality for flexible use under harsh conditions – while remaining maintenance-free.

Modern interfaces and the option for expansion via a PCIe slot mean this Box PC can be easily integrated into the automation system. In the version with pre-installed Industrial Edge Runtime, it also supports modern Edge architectures. In the version with pre-installed Industrial Edge Runtime, it also supports modern Edge architectures. The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here in an ultra-compact design.

Ordering data

Article No.	6ES7647- 8 B ■ ■ ■ - ■ ■ ■ ■
<b>SIMATIC IPC227E</b>	
<u>Processor</u>	
• Celeron N2807 (2C/2T)	A
• Celeron N2930 (4C/4T)	B
• Celeron N2807 (2C/2T)/TPM	C
• Celeron N2930 (4C/4T)/TPM	D
• Celeron E3845 ET (4C/4T)/TPM	E
<u>Work memory/NVRAM</u>	
• 2 GB	1
• 4 GB	2
• 8 GB	3
• 2 GB/NVRAM	4
• 4 GB/NVRAM	5
• 8 GB/NVRAM	6
• 4 GB RAM ET/NVRAM	7
<u>Device version/interface</u>	
• Basic without COM	1
• Basic with COM1/2	2
• PCIe without COM	3
• PCIe with COM1/2	4

Article No.	6ES7647- 8 B ■ ■ ■ - ■ ■ ■ ■
<b>SIMATIC IPC227E</b>	
<u>Operating system</u>	
• Without operating system	0
• Windows Embedded Standard 7 E SP1, English, 32-bit	1
• Windows Embedded Standard 7 E SP1, English, 64-bit	2
• Windows Embedded Standard 7 P SP1, English, 32-bit	3
• Windows Embedded Standard 7 P SP1, English, 64-bit	4
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	5
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	6
• Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (de, en, es, fr, it)	7
• Windows 10 IoT Enterprise 2019 LTSC, 64-bit, MUI (de, en, es, fr, it)	8
<u>Mass storage</u>	
• None	A
• 256 GB Eco SSD	E
• 240 GB SSD	C
• 480 GB SSD	D
• 60 GB SSD ET	H
• 8 GB CFast	L
• 16 GB CFast	M
• 128 GB CFast	N
• 320 GB HDD	R

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC227E**

Ordering data	Article No.	Article No.
<b>SIMATIC IPC227E</b> <u>Software</u> <ul style="list-style-type: none"> <li>Without SIMATIC Software</li> <li>SIMATIC Industrial OS V2</li> <li>Industrial Edge Sinumerik</li> </ul> <u>Mounting accessories</u> <ul style="list-style-type: none"> <li>DIN rail</li> <li>Wall mounting</li> <li>Portrait mounting</li> <li>DIN rail mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2</li> <li>Wall mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2</li> <li>Portrait mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2</li> </ul>	<b>6ES7647- 8 B ■ ■ ■ - ■ ■ ■ ■</b> <b>A</b> <b>N</b> <b>V</b> <b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b> <b>6</b>	<b>SIMATIC IPC227E (Nanobox PC) with preinstalled Industrial Edge Runtime</b> <b>6ES7647-8BD31-0CW1</b> 1 x DisplayPort; 2x 10/100/1000 Mbps Ethernet RJ45; 1 x USB 3.0, 3 x USB 2.0; CFast slot; 24 V DC industrial power supply Industrial Edge (SIMATIC)

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

## Technical specifications

Article number	<b>6ES7647-8B...-....</b> SIMATIC IPC227E (Nanobox PC)
<b>General information</b>	
Product type designation	IPC227E
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Celeron N2807 / N2930, Intel Atom E3845
Chipset	SoC
<b>Graphic</b>	
Graphics controller	Integrated
<b>Drives</b>	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 256 Eco / 240 / 480 GB
<b>Memory</b>	
Type of memory	DDR3L SO-DIMM
Main memory	2 / 4 / 8 GB
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x PCIe (x1) (optional)
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; 2x Ethernet (RJ45)
USB port	1x USB 3.0 / 3x USB 2.0
Connection for keyboard/mouse serial interface	USB / USB Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	No
• Monitoring function via network	Optional

Article number	<b>6ES7647-8B...-....</b> SIMATIC IPC227E (Nanobox PC)
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC227E****Technical specifications**

Article number	<b>6ES7647-8B...-....</b> SIMATIC IPC227E (Nanobox PC)
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
Dust protection	Protection against foreign bodies > 1 mm
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes; Optional
• IECEx Zone 2	Yes; Optional
• cULus Class I Zone 2, Division 2	Yes; Optional
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
• Chinese Classification Society (CCS)	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C up to 60 °C (-20 °C as option)
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
pre-installed operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
Additional info on operating system without operating system	optional: SIMATIC Industrial OS Yes; Optional
<b>Software</b>	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
<b>Dimensions</b>	
Width	191 mm
Height	100 mm
Depth	60 mm

Article number	<b>6ES7647-8BD31-0CW1</b> SIMATIC IPC227E (Nanobox PC)
<b>General information</b>	
Product type designation	IPC227E
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Celeron N2930
Chipset	SoC
<b>Graphic</b>	
Graphics controller	Integrated
<b>Drives</b>	
SSD	Yes; 240 GB
<b>Memory</b>	
Type of memory	DDR3L SO-DIMM
Main memory	8 GB RAM
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; 2x Ethernet (RJ45)
USB port	1x USB 3.0 / 3x USB 2.0
Connection for keyboard/mouse serial interface	USB / USB No
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	No
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6

## Technical specifications

Article number	<b>6ES7647-8BD31-0CW1</b> SIMATIC IPC227E (Nanobox PC)
<b>Interference immunity to cable-borne interference</b>	
<ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> </ul>	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> <li>Interference immunity on signal cables &gt;30m</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
<ul style="list-style-type: none"> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
<ul style="list-style-type: none"> <li>asymmetric interference</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> <li>symmetric interference</li> </ul>	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
<ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
<ul style="list-style-type: none"> <li>UL 508</li> </ul>	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
Dust protection	Protection against foreign bodies > 1 mm
<b>Use in hazardous areas</b>	
<ul style="list-style-type: none"> <li>ATEX Zone 2</li> </ul>	Yes; Optional
<ul style="list-style-type: none"> <li>IECEX Zone 2</li> </ul>	Yes; Optional
<ul style="list-style-type: none"> <li>cULus Class I Zone 2, Division 2</li> </ul>	Yes; Optional
<b>Marine approval</b>	
<ul style="list-style-type: none"> <li>Germanischer Lloyd (GL)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>American Bureau of Shipping (ABS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Bureau Veritas (BV)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Det Norske Veritas (DNV)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Korean Register of Shipping (KRS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Lloyds Register of Shipping (LRS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Nippon Kaiji Kyokai (Class NK)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Chinese Classification Society (CCS)</li> </ul>	Yes

Article number	<b>6ES7647-8BD31-0CW1</b> SIMATIC IPC227E (Nanobox PC)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C to 50 °C
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
pre-installed operating system	SIMATIC Industrial OS
<b>Software</b>	
SIMATIC Software	Industrial Edge - SIMATIC
<b>Dimensions</b>	
Width	191 mm
Height	100 mm
Depth	60 mm

### More information

More information is available on the internet at:

<http://www.siemens.com/simatic-ipc>

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC327G****Overview****SIMATIC IPC327G**

The new SIMATIC IPC327G is a cost-optimized platform with the most up-to-date Intel® Atom processor technology. The design with multiple interfaces can be used for different applications, for example, logistics, electronics, etc. It is characterized in particular by a large number of interfaces for easy connection to existing and new systems, fast availability from stock, as well as a fanless industrial design.

**Ordering data****Article No.**

Ordering data	Article No.
<b>SIMATIC IPC327G</b>	<b>6AG4022-</b>
2x DisplayPort graphics interface	<b>0 B</b>
2x 10/100/1 000 Mbps	
Ethernet RJ45	
4 x USB 3.0; 3 x USB 2.0;	
4 x serial ports (COM)	
<u>Processor</u>	
• Intel Atomx6413E (4-core) / audio	<b>A</b>
• Intel Atomx6413E (4-core) / TPM / audio	<b>B</b>
• Intel Atomx6413E (4-core)	<b>C</b>
• Intel Atomx6413E (4-core) audio	<b>D</b>
<u>Work memory</u>	
• 4 GB RAM	<b>2</b>
• 8 GB RAM	<b>3</b>
• 16 GB RAM	<b>4</b>
<u>Expansions/interfaces</u>	
• 2x COM	<b>1</b>
• 4x COM	<b>2</b>
<u>Operating system</u>	
• None	<b>0</b>
• Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es)	<b>2</b>
<u>Drives</u>	
• None	<b>A</b>
• 256G Eco SSD	<b>B</b>
• 512G Eco SSD	<b>C</b>
<u>Power supply</u>	
• 24 V DC	<b>A</b>
<u>Mounting accessories</u>	
• Standard	<b>1</b>
• DIN rail	<b>2</b>

**Preferred variants  
(available ex stock)****SIMATIC IPC327G****Configuration 1****6AG4022-0BC21-0AA1**

Processor: Intel Atomx6413E (up to 3.0 GHz)/ without audio  
 Drives (SATA): without mass storage,  
 Main memory: 4 GB DRAM (1x 4 GB),  
 Without operating system

**Configuration 2****6AG4022-0BC21-2BA1**

Processor: Intel Atomx6413E (up to 3.0 GHz)/ without audio  
 Drives (SATA): 256G Eco SSD,  
 Main memory: 4 GB DRAM (1x 4 GB)  
 Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es)

**Configuration 3****6AG4022-0BC31-0AA1**

Processor: Intel Atomx6413E (up to 3.0 GHz)/ without audio  
 Drives (SATA): without mass storage,  
 Main memory: 8 GB DRAM (1x 8 GB);  
 Without operating system

**Configuration 4****6AG4022-0BC31-2BA1**

Processor: Intel Atomx6413E (up to 3.0 GHz)/ without audio  
 Drives (SATA): 256G Eco SSD,  
 Main memory: 8 GB DRAM (1x 8 GB)  
 Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es)

## Technical specifications

Article number	<b>6AG4022-0B...-....</b> SIMATIC IPC327G
<b>General information</b>	
Product type designation	IPC327G
<b>Installation type/mounting</b>	
Mounting	Rail or wall mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Atom X6413E
<b>Drives</b>	
SSD	Yes; 256 GB SSD/512 GB SSD
<b>Memory</b>	
Type of memory	DDR4
Main memory	4 GB, 8 GB, 16 GB
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x M.2
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
USB port	4x USB 3.1; 3x USB 2.0
Connection for keyboard/mouse	USB / USB
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Protocols</b>	
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD
• Fan	No

Article number	<b>6AG4022-0B...-....</b> SIMATIC IPC327G
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
BSMI	Yes
Dust protection	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 ... +40 °C
<b>Relative humidity</b>	
• Relative humidity	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> ; tested according to IEC 60068-2-6
<b>Shock testing</b>	
• Shock load during operation	with SSD: 150 m/s <sup>2</sup> , 11 ms, 5 g, 30 ms, tested accordance with IEC 60068-2-27
<b>Operating systems</b>	
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
without operating system	Yes; Optional
<b>Dimensions</b>	
Width	254 mm
Height	132 mm
Depth	73 mm

**PC-based Automation**

Industrial PC

Box PC

**SIMATIC IPC327G****Technical specifications**

Article number	<b>6AG4022-0BC21-0AA1</b> SIMATIC IPC327G	<b>6AG4022-0BC21-2BA1</b> SIMATIC IPC327G	<b>6AG4022-0BC31-2BA1</b> SIMATIC IPC327G
<b>Installation type/mounting</b>			
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>			
Type of supply voltage	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>			
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms
<b>Memory</b>			
Type of memory	DDR4	DDR4	DDR4
<b>Hardware configuration</b>			
<b>Slots</b>			
• free slots	2x M.2	2x M.2	2x M.2
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)
<b>Video interfaces</b>			
• Graphics interface	2x DisplayPort	2x DisplayPort	2x DisplayPort
<b>Industrial Ethernet</b>			
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes
<b>Protocols</b>			
<b>Protocols (Ethernet)</b>			
• TCP/IP	Yes	Yes	Yes
<b>Integrated Functions</b>			
<b>Monitoring functions</b>			
• Temperature monitoring	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes
• Status LEDs	POWER, HDD	POWER, HDD	POWER, HDD
• Fan	No	No	No
<b>EMC</b>			
<b>Interference immunity against discharge of static electricity</b>			
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>			
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
CSA approval	Yes	Yes	Yes
UL approval	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
FCC	Yes	Yes	Yes
BSMI	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm

**More information**

Article number	<b>6AG4022-0BC21-0AA1</b> SIMATIC IPC327G	<b>6AG4022-0BC21-2BA1</b> SIMATIC IPC327G	<b>6AG4022-0BC31-2BA1</b> SIMATIC IPC327G
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• Ambient temperature during operation	0 to +40 °C	0 to +40 °C	0 to +40 °C
<b>Relative humidity</b>			
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>			
• Vibration resistance during operation acc. to IEC 60068-2-6	58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> ; tested according to IEC 60068-2-6	58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> ; tested according to IEC 60068-2-6	58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> ; tested according to IEC 60068-2-6
<b>Operating systems</b>			
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
without operating system	Yes; Optional	Yes; Optional	Yes; Optional
<b>Dimensions</b>			
Width	254 mm	254 mm	254 mm
Height	132 mm	132 mm	132 mm
Depth	73 mm	73 mm	73 mm

**More information**

More information is available on the internet at:

<http://www.siemens.com/simatic-panel-pc>



## Technical specifications

Article number	<b>6AG4142-.....-....</b> SIMATIC IPC BX-39A
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel® Celeron 6600HLE (2.1 GHz, 2C/2T) Intel® Xeon W-11155MLE (1.8/3.1 GHz, 4C/8T) Intel® Xeon W-11555MLE (1.9/4.4 GHz, 6C/12T) Intel® Xeon W-11865MLE (1.5/4.5 GHz, 8C/16T)
Chipset	Intel® RM590E
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller
<b>Drives</b>	
Hard disk	M.2 SSD ≥ 240 GB
SSD	Yes; ≥ 240 GB optional
<b>Memory</b>	
Type of memory	DDR4-3200 SO-DIMM
Main memory	4 / 8 / 16 / 32 GB; ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	4; 4x Gigabit Ethernet (IE/PN)
USB port	4x USB 3.2 Gen2
Connection for keyboard/mouse serial interface	USB / USB 1x / 2x (optional) COM (RS 232 / 485 / 422; selectable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	4x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	No
• Monitoring function via network	Optional

Article number	<b>6AG4142-.....-....</b> SIMATIC IPC BX-39A
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	IEC 61000-6-3, IEC 61000-6-4, CAN/CSA CISPR 32 Class B, FCC Class A
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes; UL 61010-2-201 Second Edition, File E85972
• UL 508	No
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
BSMI	No; in preparation
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B, FCC Class A, KN32
<b>Use in hazardous areas</b>	
• ATEX Zone 2	No; in preparation
• IECEx Zone 2	No; in preparation
• cULus Class I Zone 2, Division 2	No; in preparation

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC BX-39A****Technical specifications**

Article number	<b>6AG4142-.....-....</b> SIMATIC IPC BX-39A
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	No; in preparation
• American Bureau of Shipping (ABS)	No; in preparation
• Bureau Veritas (BV)	No; in preparation
• Det Norske Veritas (DNV)	No; in preparation
• Korean Register of Shipping (KRS)	No; in preparation
• Lloyds Register of Shipping (LRS)	No; in preparation
• Nippon Kaiji Kyokai (Class NK)	No; in preparation
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 55 °C
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	3 000 m
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
• Operation, max.	85 %
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms

Article number	<b>6AG4142-.....-....</b> SIMATIC IPC BX-39A
<b>Operating systems</b>	
pre-installed operating system	Windows 10 IoT Enterprise 2021 LTSC, Industrial OS
without operating system	Yes; Optional
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC
<b>Mechanics/material</b>	
Enclosure material (front)	Continuous-cast aluminum
<b>Dimensions</b>	
Width	262 mm
Height	139.7 mm
Depth	62.6 mm

**Overview**



**SIMATIC IPC427E (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration**

Ready-to-run, complete solution:

- Ultra-compact
- Maintenance-free
- 6th Generation Intel Core i technology

**Ordering data**

**Article No.**

Ordering data	Article No.
<b>SIMATIC IPC427E (Box PC) <sup>1)</sup></b>	<b>6AG4141-</b>
<u>Processor and fieldbus</u>	
• Celeron G3902E; 2 x Gigabit Ethernet (IE/PN)	0
• Celeron G3902E; 3 x Gigabit Ethernet (IE/PN)	1
• Core i3-6102E; 3 x Gigabit Ethernet (IE/PN)	3
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)	5
• Xeon E3-1505L; 3 x Gigabit Ethernet (IE/PN)	7
<u>Mounting accessories/ATEX</u>	
• Without mounting accessories	A
• DIN rail mounting	B
• Wall mounting	C
• Portrait mounting	D
• DIN rail mounting with ATEX/IECEx/UL HazLoc	F
• Wall mounting with ATEX/IECEx/UL HazLoc	G
• Portrait mounting with ATEX/IECEx/UL HazLoc	H
<u>Work memory/NVRAM/ECC</u>	
• 4 GB	A
• 8 GB	B
• 16 GB	C
• 8 GB with ECC	D
• 16 GB with ECC	E
• 4 GB and NVRAM	F
• 8 GB and NVRAM	G
• 16 GB and NVRAM	H
• 8 GB with ECC and NVRAM	J
• 16 GB with ECC and NVRAM	K
<u>Expansions/interfaces</u>	
• No RS232/RS485, without PCIe	0
• No RS232/RS485 and one PCIe	1
• No RS232/RS485 and two PCIe	2
• Two RS232/RS485, without PCIe	3
• Two RS232/RS485 and one PCIe	4
• Two RS232/RS485 and two PCIe	5
• Two RS232/RS485 and two PCIe (x4 and x1), PCI x4 occupied with AI Accelerator	6

**PC-based Automation**

Industrial PC

Box PC

**SIMATIC IPC427E****Ordering data****Article No.****SIMATIC IPC427E (Box PC) <sup>1)</sup>****6AG4141-**Operating system

- Without operating system **0**
- Windows Embedded Standard 7 SP1, English, 32-bit **1**
- Windows Embedded Standard 7 SP1, English, 64-bit **2**
- Windows Embedded Standard 7 SP1, English, 64-bit, multi-touch **3**
- Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es) **4**
- Windows 10 IoT Enterprise 2019 LTSC (64-bit) for Celeron, Core i3 and Core i5 processors **5**
- Windows 10 IoT Enterprise 2019 LTSC (64-bit) for Xeon processor **6**
- Windows 10 Enterprise 2016 LTSB (64-bit) for Celeron, Core i3 and Core i5 processors **7**
- Windows 10 Enterprise 2016 LTSB (64-bit) for Xeon processor **8**

Mass storage, externally accessible

- Without external mass storage **0**
- CFast 2 GB without operating system **1**
- CFast 4 GB without operating system **2**
- CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD) **3**
- CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD) **4**
- CFast 128 GB (only optionally with operating system/software if no internal mass storage or HDD) **5**

**Article No.****SIMATIC IPC427E (Box PC) <sup>1)</sup>****6AG4141-**Mass storage, internal

- Without internal mass storage **A**
- 256 GB Eco solid-state drive **D**
- 240 GB solid-state drive SATA **F**
- 480 GB solid-state drive SATA **G**
- 320 GB HDD **J**

SIMATIC Software

- Without SIMATIC Software **A**
- SIMATIC Industrial OS V2 **N**
- Industrial Edge - SINUMERIK **V**
- SINUMERIK PCU Base V14.0 on IPC **X**

Power supply

- 24 V DC industrial power supply **0**
- 24 V DC and TPM <sup>2)</sup> **8**

<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator:  
<http://www.siemens.com/ipc-configurators>

<sup>2)</sup> TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

Ordering data	Article No.	Ordering data	Article No.
<p><i>Preferred versions</i></p> <p><b>SIMATIC IPC427E (Microbox PC),</b> Celeron G3902E; work memory 4 GB; Windows 7 Ultimate SP1, 64-bit, MUI (de, en, es, fr, it); HD graphics onboard, 4x USB V3.0 (High Current), PCIe (optional), 3x Gbit Ethernet (IE/PN) without mounting accessories; without RS232/485; 1x PCIe (x4); without removable mass storage; internal mass storage: SATA 240 GB solid-state drive; without SIMATIC Software; 24 V DC industrial power supply</p>	6AG4141-1AA14-0FA0	<p><i>Preferred versions</i></p> <p><b>SIMATIC IPC427E (Microbox PC),</b> Core i5-6442EQ; work memory 8 GB; Windows 10 IoT Enterprise 2016 LTSP (64-bit) f. Celeron I3/I5; HD graphics onboard, 4x USB V3.0 (High Current), PCIe (optional), 3x Gbit Ethernet (IE/PN) without mounting accessories; without RS232/485; 1x PCIe (x4); without removable mass storage; internal mass storage: SATA 240 GB solid-state drive; without SIMATIC Software; 24 V DC industrial power supply</p>	6AG4141-5AB17-0FA0
<p><b>SIMATIC IPC427E (Microbox PC),</b> Celeron G3902E; work memory 4 GB; Windows 10 IoT Enterprise 2016 LTSP (64-bit) f. Celeron I3/I5; HD graphics onboard, 4x USB V3.0 (High Current), PCIe (optional), 3x Gbit Ethernet (IE/PN) without mounting accessories; without RS232/485; 1x PCIe (x4); without removable mass storage; internal mass storage: SATA 240 GB solid-state drive; without SIMATIC Software; 24 V DC industrial power supply</p>	6AG4141-1AA17-0FA0	<p><b>SIMATIC IPC427E (Microbox PC),</b> Core i5-6442EQ; DIN rail mounting; 16 GB; Industrial Edge – SIMATIC; without PCIe; without operating system; HD graphics onboard, 4x USB V3.0 (High Current), PCIe (optional), 3x Gbit Ethernet (IE/PN); 2x RS232/485; without removable mass storage; SATA 240 GB solid-state drive; 24 V DC industrial power supply and TPM</p>	6AG4141-5BC30-0FW8
<p><b>SIMATIC IPC427E (Microbox PC),</b> Core i5-6442EQ; work memory 8 GB; Windows 7 Ultimate SP1, 64-bit, MUI (de, en, es, fr, it); HD graphics onboard, 4x USB V3.0 (High Current), PCIe (optional), 3x Gbit Ethernet (IE/PN) without mounting accessories; without RS232/485; 1x PCIe (x4); without removable mass storage; internal mass storage: SATA 240 GB solid-state drive; without SIMATIC Software; 24 V DC industrial power supply</p>	6AG4141-5AB14-0FA0		

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC427E****Technical specifications**

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>General information</b>	
Product type designation	IPC427E
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)
Chipset	Intel C236 / Intel H110
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller
<b>Drives</b>	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 128 / 240 / 480 GB
<b>Memory</b>	
Type of memory	DDR4-2400 SO-DIMM
Main memory	4 / 8 / 16 GB, ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; Ethernet (2x RJ45, optional 3x RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB Without / 2x COM (RS 232 / 485 / 422; switchable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	No
• Monitoring function via network	Optional

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes; Optional
• IECEx Zone 2	Yes; Optional
• cULus Class I Zone 2, Division 2	Yes; Optional

## Technical specifications

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 55 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>Operating systems</b>	
pre-installed operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
without operating system	Yes; Optional
<b>Software</b>	
Pre-installed software	Edge SW (Simatic, Sinumerik), optional
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
<b>Dimensions</b>	
Width	262 mm
Height	139.7 mm
Depth	55.5 mm; without PCIe

### More information

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC520A****Overview**

Based on Nvidia Xavier Nx technology, the SIMATIC IPC520A Box PC represents a new IPC platform that has been specially developed for AI-based applications in industry and industrial environments.

The Box PC is characterized above all by the high CPU and GPU computing power in combination with an extremely compact, fanless design for industry.

Adapted especially for industrial applications, it features a large number of interfaces. Nvidia's extensive range of software enables numerous AI-based applications.

**Ordering data****Article No.****SIMATIC IPC520A Tensorbox**

Nvidia ARM Carmel (6C);  
8GB RAM, Jetson NX;  
4x Ethernet RJ45,  
3x USB3.0; 16 GB eMMC;  
without mounting accessories

**6ES7647-0JB00-0YA2****Technical specifications**

Article number	<b>6ES7647-0JB00-0YA2</b> SIMATIC IPC520A
<b>General information</b>	
Product type designation	IPC520A
<b>Installation type/mounting</b>	
Mounting	rail mounting, wall mounting, desk mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	5 ms
<b>Processor</b>	
Processor type	NVIDIA Carmel ARM® v8.2 64-bit CPU, 2x @ 1.5 GHz, 4x @ 1.2 GHz
<b>Graphic</b>	
Graphics controller	384-core NVIDIA Volta™ GPU with 48 Tensor Cores @ 800 MHz
<b>Drives</b>	
SSD	Yes; 16 GB eMMC
<b>Memory</b>	
Type of memory	LPDDR4
Main memory	8 GB RAM
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x nano SIM card slot
<b>Digital inputs</b>	
Number of digital inputs	4
<b>Input voltage</b>	
• Type of input voltage	24 V DC
• for signal "0"	< 5 V DC
• for signal "1"	> 12 V DC
<b>Input current</b>	
• for signal "0", max. (permissible quiescent current)	1 mA
• for signal "1", typ.	2.5 mA

## Technical specifications

Article number	<b>6ES7647-0JB00-0YA2</b> SIMATIC IPC520A
<b>Digital outputs</b>	
Type of digital output	transistor
Number of digital outputs	2
Short-circuit protection	No
<b>Output voltage</b>	
• Type of output voltage	DC
• permissible voltage at output, min.	20.4 V
• permissible voltage at output, max.	28.8 V
<b>Output current</b>	
• for signal "*" rated value	0.5 A
<b>Switching frequency</b>	
• with resistive load, max.	10 Hz
• with inductive load, max.	0.5 Hz
• mechanical, max.	10 Hz
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	4: 4x RJ45 (2x support PoE PSE IEEE 802.3af 15 W)
USB port	3x USB 3.0, 1x USB 2.0
Connection for keyboard/mouse serial interface	USB / USB 1x COM (1x RS 232 / 422 / 485)
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	4x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Protocols</b>	
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x Power, 1x User, 6x DIO
• Fan	No
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6

Article number	<b>6ES7647-0JB00-0YA2</b> SIMATIC IPC520A
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30m	±1 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length < 30 m; ±2 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length > 30 m
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	No; in preparation
UL approval	Yes
cULus	Yes; UL 61010-1, UL 61010-2-201
FM approval	in preparation
RCM (formerly C-TICK)	Yes; C-Tick
KC approval	Yes; Reg. No.:R-R-S53-IPC520A
EAC (formerly Gost-R)	Yes; EAC
FCC	Yes
BSMI	in preparation
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 45 °C
<b>Relative humidity</b>	
• Relative humidity	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
pre-installed operating system	No
<b>Dimensions</b>	
Width	234 mm
Height	129 mm
Depth	71 mm

### More information

More information is available on the internet at:

<http://www.siemens.com/tensorbox>

**PC-based Automation**

Industrial PC  
Box PC

**SIMATIC IPC527G****Overview**

The SIMATIC IPC527G Box PC is a new product in the SIMATIC Industrial PC portfolio, which is characterized by high performance and flexibility at an extremely attractive price.

Powerful processors (Intel Core i Desktop CPUs), numerous interfaces, and the support of existing systems make the SIMATIC IPC527G a robust and low-cost platform for a wide range of industrial applications.

**Ordering data****Article No.****SIMATIC IPC527G****6AG4025 - 0 0 0 0 - 0 0 0 0**

All-metal enclosure for high EMC and mechanical ruggedness, flexible installation: Desktop, wall, portrait and tower mounting, opening of the enclosure cover for expansion and replacement of PC components (e.g. PC cards or HDD) without a tool, dust protection through overpressure ventilation, front LEDs: POWER, HDD

Processor

- Pentium G4400 ((2C/2T) 3.3 GHz, 3 MB cache) **A**
- Core i5-6500 ((4C/4T) 3.2 (3.6) GHz, 6 MB cache) **C**
- Core i7-6700 ((4C/4T) 3.4 (4.0) GHz, 8 MB cache) **D**

Drives

- 1 TB HDD **B**
- 256 GB SSD **E**
- 512 GB SSD **F**
- Without drive, prepared for 1x 2.5" SATA **L**

Work memory

- 4 GB DDR4 RAM **1**
- 8 GB DDR4 RAM **2**
- 16 GB DDR4 RAM **3**

Operating system

- Without operating system **0**
- Windows Ultimate SP1, 32-bit MUI (en, de, fr, es, it) **1**
- Windows Ultimate SP1, 64-bit MUI (en, de, fr, es, it) **2**
- Windows 10 Enterprise LTSC 2016, 64-bit MUI (en, de, fr, es, it) for Pentium, Core i5 **3**
- Windows 10 Enterprise LTSC 2016, 64-bit MUI (en, de, fr, es, it) for Pentium Core i7 **4**
- Windows 10 Enterprise LTSC 2019, 64-bit MUI (de, en, fr, sp, it) for Pentium, Core i5 **5**
- Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es) for Core i7 **6**

Expansion

- 1x PCIe x16 **A**
- 1x PCIe x16; 1x PCIe x1; 2x PCI **B**
- 1x PCIe x 16; 1x PCIe x4, 2x PCIe x1 **C**

Specific expansions:

- None **A**
- 2x RS232, 2x USB2.0 additionally **B**
- 1x Gbit LAN additionally (1 PCIe slot occupied) **C**
- 1 x Gbit LAN (1x PCIe slot occupied) and 2x RS232; 2x USB2.0 additionally **D**

**Ordering data****Article No.****SIMATIC IPC527G**

All-metal enclosure for high EMC and mechanical ruggedness, flexible installation: Desktop, wall, portrait and tower mounting, opening of the enclosure cover for expansion and replacement of PC components (e.g. PC cards or HDD) without a tool, dust protection through overpressure ventilation, front LEDs: POWER, HDD; slots: 1 x PCIe x16, 1 x PCIe x1, 2 x PCI or 1 x PCIe x16, 1 x PCIe x4, 2 x PCIe x1 interfaces: 4 x USB 3.0, 3 x USB 2.0 (2 x front, 1 x internal), 2 x GB Ethernet, 2x RS232/485/422 selectable, 2x RS232, 1x 8-bit DIO, 1x DP, 1x VGA, audio

- Intel Pentium G4400, 4 GB RAM, 1 TB HDD mass storage
- Intel Core i5-6500, 8 GB RAM, 1 TB HDD mass storage
- Intel Core i5-6500, 8 GB RAM, 1 TB HDD mass storage, Windows 7 Ultimate
- Intel Core i5-6500, 8 GB RAM, 256 GB SSD mass storage, Windows 7 Ultimate
- Intel Core i5-6500, 8 GB RAM, 256 GB SSD mass storage, Windows 10 Enterprise LTSB 2016
- Intel Core i7-6700, 8 GB RAM, 512 GB SSD mass storage, Windows 7 Ultimate
- Intel Core i7-6700, 8 GB RAM, 512 GB SSD mass storage, Windows 10 Enterprise LTSB 2016
- Intel Core i5-6500, 8 GB RAM, 256 GB SSD mass storage, Windows 10 Enterprise LTSB 2019
- Intel Core i7-6700, 8 GB RAM, 256 GB SSD mass storage, Windows 10 Enterprise LTSB 2019

**6AG4025-0AB10-0BB0****6AG4025-0CB20-0BB0****6AG4025-0CB20-2BB0****6AG4025-0CE20-2BB0****6AG4025-0CE20-3BB0****6AG4025-0DF20-2BB0****6AG4025-0DF20-4BB0****6AG4025-0CE20-5CA0****6AG4025-0DE20-6CA0****Technical specifications**

Article number	<b>6AG4025-0...0-...0</b> SIMATIC IPC527G (Box PC)
<b>Installation type/mounting</b>	
Mounting	Wall mounting, portrait mounting, desktop mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240V AC (autorange) 50/60 Hz
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Processor</b>	
Processor type	Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache)
Chipset	Intel H110
<b>Graphic</b>	
Graphics controller	Onboard Intel HD graphics 530/510 integrated in processor
<b>Drives</b>	
Hard disk	1 TB HDD
SSD	Yes; Optional
<b>Memory</b>	
Type of memory	DDR4-2133 SO-DIMM
Main memory	4 / 8 / 16 GB, supports up to 32 GB
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x PCIe (x16), optional 1x PCIe (x1), 2x PCI additionally

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC527G****Technical specifications**

Article number	<b>6AG4025-0...0-...0</b> SIMATIC IPC527G (Box PC)
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Gigabit Ethernet (IE/PN), RJ45 optional; 2x Gigabit Ethernet (IE/PN), RJ45 basic configuration
Number of PROFINET interfaces	3; 2 ports base configuration, 3 ports optional
USB port	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional
Connection for keyboard/mouse serial interface	USB / USB 2x RS 232 / 485 / 422 combined, 2x RS 232 optional
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort, 1x VGA
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Status LEDs	POWER, HDD
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Degree and class of protection</b>	
IP (at the front)	IP20
IP (rear)	IP20

Article number	<b>6AG4025-0...0-...0</b> SIMATIC IPC527G (Box PC)
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes; No. 61010-1-12, No. 61010-2-201
UL approval	Yes
cULus	Yes; UL 61010-1, UL 61010-2-201
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 to +45°C
<b>Relative humidity</b>	
• Relative humidity	8 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6: 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms
<b>Operating systems</b>	
pre-installed operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit; Windows 10 Enterprise 2016 LTSB
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
<b>Dimensions</b>	
Width	260 mm
Height	135 mm
Depth	225 mm

## Technical specifications

Article number	<b>6AG4025-0AB10-0BB0</b> SIMATIC IPC527G (Box PC)
<b>Installation type/mounting</b>	
Mounting	Wall mounting, portrait mounting, desktop mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240V AC (autorange) 50/60 Hz
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Processor</b>	
Processor type	Pentium G4400 (2C/2T, 3.3 GHz, 3 MB Cache)
Chipset	Intel H110
<b>Graphic</b>	
Graphics controller	Onboard Intel HD graphics 530/510 integrated in processor
<b>Drives</b>	
Hard disk	1 TB HDD
<b>Memory</b>	
Type of memory	DDR4-2666 SO-DIMM
Main memory	4 GB RAM
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x PCIe (x16), 1x PCIe (x1), 2x PCI
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; 2x Gigabit Ethernet (IE/PN), RJ45
Number of PROFINET interfaces	2
USB port	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional
Connection for keyboard/mouse serial interface	USB / USB 2x RS 232 / 485 / 422, 2x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort, 1x VGA
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	<b>6AG4025-0AB10-0BB0</b> SIMATIC IPC527G (Box PC)
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Status LEDs	POWER, HDD
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Degree and class of protection</b>	
IP (at the front)	IP20
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes; No. 61010-1-12, No. 61010-2-201
UL approval	Yes
cULus	Yes; UL 61010-1, UL 61010-2-201
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 ... +40 °C
<b>Relative humidity</b>	
• Relative humidity	8 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	IEC 60068-2-6; 10 Hz to 58 Hz 0.015 mm; 58 Hz to 200Hz 1.96 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms
<b>Operating systems</b>	
pre-installed operating system	without operating system
without operating system	Yes
<b>Dimensions</b>	
Width	260 mm
Height	135 mm
Depth	225 mm

## PC-based Automation

Industrial PC  
Box PC

### SIMATIC IPC527G

#### Technical specifications

Article number	<b>6AG4025-0CB20-0BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0CB20-2BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0CE20-2BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0CE20-3BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0CE20-5CA0</b> SIMATIC IPC527G (Box PC)
<b>Installation type/mounting</b>					
Mounting	Wall mounting, portrait mounting, desktop mounting	Wall mounting, portrait mounting, desktop mounting	Wall mounting, portrait mounting, desktop mounting	Wall mounting, portrait mounting, desktop mounting	Wall mounting, portrait mounting, desktop mounting
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>					
Type of supply voltage	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz
<b>Line frequency</b>					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
<b>Processor</b>					
Processor type	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)
Chipset	Intel H110	Intel H110	Intel H110	Intel H110	Intel H110
<b>Graphic</b>					
Graphics controller	Onboard Intel HD graphics 530/510 integrated in processor	Onboard Intel HD graphics 530/510 integrated in processor	Onboard Intel HD graphics 530/510 integrated in processor	Onboard Intel HD graphics 530/510 integrated in processor	Onboard Intel HD graphics 530/510 integrated in processor
<b>Drives</b>					
Hard disk	1 TB HDD	1 TB HDD	1 TB HDD	1 TB HDD	
SSD					Yes; 256 GB SSD
<b>Memory</b>					
Type of memory	DDR4-2666 SO-DIMM	DDR4-2666 SO-DIMM	DDR4-2666 SO-DIMM	DDR4-2666 SO-DIMM	DDR4-2666 SO-DIMM
Main memory	8 GB RAM	8 GB RAM	8 GB RAM	8 GB RAM	8 GB RAM
<b>Hardware configuration</b>					
<b>Slots</b>					
• free slots	1x PCIe (x16), 1x PCIe (x1), 2x PCI	1x PCIe (x16), 1x PCIe (x1), 2x PCI	1x PCIe (x16), 1x PCIe (x1), 2x PCI	1x PCIe (x16), 1x PCIe (x1), 2x PCI	1x PCIe (x16), 1x PCIe (x4), 2x PCIe (x1)
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	2; 2x Gigabit Ethernet (IE/PN), RJ45				
Number of PROFINET interfaces	2	2	2	2	2
USB port	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	2x RS 232 / 485 / 422, 2x RS 232	2x RS 232 / 485 / 422, 2x RS 232	2x RS 232 / 485 / 422, 2x RS 232	2x RS 232 / 485 / 422, 2x RS 232	2x RS 232 / 485 / 422, 2x RS 232
Multimedia					
• Audio In/Out	Yes	Yes	Yes	Yes	Yes
• Microphone In	Yes	Yes	Yes	Yes	Yes
<b>Video interfaces</b>					
• Graphics interface	1x DisplayPort, 1x VGA	1x DisplayPort, 1x VGA	1x DisplayPort, 1x VGA	1x DisplayPort, 1x VGA	1x DisplayPort, 1x VGA
<b>Industrial Ethernet</b>					
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes

## Technical specifications

Article number	6AG4025-0CB20-0BB0	6AG4025-0CB20-2BB0	6AG4025-0CE20-2BB0	6AG4025-0CE20-3BB0	6AG4025-0CE20-5CA0
	SIMATIC IPC527G (Box PC)	SIMATIC IPC527G (Box PC)	SIMATIC IPC527G (Box PC)	SIMATIC IPC527G (Box PC)	SIMATIC IPC527G (Box PC)
<b>Integrated Functions</b>					
<b>Monitoring functions</b>					
• Status LEDs	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD
<b>EMC</b>					
<b>Interference immunity against discharge of static electricity</b>					
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2				
<b>Degree and class of protection</b>					
IP (at the front)	IP20	IP20	IP20	IP20	IP20
IP (rear)	IP20	IP20	IP20	IP20	IP20
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
CSA approval	Yes; No. 61010-1-12, No. 61010-2-201	Yes; No. 61010-1-12, No. 61010-2-201	Yes; No. 61010-1-12, No. 61010-2-201	Yes; No. 61010-1-12, No. 61010-2-201	Yes; No. 61010-1-12, No. 61010-2-201
UL approval	Yes	Yes	Yes	Yes	Yes
cULus	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• Ambient temperature during operation	0 ... +40 °C	0 ... +40 °C	0 to +45°C	0 to +45°C	0 to +45°C
<b>Relative humidity</b>					
• Relative humidity	8 ... 85 % at 30 °C, no condensation	8 ... 85 % at 30 °C, no condensation	8 ... 85 % at 30 °C, no condensation	8 ... 85 % at 30 °C, no condensation	8 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>					
• Vibration resistance during operation acc. to IEC 60068-2-6	IEC 60068-2-6; 10 Hz to 58 Hz 0.015 mm; 58 Hz to 200Hz 1.96 m/s <sup>2</sup>	IEC 60068-2-6; 10 Hz to 58 Hz 0.015 mm; 58 Hz to 200Hz 1.96 m/s <sup>2</sup>	tested according to IEC 60068-2-6; 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>	tested according to IEC 60068-2-6; 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>	tested according to IEC 60068-2-6; 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>
<b>Shock testing</b>					
• Shock load during operation	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms
<b>Operating systems</b>					
pre-installed operating system	without operating system	Windows 7 Ultimate (Multi-Language) 64-bit	Windows 7 Ultimate (Multi-Language) 64-bit	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
Additional info on operating system		Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes				
<b>Dimensions</b>					
Width	260 mm	260 mm	260 mm	260 mm	260 mm
Height	135 mm	135 mm	135 mm	135 mm	135 mm
Depth	225 mm	225 mm	225 mm	225 mm	225 mm

## PC-based Automation

Industrial PC  
Box PC

### SIMATIC IPC527G

#### Technical specifications

Article number	<b>6AG4025-0DF20-2BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0DF20-4BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0DE20-6CA0</b> SIMATIC IPC527G (Box PC)
<b>Installation type/mounting</b>			
Mounting	Wall mounting, portrait mounting, desktop mounting	Wall mounting, portrait mounting, desktop mounting	Wall mounting, portrait mounting, desktop mounting
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>			
Type of supply voltage	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz
<b>Line frequency</b>			
• Rated value 50 Hz	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes
<b>Processor</b>			
Processor type	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)
Chipset	Intel H110	Intel H110	Intel H110
<b>Graphic</b>			
Graphics controller	Onboard Intel HD graphics 530/510 integrated in processor	Onboard Intel HD graphics 530/510 integrated in processor	Onboard Intel HD graphics 530/510 integrated in processor
<b>Drives</b>			
Hard disk	1 TB HDD	1 TB HDD	
SSD			Yes; 256 GB SSD
<b>Memory</b>			
Type of memory	DDR4-2666 SO-DIMM	DDR4-2666 SO-DIMM	DDR4-2666 SO-DIMM
Main memory	8 GB RAM	8 GB RAM	8 GB RAM
<b>Hardware configuration</b>			
<b>Slots</b>			
• free slots	1x PCIe (x16), 1x PCIe (x1), 2x PCI	1x PCIe (x16), 1x PCIe (x1), 2x PCI	1x PCIe (x16), 1x PCIe (x4), 2x PCIe (x1)
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	2; 2x Gigabit Ethernet (IE/PN), RJ45	2; 2x Gigabit Ethernet (IE/PN), RJ45	2; 2x Gigabit Ethernet (IE/PN), RJ45
Number of PROFINET interfaces	2	2	2
USB port	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional	4x USB 3.0, 1x USB 2.0 internal, 2x USB 2.0 optional
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB
serial interface	2x RS 232 / 485 / 422, 2x RS 232	2x RS 232 / 485 / 422, 2x RS 232	2x RS 232 / 485 / 422, 2x RS 232
Multimedia			
• Audio In/Out	Yes	Yes	Yes
• Microphone In	Yes	Yes	Yes
<b>Video interfaces</b>			
• Graphics interface	1x DisplayPort, 1x VGA	1x DisplayPort, 1x VGA	1x DisplayPort, 1x VGA
<b>Industrial Ethernet</b>			
• Industrial Ethernet interface	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option	2x Ethernet (RJ45), 1x Ethernet (RJ45) additional option
- 100 Mbps	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes
<b>Integrated Functions</b>			
<b>Monitoring functions</b>			
• Status LEDs	POWER, HDD	POWER, HDD	POWER, HDD
<b>EMC</b>			
<b>Interference immunity against discharge of static electricity</b>			
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2		
<b>Degree and class of protection</b>			
IP (at the front)	IP20	IP20	IP20
IP (rear)	IP20	IP20	IP20

**More information**

Article number	<b>6AG4025-0DF20-2BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0DF20-4BB0</b> SIMATIC IPC527G (Box PC)	<b>6AG4025-0DE20-6CA0</b> SIMATIC IPC527G (Box PC)
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
CSA approval	Yes; No. 61010-1-12, No. 61010-2-201	Yes; No. 61010-1-12, No. 61010-2-201	Yes; No. 61010-1-12, No. 61010-2-201
UL approval	Yes	Yes	Yes
cULus	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
FCC	Yes	Yes	Yes
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• Ambient temperature during operation	0 to +45°C	0 to +45°C	0 to +45°C
<b>Relative humidity</b>			
• Relative humidity	8 ... 85 % at 30 °C, no condensation	8 ... 85 % at 30 °C, no condensation	8 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>			
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6: 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>	tested according to IEC 60068-2-6: 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>	tested according to IEC 60068-2-6: 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup>
<b>Shock testing</b>			
• Shock load during operation	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms
<b>Operating systems</b>			
pre-installed operating system	Windows 7 Ultimate (Multi-Language) 64-bit	Windows 10 Enterprise 2016 LTSC, 64 bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
<b>Dimensions</b>			
Width	260 mm	260 mm	260 mm
Height	135 mm	135 mm	135 mm
Depth	225 mm	225 mm	225 mm

**More information**

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

# PC-based Automation

Industrial PC  
Box PC

## SIMATIC IPC627E

### Overview



**SIMATIC IPC627E (Box PC): The high-end IPC with maximum performance, functional scope, and expansion capability**

It offers:

- Maximum performance in the smallest space
- Intel Core i technology
- Removable hard disks (RAID1)

### Ordering data

### Article No.

**SIMATIC IPC627E (Box PC) <sup>1)</sup>**

UHD graphics onboard;  
2x DP; 1x DVI-D;  
3x Gigabit Ethernet (IE/PN) RJ45;  
6x USB 3.1 Gen. 2;  
1x serial (COM1);  
RAID controller onboard;  
watchdog, temperature/fan monitoring

Processor:

- Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d)
- Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); NVRAM
- Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d)
- Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); NVRAM
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT); NVRAM

Drives:

- HDD 2.5" SATA 320 GB internal
- SSD 2.5" SATA 480 GB internal
- SSD 2.5" SATA 960 GB internal
- RAID1 2x SSD 2.5" SATA 480 GB internal
- RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
- RAID1 2x SSD 2.5" SATA 960 GB in removable drive bay
- M.2 SSD NVMe 512 GB
- M.2 SSD NVMe 512 GB; HDD 2.5" SATA 320 GB internal
- M.2 SSD NVMe 512 GB; SSD 2.5" SATA 480 GB internal
- M.2 SSD NVMe 512 GB; SSD 2.5" SATA 960 GB internal
- M.2 SSD NVMe 512 GB; RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
- M.2 SSD NVMe 512 GB; 2 removable drive bays without media

Memory configuration:

- 4 GB DDR4-2666 (1x 4 GB)
- 8 GB DDR4-2666 (2x 4 GB)
- 16 GB DDR4-2666 (2x 8 GB)
- 32 GB DDR4-2666 (2x 16 GB)
- 64 GB DDR4-2666 (4x 16 GB)

Article No.	Configuration
6AG4131-	3 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
	A
	B
	C
	D
	G
	H
	A
	C
	D
	E
	G
	H
	J
	K
	L
	M
	Q
	S
	0
	1
	2
	3
	4

Ordering data	Article No.	Article No.	
<b>SIMATIC IPC627E (Box PC) <sup>1)</sup></b>	<b>6AG4131-</b> 3 ■ ■ ■ ■ - ■ ■ ■ ■	<b>SIMATIC IPC627E (Box PC) <sup>1)</sup></b>	
<b>Power supply:</b>		<b>6AG4131-</b> 3 ■ ■ ■ ■ - ■ ■ ■ ■	
• 24 V DC industrial power supply	0	<b>Expansion (SW):</b>	
• 110/230 V AC industrial power supply unit with NAMUR; without power cable	1	• Without expansion	A
• 110/230 V AC industrial power supply unit with NAMUR; power supply cord Europe	2	• SIMATIC IPC DiagMonitor included	B
• 110/230 V AC industrial power supply unit with NAMUR; power supply cord USA	3	• SIMATIC IPC Image & Partition Creator included	C
• 110/230 V AC industrial power supply unit with NAMUR; power supply cord China	4	• SIMATIC IPC DiagMonitor, Image & Partition Creator included	D
• 24 V DC industrial power supply; UL HazLoc device certification	5	• TPM <sup>2)</sup> (not for Russia)	X
<b>Operating system:</b>		<b>Expansion (HW):</b>	
• Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es); for Celeron and i3	0	• Without expansion (HW)	A
• Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es); for Core i7	1	• 2 x USB in addition (1 slot occupied)	B
• Windows 10 IoT Enterprise 2019 LTSC, 64-bit, MUI (en, de, fr, it, es); for Celeron and i3	2	• Device without CMOS battery (CR2450N)	C
• Windows 10 IoT Enterprise 2019 LTSC, 64-bit, MUI (en, de, fr, it, sp), for Core i7	3	<b>2nd expansion (HW):</b>	
• Without operating system	8	• 2 x PCI	0
		• 1 x PCIe (x16); 1 x PCI	1
		• 1 x PCIe (x16); 1 x PCIe (x4)	2
		• 3 x PCI, 2 x PCIe (x16, x4)	3
		• 5 x PCIe (1 x16, 1 x4, 3 x1)	4
		• 2 x PCI; enclosure painted	5
		• 1 x PCIe (x16), 1 x PCI; enclosure painted	6
		• 2 x PCIe (x16, x4); enclosure painted	7
		<b>Accessories</b>	
		<b>Memory expansion</b>	
		• 4 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL60-0QA0
		• 8 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL70-0QA0
		• 16 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL80-0QA0
		<b>Assembly kit for portrait mounting</b>	
		• Upward or downward interface outlet (2-slot design)	6ES7648-1AA10-2YA0
		• Interface outlet on the front (2-slot design)	6ES7648-1AA10-2YB0
		• Upward or downward interface outlet (5-slot design)	6ES7648-1AA30-2YA0
		• Interface outlet on the front (5-slot design)	6ES7648-1AA30-2YB0
		<b>SIMATIC PC power cable</b>	
		For Box PC and Panel PC, 230 V AC, angled, 3 m	
		• For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland	6ES7900-1AA00-0XA0
		• For United Kingdom	6ES7900-1BA00-0XA0
		• For Switzerland	6ES7900-1CA00-0XA0
		• For the USA	6ES7900-1DA00-0XA0
		• For Italy	6ES7900-1EA00-0XA0
		• For China	6ES7900-1FA00-0XA0

<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator at: <http://www.siemens.com/ipc-configurators>

<sup>2)</sup> TPM = Trusted Platform Module

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

## PC-based Automation

Industrial PC  
Box PC

### SIMATIC IPC627E

#### Technical specifications

Article number	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>Installation type/mounting</b>	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
Chipset	Intel C246
<b>Graphic</b>	
Graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
<b>Drives</b>	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; SSD M.2 NVMe 512 GB; SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB in removable drive bay
<b>Memory</b>	
Type of memory	DDR4-2666 DIMM
Main memory	4 / 8 / 16 / 32 / 64 GB
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer

Article number	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	6x USB 3.1 Gen. 2 (2x type C)
Connection for keyboard/mouse serial interface	USB / USB 1x COM
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort; 1x DVI-D
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	Yes
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6

## Technical specifications

Article number	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>Interference immunity to cable-borne interference</b>	
<ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> </ul>	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> <li>Interference immunity on signal cables &gt;30m</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
<ul style="list-style-type: none"> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
<ul style="list-style-type: none"> <li>asymmetric interference</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> <li>symmetric interference</li> </ul>	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
<ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
<b>Marine approval</b>	
<ul style="list-style-type: none"> <li>American Bureau of Shipping (ABS)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Det Norske Veritas (DNV)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Nippon Kaiji Kyokai (Class NK)</li> </ul>	Yes

Article number	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	+5 °C up to 55 °C
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>	
pre-installed operating system	Windows 10 Enterprise 2016 LTSC B or 2019 LTSC 64-bit, MUI
without operating system	Yes; Optional
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC
<b>Dimensions</b>	
Width	314 mm
Height	93 mm; For variant 5x PCI(e): 155 mm
Depth	301 mm; incl. mounting rail

### More information

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

## PC-based Automation

### Industrial PC

#### Panel PC

#### Overview



SIMATIC Panel PCs are suitable thanks to their high industrial compatibility for use in control cabinets, consoles and control panels, as well as directly on the machine. Typical areas of application can be found in both factory and process automation.

There is a broad range of robust, high-performance SIMATIC Panel PCs available for different requirements.

#### **Shared industrial functionality**

- High-quality components and modules with a high MTBF (mean time between failure), which also ensure 24-hour operation in the extended temperature range
- High swing/shock capacity of the devices through special hard-disk suspensions, locked connectors and card retainers
- Rugged housing model with high electromagnetic compatibility (EMC) and integrated industrial power supplies (also in accordance with NAMUR)
- Service-friendly device design
- Bright, brilliant displays in different sizes from 7" to 22"
- Rugged fronts protected from dust, humidity and chemical substances (front-side IP65 degree of protection)

#### **SIMATIC IPC277: The Panel PC with optimized performance – maintenance-free and compact with displays from 7"**

- High degree of flexibility for selecting rugged widescreen fronts from 7" to 19" for a more freely configurable display area
- High resolution, large viewing angle, and up to 100% dimmable backlighting for a brilliant display with optimized power consumption
- Absolutely maintenance-free due to the use of CompactFlash/CFast or SSD as mass storage and fanless operation up to 50 °C ambient temperature
- Maximum industrial functionality due to non-volatile retentive memory (option)
- Ready-to-use embedded bundles with visualization and/or control software

#### **SIMATIC IPC377: the industrial Basic Panel PC at an appealing price**

- Low-cost platform for visualization in the industrial and industry-oriented field
- Flexible installation in the control cabinet or via VESA, as well as simple connection of I/O devices due to a large number of interfaces
- Fanless industrial design
- Available directly ex stock

#### **SIMATIC IPC477: The powerful embedded Panel PC – maintenance-free with versatile configuration**

- Compact design
- High performance with highly compact design and ruggedness
- Flexible expansion using a PCIe I/O card (optional)
- No rotating parts (without fan and hard disk)
- High security due to use of the operating system
- Windows Embedded Standard 7
- Ready-to-use devices with optionally pre-installed software
- HMI: Innovative HMI software WinCC RT Advanced (inc. logging and recipes)
- Software Controller: with real-time capable software PLC
- Retentive memory onboard (NV-RAM, can be used with software controller)
- Available as PRO version (fully-enclosed IP65 degree of protection) with multi-touch

#### **SIMATIC IPC677: The high-end Panel PC – with maximum performance, functional scope and expansion capability**

- Rugged, expandable industrial PC with choice of front panels
- Rugged design for industrial use
- Complete PC openness
- Optional PROFIBUS or PROFINET onboard
- All processors with Dual-Core

## Technical specifications

Article number	6AV7886-0.....-.....	6AV7231-0.....-...0	6AV7242-.....-....	6AV7241-.....-.....	6AV7261-.....-.....
	SIMATIC IPC277G	SIMATIC IPC377G	SIMATIC IPC PX-39A	SIMATIC IPC 477E	SIMATIC IPC677E (Panel PC)
<b>General information</b>					
Product type designation	IPC277G	IPC377G	PX-39A		
<b>Installation type/mounting</b>					
Mounting	For horizontal and vertical mounting	Panel mount and VESA, horizontal and vertical	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design maximum permissible installation angle +/-	Panel PC, built-in unit 45°	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
<b>Supply voltage</b>					
Type of supply voltage	24 V DC	24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange); 24 V DC
Rated value (DC)	24 V				
<b>Line frequency</b>					
• Rated value 50 Hz			Yes	Yes	Yes
• Rated value 60 Hz			Yes	Yes	Yes
<b>Mains buffering</b>					
• Mains/voltage failure stored energy time	20 ms	10 ms	20 ms	20 ms	10 ms
<b>Processor</b>					
Processor type	Intel Atom X6211E / X6413E / X6414RE	Intel Atom X6413E	Intel® Celeron 6600HLE (2.1 GHz, 2C/2T) Intel® Xeon W-11155MLE (1.8/3.1 GHz, 4C/8T) Intel® Xeon W-11555MLE (1.9/4.4 GHz, 6C/12T) Intel® Xeon W-11865MLE (1.5/4.5 GHz, 8C/16T)	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)	Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
Chipset	SoC		Intel® RM590E	Intel C236 / Intel H110	Intel C246
<b>Graphic</b>					
Graphics controller	Integrated		Intel HD graphics controller	Intel HD graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
<b>Drives</b>					
Hard disk			M.2 SSD ≥ 240 GB	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB
SSD	Yes; 256 Eco / 240 / 480 GB		Yes; ≥ 240 GB optional	Yes; 128 / 240 / 480 GB	Yes; SSD M.2 NVMe 512 GB; SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB in removable drive bay
<b>Memory</b>					
Type of memory	DDR4 SO-DIMM	DDR4	DDR4-3200 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2666 DIMM
Main memory	4 / 8 / 16 GB; inband ECC optional	4 GB, 8 GB, 16 GB	4 / 8 / 16 / 32 GB; ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 / 32 / 64 GB
<b>Data areas and their retentivity</b>					
Retentive data area (incl. timers, counters, flags), max.			512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time

# PC-based Automation

## Industrial PC

### Panel PC

#### Technical specifications

Article number	6AV7886-0.....-.... SIMATIC IPC277G	6AV7231-0.....-...0 SIMATIC IPC377G	6AV7242-.....-.... SIMATIC IPC PX-39A	6AV7241-.....-.... SIMATIC IPC 477E	6AV7261-.....-.... SIMATIC IPC677E (Panel PC)
<b>Hardware configuration</b>					
<b>Slots</b>					
• free slots	2x M.2	2x M.2	1x PCIe; optional: 1x PCIe (x4), with card retainer	1x PCIe (slot with card retainer), 1x slot for CFAST card	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)	2; 2x RJ45 (independent)	4; 4x Gigabit Ethernet (IE/PN)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)
USB port	4x USB 3.1 Gen2 10 GB/s + 2x USB 2.0 pin header		4x USB 3.2 Gen2	4x USB 3.0	6x USB 3.1 Gen. 2 (2x type C)
Connection for keyboard/mouse serial interface	USB / USB without / 1x / 2x COM (RS 232 / 485 / 422; selectable)		USB / USB 1x / 2x (optional) COM (RS 232 / 485 / 422; selectable)	USB / USB Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS	USB / USB 1x COM
<b>Video interfaces</b>					
• Graphics interface	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort; 1x DVI-D
<b>Industrial Ethernet</b>					
• Industrial Ethernet interface	3x Ethernet (RJ45)	2x Ethernet (RJ45)	4x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
<b>Protocols</b>					
<b>Protocols (Ethernet)</b>					
• TCP/IP		Yes			
• DHCP	Yes				
<b>Integrated Functions</b>					
<b>Monitoring functions</b>					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes
• Status LEDs	No	POWER, HDD	No	No	1x power, 3x user
• Fan	No	No	No	No	Yes
• Monitoring function via network	Optional		Optional	Optional	Optional
<b>EMC</b>					
<b>Interference immunity against discharge of static electricity</b>					
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2				
<b>Interference immunity against high-frequency electromagnetic fields</b>					
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>					
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric		±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m		±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m

## Technical specifications

Article number	6AV7886-0.....-.... SIMATIC IPC277G	6AV7231-0.....-...0 SIMATIC IPC377G	6AV7242-.....-.... SIMATIC IPC PX-39A	6AV7241-.....-.... SIMATIC IPC 477E	6AV7261-.....-.... SIMATIC IPC677E (Panel PC)
• Interference immunity on signal cables < 30m	±1 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length < 30 m; ±2 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length > 30 m		±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>					
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric		±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric		±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>					
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8		100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>					
• Interference emission via line/ AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A		IEC 61000-6-4, CAN/CSA CISPR 32 class B, FCC class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
IP (rear)	20	IP40	IP20	IP20	IP20
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
CSA approval		Yes		Yes	
UL approval		Yes	Yes; UL 61010-2-201 Second Edition, File E85972	Yes	Yes
• UL 508			No	Yes	
cULus	Yes		Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	No; in preparation	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes
BSMI		Yes	No; in preparation		
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005		EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, CAN/CSA CISPR 32 class A, EN 55032 class B, FCC class A, KN32	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
Dust protection		Protection against foreign bodies > 1 mm			
<b>Use in hazardous areas</b>					
• ATEX Zone 2			No; in preparation	Yes; Optional, only with Multitouch	
• IECEx Zone 2			No; in preparation	Yes; Optional, only with Multitouch	
• cULus Class I Zone 2, Division 2			No; in preparation	Yes; Optional, only with Multitouch	
<b>Marine approval</b>					
• Germanischer Lloyd (GL)			No; in preparation	Yes	
• American Bureau of Shipping (ABS)			No; in preparation	Yes	Yes
• Bureau Veritas (BV)			No; in preparation	Yes	
• Det Norske Veritas (DNV)			No; in preparation	Yes	Yes
• Korean Register of Shipping (KRS)			No; in preparation	Yes	
• Lloyds Register of Shipping (LRS)			No; in preparation	Yes	
• Nippon Kaiji Kyokai (Class NK)			No; in preparation	Yes	Yes

## PC-based Automation

### Industrial PC

#### Panel PC

#### Technical specifications

Article number	6AV7886-0.....-.... SIMATIC IPC277G	6AV7231-0.....-...0 SIMATIC IPC377G	6AV7242-.....-.... SIMATIC IPC PX-39A	6AV7241-.....-.... SIMATIC IPC 477E	6AV7261-.....-.... SIMATIC IPC677E (Panel PC)
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• Ambient temperature during operation	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 45 °C	+5 °C to +45 °C with full configuration
<b>Relative humidity</b>					
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	max. 85% at 30 °C, no condensation, gradient <= 10 °C/h	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
• Operation, max.	85 %	85 %	85 %		
<b>Vibrations</b>					
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 200 Hz : 9.8m/s <sup>2</sup> (1 g) (except DIN Rail) 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g) (DIN Rail)	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	tested according to IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup> (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> (hard disk)	tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>					
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	IEC 60068-2-27; 150 m/s <sup>2</sup> , 11 ms (without hard disk); 50 m/s <sup>2</sup> , 30 ms (with hard disk)	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>					
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI		Windows 10 IoT Enterprise 2021 LTSC, Industrial OS	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 10 Enterprise 2016 LTSB or 2019 LTSC 64-bit, MUI
without operating system	Yes; Optional	Yes	Yes; Optional	Yes; Optional	Yes; Optional
<b>Software</b>					
SIMATIC Software	Optional package with SIMATIC WinCC		Optional package with SIMATIC WinCC	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle	Optional package with SIMATIC WinCC
<b>Dimensions</b>					
Width		652 mm			
Height		443 mm			
Depth		209 mm			

#### More information

More information is available on the Internet at:

<http://www.siemens.com/simatic-panel-pc>

## Overview



**SIMATIC IPC277G: The Panel PC with optimized performance – flexible in respect of interfaces and expansions with multi-touch displays from 7" to 24"**

SIMATIC IPC277G is based on the Nanobox PC IPC227G and is characterized by its robust design and maintenance-free operation.

With its integrated interfaces, expansion options and the large range of multi-touch fronts from 7" to 24", the Nanopanel PC is intended for a broad range of applications.

## Ordering data

## Article No.

Ordering data	Article No.
<b>SIMATIC IPC277G (Nanopanel PC)</b>	<b>6AV7886- 0 - - - - 0</b>
<u>Operating unit</u>	
• 7" multi-touch	A
• 10" multi-touch	B
• 12" multi-touch	C
• 15" multi-touch	D
• 19" multi-touch	E
• 22" multi-touch	F
• 24" multi-touch	G
<u>Processor</u>	
• Atom X6211E (2-core)	A
• Atom X6413E (4-core)	B
• Atom X6414RE (4-core)	C
• Atom X6211E (2-core)/TPM	D
• Atom X6413E (4-core)/TPM	E
• Atom X6414RE (4-core)/TPM	F
<u>Work memory</u>	
• 4 GB	1
• 8 GB	2
• 16 GB	3
<u>Hardware configuration</u>	
• Without COM	1
• 1x COM	2
• 2x COM	3
<u>Mass storage</u>	
• None	1
• 256 GB Eco SSD	2
<u>Hardware extension</u>	
• Without hardware extension	A
<u>Software</u>	
• Without SIMATIC Software	A
• Windows 10 IoT Enterprise 2019 LTSC	B

## Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

For an up-to-date overview, see the SIMATIC IPC online configurator at:

<http://www.siemens.com/ipc-configurators>

## Technical specifications

Article number	<b>6AV7886-0....-....</b> SIMATIC IPC277G
<b>General information</b>	
Product type designation	IPC277G
<b>Installation type/mounting</b>	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
maximum permissible installation angle +/-	45°
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
Rated value (DC)	24 V
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms

# PC-based Automation

Industrial PC  
Panel PC

## SIMATIC IPC277G

### Technical specifications

Article number	<b>6AV7886-0....-....</b> SIMATIC IPC277G
<b>Processor</b>	
Processor type	Intel Atom X6211E / X6413E / X6414RE
Chipset	SoC
<b>Graphic</b>	
Graphics controller	Integrated
<b>Drives</b>	
SSD	Yes; 256 Eco / 240 / 480 GB
<b>Memory</b>	
Type of memory	DDR4 SO-DIMM
Main memory	4 / 8 / 16 GB; inband ECC optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x M.2
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.1 Gen2 10 GB/s + 2x USB 2.0 pin header
Connection for keyboard/mouse serial interface	USB / USB without / 1x / 2x COM (RS 232 / 485 / 422; selectable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Protocols</b>	
<b>Protocols (Ethernet)</b>	
• DHCP	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	No
• Fan	No
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m

Article number	<b>6AV7886-0....-....</b> SIMATIC IPC277G
• Interference immunity on signal cables < 30m	±1 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length < 30 m; ±2 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length > 30 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 50 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
• Operation, max.	85 %
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 200 Hz : 9.8m/s <sup>2</sup> (1 g) (except DIN Rail) 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g) (DIN Rail)
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
without operating system	Yes; Optional
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC

## Technical specifications

Article number	6AV7886-0A...- ....	6AV7886-0B...- ....	6AV7886-0C...- ....	6AV7886-0D...- ....	6AV7886-0E...- ....	6AV7886-0F...- ....	6AV7886-0G...- ....
	SIMATIC IPC277G, 7" Multitouch	SIMATIC IPC277G, 10" Multitouch	SIMATIC IPC277G, 12" Multitouch	SIMATIC IPC277G, 15" Multitouch	SIMATIC IPC277G, 19" Multitouch	SIMATIC IPC277G, 22" Multitouch	SIMATIC IPC277G, 24" Multitouch
<b>General information</b>							
Product type designation	IPC277G						
<b>Display</b>							
Design of display	7" TFT multi-touch	10" TFT multi-touch	12" TFT multi-touch	15" TFT multi-touch	19" TFT multi-touch	22" TFT multi-touch	24" TFT multi-touch
Screen diagonal	7 in	10 in	12 in	15 in	19 in	22 in	24 in
<b>Resolution (pixels)</b>							
• Horizontal image resolution	800 pixel	1 280 pixel	1 280 pixel	1 920 pixel	1 920 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	480 pixel	800 pixel	800 pixel	1 080 pixel	1 080 pixel	1 080 pixel	1 080 pixel
<b>Backlighting</b>							
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	70 000 h	50 000 h	50 000 h	30 000 h	30 000 h
<b>Control elements</b>							
<b>Touch operation</b>							
• Design as multi-touch screen	Yes; Projective- capacitive	Yes; Projective- capacitive	Yes; Projective- capacitive	Yes; Projective- capacitive	Yes; Projective- capacitive	Yes; Projective- capacitive	Yes; Projective- capacitive
<b>Installation type/mounting</b>							
central design	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Power loss</b>							
In full configuration	30 W	30 W	80 W	80 W	80 W	80 W	80 W
<b>Dimensions</b>							
Width of the housing front	214 mm	280 mm	326 mm	398 mm	464 mm	529 mm	585 mm
Height of housing front	158 mm	205 mm	237 mm	257 mm	294 mm	331 mm	363 mm
<b>Weights</b>							
Weight, approx.	2.5 kg	3.2 kg	5.1 kg	5.3 kg	6.7 kg	8.1 kg	9.6 kg

### More information

More information is available on the internet at:

<http://www.siemens.com/simatic-panel-pc>

# PC-based Automation

Industrial PC  
Panel PC

## SIMATIC IPC277E

### Overview



### **SIMATIC IPC277E: The Panel PC with optimized performance – maintenance-free and compact with displays from 7"**

The SIMATIC IPC277E Nanopanel PC is a flexible embedded industrial PC with rugged and durable displays.

Technologically it is based on the IPC227E Nanobox PC and thus offers maximum industrial functionality for flexible use even under harsh conditions – all without the need for maintenance.

The Panel PC is characterized by modern interfaces and a high degree of flexibility in the selection of the display. The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here for visualization and control tasks.

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### Ordering data

### Article No.

### Article No.

SIMATIC IPC277E (Nanopanel PC)	6AV7882-	0	0	0	-	A	0
<b>Operating unit</b>							
• 7" touch						A	
• 9" touch						B	
• 12" touch						C	
• 15" touch front USB						D	
• 19" touch front USB						E	
• 15" multi-touch (with WES7-E only single-touch mode)						F	
• 19" multi-touch (with WES7-E only single-touch mode)						G	
• 12" multi-touch (with WES7-E only single-touch mode)						H	
• 15" multi-touch (1 366 x 768; ATEX/IECEx/UL HazLoc; with WES7-E only single-touch mode)						J	
• 19" multi-touch (1 366 x 768; ATEX/IECEx/UL HazLoc; with WES7-E only single-touch mode)						K	
<b>Processor</b>							
• Celeron N2807 (2C/2T)						A	
• Celeron N2930 (4C/4T)						B	
• Celeron N2807 (2C/2T)/TPM						C	
• Celeron N2930 (4C/4T)/TPM						D	
<b>Work memory/NVRAM</b>							
• 2 GB							1
• 4 GB							2
• 8 GB							3
• 2 GB/NVRAM							4
• 4 GB/NVRAM							5
• 8 GB/NVRAM							6

SIMATIC IPC277E (Nanopanel PC)	6AV7882-	0	0	0	-	A	0
<b>Operating system</b>							
• Without operating system							0
• Windows Embedded Standard 7 E SP1, English, 32-bit							1
• Windows Embedded Standard 7 E SP1, English, 64-bit							2
• Windows Embedded Standard 7 P SP1, English, 32-bit							3
• Windows Embedded Standard 7 P SP1, English, 64-bit							4
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)							5
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)							6
• Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (de, en, es, fr, it)							7
• Windows 10 IoT Enterprise 2019 LTSC, 64-bit, MUI (de, en, es, fr, it)							8
<b>Mass storage</b>							
• Without mass storage, with CFast slot							A
• 240 GB SSD							C
• 480 GB SSD							D
• 256 GB Eco SSD							E
• 8 GB CFast							L
• 16 GB CFast							M
• 128 GB CFast							N
<b>Software</b>							
• Without SIMATIC Software							A

### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

For an up-to-date overview, see the SIMATIC IPC online configurator at:

<http://www.siemens.com/ipc-configurators>

**Technical specifications**

Article number	<b>6AV7882-0...0-...0</b> SIMATIC IPC277E
<b>General information</b>	
Product type designation	IPC277E
<b>Installation type/mounting</b>	
Design	Panel PC, built-in unit
maximum permissible installation angle +/-	45°
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Celeron N2807 / N2930
Chipset	SoC
<b>Graphic</b>	
Graphics controller	Integrated
<b>Drives</b>	
SSD	Yes; 256 Eco / 240 / 480 GB
<b>Memory</b>	
Type of memory	DDR3L SO-DIMM
Main memory	2 / 4 / 8 GB
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; 2x Ethernet (RJ45)
USB port	1x USB 3.0 / 3x USB 2.0 (7" / 9": 2x USB 2.0)
Connection for keyboard/mouse serial interface	USB / USB 1x COM (1x RS 232 / 422 / 485), selectable in the BIOS
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	<b>6AV7882-0...0-...0</b> SIMATIC IPC277E
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	No
• Fan	No
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	Noise emission: EN 61000-6-4:2007 +A1:2011 (industrial environments), CISPR 22 Class B, FCC Class A

**PC-based Automation**

Industrial PC

Panel PC

**SIMATIC IPC277E****Technical specifications**

Article number	<b>6AV7882-0...0-...0</b> SIMATIC IPC277E
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes; 7", 9", 12" single-touch
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12" ST; 12", 15", 19" MT
• Bureau Veritas (BV)	Yes; 7", 9", 12" ST; 12", 15", 19" MT
• Det Norske Veritas (DNV)	Yes; 7", 9", 12" ST; 12", 15", 19" MT
• Korean Register of Shipping (KRS)	Yes; 7", 9", 12" ST; 12", 15", 19" MT
• Lloyds Register of Shipping (LRS)	Yes; 7", 9", 12" ST; 12", 15", 19" MT
• Nippon Kaiji Kyokai (Class NK)	Yes; 7", 9", 12" ST; 12", 15", 19" MT
• Chinese Classification Society (CCS)	Yes; 7", 9", 12" ST; 12", 15", 19" MT

Article number	<b>6AV7882-0...0-...0</b> SIMATIC IPC277E
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 50 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 50 m/s <sup>2</sup> , 30 ms
<b>Operating systems</b>	
pre-installed operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
Additional info on operating system without operating system	optional: SIMATIC Industrial OS Yes; Optional
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX

## Technical specifications

Article number	<b>6AV7882-0A..0-...0</b> SIMATIC IPC277E, 7" Touch	<b>6AV7882-0B..0-...0</b> SIMATIC IPC277E, 9" Touch	<b>6AV7882-0C..0-...0</b> SIMATIC IPC277E, 12" Touch	<b>6AV7882-0D..0-...0</b> SIMATIC IPC277E, 15" Touch	<b>6AV7882-0E..0-...0</b> SIMATIC IPC277E, 19" Touch
<b>Display</b>					
Design of display	7" TFT touch	9" TFT touch	12" TFT touch	15" TFT touch	19" TFT touch
Screen diagonal	7 in	9 in	12 in	15 in	19 in
<b>Resolution (pixels)</b>					
• Horizontal image resolution	800 pixel	800 pixel	1 280 pixel	1 280 pixel	1 366 pixel
• Vertical image resolution	480 pixel	480 pixel	800 pixel	800 pixel	768 pixel
<b>Backlighting</b>					
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	50 000 h
<b>Control elements</b>					
<b>Input device</b>					
• Mouse, at front				Front USB 2.0 (500mA)	Front USB 2.0 (500mA)
<b>Touch operation</b>					
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive
<b>Installation type/mounting</b>					
central design	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
<b>Power loss</b>					
In full configuration	26 W	29 W	32 W	46 W	46 W
<b>Dimensions</b>					
Width of the housing front	214 mm	274 mm	330 mm	415 mm	483 mm
Height of housing front	158 mm	190 mm	241 mm	310 mm	337 mm
<b>Weights</b>					
Weight, approx.	1.5 kg	1.95 kg	2.75 kg	4 kg	5.7 kg

Article number	<b>6AV7882-0F..0-...0</b> SIMATIC IPC277E, 15" Multitouch	<b>6AV7882-0G..0-...0</b> SIMATIC IPC277E, 19" Multitouch	<b>6AV7882-0H..0-...0</b> SIMATIC IPC277E, 12" Multitouch	<b>6AV7882-0J..0-...0</b> SIMATIC IPC277E, 15" Multitouch Atex	<b>6AV7882-0K..0-...0</b> SIMATIC IPC277E, 19" Multitouch Atex
<b>Display</b>					
Design of display	15" TFT multi-touch	19" TFT multi-touch	12" multi-touch	15" TFT multi-touch	19" TFT multi-touch
Screen diagonal	15 in	19 in	12 in	15 in	19 in
<b>Resolution (pixels)</b>					
• Horizontal image resolution	1 366 pixel	1 366 pixel	1 280 pixel	1 366 pixel	1 366 pixel
• Vertical image resolution	768 pixel	768 pixel	800 pixel	768 pixel	768 pixel
<b>Backlighting</b>					
• MTBF backlighting (at 25 °C)	70 000 h	50 000 h	50 000 h	70 000 h	50 000 h
<b>Control elements</b>					
<b>Touch operation</b>					
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
<b>Installation type/mounting</b>					
central design	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
<b>Power loss</b>					
In full configuration	46 W	46 W	36 W	46 W	46 W
<b>Dimensions</b>					
Width of the housing front	398 mm	464 mm	315 mm	398 mm	464 mm
Height of housing front	257 mm	294 mm	227 mm	257 mm	294 mm
<b>Weights</b>					
Weight, approx.	5.5 kg	6.5 kg	2.65 kg	5.5 kg	6.5 kg

### More information

More information is available on the internet at:

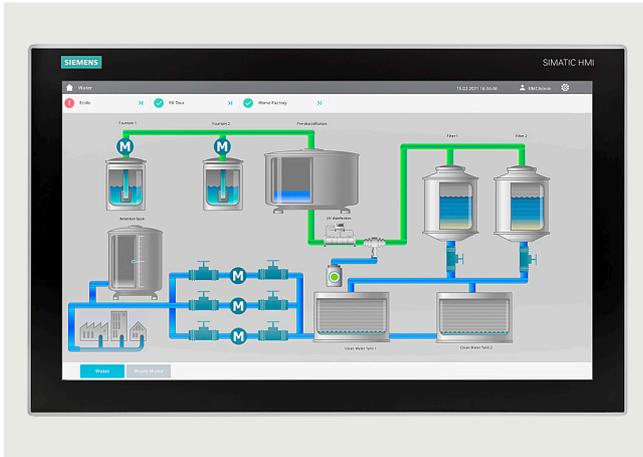
<http://www.siemens.com/simatic-panel-pc>

## PC-based Automation

Industrial PC  
Panel PC

### SIMATIC IPC377G

#### Overview



#### SIMATIC IPC377G

Based on Intel Atom processor technology, the SIMATIC IPC377G Panel PC represents a new IPC platform which has been specifically developed for cost-optimized, PC-based applications in industrial and industry-oriented environments.

The SIMATIC IPC377G Panel PC is characterized by a large number of interfaces.

Fast availability ex stock as well as the fanless industrial design complete the concept.

#### Ordering data

#### Article No.

Ordering data	Article No.
<b>SIMATIC IPC377G</b>	<b>6AV7231 - 0 ■ ■ ■ ■ - ■ ■ ■ ■ 0</b>
2x DisplayPort graphics; 2x 10/100/1000 Mbps, Ethernet RJ45; 4x USB 3.0; 3x USB 2.0; 4x serial ports (COM)	
<u>Operating unit</u>	
• 12" touch (1 280 x 800)	C
• 15" touch (1 366 x 768)	D
• 19" touch (1 366 x 768)	E
• 22" touch (1 920 x 1 080)	F
<u>Processor</u>	
• Intel Atomx6413E Processor (4-core)/audio	A
• Intel Atomx6413E Processor (4-core)/TPM/audio	B
• Intel Atomx6413E Processor (4-core)	C
• Intel Atomx6413E Processor (4-core) audio	D
<u>Work memory</u>	
• 4 GB RAM	2
• 8 GB RAM	3
• 16 GB RAM	4
<u>Expansions/interfaces</u>	
• 2x COM	1
• 4x COM	2
<u>Operating system</u>	
• Without operating system	0
• Windows 10 Enterprise LTSC 2019, 64-bit MUI (de, en, fr, es, it)	2
<u>Drives</u>	
• None	A
• 256 GB SSD	B
• 512 GB SSD	C
<u>Power supply</u>	
• 24 V DC	A

Ordering data	Article No.	Article No.
<p><i>Preferred variants (available directly ex stock)</i></p> <p><b>SIMATIC IPC377G</b></p> <p><b>12"</b> 12" touch (1 280 x 800); Processor: Intel Atomx6413E (up to 3.0 GHz); Drives: SATA/NvME; without mass storage; Main memory: 4 GB RAM (1x 4 GB); Without operating system</p>	<b>6AV7231-0CC21-0AA0</b>	<b>19"</b> 19" touch (1 366 x 768); Processor: Intel Atomx6413E (up to 3.0 GHz); Drives: SATA/NvME; 256G SSD; Main memory: 4 GB DRAM (1x 4 GB); Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es)
<p><b>12"</b> 12" touch (1 280 x 800); Processor: Intel Atomx6413E (up to 3.0 GHz); Drives: SATA/NvME; 256G SSD; Main memory: 4 GB DRAM (1x 4 GB); Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es)</p>	<b>6AV7231-0CC21-2BA0</b>	<b>22"</b> 22" touch (1 920 x 1 080); built-in unit; Atom x6413E (up to 3.9 GHz); 4 GB RAM; 4x USB+2x COM; Windows10 Enterprise 2019 LTSC; 64-bit; MUI (en, de, fr, it, es); 256 GB SSD; 2x DisplayPort graphics; without audio; 2x 10/100/1000 Mbps Ethernet RJ45; 4x USB 3.1; 3x USB 2.0; 4x serial ports (COM); 2x M.2 modules; 24 V DC power supply
<p><b>15"</b> 15" touch (1 366 x 768); Processor: Intel Atomx6413E (up to 3.0 GHz); Drives: SATA/NvME; without mass storage; Main memory: 4 GB DRAM (1x 4 GB); Without operating system</p>	<b>6AV7231-0DC21-0AA0</b>	<b>22"</b> 22" touch (1 920 x 1 080); built-in unit; Atom x6413E (up to 3.9 GHz); 8 GB RAM; 4x USB+2x COM; Windows10 Enterprise 2019 LTSC; 64-bit; MUI (en, de, fr, it, es); 256 GB SSD; 2x DisplayPort graphics; without audio; 2x 10/100/1000 Mbps Ethernet RJ45; 4x USB 3.1; 3x USB 2.0; 4x serial ports (COM); 2x M.2 modules; 24 V DC power supply
<p><b>15"</b> 15" touch (1 366 x 768); Processor: Intel Atomx6413E (up to 3.0 GHz); Drives: SATA/NvME; 256G SSD; Main memory: 4 GB DRAM (1x 4 GB); Windows 10 Enterprise LTSC 2019, 64-bit, MUI (de, en, fr, it, es)</p>	<b>6AV7231-0DC21-2BA0</b>	<b>6AV7231-0FC31-2BA0</b>

## PC-based Automation

Industrial PC

Panel PC

### SIMATIC IPC377G

#### Technical specifications

Article number	<b>6AV7231-0....-...0</b> SIMATIC IPC377G
<b>General information</b>	
Product type designation	IPC377G
<b>Installation type/mounting</b>	
Mounting	Panel mount and VESA, horizontal and vertical
Design	Panel PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	10 ms
<b>Processor</b>	
Processor type	Intel Atom X6413E
<b>Memory</b>	
Type of memory	DDR4
Main memory	4 GB, 8 GB, 16 GB
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x M.2
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Protocols</b>	
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD
• Fan	No

Article number	<b>6AV7231-0....-...0</b> SIMATIC IPC377G
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP40
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
BSMI	Yes
Dust protection	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 50 °C
<b>Relative humidity</b>	
• Relative humidity	max. 85% at 30 °C, no condensation, gradient ≤ 10 °C/h
• Operation, max.	85 %
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms
<b>Operating systems</b>	
without operating system	Yes
<b>Dimensions</b>	
Width	652 mm
Height	443 mm
Depth	209 mm

**Technical specifications**

Article number	6AV7231-0CC21-0AA0	6AV7231-0CC21-2BA0	6AV7231-0DC21-0AA0	6AV7231-0DC21-2BA0	6AV7231-0EC21-2BA0	6AV7231-0FC21-2BA0	6AV7231-0FC31-2BA0
	SIMATIC IPC377G	SIMATIC IPC377G	SIMATIC IPC377G	SIMATIC IPC377G	SIMATIC IPC377G	SIMATIC IPC377G	SIMATIC IPC377G
<b>General information</b>							
Product type designation	IPC377G	IPC377G	IPC377G	IPC377G	IPC377G	IPC377G	IPC377G
<b>Installation type/mounting</b>							
Mounting	Panel mount and VESA, horizontal and vertical	Panel mount and VESA, horizontal and vertical	Panel mount and VESA, horizontal and vertical	Panel mount and VESA, horizontal and vertical	Panel mount and VESA, horizontal and vertical	Panel mount and VESA, horizontal and vertical	Panel mount and VESA, horizontal and vertical
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
<b>Supply voltage</b>							
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>							
• Mains/voltage failure stored energy time	10 ms	10 ms	10 ms	10 ms	10 ms	10 ms	10 ms
<b>Processor</b>							
Processor type	Intel Atom X6413E	Intel Atom X6413E	Intel Atom X6413E	Intel Atom X6413E	Intel Atom X6413E	Intel Atom X6413E	Intel Atom X6413E
<b>Memory</b>							
Type of memory	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4
Main memory	4 GB, 8 GB, 16 GB	4 GB, 8 GB, 16 GB	4 GB, 8 GB, 16 GB	4 GB, 8 GB, 16 GB	4 GB, 8 GB, 16 GB	4 GB, 8 GB, 16 GB	4 GB, 8 GB, 16 GB
<b>Hardware configuration</b>							
<b>Slots</b>							
• free slots	2x M.2	2x M.2	2x M.2	2x M.2	2x M.2	2x M.2	2x M.2
<b>Interfaces</b>							
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)
<b>Video interfaces</b>							
• Graphics interface	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort
<b>Industrial Ethernet</b>							
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Protocols</b>							
<b>Protocols (Ethernet)</b>							
• TCP/IP	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>							
<b>Monitoring functions</b>							
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Status LEDs	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD
• Fan	No	No	No	No	No	No	No
<b>EMC</b>							
<b>Interference immunity against discharge of static electricity</b>							
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>							
• Interference immunity against high frequency radiation	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3						
<b>Degree and class of protection</b>							
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP40	IP40	IP40	IP40	IP40	IP40	IP40

**PC-based Automation**Industrial PC  
Panel PC**SIMATIC IPC377G****More information**

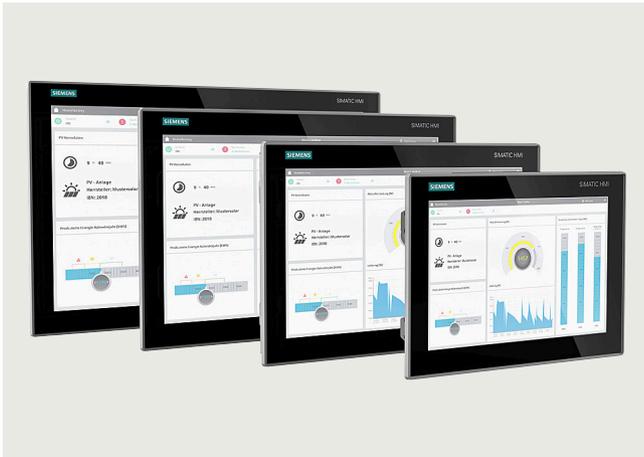
Article number	<b>6AV7231-0CC21-0AA0</b> SIMATIC IPC377G	<b>6AV7231-0CC21-2BA0</b> SIMATIC IPC377G	<b>6AV7231-0DC21-0AA0</b> SIMATIC IPC377G	<b>6AV7231-0DC21-2BA0</b> SIMATIC IPC377G	<b>6AV7231-0EC21-2BA0</b> SIMATIC IPC377G	<b>6AV7231-0FC21-2BA0</b> SIMATIC IPC377G	<b>6AV7231-0FC31-2BA0</b> SIMATIC IPC377G
<b>Standards, approvals, certificates</b>							
CE mark	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CSA approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BSMI	Yes						
Dust protection	Protection against foreign bodies > 1 mm						
<b>Ambient conditions</b>							
<b>Ambient temperature during operation</b>							
• Ambient temperature during operation	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C
<b>Relative humidity</b>							
• Operation, max.	85 %	85 %	85 %	85 %	85 %	85 %	85 %
<b>Vibrations</b>							
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s <sup>2</sup>
<b>Shock testing</b>							
• Shock load during operation	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms	tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms; 5 g, 30 ms
<b>Operating systems</b>							
without operating system	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**More information**

More information is available on the internet at

<http://www.siemens.com/simatic-panel-pc>

**Overview**



SIMATIC Panel PC IPC PX-39A

**SIMATIC IPC PX-39A**

SIMATIC IPC PX-39A (Micropanel PC): The powerful Panel IPC – maintenance-free with versatile configuration.

Ready-to-run, complete solution:

- Ultra-compact
- Maintenance-free
- Intel CPU technology of the 11th generation.

**Ordering data**

**Article No.**

**Article No.**

**SIMATIC IPC PX-39A (Panel PC)**

**6AV7242**

Processor

- Intel® Celeron® 6600HLE  
2 cores/2 threads, 2.1 GHz,  
8 MB cache, TCC
- Intel® Xeon® W-11155MLE  
4 cores/8 threads, 1.8 (3.1) GHz,  
8 MB cache, ECC, TCC
- Intel® Xeon® W-11555MLE  
6 cores/12 threads,  
1.9 (4.4) GHz, 12 MB cache,  
vPro, ECC, TCC
- Intel® Xeon® W-11555MLE  
6 cores/12 threads,  
1.9 (4.4) GHz, 12 MB cache,  
vPro, ECC, TCC

1	
3	
5	
7	

Front Panel

- 15" multi-touch (1920 x 1080)
- 19" multi-touch (1920 x 1080)
- 22" multi-touch (1920 x 1080)
- 24" multi-touch (1920 x 1080)
- 15" multi-touch neutral (1920 x 1080)
- 19" multi-touch neutral (1920 x 1080)
- 22" multi-touch neutral (1920 x 1080)
- 24" multi-touch neutral (1920 x 1080)

A	
B	
C	
D	
L	
M	
N	
P	

Work memory/ECC

- 4 GB
- 8 GB
- 16 GB
- 32 GB
- 16 GB with ECC
- 32 GB with ECC

A	
B	
C	
D	
E	
F	

**SIMATIC IPC PX-39A (Panel PC)**

**6AV7242**

1st mass storage in SIMATIC Slider (incl. OS)

- Without 1st mass storage
- M.2 SSD 256 GB Eco
- M.2 SSD 512 GB Eco

0	
1	
2	

2nd mass storage in SIMATIC Slider (incl. OS)

- Without 2nd mass storage
- M.2 SSD 256 GB Eco
- M.2 SSD 512 GB Eco

0	
1	
2	

Software configuration

- Without operating system (Edge option with operating system)
- Windows 10 Enterprise 2021 LTSC with Celeron, W-11155MLE, W-11555MLE processors
- Windows 10 Enterprise 2021 LTSC with W-11865MLE processor

0	
1	
2	

Option 1

- Without option 1
- With 1 x PCIe
- With 1 x Com (RS232/485/422)
- With 1 x PCIe and 1 x Com (RS232/485/422)

A	
B	
C	
D	

Option 2

- Without USB flash drive (restore image; D&D)
- With USB flash drive (restore image; D&D)

A	
B	

Power supply

- 24 V DC industrial power supply incl. TPM <sup>2)</sup>
- 24 V DC industrial power supply incl. TPM <sup>2)</sup>
- 110/230V AC Industrial PS with Namur; with power cable Europe incl. TPM <sup>2)</sup>

0	
2	
3	

<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator: <http://www.siemens.com/ipc-configurators>

<sup>2)</sup> TPM = Trusted Platform Module

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

# PC-based Automation

Industrial PC  
Panel PC

## SIMATIC IPC PX-39A

### Technical specifications

Article number	<b>6AV7242-.....-....</b> SIMATIC IPC PX-39A
<b>Installation type/mounting</b>	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel® Celeron 6600HLE (2.1 GHz, 2C/2T) Intel® Xeon W-11155MLE (1.8/3.1 GHz, 4C/8T) Intel® Xeon W-11555MLE (1.9/4.4 GHz, 6C/12T) Intel® Xeon W-11865MLE (1.5/4.5 GHz, 8C/16T)
Chipset	Intel® RM590E
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller
<b>Drives</b>	
Hard disk	M.2 SSD ≥ 240 GB
SSD	Yes; ≥ 240 GB optional
<b>Memory</b>	
Type of memory	DDR4-3200 SO-DIMM
Main memory	4 / 8 / 16 / 32 GB; ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x PCIe; optional: 1x PCIe (x4), with card retainer
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	4; 4x Gigabit Ethernet (IE/PN)
USB port	4x USB 3.2 Gen2
Connection for keyboard/mouse serial interface	USB / USB 1x / 2x (optional) COM (RS 232 / 485 / 422; selectable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	4x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	No
• Fan	No
• Monitoring function via network	Optional

Article number	<b>6AV7242-.....-....</b> SIMATIC IPC PX-39A
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	IEC 61000-6-4, CAN/CSA CISPR 32 class B, FCC class A
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes; UL 61010-2-201 Second Edition, File E85972
• UL 508	No
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	No; in preparation
EAC (formerly Gost-R)	Yes
FCC	Yes
BSMI	No; in preparation
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, CAN/CSA CISPR 32 class A, EN 55032 class B, FCC class A, KN32
<b>Use in hazardous areas</b>	
• ATEX Zone 2	No; in preparation
• IECEx Zone 2	No; in preparation
• cULus Class I Zone 2, Division 2	No; in preparation

## Technical specifications

Article number	6AV7242-.....-..... SIMATIC IPC PX-39A	Article number	6AV7242-.....-..... SIMATIC IPC PX-39A
<b>Marine approval</b>		<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Germanischer Lloyd (GL)</li> <li>American Bureau of Shipping (ABS)</li> <li>Bureau Veritas (BV)</li> <li>Det Norske Veritas (DNV)</li> <li>Korean Register of Shipping (KRS)</li> <li>Lloyds Register of Shipping (LRS)</li> <li>Nippon Kaiji Kyokai (Class NK)</li> </ul>	<ul style="list-style-type: none"> <li>No; in preperation</li> </ul>	<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	<ul style="list-style-type: none"> <li>tested according to IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s<sup>2</sup></li> </ul>
<b>Ambient conditions</b>		<b>Shock testing</b>	
<b>Ambient temperature during operation</b>		<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	<ul style="list-style-type: none"> <li>Tested according to IEC 60068-2-27: 150 m/s<sup>2</sup>, 11 ms</li> </ul>
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C to 50 °C	<b>Operating systems</b>	
<b>Relative humidity</b>		pre-installed operating system	Windows 10 IoT Enterprise 2021 LTSC, Industrial OS
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	<ul style="list-style-type: none"> <li>Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)</li> </ul>	without operating system	Yes; Optional
<ul style="list-style-type: none"> <li>Operation, max.</li> </ul>	85 %	<b>Software</b>	
		SIMATIC Software	Optional package with SIMATIC WinCC

# PC-based Automation

Industrial PC  
Panel PC

## SIMATIC IPC477E

### Overview



### **SIMATIC IPC477E: The powerful embedded Panel PC – maintenance-free with versatile configuration**

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to even the harshest mechanical stress and extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability
- Built-in versions
  - 15" TFT touch
  - 19" TFT touch
  - 22" TFT touch
  - 15" TFT multi-touch
  - 19" TFT multi-touch
  - 22" TFT multi-touch
  - 24" TFT multi-touch

### Ordering data

### Article No.

#### SIMATIC IPC477E <sup>1)</sup>

6AV7241 -

#### Processor and fieldbus

- Celeron G3902E;  
3 x Gigabit Ethernet (IE/PN)
- Core i3-6102E;  
3 x Gigabit Ethernet (IE/PN)
- Core i5-6442EQ;  
3 x Gigabit Ethernet (IE/PN)
- Xeon E3-1505L;  
3 x Gigabit Ethernet (IE/PN)

1  
3  
5  
7

#### Operating unit

- 15" single-touch  
(1 280 x 800) with front USB
- 19" single-touch  
(1 366 x 768) with front USB
- 22" single-touch  
(1 920 x 1 080) with front USB
- 19" multi-touch  
(1 920 x 1 080), single-touch mode only with WES7-E
- 15" multi-touch  
(1 366 x 768), single-touch mode only with WES7-E
- 19" multi-touch  
(1 366 x 768), single-touch mode only with WES7-E
- 22" multi-touch  
(1 920 x 1 080), single-touch mode only with WES7-E
- 24" multi-touch  
(1 920 x 1 080), single-touch mode only with WES7-E

B  
D  
E  
G  
J  
K  
L  
R

#### Work memory/NVRAM

- 4 GB
- 8 GB
- 16 GB
- 8 GB with ECC
- 16 GB with ECC
- 4 GB and NVRAM
- 8 GB and NVRAM
- 16 GB and NVRAM
- 8 GB with ECC and NVRAM
- 16 GB with ECC and NVRAM

A  
B  
C  
D  
E  
F  
G  
H  
J  
K

#### Expansions/interfaces

- No RS232/RS485, without PCIe
- No RS232/RS485 and one PCIe
- Second RS232/RS485, without PCIe
- Second RS232/RS485 and one PCIe
- No RS232, without PCIe with ATEX/IECEx Cat 3G Zone 2
- No RS232 and one PCIe with ATEX/IECEx Cat 3G Zone 2
- Two RS232 without PCIe with ATEX/IECEx Cat 3G Zone 2
- Two RS232 and one PCIe with ATEX/IECEx Cat 3G Zone 2

0  
1  
3  
4  
5  
6  
7  
8

Ordering data	Article No.	Article No.
<b>SIMATIC IPC477E <sup>1)</sup></b>	<b>6AV7241 -</b>	<b>6AV7241 -</b>
<u>Operating system</u>		
• Without operating system	0	
• Windows Embedded Standard 7 SP1, English, 32-bit	1	
• Windows Embedded Standard 7 SP1, English, 64-bit	2	
• Windows Embedded Standard 7 P SP1, English, 64-bit, multi-touch	3	
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	4	
• Windows 10 IoT Enterprise 2019 LTSC (64-bit) for Celeron, Core i3 and Core i5 processors	5	
• Windows 10 IoT Enterprise 2019 LTSC (64-bit) for Xeon processor	6	
• Windows 10 Enterprise 2016 LTSB (64-bit) for Celeron, Core i3 and Core i5 processors	7	
• Windows 10 Enterprise 2016 LTSB (64-bit) for Xeon processor	8	
<u>Mass storage, externally accessible</u>		
• Without external mass storage	0	
• CFast 2 GB, without operating system	1	
• CFast 4 GB, without operating system	2	
• CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD)	3	
• CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD)	4	
• CFast 128 GB (only optionally with operating system/software if no internal mass storage or HDD)	5	
<u>Mass storage, internal</u>		
• Without internal mass storage		A
• 256 GB Eco solid-state drive		D
• 240 GB solid-state drive SATA		F
• 480 GB solid-state drive SATA		G
• 320 GB HDD		J
<b>SIMATIC IPC477E <sup>1)</sup></b>	<b>6AV7241 -</b>	<b>6AV7241 -</b>
<u>SIMATIC Software</u>		
• Without SIMATIC Software		A
<u>Power supply:</u>		
• 24 V DC industrial power supply		0
• 110/230 V AC industrial power supply unit with NAMUR; without power cable		1
• 110/230 V AC industrial power supply unit with NAMUR; European power supply cord		2
• 110/230 V AC industrial power supply unit with TPM NAMUR; without power cable		6
• 110/230 V AC industrial power supply unit with TPM NAMUR; European power supply cord		7
• 24 V DC industrial power supply and TPM <sup>2)</sup>		8

<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator: <http://www.siemens.com/ipc-configure>

<sup>2)</sup> TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

<http://www.siemens.com/ipc-configure>

## PC-based Automation

Industrial PC  
Panel PC

### SIMATIC IPC477E

#### Technical specifications

Article number	<b>6AV7241-.....-....</b> SIMATIC IPC 477E
<b>Installation type/mounting</b>	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)
Chipset	Intel C236 / Intel H110
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller
<b>Drives</b>	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 128 / 240 / 480 GB
<b>Memory</b>	
Type of memory	DDR4-2400 SO-DIMM
Main memory	4 / 8 / 16 GB, ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	<b>6AV7241-.....-....</b> SIMATIC IPC 477E
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	No
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20

**Technical specifications**

Article number	6AV7241-.....-..... SIMATIC IPC 477E
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes; Optional, only with Multitouch
• IECEx Zone 2	Yes; Optional, only with Multitouch
• cULus Class I Zone 2, Division 2	Yes; Optional, only with Multitouch
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes

Article number	6AV7241-.....-..... SIMATIC IPC 477E
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 45 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup> (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> (hard disk)
<b>Shock testing</b>	
• Shock load during operation	IEC 60068-2-27; 150 m/s <sup>2</sup> , 11 ms (without hard disk); 50 m/s <sup>2</sup> , 30 ms (with hard disk)
<b>Operating systems</b>	
pre-installed operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
without operating system	Yes; Optional
<b>Software</b>	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle

# PC-based Automation

Industrial PC

Panel PC

## SIMATIC IPC477E

### Technical specifications

Article number	<b>6AV7241-.B...-....</b>	<b>6AV7241-.D...-....</b>	<b>6AV7241-.E...-....</b>	<b>6AV7241-.G...-....</b>	<b>6AV7241-.J...-....</b>	<b>6AV7241-.K...-....</b>	<b>6AV7241-.L...-....</b>	<b>6AV7241-.R...-....</b>	<b>6AV7241-.S...-....</b>
	SIMATIC IPC477E 15" ST (1280 x 800)	SIMATIC IPC477E 19" ST (1366 x 768)	SIMATIC IPC477E 22" ST (1920 x 1080)	SIMATIC IPC 477E (1920 x 1080)	SIMATIC IPC477E 15" MT (1366 x 768)	SIMATIC IPC477E 19" MT (1366 x 768)	SIMATIC IPC477E 22" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920x1080) neutr
<b>Display</b>									
Design of display	15" TFT touch	19" TFT touch	22" TFT touch		15" TFT multi-touch	19" TFT multi-touch	22" TFT multi-touch	24" TFT multi-touch	24" TFT multi-touch
Screen diagonal	15.6 in	18.5 in	21.5 in	18.5 in	15.6 in	18.5 in	21.5 in	23.8 in	23.8 in
<b>Resolution (pixels)</b>									
• Horizontal image resolution	1 280 pixel	1 366 pixel	1 920 pixel	1 920 pixel	1 366 pixel	1 366 pixel	1 920 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	800 pixel	768 pixel	1 080 pixel	1 080 pixel	768 pixel	768 pixel	1 080 pixel	1 080 pixel	1 080 pixel
<b>Backlighting</b>									
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	30 000 h		50 000 h	50 000 h	30 000 h	30 000 h	30 000 h
<b>Control elements</b>									
<b>Input device</b>									
• Mouse, at front	Front USB 2.0 (500mA)	No	No		No	No	No	No	No
<b>Keyboard fonts</b>									
• Function keys	No	No	No		No	No	No	No	No
• alphanumeric keyboard	No	No	No		No	No	No	No	No
<b>Touch operation</b>									
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive						
• Design as multi-touch screen					Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
<b>Installation type/mounting</b>									
Mounting	For horizontal and vertical mounting								
Design	Panel PC, built-in unit								
central design	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
distributed design	No	No	No		No	No	No	No	No
Mounting in portrait format possible	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>									
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC								
<b>Line frequency</b>									
• Rated value 50 Hz	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
<b>Mains buffering</b>									
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms		20 ms				
<b>Power loss</b>									
In full configuration	24 V DC: max. 65 W, PCIe APCB additionally 5 W	24 V DC: max. 65 W, PCIe APCB additionally 5 W	24 V DC: max. 74 W, PCIe APCB additionally 5 W		24 V DC: max. 88 W, 110 ... 230 V AC	24 V DC: max. 82 W, 110 ... 230 V AC	24 V DC: max. 88 W, 110 ... 230 V AC	24 V DC: max. 88 W, 110 ... 230 V AC	24 V DC: max. 88 W, 110 ... 230 V AC
<b>Processor</b>									
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)								
Chipset	Intel C236 / Intel H110								
<b>Graphic</b>									
Graphics controller	Intel HD graphics controller								
<b>Drives</b>									
Hard disk	2.5" SATA ≥ 320 GB								
SSD	Yes; 128 / 240 / 480 GB								

## Technical specifications

Article number	6AV7241- .B...-....	6AV7241- .D...-....	6AV7241- .E...-....	6AV7241- .G...-....	6AV7241- .J...-....	6AV7241- .K...-....	6AV7241- .L...-....	6AV7241- .R...-....	6AV7241- .S...-....
	SIMATIC IPC477E 15" ST (1280 x 800)	SIMATIC IPC477E 19" ST (1366 x 768)	SIMATIC IPC477E 22" ST (1920 x 1080)	SIMATIC IPC 477E (1920 x 1080)	SIMATIC IPC477E 15" MT (1366 x 768)	SIMATIC IPC477E 19" MT (1366 x 768)	SIMATIC IPC477E 22" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920x1080) neutr
<b>Memory</b>									
Type of memory	DDR4-2400 SO-DIMM								
Main memory	4 / 8 / 16 GB, ECC optional								
<b>Data areas and their retentivity</b>									
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional								
<b>Hardware configuration</b>									
<b>Slots</b>									
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card								
<b>Interfaces</b>									
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)		3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0	4x USB 3.0	4x USB 3.0		4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB	USB / USB	USB / USB		USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS								
<b>Video interfaces</b>									
• Graphics interface	2x DisplayPort	2x DisplayPort	2x DisplayPort		2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort
<b>Industrial Ethernet</b>									
• Industrial Ethernet interface	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)		3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>									
<b>Monitoring functions</b>									
• Temperature monitoring	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Fan	No	No	No		No	No	No	No	No
• Monitoring function via network	Optional	Optional	Optional		Optional	Optional	Optional	Optional	Optional
<b>EMC</b>									
<b>Interference immunity against discharge of static electricity</b>									
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2								
<b>Interference immunity against high-frequency electromagnetic fields</b>									
• Interference immunity against high frequency radiation	10 V/m, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz acc. to IEC 61000-4-6								
<b>Interference immunity to cable-borne interference</b>									
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric								
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m								
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m								
<b>Interference immunity against voltage surge</b>									
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric								
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric								

# PC-based Automation

Industrial PC  
Panel PC

## SIMATIC IPC477E

### Technical specifications

Article number	6AV7241- .B...-....	6AV7241- .D...-....	6AV7241- .E...-....	6AV7241- .G...-....	6AV7241- .J...-....	6AV7241- .K...-....	6AV7241- .L...-....	6AV7241- .R...-....	6AV7241- .S...-....
	SIMATIC IPC477E 15" ST (1280 x 800)	SIMATIC IPC477E 19" ST (1366 x 768)	SIMATIC IPC477E 22" ST (1920 x 1080)	SIMATIC IPC 477E 19" MT (1920 x 1080)	SIMATIC IPC477E 15" MT (1366 x 768)	SIMATIC IPC477E 19" MT (1366 x 768)	SIMATIC IPC477E 22" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920x1080) neutr
<b>Interference immunity to magnetic fields</b>									
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8		100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>									
• Interference emission via line/ AC current cables	EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A	EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A	EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A		EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A	EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A	EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A	EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A		EN 61000- 6-3, EN 61000- 6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>									
IP (at the front)	IP65	IP65	IP65		IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20		IP20	IP20	IP20	IP20	IP20
<b>Standards, approvals, certificates</b>									
CE mark	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
CSA approval	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A								
<b>Use in hazardous areas</b>									
• ATEX Zone 2	Yes; Optional, only with Multitouch								
• IECEx Zone 2	Yes; Optional, only with Multitouch								
• cULus Class I Zone 2, Division 2	Yes; Optional, only with Multitouch								
<b>Marine approval</b>									
• Germanischer Lloyd (GL)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Korean Register of Shipping (KRS)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>									
<b>Ambient temperature during operation</b>									
• Ambient temperature during operation	0 °C to 45 °C								
<b>Relative humidity</b>									
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)								
<b>Vibrations</b>									
• Vibration resistance during operation acc. to IEC 60068-2-6	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup> (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> (hard disk)								
<b>Shock testing</b>									
• Shock load during operation	IEC 60068-2-27; 150 m/s <sup>2</sup> , 11 ms (without hard disk); 50 m/s <sup>2</sup> , 30 ms (with hard disk)								

## Technical specifications

Article number	6AV7241- .B...-....	6AV7241- .D...-....	6AV7241- .E...-....	6AV7241- .G...-....	6AV7241- .J...-....	6AV7241- .K...-....	6AV7241- .L...-....	6AV7241- .R...-....	6AV7241- .S...-....
	SIMATIC IPC477E 15" ST (1280 x 800)	SIMATIC IPC477E 19" ST (1366 x 768)	SIMATIC IPC477E 22" ST (1920 x 1080)	SIMATIC IPC 477E (1920 x 1080)	SIMATIC IPC477E 15" MT (1366 x 768)	SIMATIC IPC477E 19" MT (1366 x 768)	SIMATIC IPC477E 22" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920 x 1080)	SIMATIC IPC477E 24" MT (1920x1080) neutr
<b>Operating systems</b>									
pre-installed operating system	Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10		Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate (Multi- Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
without operating system	Yes; Optional	Yes; Optional	Yes; Optional		Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
<b>Software</b>									
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle								
<b>Dimensions</b>									
Width of the housing front	415 mm	483 mm	560 mm	464 mm	398 mm	464 mm	529 mm	585 mm	585 mm
Height of housing front	310 mm	337 mm	380 mm		257 mm	294 mm	331 mm	363 mm	363 mm
<b>Weights</b>									
Weight, approx.	6.8 kg	8.4 kg	9.5 kg		5.2 kg	6.6 kg	7.9 kg	9 kg	9 kg

### More information

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. The SIMATIC IPC online configurator offers a current overview:

<http://www.siemens.com/ipc-configurators>

# PC-based Automation

Industrial PC  
Panel PC

## SIMATIC IPC677E

### Overview



### **SIMATIC IPC677E: The high-end Panel PC – with maximum performance, functional scope and expansion capability**

Industrial PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation.

Rugged construction: The IPC is resistant to even the harshest mechanical stress and extremely reliable in operation.

- Compact design
- High degree of investment security
- High degree of expandability

The following widescreen front variants are available:

- 19", 22" or 24" capacitive multi-touch color display

### Ordering data

### Article No.

#### SIMATIC IPC677E <sup>1)</sup>

UHD graphics onboard;  
2x DP; 1x DVI-D;  
3x Gigabit Ethernet (IE/PN) RJ45;  
6x USB 3.1 Gen. 2;  
1x serial (COM1);  
RAID controller onboard;  
watchdog, temperature/fan  
monitoring

#### Operating unit

- 19" multi-touch (1 920 x 1 080)
- 22" multi-touch (1 920 x 1 080)
- 24" multi-touch (1 920 x 1 080)

#### Processor

- Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d);
- Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); NVRAM
- Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d)
- Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); NVRAM
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT); NVRAM

#### Drives

- HDD 2.5" SATA 320 GB internal
- SSD 2.5" SATA 480 GB internal
- SSD 2.5" SATA 960 GB internal
- RAID1 2x SSD 2.5" SATA 480 GB internal
- RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
- RAID1 2x SSD 2.5" SATA 960 GB in removable drive bay
- M.2 SSD NVMe 512 GB
- M.2 SSD NVMe 512 GB; HDD 2.5" SATA 320 GB internal
- M.2 SSD NVMe 512 GB; SSD 2.5" SATA 480 GB internal
- M.2 SSD NVMe 512 GB; SSD 2.5" SATA 960 GB internal
- M.2 SSD NVMe 512 GB; RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
- M.2 SSD NVMe 512 GB; 2 removable drive bays without media

Article No.	Ordering data
6AV7261 -	SIMATIC IPC677E <sup>1)</sup>
0	Operating unit
1	19" multi-touch (1 920 x 1 080)
2	22" multi-touch (1 920 x 1 080)
A	Processor
B	Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d);
C	Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); NVRAM
D	Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d)
E	Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); NVRAM
G	Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
H	Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT); NVRAM
A	Drives
B	HDD 2.5" SATA 320 GB internal
D	SSD 2.5" SATA 480 GB internal
E	SSD 2.5" SATA 960 GB internal
G	RAID1 2x SSD 2.5" SATA 480 GB internal
H	RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
J	RAID1 2x SSD 2.5" SATA 960 GB in removable drive bay
K	M.2 SSD NVMe 512 GB
L	M.2 SSD NVMe 512 GB; HDD 2.5" SATA 320 GB internal
M	M.2 SSD NVMe 512 GB; SSD 2.5" SATA 480 GB internal
Q	M.2 SSD NVMe 512 GB; SSD 2.5" SATA 960 GB internal
S	M.2 SSD NVMe 512 GB; RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
S	M.2 SSD NVMe 512 GB; 2 removable drive bays without media

**Ordering data****Article No.****Article No.****SIMATIC IPC677E <sup>1)</sup>****6AV7261 -**Memory configuration

- 4 GB DDR4-2666 (1x 4 GB)
- 8 GB DDR4-2666 (2x 4 GB)
- 16 GB DDR4-2666 (2x 8 GB)
- 32 GB DDR4-2666 (2x 16 GB)
- 64 GB DDR4-2666 (4x 16 GB)

0  
1  
2  
3  
4Power supply

- 24 V DC industrial power supply
- 110/230 V AC industrial power supply unit with NAMUR; without power cable
- 110/230 V AC industrial power supply unit with NAMUR; power supply cord Europe
- 110/230 V AC industrial power supply unit with NAMUR; power supply cord USA
- 110/230 V AC industrial power supply unit with NAMUR; power supply cord China
- 24 V DC industrial power supply; ATEX/IECE/UL HazLoc device certification

0  
1  
2  
3  
4  
6Operating system

- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es); for Celeron and i3
- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es); for Core i7
- Windows 10 IoT Enterprise 2019 LTSC, 64-bit, MUI (en, de, fr, it, es); for Celeron and i3
- Windows 10 IoT Enterprise 2019 LTSC, 64-bit, MUI (en, de, fr, it, sp); for Core i7
- Without operating system

0  
1  
2  
3  
8<sup>1)</sup> Production and delivery as per order<sup>2)</sup> TPM = Trusted Platform ModuleNote:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

For an up-to-date overview, see the SIMATIC IPC online configurator at:

<http://www.siemens.com/ipc-configurators>

**SIMATIC IPC677E <sup>1)</sup>****6AV7261 -**Expansion (SW)

- Without expansion
- SIMATIC IPC DiagMonitor included
- SIMATIC IPC Image & Partition Creator included
- SIMATIC IPC DiagMonitor, Image & Partition Creator included
- TPM <sup>2)</sup>

A  
B  
C  
D  
XExpansion 1 (HW)

- Without expansion (HW)
- 2x USB 2.0 (1 slot occupied)
- Device without CMOS battery (CR2450N)

A  
B  
CExpansion 2 (HW)

- 2 x PCI
- 1 x PCIe (x16); 1 x PCI
- 1 x PCIe (x16); 1 x PCIe (x4)

0  
1  
2Accessories**Memory expansion**

- 4 GB DDR4 2666 SDRAM, DIMM
- 8 GB DDR4 2666 SDRAM, DIMM
- 16 GB DDR4 2666 SDRAM, DIMM

**6ES7648-2AL60-0QA0**  
**6ES7648-2AL70-0QA0**  
**6ES7648-2AL80-0QA0****Non-heating apparatus cable for SIMATIC Box and Panel PC**

SIMATIC PC power cable, 230 V AC, angled, 3 m, for:

- Germany
- United Kingdom
- Switzerland
- USA
- Italy
- China

**6ES7900-1AA00-0XA0**  
**6ES7900-1BA00-0XA0**  
**6ES7900-1CA00-0XA0**  
**6ES7900-1DA00-0XA0**  
**6ES7900-1EA00-0XA0**  
**6ES7900-1FA00-0XA0****Touch pen**

See "SIMATIC HMI accessories -&gt; Input tools"

**Expansion components**

See Expansion components

**Communication components**

See Expansion components

**PC-based Automation**Industrial PC  
Panel PC**SIMATIC IPC677E****Technical specifications**

Article number	<b>6AV7261-.....-....</b> SIMATIC IPC677E (Panel PC)
<b>Installation type/mounting</b>	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	10 ms
<b>Processor</b>	
Processor type	Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
Chipset	Intel C246
<b>Graphic</b>	
Graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
<b>Drives</b>	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; SSD M.2 NVMe 512 GB; SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB in removable drive bay
<b>Memory</b>	
Type of memory	DDR4-2666 DIMM
Main memory	4 / 8 / 16 / 32 / 64 GB
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	6x USB 3.1 Gen. 2 (2x type C)
Connection for keyboard/mouse serial interface	USB / USB 1x COM
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort; 1x DVI-D
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	<b>6AV7261-.....-....</b> SIMATIC IPC677E (Panel PC)
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	1x power, 3x user
• Fan	Yes
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

**Technical specifications**

Article number	<b>6AV7261-.....-....</b> SIMATIC IPC677E (Panel PC)
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
<b>Marine approval</b>	
• American Bureau of Shipping (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes

Article number	<b>6AV7261-.....-....</b> SIMATIC IPC677E (Panel PC)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	+5 °C to +45 °C with full configuration
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>	
pre-installed operating system	Windows 10 Enterprise 2016 LTSCB or 2019 LTSC 64-bit, MUI
without operating system	Yes; Optional
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC

Article number	<b>6AV7261-0.....-....</b> SIMATIC IPC677E, 19" Multitouch	<b>6AV7261-1.....-....</b> SIMATIC IPC677E, 22" Multitouch	<b>6AV7261-2.....-....</b> SIMATIC IPC677E, 24" Multitouch
<b>Display</b>			
Design of display	19" TFT multi-touch	22" TFT multi-touch	24" TFT multi-touch
Screen diagonal	19 in	22 in	24 in
<b>Resolution (pixels)</b>			
• Horizontal image resolution	1 920 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	1 080 pixel	1 080 pixel	1 080 pixel
<b>Backlighting</b>			
• MTBF backlighting (at 25 °C)	50 000 h	30 000 h	30 000 h
<b>Control elements</b>			
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
<b>Installation type/mounting</b>			
central design	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes
<b>Power loss</b>			
In full configuration	155 W	165 W	165 W
<b>Dimensions</b>			
Width of the housing front	464 mm	529 mm	585 mm
Height of housing front	294 mm	331 mm	363 mm
<b>Weights</b>			
Weight, approx.	9.5 kg	10.5 kg	12.5 kg

**More information**

More information is available on the internet at:

<http://www.siemens.com/simatic-pc>

## PC-based Automation

Industrial PC  
Tablet PC

### SIMATIC Industrial Tablet PC

#### Overview



#### SIMATIC Industrial Tablet PC

The SIMATIC Industrial Tablet PC takes the performance of SIMATIC industry PCs to the tablet format.

With a large number of functional expansions such as a 1D/2D bar code reader or user identification by RFID, it taps diverse possibilities of use.

#### SIMATIC ITP1000: Industrial rugged PC

- High-quality components and modules with a high MTBF (mean time between failure), which also ensure 24-hour operation in the extended temperature range up to +45 °C
- Rugged enclosure designs with high electromagnetic compatibility (EMC)
- Hardware available in the long term

#### Powerful and many functions on board

- High-performance Intel Core i5-6442EQ or Intel Celeron G3902E notebook CPU
- Many interfaces on board: LAN, SD card reader, USB interfaces, RS232, audio
- WLAN and Bluetooth integrated
- RFID, bar code reader (1D/2D) and camera for a highly diverse range of mobile applications
- Windows 7 Ultimate 64-bit / Windows 10 IoT Enterprise 2016 LTSB (64-bit)

#### Ordering data

#### Article No.

Ordering data	Article No.
<b>SIMATIC ITP1000</b>	<b>6AV7880-</b>
<u>Operating unit</u>	
• 10" multi-touch (1 280 x 800) with 8 function keys	0
• 10" multi-touch (1 920 x 1 200) with 8 function keys	2
<u>Extras</u>	
• None	A
• Rear camera, 5 megapixels	B
• RFID reader	C
• Bar code reader (1D/2D)	D
• Camera and RFID	E
• Bar code reader and camera	F
• RFID and bar code reader	G
• Camera, RFID and bar code reader	H
<u>Mass storage</u>	
• 256 GB SSD	A
• 512 GB SSD	B
<u>Operating system</u>	
• None	0
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	1
• Windows10 IoT Enterprise 2016 LTSB, (64-bit) for Celeron i3 and i5 processors	2
<u>CPU</u>	
• Celeron G390 2E (2 MB cache, 1.60 GHz)	1
• Core i5-6442EQ (6 MB cache, up to 2.70 GHz)	2
<u>RAM</u>	
• 4 GB	0
• 8 GB	1
• 16 GB	2
<u>Power supply</u>	
• 110/230 V power supply unit, power cable for Europe	A
• 110/230 V power supply unit, power cable for UK	B
• 110/230 V power supply unit, power cable for CH	C
• 110/230 V power supply unit, power cable for the USA	D
• 110/230 V power supply unit, power cable for Italy	E
• 110/230 V power supply unit, power cable for China	F
<u>Spare software (included)</u>	
• None	A
<u>Rechargeable battery</u>	
• High-capacity lithium ion battery	2

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

## Technical specifications

Article number	<b>6AV7880-.....-...2</b> SIMATIC ITP1000
<b>General information</b>	
Design of the programming device	Tablet PC
<b>Display</b>	
Design of display	10" multi-touch
<b>Resolution (pixels)</b>	
• Horizontal image resolution	1 280 pixel; 1 920 pixels
• Vertical image resolution	800 pixel; 1 200 pixels
<b>General features</b>	
• Luminance	220 cd/m <sup>2</sup> ; 350 cd/m <sup>2</sup>
<b>Backlighting</b>	
• Type of backlighting	LED
<b>Control elements</b>	
<b>Keyboard fonts</b>	
• Design	Touch
<b>Touch operation</b>	
• Integrated touch pad	No
<b>Supply voltage</b>	
Design of the power supply	External wide-range power supply; 3-pole
<b>Line frequency</b>	
• permissible range, lower limit	47 Hz
• permissible range, upper limit	63 Hz
<b>Processor</b>	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB cache); Intel Core i5-6442EQ (6 MB cache, up to 2.70 GHz, iAMT)
Hyper-threading	No
Turbo Boost Technology 2.0	Yes
<b>Graphic</b>	
Graphics controller	Intel® HD graphics 530
<b>Drives</b>	
SSD	Yes
• Memory capacity	256 Gbyte; Up to 512 GB SSD
TPM Security Chip	Yes
<b>Memory</b>	
Type of memory	DDR4-SDRAM SO-DIMM
<b>Work memory</b>	
• integrated	4 Gbyte; 8 GB or 16 GB
<b>Accumulator</b>	
Replaceable	Yes; Lithium-ion battery
Capacity	5 900 mA·h
Battery runtime, min.	6 h; According to MobileMark 2014

Article number	<b>6AV7880-.....-...2</b> SIMATIC ITP1000
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	1
Number of RS 232 interfaces	1
Number of USB interfaces	3; USB 3.0
• Type A	2
• Type C	1
Bluetooth radio standard	Yes; V4.0
Multimedia card/SD card slot	2 in 1 (SDHC UHS-II, MMC)
Universal Audio Jack	Yes; Audio socket for 3.5 mm jack
<b>Video interfaces</b>	
• DisplayPort	Yes; DP 1.2 (Mini DisplayPort)
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	1x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
• IAMT (Intel Active Management Technology)	Yes
<b>WLAN</b>	
• Type	IEEE 802.11 a/b/g/n and ac
<b>Wireless transmission</b>	
• Protocol for wireless transmission	Legic Prime, Legic Advant, ISO 15693, ISO 14443 A/B
• Operating frequency (rated value)	13.56 MHz
• Range, max.	30 mm; Range depends on transponder
<b>Interrupts/diagnostics/status information</b>	
LED status display	Battery charge level, device status, access to drive, WLAN active, SD card, application LED
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes; ±4 kV contact discharge (to IEC 801-2/IEC 1000-4-2; ESD), ±8 kV air discharge (to IEC 801-2/IEC 1000-4-2; ESD)
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)
• Interference immunity on signal cables	±1 kV (according to IEC 61000-4-4, burst, length < 30 m); ±2 kV (according to IEC 61000-4-4, burst, length > 30 m); ±2 kV (according to IEC 61000-4-5, surge sym./line to ground, length > 30 m)

**PC-based Automation**

Industrial PC

Tablet PC

**SIMATIC Industrial Tablet PC****Technical specifications**

Article number	<b>6AV7880-.....-...2</b> SIMATIC ITP1000
<b>Degree and class of protection</b>	
IP degree of protection	IP40
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
DIN/ISO 9001	Yes
<b>Military use</b>	
• Conforms to MIL-STD-810G	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	5 °C; Max. 10 °C/h (no condensation)
• max.	45 °C; Max. 10 °C/h (no condensation)
<b>Operating systems</b>	
Local language of operating system	Multi-Language User Interface (MUI): 6 languages (English, German, French, Spanish, Italian, Chinese)
<b>pre-installed operating system</b>	
• Windows 7	Yes; Ultimate 64 bit, SP1
• Windows 10	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
<b>Software</b>	
<b>Preinstalled</b>	
• STEP 7 Professional 2010	No
• STEP 7 Professional (TIA Portal)	No
• STEP 7	No
• WinCC flexible Advanced 2008	No
• WinCC Advanced (TIA Portal)	No
• STEP 5	No

Article number	<b>6AV7880-.....-...2</b> SIMATIC ITP1000
<b>Mechanics/material</b>	
Material of housing	metal
• Magnesium alloy	Yes
Socket for Kensington lock	Yes
rubber corner guards	Yes
<b>Dimensions</b>	
Width	330 mm
Height	32 mm
Depth	214 mm
<b>Weights</b>	
Weight, approx.	1.6 kg; incl. rechargeable battery
<b>Scope of supply</b>	
Accumulator	Yes
Power supply	Yes
Recovery media	Yes; Restore & Recovery

**More information**

More information is available on the internet at:

<http://www.siemens.com/itp1000>

Accessories can be found under SIMATIC HMI accessories:

<https://mall.industry.siemens.com/mall/ww/en/Catalog/Products/10144445?tree=CatalogTree>

## Overview

**Docking station**

A docking station is available for the SIMATIC Industrial Tablet PC. In addition to being able to charge the device, the docking station also features one Ethernet, one DisplayPort and two USB ports. With its external monitor, mouse and keyboard, the SIMATIC ITP1000 is upgraded into the equivalent of a full-scale office workplace.

The docking station is designed for users in industry. One-hand docking makes it quick and easy to insert and remove the SIMATIC ITP1000.

**Ordering data****Article No.**

System components for Tablet PC

**Docking station for  
SIMATIC ITP1000**
**6AV7676-1AB00-0AA0**
**Technical specifications**

Article number	<b>6AV7676-1AB00-0AA0</b> ITP1000 Docking Station
<b>General information</b>	
Product type designation	Docking station for ITP1000
<b>Control elements</b>	
<b>Connection type</b>	
• USB	Yes; USB 3.0 type A
<b>Supply voltage</b>	
Type of supply voltage	DC
Rated value (DC)	19 V
<b>Interfaces</b>	
Interfaces/bus type	1x Ethernet (RJ45)
Number of USB interfaces	2
HMI-side interface	1x DisplayPort
<b>Degree and class of protection</b>	
IP (all-round)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
<b>Ambient conditions</b>	
Suited for indoor use	Yes
Suited for outdoor use	No
<b>Mechanics/material</b>	
Material	
• Plastic	Yes
<b>Weights</b>	
Weight, approx.	2.8 kg
<b>Scope of supply</b>	
Delivery quantity in pieces	1
<b>Other</b>	
Target devices	SIMATIC ITP1000

**More information**

More information is available on the Internet at:

<http://www.siemens.com/itp1000>

You can find other accessories at:

<https://mall.industry.siemens.com/mall/en/en/Catalog/Products/10144445?tree=CatalogTree>

Catalog -> Automation technology -> SIMATIC HMI operator control and monitoring systems -> Accessories

**PC-based Automation**

Industrial PC

Industrial monitors and Thin Clients

**SIMATIC IFP Basic****Overview****SIMATIC IFP Basic**

With the SIMATIC IFP Basic product series, the range of industrial touch monitors in the SIMATIC IFP product family has been extended by cost-effective versions.

SIMATIC IFP Basic devices feature touch operation and are available in 4 display sizes: 12", 15", 19" and 22".

**Ordering data****Article No.****SIMATIC IFP Basic****SIMATIC IFP1200 Basic**

Flat Panel with 12" display (16:10);  
Touch, 1 280 x 800 pixels  
Standard up to 5 m; for 24 V DC;  
DisplayPort / VGA interface

**6AV7862-2BC00-0AA0****SIMATIC IFP1200 Basic Covered**

Flat Panel with 12" display (16:10);  
degree of protection IP65 (front and  
rear), Touch, 1 280 x 800 pixels  
Standard up to 5 m; for 24 V DC;  
DisplayPort interface (on the rear)

**6AV7862-2BC10-0AA0****SIMATIC IFP1500 Basic**

Flat Panel with 15" display (16:9);  
Touch, 1 366 x 768 pixels  
Standard up to 5 m; for 24 V DC;  
DisplayPort / VGA interface

**6AV7862-2BD00-0AA0****SIMATIC IFP1900 Basic**

Flat Panel with 19" display (16:9);  
Touch, 1 366 x 768 pixels  
Standard up to 5 m; for 24 V DC;  
DisplayPort / VGA interface

**6AV7862-2BE00-0AA0****SIMATIC IFP2200 Basic**

Flat Panel with 22" display (16:9);  
Touch, 1 920 x 1080 pixels  
Standard up to 5 m; for 24 V DC;  
DisplayPort / VGA interface

**6AV7862-2BF00-0AA0**

## Technical specifications

Article number	<b>6AV7862-2BC00-0AA0</b> SIMATIC IFP1200 Basic	<b>6AV7862-2BC10-0AA0</b> SIMATIC IFP1200 Basic Covered	<b>6AV7862-2BD00-0AA0</b> SIMATIC IFP1500 Basic	<b>6AV7862-2BE00-0AA0</b> SIMATIC IFP1900 Basic	<b>6AV7862-2BF00-0AA0</b> SIMATIC IFP2200 Basic
<b>General information</b>					
Product type designation	IFP1200 Basic	IFP1200 Basic C	IFP1500 Basic	IFP1900 Basic	IFP2200 Basic
Short designation	Basic Flat Panel 12" Touch	Basic Flat Panel 12" Touch	Basic Flat Panel 15" Touch	Basic Flat Panel 19" Touch	Basic Flat Panel 22" Touch
<b>Display</b>					
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	12.1 in; 12"	12.1 in; 12"	15.6 in; 15"	18.5 in; 19"	21.5 in; 22"
Screen diagonal [cm]		30.7 cm			
On Screen Display (OSD) configuration	No	No	No	No	No
Number of colors	16 000 000; 16 million	16 000 000; 16.2 million	16 000 000; 16 million	16 000 000; 16 million	16 000 000; 16 million
<b>Resolution (pixels)</b>					
• Image resolution	1 280 x 800	1 280 x 800	1 366 x 768	1 366 x 768	1 920 x 1 080
<b>General features</b>					
• Brightness/contrast		400 cd/m <sup>2</sup> / 1 000:1			
• Detachable from computer unit	5 m	5 m	5 m	5 m	5 m
<b>Backlighting</b>					
• Type of backlighting	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h	50 000 h	30 000 h
<b>Control elements</b>					
Control elements	single-touch screen	single-touch screen	single-touch screen	single-touch screen	single-touch screen
<b>Input device</b>					
• Integrated mouse cursor control	No	No	No	No	No
<b>Touch operation</b>					
• Design as touch screen	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive
<b>Installation type/mounting</b>					
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Mounting in portrait format possible	Yes		Yes	Yes	Yes
<b>Supply voltage</b>					
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
<b>Interfaces</b>					
Number of USB interfaces	2; USB 2.0 (downstream)	1; USB 2.0 (downstream)	2; USB 2.0 (downstream)	2; USB 2.0 (downstream)	2; USB 2.0 (downstream)
USB on the rear	Yes; 2x onboard	Yes; 1x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
<b>Video interfaces</b>					
• DisplayPort	Yes	Yes	Yes	Yes	Yes
<b>Touch interfaces</b>					
• USB	Yes; USB2.0 Type B	Yes; USB 2.0 type B	Yes; USB Type A	Yes; USB Type A	Yes; USB Type A
<b>Degree and class of protection</b>					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
IP (rear)		IP65			
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	No	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes

**PC-based Automation**

Industrial PC

Industrial monitors and Thin Clients

**SIMATIC IFP Basic****Technical specifications**

Article number	<b>6AV7862-2BC00-0AA0</b> SIMATIC IFP1200 Basic	<b>6AV7862-2BC10-0AA0</b> SIMATIC IFP1200 Basic Covered	<b>6AV7862-2BD00-0AA0</b> SIMATIC IFP1500 Basic	<b>6AV7862-2BE00-0AA0</b> SIMATIC IFP1900 Basic	<b>6AV7862-2BF00-0AA0</b> SIMATIC IFP2200 Basic
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	60 °C	45 °C	45 °C	40 °C
<b>Relative humidity</b>					
• Operation, max.	85 %	85 %	85 %	85 %	85 %
<b>Vibrations</b>					
• Vibration load in operation	5 m/s <sup>2</sup>	30 m/s <sup>2</sup>	5 m/s <sup>2</sup>	5 m/s <sup>2</sup>	5 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>					
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	250 m/s <sup>2</sup>	250 m/s <sup>2</sup>	250 m/s <sup>2</sup>	250 m/s <sup>2</sup>
<b>Mechanics/material</b>					
Enclosure material (front)					
• Aluminum	Yes	Yes	Yes	Yes	Yes
<b>Dimensions</b>					
Width of the housing front	320 mm	320 mm	406 mm	473 mm	540 mm
Height of housing front	226 mm	226 mm	258 mm	297 mm	334 mm
Mounting cutout, width	302 mm	302 mm	388 mm	455 mm	522 mm
Mounting cutout, height	208 mm	208 mm	241 mm	279 mm	317 mm
Overall depth	51 mm	55 mm	59 mm	59 mm	59 mm
<b>Weights</b>					
Weight (without packaging)	2.7 kg	2.8 kg	4.1 kg	5.1 kg	6.5 kg

## Overview



Industrial Flat Panels are rugged industrial monitors. The devices are suitable as built-in devices and, in the PRO variant, for direct mounting on a support arm/pedestal.

Various display sizes of 12", 15", 19", 22" and 24" are available.

Depending on requirements, the monitors can be installed up to 100 m away from the IPC.

Convenient operation of modern user interfaces is possible thanks to multi-touch.

## Ordering data

## Article No.

### Industrial Flat Panel monitors

#### SIMATIC IFP1200 V2

12" multi-touch 1 280 x 800

- Standard design, up to 5 m
- Neutral design

6AV7863-1MA00-2AA0  
6AV7863-1MA00-2NA0

12" multi-touch 1 280 x 800,  
extended HdBase T up to 100 m

- Standard design
- Neutral design

6AV7863-1MA10-2AA0  
6AV7863-1MA10-2NA0

#### SIMATIC IFP1500 V2

15" multi-touch, 1 920 x 1 080 pixels

- Standard up to 5 m, incl. DP/USB cable 1.8 m
- Extended version HdBaseT up to 100 m
- Ethernet version up to 100 m
- Standard up to 5 m, neutral design
- Extended version, neutral design
- Ethernet version, neutral design

6AV7863-5MA00-2AA0  
6AV7863-5MA10-2AA0  
6AV7863-5MA20-2AA0  
6AV7863-5MA00-2NA0  
6AV7863-5MA10-2NA0  
6AV7863-5MA20-2NA0

#### SIMATIC IFP1900 V2

19" multi-touch, 1 920 x 1 080 pixels

- Standard up to 5 m, incl. DP/USB cable 1.8 m
- Extended version HdBaseT up to 100 m
- Ethernet version up to 100 m
- Standard up to 5 m, neutral design
- Extended version, neutral design
- Ethernet version, neutral design

6AV7863-6MA00-2AA0  
6AV7863-6MA10-2AA0  
6AV7863-6MA20-2AA0  
6AV7863-6MA00-2NA0  
6AV7863-6MA10-2NA0  
6AV7863-6MA20-2NA0

#### SIMATIC IFP2200 V2

22" multi-touch, 1 920 x 1 080 pixels

- Standard up to 5 m, incl. DP/USB cable 1.8 m
- Extended version HdBaseT up to 100 m
- Ethernet version up to 100 m
- Standard up to 5 m, neutral design
- Extended version, neutral design
- Ethernet version, neutral design

6AV7863-4MA00-2AA0  
6AV7863-4MA10-2AA0  
6AV7863-4MA20-2AA0  
6AV7863-4MA00-2NA0  
6AV7863-4MA10-2NA0  
6AV7863-4MA20-2NA0

#### SIMATIC IFP2400 V2

24" multi-touch, 1 920 x 1 080 pixels

- Standard up to 5 m, incl. DP/USB cable 1.8 m
- Extended version HdBaseT up to 100 m
- Ethernet version up to 100 m
- Standard up to 5 m, neutral design
- Extended version, neutral design
- Ethernet version, neutral design

6AV7863-7MA00-2AA0  
6AV7863-7MA10-2AA0  
6AV7863-7MA20-2AA0  
6AV7863-7MA00-2NA0  
6AV7863-7MA10-2NA0  
6AV7863-7MA20-2NA0

## PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

### SIMATIC Industrial Flat Panel

#### Ordering data

Ordering data	Article No.	Article No.
<b>Accessories</b>		<b>Accessories for HDBaseT variants</b>
<b>Set with steel mounting clips</b>	<b>6AV6671-8XK00-0AX3</b>	<b>Cable set, consisting of:</b>
<b>DisplayPort cable (industrial quality)</b>		Transceiver Unit with
• 3 m	<b>6AV7860-0DH30-0AA0</b>	• Two ferrites
• 5 m	<b>6AV7860-0DH50-0AA0</b>	• USB cable, length 0.5 m
<b>DVI-D cable (industrial quality)</b>		• Connector type A
• 3 m	<b>6AV7860-0BH30-0AA0</b>	• Connector type B
• 5 m	<b>6AV7860-0BH50-0AA0</b>	DisplayPort cable, length 0.5 m
<b>USB cable (industrial quality)</b>		• Cat. 6A Ethernet cable, length see "Specification"
• 3 m	<b>6AV7860-0CH30-0AA0</b>	• 10 m
• 5 m	<b>6AV7860-0CH50-0AA0</b>	• 15 m
		• 20 m
		• 30 m
		<b>Cat. 6A Ethernet cable</b>
		• 10 m
		• 15 m
		• 20 m
		• 30 m
		<b>6AV7860-1EX21-0AB1</b>
		<b>6AV7860-1EX21-5AB1</b>
		<b>6AV7860-1EX22-0AB1</b>
		<b>6AV7860-1EX23-0AB1</b>
		<b>6AV7860-0EH01-0AA0</b>
		<b>6AV7860-0EH01-5AA0</b>
		<b>6AV7860-0EH02-0AA0</b>
		<b>6AV7860-0EH03-0AA0</b>

#### Technical specifications

Article number	<b>6AV7863-1MA00-2AA0</b> SIMATIC Flat Panel 12" MT V2	<b>6AV7863-1MA00-2NA0</b> SIMATIC Flat Panel 12" MT V2	<b>6AV7863-1MA10-2AA0</b> SIMATIC Flat Panel 12" MT V2 Extended	<b>6AV7863-1MA10-2NA0</b> SIMATIC Flat Panel 12" MT V2 Extended
<b>General information</b>				
Product type designation	IFP1200 V2	IFP1200 V2	IFP1200 V2	IFP1200 V2
Short designation	Flat Panel 12" multi-touch	Flat Panel 12" multi-touch	Flat Panel 12" multi-touch ext.	Flat Panel 12" multi-touch ext.
<b>Display</b>				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	12.1 in	12.1 in	12.1 in	12.1 in
Screen diagonal [cm]	30.7 cm	30.7 cm	30.7 cm	30.7 cm
On Screen Display (OSD) configuration	No	No	No	No
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	176° x 176°	176° x 176°	176° x 176°	176° x 176°
<b>Resolution (pixels)</b>				
• Image resolution	1 280 x 800	1 280 x 800	1 280 x 800	1 280 x 800
<b>General features</b>				
• Brightness/contrast	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1
• Detachable from computer unit	5 m	5 m	100 m; HDBaseT protocol	100 m; HDBaseT protocol
<b>Backlighting</b>				
• Type of backlighting	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C
<b>Control elements</b>				
<b>Input device</b>				
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>				
• Design as touch screen	Yes	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes	Yes

## Technical specifications

Article number	<b>6AV7863-1MA00-2AA0</b> SIMATIC Flat Panel 12" MT V2	<b>6AV7863-1MA00-2NA0</b> SIMATIC Flat Panel 12" MT V2	<b>6AV7863-1MA10-2AA0</b> SIMATIC Flat Panel 12" MT V2 Extended	<b>6AV7863-1MA10-2NA0</b> SIMATIC Flat Panel 12" MT V2 Extended
<b>Installation type/mounting</b>				
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Mounting in portrait format possible	Yes	Yes	Yes	Yes
<b>Supply voltage</b>				
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Input current</b>				
Current consumption (rated value)	0.65 A	0.65 A	0.65 A	0.65 A
Current consumption, max.	1 A	1 A	1 A	1 A
<b>Interfaces</b>				
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB	USB
<b>Video interfaces</b>				
• DVI-D	Yes			
• DisplayPort	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2
<b>Touch interfaces</b>				
• USB	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>				
IP (at the front)	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20
NEMA (front)				
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
Certificate of suitability	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
FM approval	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2
<b>Use in hazardous areas</b>				
• ATEX Zone 2	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• ATEX Zone 22	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• IECEx Zone 2	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• IECEx Zone 22	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• FM Class I Division 2	Yes	Yes	Yes	Yes

**PC-based Automation**

Industrial PC

Industrial monitors and Thin Clients

**SIMATIC Industrial Flat Panel****Technical specifications**

Article number	<b>6AV7863-1MA00-2AA0</b> SIMATIC Flat Panel 12" MT V2	<b>6AV7863-1MA00-2NA0</b> SIMATIC Flat Panel 12" MT V2	<b>6AV7863-1MA10-2AA0</b> SIMATIC Flat Panel 12" MT V2 Extended	<b>6AV7863-1MA10-2NA0</b> SIMATIC Flat Panel 12" MT V2 Extended
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>				
• Installation altitude above sea level, max.	3 500 m	3 500 m	3 500 m	3 500 m
<b>Relative humidity</b>				
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation
<b>Vibrations</b>				
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn	1 gn	1 gn
<b>Shock testing</b>				
• Shock load during operation	15 gn	15 gn	15 gn	15 gn
• shock acceleration during storage/transport	15 gn	15 gn	15 gn	15 gn
<b>Mechanics/material</b>				
Enclosure material (front)	In standard design	With neutral design	In standard design	With neutral design
• Aluminum	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes
• Glass	Yes; at front	Yes; at front	Yes; at front	Yes; at front
Enclosure material (rear)	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>				
Width of the housing front	326 mm	326 mm	326 mm	326 mm
Height of housing front	237 mm	237 mm	237 mm	237 mm
Mounting cutout, width	310 mm; Tolerance: +1 mm	310 mm; Tolerance: +1 mm	310 mm; Tolerance: +1 mm	310 mm; Tolerance: +1 mm
Mounting cutout, height	221 mm; Tolerance: +1 mm	221 mm; Tolerance: +1 mm	221 mm; Tolerance: +1 mm	221 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm
<b>Weights</b>				
Weight (without packaging)	3 kg	3 kg	3 kg	3 kg

## Technical specifications

Article number	<b>6AV7863-5MA00-2AA0</b>	<b>6AV7863-5MA10-2AA0</b>	<b>6AV7863-5MA20-2AA0</b>	<b>6AV7863-5MA00-2NA0</b>	<b>6AV7863-5MA10-2NA0</b>	<b>6AV7863-5MA20-2NA0</b>
	SIMATIC Flat Panel 15" MT V2	SIMATIC Flat Panel 15" MT V2 Extended	SIMATIC Flat Panel 15" MT ETH	SIMATIC Flat Panel 15" MT V2	SIMATIC Flat Panel 15" MT V2 Extended	SIMATIC Flat Panel 15" MT ETH
<b>General information</b>						
Product type designation	IFP1500	IFP1500 V2	IFP1500 V2	IFP1500 V2 PRO	IFP1500 V2	IFP1500 V2
Short designation	SIMATIC IFP1500 V2	Flat Panel 15" multi-touch ext.		Flat Panel 15" multi-touch	SIMATIC IFP1500 V2 ext.	
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting					
Screen diagonal	15.6 in; 15"	15.6 in; 15"	15.6 in	15.6 in; 15"	15.6 in; 15"	15.6 in
Screen diagonal [cm]	40 cm					
On Screen Display (OSD) configuration	No; Adjustable by means of software					
Number of colors	16 777 216; 24 bit					
Viewing angle	178° x 178°	178° x 178°	160° x 140°	178° x 178°	178° x 178°	160° x 140°
<b>Resolution (pixels)</b>						
• Image resolution	1 920 x 1 080					
<b>General features</b>						
• Brightness/contrast	400 cd/m <sup>2</sup> / 700:1					
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
• Detachable from computer unit	5 m	100 m; HDBaseT protocol	100 m; Ethernet	5 m	100 m; HDBaseT protocol	100 m; Ethernet
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C					
<b>Control elements</b>						
Control elements	multi-touch screen					
<b>Input device</b>						
• Integrated mouse cursor control	Yes	Yes	Yes	Yes	Yes	Yes
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive					
• Design as multi-touch screen	Yes; Projective-capacitive					
• Monitor keyboard	Yes; If supported by operating system	Yes; If supported by operating system	Yes	Yes; If supported by operating system	Yes; If supported by operating system	Yes
<b>Installation type/mounting</b>						
Design	Built-in unit					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Input current</b>						
Current consumption (rated value)	1 A	1 A	1 A	1 A	1 A	1 A
Current consumption, max.	1.3 A					
<b>Interfaces</b>						
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A		2; USB 2.0 type A	2; USB 2.0 type A	
USB on the rear	Yes; 2x onboard					
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>						
• DVI-D	Yes	No	No	Yes	No	No
• DisplayPort	Yes; Display port V1.2					
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes

## PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

### SIMATIC Industrial Flat Panel

#### Technical specifications

Article number	6AV7863-5MA00-2AA0	6AV7863-5MA10-2AA0	6AV7863-5MA20-2AA0	6AV7863-5MA00-2NA0	6AV7863-5MA10-2NA0	6AV7863-5MA20-2NA0
	SIMATIC Flat Panel 15" MT V2	SIMATIC Flat Panel 15" MT V2 Extended	SIMATIC Flat Panel 15" MT ETH	SIMATIC Flat Panel 15" MT V2	SIMATIC Flat Panel 15" MT V2 Extended	SIMATIC Flat Panel 15" MT ETH
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20		IP20	IP20	
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
Certificate of suitability	hazardous zone 2/22; shipbuilding			hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL					
cULus	Yes	Yes	Yes	Yes	Yes	Yes
FM approval	Yes; Class I Div. 2					
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes; Available soon	Yes		Yes; Available soon	Yes	No
• ATEX Zone 22	Yes; Available soon	Yes		Yes; Available soon	Yes	No
• IECEx Zone 2	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes	Yes; Available soon
• IECEx Zone 22	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes	Yes; Available soon
• FM Class I Division 2	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes	Yes; Available soon
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	50 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	3 500 m					
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation					
<b>Vibrations</b>						
• Vibration load in operation	10 m/s <sup>2</sup>					
• Vibration load during transport/storage	10 m/s <sup>2</sup>					
<b>Shock testing</b>						
• Shock load during operation	150 m/s <sup>2</sup>					
• shock acceleration during storage/transport	250 m/s <sup>2</sup>					
<b>Mechanics/material</b>						
Enclosure material (front)				With neutral design	With neutral design	
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front					
Enclosure material (rear)	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>						
Width of the housing front	398 mm					
Height of housing front	257 mm					
Mounting cutout, width	382 mm; Tolerance: +1 mm					
Mounting cutout, height	241 mm; Tolerance: +1 mm					
Overall depth	63.4 mm					
<b>Weights</b>						
Weight (without packaging)	4 kg					

## Technical specifications

Article number	6AV7863-6MA00-2AA0	6AV7863-6MA10-2AA0	6AV7863-6MA20-2AA0	6AV7863-6MA00-2NA0	6AV7863-6MA10-2NA0	6AV7863-6MA20-2NA0
	SIMATIC Flat Panel 19" MT V2	SIMATIC Flat Panel 19 MT V2 Extended	SIMATIC Flat Panel 19" MT ETH	SIMATIC Flat Panel 19" MT V2	SIMATIC Flat Panel 19 MT V2 Extended	SIMATIC Flat Panel 19" MT ETH
<b>General information</b>						
Product type designation	IFP1900	IFP1900 V2				
Short designation	SIMATIC IFP1900 V2	SIMATIC IFP1900 V2 ext.		SIMATIC IFP1900 V2	SIMATIC IFP1900 V2 ext.	SIMATIC IFP1900 V2
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting					
Screen diagonal	18.5 in; 19"	18.5 in; 19"	18.5 in	18.5 in; 19"	18.5 in; 19"	18.5 in
Screen diagonal [cm]	47 cm					
On Screen Display (OSD) configuration	No; Adjustable by means of software					
Number of colors	16 777 216; 24 bit					
Viewing angle	178° x 178°					
<b>Resolution (pixels)</b>						
• Image resolution	1 920 x 1 080					
<b>General features</b>						
• Brightness/contrast	350 cd/m <sup>2</sup> / 1 000:1					
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
• Detachable from computer unit	5 m	100 m; HDBaseT protocol	100 m; Ethernet	5 m	100 m; HDBaseT protocol	100 m; Ethernet
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C					
<b>Control elements</b>						
Control elements	multi-touch screen					
<b>Input device</b>						
• Integrated mouse cursor control	Yes; Also externally via USB					
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive					
• Design as multi-touch screen	Yes; Projective-capacitive					
• Monitor keyboard	Yes; If supported by operating system	Yes; If supported by operating system	Yes	Yes; If supported by operating system	Yes; If supported by operating system	Yes
<b>Installation type/mounting</b>						
Design	Built-in unit					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V; PELV / SELV floating					
<b>Input current</b>						
Current consumption (rated value)	1.2 A					
Current consumption, max.	1.5 A					
<b>Interfaces</b>						
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A		2; USB 2.0 type A	2; USB 2.0 type A	
USB on the rear	Yes; 2x onboard					
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>						
• DVI-D	Yes	No	No	Yes	No	No
• DisplayPort	Yes; Display port V1.2					
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes

## PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

### SIMATIC Industrial Flat Panel

#### Technical specifications

Article number	6AV7863-6MA00-2AA0	6AV7863-6MA10-2AA0	6AV7863-6MA20-2AA0	6AV7863-6MA00-2NA0	6AV7863-6MA10-2NA0	6AV7863-6MA20-2NA0
	SIMATIC Flat Panel 19" MT V2	SIMATIC Flat Panel 19" MT V2 Extended	SIMATIC Flat Panel 19" MT ETH	SIMATIC Flat Panel 19" MT V2	SIMATIC Flat Panel 19" MT V2 Extended	SIMATIC Flat Panel 19" MT ETH
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20		IP20	IP20	
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
Certificate of suitability	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding		hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL					
cULus	Yes	Yes	Yes	Yes	Yes	Yes
FM approval	Yes; Class I Div. 2					
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes; Available soon	Yes		Yes; Available soon	Yes	
• ATEX Zone 22	Yes; Available soon	Yes		Yes; Available soon	Yes	
• IECEx Zone 2	Yes; Available soon	Yes		Yes; Available soon	Yes	
• IECEx Zone 22	Yes; Available soon	Yes		Yes; Available soon	Yes	
• FM Class I Division 2	Yes; Available soon	Yes		Yes; Available soon	Yes	
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	50 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	3 500 m					
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation					
<b>Vibrations</b>						
• Vibration load in operation	10 m/s <sup>2</sup>					
• Vibration load during transport/storage	10 m/s <sup>2</sup>					
<b>Shock testing</b>						
• Shock load during operation	150 m/s <sup>2</sup>					
• shock acceleration during storage/transport	250 m/s <sup>2</sup>					
<b>Mechanics/material</b>						
Enclosure material (front)				With neutral design	With neutral design	
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front					
Enclosure material (rear)	aluminum	aluminum		aluminum	aluminum	aluminum
<b>Dimensions</b>						
Width of the housing front	462 mm	464 mm				
Height of housing front	294 mm					
Mounting cutout, width	448 mm; Tolerance: +1 mm	448 mm				
Mounting cutout, height	278 mm; Tolerance: +1 mm	278 mm				
Overall depth	63.4 mm					
<b>Weights</b>						
Weight (without packaging)	5 kg					

## Technical specifications

Article number	<b>6AV7863-4MA00-2AA0</b>	<b>6AV7863-4MA10-2AA0</b>	<b>6AV7863-4MA20-2AA0</b>	<b>6AV7863-4MA00-2NA0</b>	<b>6AV7863-4MA10-2NA0</b>	<b>6AV7863-4MA20-2NA0</b>
	SIMATIC Flat Panel 22" MT V2	SIMATIC Flat Panel 22" MT V2 Extended	SIMATIC Flat Panel 22" MT ETH	SIMATIC Flat Panel 22" MT V2	SIMATIC Flat Panel 22" MT V2 Extended	SIMATIC Flat Panel 22" MT ETH
<b>General information</b>						
Product type designation	IFP2200	IFP2200	IFP2200 V2	IFP2200 V2	IFP2200	IFP2200 V2
Short designation	SIMATIC IFP2200 V2	SIMATIC IFP2200 V2 ext.		SIMATIC IFP2200 V2	SIMATIC IFP2200 V2	SIMATIC IFP2200 V2
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	22" TFT multi-touch	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	22" TFT multi-touch
Screen diagonal	21.5 in; 22"	21.5 in; 22"	21.5 in	21.5 in; 22"	21.5 in; 22"	21.5 in
Screen diagonal [cm]	56 cm	56 cm	56 cm	56 cm	56 cm	56 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	170° x 170°	170° x 170°	178° x 178°	170° x 170°	170° x 170°	178° x 178°
<b>Resolution (pixels)</b>						
• Image resolution	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080
<b>General features</b>						
• Brightness/contrast	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1
• Detachable from computer unit	5 m	100 m; HDBaseT protocol	100 m; Ethernet	5 m	100 m; HDBaseT protocol	100 m; Ethernet
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>						
Control elements	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	
<b>Input device</b>						
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes; If supported by operating system	Yes; If supported by operating system		Yes; If supported by operating system	Yes; If supported by operating system	
<b>Installation type/mounting</b>						
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
<b>Input current</b>						
Current consumption (rated value)	1 A	1 A	1 A	1 A	1 A	1 A
Current consumption, max.	1.3 A	1.3 A	1.3 A	1.3 A	1.3 A	1.3 A
<b>Interfaces</b>						
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A		2; USB 2.0 type A	2; USB 2.0 type A	
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse			USB			USB
<b>Video interfaces</b>						
• DVI-D	Yes	No	No	Yes	No	No
• DisplayPort	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes

## PC-based Automation

### Industrial PC

### Industrial monitors and Thin Clients

## SIMATIC Industrial Flat Panel

### Technical specifications

Article number	6AV7863-4MA00-2AA0	6AV7863-4MA10-2AA0	6AV7863-4MA20-2AA0	6AV7863-4MA00-2NA0	6AV7863-4MA10-2NA0	6AV7863-4MA20-2NA0
	SIMATIC Flat Panel 22" MT V2	SIMATIC Flat Panel 22" MT V2 Extended	SIMATIC Flat Panel 22" MT ETH	SIMATIC Flat Panel 22" MT V2	SIMATIC Flat Panel 22" MT V2 Extended	SIMATIC Flat Panel 22" MT ETH
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20		IP20	IP20	
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes		Yes	Yes	
• Enclosure Type 12 at the front	Yes	Yes		Yes	Yes	
<b>Standards, approvals, certificates</b>						
Certificate of suitability	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding		hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL					
cULus					Yes	
FM approval	Yes; Class I Div. 2					
RCM (formerly C-TICK)			Yes		Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes; Available soon	Yes		Yes; Available soon	Yes	
• ATEX Zone 22	Yes; Available soon	Yes		Yes; Available soon	Yes	
• IECEx Zone 2	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes	Yes; Available soon
• IECEx Zone 22	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes	Yes; Available soon
• FM Class I Division 2	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes	Yes; Available soon
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	45 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	3 500 m					
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation					
<b>Vibrations</b>						
• Vibration load in operation	10 m/s <sup>2</sup>					
• Vibration load during transport/storage	10 m/s <sup>2</sup>					
<b>Shock testing</b>						
• Shock load during operation	150 m/s <sup>2</sup>					
• shock acceleration during storage/transport	250 m/s <sup>2</sup>					
<b>Mechanics/material</b>						
Enclosure material (front)				With neutral design	With neutral design	With neutral design
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front					
Enclosure material (rear)	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>						
Width of the housing front	529 mm					
Height of housing front	331 mm					
Mounting cutout, width	513 mm; Tolerance: +1 mm					
Mounting cutout, height	315 mm; Tolerance: +1 mm					
Overall depth	63.4 mm					
<b>Weights</b>						
Weight (without packaging)	6.4 kg					

## Technical specifications

Article number	<b>6AV7863-7MA00-2AA0</b> SIMATIC Flat Panel 24" MT V2	<b>6AV7863-7MA10-2AA0</b> SIMATIC Flat Panel 24 MT V2 Extended	<b>6AV7863-7MA20-2AA0</b> SIMATIC Flat Panel 24" MT ETH	<b>6AV7863-7MA00-2NA0</b> SIMATIC Flat Panel 24" MT V2	<b>6AV7863-7MA10-2NA0</b> SIMATIC Flat Panel 24 MT V2 Extended	<b>6AV7863-7MA20-2NA0</b> SIMATIC Flat Panel 24" MT ETH
<b>General information</b>						
Product type designation	IFP2400	IFP2400 V2		IFP2400	IFP2400 V2	
Short designation	SIMATIC IFP2400 V2	SIMATIC IFP2400 V2		SIMATIC IFP2400 V2	SIMATIC IFP2400 V2	
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting					
Screen diagonal	23.8 in; 24"	23.8 in; 24"	23.8 in	23.8 in; 24"	23.8 in; 24"	23.8 in
Screen diagonal [cm]	60.47 cm	60.47 cm	60.47 cm	60.47 cm	60.47 cm	60.47 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; RGB 6 bit + Hi_FRC	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; RGB 6 bit + Hi_FRC
Viewing angle	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°
<b>Resolution (pixels)</b>						
• Image resolution	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080
<b>General features</b>						
• Brightness/contrast	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
• Detachable from computer unit	5 m	100 m; HDBaseT protocol	100 m; Ethernet	5 m	100 m; HDBaseT protocol	100 m; Ethernet
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>						
Control elements	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen
<b>Input device</b>						
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes; If supported by operating system	Yes; If supported by operating system	Yes; If supported by operating system	Yes; If supported by operating system	Yes; If supported by operating system	Yes; If supported by operating system
<b>Installation type/mounting</b>						
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Supply voltage</b>						
Rated value (DC)	24 V; PELV / SELV floating	24 V	24 V	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Input current</b>						
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A
Current consumption, max.	1.9 A	1.9 A	1.9 A	1.9 A	1.9 A	1.9 A
<b>Interfaces</b>						
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A		2; USB 2.0 type A	2; USB 2.0 type A	
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>						
• DVI-D	Yes		No	Yes		No
• DisplayPort	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes

## PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

### SIMATIC Industrial Flat Panel

#### Technical specifications

Article number	6AV7863-7MA00-2AA0	6AV7863-7MA10-2AA0	6AV7863-7MA20-2AA0	6AV7863-7MA00-2NA0	6AV7863-7MA10-2NA0	6AV7863-7MA20-2NA0
	SIMATIC Flat Panel 24" MT V2	SIMATIC Flat Panel 24 MT V2 Extended	SIMATIC Flat Panel 24" MT ETH	SIMATIC Flat Panel 24" MT V2	SIMATIC Flat Panel 24 MT V2 Extended	SIMATIC Flat Panel 24" MT ETH
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20		IP20	IP20	
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
Certificate of suitability	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding		hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL					
cULus	Yes	Yes		Yes	Yes	
FM approval	Yes; Class I Div. 2					
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes; Available soon	Yes; Available soon		Yes; Available soon	Yes; Available soon	
• ATEX Zone 22	Yes; Available soon	Yes; Available soon		Yes; Available soon	Yes; Available soon	
• IECEx Zone 2	Yes; Available soon	Yes; Available soon		Yes; Available soon	Yes; Available soon	
• IECEx Zone 22	Yes; Available soon	Yes; Available soon		Yes; Available soon	Yes; Available soon	
• FM Class I Division 2	Yes; Available soon	Yes; Available soon		Yes; Available soon	Yes; Available soon	
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	45 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	3 500 m					
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation					
<b>Vibrations</b>						
• Vibration load in operation	10 m/s <sup>2</sup>					
• Vibration load during transport/storage	10 m/s <sup>2</sup>					
<b>Shock testing</b>						
• Shock load during operation	150 m/s <sup>2</sup>					
• shock acceleration during storage/transport	250 m/s <sup>2</sup>					
<b>Mechanics/material</b>						
Enclosure material (front)						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front					
Enclosure material (rear)						
	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>						
Width of the housing front	585 mm					
Height of housing front	363 mm					
Mounting cutout, width	569 mm; Tolerance: +1 mm					
Mounting cutout, height	347 mm; Tolerance: +1 mm					
Overall depth	63.4 mm					
<b>Weights</b>						
Weight (without packaging)	7.9 kg					

## Overview



SIMATIC ITC Industrial Thin Clients are powerful operating units for flexible use in distributed visualization applications.

All devices are equipped with high-resolution, brilliant widescreen displays, and due to the diverse communication protocols they can be used both for challenging machine-level operator control & monitoring and for the connection to control systems, e.g. in the SCADA environment. They can be used as (additional) operator panels on a SIMATIC Industrial PC, Panel PC, or server, and on a SIMATIC Panel or SINUMERIK.

SIMATIC Industrial Thin Clients are also available as glass-front, capacitive multi-touch devices in display sizes 15", 19" and 22".

- SIMATIC ITC1500 V3 – 15" multi-touch 1 366 x 768
- SIMATIC ITC1900 V3 – 19" multi-touch 1 366 x 768
- SIMATIC ITC2200 V3 – 22" multi-touch 1 920 x 1 080

The following installation versions are still available with resistive single-touch:

- SIMATIC ITC1200 – 12" touch
- SIMATIC ITC1500 – 15" touch
- SIMATIC ITC1900 – 19" touch
- SIMATIC ITC2200 – 22" touch

The SIMATIC HMI Thin Client Ex is available for hazardous areas (Zone 1/11). This device differs technically from the devices mentioned above. For more details, refer to the SIMATIC Thin Client EX chapter.

## Ordering data

### Industrial Thin Client with multi-touch

#### SIMATIC Industrial Thin Client V3

Capacitive touch sensor  
 Protocols supported: RDP, VNC, SMARTSERVER HTML5, etc., standard design, built-in unit

- SIMATIC ITC1500 V3  
15" widescreen TFT display
- SIMATIC ITC1900 V3  
19" widescreen TFT display
- SIMATIC ITC2200 V3  
22" widescreen TFT display

## Article No.

**6AV6646-1BA15-0AA0**

**6AV6646-1BA18-0AA0**

**6AV6646-1BA22-1AA0**

**PC-based Automation**

Industrial PC

Industrial monitors and Thin Clients

**SIMATIC Industrial Thin Client****Technical specifications**

Article number	<b>6AV6646-1BA15-0AA0</b> SIMATIC ITC1500 V3	<b>6AV6646-1BA18-0AA0</b> SIMATIC ITC1900 V3	<b>6AV6646-1BA22-1AA0</b> SIMATIC ITC2200 V3
<b>General information</b>			
Product type designation	ITC1500 V3	ITC1900 V3	ITC2200 V3
<b>Display</b>			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in; 15"	18.5 in; 19"	21.5 in; 22"
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Image resolution	1 366 x 768	1 366 x 768	1 920 x 1 080
<b>General features</b>			
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
• Detachable from computer unit	100 m	100 m	100 m
<b>Backlighting</b>			
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	30 000 h; At 25°C
<b>Control elements</b>			
Control elements	multi-touch screen	multi-touch screen	multi-touch screen
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Design	Built-in unit	Built-in unit	Built-in unit
<b>Supply voltage</b>			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB
<b>Industrial Ethernet</b>			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s
<b>Degree and class of protection</b>			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20	IP20	
NEMA (front)		NEMA 4x (when installed)	
• Enclosure Type 4x at the front	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
<b>Use in hazardous areas</b>			
• ATEX Zone 2	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes
• FM Class I Division 2	Yes	Yes	Yes

## Technical specifications

Article number	<b>6AV6646-1BA15-0AA0</b> SIMATIC ITC1500 V3	<b>6AV6646-1BA18-0AA0</b> SIMATIC ITC1900 V3	<b>6AV6646-1BA22-1AA0</b> SIMATIC ITC2200 V3
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	50 °C	45 °C	45 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Vibrations</b>			
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/ storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>			
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
<b>Software</b>			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
<b>configuration / header</b>			
<b>Configuration</b>			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	3; german / english	2; german / english	3; german / english
<b>Peripherals/Options</b>			
USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
<b>Mechanics/material</b>			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
<b>Dimensions</b>			
Width of the housing front	398 mm	464 mm	529 mm
Height of housing front	257 mm	294 mm	331 mm
Mounting cutout, width	382 mm	448 mm	513 mm
Mounting cutout, height	241 mm	278 mm	315 mm
Overall depth	73 mm	73 mm	73 mm
<b>Weights</b>			
Weight (without packaging)	5 kg	6.1 kg	7.2 kg

### More information

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-itc>

## PC-based Automation

Industrial PC

Devices for special requirements

### Introduction

#### Overview

##### **Fully-enclosed IP65-protected devices**

The SIMATIC devices with fully-enclosed IP65 protection (SIMATIC Industrial Flat Panel PRO, SIMATIC Flat Panel PRO, SIMATIC Thin Client PRO and SIMATIC IPC477D PRO) are specially designed for mounting on a support arm/pedestal. Thanks to their extremely rugged design, the devices are ideal for industrial applications in harsh environments.

##### Portfolio:

- Comfort Panels PRO
- SIMATIC Industrial Flat Panel PRO
- SIMATIC Industrial Thin Client PRO
- SIMATIC IPC277G PRO
- SIMATIC IPC477E PRO
- System components for fully-enclosed IP65-protected devices:
  - Fixing elements
  - Extension Units and operator controls
  - Extension components

##### **Devices with stainless steel fronts**

SIMATIC devices with stainless steel fronts (SIMATIC Industrial Thin Client INOX) are designed for use in the food and beverages, pharmaceutical and fine chemicals industries and other hygienic applications for machine-level operator control and monitoring.

The fully-enclosed SIMATIC devices with stainless steel fronts (SIMATIC IPC277E 19" INOX PRO, SIMATIC IFP1900 INOX PRO) are specially designed for mounting on a support arm/pedestal. Thanks to their slim design, the devices are ideally suited to space-saving use on food and beverage machinery and packaging machinery.

##### Portfolio:

- Comfort Panels INOX and INOX PCT
- SIMATIC Industrial Flat Panel IFP1900 INOX PRO
- SIMATIC Industrial Flat Panel IFP2200 INOX MT ETH

## Overview



SIMATIC IFP2400 V2 PRO, standard design, front view



The devices are connected to PCs, especially SIMATIC IPCs, via the DisplayPort interface or, over greater distances, via HDBaseT and USB.

The rugged aluminum housing of the monitor enables it to be used directly at the machine and ensures durability, even in harsh and extreme operating environments.

- IP65 degree of protection – fully-enclosed
- Can be located up to 100 m from the computer unit (IFP Extended version)
- Rugged, industrial 12", 15", 19", 22" and 24" widescreen displays (multi-touch)
- Slim, modern design
- Can be adapted to support arm system of various manufacturers
- Fast integration capability
- Low energy requirement
- Small footprint and low weight
- Low wiring overhead and short maintenance times thanks to use of standard connecting cables
- Integration of operator controls in the new Extension Units
- Also available in neutral design

### SIMATIC IFP PRO ETH

IFP1500 PRO ETH, IFP1900 PRO ETH and IFP2200 PRO ETH supplement the current product range of new Industrial Flat Panels with their full HD resolution (1 920 x 1 080 pixels) and neutral design fronts.

Equipped with innovative, projected capacitive touchscreen technology for the detection of multi-touch gestures with up to ten fingers and with a brilliant widescreen display and glass front. The devices are connected by means of a DisplayPort or Ethernet and USB to PCs, in particular SIMATIC IPCs.

The rugged aluminum housing of the monitor enables it to be used directly at the machine and ensures durability, even in harsh and extreme operating environments.

***SIMATIC IFP PRO and SIMATIC IFP PRO ETH:  
The new Industrial Flat Panels with fully-enclosed IP65 protection – the industrial widescreen monitors for harsh ambient conditions that can be installed directly on the machine***

### SIMATIC IFP1200 PRO

The SIMATIC IFP1200 PRO supplements the current product range of the new Industrial Flat Panels. Equipped with innovative, projected capacitive touchscreen technology for the detection of multi-touch gestures with up to ten fingers and with a brilliant widescreen display and glass front.

## PC-based Automation

### Industrial PC

#### Devices for special requirements

#### Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO

##### Ordering data

##### Article No.

##### Article No.

##### SIMATIC IFP1200 V2 PRO

12" (16:10) Flat Panel, multi-touch, extended version up to 100 m via HDBaseT, 1 280 x 800 pixels, for 24 V DC DisplayPort, fully-enclosed IP65 protection

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

##### Neutral design:

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

6AV7863-1MA14-2AA0

6AV7863-1MA15-2AA0

6AV7863-1MA16-2AA0

6AV7863-1MA14-2NA0

6AV7863-1MA15-2NA0

6AV7863-1MA16-2NA0

##### SIMATIC IFP1500 V2 PRO

15" (16:9) Flat Panel, multi-touch, extended version up to 100 m via HDBaseT, 1 920 x 1 080 pixels, for 24 V DC DisplayPort, fully-enclosed IP65 protection

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

##### Neutral design:

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

6AV7863-5MA14-2AA0

6AV7863-5MA15-2AA0

6AV7863-5MA16-2AA0

6AV7863-5MA14-2NA0

6AV7863-5MA15-2NA0

6AV7863-5MA16-2NA0

##### SIMATIC IFP1900 V2 PRO

19" (16:9) Flat Panel, multi-touch, extended version up to 100 m via HDBaseT, 1 920 x 1 080 pixels, for 24 V DC DisplayPort, fully-enclosed IP65 protection

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

##### Neutral design:

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

6AV7863-6MA14-2AA0

6AV7863-6MA15-2AA0

6AV7863-6MA16-2AA0

6AV7863-6MA14-2NA0

6AV7863-6MA15-2NA0

6AV7863-6MA16-2NA0

##### SIMATIC IFP2200 V2 PRO

22" (16:9) Flat Panel, multi-touch, extended version up to 100 m via HDBaseT, 1 920 x 1 080 pixels, for 24 V DC DisplayPort, fully-enclosed IP65 protection

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

##### Neutral design:

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components

6AV7863-4MA14-2AA0

6AV7863-4MA15-2AA0

6AV7863-4MA16-2AA0

6AV7863-4MA14-2NA0

6AV7863-4MA15-2NA0

6AV7863-4MA16-2NA0

##### SIMATIC IFP2400 V2 PRO

24" (16:9) Flat Panel, multi-touch, extended version up to 100 m via HDBaseT, 1 920 x 1 080 pixels, for 24 V DC DisplayPort, fully-enclosed IP65 protection

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components
- Portrait Prepared for support arm and extension components

##### Neutral design:

- Prepared for pedestal and extension components
- Prepared for support arm without extension components
- Prepared for support arm and extension components
- Portrait Prepared for support arm and extension components

6AV7863-7MA14-2AA0

6AV7863-7MA15-2AA0

6AV7863-7MA16-2AA0

6AV7863-7MA17-2AA0

6AV7863-7MA14-2NA0

6AV7863-7MA15-2NA0

6AV7863-7MA16-2NA0

6AV7863-7MA17-2NA0

Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO

Ordering data	Article No.	Article No.	
<p><b>SIMATIC IFP1500 PRO HD ETH</b> 15" (16:9) Flat Panel, multi-touch, Ethernet up to 100 m, 1 920 x 1 080 pixels, for 24 V DC DisplayPort/Ethernet interface, fully-enclosed IP65 protection, neutral design</p> <ul style="list-style-type: none"> <li>• Prepared for pedestal and extension components</li> <li>• Prepared for support arm and extension components</li> </ul>	<p><b>6AV7466-5MA01-0AA0</b></p> <p><b>6AV7466-5MA02-0AA0</b></p>	<p><b>SIMATIC IFP2200 PRO HD ETH</b> 22" (16:9) Flat Panel, multi-touch, Ethernet up to 100 m, 1 920 x 1 080 pixels, for 24 V DC DisplayPort/Ethernet interface, fully-enclosed IP65 protection, neutral design</p> <ul style="list-style-type: none"> <li>• Prepared for pedestal and extension components</li> <li>• Prepared for support arm and extension components</li> </ul>	<p><b>6AV7466-8MA01-0AA0</b></p> <p><b>6AV7466-8MA02-0AA0</b></p>
<p><b>SIMATIC IFP1900 PRO HD ETH</b> 19" (16:9) Flat Panel, multi-touch, Ethernet up to 100 m, 1 920 x 1 080 pixels, for 24 V DC DisplayPort/Ethernet interface, fully-enclosed IP65 protection, neutral design</p> <ul style="list-style-type: none"> <li>• Prepared for pedestal and extension components</li> <li>• Prepared for support arm and extension components</li> </ul>	<p><b>6AV7466-6MA01-0AA0</b></p> <p><b>6AV7466-6MA02-0AA0</b></p>		

Note:

As in the case of the Flat Panel PRO, adaptation to support arm/pedestal systems is possible using the basic adapter. This is included in the scope of supply (only in the case of the "prepared for support arm and extension components" version is the basic adapter not included, as the connection is made via a round tube).

For the version "prepared for support arm and extension components", installation can alternatively take place with the Siemens round tube adapter or with a standard 48 mm diameter round tube.

The round tube adapter enables the transition from a round tube connection to the familiar mechanical interface of the basic adapter. This means you can combine different versions of the PRO devices with the same support arm or pedestal system.

## PC-based Automation

### Industrial PC

#### Devices for special requirements

#### Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO

#### Technical specifications

Article number	6AV7863-1MA14-2AA0	6AV7863-1MA16-2AA0	6AV7863-1MA15-2AA0	6AV7863-1MA14-2NA0	6AV7863-1MA15-2NA0	6AV7863-1MA16-2NA0
	SIMATIC Flat Panel 12" MT V2 PRO	SIMATIC Flat Panel 12" MT V2 PRO	SIMATIC Flat Panel 12" MT V2 PRO	SIMATIC Flat Panel 12" MT V2 PRO	SIMATIC Flat Panel 12" MT V2 PRO	SIMATIC Flat Panel 12" MT V2 PRO
<b>General information</b>						
Product type designation	IFP1200 PRO	IFP1200 PRO	IFP1200 PRO	IFP1200 PRO	IFP1200 PRO	IFP1200 PRO
Short designation	Flat Panel 12" multi-touch ext.	Flat Panel 12" multi-touch ext.	Flat Panel 12" multi-touch ext.	Flat Panel 12" multi-touch ext.	Flat Panel 12" multi-touch ext.	Flat Panel 12" multi-touch ext.
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting					
Screen diagonal	12.1 in	12.1 in	12.1 in	12.1 in	12.1 in	12.1 in
Screen diagonal [cm]	30.7 cm	30.7 cm	30.7 cm	30.7 cm	30.7 cm	30.7 cm
On Screen Display (OSD) configuration	No	No	No	No	No	No
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	176° x 176°	176° x 176°	176° x 176°	176° x 176°	176° x 176°	176° x 176°
<b>Resolution (pixels)</b>						
• Image resolution	1 280 x 800	1 280 x 800	1 280 x 800	1 280 x 800	1 280 x 800	1 280 x 800
<b>General features</b>						
• Brightness/contrast	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1	400 cd/m <sup>2</sup> / 800:1
• Detachable from computer unit	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C
<b>Control elements</b>						
<b>Input device</b>						
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>						
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive					
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>						
Design	Pedestal mounting	Support arm mounting	Support arm mounting	Pedestal mounting	Support arm mounting	Support arm mounting
<b>Supply voltage</b>						
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Input current</b>						
Current consumption (rated value)	0.65 A	0.65 A	0.65 A	0.65 A	0.65 A	0.65 A
Current consumption, max.	1 A	1 A	1 A	1 A	1 A	1 A
<b>Interfaces</b>						
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>						
• DisplayPort	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes	Yes	Yes	Yes

#### Technical specifications

Article number	6AV7863-1MA14-2AA0	6AV7863-1MA16-2AA0	6AV7863-1MA15-2AA0	6AV7863-1MA14-2NA0	6AV7863-1MA15-2NA0	6AV7863-1MA16-2NA0
	SIMATIC Flat Panel 12" MT V2 PRO					
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL					
cULus	Yes; Corresponds to UL 508					
FM approval	Yes; Available soon					
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Yes; Available soon					
• ATEX Zone 22	Yes; Available soon					
• IECEx Zone 2	Yes; Available soon					
• IECEx Zone 22	Yes; Available soon					
• FM Class I Division 2	Yes; Available soon					
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	45 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	3 500 m					
<b>Relative humidity</b>						
• Operation, max.	95 %; no condensation					
<b>Vibrations</b>						
• Vibration load in operation	1 gn					
• Vibration load during transport/storage	1 gn					
<b>Shock testing</b>						
• Shock load during operation	15 gn					
• shock acceleration during storage/transport	15 gn					
<b>Mechanics/material</b>						
Enclosure material (front)	In standard design	In standard design	In standard design	With neutral design	With neutral design	With neutral design
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front					
Enclosure material (rear)	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>						
Width	313 mm					
Height	225 mm; Without basic adapter					
Depth	100.7 mm	162.8 mm	100.7 mm	100.7 mm	100.7 mm	162.8 mm
Width of the housing front	313 mm					
Height of housing front	225 mm					
<b>Weights</b>						
Weight (without packaging)	4 kg	4.4 kg	4 kg	4 kg	4 kg	4.4 kg

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO****Technical specifications**

Article number	<b>6AV7466-5MA01-0AA0</b>	<b>6AV7466-5MA02-0AA0</b>	<b>6AV7466-6MA01-0AA0</b>	<b>6AV7466-6MA02-0AA0</b>	<b>6AV7466-8MA01-0AA0</b>	<b>6AV7466-8MA02-0AA0</b>
	SIMATIC IFP1500 PRO OEM ETH pedestal	SIMATIC IFP1500 PRO HD OEM ETH sup. arm	SIMATIC IFP1900 PRO HD OEM ETH pedestal	SIMATIC IFP1900 PRO HD OEM ETH sup. arm	SIMATIC IFP2200 PRO OEM ETH pedestal	SIMATIC IFP2200 PRO OEM ETH support arm
<b>General information</b>						
Product type designation	IFP1500 PRO HD	IFP1500 PRO HD	IFP1900 PRO HD	IFP1900 PRO HD	IFP2200 PRO	IFP2200 PRO
Short designation	Flat Panel 15" PRO Full HD multi-touch Ethernet monitor	Flat Panel 15" PRO Full HD multi-touch Ethernet monitor	Flat Panel 19" PRO Full HD ETH multi-touch ext.	Flat Panel 19" PRO Full HD ETH multi-touch ext.	Flat Panel 22" PRO ETH multi-touch ext.	Flat Panel 22" PRO ETH multi-touch ext.
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting					
Screen diagonal	15.6 in	15.6 in	18.5 in	18.5 in	22 in	22 in
Screen diagonal [cm]	40 cm	40 cm	47 cm	47 cm	56 cm	56 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	160° x 140°	160° x 140°	178° x 178°	178° x 178°	170° x 160°	170° x 160°
<b>General features</b>						
• Brightness/contrast	400 cd/m <sup>2</sup> / 700:1	400 cd/m <sup>2</sup> / 700:1	350 cd/m <sup>2</sup> / 1 000:1	350 cd/m <sup>2</sup> / 1 000:1	300 cd/m <sup>2</sup> / 1 000:1	300 cd/m <sup>2</sup> / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
• Detachable from computer unit	100 m; Ethernet	100 m; Ethernet	100 m; Ethernet	100 m; Ethernet	100 m; Ethernet	100 m; Ethernet
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>						
<b>Input device</b>						
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>						
• Design as touch screen	Yes	Yes	Yes	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive				
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>						
Design	Pedestal mounting	Support arm mounting	Pedestal mounting	Support arm mounting	Pedestal mounting	Support arm mounting
<b>Supply voltage</b>						
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>						
• DVI-D	No	No	No	No	No	No
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes

#### Technical specifications

Article number	6AV7466-5MA01-0AA0	6AV7466-5MA02-0AA0	6AV7466-6MA01-0AA0	6AV7466-6MA02-0AA0	6AV7466-8MA01-0AA0	6AV7466-8MA02-0AA0
	SIMATIC IFP1500 PRO OEM ETH pedestal	SIMATIC IFP1500 PRO HD OEM ETH sup. arm	SIMATIC IFP1900 PRO HD OEM ETH pedestal	SIMATIC IFP1900 PRO HD OEM ETH sup. arm	SIMATIC IFP2200 PRO OEM ETH pedestal	SIMATIC IFP2200 PRO OEM ETH support arm
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; In application process					
cULus	Yes; In application process					
RCM (formerly C-TICK)	Yes; In application process					
KC approval	No	No	No	No	No	No
EAC (formerly Gost-R)	Yes; In application process					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	No	No	No	No	No	No
• ATEX Zone 22	No	No	No	No	No	No
• FM Class I Division 2	No	No	No	No	No	No
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	50 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)			
<b>Relative humidity</b>						
• Operation, max.	95 %	95 %	95 %; no condensation			
<b>Vibrations</b>						
• Vibration load in operation	10 m/s <sup>2</sup>					
• Vibration load during transport/storage	10 m/s <sup>2</sup>					
<b>Shock testing</b>						
• Shock load during operation	150 m/s <sup>2</sup>					
• shock acceleration during storage/transport	150 m/s <sup>2</sup>					
<b>Mechanics/material</b>						
Enclosure material (front)						
• Glass	Yes; at front					
Enclosure material (rear)		aluminum				
<b>Dimensions</b>						
Width	396 mm	396 mm	462 mm	462 mm	527 mm	527 mm
Height	255 mm; Without basic adapter	255 mm	292 mm; Without basic adapter	292 mm	329 mm; Without basic adapter	329 mm
Depth	101 mm; Without basic adapter	163 mm	94 mm; Without basic adapter	163 mm	94 mm; Without basic adapter	163 mm
<b>Weights</b>						
Weight (without packaging)	4 kg	4 kg	5.7 kg	5.7 kg	6.7 kg	6.7 kg

## PC-based Automation

### Industrial PC

#### Devices for special requirements

#### Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO

#### Technical specifications

Article number	6AV7863-6MA14-2AA0	6AV7863-6MA15-2AA0	6AV7863-6MA16-2AA0	6AV7863-6MA14-2NA0	6AV7863-6MA15-2NA0	6AV7863-6MA16-2NA0
	SIMATIC Flat Panel 19 MT V2 PRO	SIMATIC Flat Panel 19 MT V2 PRO	SIMATIC Flat Panel 19 MT V2 PRO	SIMATIC Flat Panel 19 MT V2 PRO	SIMATIC Flat Panel 19 MT V2 PRO	SIMATIC Flat Panel 19 MT V2 PRO
<b>General information</b>						
Product type designation	IFP1900 V2 PRO	IFP1900 V2 PRO	IFP1900 V2 PRO	IFP1900 V2 PRO	IFP1900 V2 PRO	IFP1900 V2 PRO
Short designation	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting					
Screen diagonal	18.5 in; 19"	18.5 in; 19"	18.5 in; 19"	18.5 in; 19"	18.5 in; 19"	18.5 in; 19"
Screen diagonal [cm]	47 cm	47 cm	47 cm	47 cm	47 cm	47 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°
<b>Resolution (pixels)</b>						
• Image resolution	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080
<b>General features</b>						
• Brightness/contrast	350 cd/m <sup>2</sup> / 1 000:1	350 cd/m <sup>2</sup> / 1 000:1	350 cd/m <sup>2</sup> / 1 000:1	350 cd/m <sup>2</sup> / 1 000:1	350 cd/m <sup>2</sup> / 1 000:1	350 cd/m <sup>2</sup> / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
• Detachable from computer unit	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>						
Control elements	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen
<b>Input device</b>						
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>						
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>						
Design	Pedestal mounting	Support arm mounting	Support arm mounting	Pedestal mounting	Support arm mounting	Support arm mounting
<b>Supply voltage</b>						
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Input current</b>						
Current consumption (rated value)	1.2 A	1.2 A	1.2 A	1.2 A	1.2 A	1.2 A
Current consumption, max.	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A
<b>Interfaces</b>						
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>						
• DisplayPort	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV7863-6MA14-2AA0	6AV7863-6MA15-2AA0	6AV7863-6MA16-2AA0	6AV7863-6MA14-2NA0	6AV7863-6MA15-2NA0	6AV7863-6MA16-2NA0
	SIMATIC Flat Panel 19 MT V2 PRO					
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
Certificate of suitability	hazardous zone 2/22; shipbuilding					
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508					
FM approval	Available soon					
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Available soon					
• ATEX Zone 22	Available soon					
• IECEx Zone 2	Available soon					
• IECEx Zone 22	Available soon					
• cULus Class I Zone 2, Division 2	Available soon					
• FM Class I Division 2	Available soon					
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	45 °C					
<b>Relative humidity</b>						
• Operation, max.	95 %; no condensation					
<b>Vibrations</b>						
• Vibration load in operation	1 gn					
• Vibration load during transport/storage	1 gn					
<b>Shock testing</b>						
• Shock load during operation	15 gn					
• shock acceleration during storage/transport	15 gn					
<b>Mechanics/material</b>						
Enclosure material (front)	In standard design	In standard design	In standard design	With neutral design	With neutral design	With neutral design
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front					
Enclosure material (rear)	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>						
Width	462 mm					
Height	296 mm; Without basic adapter					
Depth	93.7 mm; Without basic adapter	93.7 mm; Without basic adapter	163 mm; Without basic adapter	93.7 mm; Without basic adapter	93.7 mm; Without basic adapter	163 mm; Without basic adapter
Width of the housing front	462 mm					
Height of housing front	292 mm					
<b>Weights</b>						
Weight (without packaging)	6.3 kg	6.3 kg	6.9 kg	6.3 kg	6.3 kg	6.9 kg

## PC-based Automation

### Industrial PC

#### Devices for special requirements

#### Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO

#### Technical specifications

Article number	6AV7863-4MA14-2AA0	6AV7863-4MA15-2AA0	6AV7863-4MA16-2AA0	6AV7863-4MA14-2NA0	6AV7863-4MA15-2NA0	6AV7863-4MA16-2NA0
	SIMATIC Flat Panel 22 MT V2 PRO					
<b>General information</b>						
Product type designation	IFP2200 PRO	IFP2200 PRO	IFP2200 V2 PRO	IFP2200 PRO	IFP2200 PRO	IFP2200 V2 PRO
Short designation	Flat Panel 22" PRO multi-touch ext.					
<b>Display</b>						
Design of display	TFT widescreen display, LED backlighting					
Screen diagonal	21.5 in; 22"					
Screen diagonal [cm]	54.6 cm					
On Screen Display (OSD) configuration	No; Adjustable by means of software					
Number of colors	16 777 216; 24 bit					
Viewing angle	178° x 178°					
<b>Resolution (pixels)</b>						
• Image resolution	1 920 x 1 080					
<b>General features</b>						
• Brightness/contrast	250 cd/m <sup>2</sup> / 1 000:1					
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
• Detachable from computer unit	100 m; HDBaseT protocol					
<b>Backlighting</b>						
• Type of backlighting	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	30 000 h; At 25°C					
<b>Control elements</b>						
Control elements	multi-touch screen					
<b>Input device</b>						
• Integrated mouse cursor control	Yes; Also externally via USB					
<b>Touch operation</b>						
• Design as touch screen	Yes	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive					
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>						
Design	Pedestal mounting	Support arm mounting	Support arm mounting	Pedestal mounting	Support arm mounting	Support arm mounting
<b>Supply voltage</b>						
Rated value (DC)	24 V; PELV / SELV floating					
<b>Input current</b>						
Current consumption (rated value)	1 A	1 A	1 A	1 A	1 A	1 A
Current consumption, max.	1.3 A					
<b>Interfaces</b>						
Number of USB interfaces	2; USB 2.0 type A					
USB on the rear	Yes; 2x onboard					
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>						
• DisplayPort	Yes; Display port V1.2					
<b>Touch interfaces</b>						
• USB	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV7863-4MA14-2AA0	6AV7863-4MA15-2AA0	6AV7863-4MA16-2AA0	6AV7863-4MA14-2NA0	6AV7863-4MA15-2NA0	6AV7863-4MA16-2NA0
	SIMATIC Flat Panel 22 MT V2 PRO					
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
Certificate of suitability	hazardous zone 2/22; shipbuilding		hazardous zone 2/22; shipbuilding			
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508					
FM approval	Available soon					
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2					
<b>Use in hazardous areas</b>						
• ATEX Zone 2	Available soon					
• ATEX Zone 22	Available soon					
• IECEx Zone 2	Available soon					
• IECEx Zone 22	Available soon					
• cULus Class I Zone 2, Division 2	Available soon					
• FM Class I Division 2	Available soon					
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	45 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	3 500 m					
<b>Relative humidity</b>						
• Operation, max.	95 %; no condensation					
<b>Vibrations</b>						
• Vibration load in operation	1 gn					
• Vibration load during transport/storage	1 gn					
<b>Shock testing</b>						
• Shock load during operation	15 gn					
• shock acceleration during storage/transport	15 gn					
<b>Mechanics/material</b>						
Enclosure material (front)	In standard design	In standard design	In standard design	With neutral design	With neutral design	With neutral design
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front					
Enclosure material (rear)	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>						
Width	527 mm					
Height	329 mm; Without basic adapter					
Depth	93.7 mm; Without basic adapter	93.7 mm; Without basic adapter	162.8 mm; Without basic adapter	93.7 mm; Without basic adapter	93.7 mm; Without basic adapter	162.8 mm; Without basic adapter
Width of the housing front	527 mm					
Height of housing front	329 mm					
<b>Weights</b>						
Weight (without packaging)	7.6 kg	7.6 kg	8.2 kg	7.6 kg	7.6 kg	8.2 kg

## PC-based Automation

### Industrial PC

#### Devices for special requirements

#### Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO

#### Technical specifications

Article number	6AV7863-7MA14-2AA0	6AV7863-7MA15-2AA0	6AV7863-7MA16-2AA0	6AV7863-7MA17-2AA0	6AV7863-7MA14-2NA0	6AV7863-7MA15-2NA0	6AV7863-7MA16-2NA0	6AV7863-7MA17-2NA0
	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO
<b>General information</b>								
Product type designation	IFP2400 V2 PRO	IFP2400 V2 PRO	IFP2400 V2 PRO	IFP2400 V2 PRO	IFP2400 V2 PRO	IFP2400 V2 PRO	IFP2400 V2 PRO	IFP2400 V2 PRO
Short designation	Flat Panel 24" PRO multi-touch ext.	Flat Panel 24" PRO multi-touch ext.	Flat Panel 24" PRO multi-touch ext.	Flat Panel 24" PRO multi-touch ext.	Flat Panel 24" PRO multi-touch ext.	Flat Panel 24" PRO multi-touch ext.	Flat Panel 24" PRO multi-touch ext.	Flat Panel 24" PRO multi-touch ext.
<b>Display</b>								
Design of display	TFT widescreen display, LED backlighting							
Screen diagonal	23.8 in	23.8 in	23.8 in	23.8 in	23.8 in	23.8 in	23.8 in	23.8 in
Screen diagonal [cm]	60.47 cm	60.47 cm	60.47 cm	60.47 cm	60.47 cm	60.47 cm	60.47 cm	60.47 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software							
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°	178° x 178°
<b>Resolution (pixels)</b>								
• Image resolution	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 080 x 1 920	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080	1 080 x 1 920
<b>General features</b>								
• Brightness/contrast	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1	250 cd/m <sup>2</sup> / 1 000:1
• Detachable from computer unit	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol	100 m; HDBaseT protocol
<b>Backlighting</b>								
• Type of backlighting	LED	LED	LED	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>								
Control elements	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen	multi-touch screen
<b>Input device</b>								
• Integrated mouse cursor control	Yes; Also externally via USB							
<b>Touch operation</b>								
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>								
Design	Pedestal mounting	Support arm mounting	Support arm mounting	Support arm mounting	Pedestal mounting	Support arm mounting	Support arm mounting	Support arm mounting
<b>Supply voltage</b>								
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Input current</b>								
Current consumption (rated value)	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A
Current consumption, max.	1.9 A	1.9 A	1.9 A	1.9 A	1.9 A	1.9 A	1.9 A	1.9 A
<b>Interfaces</b>								
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB	USB	USB
<b>Video interfaces</b>								
• DisplayPort	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2	Yes; Display port V1.2
<b>Touch interfaces</b>								
• USB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

### Technical specifications

Article number	6AV7863-7MA14-2AA0	6AV7863-7MA15-2AA0	6AV7863-7MA16-2AA0	6AV7863-7MA17-2AA0	6AV7863-7MA14-2NA0	6AV7863-7MA15-2NA0	6AV7863-7MA16-2NA0	6AV7863-7MA17-2NA0
	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO
<b>Degree and class of protection</b>								
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)								
• Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>								
Certificate of suitability	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding	hazardous zone 2/22; shipbuilding
CE mark	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL
cULus	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FM approval	Available soon	Available soon	Available soon	Available soon	Available soon	Available soon	Available soon	Available soon
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2							
Marine approval	Available soon							
<b>Use in hazardous areas</b>								
• ATEX Zone 2	Yes; Available soon							
• ATEX Zone 22	Yes; Available soon							
• IECEx Zone 2	Yes; Available soon							
• IECEx Zone 22	Yes; Available soon							
• cULus Class I Zone 2, Division 2	Yes; Available soon							
• FM Class I Division 2	Yes; Available soon							
<b>Ambient conditions</b>								
<b>Ambient temperature during operation</b>								
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
<b>Altitude during operation relating to sea level</b>								
• Installation altitude above sea level, max.	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m
<b>Relative humidity</b>								
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation
<b>Vibrations</b>								
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn	1 gn	1 gn	1 gn	1 gn	1 gn	1 gn
<b>Shock testing</b>								
• Shock load during operation	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn
• shock acceleration during storage/transport	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO****Technical specifications**

Article number	<b>6AV7863-7MA14-2AA0</b>	<b>6AV7863-7MA15-2AA0</b>	<b>6AV7863-7MA16-2AA0</b>	<b>6AV7863-7MA17-2AA0</b>	<b>6AV7863-7MA14-2NA0</b>	<b>6AV7863-7MA15-2NA0</b>	<b>6AV7863-7MA16-2NA0</b>	<b>6AV7863-7MA17-2NA0</b>
	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO	SIMATIC Flat Panel 24 MT V2 PRO
<b>Mechanics/material</b>								
Enclosure material (front)	In standard design	In standard design	In standard design	In standard design	With neutral design	With neutral design	With neutral design	With neutral design
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Aluminum casting	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Glass	Yes; at front	Yes; at front	Yes; at front	Yes; at front	Yes; at front	Yes; at front	Yes; at front	Yes; at front
Enclosure material (rear)	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
<b>Dimensions</b>								
Width	583 mm	583 mm	583 mm	361 mm	583 mm	583 mm	583 mm	361 mm
Height	361 mm; Without basic adapter	361 mm; Without basic adapter	361 mm; Without basic adapter	583 mm; Without basic adapter	361 mm; Without basic adapter	361 mm; Without basic adapter	361 mm; Without basic adapter	583 mm; Without basic adapter
Depth	93.7 mm; Without basic adapter	93.7 mm; Without basic adapter	162.8 mm; Without basic adapter	162.8 mm; Without basic adapter	93.7 mm; Without basic adapter	93.7 mm; Without basic adapter	162.8 mm; Without basic adapter	162.8 mm; Without basic adapter
Width of the housing front	583 mm	583 mm	583 mm	361 mm	583 mm	583 mm	583 mm	361 mm
Height of housing front	361 mm	361 mm	361 mm	583 mm	361 mm	361 mm	361 mm	583 mm
<b>Weights</b>								
Weight (without packaging)	9.2 kg	9.2 kg	9.9 kg	9.2 kg	9.2 kg	9.2 kg	9.9 kg	9.2 kg

## Technical specifications

Article number	<b>6AV7466-5MA01-0AA0</b> SIMATIC IFP1500 PRO OEM ETH pedestal	<b>6AV7466-5MA02-0AA0</b> SIMATIC IFP1500 PRO HD OEM ETH sup. arm
<b>General information</b>		
Product type designation	IFP1500 PRO HD	IFP1500 PRO HD
Short designation	Flat Panel 15" PRO Full HD multi-touch Ethernet monitor	Flat Panel 15" PRO Full HD multi-touch Ethernet monitor
<b>Display</b>		
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in	15.6 in
Screen diagonal [cm]	40 cm	40 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	160° x 140°	160° x 140°
<b>General features</b>		
• Brightness/contrast	400 cd/m <sup>2</sup> / 700:1	400 cd/m <sup>2</sup> / 700:1
• non-reflective and tempered mineral glass screen	Yes	Yes
• Detachable from computer unit	100 m; Ethernet	100 m; Ethernet
<b>Backlighting</b>		
• Type of backlighting	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>		
<b>Input device</b>		
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>		
• Design as touch screen	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes
<b>Installation type/mounting</b>		
Design	Pedestal mounting	Support arm mounting
<b>Supply voltage</b>		
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Interfaces</b>		
Number of industrial Ethernet interfaces	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45
USB on the rear	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB
<b>Video interfaces</b>		
• DVI-D	No	No
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
<b>Touch interfaces</b>		
• USB	Yes	Yes
<b>Degree and class of protection</b>		
IP (at the front)	IP65	IP65
IP (rear)	IP65	IP65
NEMA (front)		
• Enclosure Type 4x at the front	Yes	Yes

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO****Technical specifications**

Article number	<b>6AV7466-5MA01-0AA0</b> SIMATIC IFP1500 PRO OEM ETH pedestal	<b>6AV7466-5MA02-0AA0</b> SIMATIC IFP1500 PRO HD OEM ETH sup. arm
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes; In application process	Yes; In application process
cULus	Yes; In application process	Yes; In application process
RCM (formerly C-TICK)	Yes; In application process	Yes; In application process
KC approval	No	No
EAC (formerly Gost-R)	Yes; In application process	Yes; In application process
<b>Use in hazardous areas</b>		
• ATEX Zone 2	No	No
• ATEX Zone 22	No	No
• FM Class I Division 2	No	No
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)
<b>Relative humidity</b>		
• Operation, max.	95 %	95 %
<b>Vibrations</b>		
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>		
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
<b>Mechanics/material</b>		
Enclosure material (front)		
• Glass	Yes; at front	Yes; at front
Enclosure material (rear)		
		aluminum
<b>Dimensions</b>		
Width	396 mm	396 mm
Height	255 mm; Without basic adapter	255 mm
Depth	101 mm; Without basic adapter	163 mm
<b>Weights</b>		
Weight (without packaging)	4 kg	4 kg

## Technical specifications

Article number	<b>6AV7466-6MA01-0AA0</b> SIMATIC IFP1900 PRO HD OEM ETH pedestal	<b>6AV7466-6MA02-0AA0</b> SIMATIC IFP1900 PRO HD OEM ETH sup. arm
<b>General information</b>		
Product type designation	IFP1900 PRO HD	IFP1900 PRO HD
Short designation	Flat Panel 19" PRO Full HD ETH multi-touch ext.	Flat Panel 19" PRO Full HD ETH multi-touch ext.
<b>Display</b>		
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	18.5 in	18.5 in
Screen diagonal [cm]	47 cm	47 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	178° x 178°	178° x 178°
<b>General features</b>		
• Brightness/contrast	350 cd/m <sup>2</sup> / 1 000:1	350 cd/m <sup>2</sup> / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes
• Detachable from computer unit	100 m; Ethernet	100 m; Ethernet
<b>Backlighting</b>		
• Type of backlighting	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>		
<b>Input device</b>		
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>		
• Design as touch screen	Yes	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes
<b>Installation type/mounting</b>		
Design	Pedestal mounting	Support arm mounting
<b>Supply voltage</b>		
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Interfaces</b>		
Number of industrial Ethernet interfaces	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45
USB on the rear	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB
<b>Video interfaces</b>		
• DVI-D	No	No
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
<b>Touch interfaces</b>		
• USB	Yes	Yes
<b>Degree and class of protection</b>		
IP (at the front)	IP65	IP65
IP (rear)	IP65	IP65
NEMA (front)		
• Enclosure Type 4x at the front	Yes	Yes

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO****Technical specifications**

Article number	<b>6AV7466-6MA01-0AA0</b> SIMATIC IFP1900 PRO HD OEM ETH pedestal	<b>6AV7466-6MA02-0AA0</b> SIMATIC IFP1900 PRO HD OEM ETH sup. arm
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes; In application process	Yes; In application process
cULus	Yes; In application process	Yes; In application process
RCM (formerly C-TICK)	Yes; In application process	Yes; In application process
KC approval	No	No
EAC (formerly Gost-R)	Yes; In application process	Yes; In application process
<b>Use in hazardous areas</b>		
• ATEX Zone 2	No	No
• ATEX Zone 22	No	No
• FM Class I Division 2	No	No
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)
<b>Relative humidity</b>		
• Operation, max.	95 %; no condensation	95 %; no condensation
<b>Vibrations</b>		
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>		
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
<b>Mechanics/material</b>		
Enclosure material (front)		
• Glass	Yes; at front	Yes; at front
<b>Dimensions</b>		
Width	462 mm	462 mm
Height	292 mm; Without basic adapter	292 mm
Depth	94 mm; Without basic adapter	163 mm
<b>Weights</b>		
Weight (without packaging)	5.7 kg	5.7 kg

**Technical specifications**

Article number	<b>6AV7466-8MA01-0AA0</b> SIMATIC IFP2200 PRO OEM ETH pedestal	<b>6AV7466-8MA02-0AA0</b> SIMATIC IFP2200 PRO OEM ETH support arm
<b>General information</b>		
Product type designation	IFP2200 PRO	IFP2200 PRO
Short designation	Flat Panel 22" PRO ETH multi-touch ext.	Flat Panel 22" PRO ETH multi-touch ext.
<b>Display</b>		
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	22 in	22 in
Screen diagonal [cm]	56 cm	56 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit
Viewing angle	170° x 160°	170° x 160°
<b>General features</b>		
• Brightness/contrast	300 cd/m <sup>2</sup> / 1 000:1	300 cd/m <sup>2</sup> / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes
• Detachable from computer unit	100 m; Ethernet	100 m; Ethernet
<b>Backlighting</b>		
• Type of backlighting	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>		
<b>Input device</b>		
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB
<b>Touch operation</b>		
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes
<b>Installation type/mounting</b>		
Design	Pedestal mounting	Support arm mounting
<b>Supply voltage</b>		
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating
<b>Interfaces</b>		
Number of industrial Ethernet interfaces	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45
USB on the rear	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB
<b>Video interfaces</b>		
• DVI-D	No	No
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
<b>Touch interfaces</b>		
• USB	Yes	Yes
<b>Degree and class of protection</b>		
IP (at the front)	IP65	IP65
IP (rear)	IP65	IP65
NEMA (front)		
• Enclosure Type 4x at the front	Yes	Yes
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes; In application process	Yes; In application process
cULus	Yes; In application process	Yes; In application process
RCM (formerly C-TICK)	Yes; In application process	Yes; In application process
KC approval	No	No
EAC (formerly Gost-R)	Yes; In application process	Yes; In application process
<b>Use in hazardous areas</b>		
• ATEX Zone 2	No	No
• ATEX Zone 22	No	No
• FM Class I Division 2	No	No

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Flat Panel PRO****Technical specifications**

Article number	<b>6AV7466-8MA01-0AA0</b> SIMATIC IFP2200 PRO OEM ETH pedestal	<b>6AV7466-8MA02-0AA0</b> SIMATIC IFP2200 PRO OEM ETH support arm
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
<b>Relative humidity</b>		
• Operation, max.	95 %; no condensation	95 %; no condensation
<b>Vibrations</b>		
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>		
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
<b>Mechanics/material</b>		
Enclosure material (front)		
• Glass	Yes; at front	Yes; at front
<b>Dimensions</b>		
Width	527 mm	527 mm
Height	329 mm; Without basic adapter	329 mm
Depth	94 mm; Without basic adapter	163 mm
<b>Weights</b>		
Weight (without packaging)	6.7 kg	6.7 kg

**More information**

More information can be found on the Internet at:

<http://www.siemens.com/ip65-hmi-devices>

## Overview



### **SIMATIC Industrial Thin Client PRO**

SIMATIC Industrial Thin Client PRO with capacitive multi-touch display is suitable for mounting directly on the support arm/pedestal.

## Ordering data

## Article No.

### **SIMATIC Industrial Thin Client PRO**

**SIMATIC ITC1500 V3 PRO**  
Industrial Thin Client  
15" widescreen TFT display  
Capacitive touch sensor  
Supported protocols: RDP, VNC, SMARTSERVER HTML5, etc.  
Standard design

- Pedestal mounting
- Prepared for support arm without extension components
- Prepared for support arm with extension components

**6AV6646-1BB15-0AA0**

**6AV6646-1BC15-0AA0**

**6AV6646-1BD15-0AA0**

### **SIMATIC ITC1900 V3 PRO**

Industrial Thin Client  
19" widescreen TFT display  
Capacitive touch sensor  
Supported protocols: RDP, VNC, SMARTSERVER HTML5, etc.  
Standard design

- Pedestal mounting
- Prepared for support arm without extension components
- Prepared for support arm with extension components

**6AV6646-1BB18-0AA0**

**6AV6646-1BC18-0AA0**

**6AV6646-1BD18-0AA0**

### **SIMATIC ITC2200 V3 PRO**

Industrial Thin Client  
22" widescreen TFT display  
Capacitive touch sensor  
Supported protocols: RDP, VNC, SMARTSERVER HTML5, etc.  
Standard design

- Pedestal mounting
- Prepared for support arm without extension components
- Prepared for support arm with extension components

**6AV6646-1BB22-1AA0**

**6AV6646-1BC22-1AA0**

**6AV6646-1BD22-1AA0**

### Note:

An adapter plate is required for mounting on the support arm systems of well-known manufacturers; see "Accessories for fully-enclosed HMI devices".

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Thin Client PRO****Technical specifications**

Article number	<b>6AV6646-1BB15-0AA0</b> SIMATIC ITC1500 V3 PRO	<b>6AV6646-1BC15-0AA0</b> SIMATIC ITC1500 V3 PRO	<b>6AV6646-1BD15-0AA0</b> SIMATIC ITC1500 V3 PRO
<b>General information</b>			
Product type designation	ITC1500 V3 PRO	ITC1500 V3 PRO	ITC1500 V3 PRO
<b>Display</b>			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in; 15"	15.6 in; 15"	15.6 in; 15"
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Image resolution	1 366 x 768	1 366 x 768	1 366 x 768
<b>General features</b>			
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
• Detachable from computer unit	100 m	100 m	100 m
<b>Backlighting</b>			
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>			
Control elements	multi-touch screen	multi-touch screen	multi-touch screen
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
<b>Supply voltage</b>			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB
<b>Industrial Ethernet</b>			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s
<b>Degree and class of protection</b>			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20
NEMA (front)			
• Enclosure Type 4x at the front	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes

## Technical specifications

Article number	<b>6AV6646-1BB15-0AA0</b> SIMATIC ITC1500 V3 PRO	<b>6AV6646-1BC15-0AA0</b> SIMATIC ITC1500 V3 PRO	<b>6AV6646-1BD15-0AA0</b> SIMATIC ITC1500 V3 PRO
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
<b>Use in hazardous areas</b>			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Vibrations</b>			
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>			
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
<b>Software</b>			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
<b>configuration / header</b>			
<b>Configuration</b>			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	2; german / english	2; german / english	2; german / english
<b>Peripherals/Options</b>			
USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
<b>Mechanics/material</b>			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
<b>Dimensions</b>			
Width of the housing front	396 mm	396 mm	396 mm
Height of housing front	256 mm; Without basic adapter	256 mm; Without basic adapter	256 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
<b>Weights</b>			
Weight (without packaging)	6.3 kg	6.3 kg	6.3 kg

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Thin Client PRO****Technical specifications**

Article number	<b>6AV6646-1BB18-0AA0</b> SIMATIC ITC1900 V3 PRO	<b>6AV6646-1BC18-0AA0</b> SIMATIC ITC1900 V3 PRO	<b>6AV6646-1BD18-0AA0</b> SIMATIC ITC1900 V3 PRO
<b>General information</b>			
Product type designation	ITC1900 V3 PRO	ITC1900 V3 PRO	ITC1900 V3 PRO
<b>Display</b>			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	18.5 in; 19"	18.5 in; 19"	18.5 in; 19"
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Image resolution	1 366 x 768	1 366 x 768	1 366 x 768
<b>General features</b>			
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
• Detachable from computer unit	100 m	100 m	100 m
<b>Backlighting</b>			
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
<b>Control elements</b>			
Control elements	multi-touch screen	multi-touch screen	multi-touch screen
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
<b>Supply voltage</b>			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB
<b>Industrial Ethernet</b>			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s
<b>Degree and class of protection</b>			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20
NEMA (front)	NEMA 4x (when installed)	NEMA 4x (when installed)	NEMA 4x (when installed)
• Enclosure Type 4x at the front	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes

## Technical specifications

Article number	<b>6AV6646-1BB18-0AA0</b> SIMATIC ITC1900 V3 PRO	<b>6AV6646-1BC18-0AA0</b> SIMATIC ITC1900 V3 PRO	<b>6AV6646-1BD18-0AA0</b> SIMATIC ITC1900 V3 PRO
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
<b>Use in hazardous areas</b>			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Vibrations</b>			
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>			
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
<b>Software</b>			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
<b>configuration / header</b>			
<b>Configuration</b>			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	2; german / english	2; german / english	2; german / english
<b>Peripherals/Options</b>			
USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
<b>Mechanics/material</b>			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
<b>Dimensions</b>			
Width of the housing front	462 mm	462 mm	462 mm
Height of housing front	293 mm; Without basic adapter	293 mm; Without basic adapter	293 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
<b>Weights</b>			
Weight (without packaging)	7.4 kg	7.4 kg	7.4 kg

**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC Industrial Thin Client PRO****Technical specifications**

Article number	<b>6AV6646-1BB22-1AA0</b> SIMATIC ITC2200 V3 PRO	<b>6AV6646-1BC22-1AA0</b> SIMATIC ITC2200 V3 PRO	<b>6AV6646-1BD22-1AA0</b> SIMATIC ITC2200 V3 PRO
<b>General information</b>			
Product type designation	ITC2200 V3 PRO	ITC2200 V3 PRO	ITC2200 V3 PRO
<b>Display</b>			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	21.5 in; 22"	21.5 in; 22"	21.5 in; 22"
Number of colors	16 777 216	16 777 216	16 777 216
<b>Resolution (pixels)</b>			
• Image resolution	1 920 x 1 080	1 920 x 1 080	1 920 x 1 080
<b>General features</b>			
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
• Detachable from computer unit	100 m	100 m	100 m
<b>Backlighting</b>			
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable
• MTBF backlighting (at 25 °C)	30 000 h; At 25°C	30 000 h; At 25°C	30 000 h; At 25°C
<b>Control elements</b>			
Control elements	multi-touch screen	multi-touch screen	multi-touch screen
<b>Touch operation</b>			
• Design as touch screen	Yes	Yes	Yes
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
<b>Supply voltage</b>			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
<b>Interfaces</b>			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	Yes; 2x onboard	Yes; 2x onboard	Yes; 2x onboard
Connection for keyboard/mouse	USB	USB	USB
<b>Industrial Ethernet</b>			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s
<b>Degree and class of protection</b>			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65
NEMA (front)			
• Enclosure Type 4x at the front	Yes	Yes	Yes
• Enclosure Type 12 at the front	Yes	Yes	Yes

**Technical specifications**

Article number	<b>6AV6646-1BB22-1AA0</b> SIMATIC ITC2200 V3 PRO	<b>6AV6646-1BC22-1AA0</b> SIMATIC ITC2200 V3 PRO	<b>6AV6646-1BD22-1AA0</b> SIMATIC ITC2200 V3 PRO
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
<b>Use in hazardous areas</b>			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Vibrations</b>			
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>			
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
<b>Software</b>			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
<b>configuration / header</b>			
<b>Configuration</b>			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
<b>Languages</b>			
<b>Online languages</b>			
• Number of online/runtime languages	2; german / english	2; german / english	2; german / english
<b>Peripherals/Options</b>			
USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
<b>Mechanics/material</b>			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
<b>Dimensions</b>			
Width of the housing front	527 mm	527 mm	527 mm
Height of housing front	330 mm; Without basic adapter	330 mm; Without basic adapter	330 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
<b>Weights</b>			
Weight (without packaging)	8.5 kg	8.5 kg	8.5 kg

**More information**

More information is available on the Internet at:

<http://www.siemens.com/ip65-hmi-devices>

## PC-based Automation

Industrial PC

Devices for special requirements

Fully-enclosed IP65-protected devices > SIMATIC IPC277G PRO

### Overview



### SIMATIC IPC277G PRO

The fully-enclosed IP65-protected SIMATIC IPC277G PRO in 12", 15" and 19" diagonal versions extends the portfolio of PRO devices.

The robust aluminum enclosure allows it to be used directly on the machine even in harsh ambient conditions.

The operating unit can either be mounted on a pedestal or connected to a support arm system.

### Ordering data

#### SIMATIC IPC277G PRO (Nanopanel PC)

#### Operating unit

- 12" multi-touch (1280 x 800), for support arm (not expandable, flange on top)
- 12" multi-touch (1280 x 800), for pedestal (expandable, flange at bottom)
- 12" multi-touch (1280 x 800), for support arm (expandable, round tube)
- 15" multi-touch (1920 x 1080), for support arm (not expandable, flange on top)
- 15" multi-touch (1920 x 1080), for pedestal (expandable, flange at bottom)
- 15" multi-touch (1920 x 1080), for support arm (expandable, round tube)
- 19" multi-touch (1920 x 1080), for support arm (not expandable, flange on top)
- 19" multi-touch (1920 x 1080), for pedestal (expandable, flange at bottom)
- 19" multi-touch (1920 x 1080), for support arm (expandable, round tube)
- 12" multi-touch neutral (1280 x 800), for support arm (not expandable, flange on top)
- 12" multi-touch neutral (1280 x 800), for pedestal (expandable, flange at bottom)
- 12" multi-touch neutral (1280 x 800), for support arm (expandable, round tube)
- 15" multi-touch neutral (1920 x 1080), for support arm (not expandable, flange on top)
- 15" multi-touch neutral (1920 x 1080), for pedestal (expandable, flange at bottom)
- 15" multi-touch neutral (1920 x 1080), for support arm (expandable, round tube)
- 19" multi-touch neutral (1920 x 1080), for support arm (not expandable, flange on top)
- 19" multi-touch neutral (1920 x 1080), for pedestal (expandable, flange at bottom)
- 19" multi-touch neutral (1920 x 1080), for support arm (expandable, round tube)

### Article No.

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## PC-based Automation

Industrial PC

Devices for special requirements

### Fully-enclosed IP65-protected devices > SIMATIC IPC277G PRO

#### Technical specifications

Article number	<b>6AV7886-1....-....</b> SIMATIC IPC277G PRO
<b>Installation type/mounting</b>	
Design	Panel PC, PRO
maximum permissible installation angle +/-	45°
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
Rated value (DC)	24 V
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Atom X6211E / X6413E / X6414RE
Chipset	SoC
<b>Graphic</b>	
Graphics controller	Integrated
<b>Drives</b>	
SSD	Yes; 256 Eco / 240 / 480 GB
<b>Memory</b>	
Type of memory	DDR4 SO-DIMM
Main memory	4 / 8 / 16 GB; inband ECC optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x M.2
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.1 Gen2 10 GB/s + 2x USB 2.0 pin header
Connection for keyboard/mouse serial interface	USB / USB without / 1x COM (RS 232 / 422 / 485; selectable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	No
• Fan	No
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-6-2; 3 V/m, 2 GHz to 6 GHz 80 % AM acc. to IEC 61000-6-2; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6

Article number	<b>6AV7886-1....-....</b> SIMATIC IPC277G PRO
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length < 30 m; ±2 kV (5 kHz/100 kHz) acc. to IEC 61000-4-4; burst; length > 30 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>	
IP (all-round)	IP65
IP (at the front)	IP65
IP (rear)	IP65
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to +40 °C with full configuration
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 200 Hz : 9.8m/s <sup>2</sup> (1 g) (except DIN Rail) 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g) (DIN Rail)
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
without operating system	Yes; Optional
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC

**Overview**



**SIMATIC IPC477E PRO**

The fully-enclosed IP65-protected SIMATIC IPC477E PRO in 15", 19" and 22" versions extends the portfolio of PRO devices.

The robust aluminum housing allows it to be used directly on the machine even in harsh environmental conditions. The operating unit can either be mounted on a pedestal or connected to a support arm system from above.

**Ordering data**

**Article No.**

**SIMATIC IPC477E PRO <sup>1)</sup>**

CPU and fieldbus

- Celeron G3902E; 3x Gigabit Ethernet (IE/PN) **1**
- Core i3-6102E; 3x Gigabit Ethernet (IE/PN) **3**
- Core i5-6442EQ; 3x Gigabit Ethernet (IE/PN) **5**
- XEON E3-1505L; 3x Gigabit Ethernet (IE/PN) **7**

Operating unit

- 15" multi-touch (1 366 x 768), for support arm (not expandable, flange on top) **B**
- 15" multi-touch (1 366 x 768), for pedestal (expandable, flange below) **C**
- 15" multi-touch (1 366 x 768), for support arm (expandable, round tube) **D**
- 19" multi-touch (1 366 x 768), for support arm (not expandable, flange on top) **E**
- 19" multi-touch (1 366 x 768), for pedestal (expandable, flange below) **F**
- 19" multi-touch (1 366 x 768), for support arm (expandable, round tube) **G**
- 22" multi-touch (1 920 x 1 080), for support arm (not expandable, flange on top) **H**
- 22" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below) **J**
- 22" multi-touch (1 920 x 1 080), for support arm (expandable, round tube) **K**
- 19" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below) **V**
- 19" multi-touch (1 920 x 1 080), for support arm (expandable, round tube) **W**
- 24" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below) **X**
- 24" multi-touch (1 920 x 1 080), for support arm (expandable, round tube) **Y**

Work memory/NVRAM

- 4 GB **A**
- 8 GB **B**
- 16 GB **C**
- 8 GB with ECC **D**
- 16 GB with ECC **E**
- 4 GB and NVRAM **F**
- 8 GB and NVRAM **G**
- 16 GB and NVRAM **H**
- 8 GB with ECC and NVRAM **J**
- 16 GB with ECC and NVRAM **K**

Expansions/interfaces

- No RS232/485, without PCIe **0**
- Two RS232/RS485, without PCIe **3**
- No RS232 without PCIe with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2 **5**
- Two RS232 without PCIe with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2 **6**

Article No.	Ordering data
6AV7251-	<b>SIMATIC IPC477E PRO <sup>1)</sup></b>
	<u>CPU and fieldbus</u>
	• Celeron G3902E; 3x Gigabit Ethernet (IE/PN) <b>1</b>
	• Core i3-6102E; 3x Gigabit Ethernet (IE/PN) <b>3</b>
	• Core i5-6442EQ; 3x Gigabit Ethernet (IE/PN) <b>5</b>
	• XEON E3-1505L; 3x Gigabit Ethernet (IE/PN) <b>7</b>
	<u>Operating unit</u>
	• 15" multi-touch (1 366 x 768), for support arm (not expandable, flange on top) <b>B</b>
	• 15" multi-touch (1 366 x 768), for pedestal (expandable, flange below) <b>C</b>
	• 15" multi-touch (1 366 x 768), for support arm (expandable, round tube) <b>D</b>
	• 19" multi-touch (1 366 x 768), for support arm (not expandable, flange on top) <b>E</b>
	• 19" multi-touch (1 366 x 768), for pedestal (expandable, flange below) <b>F</b>
	• 19" multi-touch (1 366 x 768), for support arm (expandable, round tube) <b>G</b>
	• 22" multi-touch (1 920 x 1 080), for support arm (not expandable, flange on top) <b>H</b>
	• 22" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below) <b>J</b>
	• 22" multi-touch (1 920 x 1 080), for support arm (expandable, round tube) <b>K</b>
	• 19" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below) <b>V</b>
	• 19" multi-touch (1 920 x 1 080), for support arm (expandable, round tube) <b>W</b>
	• 24" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below) <b>X</b>
	• 24" multi-touch (1 920 x 1 080), for support arm (expandable, round tube) <b>Y</b>
	<u>Work memory/NVRAM</u>
	• 4 GB <b>A</b>
	• 8 GB <b>B</b>
	• 16 GB <b>C</b>
	• 8 GB with ECC <b>D</b>
	• 16 GB with ECC <b>E</b>
	• 4 GB and NVRAM <b>F</b>
	• 8 GB and NVRAM <b>G</b>
	• 16 GB and NVRAM <b>H</b>
	• 8 GB with ECC and NVRAM <b>J</b>
	• 16 GB with ECC and NVRAM <b>K</b>
	<u>Expansions/interfaces</u>
	• No RS232/485, without PCIe <b>0</b>
	• Two RS232/RS485, without PCIe <b>3</b>
	• No RS232 without PCIe with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2 <b>5</b>
	• Two RS232 without PCIe with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2 <b>6</b>

## PC-based Automation

### Industrial PC

#### Devices for special requirements

#### Fully-enclosed IP65-protected devices > SIMATIC IPC477E PRO

##### Ordering data

##### Article No.

##### SIMATIC IPC477E PRO <sup>1)</sup>

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##### Operating system

- Without operating system 0
- Windows Embedded Standard 7 SP1, English, 32-bit 1
- Windows Embedded Standard 7 SP1, English, 64-bit 2
- Windows Embedded Standard 7 P SP1, MUI, 64-bit, multi-touch 3
- Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es) 4
- Windows 10 Enterprise 2019 LTSC (64-bit) for Celeron, I3 and I5 5
- Windows 10 Enterprise 2019 LTSC (64-bit) for Xeon 6
- Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Celeron, I3 and I5 7
- Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Xeon 8

##### Mass storage, external

- Without external mass storage 0
- CFast 2 GB, without operating system 1
- CFast 4 GB, without operating system 2
- CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD) 3
- CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD) 4
- CFast 128 GB (only optionally with operating system/software if no internal mass storage or HDD) 5

##### Article No.

##### SIMATIC IPC477E PRO <sup>1)</sup>

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##### Mass storage, internal

- Without internal mass storage A
- 128 GB solid-state drive SATA D
- 240 GB solid-state drive SATA F
- 480 GB solid-state drive SATA G

##### SIMATIC Software

- Without SIMATIC Software A

##### Power supply

- 24 V DC industrial power supply 0
- 24 V DC industrial power supply and TPM <sup>2)</sup> (not for China or Russia) 8

<sup>1)</sup> IPC477E PRO as "built to order" versions (max. delivery time 15 working days).

<sup>2)</sup> TPM = Trusted Platform Module

##### Note:

As with the existing 4:3 IPC477C/D PRO devices, adaptation to different support arm/pedestal systems is by means of the basic adapter. The basic adapter is included in the scope of supply (except in the case of the "prepared for support arm and extension components" version, as the connection is made via a round tube).

For the version "prepared for support arm and extension components", installation can alternatively take place with the Siemens round tube adapter or with a standard 48 mm diameter round tube. The round tube adapter enables the transition from a round tube connection to the familiar mechanical interface of the basic adapter. This means you can combine different versions of the PRO devices with the same support arm or pedestal system.

### Technical specifications

Article number	<b>6AV7251-.....-....</b> SIMATIC IPC477E PRO
<b>Installation type/mounting</b>	
Mounting	For mounting on stand or supporting bracket
Design	Panel PC on pedestal or supporting arm
maximum permissible installation angle +/-	±45 °
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)
Chipset	Intel C236 / Intel H110
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller
<b>Drives</b>	
SSD	Yes; ≥ 128 GB optional
<b>Memory</b>	
Type of memory	DDR4-2400 SO-DIMM
Main memory	4 / 8 / 16 GB, ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0 onboard (rear)
Connection for keyboard/mouse serial interface	USB / USB Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	No
• Monitoring function via network	Optional

Article number	<b>6AV7251-.....-....</b> SIMATIC IPC477E PRO
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>	
IP65 (all-round)	Yes; IP65 fully enclosed
IP (at the front)	IP65
IP (rear)	IP65

**PC-based Automation**

Industrial PC

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**Fully-enclosed IP65-protected devices > SIMATIC IPC477E PRO****Technical specifications**

Article number	6AV7251-.....-..... SIMATIC IPC477E PRO
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	CE, EN 61000-6-4; CISPR 22 Class A; FCC Class A
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes; Optional
• IECEx Zone 2	Yes; Optional
• cULus Class I Zone 2, Division 2	Yes; Optional
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes

Article number	6AV7251-.....-..... SIMATIC IPC477E PRO
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 45 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks per axis
<b>Operating systems</b>	
pre-installed operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
without operating system	Yes; Optional

### Technical specifications

Article number	6AV7251-.B...-....	6AV7251-.C...-....	6AV7251-.D...-....	6AV7251-.E...-....	6AV7251-.F...-....	6AV7251-.G...-....	6AV7251-.H...-....	6AV7251-.J...-....	6AV7251-.K...-....
	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 22 MTouch	SIMATIC IPC477E PRO, 22 MTouch	SIMATIC IPC477E PRO, 22 MTouch
<b>Display</b>									
Design of display	TFT widescreen display, LED backlighting								
Screen diagonal	15 in	15 in	15 in	19 in	19 in	19 in	22 in	22 in	22 in
<b>Resolution (pixels)</b>									
• Horizontal image resolution	1 366 pixel	1 366 pixel	1 366 pixel	1 366 pixel	1 366 pixel	1 366 pixel	1 920 pixel	1 920 pixel	1 920 pixel
• Vertical image resolution	768 pixel	768 pixel	768 pixel	768 pixel	768 pixel	768 pixel	1 080 pixel	1 080 pixel	1 080 pixel
<b>Control elements</b>									
<b>Touch operation</b>									
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
<b>Installation type/mounting</b>									
Mounting	For mounting on stand or supporting bracket								
Design	Panel PC on pedestal or supporting arm								
Support arm mounting	Yes; Suitable for support arm without extension components	No	Yes; Suitable for support arm and extension components (please refer to manual)	Yes; Suitable for support arm without extension components	No	Yes; Suitable for support arm and extension components (please refer to manual)	Yes; Suitable for support arm without extension components	No	Yes; Suitable for support arm and extension components (please refer to manual)
Stand mounting	No	Yes; Prepared for pedestal and extension components	No	No	Yes; Prepared for pedestal and extension components	No	No	Yes; Prepared for pedestal and extension components	No
Mounting in portrait format possible maximum permissible installation angle +/-	No ±45 °	No ±45 °	No ±45 °	No ±45 °	No ±45 °	No ±45 °	No ±45 °	No ±45 °	No ±45 °
<b>Supply voltage</b>									
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>									
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms	20 ms	20 ms	20 ms	20 ms	20 ms	20 ms

# PC-based Automation

## Industrial PC

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#### Fully-enclosed IP65-protected devices > SIMATIC IPC477E PRO

#### Technical specifications

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	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 22 MTouch	SIMATIC IPC477E PRO, 22 MTouch	SIMATIC IPC477E PRO, 22 MTouch
<b>Processor</b>									
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)								
Chipset	Intel C236 / Intel H110	Intel C236 / Intel H110	Intel C236 / Intel H110	Intel C236 / Intel H110	Intel C236 / Intel H110	Intel C236 / Intel H110	Intel C236 / Intel H110	Intel C236 / Intel H110	Intel C236 / Intel H110
<b>Graphic</b>									
Graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller
<b>Drives</b>									
SSD	Yes; ≥ 128 GB optional								
<b>Memory</b>									
Type of memory	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM	DDR4-2400 SO-DIMM
Main memory	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional	4 / 8 / 16 GB, ECC optional
<b>Data areas and their retentivity</b>									
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time	512 kbyte; 128 KB can be stored in the buffer time
<b>Interfaces</b>									
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)
Connection for keyboard/mouse serial interface	USB / USB Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS								
<b>Video interfaces</b>									
• Graphics interface	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort	2x DisplayPort
<b>Industrial Ethernet</b>									
• Industrial Ethernet interface	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>									
<b>Monitoring functions</b>									
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Fan	No	No	No	No	No	No	No	No	No
• Monitoring function via network	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional



**PC-based Automation**

Industrial PC

Devices for special requirements

**Fully-enclosed IP65-protected devices > SIMATIC IPC477E PRO**

Article number	<b>6AV7251- .B...-....</b>	<b>6AV7251- .C...-....</b>	<b>6AV7251- .D...-....</b>	<b>6AV7251- .E...-....</b>	<b>6AV7251- .F...-....</b>	<b>6AV7251- .G...-....</b>	<b>6AV7251- .H...-....</b>	<b>6AV7251- .J...-....</b>	<b>6AV7251- .K...-....</b>
	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 15 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 19 MTouch	SIMATIC IPC477E PRO, 22 MTouch	SIMATIC IPC477E PRO, 22 MTouch	SIMATIC IPC477E PRO, 22 MTouch
<b>Ambient conditions</b>									
<b>Ambient temperature during operation</b>									
• Ambient temperature during operation	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C	0 °C to 45 °C
<b>Relative humidity</b>									
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)								
<b>Vibrations</b>									
• Vibration resistance during operation acc. to IEC 60068-2-6	tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)								
<b>Shock testing</b>									
• Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks per axis								
<b>Operating systems</b>									
pre-installed operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10								
without operating system	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
<b>Accessories</b>									
Accessory components			6AV7674- 1KF00- 0AA0 - Flange mount for installation (refer to manual)		Basic adapter for mounting (MLFB: 6AV7674- 1KA00- 0AA0)	6AV7674- 1KF00- 0AA0 - Flange mount for installation (refer to manual)			6AV7674- 1KF00- 0AA0 - Flange mount for installation (refer to manual)
<b>Dimensions</b>									
Width of the housing front	396 mm	396 mm	396 mm	462 mm	462 mm	462 mm	527 mm	527 mm	527 mm
Height of housing front	255 mm; Without basic adapter	255 mm; Without basic adapter	255 mm	292 mm; Without basic adapter	292 mm; Without basic adapter	292 mm	329 mm; Without basic adapter	329 mm; Without basic adapter	329 mm
<b>Weights</b>									
Weight, approx.	6.8 kg	6.8 kg	7.5 kg	8.2 kg	8.2 kg	8.8 kg	9.3 kg	9.3 kg	9.9 kg

**More information**

More information is available on the Internet at:

<http://www.siemens.com/ip65-hmi-devices>

**Overview*****System components for fully-enclosed IP65-protected devices***

System components for PRO devices are only suitable for SIMATIC HMI/IPC PRO devices. In combination with the SIMATIC HMI PRO basic devices, these components enable easy adaptation to individual customer requirements for operator control and monitoring at the machine level, as well as offering a versatile and attractive cabinet-free solution for visualization and automation.

The following system components are available:

- Fixing elements
  - Adapter sets
  - Basic adapters
  - Round tube adapter
- Extension Units and operator controls
- Extension components
  - Stainless steel keyboard
  - Tool and keyboard tray
  - USB interface for PRO devices

## PC-based Automation

Industrial PC

Devices for special requirements

### System components for fully-enclosed IP65-protected devices > Fixing elements

#### Overview

##### Fixing elements

##### Adapter sets, basic adapter, round tube adapter and round tube cap

The fixing elements are required for connecting the SIMATIC HMI PRO device with the support arm head of the respective support arm system.

Since the support arm head is connected directly to the device, there is complete flexibility in the choice of support arm components.

Adapter sets are available for the VESA 75 and VESA 100 systems.

Further adapter sets can be obtained directly from the respective support arm manufacturers:

- Bernstein
- Rittal
- Rose
- Haseke and
- Rolec

For the 4:3 and 16:9 variants, basic adapters are available according to design:

- The basic adapter is included in the scope of delivery of the device for 4:3 systems (dark gray)
- The basic adapter is included in the scope of delivery of the device for 16:9 systems (silver) (the basic adapter is included in the scope of delivery as a matter of principle. It is excluded only from the version "prepared for support arm and extension components", because connection is made via a round tube.)

For the version "prepared for support arm and extension components" of the 16:9 PRO devices, installation can alternatively take place with the Siemens round tube adapter or with a standard 48 mm diameter round tube. The round tube adapter enables the transition from a round tube connection to the familiar mechanical interface of the basic adapter. This means you can combine different versions of the PRO devices with the same support arm or pedestal system.

#### Ordering data

#### Article No.

<b>VESA 100 adapter set<sup>1)</sup></b>	<b>6AV7674-0KD00-0AA0</b>
<b>VESA 75 adapter set</b>	<b>6AV7674-0KE00-0AA0</b>
<b>Basic adapter for 16:9 systems</b>	<b>6AV7674-1KA00-0AA0</b>
Spare part (silver, included in the scope of delivery of the device)	
<b>Round tube adapter for 16:9 systems</b>	<b>6AV7674-1KF00-0AA0</b>
Suitable for 16:9 PRO devices of the type "prepared for support arm and extension components (round tube connection)"	
<b>VESA 100/75 round tube adapter</b>	<b>6AV6881-0AD56-0AA0</b>
For SIMATIC PRO devices. Can be mounted with a 100 mm (M6) or 75 mm (M6) VESA. IP20 cable entry directly in the round tube adapter. Suitable for all common support arm systems with corresponding VESA coupling, load capacity and hole spacing. More information is available in the technical specifications.	
<b>Round tube cap for PRO devices</b>	<b>6AV7674-1LB40-0AA0</b> <b>6AV7674-1LB50-0AA0</b>
Replacement adapter for PRO devices	

<sup>1)</sup> The VESA 100 adapter set cannot be used in combination with the 19" Flat Panel PRO.

##### Note:

The 48 mm internal diameter of the support arm tubes is not suitable for feeding through the standard DVI-D cable.

##### Scope of delivery:

- One adapter set or basic adapter, round tube adapter
- Fittings for mounting

### Technical specifications

Article number	<b>6AV7674-0KD00-0AA0</b>	<b>6AV7674-0KE00-0AA0</b>
	Adapter Set VESA 100 Fully enclosed HMI	Adapter Set VESA 75 f. Fully enclosed HMI

<b>General information</b>		
Product type designation	Adapter set VESA 100	Adapter set VESA 75

<b>Degree and class of protection</b>		
IP (all-round)	IP65	IP65

<b>Ambient conditions</b>		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No	No

<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	55 °C	55 °C

<b>Relative humidity</b>		
• Operation, max.	90 %	90 %
• Condensation permissible	No	No

<b>Scope of supply</b>		
Delivery quantity in pieces	1	1

<b>Other</b>		
Merchandise	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	Not suitable for 19" 4:3 devices	Not suitable for 19" 4:3 devices

Article number	<b>6AV7674-1KA00-0AA0</b>
	Basic Adapter for HMI/IPC Pro (16:9)

<b>General information</b>	
Product type designation	Basic adapter

<b>Other</b>	
Merchandise	Yes
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany

Article number	<b>6AV7674-1KF00-0AA0</b>
	Round tube adapter for Pro Devices

<b>General information</b>	
Product type designation	Flange mount

<b>Installation type/mounting</b>	
Mounting	for the transition from a size 48 round tube to a flange plate (compatible with basic adapter interface)

<b>Degree and class of protection</b>	
IP (all-round)	IP65 when installed

<b>Mechanics/material</b>	
Material	Steel, powder coating in RAL 9006

Article number	<b>6AV7674-1KF00-0AA0</b>
	Round tube adapter for Pro Devices

<b>Dimensions</b>	
Width	76.3 mm; Width of flange plate, distance between holes 40 mm
Height	168 mm; Round tube and flange plate
Depth	80 mm; Depth of flange plate, distance between holes 63 mm
Enclosure diameter	48.3 mm; Round tube in interface area

<b>Weights</b>	
Weight (without packaging)	900 g

<b>Scope of supply</b>	
Delivery quantity in pieces	1

<b>Other</b>	
Target devices	Suitable for PRO devices, prepared for support arm and extension components (round tube connection)

Article number	<b>6AV6881-0AD56-0AA0</b>
	Round tube adapter VESA 100/75

<b>General information</b>	
Product type designation	VESA 100/75 flange adapter

<b>Installation type/mounting</b>	
Mounting	VESA 100 mm / 75 mm with M6 thread
Mounting type	Support arm with VESA 100 mm or 75 mm

<b>Degree and class of protection</b>	
IP (at the front)	IP20 (depending on mounting)

<b>Ambient conditions</b>	
Suited for indoor use	Yes
Suited for outdoor use	No

<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	55 °C

<b>Relative humidity</b>	
• Operation, max.	90 %
• Condensation permissible	No

<b>Mechanics/material</b>	
Material	steel
• Aluminum	No; Powder-coated

<b>Dimensions</b>	
Width	135 mm
Height	120 mm
Depth	67.5 mm

<b>Scope of supply</b>	
Delivery quantity in pieces	1; VESA round tube adapter 100/75 suitable for PRO devices, max. IP20 attainable
Components included	Without additional accessories

<b>Other</b>	
Merchandise	Yes; VESA 100/75 PRO adapter
Manufacturer name	QUERUM products UG
Manufacturer's address	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany
contacting the manufacturer	email: querumproducts@web.de
Target devices	Not suitable for 19" 4:3 devices
Note:	Max. load 35 kg, for expandable support arm mounting

**PC-based Automation**

Industrial PC

Devices for special requirements

**System components for fully-enclosed IP65-protected devices > Fixing elements****Technical specifications**

Article number	<b>6AV7674-1LB40-0AA0</b>	<b>6AV7674-1LB50-0AA0</b>
	Round tube plug for PRO devices	Exchange adapter for PRO devices
<b>General information</b>		
Product type designation	Round tube plug for PRO devices	Interchangeable adapter for PRO devices
<b>Degree and class of protection</b>		
IP (all-round)	IP65 when installed	IP65 when installed
<b>Mechanics/material</b>		
Material		
• Aluminum	Yes; Powder-coated, RAL 9006	Yes; Powder-coated, RAL 9006
<b>Weights</b>		
Weight (without packaging)	0.24 kg	0.34 kg
<b>Scope of supply</b>		
Delivery quantity in pieces	1	1
Components included	Round tube plug for PRO devices	Screws for attachment
<b>Other</b>		
Target devices	PRO devices for support arm (extendable, round tube)	PRO devices for support arm (extendable, round tube) and pedestal (extendable, flange below)

**More information**

More information is available on the Internet at:

<http://www.siemens.com/ip65-hmi-devices>

### Overview

#### Extension Units

Extension Units with 12" to 22", as well as a 24" portrait version for SIMATIC HMI PRO devices, are part of the system components for fully-enclosed IP65-protected devices. They enable the expansion of the operating options on site by the installation of various operator controls. Communication can take place via PROFINET, PROFI-safe or conventional wiring.

#### SIMATIC Extension Unit (BTO & Advanced)

With Customized Automation, Extension Units are built to specific customer requirements and given their own customer MLFB. BTO (built to order).

#### Extension Units for 16:9 PRO devices



Extension Units for the 16:9 PRO devices are suitable for the flexible installation of various operator controls that extend the operating options on site easily and on an individual basis. They are coordinated with the design of the 16:9 PRO devices and can easily be mounted below the device by the customers themselves.

Additionally, the Extension Unit box is available for the flexible installation of lower operator controls.

### Ordering data

### Article No.

#### Extension Units for 16:9 PRO devices

##### Extension Unit Hardwired

• 12"	6AV7674-1LA31-0AA0
• 15"	6AV7674-1LA41-0AA0
• 19"	6AV7674-1LA51-0AA0
• 22"	6AV7674-1LA61-0AA0
• 24"	6AV7674-1LA71-0AA0
• 24" portrait	6AV7674-1LA81-0AA0

##### Extension Unit PROFINET

• 12"	6AV7674-1LA32-0AA0
• 15"	6AV7674-1LA42-0AA0
• 19"	6AV7674-1LA52-0AA0
• 22"	6AV7674-1LA62-0AA0
• 24"	6AV7674-1LA72-0AA0
• 24" portrait	6AV7674-1LA82-0AA0

##### Extension Unit PROFI-safe

• 12"	6AV7674-1LA33-0AA0
• 15"	6AV7674-1LA43-0AA0
• 19"	6AV7674-1LA53-0AA0
• 22"	6AV7674-1LA63-0AA0
• 24"	6AV7674-1LA73-0AA0
• 24" portrait	6AV7674-1LA83-0AA0

##### Extension Unit box

• 12"	6AV7674-1LA30-0AA0
• 15"	6AV7674-1LA40-0AA0
• 19"	6AV7674-1LA50-0AA0
• 22"	6AV7674-1LA60-0AA0
• 24"	6AV7674-1LA70-0AA0
• 24" portrait	6AV7674-1LA80-0AA0

##### Extension Unit Advanced PROFINET <sup>1)</sup>

• 12" KP12 PN	6AV2185-8CE01-0AA0
• 15" KP12 PN	6AV2185-8DE01-0AA0
• 19" KP12 PN	6AV2185-8EE01-0AA0
• 22" KP12 PN	6AV2185-8FE01-0AA0
• 12" KP24 PN	6AV2185-8CE08-0AA0
• 15" KP36 PN	6AV2185-8DE08-0AA0
• 19" KP36 PN	6AV2185-8EE08-0AA0
• 22" KP48 PN	6AV2185-8FE08-0AA0

##### Extension Unit Advanced PROFI-safe <sup>1)</sup>

• 12" KP12F PN	6AV2185-8CF01-0AA0
• 15" KP12F PN	6AV2185-8DF01-0AA0
• 19" KP12F PN	6AV2185-8EF01-0AA0
• 22" KP12F PN	6AV2185-8FF01-0AA0

<sup>1)</sup> Max. two Extension Units possible as extension

#### Scope of delivery

Extension Units Hardwired:

- 1 Extension Unit
- 1 plug connector, 16-pin, for interface X12
- 1 plug connector, 12-pin, for interface X11
- 1 plug connector, 8-pin, for interface X10
- 1 power supply terminal for 24 V DC
- 4 bolts M4x20 for mounting the Extension Unit on the SIMATIC PRO device

PROFINET Extension Units:

- 1 Extension Unit
- 1 plug connector, 8-pin, for interface X10
- 1 power supply connector for 24 V DC
- 4 bolts M4x20 for mounting the Extension Unit on the SIMATIC PRO device

## PC-based Automation

Industrial PC

Devices for special requirements

### System components for fully-enclosed IP65-protected devices > Extension Units and operator controls

#### Ordering data

##### Operator controls

	Article No.
<b>EMERGENCY STOP button</b>	<b>6AV7674-1MA00-0AA0</b>
<b>Illuminated pushbutton</b>	
• One NO contact	<b>6AV7674-1MB00-0AA0</b>
• One NO contact and one NC contact	<b>6AV7674-1MG00-0AA0</b>
<b>Pushbutton Safety</b>	<b>6AV7674-1MG50-0AA0</b>
<b>Indicator light</b>	<b>6AV7674-1MC00-0AA0</b>
<b>Selector switch</b>	<b>6AV7674-1MD00-0AA0</b>
<b>Keyswitch</b>	<b>6AV7674-1ME00-0AA0</b>
<b>Keyswitch Safety</b>	<b>6AV7674-1ME50-0AA0</b>

##### Accessories

	Article No.
<b>USB interface for front mounting in Extension Unit</b>	<b>6AV7674-1MF00-0AA0</b>
USB 2.0 type A, IP65 degree of protection with closed protective cover, cable and plug	
<b>Insert labels for self-inscription</b>	<b>6AV7674-1LB30-0AA0</b>
<b>Label holders for self-inscription</b>	<b>6AV7674-1LB20-0AA0</b>

#### Technical specifications

Article number	<b>6AV7674-1LA31-0AA0</b>	<b>6AV7674-1LA41-0AA0</b>	<b>6AV7674-1LA51-0AA0</b>	<b>6AV7674-1LA61-0AA0</b>	<b>6AV7674-1LA71-0AA0</b>	<b>6AV7674-1LA81-0AA0</b>
	Extension Unit 12" hardwired	Extension Unit 15" hardwired	Extension Unit 19" hardwired	Extension Unit 22" hardwired	Extension Unit 24" hardwired	Extension Unit 24" Portrait hardwired
<b>General information</b>						
Product type designation	Extension Unit 12" Hardwired	Extension Unit 15" hardwired	Extension Unit 19" hardwired	Extension Unit 22" hardwired	Extension Unit 24" hardwired	Extension Unit 24" Portrait hardwired
<b>Control elements</b>						
<b>Connection type</b>						
• Connection type of the LED module	12-pin connector	12-pin connector	12-pin connector	12-pin connector	12-pin connector	12-pin connector
• Connection type of the contacts of the control elements	16-pin connector	16-pin connector	16-pin connector	16-pin connector	16-pin connector	16-pin connector
• Connection type of the safety-related contacts (emergency stop)	8-pin connector	8-pin connector	8-pin connector	8-pin connector	8-pin connector	8-pin connector
<b>Installation type/mounting</b>						
Mounting	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No	No	No
Front mounting	No	No	No	No	No	No
Number of slots for command devices and signaling units	6	8	10; Max. 8 control elements + 1 emergency stop button can be mounted (refer to manual)	10; Max. 8 control elements + 1 emergency stop button can be mounted (refer to manual)	12; Max. 8 control elements + 1 emergency stop button can be mounted (refer to manual)	6
RFID reader can be installed						Yes; SIMATIC RF200 Access Control Reader RF1060R
<b>Supply voltage</b>						
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
<b>Degree and class of protection</b>						
IP (all-round)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front						Yes; All-round

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**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls**

**Technical specifications**

Article number	<b>6AV7674-1LA31-0AA0</b> Extension Unit 12" hardwired	<b>6AV7674-1LA41-0AA0</b> Extension Unit 15" hardwired	<b>6AV7674-1LA51-0AA0</b> Extension Unit 19" hardwired	<b>6AV7674-1LA61-0AA0</b> Extension Unit 22" hardwired	<b>6AV7674-1LA71-0AA0</b> Extension Unit 24" hardwired	<b>6AV7674-1LA81-0AA0</b> Extension Unit 24" Portrait hardwired
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C					
• max.	50 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	2 000 m					
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation					
<b>Cables</b>						
Cable length	30 m					
<b>Mechanics/material</b>						
Material						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure material (front)						
• Aluminum	Yes; Knockout covered with black film					
<b>Dimensions</b>						
Width	313 mm	396 mm	462 mm	527 mm	583 mm	361 mm
Height	99 mm					
Depth	100.65 mm					100.65 mm
Thickness		100.65 mm	100.65 mm	100.65 mm	100.65 mm	
<b>Weights</b>						
Weight (without packaging)	2.2 kg	2.5 kg	2.7 kg	2.8 kg	2.6 kg	2.2 kg
<b>Scope of supply</b>						
Delivery quantity in pieces	1	1	1	1	1	1
Components included	all connectors required for customer interfaces					

## PC-based Automation

Industrial PC

Devices for special requirements

### System components for fully-enclosed IP65-protected devices > Extension Units and operator controls

#### Technical specifications

Article number	6AV7674-1LA32-0AA0	6AV7674-1LA42-0AA0	6AV7674-1LA52-0AA0	6AV7674-1LA62-0AA0	6AV7674-1LA72-0AA0	6AV7674-1LA82-0AA0
	Extension Unit 12" PROFINET	Extension Unit 15" PROFINET	Extension Unit 19" PROFINET	Extension Unit 22" PROFINET	Extension Unit 24" PROFINET	Extension Unit 24" Portrait PROFINET
<b>General information</b>						
Product type designation	Extension Unit 12" PROFINET	Extension Unit 15" PROFINET	Extension Unit 19" PROFINET	Extension Unit 22" PROFINET	Extension Unit 24" PROFINET	Extension Unit 24" Portrait PROFINET
<b>Control elements</b>						
With parameterizable keys	Yes	Yes	Yes	Yes		
<b>Connection type</b>						
• Connection type of the safety-related contacts (emergency stop)	8-pin connector	8-pin connector	8-pin connector	8-pin connector	8-pin connector	
<b>Installation type/mounting</b>						
Mounting	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No	No	No
Front mounting	No	No	No	No	No	No
Number of slots for command devices and signaling units	6	8	10	12	12	6
RFID reader can be installed		Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R
<b>Supply voltage</b>						
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
<b>Interfaces</b>						
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch
<b>Protocols</b>						
PROFINET	Yes	Yes	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>						
<b>Media redundancy</b> - MRP	Yes	Yes	Yes	Yes	Yes	Yes
<b>Test commissioning functions</b>						
Key and signal lamp test	Yes; automatically when switching on		Yes; automatically when switching on	Yes; automatically when switching on	Yes; automatically when switching on		Yes; automatically when switching on
<b>Degree and class of protection</b>						
IP (all-round)	IP65	IP65	IP65	IP65	IP65	IP65
NEMA (front)						
• Enclosure Type 4x at the front	Yes; All-round	Yes; All-round	Yes; All-round	Yes; All-round		Yes; All-round

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls**

**Technical specifications**

Article number	<b>6AV7674-1LA32-0AA0</b> Extension Unit 12" PROFINET	<b>6AV7674-1LA42-0AA0</b> Extension Unit 15" PROFINET	<b>6AV7674-1LA52-0AA0</b> Extension Unit 19" PROFINET	<b>6AV7674-1LA62-0AA0</b> Extension Unit 22" PROFINET	<b>6AV7674-1LA72-0AA0</b> Extension Unit 24" PROFINET	<b>6AV7674-1LA82-0AA0</b> Extension Unit 24" Portrait PROFINET
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C					
<b>Altitude during operation relating to sea level</b>						
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m	2 000 m	2 000 m	2 000 m
<b>Relative humidity</b>						
• Operation, max.	90 %; no condensation					
<b>Cables</b>						
Cable length	30 m; Max. for emergency stop	30 m; Max. for emergency stop	30 m; Max. for emergency stop	30 m; Max. for emergency stop	30 m	
<b>Mechanics/material</b>						
<b>Material</b>						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
<b>Enclosure material (front)</b>						
• Aluminum	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film
<b>Dimensions</b>						
Width	313 mm	396 mm	462 mm	527 mm	583 mm	361 mm
Height	99 mm	99 mm	99 mm	99 mm	99 mm	99 mm
Depth	100.65 mm	100.65 mm	100.65 mm	100.65 mm	100.65 mm	100.65 mm
<b>Weights</b>						
Weight (without packaging)	2.2 kg	2.5 kg	2.7 kg	2.8 kg	2.6 kg	2.2 kg
<b>Scope of supply</b>						
Delivery quantity in pieces	1	1	1	1	1	1
Components included	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs

## PC-based Automation

### Industrial PC

#### Devices for special requirements

#### System components for fully-enclosed IP65-protected devices > Extension Units and operator controls

#### Technical specifications

Article number	6AV7674-1LA33-0AA0	6AV7674-1LA43-0AA0	6AV7674-1LA53-0AA0	6AV7674-1LA63-0AA0	6AV7674-1LA73-0AA0
	Extension Unit 12* PROFISAFE	Extension Unit 15* PROFISAFE	Extension Unit 19* PROFISAFE	Extension Unit 22* PROFISAFE	Extension Unit 24* PROFISAFE
<b>General information</b>					
Product type designation	Extension Unit 12* PROFIsafe	Extension Unit 15* PROFIsafe	Extension Unit 19* PROFIsafe	Extension Unit 22* PROFIsafe	Extension Unit 24* PROFIsafe
<b>Control elements</b>					
With parameterizable keys	Yes	Yes	Yes	Yes	
<b>Installation type/mounting</b>					
Mounting	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No	No
Front mounting	No	No	No	No	No
Number of slots for command devices and signaling units	6	8	10	12	12
RFID reader can be installed	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R
<b>Supply voltage</b>					
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch
<b>Protocols</b>					
PROFISafe	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor
<b>Redundancy mode</b>					
<b>Media redundancy</b>					
- MRP	Yes	Yes			Yes
<b>Test commissioning functions</b>					
Key and signal lamp test	Yes; automatically when switching on	Yes; automatically when switching on	Yes; automatically when switching on	Yes; automatically when switching on	
<b>Degree and class of protection</b>					
IP (all-round)	IP65	IP65	IP65	IP65	IP65
NEMA (front)					
• Enclosure Type 4x at the front	Yes; All-round	Yes; All-round	Yes; All-round	Yes; All-round	

System components for fully-enclosed IP65-protected devices > Extension Units and operator controls

**Technical specifications**

Article number	<b>6AV7674-1LA33-0AA0</b>	<b>6AV7674-1LA43-0AA0</b>	<b>6AV7674-1LA53-0AA0</b>	<b>6AV7674-1LA63-0AA0</b>	<b>6AV7674-1LA73-0AA0</b>
	Extension Unit 12* PROFISAFE	Extension Unit 15* PROFISAFE	Extension Unit 19* PROFISAFE	Extension Unit 22* PROFISAFE	Extension Unit 24* PROFISAFE
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• min.	0 °C				
• max.	50 °C				
<b>Altitude during operation relating to sea level</b>					
• Installation altitude above sea level, max.	2 000 m				
<b>Relative humidity</b>					
• Operation, max.	90 %; no condensation				
<b>Cables</b>					
Cable length					30 m
<b>Mechanics/material</b>					
Material					
• Aluminum	Yes	Yes	Yes	Yes	Yes
Enclosure material (front)					
• Aluminum	Yes; Knockout covered with black film				
<b>Dimensions</b>					
Width	313 mm	396 mm	462 mm	527 mm	583 mm
Height	99 mm				
Depth	100.65 mm				
<b>Weights</b>					
Weight (without packaging)	2.2 kg	2.5 kg	2.7 kg	2.8 kg	2.6 kg
<b>Scope of supply</b>					
Delivery quantity in pieces	1	1	1	1	1
Components included	Power supply connector				

**PC-based Automation**

Industrial PC

Devices for special requirements

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls****Technical specifications**

Article number	<b>6AV2185-8CE01-0AA0</b>	<b>6AV2185-8DE01-0AA0</b>	<b>6AV2185-8EE01-0AA0</b>	<b>6AV2185-8FE01-0AA0</b>
	Extension Unit 12" KP12 PN	Extension Unit 15" KP12 PN	Extension Unit 19" KP12 PN	Extension Unit 22" KP12 PN
<b>General information</b>				
Product type designation	Extension Unit 12" KP12 PN	Extension Unit 15" KP12 PN	Extension Unit 19" KP12 PN	Extension Unit 22" KP12 PN
<b>Control elements</b>				
Version of actuating element	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12
Operating principle of the actuating element	Tactile feedback	Tactile feedback	Tactile feedback	Tactile feedback
Functional lighting	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow
With parameterizable keys	Yes	Yes	Yes	Yes
<b>Connection type</b>				
• Connection type of the safety-related contacts (emergency stop)	8-pin connector	8-pin connector	8-pin connector	8-pin connector
<b>Installation type/mounting</b>				
Mounting	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No
Front mounting	No	No	No	No
Number of slots for command devices and signaling units	3	5	6	8
RFID reader can be installed	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	24 V
<b>Interfaces</b>				
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch
<b>Protocols</b>				
PROFINET	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>				
<b>Media redundancy</b>				
- MRP	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>				
IP (all-round)	IP65	IP65	IP65	IP65

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls**

**Technical specifications**

Article number	<b>6AV2185-8CE01-0AA0</b> Extension Unit 12" KP12 PN	<b>6AV2185-8DE01-0AA0</b> Extension Unit 15" KP12 PN	<b>6AV2185-8EE01-0AA0</b> Extension Unit 19" KP12 PN	<b>6AV2185-8FE01-0AA0</b> Extension Unit 22" KP12 PN
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes; EAC	Yes; EAC	Yes; EAC	Yes; EAC
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>				
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m	2 000 m
<b>Relative humidity</b>				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Cables</b>				
Cable length	30 m; Max. for emergency stop			
<b>Mechanics/material</b>				
<b>Material</b>				
• Aluminum	Yes	Yes	Yes	Yes
<b>Enclosure material (front)</b>				
• Aluminum	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film
<b>Dimensions</b>				
Width	313 mm	396 mm	462 mm	527 mm
Height	99 mm	99 mm	99 mm	99 mm
Depth	100.65 mm	100.65 mm	100.65 mm	100.65 mm
<b>Weights</b>				
Weight (without packaging)	2.2 kg	2.5 kg	2.7 kg	2.8 kg
<b>Scope of supply</b>				
Delivery quantity in pieces	1	1	1	1
Components included	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs

**PC-based Automation**

Industrial PC

Devices for special requirements

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls****Technical specifications**

Article number	<b>6AV2185-8CE08-0AA0</b>	<b>6AV2185-8DE08-0AA0</b>	<b>6AV2185-8EE08-0AA0</b>	<b>6AV2185-8FE08-0AA0</b>
	Extension Unit 12" KP24 PN	Extension Unit 15" KP36 PN	Extension Unit 19" KP36 PN	Extension Unit 22" KP48 PN
<b>General information</b>				
Product type designation	Extension Unit 12" KP24 PN	Extension Unit 15" KP36 PN	Extension Unit 19" KP36 PN	Extension Unit 22" KP48 PN
<b>Control elements</b>				
Version of actuating element	2x Key Panel 12	3x Key Panel 12	3x Key Panel 12	4x Key Panel 12
Operating principle of the actuating element	Tactile feedback	Tactile feedback	Tactile feedback	Tactile feedback
Functional lighting	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow
With parameterizable keys	Yes	Yes	Yes	Yes
<b>Connection type</b>				
• Connection type of the safety-related contacts (emergency stop)	8-pin connector	8-pin connector	8-pin connector	8-pin connector
<b>Installation type/mounting</b>				
Mounting	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No
Front mounting	No	No	No	No
Number of slots for command devices and signaling units	0	0	0	0
RFID reader can be installed	No	No	No	No
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	24 V
<b>Interfaces</b>				
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch
<b>Protocols</b>				
PROFINET	Yes	Yes	Yes	Yes
<b>Redundancy mode</b>				
<b>Media redundancy</b>				
- MRP	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>				
IP (all-round)	IP65	IP65	IP65	IP65

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls**

**Technical specifications**

Article number	<b>6AV2185-8CE08-0AA0</b> Extension Unit 12" KP24 PN	<b>6AV2185-8DE08-0AA0</b> Extension Unit 15" KP36 PN	<b>6AV2185-8EE08-0AA0</b> Extension Unit 19" KP36 PN	<b>6AV2185-8FE08-0AA0</b> Extension Unit 22" KP48 PN
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
CSA approval			Yes	
UL approval	Yes	Yes	Yes	Yes
cULus	Yes	Yes		Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes; EAC	Yes; EAC	Yes; EAC	Yes; EAC
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>				
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m	2 000 m
<b>Relative humidity</b>				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Cables</b>				
Cable length	30 m; Max. for emergency stop			
<b>Mechanics/material</b>				
<b>Material</b>				
• Aluminum	Yes	Yes	Yes	Yes
<b>Enclosure material (front)</b>				
• Aluminum	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film
<b>Dimensions</b>				
Width	313 mm	396 mm	462 mm	527 mm
Height	99 mm	99 mm	99 mm	99 mm
Depth	100.65 mm	100.65 mm	100.65 mm	100.65 mm
<b>Weights</b>				
Weight (without packaging)	2.2 kg	2.5 kg	2.7 kg	2.8 kg
<b>Scope of supply</b>				
Delivery quantity in pieces	1	1	1	1
Components included	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs

**PC-based Automation**

Industrial PC

Devices for special requirements

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls****Technical specifications**

Article number	<b>6AV2185-8CF01-0AA0</b>	<b>6AV2185-8DF01-0AA0</b>	<b>6AV2185-8EF01-0AA0</b>	<b>6AV2185-8FF01-0AA0</b>
	Extension Unit 12" KP12F PN	Extension Unit 15" KP12F PN	Extension Unit 19" KP12F PN	Extension Unit 22" KP12F PN
<b>General information</b>				
Product type designation	Extension Unit 12" KP12F PN	Extension Unit 15" KP12F PN	Extension Unit 19" KP12F PN	Extension Unit 22" KP12F PN
<b>Control elements</b>				
Version of actuating element	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12
Operating principle of the actuating element	Tactile feedback	Tactile feedback	Tactile feedback	Tactile feedback
Functional lighting	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow
With parameterizable keys	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>				
Mounting	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)	For mounting on a 16:9 HMI / IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No
Front mounting	No	No	No	No
Number of slots for command devices and signaling units	3	5	6	8
RFID reader can be installed	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	24 V
<b>Interfaces</b>				
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch
<b>Protocols</b>				
PROFIsafe	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor
<b>Redundancy mode</b>				
<b>Media redundancy</b>				
- MRP	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>				
IP (all-round)	IP65	IP65	IP65	IP65

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls**

**Technical specifications**

Article number	<b>6AV2185-8CF01-0AA0</b>	<b>6AV2185-8DF01-0AA0</b>	<b>6AV2185-8EF01-0AA0</b>	<b>6AV2185-8FF01-0AA0</b>
	Extension Unit 12" KP12F PN	Extension Unit 15" KP12F PN	Extension Unit 19" KP12F PN	Extension Unit 22" KP12F PN
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes; EAC	Yes; EAC	Yes; EAC	Yes; EAC
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>				
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m	2 000 m
<b>Relative humidity</b>				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
<b>Mechanics/material</b>				
Material				
• Aluminum	Yes	Yes	Yes	Yes
Enclosure material (front)				
• Aluminum	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film
<b>Dimensions</b>				
Width	313 mm	396 mm	462 mm	527 mm
Height	99 mm	99 mm	99 mm	99 mm
Depth	100.65 mm	100.65 mm	100.65 mm	100.65 mm
<b>Weights</b>				
Weight (without packaging)	2.2 kg	2.5 kg	2.7 kg	2.8 kg
<b>Scope of supply</b>				
Delivery quantity in pieces	1	1	1	1
Components included	Power supply connector	Power supply connector	Power supply connector	Power supply connector

**PC-based Automation**

Industrial PC

Devices for special requirements

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls****Technical specifications**

Article number	<b>6AV7674-1MA00-0AA0</b>	<b>6AV7674-1MB00-0AA0</b>	<b>6AV7674-1MG00-0AA0</b>	<b>6AV7674-1MG50-0AA0</b>	<b>6AV7674-1MC00-0AA0</b>
	E-Stop Pushbutton for Ext. Unit	Illuminated Pushbutton for Ext. Unit	Illum. pushbutton for ext.unit (1NO+1NC)	Pushbutton Safety for Ext. Unit	Indicator Light for Ext. Unit
<b>General information</b>					
Product type designation	EMERGENCY STOP mushroom pushbutton for Extension Unit	Illuminated pushbutton for Extension Unit	Illuminated pushbutton for Extension Unit (1 NC contact / 1 NO contact)	Safety pushbutton for Extension Unit (2 NO contacts)	Indicator light for Extension Unit
<b>Control elements</b>					
Version of actuating element	Conical mushroom pushbutton	Pushbutton with flat button	Pushbutton with flat button	Pushbutton with flat button	Flat lens
Operating principle of the actuating element	Latching, rotate to unlatch	Momentary contact	Momentary contact	Momentary contact	
Shape of actuating element	Round	Round	Round	Round	Round
Illuminant	No; Cannot be illuminated	Yes; Can be illuminated	Yes; Can be illuminated	No; Cannot be illuminated	Yes; Can be illuminated
<ul style="list-style-type: none"> <li>Type of light source</li> <li>Color of light source</li> </ul>		Translucent white (different colors are created using the colored disk supplied)	Translucent white (different colors are created using the colored disk supplied)	Translucent white (different colors are created using the colored disk supplied)	SMT LED Translucent white (different colors are created using the colored disk supplied)
Contact configuration	2 NC contacts	1 NO contact	1 NC contact, 1 NO contact	2 NO contacts	
<b>Installation type/mounting</b>					
Mounting type	Threaded ring	Threaded ring	Threaded ring	Threaded ring	Threaded ring
Front mounting	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices
<b>Supply voltage</b>					
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
<b>Degree and class of protection</b>					
IP (at the front)	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4
<b>Standards, approvals, certificates</b>					
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit
cULus	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit
RCM (formerly C-TICK)	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit

**System components for fully-enclosed IP65-protected devices > Extension Units and operator controls**

**Technical specifications**

Article number	<b>6AV7674-1MA00-0AA0</b>	<b>6AV7674-1MB00-0AA0</b>	<b>6AV7674-1MG00-0AA0</b>	<b>6AV7674-1MG50-0AA0</b>	<b>6AV7674-1MC00-0AA0</b>
	E-Stop Pushbutton for Ext. Unit	Illuminated Pushbutton for Ext. Unit	Illum. pushbutton for ext.unit (1NO+1NC)	Pushbutton Safety for Ext. Unit	Indicator Light for Ext. Unit
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>					
• Installation altitude above sea level, max.	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m
<b>Relative humidity</b>					
• Operation, max.	90 %	90 %	90 %	90 %	90 %
• Condensation permissible	No	No	No	No	No
<b>Mechanics/material</b>					
Material					
• Plastic	Yes	Yes	Yes	Yes	Yes
Material of the actuating element	plastic	plastic	plastic	plastic	plastic
Material of the front ring	plastic	plastic	plastic	plastic	plastic
Enclosure color (front)	red	Colorless	Colorless	Colorless	Colorless
Color of the front ring	Yellow	Silver metallic	Silver metallic	Silver metallic	Silver metallic
<b>Service life</b>					
• Number of operating cycles, keys	50 000	1 000 000	1 000 000	1 000 000	
<b>Dimensions</b>					
Height of housing front	33.2 mm	9.85 mm	9.85 mm	9.85 mm	9.85 mm
Mounting diameter	22.3 mm	22.3 mm	22.3 mm	22.3 mm	22.3 mm
<b>Weights</b>					
Weight (without packaging)	50 g	50 g	50 g	50 g	50 g
<b>Scope of supply</b>					
Delivery quantity in pieces	1	1	1	1	1
Components included					
• Number of colored lenses		5; colorless, red, yellow, green, blue	5; colorless, red, yellow, green, blue	6; colorless, red, yellow, green, blue, black	5; colorless, red, yellow, green, blue
<b>Other</b>					
Target devices	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)	suitable for Extension Units of the 16:9 HMI/IPC PRO devices as of TIA Portal V16 (refer to manual)	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)
Note:				configurable as of TIA Portal V16	

## PC-based Automation

Industrial PC

Devices for special requirements

### System components for fully-enclosed IP65-protected devices > Extension Units and operator controls

#### Technical specifications

Article number	<b>6AV7674-1MD00-0AA0</b> Selector Switch for Ext. Unit	<b>6AV7674-1ME00-0AA0</b> Key-operated Switch for Ext. Unit	<b>6AV7674-1ME50-0AA0</b> Key-operated Switch Safety for Ext. Unit	<b>6AV7674-1MF00-0AA0</b> USB interface for extension unit
<b>General information</b>				
Product type designation	Selector switch for Extension Unit	Key-operated switch for Extension Unit	Safety keyswitch for Extension Unit	USB interface for Extension Unit
<b>Control elements</b>				
Version of actuating element	Rotary handle, 3 switch positions	3 switch positions (withdrawal positions)	2 switch positions (pos. 0 removal position)	
Operating principle of the actuating element	Latching	Latching	Latching	
Shape of actuating element	Round	Round	Round	
Illuminant	Yes; Can be illuminated	No; Cannot be illuminated	No; Cannot be illuminated	
• Type of light source	SMT LED			
• Color of light source	Translucent white			
Contact configuration	2 NO contacts	2 NO contacts	2 NO contacts	
<b>Connection type</b>				
• USB				Yes; USB 2.0 type A
• Cable length				0.7 m
<b>Installation type/mounting</b>				
Mounting type	Threaded ring	Threaded ring	Threaded ring	Threaded ring
Front mounting	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	
<b>Degree and class of protection</b>				
IP (all-round)				IP65 fully enclosed (when protective cover is closed)
IP (at the front)	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP20 when protective cover is open
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes
cULus	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes
RCM (formerly C-TICK)	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes
KC approval				Yes
EAC (formerly Gost-R)				Yes
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
<b>Altitude during operation relating to sea level</b>				
• Installation altitude above sea level, max.	3 500 m	3 500 m	3 500 m	3 500 m
<b>Relative humidity</b>				
• Operation, max.	90 %	90 %	90 %	90 %
• Condensation permissible	No	No	No	No

System components for fully-enclosed IP65-protected devices > Extension Units and operator controls

**Technical specifications**

Article number	<b>6AV7674-1MD00-0AA0</b> Selector Switch for Ext. Unit	<b>6AV7674-1ME00-0AA0</b> Key-operated Switch for Ext. Unit	<b>6AV7674-1ME50-0AA0</b> Key-operated Switch Safety for Ext. Unit	<b>6AV7674-1MF00-0AA0</b> USB interface for extension unit
<b>Operating systems</b>				
<b>Runs under operating system</b>				
• other				Yes; Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
<b>Cables</b>				
Cable length				0.5 m
smallest bending radius				0 mm
<b>Mechanics/material</b>				
Material				aluminum
• Plastic	Yes	Yes	Yes	
Material of the actuating element	plastic	plastic	plastic	
Material of the front ring	plastic	plastic	plastic	
Enclosure color (front)	gray	gray	gray	Silver metallic
Color of the front ring	Silver metallic	Silver metallic	Silver metallic	
<b>Service life</b>				
• Number of operating cycles, keys	300 000	50 000	50 000	1 500; Insertion cycles
<b>Dimensions</b>				
Height of housing front	22.24 mm	45.1 mm	45.1 mm	
Overall depth				10 mm
Mounting diameter	22.3 mm	22.3 mm	22.3 mm	22.3 mm
<b>Weights</b>				
Weight (without packaging)	50 g	50 g	50 g	0.13 g
<b>Scope of supply</b>				
Delivery quantity in pieces	1	1; Including 2 keys	1; Including 2 keys	
Components included				USB socket with cable and connector, threaded ring
<b>Other</b>				
Target devices	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)	suitable for Extension Units of the 16:9 HMI/IPC PRO devices as of TIA Portal V16 (refer to manual)	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)
Note:			configurable as of TIA Portal V16	

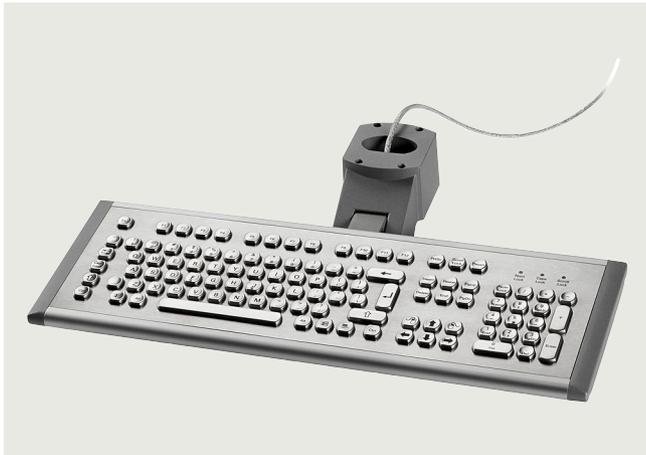
## PC-based Automation

Industrial PC

Devices for special requirements

### System components for fully-enclosed IP65-protected devices > Extension components

#### Overview



#### Extension components

The extension-components are part of the system components for PRO devices and complement the portfolio of fully enclosed devices. These components in combination with the basic devices enable customers to implement a large variety of operating scenarios.

The following products are available as extension components:

- Keyboard shelf for PRO devices
- Keyboard tray for PRO devices
- USB keyboard INT, KV25605 INOX with IP67 USB plug
- USB keyboard GER, KV25605 INOX with IP67 USB plug
- USB interface for PRO devices
- Handles for PRO devices (12" – 22" variant and 24" variant)

#### Ordering data

#### Article No.

<b>Keyboard shelf for PRO devices</b> Tilttable, incl. 2-way USB interface; color: silver	<b>6AV7674-1NF01-0AA0</b>
<b>Keyboard tray for PRO devices</b> Tilttable, incl. 2-way USB interface; color: silver	<b>6AV7674-1NG00-0AA0</b>
<b>USB interface for PRO devices</b> Cable and connector, USB 2.0 type A. IP65 degree of protection if protective cover is closed. Integrated via cover on the side of the basic adapter	<b>6AV7674-1LX00-0AA0</b>
<b>Tray for 16:9 PRO devices</b> Tray in RAL9006 (silver) for all fully-enclosed IP65 16:9 PRO devices	<b>6AV7674-1NE01-0AA0</b>
<b>Handles for PRO devices</b> For optimum handling and haptics when positioning and tilting the HMI PRO device. Universally adjustable from 12" to 22".	<b>6AV7674-1LB10-0AA0</b>
<b>Handles for PRO devices 24"</b>	<b>6AV7674-1LB15-0AA0</b>

#### Technical specifications

Article number	<b>6AV7674-1LB15-0AA0</b> Handles for HMI PRO devices 24"
<b>General information</b>	
Product type designation	Handles for HMI PRO devices 24"
<b>Degree and class of protection</b>	
IP (all-round)	IP65 when installed
<b>Standards, approvals, certificates</b>	
RoHS conformity	Yes
<b>Mechanics/material</b>	
Material	
• Aluminum	Yes; Powder-coated, RAL 9006
<b>Weights</b>	
Weight (without packaging)	1.9 kg
<b>Scope of supply</b>	
Delivery quantity in pieces	1
Components included	Screws for attachment
<b>Other</b>	
Target devices	PRO devices for support arm (extendable, round tube) and pedestal (extendable, flange below)

Article number	<b>6AV7674-1LX00-0AA0</b> USB Interface for Pro Devices
<b>General information</b>	
Product type designation	USB interface for PRO devices
<b>Control elements</b>	
<b>Connection type</b>	
• USB	Yes; USB 2.0 type A
• Cable length	0.5 m
<b>Installation type/mounting</b>	
Mounting	Integrated by means of cover on the side of the basic adapter.
<b>Degree and class of protection</b>	
IP (all-round)	IP65 fully enclosed (when protective cover is closed)
IP (at the front)	IP20 when protective cover is open
<b>Standards, approvals, certificates</b>	
CE mark	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	50 °C
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	3 500 m
<b>Relative humidity</b>	
• Operation, max.	90 %
• Condensation permissible	No
<b>Cables</b>	
Cable length	0.5 m
<b>Mechanics/material</b>	
Material	Brass, nickel-plated
Enclosure material (front)	USB cover: Anodized aluminum, cover for basic adapter: Aluminum, powder-coated, RAL 9006
Enclosure color (front)	Silver metallic

Article number	<b>6AV7674-1LX00-0AA0</b> USB Interface for Pro Devices
<b>Service life</b>	
• Number of operating cycles, keys	1 500; Insertion cycles
<b>Dimensions</b>	
Enclosure diameter	22.5 mm; Hole diameter in the cover for the basic adapter
Overall depth	20 mm
<b>Weights</b>	
Weight (without packaging)	0.25 kg
<b>Scope of supply</b>	
Delivery quantity in pieces	1
Components included	USB socket with cable and connector, cover for the basic adapter, bolts for fastening

## PC-based Automation

Industrial PC

Devices for special requirements

Devices with stainless steel fronts > SIMATIC Industrial Flat Panel IFP1900 INOX PRO

### Overview



### SIMATIC IFP1900 INOX PRO

Industrial Flat Panel in fully-enclosed stainless steel housing with high degree of protection for machine-level operator control and monitoring in the food and beverage, pharmaceutical and fine chemicals industries and in other areas where hygienic requirements are high.

The device has been developed on the basis of EN 1672-2 "Food processing machinery – Safety and hygiene requirements".

With its fully enclosed design and optional expansion modules, the SIMATIC PRO devices are eminently suitable for industrial and machine-level use.

The INOX PRO devices with their stainless steel housing are compact and hygienically designed and feature integrated operating elements. They are also even better equipped to meet the high requirements presented by the food and beverage production environment. IP66K degree of protection protects against water, even with a jet strength of 100 l/min at 10 bar from a distance of 2.5 m to 3 m.

The optimized profile and minimal housing depth allow liquids to run off.

The high quality requirements in the food and beverages industry demand a high standard of the food processing machinery. There are many relevant regulations, directives, ordinances, standards and laws. Essential here is that all equipment and components are easy to clean and disinfect so that cross-contamination of foodstuffs can be avoided.

### Ordering data

### Article No.

#### SIMATIC IFP1900 INOX PRO for pedestal mounting

19"; with accessory pack comprising: Documentation and driver CD, product information; terminals; Quickinstall Guide

6AV7484-6AB00-0AA0

#### SIMATIC IFP1900 INOX PRO for support-arm mounting

19"; with accessory pack comprising: Documentation and driver CD, product information; terminals; Quickinstall Guide

6AV7484-6AB10-0AA0

#### Accessories

Mounting packages are provided as accessories for mounting the devices on the support system. The device seals can be replaced using the corresponding service packages from the accessories.

See "System components for fully-enclosed IP65-protected devices"

### Technical specifications

Article number	6AV7484-6AB00-0AA0	6AV7484-6AB10-0AA0
	IFP1900 INOX PRO PEDESTAL	IFP1900 INOX PRO SUPPORT-ARM
<b>General information</b>		
Product type designation	IFP1900 INOX PRO	IFP1900 INOX PRO
Short designation	Flat Panel 19" INOX PRO ETH single-touch	Flat Panel 19" INOX PRO ETH single-touch
<b>Display</b>		
Design of display	18.5" TFT widescreen display	18.5" TFT widescreen display
Screen diagonal	18.5 in	18.5 in
Screen diagonal [cm]	47 cm	47 cm
Number of colors	16 000 000	16 000 000
<b>General features</b>		
• Brightness/contrast	400 cd/m <sup>2</sup> / 700:1	400 cd/m <sup>2</sup> / 700:1
• non-reflective and tempered mineral glass screen	No	No
• Detachable from computer unit	100 m	100 m
<b>Backlighting</b>		
• Type of backlighting	LED, dimmable	LED, dimmable
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h
<b>Control elements</b>		
Control elements	single-touch screen	single-touch screen
<b>Input device</b>		
• Integrated mouse cursor control	No	No
<b>Touch operation</b>		
• Design as touch screen	Yes	Yes
• Design as multi-touch screen	No	No
• Monitor keyboard	No	No

### Technical specifications

Article number	6AV7484-6AB00-0AA0	6AV7484-6AB10-0AA0
	IFP1900 INOX PRO PEDESTAL	IFP1900 INOX PRO SUPPORT-ARM
<b>Installation type/mounting</b>		
Design	Pedestal mounting	Support arm mounting
Mounting in portrait format possible	No	No
<b>Supply voltage</b>		
Rated value (DC)	24 V	24 V
<b>Input current</b>		
Current consumption (rated value)	2 A	2 A
<b>Interfaces</b>		
Number of industrial Ethernet interfaces	1	1
Number of USB interfaces	2	2
USB on the rear	No	No
USB at the front	No	No
Connection for keyboard/mouse	USB	USB
<b>Video interfaces</b>		
• DVI-D	No	No
• DisplayPort	Yes	Yes
<b>Touch interfaces</b>		
• USB	Yes	Yes
<b>Industrial Ethernet</b>		
• Transmission rate, max.	1 Mbit/s	1 Mbit/s
<b>Degree and class of protection</b>		
IP (at the front)	IP66	IP66
IP (rear)	IP66	IP66
NEMA (front)		
• Enclosure Type 4x at the front	No	No
• Enclosure Type 12 at the front	No	No
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes	Yes
• UL 508	Yes	Yes
cULus	Yes	Yes
FM approval	No	No
RCM (formerly C-TICK)	No	No
KC approval	No	No
EAC (formerly Gost-R)	No	No
CCC	No	No
FCC	Yes	Yes
EMC	CE, EN 61000-6-4; CISPR 22 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22 Class A; FCC Class A
Marine approval	No	No
<b>Use in hazardous areas</b>		
• ATEX Zone 2	No	No
• ATEX Zone 22	No	No
• IECEx Zone 2	No	No
• IECEx Zone 22	No	No
• cULus Class I Zone 2, Division 2	No	No
• FM Class I Division 2	No	No

Article number	6AV7484-6AB00-0AA0	6AV7484-6AB10-0AA0
	IFP1900 INOX PRO PEDESTAL	IFP1900 INOX PRO SUPPORT-ARM
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	45 °C	45 °C
<b>Relative humidity</b>		
• Operation, max.	85 %	85 %
<b>Vibrations</b>		
• Vibration load in operation	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
<b>Shock testing</b>		
• Shock load during operation	150 m/s <sup>2</sup>	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	250 m/s <sup>2</sup>	250 m/s <sup>2</sup>
<b>configuration / header</b>		
<b>Configuration</b>		
• Local	Yes	Yes
• Remote	No	No
<b>Mechanics/material</b>		
Enclosure material (front)	Stainless steel V2A	Stainless steel V2A
• Plastic	Yes	Yes
• Aluminum	No	No
• Stainless steel	Yes	Yes
• Aluminum casting	No	No
• Glass	No	No
Enclosure material (rear)	Stainless steel V2A	Stainless steel V2A
<b>Dimensions</b>		
Width	544 mm	544 mm
Height	430.7 mm	430.7 mm
Depth	136 mm	136 mm
<b>Weights</b>		
Weight (without packaging)	15.5 kg	15.5 kg

### More information

More information is available on the Internet at:

<http://www.siemens.com/inox-pro-hmi-devices>

### Customized modifications

- Customized design (logo, type designation and membrane color)
- Other display sizes
- Changes to the operator controls
- Further certificates and approvals

### Quotation preparation

Customized automation specialists define the product modifications precisely in accordance with customer requirements.

The quotation is then prepared with:

- Non-recurring costs
- Prototype costs
- Serial device prices and
- The general conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be ordered easily using this product agreement and a customer-specific order number.

## PC-based Automation

Industrial PC

Devices for special requirements

Devices with stainless steel fronts > SIMATIC Industrial Flat Panel IFP2200 INOX MT ETH

### Overview



#### SIMATIC Industrial Flat Panel IFP2200 INOX MT ETH

The Industrial Flat Panel (Ethernet monitor) with its projective-capacitive touch screen for multi-finger operation and stainless steel front is designed for use in the food and beverage, pharmaceutical, and fine chemicals industries as well as in other hygienic areas for machine level operator control and monitoring.

For this reason, these stainless steel front devices have been developed in compliance with EN 1672-2 "Food processing machinery – Safety and hygiene requirements".

### Ordering data

### Article No.

#### SIMATIC IFP2200 INOX MT ETH

With accessory pack comprising:

- Clamping frame
- Device seal
- Mounting clamp
- Terminal
- Installation instructions

6AV7485-6BE00-0AA0

The device seals can be replaced using the corresponding service packages from the accessories.

### Technical specifications

Article number	<b>6AV7485-6BE00-0AA0</b> SIMATIC FLAT PANEL 22" INOX MT ETH
<b>General information</b>	
Product type designation	IFP2200 INOX
Short designation	Flat Panel 22" INOX multi-touch Ethernet
<b>Display</b>	
Design of display	TFT widescreen display, LED backlighting
Screen diagonal	21.5 in
Screen diagonal [cm]	56 cm
On Screen Display (OSD) configuration	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit
Viewing angle	170° x 170°
<b>General features</b>	
• Brightness/contrast	250 cd/m <sup>2</sup> / 1 000:1
<b>Backlighting</b>	
• Type of backlighting	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C
<b>Control elements</b>	
<b>Input device</b>	
• Integrated mouse cursor control	No
<b>Touch operation</b>	
• Design as touch screen	Yes; Projective-capacitive
• Design as multi-touch screen	Yes
• Monitor keyboard	Yes
<b>Supply voltage</b>	
Rated value (DC)	24 V
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	1; Ethernet, 1 port, RJ45
USB on the rear	Yes; 2x onboard
<b>Video interfaces</b>	
• DisplayPort	Yes; DisplayPort V1.1
<b>Touch interfaces</b>	
• USB	Yes
<b>Industrial Ethernet</b>	
• Transmission rate, max.	1 000 Mbit/s
<b>Degree and class of protection</b>	
IP (at the front)	IP66 / IPx6K and IP69 / IPx9K
IP (rear)	IP20
NEMA (front)	
• Enclosure Type 4x at the front	No; Available soon

### Technical specifications

Article number	<b>6AV7485-6BE00-0AA0</b> SIMATIC FLAT PANEL 22" INOX MT ETH
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	No
EAC (formerly Gost-R)	Yes
<b>Use in hazardous areas</b>	
• ATEX Zone 2	No; Available soon
• ATEX Zone 22	No; Available soon
• FM Class I Division 2	No; Available soon
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	45 °C; Vertical installation (horizontal)
<b>Vibrations</b>	
• Vibration load in operation	10 m/s <sup>2</sup>
• Vibration load during transport/storage	10 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	150 m/s <sup>2</sup>
• shock acceleration during storage/transport	150 m/s <sup>2</sup>
<b>Mechanics/material</b>	
Enclosure material (front)	
• Glass	Yes
<b>Dimensions</b>	
Width of the housing front	544 mm
Height of housing front	345 mm
Mounting cutout, width	513 mm; Tolerance: +1 mm
Mounting cutout, height	315 mm; Tolerance: +1 mm
Overall depth	62.5 mm
<b>Weights</b>	
Weight (without packaging)	8 kg

### More information

#### Customized modifications

- Neutral design (black, no logo, type designation)
- Protection against condensation and corrosive gases

#### Quotation preparation

Customized automation specialists define the product modifications precisely in accordance with customer requirements.

The quotation is then prepared with:

- Non-recurring costs
- Prototype costs
- Serial device prices
- General conditions in the form of a product agreement (e.g. minimum quantity)

The defined device can then be ordered easily using this product agreement and a customer-specific order number.

## PC-based Automation

Industrial PC  
IPC software

### Introduction

#### Overview

##### **Higher system availability**

A graded concept is available for effective early detection of potential failures and minimization of actual downtimes. It consists of software developed specifically for the SIMATIC IPCs, which enables system availability to be individually increased according to the safety requirements.

##### **Reduced costs**

Special backup mechanisms reduce the risk of data loss and allow the introduction of new concepts at initial or repeated commissioning.

The remote control and automatic self-diagnostics options reduce travel expenditure and time spent on on-site service calls, allowing service measures to be planned more efficiently. Downtimes are minimized or eliminated altogether.

The SIMATIC IPC software products thus help to significantly reduce the total cost of ownership (TCO) of the installation according to the motto: "Small effort, great effect".

The following components are available:

##### SIMATIC IPC Image & Partition Creator

- Software tool for preventive data backup of hard disk contents
- High-speed restoring of system and data partitions with bit accuracy; user software and special installations are also backed up
- Secure processing of hard disk partitions
- Creation of bootable and password-protected USB flash drives
- Secure deletion of data storage media

##### SIMATIC IPC DiagMonitor

- Diagnostics and alarm software for monitoring SIMATIC IPCs
- Comprehensive monitoring of temperature, fans, hard disks (SMART, RAID, CompactFlash, CFast, SSD), watchdog
- Operating hours counter for preventive maintenance
- Event logging and task planning
- Data exchange via OPC, email, text messages or SNMP
- Integrated BIOS Manager

##### SIMATIC IPC FirmwareManager

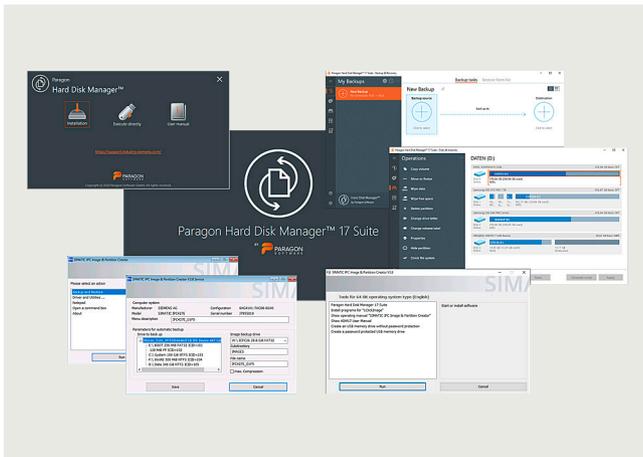
- Display of the firmware information
- Updating the firmware
- Setting the booting behavior
- Display of the SMBIOS data
- Setting the password parameters
- Editing the setup settings (BIOS configuration)
- Insertion of a boot logo
- Setup of a secure boot

##### **Operating systems for applications in the industrial environment**

##### SIMATIC Industrial OS

Apart from the hardware, the operating system is the most important internal component of a computer. It can come supplied with user programs or simply provide the application resources. The SIMATIC Industrial OS with its Linux-based operating system not only constitutes an alternative to the Microsoft Windows operating systems also available for the SIMATIC IPCs, it also offers a suitable solution to the challenges listed above.

## Overview



SIMATIC IPC Image & Partition Creator is the software tool for easy, preventive data backup and restoring of hard disk contents (images of individual partitions or complete hard disks). This software can be ordered using the SIMATIC IPC Configurator, or separately as a single license.

- Can run on all SIMATIC IPCs, regardless of the computer configuration
- Direct starting from the USB flash drive possible (no installation required)
- Complete backup by means of a mouse double-click with "1ClickImage" (installation required)
- Independent of operating system thanks to start from bootable USB flash drive with Image & Partition Creator
- Extremely easy system restore using end user's USB flash drive  
<https://support.industry.siemens.com/cs/ww/en/view/109781271>

### Licenses:

The SIMATIC IPC Image & Partition Creator V3.6 may only be installed on one device at a time or operated without installation. When used with multiple IPCs, a separate version is required for each IPC. This also applies if a restore is copied (multiple times) to other IPCs. A separate version is then also required for each of them.

<https://support.industry.siemens.com/cs/ww/en/view/109740914>

## Ordering data

### SIMATIC IPC Image & Partition Creator V3.6

Software tool for very easy preventive data backup and efficient partition management, single license for use on one SIMATIC IPC

- On USB flash drive
- As download;  
Consignee email address required for delivery

## Article No.

Can be ordered using the SIMATIC IPC Configurator

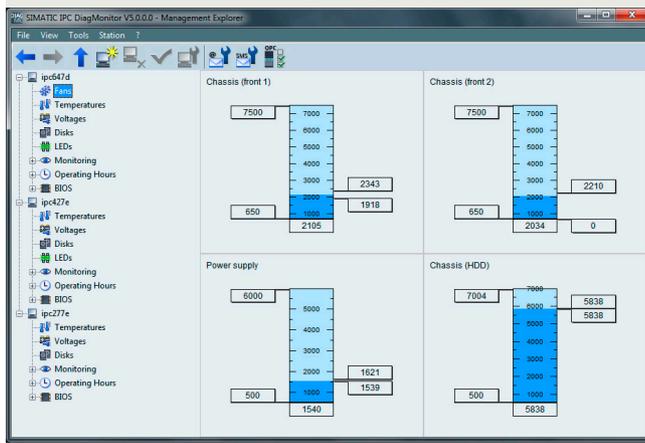
**6ES7648-6AA13-6YA0**  
**6ES7648-6AA83-6YA0**

## PC-based Automation

Industrial PC  
IPC software

### SIMATIC IPC DiagMonitor

#### Overview



The SIMATIC IPC DiagMonitor permits intelligent and comprehensive monitoring and diagnostics of SIMATIC Industrial PCs.

It detects potential hardware and software faults at an early stage, visualizes operating states and offers various options for access and data exchange.

The SIMATIC IPC DiagMonitor supports not only local diagnostics, but also access via the network to SIMATIC IPC. When installed on a standard PC, all remote functions required for remote access are available.

Only the following SIEMENS products are supported:

- SIMATIC IPC127E
- SIMATIC IPC227G / IPC277G / IPC227E / IPC277E
- SIMATIC IPC427E / IPC477E / IPC427D / IPC477D
- SIMATIC IPC547J / IPC547G / IPC547E
- SIMATIC IPC627E / IPC677E / IPC627D / IPC677D
- SIMATIC IPC647E / IPC647D
- SIMATIC IPC827D
- SIMATIC IPC847E / IPC847D
- CPU 1515SP PC
- CPU 1515SP PC2

The software can be ordered as:

- individual product from stock (e.g. for server applications on third-party PCs or immediate integration in new systems) on USB flash drive, as download via Online Software Delivery (OSD), or
- as option ordered according to the SIMATIC IPC Configurator (Internet, Industry Mall).

#### Note:

As of Version 5.1, the SIMATIC IPC DiagMonitor is delivered on a USB flash drive.

One version of SIMATIC IPC DiagMonitor is required for each monitoring PC or for each SIMATIC IPC to be monitored.

<https://support.industry.siemens.com/cs/ww/en/view/109763202>

#### Ordering data

#### Article No.

##### SIMATIC IPC DiagMonitor V5.1

Can be ordered using the SIMATIC IPC Configurator

##### SIMATIC IPC DiagMonitor V5.1

Software for diagnostics/messages via Ethernet, email, SMS, OPC, web

- On USB flash drive; single license
- Download via OSD; single license; software and license for download; email address required for delivery

**6ES7648-6CA15-1YX0**

**6ES7648-6CA85-1YX0**

**Overview****SIMATIC IPC FirmwareManager**

The SIMATIC IPC FirmwareManager is a management tool for configuring and replacing firmware components. The FirmwareManager is controlled via command line options.

Only the following Siemens products are supported:

- SIMATIC IPC647E, SIMATIC IPC647D, SIMATIC IPC847E, SIMATIC IPC847D
- SIMATIC IPC127E, IPC227E, SIMATIC IPC427E, SIMATIC IPC427D, SIMATIC IPC627E, SIMATIC IPC627D, SIMATIC IPC827D
- SIMATIC IPC277E, SIMATIC IPC477E, SIMATIC IPC477D, SIMATIC IPC677E, SIMATIC IPC677D
- SIMATIC Field PG M5, SIMATIC Field PG M6
- SIMATIC ITP1000

Supported operating systems:

- UEFI Shell
- Windows XP 32/64-bit
- Windows 7 32/64-bit
- Windows 10 64-bit
- Linux-based (kernel 3.x, 4.x, 5.x) 32/64-bit

The SIMATIC IPC FirmwareManager is available via online software delivery (OSD).

Licenses:

There are two license versions available for the SIMATIC IPC FirmwareManager.

- The single license is intended for use with a single IPC. It allows installation or mobile use with only one SIMATIC IPC.
- The license for 50 devices allows mobile use (via e.g. a USB flash drive) together with up to 50 IPCs. If the FirmwareManager is to be used with more than 50 IPCs, a corresponding number of licenses is required.

**Ordering data****Article No.****SIMATIC IPC FirmwareManager V4.0**

Software and license for download: Email address is essential for delivery

- Single license; One version of the "SIMATIC IPC FirmwareManager" is required for each SIMATIC IPC on which the firmware manager is installed
- SIMATIC IPC FirmwareManager for 50 devices; One version of the "SIMATIC IPC FirmwareManager for 50 devices" is required for mobile use with up to 50 SIMATIC IPC

**6ES7648-6FA84-0YX0****6ES7648-6GA84-0YX0****More information**

More information is available on the internet at:

<https://support.industry.siemens.com/cs/ww/en/view/109773878>

<https://support.industry.siemens.com/cs/ww/en/view/109778609>

**PC-based Automation**

Industrial PC  
IPC software

**SIMATIC Industrial OS****Overview*****SIMATIC Industrial OS – the operating system for applications in the industrial environment***

The SIMATIC Industrial OS with its Linux-based operating system constitutes an alternative to the tried-and-tested Microsoft Windows operating systems available for the SIMATIC IPCs.

The focus is on a small footprint, without unnecessary ballast, but with all components for fast commissioning and simple further development.

It was put together and tested on the SIMATIC IPCs and can be used in industrial environments and other areas of application.

Released devices:

Siemens has released the following SIMATIC IPCs for version 1.5 of SIMATIC Industrial OS:

- SIMATIC IPC127E
- SIMATIC IPC227E/277E
- SIMATIC IPC327E/377E/IPC347E
- SIMATIC IPC427E/477E
- SIMATIC IPC527G/IPC547G
- SIMATIC IPC647E
- SIMATIC IPC847E

Minimum requirements:

- USB flash drive with a memory of at least 8 GB
- SIMATIC IPC (see released devices) with at least 4 GB capacity on the target storage medium (CFast, SSD, etc.)

<https://support.industry.siemens.com/cs/ww/en/view/109766374>

**Ordering data****Article No.****SIMATIC Industrial OS V1.5, based on Linux**

Operating system for SIMATIC IPC;  
single license;  
software and license for download;  
email address required for delivery

**6ES7648-6LA81-0YA8**

**Overview**

**Software packages with SIMATIC IPC**

Software packages with SIMATIC WinCC or SIMATIC SW Controller together with the corresponding SIMATIC IPC.

Available:

- SIMATIC IPC Packages with WinCC Unified PC RT (TIA Portal)
- SIMATIC IPC Packages with WinCC V7/V8
- SIMATIC IPC Packages with WinCC Open Architecture – WinCC OA
- SIMATIC IPC Packages with WinCC RT Advanced (TIA Portal)
- SIMATIC IPC Packages with WinCC RT Professional (TIA Portal)
- SIMATIC IPC Packages with SIMATIC Software Controller

A software package can only be supplied if the same number of SIMATIC industry PCs is ordered together with the software. It cannot be ordered subsequently or separately.

**Ordering data**
**Article No.**
**Software packages for SIMATIC IPC**
**SIMATIC WinCC Unified V18 PC Runtime <sup>1) 2)</sup>**

Software and documentation on DVD;  
 incl. WinCC Unified Logging Tags and WinCC Unified Parameter Control.  
 Single license, license key on USB flash drive for:

- 150 PowerTags
- 500 PowerTags
- 1k PowerTags
- 2.5k PowerTags
- 5k PowerTags
- 10k PowerTags
- 50k PowerTags

**6AV2155-3DB01-8AA0**  
**6AV2155-1EB01-8AA0**  
**6AV2155-2EB01-8AA0**  
**6AV2155-2MB01-8AA0**  
**6AV2155-1FB01-8AA0**  
**6AV2155-2FB01-8AA0**  
**6AV2155-1GB01-8AA0**

**SIMATIC WinCC Unified V17 PC Runtime <sup>1) 2)</sup>**

Software and documentation on DVD;  
 incl. WinCC Unified Logging Tags and WinCC Unified Parameter Control.  
 Single license, license key on USB flash drive for:

- 150 PowerTags
- 500 PowerTags
- 1k PowerTags
- 2.5k PowerTags
- 5k PowerTags
- 10k PowerTags
- 50k PowerTags

**6AV2155-3DB01-7AA0**  
**6AV2155-1EB01-7AA0**  
**6AV2155-2EB01-7AA0**  
**6AV2155-2MB01-7AA0**  
**6AV2155-1FB01-7AA0**  
**6AV2155-2FB01-7AA0**  
**6AV2155-1GB01-7AA0**

# PC-based Automation

Industrial PC

Software packages

## Software packages for SIMATIC IPC

Ordering data	Article No.	Article No.	
<b>SIMATIC WinCC Runtime Advanced V17</b> <sup>1) 2)</sup> Software and documentation on DVD, incl. WinCC Archives and WinCC Recipes. Single license, license key on USB flash drive for: <ul style="list-style-type: none"> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> <li>• 8 192 PowerTags</li> </ul>	6AV2114-2BA07-0AA0 6AV2114-2DA07-0AA0 6AV2114-2FA07-0AA0 6AV2114-2HA07-0AA0 6AV2114-2KA07-0AA0	<b>Software packages for SIMATIC IPC</b> <b>SIMATIC WinCC V7.5 SP2 Runtime</b> <sup>1) 2)</sup> <ul style="list-style-type: none"> <li>• WinCC RT Client</li> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 65 536 PowerTags</li> </ul>	6AV6382-2AA07-5AX0 6AV6382-2CA07-5AX0 6AV6382-2DA07-5AX0 6AV6382-2EA07-5AX0 6AV6382-2HA07-5AX0 6AV6382-2FA07-5AX0
<b>SIMATIC WinCC Runtime Advanced V16</b> <sup>1) 2)</sup> Software and documentation on DVD, incl. WinCC Archives and WinCC Recipes. Single license, license key on USB flash drive for: <ul style="list-style-type: none"> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> <li>• 8 192 PowerTags</li> </ul>	6AV2114-2BA06-0AA0 6AV2114-2DA06-0AA0 6AV2114-2FA06-0AA0 6AV2114-2HA06-0AA0 6AV2114-2KA06-0AA0	<b>SIMATIC WinCC V7.5 SP2 Runtime ASIA</b> <sup>1) 2)</sup> <ul style="list-style-type: none"> <li>• WinCC RT Client</li> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 65 536 PowerTags</li> </ul>	6AV6382-2AA07-5AV0 6AV6382-2CA07-5AV0 6AV6382-2DA07-5AV0 6AV6382-2EA07-5AV0 6AV6382-2HA07-5AV0 6AV6382-2FA07-5AV0
<b>SIMATIC WinCC Runtime Professional V18</b> <sup>1) 2) 3)</sup> <ul style="list-style-type: none"> <li>• WinCC Client for RT Professional</li> <li>• 128 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 65 536 PowerTags</li> </ul>	6AV2117-2DB08-0AA0 6AV2115-2BA08-0AA0 6AV2115-2DA08-0AA0 6AV2115-2FA08-0AA0 6AV2115-2HA08-0AA0 6AV2115-2KA08-0AA0 6AV2115-2MA08-0AA0	<b>SIMATIC WinCC Open Architecture</b> <b>V3.18</b> Only offered with IPC127E and IPC227E/IPC277E. These packages cannot be extended with further WinCC OA options (restrictions according to WinCC OA documentation). N/EAR99S 9377 <ul style="list-style-type: none"> <li>• 128 PowerTags</li> <li>• 256 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> </ul>	6AV6355-1AA31-8FA4 6AV6355-1AA31-8FA0 6AV6355-1AA31-8FA1 6AV6355-1AA31-8FA2 6AV6355-1AA31-8FA3
<b>SIMATIC WinCC Runtime Professional V17</b> <sup>1) 2) 3)</sup> <ul style="list-style-type: none"> <li>• WinCC Client for RT Professional</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> <li>• 8 192 PowerTags</li> <li>• 65 536 PowerTags</li> </ul>	6AV2117-2DB07-0AA0 6AV2115-2DA07-0AA0 6AV2115-2FA07-0AA0 6AV2115-2HA07-0AA0 6AV2115-2KA07-0AA0 6AV2115-2MA07-0AA0	<b>V3.17</b> Only offered with IPC127E and IPC227E/IPC277E. These packages cannot be extended with further WinCC OA options (restrictions according to WinCC OA documentation). N/EAR99S 9377 <ul style="list-style-type: none"> <li>• 256 PowerTags</li> <li>• 512 PowerTags</li> <li>• 2 048 PowerTags</li> <li>• 4 096 PowerTags</li> </ul>	6AV6355-1AA31-7FA0 6AV6355-1AA31-7FA1 6AV6355-1AA31-7FA2 6AV6355-1AA31-7FA3

<sup>1)</sup> Only if ordered together with a SIMATIC IPC.

<sup>2)</sup> The current version is always supplied.

<sup>3)</sup> IPC127 only as client and single-user station for small projects, IPC227E/IPC277E and IPC327E/IPC377E only as WinCC client & single-user station.

**Ordering data****Article No.****SIMATIC S7-1500 Software  
Controller CPU1507S Package**

SW package only available for  
IPC227E/IPC277E

- SW Controller CPU 1507S for  
IPC2x7E (DVD) <sup>1) 2)</sup>
- SW Controller CPU 1507S (F) for  
IPC2x7E (DVD) <sup>1) 2)</sup>

**6ES7672-7AC01-6YA0****6ES7672-7FC01-6YA0**

<sup>1)</sup> Only if ordered together with a SIMATIC IPC

<sup>2)</sup> The current version is always supplied

Note:

For ordering data for Panel PCs and accessories, see  
configurators in "SIMATIC Panel PCs".

**More information**

You can find the latest list of software packages for  
SIMATIC IPCs under the following SIOS notification:

<https://support.industry.siemens.com/cs/at/en/view/99860269>

More information is available on the internet at:

<http://www.automation.siemens.com/simatic-hmi>

## PC-based Automation

### Industrial IoT Gateway

#### SIMATIC IOT2000

##### Overview

###### ***SIMATIC IOT2000***

The SIMATIC IOT2000 is the reliable, open platform designed for the acquisition, processing and transfer of data directly in the production environment.

It is ideally suited for use as a gateway between the cloud or company IT level and production.

It can serve as an interface in both directions. It can also transfer evaluated data from the cloud to production control.

This continuous exchange of data closes the control loop for optimizing the production process. The openness of the system in supporting numerous communication protocols and programming in high-level languages enables tailored solutions.

## Overview



The SIMATIC IOT2050 is the reliable, open platform designed for the acquisition, processing and transfer of data directly in the production environment.

It is ideally suited for use as a gateway between the cloud or company IT level and production.

The openness of the system in supporting numerous communication protocols and programming in high-level languages enables tailored solutions.

Openness for industrial IOT applications

- Wide range of options for programming in high-level languages
- Implementation of flexible communication solutions with different protocols, from Modbus RTU, OPC UA to cloud protocols such as MQTT/AMQP
- Use of open source application examples and libraries
- SIMATIC Industrial OS, via OSD + free "ISAR" Debian via download

Additional information is available on the Internet at:

<http://siemens.com/iot2000>

## Ordering data

### Article No.

#### SIMATIC IOT2050

- 2 x GB Ethernet RJ45;  
 Display Port; 2x USB 2.0,  
 24 V DC industrial power supply
- Hard disk: 1x microSD card slot;  
 memory: DDR4-SDRAM 1 GB
  - Hard disk: 16 GB eMMC  
 1x microSD card slot;  
 memory: DDR4-SDRAM 2 GB
  - Hard disk: 16 GB eMMC, 1x M.2,  
 SD card slot

**6ES7647-0BA00-0YA2**

**6ES7647-0BA00-1YA2**

**6ES7647-0BB00-1YA2**

## Technical specifications

Article number	<b>6ES7647-0BA00-0YA2</b>	<b>6ES7647-0BA00-1YA2</b>
	SIMATIC IoT2050	SIMATIC IoT2050
<b>General information</b>		
Product type designation	IOT2050	IOT2050
<b>Installation type/mounting</b>		
Design	IoT Gateway, built-in unit	IoT Gateway, built-in unit
<b>Supply voltage</b>		
Type of supply voltage	12/24 V DC	12/24 V DC
<b>Mains buffering</b>		
• Mains/voltage failure stored energy time	5 ms	5 ms
<b>Processor</b>		
Processor type	ARM TI AM6528 GP	ARM TI AM6548 HS
<b>Graphic</b>		
Graphics controller	Integrated	Integrated
<b>Drives</b>		
Slot for drives	1x microSD card slot	1x microSD card slot
<b>Memory</b>		
Type of memory	DDR4	DDR4
Main memory	1 GB RAM	2 GB RAM
<b>Hardware configuration</b>		
<b>Slots</b>		
• free slots	1x Arduino, 1x mPCIe	1x Arduino, 1x mPCIe
<b>Digital inputs</b>		
Number of digital inputs	20	20
<b>Input voltage</b>		
• Type of input voltage	DC	DC
<b>Digital outputs</b>		
Number of digital outputs	20	20
<b>Output voltage</b>		
• Type of output voltage	DC	DC
• permissible voltage at output, min.	3.3 V	3.3 V
• permissible voltage at output, max.	5 V	5 V
<b>Analog inputs</b>		
Number of analog inputs		6
<b>Input ranges</b>		
• Voltage		Yes; 0 ... 5 V

# PC-based Automation

## Industrial IoT Gateway

### SIMATIC IOT2000

#### SIMATIC IOT2050

#### Technical specifications

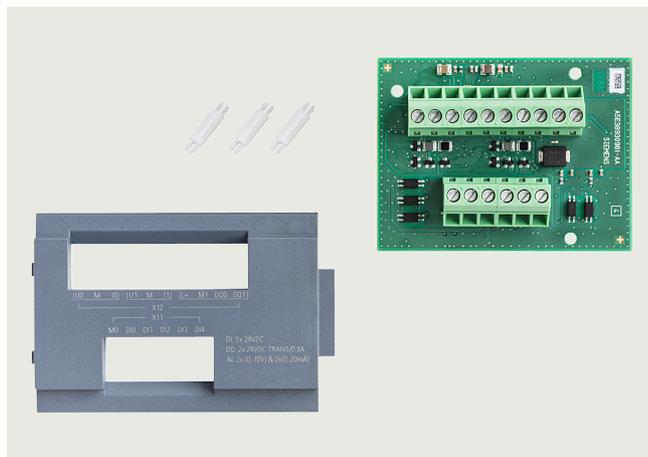
Article number	6ES7647-0BA00-0YA2	6ES7647-0BA00-1YA2
	SIMATIC IoT2050	SIMATIC IoT2050
<b>Interfaces</b>		
PROFIBUS/MPI	can be implemented with plug-in card	can be implemented with plug-in card
Number of industrial Ethernet interfaces	2	2
Number of PROFINET interfaces	2	2
USB port	2x USB 2.0	2x USB 2.0
Connection for keyboard/mouse serial interface	USB	USB
	1x COM (1x RS 232 / 422 / 485)	1x COM (1x RS 232 / 422 / 485)
Multimedia		
• Audio In/Out		
• Microphone In		
<b>Video interfaces</b>		
• Graphics interface	1x DisplayPort	1x DisplayPort
<b>Industrial Ethernet</b>		
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes
<b>Integrated Functions</b>		
<b>Monitoring functions</b>		
• Temperature monitoring	Yes	Yes
• Watchdog	Yes	Yes
• Status LEDs	Yes	Yes
<b>EMC</b>		
<b>Interference immunity against discharge of static electricity</b>		
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>		
• Interference immunity against high frequency radiation	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3
<b>Interference immunity to cable-borne interference</b>		
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4, Burst

Article number	6ES7647-0BA00-0YA2	6ES7647-0BA00-1YA2
	SIMATIC IoT2050	SIMATIC IoT2050
<b>Interference immunity against voltage surge</b>		
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Degree and class of protection</b>		
IP (all-round)	IP20	IP20
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes
FCC	Yes	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005, CE, EN IEC 61000-6-4:2019, EN IEC 61000-6-2:2019	
<b>Ambient conditions</b>		
<b>Altitude during operation relating to sea level</b>		
• Installation altitude above sea level, max.	2 000 m	2 000 m
<b>Relative humidity</b>		
• Relative humidity	5 ... 85 % at 30 °C, no condensation	
• Operation, max.	85 %	85 %
<b>Vibrations</b>		
• Vibration resistance during operation acc. to IEC 60068-2-6	tested according to IEC 60068-2-6: 10 cycles; 5 to 8.4 Hz: deflection 3.5 mm; 8.4 to 200 Hz: acceleration 9.8 m/s <sup>2</sup>	
<b>Shock testing</b>		
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>		
pre-installed operating system	No	SIMATIC Industrial OS
without operating system	Yes	No
<b>Mechanics/material</b>		
Enclosure material (front)	plastic	plastic
• Plastic	Yes	Yes
• Aluminum	Yes	Yes
• Stainless steel	Yes	Yes
• Glass	No	No
<b>Dimensions</b>		
Width	37 mm	37 mm
Height	142 mm	142 mm
Depth	100 mm	100 mm

#### More information

More information is available on the internet under <https://www.siemens.com/iot2000>.

## Overview



### IO shield for SIMATIC IOT2000 Industrial IoT Gateways

The SIMATIC IOT2000 IO shield allows for direct connection of non-time-critical sensor data to the SIMATIC IOT2000 via digital and analog I/Os.

#### Essential highlights:

- High degree of industrial functionality
- Arduino shield with 5x DI, 2x DQ, 2x AI
- Rapid installation since suitable cover and fixing accessories supplied
- Industrial design
- For use in standard industrial voltage ranges (e.g. 24 V with digital In)
- Tested environmental conditions as for IOT2040 (e.g. for 0 ... 50° C)
- Approvals as for IOT2040 (CE UL)
- Developed and tested for 24/7 operation
- Extremely versatile application creation
- Module addressing via GPIOs allows wide choice of programming language and development environment.

#### Target applications:

- Direct connection of
  - Sensors
  - Actuators (especially lamps, horns)
- Distribution of data to higher-level units, such as clouds

## Ordering data

**SIMATIC IOT2000  
Input/Output Module**  
 5x DI, 2x AI, 2x DO,  
 Arduino shield for  
 SIMATIC IOT2020 and IOT2040

## Article No.

**6ES7647-0KA01-0AA2**

# PC-based Automation

## Industrial IoT Gateway

### SIMATIC IOT2000

#### SIMATIC IOT2000 Input/Output Module

#### Technical specifications

Article number	<b>6ES7647-0KA01-0AA2</b> SIMATIC IoT2000 input/output module
<b>General information</b>	
Product type designation	IOT2000
<b>Installation type/mounting</b>	
Mounting	On Arduino interface
Design	Plug-in card
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Digital inputs</b>	
Number of digital inputs	5
<b>Input voltage</b>	
• Type of input voltage	DC
• for signal "0"	< 5 V DC
• for signal "1"	> 12 V DC
<b>Input current</b>	
• for signal "0", max. (permissible quiescent current)	0.9 mA
• for signal "1", typ.	2.1 mA
<b>Input delay (for rated value of input voltage)</b>	
<b>for standard inputs</b>	
- at "0" to "1", max.	1.5 ms
- at "1" to "0", max.	1.5 ms
<b>Digital outputs</b>	
Type of digital output	transistor
Number of digital outputs	2
Short-circuit protection	Yes
<b>Output voltage</b>	
• Type of output voltage	DC
• permissible voltage at output, min.	0 V
• permissible voltage at output, max.	28.8 V
<b>Output current</b>	
• for signal "1" rated value	0.3 A
<b>Parallel switching of two outputs</b>	
• for uprating	No
<b>Switching frequency</b>	
• with resistive load, max.	10 Hz
• with inductive load, max.	0.5 Hz
<b>Analog inputs</b>	
Number of analog inputs	2
<b>Input ranges</b>	
• Voltage	Yes; 0 to 10V
• Current	Yes; 0 to 20 mA
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
<b>Input ranges (rated values), voltages</b>	
• 0 to +10 V	Yes
<b>Input ranges (rated values), currents</b>	
• 0 to 20 mA	Yes

Article number	<b>6ES7647-0KA01-0AA2</b> SIMATIC IoT2000 input/output module
<b>Analog value generation for the inputs</b>	
<b>Integration and conversion time/resolution per channel</b>	9 bit
• Resolution with overrange (bit including sign), max.	
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	No
• Watchdog	No
• Status LEDs	No
• Fan	No
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±2 kV in accordance with IEC 61000-4-4, burst, length > 30 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	EN 61000-6-4:2007 +A1:2011
<b>Degree and class of protection</b>	
IP (at the front)	n.a.

## Technical specifications

Article number	<b>6ES7647-0KA01-0AA2</b> SIMATIC IoT2000 input/output module
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
cULus	Yes
KC approval	Yes; For use inside SIMATIC IoT2040
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005, EN 61000-6-3:2007 +A1:2011, EN 61000-6-1:2007
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to 50 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 200 Hz: 9.8 m/s <sup>2</sup>
<b>Shock testing</b>	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms

Article number	<b>6ES7647-0KA01-0AA2</b> SIMATIC IoT2000 input/output module
<b>Operating systems</b>	
without operating system	Yes
<b>Dimensions</b>	
Width	75 mm
Height	57 mm
Depth	32 mm

### More information

#### Technical support:

Technical and application support for the SIMATIC IOT2000 Input/Output Module is exclusively via the moderated Siemens Industry Online Forum:  
IOT2000 Forum link:

<https://support.industry.siemens.com/tf/ww/en/search/mainsearch/?text=IOT2000>

Here you can find Getting Started, FAQs etc.

Application examples are continually being added.

**PC-based Automation**Industrial IoT Gateway  
SIMATIC IOT2000**SIMATIC IOT2000 Input Module Sink/Source****Overview****IO shield for SIMATIC IOT2000 industrial IoT gateway**

The SIMATIC IOT2000 IO shield allows for direct connection of non-time-critical sensor data to the SIMATIC IOT2000 via its digital IOs.

Essential highlights:

- High degree of industrial functionality
- Arduino shield with 10x DI
- Each input can be used as a sink or source, no configuration necessary
- Rapid installation since suitable cover and fixing accessories supplied
- Industrial design
- For use with standard industrial voltage ranges (e.g. 24 V with digital In)
- Tested environmental conditions as for IOT2040 (e.g. for 0 ... 50° C)
- Approvals as for IOT2040 (CE UL)
- Developed and tested for 24/7 operation
- Extremely versatile application creation
- Module addressing via GPIOs allows wide choice of programming languages and development environments.

Target applications:

- Direct connection of sensors
- Distribution of data to higher-level units, such as clouds

**Technical specifications**

Article number	<b>6ES7647-0KA02-0AA2</b> SIMATIC IoT2000 input module sink/source
<b>General information</b>	
Product type designation	IOT2000
<b>Installation type/mounting</b>	
Mounting	On Arduino interface
Design	Plug-in card
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Digital inputs</b>	
Number of digital inputs	10
<b>Input voltage</b>	
• for signal "0"	< 5 V DC
• for signal "1"	> 12 V DC
<b>Input current</b>	
• for signal "0", max. (permissible quiescent current)	0.9 mA
• for signal "1", typ.	2.1 mA
<b>Input delay (for rated value of input voltage)</b>	
<b>for standard inputs</b>	
- at "0" to "1", max.	1.5 ms
- at "1" to "0", max.	1.5 ms
<b>Digital outputs</b>	
Type of digital output	without
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	± 6 kV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/ AC current cables	10 V/m for 80 - 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80 % AM acc. to IEC 61000-4-3
<b>Compliance with line harmonic distortion limits</b>	
• Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	No
<b>Degree and class of protection</b>	
IP (at the front)	20

**Ordering data****Article No.**

**SIMATIC IOT2000  
Input Module Sink/Source**  
10x DI, Arduino shield for  
SIMATIC IOT2020 and IOT2040

**6ES7647-0KA02-0AA2**

### Technical specifications

Article number	<b>6ES7647-0KA02-0AA2</b> SIMATIC IoT2000 input module sink/source
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
FCC	Yes
EMC	CE (Industry)
<b>Mechanics/material</b>	
Enclosure material (front)	plastic
• Plastic	Yes
• Aluminum	No
• Stainless steel	No
• Glass	No
<b>Dimensions</b>	
Width	75 mm
Height	57 mm
Depth	32 mm

### More information

#### Technical support:

Technical and application support for the SIMATIC IOT2000 Input/Output Module is exclusively via the moderated Siemens Industry Online Forum:  
 IOT2000 Forum link:

<https://support.industry.siemens.com/tf/ww/en/search/mainsearch/?text=IOT2000>

You can find Getting Started, FAQs etc. here.

Application examples are continually being added.

## PC-based Automation

### Software controllers

#### SIMATIC S7-1500 Software Controllers

##### Overview



- SIMATIC S7-1500 Software Controller for implementing control tasks with SIMATIC IPC
- Very high availability thanks to innovative real-time system
- Available as standard and fail-safe version
- Improved know-how and copy protection
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes, support for external encoders, output cams / output cam tracks and measuring inputs
- Integrated web server for diagnostics with the option of creating user-defined web pages
- SIMATIC ODK 1500S for the development and integration of control functions under Windows with the high-level languages C/C++, VB and C#
- SIMATIC Target 1500™ for the development of control functions using MATLAB Simulink®

**Overview**


- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Optimized for PC-based control tasks with the IPC427E Microbox PC and the IPC477E Panel PC
- Can also be used on the IPC227E, IPC627D, IPC627E and IPC827D Box PCs, the IPC277E, IPC677D and IPC677E Panel PCs, and the IPC647D, IPC647E, IPC847D and IPC847E Rack PCs
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1507S (C/C++)
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes as well as synchronous operation, support for external encoders, precise position gearing between axes, output cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or non-Siemens devices/systems

**Ordering data**
**SIMATIC S7-1500 Software Controller CPU 1507S**

For implementing the function of an S7-1500 Controller on SIMATIC IPCs

**Target system:**

Optimized for PC-based control tasks with IPC427E Microbox PC and IPC477E Panel PC;

Can also be used with

IPC277E Panel PC,  
 IPC677D Panel PC,  
 IPC677E Panel PC,  
 IPC227E Box PC,  
 IPC627D Box PC,  
 IPC627E Box PC,  
 IPC827D Box PC,  
 IPC647D Rack PC,  
 IPC647E Rack PC,  
 IPC847D Rack PC,  
 IPC847E Rack PC

**Requirement:**

Windows 7 /  
 Windows Embedded Standard 7 /  
 Windows 10 Enterprise;  
 for supported Windows 10 version,  
 see technical specifications

**Type of delivery:**

English, German, Chinese, Italian,  
 French, Spanish

- Single license for one installation  
 Software and documentation on DVD,  
 license key on USB flash drive
- Single license for one installation;  
 Software download including  
 license key <sup>1)</sup>

**Article No.**
**6ES7672-7AC01-0YA0**
**6ES7672-7AC01-0YG0**

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## PC-based Automation

Software controllers  
Standard CPUs

### CPU 1508S

#### Overview



- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use with control applications with increased requirements for program and data memory
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Optimized for PC-based control tasks with the IPC627E Box PC, the IPC677E Panel PC, and the IPC647E and IPC847E Rack PCs
- Can also be used on the IPC427E, IPC627D and IPC827D Box PCs, the IPC477E and IPC677D Panel PCs, and the IPC647D and IPC847D Rack PCs
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1508S (C/C++)
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes as well as synchronous operation, support for external encoders, precise position gearing between axes, output cams/cam tracks and probes
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or non-Siemens devices/systems

#### Ordering data

#### Article No.

##### SIMATIC S7-1500 Software Controller CPU 1508S

For implementing the function of an S7-1500 Controller on SIMATIC IPCs

##### Target system:

Optimized for PC-based control tasks with Panel PC IPC677E, Box PC IPC627E, Rack PC IPC647E, Rack PC IPC847E; can also be used with Panel PC IPC477E, Panel PC IPC677D, Box PC IPC427E, Box PC IPC627D, Box PC IPC827D, Rack PC IPC647D, Rack PC IPC847D;

##### Requirement:

Windows 7 / Windows Embedded Standard 7 / Windows 10 (64-bit)

##### Type of delivery:

en, de, fr, it, es, zh

- Single license for one installation  
Software and documentation on DVD,  
license key on USB flash drive
- Single license for one installation;  
Software download including license key <sup>1)</sup>

**6ES7672-8AC01-0YA0**

**6ES7672-8AC01-0YG0**

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

### Overview

- For developing dynamically loadable function libraries for the S7-1500 Software Controllers and S7-1500 Advanced Controllers CPU 1518 MFP and PLCSIM Advanced:
  - Implementation of function libraries for the SIMATIC S7-1500 Software Controllers that are executed under Windows with the high-level languages C/C++, C# and VB
  - Implementation of function libraries for the PLCSIM Advanced that are executed under Windows with the high-level languages C/C++
  - Implementation of function libraries that are executed in real-time in the context of the user program of the CPU with the high-level language C++
  - Implementation of applications for the C++ runtime of the CPU 1518 MFP
- "Eclipse" development environment for real-time function libraries in the CPU user program and applications for the C++ runtime in the scope of delivery.
- Development of library functions under Windows with MS Visual Studio (optional)
- Easy introduction to development by using basic projects via templates
- Automatic creation of function blocks for calling the library functions
- Simple integration of the function blocks into STEP 7 by importing.
- Simple use of the library functions in the PLC without specific high-level language know-how.

### Licensing

- ODK 1500S is supplied with a floating license. The floating license allows installation of the software on any number of computers. The number of existing licenses determines the number of computers on which the software can be used simultaneously.
- The integrated development environment Eclipse, required for developing real-time libraries, is included in the scope of supply of ODK 1500S as well as templates for Visual Studio.
- SIMATIC ODK 1500S is available as a standalone product or in a bundle with SIMATIC Target 1500S™ for Simulink®.

You can find more information on the Software Update Service, license types, Online Software Delivery and handling your SW licenses with the Automation License Manager under this

<http://www.siemens.com/simatic-licenses>.

### Ordering data

#### SIMATIC ODK 1500S

Open Development Kit V2.5 for support in developing high-level language applications for SIMATIC S7-1500 Advanced Controllers; supplied on DVD, license key (floating license) on USB flash drive

Open Development Kit V2.5 for support in developing high-level language applications for SIMATIC S7-1500 Advanced Controllers; software download including license key (floating license) <sup>1)</sup>

Email address required for delivery

### Article No.

**6ES7806-2CD03-0YA0**

**6ES7806-2CD03-0YG0**

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## PC-based Automation

Software controllers  
Fail-safe CPUs

### CPU 1507S F

#### Overview



- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Can be used for safety functions up to SIL 3 according to IEC 61508 and up to PL e according to ISO 13849
- Supports PROFIsafe in distributed configurations
- Optimized for PC-based control tasks with the IPC427E Microbox PC and the IPC477E Panel PC (requires configuration with NVRAM)
- Can also be used on IPC227E, IPC627D, IPC627E and IPC827D Box PCs, IPC277E, IPC677D and IPC677E Panel PCs, and IPC647E and IPC847E Rack PCs (configurations with NVRAM are required for the IPC227E, IPC427E, IPC627D, IPC827D, IPC277E, IPC477E and IPC677D PCs)
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1507S F (C/C++)
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes as well as synchronous operation, support for external encoders, precise position gearing between axes, output cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or non-Siemens devices/systems

#### Ordering data

#### Article No.

##### Software Controller CPU 1507S F

For implementing the function of a fail-safe S7-1500 Controller on SIMATIC IPCs

##### Target system:

Optimized for PC-based control tasks with IPC427E Microbox PC and IPC477E Panel PC; Can also be used with IPC277E Panel PC, IPC677D Panel PC, IPC677E Panel PC, IPC227E Box PC, IPC627D Box PC, IPC627E Box PC, IPC827D Box PC, IPC647E Rack PC, IPC847E Rack PC.

##### Requirement:

Windows 7 /  
Windows Embedded Standard 7 /  
Windows 10 Enterprise LTSB with MBR boot;  
For supported Windows 10 versions, see technical specifications  
For the IPC227E, IPC427E, IPC627D, IPC827D, IPC277E, IPC477E and IPC677D, IPC configurations with NVRAM are required.

##### Type of delivery:

- German, English, Chinese, Italian, French, Spanish
- Single license for one installation  
Software and documentation on DVD,  
license key on USB flash drive
- Single license for one installation;  
Software download including license key <sup>1)</sup>

**6ES7672-7FC01-0YA0**

**6ES7672-7FC01-0YG0**

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## Overview



- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use with control applications with increased requirements for program and data memory
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Can be used for safety functions up to SIL 3 according to IEC 61508 and up to PL e according to ISO 13849
- Supports PROFIsafe in distributed configurations
- Optimized for PC-based control tasks with the IPC627E Box PC, the IPC677E Panel PC, and the IPC647E and IPC847E Rack PCs
- Can also be used on the IPC427E, IPC627D and IPC827D Box PCs and the IPC477E and IPC677D Panel PCs (configuration with NVRAM required)
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1508S F (C/C++)
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes as well as synchronous operation, support for external encoders, precise position gearing between axes, output cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or non-Siemens devices/systems

## Ordering data

## Article No.

### SIMATIC S7-1500 Software Controller CPU 1508S F

For implementing the function of a fail-safe S7-1500 Controller on SIMATIC IPCs (IPC configuration with NVRAM required)

#### Target system:

Optimized for PC-based control tasks with

IPC677E Panel PC,  
 IPC627E Box PC,  
 IPC647E Rack PC,  
 IPC847E Rack PC;

Can also be used with  
 IPC477E Panel PC,  
 IPC677D Panel PC,  
 IPC427E Box PC,  
 IPC627D Box PC,  
 IPC827D Box PC;

#### Requirement:

Windows 7 /  
 Windows Embedded Standard 7 /  
 Windows 10 (64-bit);  
 for supported Windows 10 versions,  
 see Technical specifications.

On IPC477E, IPC677D, IPC427E,  
 IPC627D and IPC827D,  
 configurations with NVRAM are  
 required

#### Type of delivery:

English, German, Chinese, Italian,  
 French, Spanish

- Single license for one installation  
 Software and documentation  
 on DVD,  
 license key on USB flash drive
- Single license for one installation;  
 Software download including  
 license key <sup>1)</sup>

**6ES7672-8FC01-0YA0**

**6ES7672-8FC01-0YG0**

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## PC-based Automation

### PC-based Controllers

#### ET 200SP Open Controllers

##### Overview



##### Compact and powerful

The ET 200SP Open Controller, CPU 1515SP PC (F/T/TF), is a rugged, compact control system that combines the functionality of an ET 200SP controller with a PC-based platform. The controller can be used to control special and series machines, or to control plants in a distributed configuration. As well as the standard and fail-safe variants, technology and technology fail-safe variants are also available.

The ET 200SP I/O modules can be inserted centrally and communicate via the integrated backplane bus. S7 communication can be established and distributed I/Os can be connected via the PROFINET adapter of the ET 200SP system. The PROFIBUS CM DP Module provides simple expandability for PROFIBUS communication. The CPU 1515SP PC (Failsafe) + HMI is offered with preinstalled WinCC Runtime Advanced for additional HMI functionality. Advanced is offered.

The CPU 1515SP PC is used wherever special automation functions are to be integrated with support from SIMATIC ODK 1500S via the programming language C or C++, or if a close connection of independent applications is required for the software controller. In addition to Windows, a SIMATIC Industrial OS variant of the Standard and Fail Safe ET 200SP Open Controllers is also available.

Characteristics	CPU 1515SP PC2 (F)	CPU 1515SP PC2 (F/T/TF)
DDR3L DRAM	8 GB	8 GB
CFast card	128 GB	128 GB
Operating systems	SIMATIC Industrial OS	Windows 10 IoT Enterprise 64-bit
WinCC RT Advanced (optional)	Yes	Yes (not for T or TF)
Work memory for program, integrated	1 MB (1.5 MB for F)	
Work memory for data, integrated	5 MB	
Load memory	20 MB	
<b>Command execution times</b>		
• Bit operations	10 ns	
• Word operations	12 ns	
• Fixed-point operations	16 ns	
• Floating-point operations	64 ns	
<b>Bit memories, timers, counters</b>		
S7 counters/timers	2 048	
IEC counters	Any number (limited only by work memory)	
IEC timers	Any number (limited only by work memory)	
Bit memories	16 KB	
<b>I/O address range</b>		
Inputs	32 KB (all inputs stored in process image)	
Outputs	32 KB (all inputs stored in process image)	
<b>Motion</b>		
Motion Control resources	2400	
<b>Communication</b>		
PiP	Yes (via CM)	
PROFINET IO	1 x PN IO IRT (BusAdapter not included in scope of delivery)	
PROFIBUS DP	Yes (via CM DP)	
Web server	Yes	
GB-Ethernet	Yes, 1 x via GB-Ethernet RJ45 interface	

##### More information

###### More information and downloads

###### Manuals

The ET 200SP Open Controllers manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support) under <https://support.industry.siemens.com/cs/ww/en/ps/13891/man>.

###### General information

is available under <http://www.siemens.com/open-controller>.

###### The SIMATIC Selection Tool

is available under <http://www.siemens.com/tia-selection-tool>.

## Overview



- Turnkey all-in-one solution with pre-installed SIMATIC S7-1500 Software Controller Standard and optional pre-installed WinCC Runtime Advanced
- Central expansion via ET 200SP Modules (station width up to 1 m or up to 64 modules)
- SIMATIC Hypervisor:  
for separating Windows systems from control functions
- Dual-core processor for optimal use of the Hypervisor
- Swappable flash memory (CFast card) for operating system, runtime and project data
- Integrated DVI-I graphics connection; 3x USB 2.0 connection
- 2 PROFINET interfaces: X1 via PN-IO BusAdapter (RJ45 or FC) with 2 ports; X2: GB Ethernet interface (RJ45)
- PROFINET IRT
- Open Ethernet communication (TCP/IP, UDP, ISO-on-TCP)
- Web server functionality for information, status, diagnostics and user-defined web pages
- PROFIBUS DP communication optionally via CM DP Module as DP master
- Configuration control (option handling)
- Improved know-how and copy protection; Security Integrated
- Integrated system diagnostics
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes with support for external encoders
- Trace function
- Especially suitable for high data volumes and user-specific, open applications
- Integration of control functions and applications implemented in C/C++ (using SIMATIC ODK-1500S Open Development Kit)

## Ordering data

## Article No.

### SIMATIC ET 200SP Open Controller CPU 1515SP PC (+ HMI)

ET 200SP CPU with Windows Embedded Standard 7 and pre-installed SIMATIC S7-1500 Software Controller (with WinCC RT Advanced as option);

#### Type of delivery:

German, English, Chinese, Italian, French, Spanish

### Windows Embedded Standard 7 E 32-bit, 8 GB CFast card

- CPU 1515SP PC (4 GB RAM)

6ES7677-2AA31-0EB0

### Windows Embedded Standard 7 P 64-bit (multi-touch), 16 GB CFast card

- CPU 1515SP PC (4 GB RAM)
- CPU 1515SP PC + HMI 128PT (4 GB RAM)
- CPU 1515SP PC + HMI 512PT (4 GB RAM)
- CPU 1515SP PC + HMI 2048PT (4 GB RAM)

6ES7677-2AA41-0FB0

6ES7677-2AA41-0FK0

6ES7677-2AA41-0FL0

6ES7677-2AA41-0FM0

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## More information

### More information and downloads

#### Manuals

The manuals for the ET 200SP Open Controller can be downloaded from the internet for free from SIMATIC Customer Support:

<https://support.industry.siemens.com/cs/ww/en/ps/13891/man>

#### General information

<http://www.siemens.com/open-controller>

#### SIMATIC Selection Tool

<http://www.siemens.com/tia-selection-tool>

## PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Standard CPUs > CPU 1515SP PC2

### Overview



- Turnkey all-in-one solution with preinstalled SIMATIC S7-1500 Software Controller Standard and optional preinstalled WinCC Runtime Advanced
- Central expansion via ET 200SP modules (station width up to 1 m or up to 64 modules)
- SIMATIC Hypervisor:  
For separating the Windows or Linux operating system from control functions
- Quad-core processor for optimal use of the Hypervisor
- Swappable flash memory (CFast card) for operating system, runtime and project data
- Integrated DisplayPort; 2x USB 3.0; 2 x USB 2.0 port
- 2 PROFINET interfaces: X1 via PN-IO BusAdapter (RJ45 or FC) with 2 ports; X2: GB Ethernet interface (RJ45)
- PROFINET IRT
- Open Ethernet communication (TCP/IP, UDP, ISO-on-TCP)
- Web server functionality for information, status, diagnostics and user-defined web pages
- PROFIBUS DP communication optionally via CM DP Module as DP master
- Configuration control (option handling)
- Improved know-how and copy protection; Security Integrated
- Integrated system diagnostics
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes with support for external encoders
- Trace function
- Especially suitable for high data volumes and user-specific, open applications
- Integration of control functions and applications implemented in C/C++ (using SIMATIC ODK-1500S Open Development Kit)

### Ordering data

#### SIMATIC ET 200SP Open Controller CPU 1515SP PC2

##### Type of delivery:

German, English, Chinese, Italian, French, Spanish

Industrial OS and S7-1500 Software Controller CPU 1505SP preinstalled, 128 GB CFast card

- CPU 1515SP PC2 (8 GB RAM)

**6ES7677-2DB43-0GB0**

Windows 10 IoT Enterprise 64-bit and S7-1500 Software Controller CPU 1505SP preinstalled, 128 GB CFast card

- CPU 1515SP PC2 (48 GB RAM)

**6ES7677-2DB42-0GB0**

Windows 10 IoT Enterprise 64-bit and S7-1500 Software Controller CPU 1505SP preinstalled, 128 GB CFast card

- CPU 1515SP PC2 + HMI 128PT
- CPU 1515SP PC2 + HMI 512PT
- CPU 1515SP PC2 + HMI 2048PT

**6ES7677-2DB42-0GK0**

**6ES7677-2DB42-0GL0**

**6ES7677-2DB42-0GM0**

<sup>1)</sup> Up-to-date information and download availability can be found under <https://www.siemens.com/tia-online-software-delivery>.

### More information

#### More information and downloads

##### Manuals

The ET 200SP Open Controllers manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support) under <https://support.industry.siemens.com/cs/ww/en/ps/13891/man>.

##### General information

is available under <http://www.siemens.com/open-controller>.

##### The SIMATIC Selection Tool

is available under <http://www.siemens.com/tia-selection-tool>.

## Overview



- Turnkey all-in-one solution with pre-installed fail-safe SIMATIC S7-1500 Software Controller and optional pre-installed WinCC Runtime Advanced
- Fail-safe versions make it possible to control machines or plants in a fail-safe environment. This makes it possible to address applications which require an SIL3 (Safety Integrity Level) safety class according to IEC 61508 2nd Edition or a PL e (Performance Level) according to ISO 13849.
- Central expansion via ET 200SP modules (station width up to 1 m or up to 64 modules)
- SIMATIC Hypervisor: for separating Windows systems from control functions
- Dual-core processor for optimal use of the Hypervisor
- Swappable flash memory (CFast card) for operating system, runtime and project data
- Integrated DVI-I graphics connection; 3x USB 2.0 connection
- 2 PROFINET interfaces: X1 via PN-IO bus adapter (RJ45 or FC) with 2 ports; X2: GB Ethernet interface (RJ45)
- PROFINET IRT
- Open Ethernet communication (TCP/IP, UDP, ISO-on-TCP)
- Web server functionality for information, status, diagnostics and user-defined web pages
- PROFIBUS DP communication optionally via CM DP module as DP master
- Configuration control (option handling)
- Improved know-how and copy protection; Security Integrated
- Integrated system diagnostics
- Integrated motion control functionalities for controlling speed-controlled and positioning axes with support for external encoders
- Trace function
- Especially suitable for high data volumes and user-specific, open applications
- Integration of control functions and applications implemented in C/C++ (using SIMATIC ODK-1500S Open Development Kit)

## Ordering data

## Article No.

### SIMATIC ET 200SP Open Controller CPU 1515SP PC F (+ HMI)

Fail-safe ET 200SP CPU with Windows Embedded Standard 7 and pre-installed fail-safe SIMATIC S7-1500 Software Controller (with WinCC RT Advanced option)

#### Type of delivery:

German, English, Chinese, Italian, French, Spanish

#### Windows Embedded Standard 7 E 32-bit, 8 GB CFast card

- CPU 1515SP PC F (4 GB RAM)

6ES7677-2FA31-0EB0

#### Windows Embedded Standard 7 P 64-bit (multi-touch), 16 GB CFast card

- CPU 1515SP PC F (4 GB RAM)
- CPU 1515SP PC F + HMI 128PT (4 GB RAM)
- CPU 1515SP PC F + HMI 512PT (4 GB RAM)
- CPU 1515SP PC F + HMI 2048PT (4 GB RAM)

6ES7677-2FA41-0FB0

6ES7677-2FA41-0FK0

6ES7677-2FA41-0FL0

6ES7677-2FA41-0FM0

<sup>1)</sup> Up-to-date information and download availability can be found under <https://www.siemens.com/tia-online-software-delivery>.

## More information

### More information and downloads

#### Manuals

The ET 200SP Open Controllers manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support) under <https://support.industry.siemens.com/cs/ww/en/ps/13891/man>.

#### General information

is available under <http://www.siemens.com/open-controller>.

#### The SIMATIC Selection Tool

is available under <http://www.siemens.com/tia-selection-tool>.

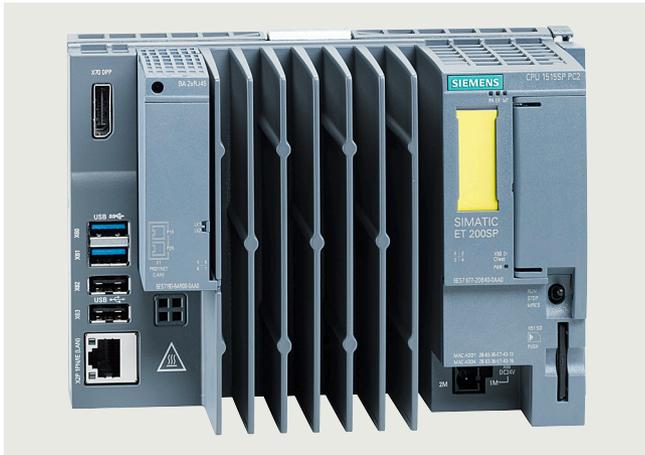
## PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Fail-safe CPUs > CPU 1515SP PC2 F

### Overview



- Turnkey all-in-one solution with preinstalled fail-safe SIMATIC S7-1500 Software Controller and optional preinstalled WinCC Runtime Advanced
- Fail-safe versions make it possible to control machines or plants in a fail-safe environment. This makes it possible to address applications which require an SIL3 (Safety Integrity Level) safety class according to IEC 61508 2nd Edition or a PL e (Performance Level) according to ISO 13849.
- Central expansion via ET 200SP modules (station width up to 1 m or up to 64 modules)
- SIMATIC Hypervisor:  
For separating the Windows or Linux operating system from control functions
- Quad-core processor for optimal use of the Hypervisor
- Swappable flash memory (CFast card) for operating system, runtime and project data
- Integrated DisplayPort; 2x USB 3.0; 2x USB 2.0 port
- 2 PROFINET interfaces: X1 via PN-IO BusAdapter (RJ45 or FC) with 2 ports; X2: GB Ethernet interface (RJ45)
- PROFINET IRT
- Open Ethernet communication (TCP/IP, UDP, ISO-on-TCP)
- Web server functionality for information, status, diagnostics and user-defined web pages
- PROFIBUS DP communication optionally via CM DP Module as DP master
- Configuration control (option handling)
- Improved know-how and copy protection; Security Integrated
- Integrated system diagnostics
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes with support for external encoders
- Trace function
- Especially suitable for high data volumes and user-specific, open applications
- Integration of control functions and applications implemented in C/C++ (using SIMATIC ODK-1500S Open Development Kit)

### Ordering data

### Article No.

**SIMATIC ET 200SP Open Controller CPU 1515SP PC2 F (+ HMI)**

**Type of delivery:**

German, English, Chinese, Italian, French, Spanish

**Industrial OS and S7-1500 Software Controller CPU 1505SP F preinstalled, 128 GB CFast card**  
• CPU 1515SP PC2 F (8 GB RAM)

**6ES7677-2SB43-0GB0**

**Windows 10 IoT Enterprise 64-bit and S7-1500 Software Controller CPU 1505SP F preinstalled, 128 GB CFast card**  
• CPU 1515SP PC2 F (8 GB RAM)

**6ES7677-2SB42-0GB0**

**Windows 10 IoT Enterprise 64-bit and S7-1500 Software Controller CPU 1505SP F preinstalled, 128 GB CFast card**

• CPU 1515SP PC2 F + HMI 128PT (8 GB RAM)

**6ES7677-2SB42-0GK0**

• CPU 1515SP PC2 F + HMI 512PT (8 GB RAM)

**6ES7677-2SB42-0GL0**

• CPU 1515SP PC2 F + HMI 2048PT (8 GB RAM)

**6ES7677-2SB42-0GM0**

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## Overview



ET 200SP Open Controller CPU 1515SP PC2 T combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the ET 200SP system, the S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of an ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one solution with preinstalled SIMATIC S7-1500 Software Controller T and optional preinstalled WinCC Runtime Advanced
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S
- PROFINET IO IRT interface with 2-port switch (corresponding BusAdapter required)
- Isochronous mode with PROFINET IO IRT
- Integrated Motion Control functionalities for controlling speed-controlled, positioning and synchronized axes (gearing and camming), support for external encoders, output cams/cam tracks and probes.  
Technology object for controlling kinematics with up to 4 interpolating axes, e.g. Cartesian portal, delta picker, roller picker, articulated arm, cylindrical robot, tripod picker and SCARA.
- Cross-PLC synchronous operation for synchronization of multiple SIMATIC S7-1500T Controllers

## Ordering data

## Article No.

### SIMATIC ET 200SP Open Controller CPU 1515SP PC2 T

ET 200SP central module with Windows 10 IoT Enterprise 64-bit and pre-installed SIMATIC S7-1500 Software Controller (with WinCC RT Advanced option); 8 GB RAM, 128 GB CFast card; with extended Motion Control functionality

#### Type of delivery:

German, English, Chinese, Italian, French, Spanish

#### • CPU 1515SP PC2 T

**6ES7677-2VB42-0GB0**

With pre-installed WinCC RT Advanced

#### • CPU 1515SP PC2 T + HMI 128PT

**6ES7677-2VB42-0GK0**

#### • CPU 1515SP PC2 T + HMI 512PT

**6ES7677-2VB42-0GL0**

#### • CPU 1515SP PC2 T + HMI 2048PT

**6ES7677-2VB42-0GM0**

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

## More information

### More information and downloads

#### Manuals

The ET 200SP Open Controllers manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support) under <https://support.industry.siemens.com/cs/ww/en/ps/13891/man>.

#### General information

is available under <http://www.siemens.com/open-controller>.

#### The SIMATIC Selection Tool

is available under <http://www.siemens.com/tia-selection-tool>.

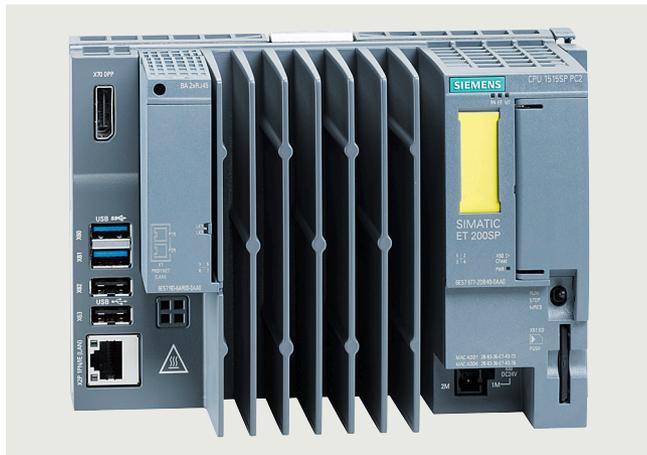
## PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Technology CPUs > CPU 1515SP PC2 TF

### Overview



ET 200SP Open Controller, CPU 1515SP PC2 TF, combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the ET 200SP system, the S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of an ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one solution with preinstalled fail-safe SIMATIC S7-1500 Software Controller TF and optional preinstalled WinCC Runtime Advanced
- Can be used up to safety class SIL3 (Safety Integrity Level) according to IEC 61508 2nd Edition or PL e (Performance Level) according to ISO 13849
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S
- PROFINET IO IRT interface with 2-port switch (corresponding BusAdapter required)
- Isochronous mode with PROFINET IO IRT
- Integrated Motion Control functionalities for controlling speed-controlled, positioning and synchronized axes (gearing and camming), support for external encoders, output cams/cam tracks and probes.  
Technology object for controlling kinematics with up to 4 interpolating axes, e.g. Cartesian portal, delta picker, roller picker, articulated arm, cylindrical robot, tripod picker and SCARA.
- Cross-PLC synchronous operation for synchronization of multiple SIMATIC S7-1500T Controllers

### Ordering data

#### SIMATIC ET 200SP Open Controller CPU 1515SP PC2 TF

Fail-safe ET 200SP central module with Windows 10 IoT Enterprise 64-bit and pre-installed fail-safe SIMATIC S7-1500 Software Controller (with WinCC RT Advanced option); 8 GB RAM, 128 GB CFast card; with extended Motion Control functionality

#### Type of delivery:

German, English, Chinese, Italian, French, Spanish

#### • CPU 1515SP PC2 TF

6ES7677-2WB42-0GB0

With pre-installed WinCC RT Advanced

#### • CPU 1515SP PC2 TF + HMI 128PT

6ES7677-2WB42-0GK0

#### • CPU 1515SP PC2 TF + HMI 512PT

6ES7677-2WB42-0GL0

#### • CPU 1515SP PC2 TF + HMI 2048PT

6ES7677-2WB42-0GM0

<sup>1)</sup> Up-to-date information and download availability can be found under <http://www.siemens.com/tia-online-software-delivery>.

### More information

#### More information and downloads

#### Manuals

The ET 200SP Open Controllers manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support) under <https://support.industry.siemens.com/cs/ww/en/ps/13891/man>.

#### General information

is available under <http://www.siemens.com/open-controller>.

#### The SIMATIC Selection Tool

is available under <http://www.siemens.com/tia-selection-tool>.

## Overview

### Compact and powerful

SIPLUS ET 200SP Open Controller, SIPLUS CPU 1515SP PC (F) is a rugged, compact control system that combines the functionality of a SIPLUS ET 200SP controller with a PC-based platform. It can be used to control special-purpose and series machines, or plants in a distributed configuration.

The SIPLUS ET 200SP I/O modules can be inserted centrally and communicate via the integrated backplane bus. S7 communication can be established and distributed I/Os can be connected via the PROFINET adapter of the SIPLUS ET 200SP system. The PROFIBUS CM DP module provides simple expandability for PROFIBUS communication.

The SIPLUS CPU 1515SP PC is used wherever special automation functions are to be integrated with support from SIMATIC ODK 1500S via the programming language C or C++, or if a close connection of independent applications is required in Windows for the software controller.

Characteristics	SIPLUS CPU 1515SP PC (F)	SIPLUS CPU 1515SP PC2 (F)
DDR3 DRAM	4 GB	8 GB
CFast card	30 GB	30 GB
Operating system	WES 7E 32-bit / WES 7P 64-bit	Windows 10 Enterprise LTSB 2016
Work memory for program, integrated	1 MB (1.5 MB for F)	
Work memory for data, integrated	5 MB	
Load memory	320 MB	
<b>Command runtimes</b>		
Bit operations	10 ns	
Word operations	12 ns	
Fixed-point operations	16 ns	
Floating-point operations	64 ns	
<b>Bit memories, timers, counters</b>		
S7 counters/timers	2048	
IEC counter	Arbitrary (only limited by the work memory)	
IEC timer	Arbitrary (only limited by the work memory)	
Bit memories	16 KB	
<b>I/O address range</b>		
Inputs	32 KB (all inputs are stored in the process image)	
Outputs	32 KB (all inputs are stored in the process image)	
<b>Motion</b>		
Motion Control resources	2400	
<b>Communication</b>		
PtP	Yes (via CM)	
PROFINET IO	1 x PN IO IRT (BusAdapter not included in scope of delivery)	
PROFIBUS DP	Yes (via CM DP)	
Web server	Yes	
GB Ethernet	Yes, 1 x via GB Ethernet RJ45 interface	

### Note

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were adopted from the respective standard products. SIPLUS extreme-specific information was added.

### More information and downloads

#### Manuals

The ET 200SP Open Controllers manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support) under <https://support.industry.siemens.com/cs/ww/en/ps/13891/man>.

#### General information

is available under <http://www.siemens.com/open-controller>.

The SIMATIC Selection Tool

is available under <http://www.siemens.com/tia-selection-tool>.

## PC-based Automation

PC-based Controllers

SIPLUS ET 200SP Open Controllers

### SIPLUS CPU 1515SP PC2

#### Overview



SIPLUS ET 200SP Open Controller, SIPLUS CPU 1515SP PC2, combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the SIPLUS ET 200SP system, the SIPLUS S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of a SIPLUS ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one controller
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S

#### Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were adopted from the respective standard products. SIPLUS extreme-specific information was added.

#### Ordering data

##### SIPLUS ET 200SP Open Controller CPU 1515SP PC2

SIPLUS ET 200SP CPU with Windows 10 IoT Enterprise 64-bit and pre-installed SIMATIC S7-1500 Software Controller; 8 GB RAM, 30 GB CFast card

##### Type of delivery:

English, German, Chinese, Italian, French, Spanish

- **SIPLUS ET 200SP CPU 1515SP PC2**

For areas with exceptional exposure to environmental substances (conformal coating); ambient temperature -40 ... +60 °C

- **SIPLUS ET 200SP CPU 1515SP PC2 Spare**

Spare part, without CFast card

- **SIPLUS ET 200SP CPU 1515SP PC2 L**

8 GB RAM, 128 GB CFast card, Ready4Linux,

For areas with exceptional exposure to environmental substances (conformal coating); ambient temperature -40 ... +60 °C

#### Article No.

**6AG1677-2DB42-2GB0**

**6AG1677-2DB40-2AA0**

**6AG1677-2DB40-2GB0**

## Technical specifications

Article number	<b>6AG1677-2DB42-2GB0</b> SIPLUS ET 200SP CPU1515SP PC2	<b>6AG1677-2DB40-2AA0</b> SIPLUS ET 200SP CPU1515SP PC2	<b>6AG1677-2DB40-2GB0</b> SIPLUS ET 200SP CPU 1515SP PC2 L
<b>General information</b>			
Product type designation	CPU 1515SP PC2	CPU 1515SP PC2	CPU 1515SP PC2 L
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	-40 °C; = Tmin	-40 °C; = Tmin	-40 °C; = Tmin
• max.	up to 55 °C with max. 64 ET 200SP modules, max. 2x 900 mA USB load and max. 2x 500 mA USB load; up to 60 °C with max. 32 ET 200SP modules and 4x 500 mA USB load; FS06 or higher: up to 70 °C with max. 16 ET 200SP modules, 4x 100 mA USB load and no visualization	up to 55 °C with max. 64 ET 200SP modules, max. 2x 900 mA USB load and max. 2x 500 mA USB load; up to 60 °C with max. 32 ET 200SP modules and 4x 500 mA USB load; FS06 or higher: up to 70 °C with max. 16 ET 200SP modules, 4x 100 mA USB load and no visualization	up to 55 °C with max. 64 ET 200SP modules, max. 2x 900 mA USB load and max. 2x 500 mA USB load; up to 60 °C with max. 32 ET 200SP modules and 4x 500 mA USB load; FS06 or higher: up to 70 °C with max. 16 ET 200SP modules, 4x 100 mA USB load and no visualization
• horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)	-40 °C; = Tmin (incl. condensation/frost)	-40 °C; = Tmin (incl. condensation/frost)
• horizontal installation, max.	70 °C; = Tmax	70 °C; = Tmax	70 °C; = Tmax
• vertical installation, min.	-40 °C; = Tmin	-40 °C; = Tmin	-40 °C; = Tmin
• vertical installation, max.	50 °C; = Tmax; with max. 32 ET 200SP modules and max. 4x 500 mA USB load	50 °C; = Tmax; with max. 32 ET 200SP modules and max. 4x 500 mA USB load	50 °C; = Tmax; with max. 32 ET 200SP modules and max. 4x 500 mA USB load
<b>Altitude during operation relating to sea level</b>			
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
<b>Relative humidity</b>			
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<b>Resistance</b>			
<b>Coolants and lubricants</b>			
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>			
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *	Yes; Class 3S4 incl. sand, dust, *
- Against mechanical environmental conditions acc. to EN 60721-3-3	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
<b>Use on ships/at sea</b>			
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *	Yes; Class 6S3 incl. sand, dust; *
- Against mechanical environmental conditions acc. to EN 60721-3-6	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)

**PC-based Automation**

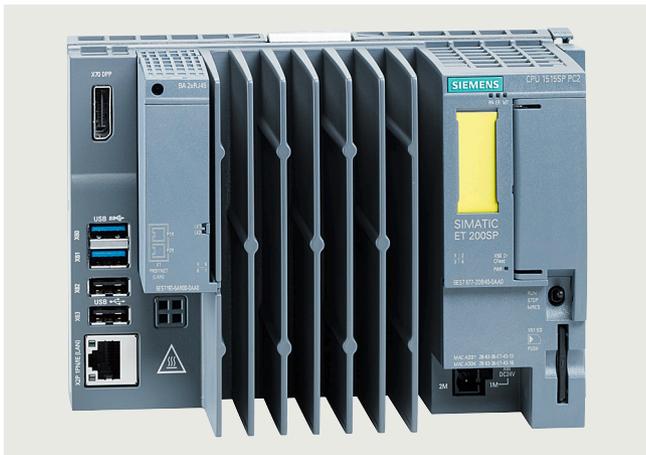
PC-based Controllers

SIPLUS ET 200SP Open Controllers

**SIPLUS CPU 1515SP PC2****Technical specifications**

Article number	<b>6AG1677-2DB42-2GB0</b> SIPLUS ET 200SP CPU1515SP PC2	<b>6AG1677-2DB40-2AA0</b> SIPLUS ET 200SP CPU1515SP PC2	<b>6AG1677-2DB40-2GB0</b> SIPLUS ET 200SP CPU 1515SP PC2 L
<b>Usage in industrial process technology</b>			
<ul style="list-style-type: none"> <li>- Against chemically active substances acc. to EN 60654-4</li> <li>- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	<p>Yes; Class 3 (excluding trichlorethylene)</p> <p>Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)</p>	<p>Yes; Class 3 (excluding trichlorethylene)</p> <p>Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)</p>	<p>Yes; Class 3 (excluding trichlorethylene)</p> <p>Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)</p>
<b>Remark</b>			
<ul style="list-style-type: none"> <li>- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>			
<ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>

## Overview



SIPLUS ET 200SP Open Controller, SIPLUS CPU 1515SP PC2 F, combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the SIPLUS ET 200SP system, the SIPLUS S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of a SIPLUS ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one controller
- Can be used up to safety class SIL3 (Safety Integrity Level) according to IEC 61508 2nd Edition or PL e (Performance Level) according to ISO 13849
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S

### Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

## Ordering data

### SIPLUS ET 200SP Open Controller CPU 1515SP PC2 F

(Extended temperature range and exposure to environmental substances)

Fail-safe ET 200SP CPU with Windows 10 IoT Enterprise 64-bit and pre-installed SIMATIC S7-1500 Failsafe Software Controller (with WinCC RT Advanced option); 8 GB RAM, 30 GB CFast card;

#### Type of delivery:

English, German, Chinese, Italian, French, Spanish

- **SIPLUS CPU 1515SP PC2 F**

## Article No.

**6AG1677-2SB42-2GB0**

## PC-based Automation

PC-based Controllers

SIPLUS ET 200SP Open Controllers

### SIPLUS CPU 1515SP PC2 F

#### Technical specifications

Article number	<b>6AG1677-2SB42-2GB0</b> SIPLUS ET 200SP CPU1515SP PC2 F
<b>General information</b>	
Product type designation	CPU 1515SP PC2 F
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	-40 °C; = Tmin
• max.	Up to 60 °C with max. 32 ET 200SP modules; up to 55 °C with max. 64 ET 200SP modules
• horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
• horizontal installation, max.	60 °C; = Tmax
• vertical installation, min.	-40 °C; = Tmin
• vertical installation, max.	50 °C; = Tmax; with max. 32 ET 200SP modules
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
<b>Relative humidity</b>	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
<b>Resistance</b>	
<b>Coolants and lubricants</b>	
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>	
- to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
- Against mechanical environmental conditions acc. to EN 60721-3-3	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)

Article number	<b>6AG1677-2SB42-2GB0</b> SIPLUS ET 200SP CPU1515SP PC2 F
<b>Use on ships/at sea</b>	
- to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
- to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
- to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
- Against mechanical environmental conditions acc. to EN 60721-3-6	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
<b>Usage in industrial process technology</b>	
- Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
<b>Remark</b>	
- Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>	
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A

## Overview



SITOP PSU6200 family

### **High performance – Focused diagnostics – The all-round power supply for a wide variety of applications**

The SITOP PSU6200 product family is the new standard power supply for customers with high technical requirements regarding reliability, efficiency and integration. It is suitable for many fields of application, particularly in the industrial environment, such as series machine building. The SITOP PSU6200 represents the state-of-the-art and takes the SITOP product portfolio into new dimensions of efficiency.

The slim and excellent design of the PSU6200 family combined with the push-in terminals means easy installation and wiring. The power supply units in this product family are all-rounders featuring a long service life and absolute reliability.

The high efficiency of up to 96% guarantees resource-saving energy consumption.

To further increase the 24 V availability, the SITOP PSU6200 power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

### **Product highlights of the product line**

- Diagnostics monitor<sup>1)</sup>
  - LED display for DC OK, utilization (<30%, >30%, >60%, >90%) and remaining life time
- Diagnostics interface<sup>1)</sup>
  - Provision of important operating parameters (e.g. output current/voltage, overload, temperature status, undervoltage and overvoltage detection at output, operating hours, device settings, etc.)
- Switchable output characteristic<sup>1)</sup>
  - Constant current: Power supply not switched off immediately in the event of overload
  - Parallel operation: Uniform load sharing between power supply units connected in parallel for longer service life in every scenario
- Rugged input
  - Active PFC (Power Factor Correction)<sup>1)</sup> for lower reactive and inrush current and protection against mains pulses
  - Optimized protection of the input circuit
  - Wide-range input
  - DC capability of 1-phase devices
  - Continuous operation possible on 2 phases of 3-phase devices
- Coordinated product family
  - For 12 V, 24 V and 48 V applications of varying power requirements
  - 24 V versions for NEC Class 2 and Ex protection applications
- Narrow overall width
  - For direct side-by-side mounting without lateral clearance requirements
  - Visually attractive design (IF Design Award 2019)
- Push-in connection system
  - Easy, time-saving installation without need for tools
  - Additional minus terminal<sup>1)</sup> (grounding) for wiring according to PELV (Protected Extra Low Voltage)
- High overload capability<sup>2)</sup>
  - Power reserves in case of overload 150% extra power for 5 s/min
  - Continuous 120% rated current up to 45 °C ambient temperature

<sup>1)</sup> from 24 V/10 A and 12 V/12 A

<sup>2)</sup> from 24 V/5 A and 12 V/7 A

**PC-based Automation**

SITOP power supply  
Standard power supplies

**1-phase, 24 V DC****Overview**

SITOP PSU6200 family 24 V, the power supplies starting at 10 A have extensive diagnostic options - see video.

Stabilized single-phase power supplies with wide-range input in six power levels with versions for NEC Class 2 requirements and explosion protection.

**Product highlights**

- Single-phase, 24 V DC/1.3 A, 2.5 A, 3.7 A, 5 A, 10 A and 20 A
- 1.3 A, 2.5 A and 3.7 A with 100 VA power limitation acc. to NEC Class 2
- PSU6200 24 V/5 A, 10 A and 20 A: The coating of the electronic modules also provides special protection from harmful environmental influences such as corrosive gases and salts, dust and abrasion particles, and humidity
- Enclosure
  - Attractive metal enclosure from 3.7 A, plastic enclosure with similar form and color up to 2.5 A
- Can be expanded with SITOP add-on and DC UPS modules
  - BUF1200 buffer module, SEL1200/1400 selectivity modules and RED1200 redundancy modules in the design of the SITOP PSU6200

**Ordering data****Article No.**

**SITOP PSU6200 1-phase,  
24 V DC/1.3 A** **6EP3331-7SB00-0AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/1.3 A

**SITOP PSU6200 1-phase,  
24 V DC/2.5 A** **6EP3332-7SB00-0AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/2.5 A

**SITOP PSU6200 1-phase,  
24 V DC/3.7 A** **6EP3333-7LB00-0AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/3.7 A

**SITOP PSU6200 1-phase,  
24 V DC/5 A** **6EP3333-7SB00-0AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/5 A

**SITOP PSU6200 1-phase,  
24 V DC/10 A** **6EP3334-7SB00-3AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/10 A

**SITOP PSU6200 1-phase,  
24 V DC/20 A** **6EP3336-7SB00-3AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/20 A

**SITOP PSU6200 Ex 1-phase,  
24 V DC/5 A** **6EP3333-7SC00-0AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/5 A

**SITOP PSU6200 Ex 1-phase,  
24 V DC/10 A** **6EP3334-7SC00-3AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/10 A

**SITOP PSU6200 Ex 1-phase,  
24 V DC/20 A** **6EP3336-7SC00-3AX0**

Stabilized power supply  
Input: 120-230 V AC/120-240 V DC  
Output: 24 V DC/20 A

Ordering data	Article No.	Ordering data	Article No.
<i>Add-on modules</i>			
<b>SITOP BUF1200 buffer module</b> Buffer time 300 ms at 40 A Buffer time depends on load current	<b>6EP4231-7HB00-0AX0</b>	<b>SITOP SEL1200</b> Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	<b>6EP4438-7FB00-3DX0</b>
<b>SITOP RED1200 redundancy module</b> Input/output: 12 V DC, 24 V, 48 V/20 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each	<b>6EP4346-7RB00-0AX0</b>	<b>SITOP SEL1400</b> Selectivity module, 4-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	<b>6EP4437-7EB00-3CX0</b>
<b>SITOP RED1200 redundancy module</b> Input/output: 12 V DC, 24 V, 48 V/40 A (maximum total current) Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each	<b>6EP4347-7RB00-0AX0</b>	<b>SITOP SEL1400</b> Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/5 A per output Adjustable response threshold 1 ... 5 A	<b>6EP4437-7EB00-3DX0</b>
<b>SITOP SEL1200</b> Selectivity module, 4-channel, switching Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	<b>6EP4437-7FB00-3CX0</b>	<b>SITOP SEL1400</b> Selectivity module, 8-channel, limiting Input: 24 V DC Output: 24 V DC/10 A per output Adjustable response threshold 2 ... 10 A	<b>6EP4438-7EB00-3DX0</b>
<b>SITOP SEL1200</b> Selectivity module, 8-channel, switching Input: 24 V DC Output: 24 V DC/5 A per output Adjustable response threshold 1 ... 5 A	<b>6EP4437-7FB00-3DX0</b>		

<sup>1)</sup> For more information, visit: <https://www.siemens.com/sitop-ups/mall>

#### More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

<http://www.siemens.com/tst>

**PC-based Automation**

SITOP power supply  
Standard power supplies

**3-phase, 24 V DC****Overview**

SITOP PSU6200 3-phase, 24 V family

Stabilized 3-phase power supplies with 400 to 500 V AC input in three power levels.

**Product highlights**

- 3-phase, 24 V DC/5 A, 10 A, 20 A and 40 A
- Rugged input
  - Input voltage 323 ... 576 V AC, 450 ... 600 V DC
  - In the event of a phase failure, continuous operation with only 2 phases possible
- Enclosure
  - Attractive metal enclosure
- Can be expanded with SITOP add-on and DC UPS modules
  - BUF1200 buffer module, SEL1200/1400 selectivity modules and RED1200 redundancy modules in the design of the SITOP PSU6200

**Ordering data****Article No.****SITOP PSU6200 3-phase, 24 V DC/5 A****6EP3433-7SB00-0AX0**

Stabilized power supply  
Input: 400-500 V 3 AC  
Output: 24 V DC/5 A

**SITOP PSU6200 3-phase, 24 V DC/10 A****6EP3434-7SB00-3AX0**

Stabilized power supply  
Input: 400-500 V 3 AC  
Output: 24 V DC/10 A

**SITOP PSU6200 3-phase, 24 V DC/20 A****6EP3436-7SB00-3AX0**

Stabilized power supply  
Input: 400-500 V 3 AC  
Output: 24 V DC/20 A

**SITOP PSU6200, 3-phase 24 V DC/40 A****6EP3437-7SB00-3AX0**

Stabilized power supply  
Input: 400-500 V 3 AC  
Output: 24 V DC/40 A

**Add-on modules****SITOP BUF1200 buffer module****6EP4231-7HB00-0AX0**

Buffer time 300 ms at 40 A  
Buffer time depends on load current

**SITOP RED1200 redundancy module****6EP4346-7RB00-0AX0**

Input/output: 12 V DC, 24 V, 48 V/20 A (maximum total current)  
Suitable for decoupling two SITOP power supplies with a maximum of 10 A output current each

**SITOP RED1200 redundancy module****6EP4347-7RB00-0AX0**

Input/output: 12 V DC, 24 V, 48 V/40 A (maximum total current)  
Suitable for decoupling two SITOP power supplies with a maximum of 20 A output current each

**SITOP SEL1200****6EP4438-7FB00-3DX0**

Selectivity module, 8-channel, switching  
Input: 24 V DC  
Output: 24 V DC/10 A per output  
Adjustable response threshold 2 ... 10 A

**SITOP SEL1400****6EP4438-7EB00-3DX0**

Selectivity module, 8-channel, limiting  
Input: 24 V DC  
Output: 24 V DC/10 A per output  
Adjustable response threshold 2 ... 10 A

<sup>1)</sup> For more information, visit: <https://www.siemens.com/sitop-ups/mall>

**More information**

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

<http://www.siemens.com/tst>

## Overview



SITOP offers a comprehensive portfolio to protect against power failures with durations from a few seconds to several hours, ranging from buffer modules to system-integrated DC UPS units. Selection is based on the energy storage unit used, the associated ambient conditions, performance and functionality.

The selection matrix should help you to find the right 24 V buffering for your application:

SITOP modules for 24 V buffering	Buffer module <sup>1)</sup>	DC UPS with capacitors	DC UPS with rechargeable battery		
	SITOP PSE201U SITOP BUF1200	SITOP UPS500S + SITOP UPS501S expansion modules	SITOP UPS1600 + SITOP BAT1600 battery modules	SITOP UPS1600 + SITOP UPS1100 battery modules	SITOP DC UPS + battery module
<b>Energy storage units</b>					
24 V buffering up to	240 s	Minutes	Hours	Hours	Hours
Storage medium	Electrolytic capacitors	Double-layer capacitors	Lead gel batteries (Pb), lithium iron phosphate (LiFePO4) batteries	Lead gel batteries (Pb), pure lead batteries (pure Pb)	Lead gel batteries, pure lead batteries (Pure Pb)
Battery service life dependent on temperature. Specified time indicates the drop of the original capacity to 80% for lead-acid batteries.	0 ... +50 °C: > 8 years	0 ... +50 °C: > 8 years	Pb: +20 ... +40 °C: 4 ... 1 years (LiFePO4: +20 ... +40 °C: 11 ... 8 years)	Pb: +20 ... +40 °C: 4 ... 1 years (Pure Pb: +20 ... +60 °C: > 10 ... 1 years)	+20 ... +40 °C: 4 ... 1 years (Pure Pb: +20 ... +60 °C: > 10 ... 1 years)
Operating temperature range of battery	-25 ... +70 °C	0 ... +60 °C	Pb: -15 ... +50 °C LiFePO4: -10 ... +50 °C	Pb: -15 ... +50 °C Pure Pb: -40 ... +60 °C	Pb: -15 ... +50 °C Pure Pb: -40 ... +60 °C
Capacity selection	200 - 300 ms/40 A	2.5 to 20 kW	Pb: 3.2 to 228 Ah LiFePO4: 2.5 to 45 Ah	Pb: 1.2 to 72 Ah Pure Pb: 2.5 to 15 Ah	Pb: 1.2 to 72 Ah Pure Pb: 2.5 to 15 Ah
Energy storage management	Passive	Load current limiting, buffer readiness	Temperature-controlled charging, state of health modeling, buffer readiness	Temperature-controlled charging, buffer readiness	Load current limiting, buffer readiness
Ventilation required	-	-	- LiFePO4 • Pb, pure Pb	• Pb, pure Pb	• Pb, pure Pb

## PC-based Automation

SITOP power supply

SITOP DC UPS uninterruptible power supplies

### Introduction

### Overview

SITOP modules for 24 V buffering	Buffer module <sup>1)</sup>		DC UPS with capacitors	DC UPS with rechargeable battery		
	SITOP PSE201U SITOP BUF1200		SITOP UPS500S + SITOP UPS501S expansion modules	SITOP UPS1600 + SITOP BAT1600 battery modules	SITOP UPS1600 + SITOP UPS1100 battery modules	SITOP DC UPS + battery module
<b>UPS module/electronics</b>						
Max. rated output current	40 A		15 A	40 A	40 A	40 A
Max. dynamic overload current	40 A (200 ms/300 ms)		25 A (200 ms)	120 A (30 ms) / 60 A (5 s/min)	120 A (30 ms) / 60 A (5 s/min)	56 A (80 ms)
Interfaces	-		I/O, USB	I/O, USB, OPC UA Ethernet/ PROFINET	I/O, USB, OPC UA Ethernet/ PROFINET	I/O, serial, USB
Information about operation and diagnostic information via						
• Signaling contact	-		•	•	•	•
• OPC servers	-		•	•	•	•
• Web server	-		-	•	•	-
• OPC UA server	-		-	•	•	-
• S7 function blocks	-		-	•	•	-
• Library for SIMATIC PCS 7	-		-	•	•	-
• WinCC faceplate	-		-	•	•	-
Shutdown of multiple PCs/PLCs	-		-	•	•	-
Starting from the battery, without supply voltage (stand-alone mode)	-		-	•	•	-
Engineering via						
• Software tool (PC)	-		•	•	•	•
• TIA Portal	-		-	•	•	-
• SIMATIC STEP 7	-		-	•	•	-
• SIMATIC PCS 7	-		-	•	•	-
Degree of protection	IP20		IP20	IP00	IP00	IP00

<sup>1)</sup> You can find technical specifications under "Add-on modules/Buffer module"  
<https://www.siemens.com/sitop-buffering/mall>

### More information

The TIA Selection Tool offers detailed selection guide according to criteria such as the required buffer time, load current or peak current:

<http://www.siemens.com/tst>

**Overview**

SITOP 24 V power supplies can be expanded with a SITOP UPS500 uninterruptible DC power supply (DC UPS) for bridging short-term power failures in the order of minutes. 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. You can increase the buffer times using SITOP PSU501S expansion modules (up to 3).

**Ordering data****Article No.****SITOP UPS500S**

- DC UPS basic device 15 A
- With USB interface and 2.5 kW
  - With USB interface and 5 kW

**6EP1933-2EC41**  
**6EP1933-2EC51**

**SITOP UPS500S Ex**

- With USB interface and 5 kW

**6EP1933-2EC51-8AA0**

**SITOP UPS501S**

Expansion module 5 kW for UPS500S

**6EP1935-5PG01**

**SITOP UPS501S Ex**

Expansion module 5 kW for UPS500S

**6EP1935-5PG01-8AA0**

**More information**

The TIA Selection Tool offers detailed selection guide according to criteria such as the required buffer time, load current or peak current at:

<http://www.siemens.com/tst>

## PC-based Automation

SITOP power supply

SITOP DC UPS uninterruptible power supplies

### DC UPS with battery modules

#### Overview



By combining one SITOP UPS1600 DC UPS module with at least one BAT1600 battery module and a SITOP power supply unit, longer power failures can be bridged without any interruption whatsoever. The intelligent battery management automatically detects the BAT1600 energy storage unit, and ensures optimized temperature-specific charging and continuous monitoring. The compact DC UPS modules have overload capability, to enable the industrial PC inrush current, for example. In stand-alone mode, they support starting from the battery.

The DC UPS communicates openly over a USB or Ethernet/PROFINET. It is easily integrated into the PC or PLC environment over the two Ethernet/PROFINET ports.

Total integration in TIA provides user-friendly engineering in the TIA Portal and is supported with ready-to-use function blocks for S7 user programs and WinCC faceplates for fast visualization.

SITOP Manager also enables simple monitoring and configuration in PC systems, e.g. shutting down multiple PCs according to the master-slave principle.

The UPS1600 modules with Ethernet/PROFINET ports have an OPC UA server, with which the DC UPS can communicate with both PCs and PLCs, even from different manufacturers, thanks to the open communication standard. Parameter assignment and the diagnostics of the uninterruptible power supply is possible via the open interface.

The integrated web server supports remote monitoring of the DC UPS.

#### Ordering data

#### Article No.

<b>SITOP UPS1600 24 V/ 10 A</b>	<b>6EP4134-3AB00-0AY0</b>
• With USB interface	<b>6EP4134-3AB00-1AY0</b>
• With PROFINET/Ethernet: two RJ45 sockets (2 port switch)	<b>6EP4134-3AB00-2AY0</b>
<b>SITOP UPS1600, 24 V/ 20 A</b>	<b>6EP4136-3AB00-0AY0</b>
• With USB interface	<b>6EP4136-3AB00-1AY0</b>
• With PROFINET/Ethernet: two RJ45 sockets (2 port switch)	<b>6EP4136-3AB00-2AY0</b>
<b>SITOP UPS1600 Ex 24 V/ 20 A</b>	<b>6EP4136-3AC00-0AY0</b>
• With PROFINET/Ethernet	<b>6EP4136-3AC00-2AY0</b>
<b>SITOP UPS1600 24 V/ 40 A</b>	<b>6EP4137-3AB00-0AY0</b>
• With USB interface	<b>6EP4137-3AB00-1AY0</b>
• With PROFINET/Ethernet: two RJ45 sockets (2 port switch)	<b>6EP4137-3AB00-2AY0</b>

## Overview



The intelligent UPS1600 battery management charges the BAT1600 with the optimum temperature-controlled charging characteristics and monitors the status (operating data and diagnostic information) of the connected battery modules via the energy storage link. For longer buffer times, up to six battery modules can be connected in parallel. These can be mounted onto a DIN rail or directly on the wall.

BAT1600 family for SITOP UPS1600 DC UPS modules

- Five batteries with different technologies and applications; 2.5 Ah & 7 Ah LiFePO<sub>4</sub>, 3.2 Ah to 38 Ah lead gel batteries
- The capacity can be expanded by parallel switching of the batteries. Up to six batteries are supported
- Smart communication (Energy Storage Link - ESL) is responsible for battery management to achieve optimum performance
- Three-color status LED for easier commissioning
- State of Health (SOH) calculation for batteries
- SITOP BAT1600 2.5 Ah Li, 3.2 Ah Pb, and 7.5 Ah Li mountable on DIN rail
- SITOP BAT1600 2.5 Ah Li and 3.2 Ah Pb have the same footprint as SITOP UPS1100 1.2 Ah Pb

## Ordering data

## Article No.

<b>SITOP BAT1600 battery module 2.5 Ah, LiFePO<sub>4</sub></b> • Lithium battery for SITOP UPS1600 DC UPS module • For air-freight suitable version with 30% loading	<b>6EP4132-0JA00-0AY0</b> <b>6EP4132-0JA00-0AY0-ZA03</b>
<b>SITOP BAT1600 battery module 7.5 Ah, LiFePO<sub>4</sub></b> • Lithium battery for SITOP UPS1600 DC UPS module • For air-freight suitable version with 30% loading	<b>6EP4134-0JA00-0AY0</b> <b>6EP4134-0JA00-0AY0-ZA03</b>
<b>SITOP BAT1600 battery module 3.2 Ah, Pb</b> Lead-acid rechargeable battery for SITOP UPS1600 DC UPS module	<b>6EP4133-0GA00-0AY0</b>
<b>SITOP BAT1600 Ex battery module 3.2 Ah, Pb</b> Lead-acid rechargeable battery for SITOP UPS1600 DC UPS module	<b>6EP4133-0GD00-0AY0</b>
<b>SITOP BAT1600 battery module 12 Ah, Pb</b> Lead-acid rechargeable battery for SITOP UPS1600 DC UPS module	<b>6EP4135-0GE00-0AY0</b>
<b>SITOP BAT1600 Ex battery module 12 Ah, Pb</b> Lead-acid rechargeable battery for SITOP UPS1600 DC UPS module	<b>6EP4135-0GL00-0AY0</b>
<b>SITOP BAT1600 battery module 38 Ah, Pb</b> Lead-acid rechargeable battery for SITOP UPS1600 DC UPS module	<b>6EP4137-0GE00-0AY0</b>

**PC-based Automation**

SITOP power supply

SITOP DC UPS uninterruptible power supplies

**DC UPS with battery modules****Overview**

Maintenance-free SITOP UPS1100 battery modules with 1.2 Ah up to 12 Ah and various types of energy storage (lead, pure lead) 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 diagnostic information) of the connected battery modules via the energy storage link.

For longer buffer times, up to six battery modules can be connected in parallel. These can be mounted onto a DIN rail or directly on the wall.

**Ordering data****Article No.**

**SITOP UPS1100 battery module  
1.2 Ah** **6EP4131-0GB00-0AY0**

With maintenance-free, sealed lead-acid batteries for DC UPS module SITOP UPS1600, 10 A

**SITOP UPS1100 battery module  
3.2 Ah** **6EP4133-0GB00-0AY0**

With maintenance-free, sealed lead-acid batteries for DC UPS module SITOP UPS1600, 10 A and 20 A

**SITOP UPS1100 battery module  
7 Ah** **6EP4134-0GB00-0AY0**

With maintenance-free, sealed lead-acid batteries for DC UPS module SITOP UPS1600, 10 A, 20 A and 40 A

**SITOP UPS1100 battery module  
12 Ah** **6EP4135-0GB00-0AY0**

With maintenance-free, sealed lead-acid batteries for DC UPS module SITOP UPS1600, 20 A and 40 A

**SITOP UPS1100 battery module  
2.5 Ah, high temperature** **6EP4132-0GB00-0AY0**

With maintenance-free, sealed lead-acid batteries for DC UPS module SITOP UPS1600, 10 A and 20 A

**Overview*****Communications processors for connecting the programming device or PC to Industrial Ethernet******CPs with an internal microprocessor***

- CP 1616 (PCI)
- CP 1604 (PC/104-Plus)
- CP 1623 (PCI Express x1)

You can find software for the PC products under Windows on the SIMATIC NET CD for Windows operating systems including the associated manuals in PDF format and comprehensive additional information on SIMATIC NET products and communication.

The required configuration tools (e.g. STEP 7) are included in all software packages.

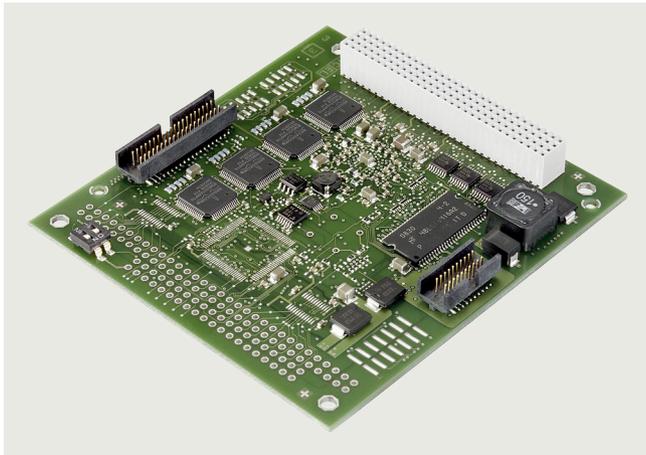
The appropriate OPC server and configuration tools are included in the scope of delivery of the respective communications software.

## PC-based Automation

Communication for PC-based systems  
Industrial Ethernet

### System connection for PG/PC/IPC > CP 1604

#### Overview



ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●	●				

- PCI-104 module for connecting PCI-104 systems to PROFINET IO
- Full/half duplex with autonegotiation
- With Ethernet real-time ASIC ERTEC 400
- Integral 4-port real-time switch
- Communications services:
  - PROFINET IO controller and/or PROFINET IO device
  - Support of IRT for Motion Control applications
  - Support of PROFINergy functionality
- High performance through direct memory access
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, commissioning and operation of the module
- Powerful configuration tools are part of the scope of delivery of the module

#### Ordering data

##### CP 1604 communications processor

PCI-104 card (32-bit) with ASIC ERTEC 400 for connecting PCI-104 systems to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO controller and NCM PC; floating license for one installation, runtime software, software and electronic manual on DVD, Class A, for 32-bit Windows XP Professional and Windows 7; other operating systems using DK-16xx PN IO development kit English/German

#### Article No.

6GK1160-4AA01

#### More information

The DK-16xx PN IO development kit can be found on the internet at:  
<https://support.industry.siemens.com/cs/ww/en/view/109813770>

## Overview



ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●	●				

6...JK10...XX...10169

- PCI module for connecting PCs and SIMATIC PGs/PCs to PROFINET IO (universal keyed 3.3 V and 5 V; 33 MHz/66 MHz; 32-bit, runs in 64-bit PCI-X systems)
- Full/half duplex with autonegotiation
- With Ethernet real-time ASIC ERTEC 400
- Integral 4-port real-time switch
- Communication services:
  - PROFINET IO Controller and/or PROFINET IO Device
  - Support of IRT in motion control applications
- High performance through direct memory access
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, start-up and operation of the module
- Powerful configuration tools are part of the scope of delivery of the module

## Ordering data

### CP 1616 communications processor

PCI card (32 bit; 3.3/5 V universal keyed) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO Controller and NCM PC; floating license for one installation, runtime software, software and electronic manual on DVD, Class A, for 32-bit Windows XP Professional and Windows 7; other operating systems via Development Kit DK-16xx PN IO; English/German

## Article No.

6GK1161-6AA02

## More information

The DK-16xx PN IO development kit can be found on the internet at:  
<https://support.industry.siemens.com/cs/ww/en/view/109813770>

## PC-based Automation

Communication for PC-based systems  
Industrial Ethernet

### System connection for PG/PC/IPC > CP 1623

#### Overview



ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

6...JK10...XX...101B8

- PCI Express card (PCIe x1) with internal microprocessor for connection of PG/PC to Industrial Ethernet
- 10/100/1000 Mbps (autosensing/autocrossover/autonegotiation)
- Integrated 2-port switch (2 x RJ45 connection)
- Communication services via:
  - Open IE communication (TCP/IP and UDP)
  - ISO transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Time synchronization
- ISO and TCP/IP transport protocol on board
- Integration into network management systems through the support of SNMP (V1)
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software

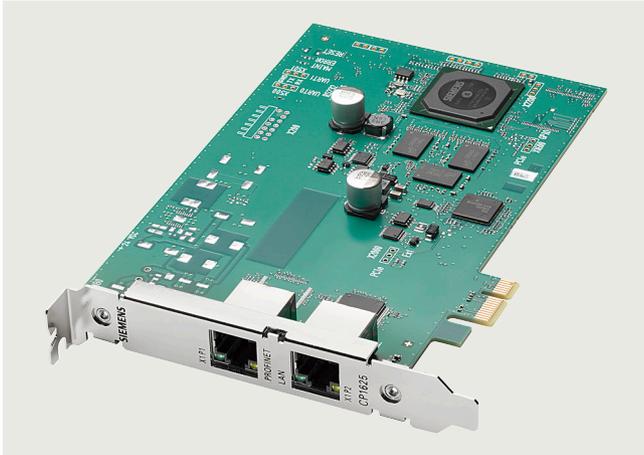
#### Ordering data

##### CP 1623 communications processor

PCI Express x1 card for connection to Industrial Ethernet (10/100/1000 Mbps), with 2-port switch (RJ45) via HARDNET-IE S7 and S7-REDCONNECT. For operating system support, see SIMATIC NET software

#### Article No.

6GK1162-3AA00

**Overview****CP 1625**

CP 1625 is a PCIe module for connecting IPCs to Industrial Ethernet and for PROFINET IRT with CPU1500S Software Controller.

Requirement:

- TIA Portal ≥ V15
- S7-1500 Software Controller CPU 1507S (F) ≥ V2.5 is installed on the IPC

**Ordering data**

**SIMATIC CP 1625**  
PCIe card for PROFINET IRT for  
CPU1500S Software Controller

**Article No.**

**6ES7648-2CF10-1AA0**

## PC-based Automation

Communication for PC-based systems  
Industrial Ethernet

### System connection for PG/PC/IPC > CP 1625

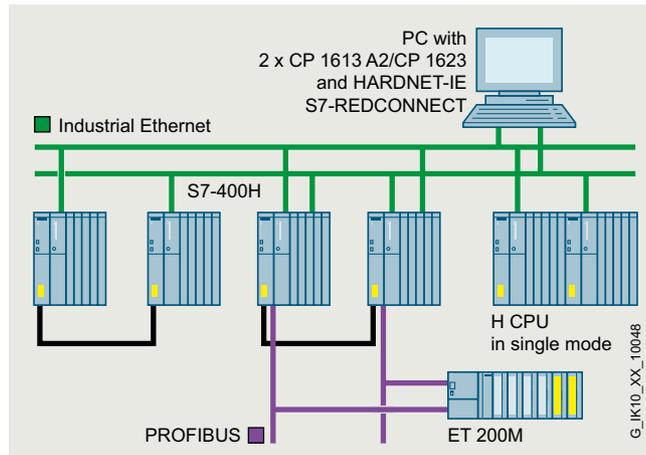
#### Technical specifications

Article number	<b>6ES7648-2CF10-1AA0</b> CP1625, PCIe for PROFINET IRT
<b>General information</b>	
Product type designation	CP 1625
<b>Product function</b>	
• Proxy functionality	No
<b>Installation type/mounting</b>	
Design	Plug-in card
<b>Supply voltage</b>	
Type of supply voltage	DC via PCI Express
<b>Interfaces</b>	
Interfaces/bus type	PROFINET IO
Number of PROFINET interfaces	1; 2 ports (switch)
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Status LEDs	Yes
• Fan	No
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• Interference immunity against discharge of static electricity	all EMC immunity requirements according to SPH Environment Specification V4.2 HMI / IPC Class 1
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	all EMC immunity requirements according to SPH Environment Specification V4.2 HMI / IPC Class 1
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	all EMC immunity requirements according to SPH Environment Specification V4.2 HMI / IPC Class 1
<b>Standards, approvals, certificates</b>	
CE mark	Yes; CE marking / EC Declaration of Conformity
CSA approval	Yes
UL approval	Yes; UL 60950
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3

Article number	<b>6ES7648-2CF10-1AA0</b> CP1625, PCIe for PROFINET IRT
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes
• IECEx Zone 2	Yes
• FM Class I Division 2	No
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	No
• American Bureau of Shipping (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Korean Register of Shipping (KRS)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (Class NK)	No
<b>Ambient conditions</b>	
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	3 000 m
<b>Relative humidity</b>	
• Relative humidity	5 % to 90 % at 40 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	1 g (10 m/s <sup>2</sup> )
<b>Shock testing</b>	
• Shock load during operation	5 g (50 m/s <sup>2</sup> )
<b>Dimensions</b>	
Width	21.6 mm
Height	126 mm
Depth	180 mm

## Overview

- For connecting PCs over redundant Industrial Ethernet to the SIMATIC S7-400H
- Protects against communication failures arising from a fault in the double bus or in redundant rings
- For redundant Layer 2 or Layer 3 Industrial Ethernet
- Can also be implemented in non-redundant networks
- No additional programming overhead for the PC and in H systems
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software
- Enhanced redundancy over 4-way communication (STEP 7 V5.1 + SP4 and higher)



System configuration for S7-REDCONNECT

## Ordering data

## Article No.

### HARDNET-IE S7-REDCONNECT

Software for fail-safe S7 communication via redundant networks, incl. S7 OPC server, HARDNET-IE S7, runtime software, software and electronic manual on DVD, license key on USB flash drive, Class A;

For 1623

### HARDNET-IE S7-REDCONNECT V18

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

English/German; floating license for one installation

- On DVD
- Download <sup>1)</sup>

### Software Update Service

For one year with automatic extension  
Requirement:  
current software version

### Upgrade

As of Edition 2006 to S7-REDCONNECT current version

- On DVD
- Download <sup>1)</sup>

6GK1716-0HB18-0AA0  
6GK1716-0HB18-0AK0

6GK1716-0HB00-3AL0

6GK1716-0HB00-3AE0  
6GK1716-0HB00-3AK0

## Selection and ordering data

Communication for PC-based systems  
Industrial Ethernet

### System connection for PG/PC/IPC > HARDNET-IE S7-REDCONNECT

#### Ordering data

#### Article No.

*For CP 1623*

#### **HARDNET-IE S7-REDCONNECT PowerPack**

For expansion from HARDNET-IE S7 to HARDNET-IE S7-REDCONNECT, floating license for one installation, runtime software, software and electronic manual on DVD, license key on USB flash drive, Class A;

#### **HARDNET-IE S7-REDCONNECT PowerPack V18**

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

English/German

- On DVD
- Download <sup>1)</sup>

**6GK1716-0HB18-0AC0**  
**6GK1716-0HB18-0AK1**

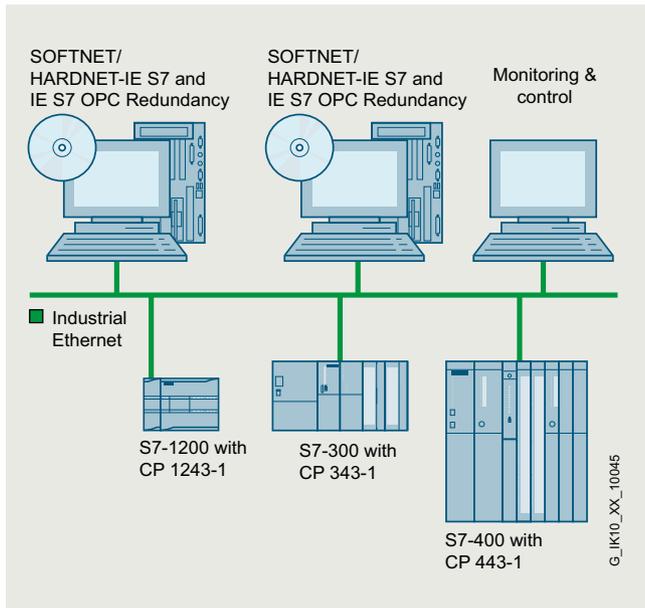
#### **CP 1623 communications processor**

**6GK1162-3AA00**

PCI Express x1 card for connection to Industrial Ethernet (10/100/1000 Mbps), with 2-port switch (RJ45) via HARDNET-IE S7 and S7-REDCONNECT. For operating system support, see SIMATIC NET software

<sup>1)</sup> For more details of Online Software Delivery, visit:  
<http://www.siemens.com/tia-online-software-delivery>  
under Ordering data.

## Overview



System configuration SOFTNET for Industrial Ethernet

- Software for coupling PGs/PCs/workstations to automation systems
- Communications services:
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Can be used with
  - Layer 2 Ethernet card (PCI/PCle)
  - Integrated Industrial Ethernet interface
  - Modem/ISDN (Remote Access Service RAS)
- Complete protocol stack as a software package

## Ordering data

## Article No.

### SOFTNET-S7 for Industrial Ethernet

Software for S7 and open communication, incl. OPC server, PG/OP communication, and NCM PC/STEP 7 Professional, runtime software, software and electronic manual on DVD, license key on USB flash drive, Class A

### SOFTNET-IE S7 V18

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

English/German; up to 64 connections; floating license for one installation

- On DVD
- Download <sup>1)</sup>

**6GK1704-1CW18-0AA0**  
**6GK1704-1CW18-0AK0**

### Software Update Service

For one year with automatic extension  
Requirement: current software version

**6GK1704-1CW00-3AL0**

### Upgrade

As of Edition 2006 to current version

- On DVD
- Download <sup>1)</sup>

**6GK1704-1CW00-3AE0**  
**6GK1704-1CW00-3AK0**

### SOFTNET-IE S7 REDCONNECT V18

Software for fail-safe S7 communication via redundant networks, incl. S7 OPC server, runtime software, software and electronic manual on DVD, license key on USB flash drive, Class A

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

English/German; floating license for one installation

- On DVD
- Download <sup>1)</sup>

**6GK1704-0HB18-0AA0**  
**6GK1704-0HB18-0AK0**

**PC-based Automation**

Communication for PC-based systems  
Industrial Ethernet

**System connection for PG/PC/IPC > SOFTNET for Industrial Ethernet****Ordering data****Article No.****SOFTNET-IE S7 Lean Edition V18**

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

up to eight connections;  
English/German; floating license for one installation

- On DVD
- Download <sup>1)</sup>

**6GK1704-1LW18-0AA0****6GK1704-1LW18-0AK0****Software Update Service****6GK1704-1LW00-3AL0**

For one year with automatic extension  
Requirement:  
current software version

**Upgrade**

As of Edition 2006 to current version

- On DVD
- Download <sup>1)</sup>

**6GK1704-1LW00-3AE0****6GK1704-1LW00-3AK0**

<sup>1)</sup> For more details of online software delivery, visit:  
<http://www.siemens.com/tia-online-software-delivery>  
under Ordering data.

## Overview

- Status monitoring of SNMP-capable devices in any OPC client systems; e.g. SIMATIC WinCC/PCS 7
- Easy access to SNMP-capable devices over the OPC interface
- Devices without SNMP agents can be monitored using the ping mechanism
- Configuration with STEP 7 (up to STEP 7 V5.7)
- Ready-to-use SNMP diagnostics profiles for Siemens devices, e.g. SCALANCE X/W
- Generation of any SNMP diagnostics profiles by means of the integral MIB compiler
- Easy setup of the monitored devices with the help of an Autodiscovery function

## Ordering data

## Article No.

### SNMP OPC server

Including MIB compiler; floating license for one installation of runtime software; software and electronic manual on DVD; license key on USB flash drive, Class A;

### SNMP OPC server Basic

Administration of up to 20 IP addresses

#### Basic V18 SP1

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

Floating license for one installation

- On DVD
- Download <sup>1)</sup>

6GK1706-1NW18-0AA0  
6GK1706-1NW18-0AK0

### Software Update Service SNMP OPC server Basic

For one year with automatic extension  
Requirement: current software version

6GK1706-1NW00-3AL0

### Upgrade SNMP OPC server Basic

As of Edition 2006 to current version

- On DVD
- Download <sup>1)</sup>

6GK1706-1NW00-3AE0  
6GK1706-1NW00-3AK0

### SNMP OPC server Extended

Administration of up to 200 IP addresses

#### Extended V18 SP1

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

Floating license for one installation

- On DVD
- Download <sup>1)</sup>

6GK1706-1NX18-0AA0  
6GK1706-1NX18-0AK0

## PC-based Automation

Communication for PC-based systems  
Industrial Ethernet

### System connection for PG/PC/IPC > SNMP OPC server

Ordering data	Article No.
<b>Software Update Service SNMP OPC server Extended</b> For one year with automatic extension Requirement: current software version	<b>6GK1706-1NX00-3AL0</b>
<b>Upgrade SNMP OPC server Extended</b> As of Edition 2006 to current version <ul style="list-style-type: none"> <li>• On DVD</li> <li>• Download <sup>1)</sup></li> </ul>	<b>6GK1706-1NX00-3AE0</b> <b>6GK1706-1NX00-3AK0</b>
<b>SNMP OPC server PowerPack</b> For upgrade from SNMP OPC server Basic to SNMP OPC server Extended	
<b>PowerPack V18 SP1</b> <ul style="list-style-type: none"> <li>• On DVD</li> <li>• Download <sup>1)</sup></li> </ul>	<b>6GK1706-1NW18-0AC0</b> <b>6GK1706-1NW18-0AK1</b>

### Overview



The SINEC NMS software is a network management system for the central monitoring and managing of industrial networks. SINEC NMS makes it possible to fully visualize and monitor networks with tens of thousands of nodes. Using SNMP, SSH and HTTPS for administration and simultaneous diagnostics via SNMP, SIMATIC and PROFINET mechanisms, many aspects of plant and network diagnostics can be depicted in a single tool. The SINEC NMS distributed approach enables network infrastructure expansion at any time. Captured data is stored in a long-term archive and can be evaluated and presented as required. The network diagnostics can also be seamlessly integrated into higher-level HMI/SCADA systems (e.g. WinCC, PCS 7) via OPC UA and web mechanisms.

SINEC NMS also facilitates configuration of the network infrastructure. The policy-based approach means that configuration can take place independently of the type of devices in the network, and regular backups of the device configurations can be made in order to learn of changes to configurations. In addition, two device configurations can be compared with one another and the differences highlighted in color. Another important advantage is the central function for a firmware update/upgrade in the network infrastructure.

#### Main features:

- Fault management
- Configuration management
- Accounting management
- Performance management
- Security management
- Northbound interface
- System administration

### Ordering data

### Article No.

#### SINEC NMS V1.0 SP1

Network management software for industrial Ethernet and PROFINET networks, runtime software, software and electronic manual on DVD (not with download), license key on USB flash drive (not with download); software for installation on PC hardware with Windows 10 Professional/Ultimate/Enterprise (64-bit), Windows Server Standard 2016/2019 (64-bit) English/German. Other languages possible on request.

#### For 50 devices that can be identified via IP address

- On DVD
- Download <sup>1)</sup>

6GK8781-1BA01-0AA0  
6GK8781-1BA01-0AK0

#### Software Update Service

6GK8781-1BA00-0AL0

For one year with automatic extension  
Requirements:  
current software version

#### For 100 devices that can be identified via IP address

- On DVD
- Download <sup>1)</sup>

6GK8781-1DA01-0AA0  
6GK8781-1DA01-0AK0

#### Software Update Service

6GK8781-1DA00-0AL0

For one year with automatic extension  
Requirements:  
current software version

#### For 250 devices that can be identified via IP address

- On DVD
- Download <sup>1)</sup>

6GK8781-1JA01-0AA0  
6GK8781-1JA01-0AK0

#### Software Update Service

6GK8781-1JA00-0AL0

For one year with automatic extension  
Requirements:  
current software version

#### For 500 devices that can be identified via IP address

- On DVD
- Download <sup>1)</sup>

6GK8781-1TA01-0AA0  
6GK8781-1TA01-0AK0

#### Software Update Service

6GK8781-1TA00-0AL0

For one year with automatic extension  
Requirements:  
current software version

#### SINEC NMS PowerPack V1.0

#### Upgrade SINEMA server V13, V14 50 to SINEC NMS V1.0 50

- On DVD

6GK8781-5BA00-0AC0

#### Upgrade SINEMA server V13, V14 100 to SINEC NMS V1.0 100

- On DVD

6GK8781-5DA00-0AC0

#### Upgrade SINEMA server V13, V14 250 to SINEC NMS V1.0 250

- On DVD

6GK8781-5JA00-0AC0

#### Upgrade SINEMA server V13, V14 500 to SINEC NMS V1.0 500

- On DVD

6GK8781-5TA00-0AC0

<sup>1)</sup> For more details of online software delivery, visit:  
<http://www.siemens.com/tia-online-software-delivery>

### More information

For more details of online software delivery, visit:  
<http://www.siemens.com/tia-online-software-delivery>

## PC-based Automation

Communication for PC-based systems  
PROFIBUS

### CP 5613 A3

#### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI card (universal keyed 5 V/3.3 V) with own microprocessor for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Communications services:
  - PROFIBUS DP master according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
- Extensive diagnostics options for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- Implementation in Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

#### Ordering data

##### CP 5613 A3 communications processor

PCI card (32-bit; 3.3/5 V; 33/66 MHz); with an interface for connecting to PROFIBUS; including Configuration Tool and DP-Base software: DP-RAM interface for DP master; incl. PG and FDL protocol; single license for 1 installation, runtime software, Class A; software+manuals on DVD; 2 languages (en, de)  
For operating system support, see <https://support.industry.siemens.com/cs/ww/en/view/22611503>

#### Article No.

6GK1561-3AA02

#### More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

<http://www.siemens.com/simatic-net/dk5613>

## Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

G...K10...XX...10163

- PCI card (universal keyed 5 V/3.3 V) with own microprocessor for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Communications services:
  - PROFIBUS DP master and slave interface according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
- Extensive diagnostics options for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- Implementation of Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of delivery of the respective communications software

## Ordering data

### CP 5614 A3 communications processor

PCI card (32-bit; 3.3/5 V; 33/66 MHz); with master and slave interface for connecting to PROFIBUS; including configuration tool and DP-Base software: DP-RAM interface for DP master; incl. PG and FDL protocol; single license for 1 installation, runtime software, Class A; software+electr. Manuals on DVD; 2 languages (en, de) For operating system support, see SIMATIC NET software

## Article No.

6GK1561-4AA02

## More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

<http://www.siemens.com/simatic-net/dk5613>

## PC-based Automation

Communication for PC-based systems  
PROFIBUS

CP 5623

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

### Ordering data

#### CP 5623 communications processor

PCI Express X1 (3.3 V) for connecting to PROFIBUS; incl. DP-Base software, NCM PC: DP-RAM interface for DP master incl. PG and FDL protocol, single license for 1 installation, runtime software, Class A; software and electronic manual on CD-ROM, 2 languages (en, de) See SIMATIC NET software for operating system support

### Article No.

6GK1562-3AA00

### More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

<http://www.siemens.com/simatic-net/dk5613>

- PCI Express card (PCIe x1) with internal microprocessor for connecting PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Communications services:
  - PROFIBUS DP master Class 1 and 2 or DP slave according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

## Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI Express card (PCIe x1) with internal microprocessor for connecting PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Two 9-pin sub-D sockets for parallel operation as DP master and DP slave
- Communications services:
  - PROFIBUS DP master and slave interface according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

## Ordering data

### CP 5624 communications processor

PCI Express X1 (3.3 V) M. master and slave interface to PB; incl. DP-Base software, NCM PC; DP-RAM interface for DP master incl. PG and FDL protocol, single license for 1 installation, runtime software, Class A; software and electronic manual on CD-ROM, 2 languages (en, de) See SIMATIC NET software for operating system support

## Article No.

6GK1562-4AA00

## More information

You can find the HARDNET-PB DP development kit on the internet at:

<http://www.siemens.com/simatic-net/dk5613>

## PC-based Automation

Communication for PC-based systems  
PROFIBUS

### CP 5612

#### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

G\_K10\_XX\_1016Z

- PCI card (universal keyed 5 V/3.3 V) for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps and to the MPI interface of SIMATIC S7
- Communications services:
  - PROFIBUS DP master Class 1 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP master Class 2 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP slave with SOFTNET-PB DP slave software package
  - PG/OP communication with STEP 7
  - S7 communication with SOFTNET-PB S7 software package
  - Open communication (SEND/RECEIVE on basis of FDL interface) with SOFTNET-PB DP or SOFTNET-PB S7 software package
- Can be used with:
  - STEP 7, STEP 7-Micro/Win, SIMATIC PDM (for PG/OP communication)
  - SOFTNET-PB S7 (for S7 communication)
  - SOFTNET-PB DP, SOFTNET-PB DP slave (for DP)
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

#### Ordering data

##### CP 5612 communications processor

PCI card for connecting a PG or PC with PCI bus to PROFIBUS or MPI, can be used under 32-bit and 64-bit operating systems (see also Entry ID 22611503)

#### Article No.

6GK1561-2AA00

### Overview

- PCI Express card (PCIe x1) for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps and to the MPI interface of SIMATIC S7
- Communications services:
  - PROFIBUS DP master Class 1 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP master Class 2 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP slave with SOFTNET-PB DP slave software package
  - PG/OP communication with STEP 7
  - S7 communication with SOFTNET-PB S7 software package
  - Open communication (SEND/RECEIVE on basis of FDL interface) with SOFTNET-PB DP or SOFTNET-PB S7 software package
- Can be used with:
  - STEP 7, STEP 7-Micro/Win, SIMATIC PDM (for PG/OP communication)
  - SOFTNET-PB S7 (for S7 communication)
  - SOFTNET-PB DP, SOFTNET-PB DP slave (for DP)
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

### Ordering data

#### CP 5622 communications processor

PCI Express X1 card for connecting a PG or PC with PCI Express bus to PROFIBUS or MPI, can be used under 32-bit and 64-bit operating systems (see also Entry ID 22611503)

### Article No.

**6GK1562-2AA00**

## PC-based Automation

Communication for PC-based systems  
PROFIBUS

### CP 5711

#### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

#### Ordering data

##### CP 5711 communications processor

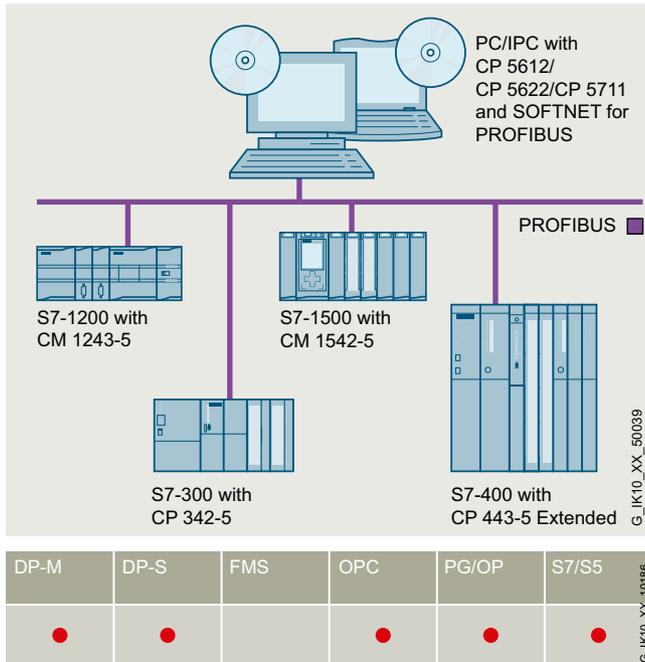
USB adapter (USB 2.0)  
for connecting a PG or notebook to  
PROFIBUS or MPI; 2 m USB cable  
included

#### Article No.

**6GK1571-1AA00**

- USB adapter for the connection of PCs and SIMATIC PG/PC to PROFIBUS DP or MPI via USB 2.0
- Operation in extended temperature range of -20 °C to +60 °C
- Active PROFIBUS termination to supply the PROFIBUS network as the end station of a segment
- Robust USB connection due to mechanical interlock of the USB plug to the CP 5711 housing
- Communications services:
  - PROFIBUS DP master Class 1 and 2 according to IEC 61158/61784 with SOFTNET-PB DP software package
  - PROFIBUS DP slave with SOFTNET-PB DP slave software package
  - PG/OP communication with STEP 5 or STEP 7 software package
  - S7 communication with SOFTNET-PB S7 software package
  - Open communication (SEND/RECEIVE on basis of FDL interface) with SOFTNET-PB DP or SOFTNET-PB S7 software package
- PROFIBUS connection with up to 12 Mbps
- Can be used with:
  - STEP 7, STEP 7 Micro/WIN, WinCC/WinCC flexible, NCM PC, SIMATIC PDM (for PG/OP communication)
  - SOFTNET-PB S7 (for S7 communication)
  - SOFTNET-PB DP, SOFTNET-PB DP slave (for DP)
- The appropriate OPC servers and configuration tools are included in the scope of delivery of the respective communications software

## Overview



- Software for connecting PCs/PGs and notebooks to automation systems
- Communications services:
  - PROFIBUS DP master Class 1 and 2 with acyclic expansions
  - PROFIBUS DP slave
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE) based on the FDL interface
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

## Ordering data

## Article No.

### SOFTNET-PB S7

Software for S7 communication, including FDL protocol with OPC server and configuration tool, runtime software, software and electronic manual on DVD-ROM, license key on USB flash drive, Class A; for CP 5612, CP 5622, CP 5711

### SOFTNET-PB S7 V18

For 64-bit:

- Windows 10 Professional/Enterprise
- Windows 11 Professional/Enterprise
- Windows 10 (IoT) Enterprise 2021 LTSC
- Windows 10 (IoT) Enterprise 2019 LTSC
- Windows 10 (IoT) Enterprise 2016 LTSC
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

English/German

- Single license for one installation

**6GK1704-5CW18-0AA0**

### Software Update Service

**6GK1704-5CW00-3AL0**

For one year with automatic extension  
Requirement:  
Current software version

### Upgrade

- As of Edition 2006 to SOFTNET-S7 V17

**6GK1704-5CW00-3AE0**

**PC-based Automation**

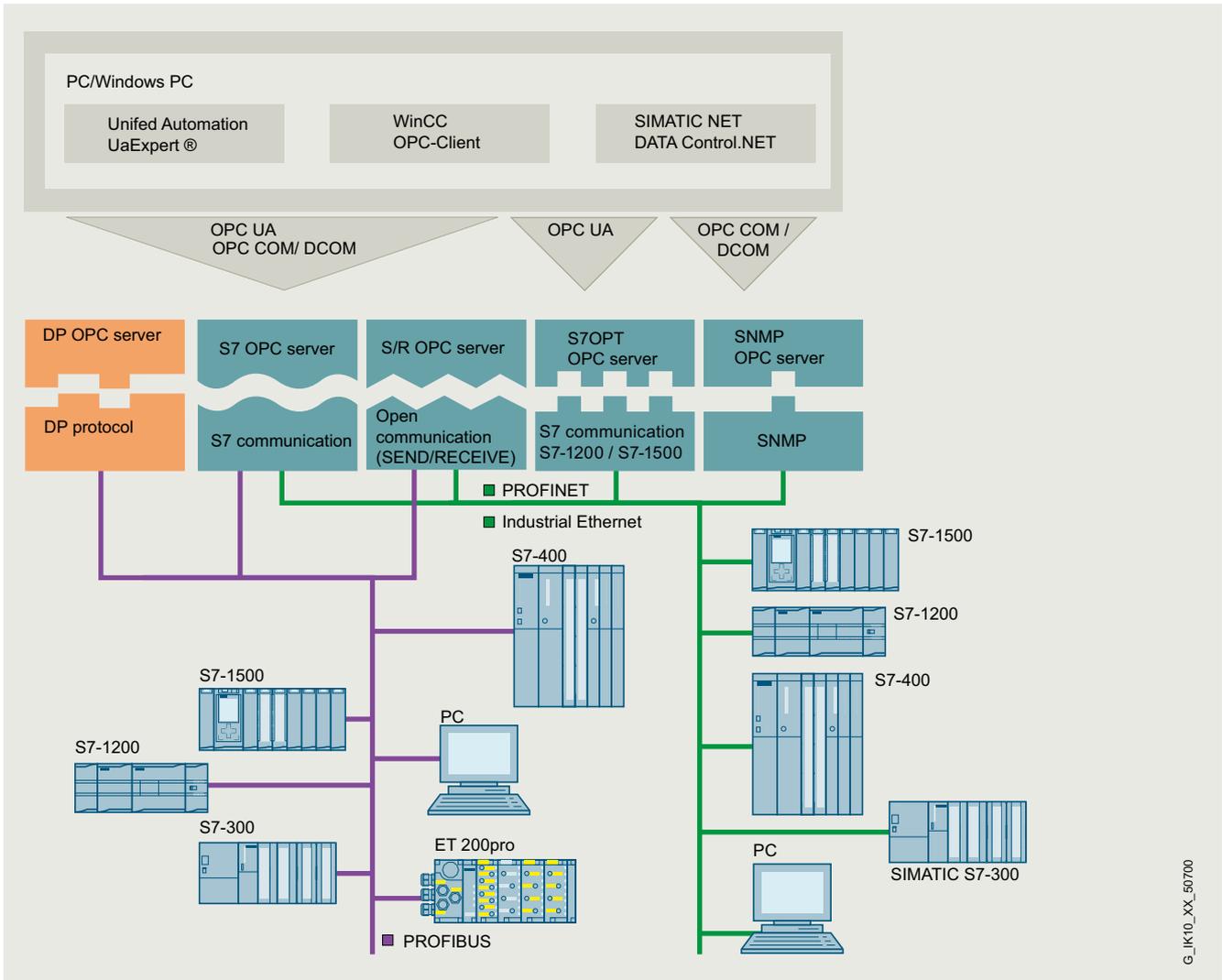
Communication for PC-based systems  
PROFIBUS

**SOFTNET for PROFIBUS**

<b>Ordering data</b>	<b>Article No.</b>	<b>Ordering data</b>	<b>Article No.</b>
<b>SOFTNET-PB DP</b> Software for DP protocol (Master Class 1 and 2), including FDL protocol with OPC server and configuration tool; runtime software, software and electronic manual on DVD-ROM, license key on USB flash drive; for CP 5612, CP 5622, CP 5711		<b>SOFTNET-PB DP Slave</b> Software for DP slave, with OPC server and configuration tool, single license for one installation, runtime software, software and electronic manual on DVD-ROM, license key on USB flash drive, Class A; for CP 5612, CP 5622, CP 5711	
<b>SOFTNET-PB DP V18</b> For 64-bit: <ul style="list-style-type: none"> <li>• Windows 10 Professional/Enterprise</li> <li>• Windows 11 Professional/Enterprise</li> <li>• Windows 10 (IoT) Enterprise 2021 LTSC</li> <li>• Windows 10 (IoT) Enterprise 2019 LTSC</li> <li>• Windows 10 (IoT) Enterprise 2016 LTSC</li> <li>• Windows Server 2016</li> <li>• Windows Server 2019</li> <li>• Windows Server 2022</li> </ul> English/German <ul style="list-style-type: none"> <li>• Single license for one installation</li> </ul>	<b>6GK1704-5DW18-0AA0</b>	<b>SOFTNET-PB DP Slave V18</b> For 64-bit: <ul style="list-style-type: none"> <li>• Windows 10 Professional/Enterprise</li> <li>• Windows 11 Professional/Enterprise</li> <li>• Windows 10 (IoT) Enterprise 2021 LTSC</li> <li>• Windows 10 (IoT) Enterprise 2019 LTSC</li> <li>• Windows 10 (IoT) Enterprise 2016 LTSC</li> <li>• Windows Server 2016</li> <li>• Windows Server 2019</li> <li>• Windows Server 2022</li> </ul> English/German <ul style="list-style-type: none"> <li>• Single license for one installation</li> </ul>	<b>6GK1704-5SW18-0AA0</b>
<b>Software Update Service</b> For one year with automatic extension Requirement: Current software version	<b>6GK1704-5DW00-3AL0</b>	<b>Software Update Service</b> For one year with automatic extension Requirement: Current software version	<b>6GK1704-5SW00-3AL0</b>
<b>Upgrade</b> <ul style="list-style-type: none"> <li>• As of Edition 2006 to SOFTNET-DP V17</li> </ul>	<b>6GK1704-5DW00-3AE0</b>	<b>Upgrade</b> <ul style="list-style-type: none"> <li>• As of Edition 2006 to SOFTNET-DP Slave V17</li> </ul>	<b>6GK1704-5SW00-3AE0</b>

**Overview**

- Standardized, open multi-vendor interface
- Interfacing of OPC-capable Windows applications to DP, S7 communication and open communication (SEND/RECEIVE) based on the FDL interface
- OPC Scout with browser functionality as an OPC client. NET Data Control for simple OPC client creation
- The relevant OPC servers are supplied with each communication software package



System integration with OPC server

## PC-based Automation

Communication for PC-based systems  
PROFIBUS

### PC adapter USB A2

#### Overview



DP-M	DP-S	FMS	PG/OP	S7/S5	
			●		

6...JK10...XX...0398

#### Ordering data

##### PC adapter USB A2

USB adapter (USB V2.0) for connecting a PG/PC or notebook to SIMATIC S7 via PROFIBUS or MPI, USB cable 5 m included, MPI cable 0.3 m, can be used under Windows XP/Vista/ Windows 7 32/64-bit and higher

#### Article No.

6GK1571-0BA00-0AA0

USB adapter for the connection of PCs/notebooks and SIMATIC PG/PC to the SIMATIC S7 automation system via USB interface.

- For connection to USB 1.1, 2.0 and 3.0 interfaces
- Power supply from the USB interface
- PROFIBUS connection with up to 12 Mbps
- Support for routing
- Automatic transfer rate and profile search
- Can be used as of Windows XP SP2
- As of Windows 7, can also be used with 64-bit systems
- Scope of delivery:
  - PC adapter USB A2
  - USB cable
  - MPI cable 0.3 m

## Accessories



<b>6/2</b>	<b>Batteries</b>
<b>6/5</b>	<b>Fixing elements</b>
<b>6/10</b>	<b>Labeling strips</b>
<b>6/14</b>	<b>Input devices, cables</b>
<b>6/30</b>	<b>Input tools</b>
<b>6/35</b>	<b>HMI connecting components</b>
<b>6/43</b>	<b>Power supply units, power supply cords</b>
<b>6/48</b>	<b>Back covers</b>
<b>6/50</b>	<b>Protective films</b>
<b>6/68</b>	<b>Protective covers, dust caps, INOX frames</b>
<b>6/75</b>	<b>Service sets</b>
<b>6/82</b>	<b>Storage media</b>
<b>6/94</b>	<b>Transport and storage</b>
<b>6/97</b>	<b>Distributor</b>
<b>6/98</b>	<b>Additional accessories</b>
<b>6/100</b>	<b>Industrial Wireless LAN, Access Control with RFID</b>
6/100	<u>Access points IEEE 802.11n</u>
6/103	SCALANCE W761 RJ45 for the control cabinet
6/104	SCALANCE W774 RJ45 for the control cabinet
6/105	SCALANCE W774 M12 EEC for an extended range of ambient conditions
6/106	KEY-PLUG W700, CLP W700
6/107	<u>Access points IEEE 802.11ax</u>
6/107	SCALANCE WAM763-1 for use in control cabinet
6/108	SCALANCE WAM766-1 for indoor use
6/109	SCALANCE WAM766-1 EEC for an extended range of ambient conditions
6/110	<u>SIMATIC RF1000</u>
6/110	RF1040R
6/111	RF1060R
6/112	RF1070R
6/113	<u>Transponders</u>
6/113	MDS E600
6/114	<u>Process coupling</u>
6/114	Connecting cables
6/122	Connecting cable 830-1T
6/123	IE TP cord
6/124	RS485 bus connector
6/125	IE FC RJ45 plug 2 x 2, Cat5e
6/126	IE FC RJ45 plugs 4 x 2, Cat6a
6/127	IE FC TP cable 2 x 2
6/129	IE FC TP cable 4 x 2

## Accessories

### Batteries

#### Overview



HMI accessories, battery, accumulator

#### Ordering data

#### Article No.

Rechargeable buffer battery for Mobile Panel for wired Mobile Panels	6AV6671-5AD00-0AX0
Main rechargeable battery for Mobile Panel IWLAN	6AV6671-5CL00-0AX1
Lithium battery for SIMATIC HMI and S7	W79084-E1001-B2

#### **Batteries and accumulators**

The following batteries and accumulators are available:

- Rechargeable buffer battery
- Button cell
- Main rechargeable battery

#### Note:

Transporting lithium batteries by air is not possible at all, or only feasible under restricted conditions.

When ordering replacements, please allow transport times of up to 6 months depending on the region (outside the EU).

Please read the notes under "More information".

## Technical specifications

Article number	<b>6AV6671-5AD00-0AX0</b> Buffer battery Mobile Panel	<b>6AV6671-5CL00-0AX1</b> Main battery Mobile Panel IWLAN	<b>W79084E-1001B- 2</b> Lithium battery SIMATIC HMI and C7
<b>General information</b>			
Product type designation	Rechargeable back-up battery Mobile Panel	Main battery Mobile Panel IWLAN	Lithium battery
<b>Installation type/mounting</b>			
Wall mounting/direct mounting	Yes; in HMI devices, battery compartment	Yes; in HMI devices, battery compartment	Yes; in HMI devices, battery compartment
<b>Supply voltage</b>			
Rated value (DC)	3.6 V	7.2 V	3.6 V
<b>Accumulator</b>			
Charge status display	No	No	No
Rechargeable	Yes	Yes	Yes
Capacity	1.15 A·h	5.1 A·h	1.6 A·h
Lithium-ion	Yes; 1/CP7/34/50 01 CGA	Yes; ICR18650-26J	Yes; SL-361
Special design	Yes; flat	Yes; bent	Yes; 2/3 AA
<b>Degree and class of protection</b>			
IP (all-round)		IP20	
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	
UL approval	Yes	Yes	
cULus	Yes	Yes	
KC approval		No; unnecessary	
EAC (formerly Gost-R)	No	No	
CCC	No	No	
RoHS conformity	Yes	Yes	Yes
China RoHS compliance	Yes		
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C; Don't charge below	0 °C; Don't charge below	0 °C
• max.	55 °C	45 °C	55 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
<b>Accessories</b>			
belongs to product			SIMATIC S5
<b>Mechanics/material</b>			
Material			
• Plastic		Yes; Enclosure, black	
<b>Dimensions</b>			
Width	35 mm	75 mm	
Height	50 mm	78 mm	
Thickness	10 mm	33 mm	
Length			33 mm
Diameter			14.7 mm
<b>Weights</b>			
Weight (without packaging)	38 g	320 g	12 g
<b>Scope of supply</b>			
Delivery quantity in pieces	1; incl. 65 mm connecting cable	1; with ejector	1; incl. 220 mm connecting cable

## Accessories

### Batteries

#### Technical specifications

Article number	<b>6AV6671-5AD00-0AX0</b>	<b>6AV6671-5CL00-0AX1</b>	<b>W79084E-1001B- 2</b>
	Buffer battery Mobile Panel	Main battery Mobile Panel IWLAN	Lithium battery SIMATIC HMI and C7
<b>Other</b>			
Merchandise	No; 1S1P CQA 103450A	No; 2S2P ICR18650-26J / 11273-02	Yes; SL2361 PGHK
Manufacturer name	SIEMENS AG	SIEMENS AG	Tadiran Batteries GmbH
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Industriestr. 22, 63654 Büdingen, Germany
contacting the manufacturer	Email: simatic_hmi_panel_helpdesk. i-ia@siemens.com	Email: simatic_hmi_panel_helpdesk. i-ia@siemens.com	Email: anfrage@distrelec.de
Target devices	for Mobile Panel DP cabled, Mobile Panel PN cabled, Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN	for Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN, Mobile Panel 277 IWLAN V2, Mobile Panel 277F IWLAN V2, Mobile Panel 277F IWLAN (RFID tag)	For TD17, OP17, OP25, OP27, OP35, OP37, TP27, TP37, OP/TP270, MP270, MP270B, MP370
Note:	Dispose of battery (lithium) properly; hazardous product!	Dispose of battery (lithium) properly; hazardous product!	Dispose of battery (lithium) properly; hazardous product!

#### More information

Accumulators are shipped with less than 30% of their maximum charging capacity to minimize risks during transport.

Diverse certificates are required for transport and import in some regions. They can be downloaded from Industry Online Support/Product Support.

Enter the "Article No." as the search term and select "Certificate" as the Entry type.

<https://support.industry.siemens.com/cs/products>

Before first use, accumulators should always be recharged; this also ensures the longest possible service life of the accumulators.

#### Disposal of waste batteries and old electrical and electronic devices:

The device must not be disposed of with household waste (Battery Law, WEEE Directive).

The waste bin symbol on the product, the batteries or the packaging means that the product and any batteries contained within it must not be disposed of with household waste.

You are obliged to dispose of the product at an appropriate disposal point.

You can find out more about disposing of batteries and old electrical and electronic devices from the authorities in your city or community, the responsible waste disposal company, or the manufacturer.

#### Notes:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Overview



## Fixing elements

All parts required to install a SIMATIC device are listed here.

Depending on the device, various fasteners are available for attaching the Panel.

- Interlock
- Wall brackets and fixing elements
- Mounting frame <sup>1)</sup>
- Adapter frame
- Mounting clip
- Mounting bracket
- Installation enclosure

<sup>1)</sup> The mounting frame for the USB HUB4 is contained in the service set (see "Service sets").

Mounting frames enable compliance with device-specific degrees of protection IP65, NEMA4x and NEMA12 if the thickness of the mounting plate is less than the minimum plate thickness specified in the operating instructions of the device. The mounting frames have been specially developed for thin plates.

## Ordering data

## Article No.

## Mounts and interlocks

## Memory card lock

- 4"
- 7" ... 22"

6AV2181-4DM10-0AX0  
6AV2181-4XM00-0AX0

## Wall-mounting bracket for Mobile Panels

- Type 10, for Mobile Panel and Mobile Client900, without cable storage
- Type 13, for KTP Mobile Panels

6AV6574-1AF04-4AA0

6AV2181-5AG80-0AX0

## For IP65 installation of Panels in thin-walled mounting plates

## Mounting frame for stabilizing and increasing the strength of the mounting plate

- 8" Touch
- 8" Key
- 10"/12" Touch
- 7" Unified Panels
- 10" Unified Panels
- 15" Unified Panels
- 19" Unified Panels
- 22" Unified Panels

6AV6671-3CS00-0AX0  
6AV6671-3CS01-0AX0  
6AV6671-8XS00-0AX0  
6AV6881-0GD33-0DA0  
6AV6881-0KD33-0DA0  
6AV6881-0QD33-0DA0  
6AV6881-0UD33-0DA0  
6AV6881-0VD33-0DA0

## Mounting clip/bracket

## for practical mounting of SIMATIC Panels,

## Thin Client and IPCs

## Mounting clip

- Aluminum
- Spring
- Plastic
- Sheet steel
- Captive sheet steel
- Die-cast aluminum
- Thin Client
- Thin Client spring

6AV6671-8XK00-0AX0  
6AV6671-8XK00-0AX1  
6AV6671-8XK00-0AX2  
6AV6671-8XK00-0AX3  
6AV6881-6AD10-0AA0  
6AV2185-8MA00-0AA0  
6AV6671-6AP00-0AX0  
6AV6671-6AP00-0AX1

## Mounting bracket

6AV6671-8XK00-0AX4

Steel

## Interlock bolt

6AV6881-4AW41-4AA0

Interlock bolt for PRO keyboards and keyboard trays to lock the tilt adjustment, hardened V2A

## VESA 100/75 in IP20 / ST37 round tube adapter

6AV6881-0AD56-0AA0

Can be used with all PRO devices with matching tube connector for support arm systems. ST37 partly RAL 9006, powder-coated

## VESA 100/75 in IP20 / V2A round tube adapter

Can be used with all PRO devices with matching tube connector for support arm systems.

- 100% V2A
- 100% V2A with icotek cable entry

6AV6881-0AD56-2CA0  
6AV6881-0AD56-3CA0

## Accessories

### Fixing elements

Ordering data	Article No.	Article No.
<b>Adapter frame</b> <b>Adapter frame for widescreen rack mounting INOX</b> For widescreen Unified Panels and ITC V3. <ul style="list-style-type: none"> <li>• 15"</li> <li>• 19"</li> <li>• 22"</li> </ul>	<b>6AV6881-6QD41-0AA0</b> <b>6AV6881-6UD41-0AA0</b> <b>6AV6881-6VD41-0AA0</b>	<b>Installation enclosure KP8F</b> Prefabricated IP65 installation enclosure KP8F, including 1x 22.5 mm cutout. Supplied with an EMERGENCY OFF button Max. of 4 cables can be connected in IP65, cable sleeves enclosed. The enclosure can be permanently mounted or used as a portable device. The Key Panel is not included in the scope of delivery.
<b>Adapter frame 19" rack</b> For installation of 19" devices (HMI Panels or IPCs) in a 19" rack structure or other structures with 19" grid size	<b>6AV6881-6UD42-0AA0</b>	
<b>Installation enclosure for KP8 and KP8F</b> Prefabricated IP65 installation enclosure for KP8 and KP8F, including 2 x 22.5 mm cutouts for long stroke keys or switches. Supplied with blanking covers. Max. of 4 cables can be connected in IP65, cable sleeves enclosed. The enclosure can be permanently mounted or used as a portable device. The Key Panel is not included in the scope of delivery.	<b>6AV6881-2AM12-2AA0</b>	
		<b>icotek replacement grommets</b> <ul style="list-style-type: none"> <li>• single for 4-5 mm cable</li> <li>• single for 5-6 mm cable</li> <li>• single for 6-7 mm cable</li> <li>• single for 7-8 mm cable</li> <li>• single for 8-9 mm cable</li> <li>• single for 9-10 mm cable</li> <li>• double for 6 mm cable</li> <li>• double for 8 mm cable</li> <li>• single dummy grommet</li> </ul>
		<b>6AV6881-2AM12-1AA0</b> <b>6AV6881-0AM62-0AD0</b> <b>6AV6881-0AM62-0AE0</b> <b>6AV6881-0AM62-0AF0</b> <b>6AV6881-0AM62-0AG0</b> <b>6AV6881-0AM62-0AH0</b> <b>6AV6881-0AM62-0AJ0</b> <b>6AV6881-0AM62-0AQ0</b> <b>6AV6881-0AM62-0AR0</b> <b>6AV6881-0AM62-0AX0</b>

### Technical specifications

Article number	6AV6881-0UD33-0DA0	6AV6881-0QD33-0DA0	6AV6881-0VD33-0DA0	6AV6881-0GD33-0DA0	6AV6881-0KD33-0DA0
	Mounting frame 19" Unified Panels	Mounting frame 15" Unified Panels	Mounting frame 22" Unified Panels	Mounting frame 7" Unified Panels	Mounting frame 10" Unified Panels
<b>General information</b>					
Product type designation	mounting frame	mounting frame	mounting frame	mounting frame	mounting frame
<b>Display</b>					
Suitable for screen diagonal	18.5 in	15.6 in	21.5 in	7 in	10.1 in
<b>Installation type/mounting</b>					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>					
CE mark	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation
REACH	Yes; Tested	Yes; Tested	Yes; Tested	Yes; Tested	Yes; Tested
RoHS conformity	Yes; Tested / compliant	Yes; Tested / compliant	Yes; Tested / compliant	Yes; Tested / compliant	Yes; Tested / compliant
<b>Use in hazardous areas</b>					
• ATEX Zone 2	No	No	No	No	No
• ATEX Zone 22	No	No	No	No	No
• ATEX as target device	No	No	No	No	No
• IECEx Zone 1	No	No	No	No	No
• IECEx Zone 11	No	No	No	No	No
• IECEx Zone 2	No	No	No	No	No
• IECEx Zone 22	No	No	No	No	No
• cULus Class I Zone 1	No	No	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No	No	No
• cULus Class II Division 2	No	No	No	No	No
• FM Class I Division 2	No	No	No	No	No
• FM Class II Division 2	No	No	No	No	No
<b>Marine approval</b>					
• Germanischer Lloyd (GL)	No	No	No	No	No
• American Bureau of Shipping (ABS)	No	No	No	No	No
• Bureau Veritas (BV)	No	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No	No
• Korean Register of Shipping (KRS)	No	No	No	No	No

## Technical specifications

Article number	6AV6881-0UD33-0DA0	6AV6881-0QD33-0DA0	6AV6881-0VD33-0DA0	6AV6881-0GD33-0DA0	6AV6881-0KD33-0DA0
	Mounting frame 19" Unified Panels	Mounting frame 15" Unified Panels	Mounting frame 22" Unified Panels	Mounting frame 7" Unified Panels	Mounting frame 10" Unified Panels
<ul style="list-style-type: none"> <li>Lloyds Register of Shipping (LRS)</li> <li>Nippon Kaiji Kyokai (Class NK)</li> <li>Polski Rejestr Statkow (PRS)</li> <li>Chinese Classification Society (CCS)</li> <li>Marine approval as target device</li> </ul>	No	No	No	No	No
<b>Ambient conditions</b>					
Suited for indoor use	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No
<b>Ambient temperature during operation</b>					
• min.	-40 °C				
• max.	80 °C				
<b>Relative humidity</b>					
• Operation, max.	90 %	90 %	90 %	90 %	90 %
<b>Mechanics/material</b>					
Enclosure material (front)					
• Sheet steel	Yes; Powder-coated				
<b>Dimensions</b>					
Width	477.5 mm	411.5 mm	542.5 mm	227.5 mm	293.5 mm
Height	307.5 mm	270.5 mm	344.5 mm	171.5 mm	218.5 mm
Thickness	4 mm				
<b>Weights</b>					
Weight, approx.	1.8 kg	1.5 kg	2.1 kg	0.6 kg	0.9 kg
<b>Scope of supply</b>					
Delivery quantity in pieces	1; frame				
<b>Other</b>					
Merchandise	Yes; mounting frame WFP2.3				
Manufacturer name	QUERUM products UG				
Manufacturer's address	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany				
contacting the manufacturer	email: querumproducts@web.de				
Target devices	for Unified Comfort Panels to reinforce the mounting plate thickness	for Unified Comfort Panels to reinforce the mounting plate thickness	for Unified Comfort Panels to reinforce the mounting plate thickness	for Unified Comfort Panels to reinforce the mounting plate thickness	for Unified Comfort Panels to reinforce the mounting plate thickness
Note:	ensures tightness with thin mounting plates				

## Accessories

### Fixing elements

#### Technical specifications

Article number	<b>6AV6881-6QD41-0AA0</b> Adapter Frame Widescreen 15" Touch	<b>6AV6881-6UD41-0AA0</b> Adapter Frame Widescreen 19" Touch	<b>6AV6881-6VD41-0AA0</b> Adapter Frame Widescreen 22" Touch	<b>6AV6881-6UD42-0AA0</b> Adapter frame widescreen 19" Rack
<b>General information</b>				
Product type designation	Adapter frame 15" touch widescreen	Adapter frame 19" touch widescreen	Adapter frame 22" touch widescreen	Adapter frame 19" rack widescreen
<b>Display</b>				
Suitable for screen diagonal				18.5 in
<b>Installation type/mounting</b>				
Mounting				Mounting on 19" standard rack
Mounting type				Provided by customer
Rack mounting				Yes; 8U
Mounting in portrait format possible	Yes	Yes	Yes	No
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation
REACH	Yes; Tested	Yes; Tested	Yes; Tested	Yes; Tested
RoHS conformity	Yes; Tested / compliant	Yes; Tested / compliant	Yes; Tested / compliant	Yes; Tested / compliant
<b>Use in hazardous areas</b>				
• ATEX Zone 2	No	No	No	No
• ATEX Zone 22	No	No	No	No
• ATEX as target device	No	No	No	No
• IECEX Zone 1	No	No	No	No
• IECEX Zone 11	No	No	No	No
• IECEX Zone 2	No	No	No	No
• IECEX Zone 22	No	No	No	No
• cULus Class I Zone 1	No	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No	No
• cULus Class II Division 2	No	No	No	No
• FM Class I Division 2	No	No	No	No
• FM Class II Division 2	No	No	No	No
<b>Marine approval</b>				
• Germanischer Lloyd (GL)	No	No	No	No
• American Bureau of Shipping (ABS)	No	No	No	No
• Bureau Veritas (BV)	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No
• Korean Register of Shipping (KRS)	No	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No	No
• Chinese Classification Society (CCS)	No	No	No	No
• Marine approval as target device	No	No	No	No
<b>Ambient conditions</b>				
Suited for indoor use	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No; possible under certain conditions
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	-40 °C
• max.	50 °C	50 °C	50 °C	80 °C
<b>Relative humidity</b>				
• Operation, max.	90 %	90 %	90 %	90 %
• Condensation permissible				No; Condensation not permissible
<b>Accessories</b>				
Function description	mechanical adapter	mechanical adapter	mechanical adapter	mechanical adapter
belongs to product	MTP1500 Unified Comfort, ITC1500 V3	MTP1900 Unified Comfort, ITC1900 V3	MTP2200 Unified Comfort, ITC2200 V3	19": UCP, ITC, IFP, IPC

### Technical specifications

Article number	6AV6881-6QD41-0AA0	6AV6881-6UD41-0AA0	6AV6881-6VD41-0AA0	6AV6881-6UD42-0AA0
	Adapter Frame Widescreen 15" Touch	Adapter Frame Widescreen 19" Touch	Adapter Frame Widescreen 22" Touch	Adapter frame widescreen 19" Rack
<b>Mechanics/material</b>				
Enclosure material (front)				
• Aluminum	Yes; Powder-coated	Yes; Powder-coated	Yes; Powder-coated	
• Sheet steel				Yes; Powder-coated
<b>Dimensions</b>				
Width	411.2 mm	480.2 mm	557.2 mm	482.6 mm
Height	306.2 mm	334.2 mm	377.2 mm	354.75 mm
Depth	32.5 mm	32.5 mm	32.5 mm	
Thickness				3 mm
Width of the housing front	382 mm; new mounting cut-out	448 mm; new mounting cut-out	513 mm; new mounting cut-out	
Height of housing front	241 mm; new mounting cut-out	278 mm; new mounting cut-out	315 mm; new mounting cut-out	
Mounting cutout, width	396 mm; existing mounting cut-out	465 mm; existing mounting cut-out	542 mm; existing mounting cut-out	449 mm
Mounting cutout, height	291 mm; existing mounting cut-out	319 mm; existing mounting cut-out	362 mm; existing mounting cut-out	279 mm
<b>Scope of supply</b>				
Delivery quantity in pieces	1; Adapter frame 15"	1; Adapter frame 19"	1; Adapter frame 22"	1; Adapter frame 19" rack
Components included	incl. mounting accessories	incl. mounting accessories	incl. mounting accessories	Without additional accessories
<b>Other</b>				
Merchandise	No	No	No	Yes; Adapter frame 19" rack widescreen
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	QUERUM products UG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany
contacting the manufacturer				email: querumproducts@web.de
Target devices				19": UCP, ITC, IFP, IPC
Note:	observe the user manual	observe the user manual	observe the user manual	Observe documentation of the target device

### More information

#### Note:

3D data and technical drawings for trade goods are only available for download in the SIOS delivery release if the manufacturer has granted permission. Integration into the Siemens 3D download area is unfortunately not possible. For this reason, it is also not possible to provide a 3D (Step) file for every accessory. The responsibility for trade good files always lies with the manufacturer. The manufacturer is listed at the end of the technical specifications for each product.

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory. Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Labeling strips

#### Overview



#### Labeling strips and printable films

Labeling strips enable keys and pushbuttons to be labeled. Print templates for the Panels and IPCs are available for downloading free of charge (in SIOS entry ID: 11274631). They enable you to create transparent films on your own printer.

Perforated labeling strips are available for some classic panels. In this case, make sure that a suitable printer is used.

The thickness of the films should be between 100 and 125 µm.

- Labeling strips
- Front film
- Labeling set
- Protective sleeve

#### Note:

Protective front films which are specially designed for holding labeling strips are available for Mobile Panel 2<sup>nd</sup> Generation. The labeling strips can be printed on standard film and attached to the front with adhesive pads. The protective film is then adhered evenly over the Mobile front.

#### Ordering data

#### Article No.

<b>Labeling strips</b> for MP 377 Key	<b>6AV6574-1AB00-2BA0</b>
<b>Front film TD400C</b> blank	<b>6AV6671-0AP00-0AX0</b>
<b>Labeling set</b> for Mobile Panel 277	<b>6AV6671-5BF00-0AX0</b>
<b>Widescreen labeling set</b> <ul style="list-style-type: none"> <li>• 4" widescreen for KTP400F Mobile 4"</li> <li>• 7" widescreen for KTP700 Mobile, KTP700F Mobile</li> <li>• 9" widescreen for KTP900 Mobile, KTP900F Mobile</li> </ul>	<b>6AV2181-5DJ10-0AX0</b> <b>6AV2181-5GJ10-0AX0</b> <b>6AV2181-5JJ10-0AX0</b>
<b>Protective sleeve</b> for Mobile Panel 170/177	<b>6AV6574-1AB04-4AA0</b>

## Technical specifications

Article number	6AV6574-1AB00-2BA0	6AV6671-0AP00-0AX0	6AV6671-5BF00-0AX0	6AV6574-1AB04-4AA0
	Labeling strips MP 37x Key	TD400C front film, blank	Labeling set Mobile Panel 277	Protective pouch for labeling strips
<b>General information</b>				
Product type designation	Labeling strip MP 37x key	Front membrane TD400C, blank	Labeling set Mobile Panel 277	Protective pouch labeling strips
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark		Yes	Yes	
RoHS conformity		Yes		
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C
<b>Relative humidity</b>				
• Operation, max.	90 %	90 %	90 %	90 %
<b>Mechanics/material</b>				
Enclosure material (front)				
• Plastic	Yes; DIN A4 perforated sheets			
<b>Dimensions</b>				
Width	210 mm	210 mm	210 mm	170 mm; Approximate dimension
Height	297 mm	297 mm	297 mm	115 mm; Approximate dimension
Thickness	0.13 mm; Max. tolerance ± 0.03 mm			
Width of the housing front		163 mm		
Height of housing front		91 mm		
<b>Weights</b>				
Weight (without packaging)	45 g			
<b>Scope of supply</b>				
Delivery quantity in pieces	1; Contains two sets	10	2; 2 sheets with 3 labeling strips each, incl. corner seals, O-ring, replacement screw, decorative film for corner seal	5
• Number of films per sheet		2	6	
• Parts per unit	2; one set comprises a set of vertical and a set of horizontal labeling strips	20	6	1
<b>Other</b>				
printable with laser printer	Yes; Test printer suitability beforehand. No liability for printer damage	Yes	Yes	No
Merchandise	No	No	No	Yes
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	For MP370 key, MP377 key	For TD400C	For Mobile Panel 277	For Mobile Panel 170, Mobile Panel 177
Note:	Transparent film, keys pre-printed in gray, LED area free			

## Accessories

### Labeling strips

#### Technical specifications

Article number	<b>6AV2181-5DJ10-0AX0</b> Labeling set 4" wide, type 13	<b>6AV2181-5GJ10-0AX0</b> Labeling set 7" wide, type 13	<b>6AV2181-5JJ10-0AX0</b> Labeling set 9" wide, type 13
<b>General information</b>			
Product type designation	Labeling set 4" widescreen	Labeling set 7" widescreen	Labeling set 9" widescreen
<b>Display</b>			
Suitable for screen diagonal	4.3 in	7 in	9 in
<b>Installation type/mounting</b>			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
<b>Ambient conditions</b>			
Suited for indoor use	Yes; Resistant to alcohol, dilute acids, diluted alkaline solutions, hydrocarbons, household cleaning agents	Yes; Resistant to alcohol, dilute acids, diluted alkaline solutions, hydrocarbons, household cleaning agents	Yes; Resistant to alcohol, dilute acids, diluted alkaline solutions, hydrocarbons, household cleaning agents
<b>Ambient temperature during operation</b>			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
<b>Mechanics/material</b>			
Material			
• Plastic	Yes; Autoflex EBA 130	Yes; Autoflex EBA 130	Yes; Autoflex EBA 130
Enclosure material (front)			
• Plastic	Yes; Film properties: Anti-glare 55 %, hardness 3H	Yes; Film properties: Anti-glare 55 %, hardness 3H	Yes; Film properties: Anti-glare 55 %, hardness 3H
<b>Dimensions</b>			
Width	168 mm	224 mm	283 mm
Height	120 mm	149 mm	178 mm
Thickness	0.125 mm	0.125 mm	0.125 mm
<b>Weights</b>			
Weight (without packaging)	60 g	80 g	100 g
<b>Scope of supply</b>			
Delivery quantity in pieces	5	5	5
Components included	including 20 double-sided adhesive dots	including 20 double-sided adhesive dots	including 20 double-sided adhesive dots
<b>Other</b>			
printable with laser printer	No	No	No
Merchandise	Yes	Yes	Yes
Manufacturer name	Kolb-Siebdruck GmbH & Co. KG	Kolb-Siebdruck GmbH & Co. KG	Kolb-Siebdruck GmbH & Co. KG
Manufacturer's address	Espenstraße 5, 95632 Wunsiedel, Germany	Espenstraße 5, 95632 Wunsiedel, Germany	Espenstraße 5, 95632 Wunsiedel, Germany
Target devices	KTP400F Mobile	KTP700 Mobile, KTP700F Mobile	KTP900 Mobile, KTP900F Mobile
Note:	Labeling strip SIOS entry No. 11274631	Labeling strip SIOS entry No. 11274631	Labeling strip SIOS entry No. 11274631

## More information

### Notice:

The labeling strips, blank films, and protective films should be printed at a printing works. Further details on printing the films can be found in the respective Technical Specifications.

Templates can be used to create labeling strips for SIMATIC HMI devices. Alternatively, a tool for the creation of labeling strips is available.

Download templates from:

<http://support.automation.siemens.com/WW/view/en/11274631>  
and

Label Creator Download from:

<http://support.automation.siemens.com/WW/view/en/61507590>

### Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com/>

## Accessories

### Input devices, cables

#### Overview



USB keyboard GER, KV25605, INOX and keyboard tray for HMI PRO devices

#### **Input devices**

Input devices are all those devices via which information can be supplied to a computer or Panel. This enables interaction with a program.

SIMATIC HMI input devices are specially designed for operation on Panels and industrial PCs in industrial environments.

Trade goods, which are identified as such in the technical specifications, have been approved by the manufacturer for typical office applications. Siemens does not always carry out in-depth industrial testing on trade goods.

The following input devices are available for use with IPCs and Panels:

- Desktop keyboards
- Built-in and mounted keyboards
- Removable keyboard
- USB mouse
- USB cables



Keyboard with tray

Ordering data	Article No.	Article No.
<b>USB keyboard TKL-105</b> IP68 keyboard, black, with USB connection <ul style="list-style-type: none"> <li>with German layout</li> <li>with international US layout</li> </ul>	<b>6AV6881-0AU14-0AA0</b> <b>6AV6881-0AU14-1AA0</b>	<b>USB cables <sup>3)</sup></b> <b>USB cable 2.0</b> <ul style="list-style-type: none"> <li>Type A female USB A, IP20 / male USB A, IP20, length 2.5 m</li> <li>Type B with M20 screw sealing, female USB A, IP67 / male USB A, IP20, length 0.8 m</li> <li>Type C with M20 screw sealing, female USB A, IP67 / male USB A, IP20, length 2.5 m</li> <li>Type D female, USB A, IP67 / male USB A, IP20, length 2.5 m</li> </ul>
<b>USB keyboard TKV-086 IP65 stainless steel</b> Desktop keyboard, INOX vandal-proof, also suitable for PRO system <sup>1)</sup> . Incl. 4 plastic adhesive feet <sup>2)</sup> , cable holder/ties for fixing the USB cable. IP65 keyboard stainless steel with IP67 USB connection, incl. accessories <ul style="list-style-type: none"> <li>with German layout</li> <li>with international US layout</li> </ul>	<b>6AV6881-0AU14-0DB0</b> <b>6AV6881-0AU14-1DB0</b>	
<b>Tray for PRO devices</b> For installation on all PRO devices with fully-enclosed IP65 protection with suitable mechanics. With 2x USB connection sockets including USB cable. Unused socket can be sealed to IP65 <ul style="list-style-type: none"> <li>Tray in RAL9023 (gray) for all 4:3 PRO devices with fully-enclosed IP65 protection</li> </ul>	<b>6AV7674-ONE01-0AA0</b>	
<b>Membrane keyboard IP65</b> with touchpad, PS/2 <ul style="list-style-type: none"> <li>with German layout</li> <li>with international US layout</li> </ul>	<b>6GF6710-2AC</b> <b>6GF6710-2BC</b>	
<b>Removable keyboard</b> 19" removable keyboard with trackball, PS/2 <ul style="list-style-type: none"> <li>with German layout</li> <li>with international US layout</li> </ul>	<b>6GF6710-3BJ</b> <b>6GF6710-3BK</b>	
<b>Built-in keyboard, touchpad</b> 19" built-in keyboard, 4U with touchpad, PS/2 <ul style="list-style-type: none"> <li>with German layout</li> <li>with international US layout</li> </ul>	<b>6GF6710-3AE</b> <b>6GF6710-3BE</b>	
<b>Built-in keyboard, trackball, international</b> Built-in keyboard with trackball, PS/2	<b>6GF6710-3BG</b>	
<b>USB 2.0 mouse</b> For HMI Panels, programming devices and IPCs with corresponding interfaces. Color: Anthracite	<b>6AV2181-8AT00-0AX0</b>	

<sup>1)</sup> Further mechanical attachment parts (keyboard tray, etc.) are required for use on PRO systems. Observe the respective specifications of the target systems!

<sup>2)</sup> Plastic adhesive feet can be attached on the underside of the keyboard at the marked locations.

<sup>3)</sup> With specification IP20, the connector type specified on the cable corresponds to a standard USB connector. With specification IP67, it corresponds to a connector with IP67-protected screw connection. IP67 connectors are fitted with a cover to ensure degree of protection IP67 even when the connector is unplugged and the cover is unscrewed. In some cases a M20 screw sealing is already part of the cable. This version can be used for IP65 transitions (PRO system/control cabinet). The IP67 sockets are also suitable for standard USB connectors, however in those cases the degree of protection is reduced to IP20.  
 Note: A maximum cable length of 3 m should not be exceeded!

## Accessories

### Input devices, cables

#### Technical specifications

Article number	<b>6AV6881-0AU14-0DB0</b> USB keyboard GER, KV25605, INOX	<b>6AV6881-0AU14-1DB0</b> USB keyboard INT, KV25605, INOX
<b>General information</b>		
Product type designation	USB keyboard GERMAN	USB keyboard international US
<b>Control elements</b>		
Version of actuating element	Long-stroke key with 2 mm contact travel	Long-stroke key with 2 mm contact travel
Operating principle of the actuating element	Carbon pellet on gold-plated PCB	Carbon pellet on gold-plated PCB
<b>Input device</b>		
• Scroll wheel	No; Cursor control possible, left and right mouse button	No; Cursor control possible, left and right mouse button
• Movement tracking	Capacitive touchpad	Capacitive touchpad
<b>Keyboard fonts</b>		
• Design	Keyboard with long-stroke keys	Keyboard with long-stroke keys
• Keyboard assignment	86 (Germany QWERTZ)	86 (International QWERTY, US version)
• Color of the buttons	Stainless steel	Stainless steel
• Color of the key inscription	Black, laser-inscribed	Black, laser-inscribed
• Key illumination	No	No
• Function keys	Yes	Yes
- Number of function keys	12	12
- Number of function keys with LEDs	0	0
- Programmable	No	No
• Number pad	Yes; Integrated into key layout	Yes; Integrated into key layout
• status LED displays	Yes; Num, FN, Shift, Scroll lock	Yes; Num, FN, Shift, Scroll lock
- for number pad	Yes	Yes
- for Shift keys	Yes	Yes
• Multi-key operation		
- 2-key rollover	Yes; 1 finger, slow typing, robust industry standard	Yes; 1 finger, slow typing, robust industry standard
- n-key rollover	No	No
<b>Connection type</b>		
• USB	Yes; USB 2.0 type A	Yes; USB 2.0 type A
• PS/2	No	No
• Cable length	0 m; See cable length	0 m; See cable length
<b>Frame size/design</b>		
• Standard	Yes; For industrial applications	Yes; For industrial applications
<b>Installation type/mounting</b>		
Mounting	Desktop, PRO support arm, drawer	Desktop, PRO support arm, drawer
Mounting type	Suitable for PRO devices	Suitable for PRO devices
<b>Supply voltage</b>		
Rated value (DC)	5 V; 4.35 V to 5.25 V (USB)	5 V; 4.35 V to 5.25 V (USB)
<b>Battery</b>		
Battery-operated	No; maintenance-free	No; maintenance-free
<b>Interfaces</b>		
Number of USB interfaces	1; USB 2.0 (IP67 plug enclosure)	1; USB 2.0 (IP67 plug enclosure)
<b>Degree and class of protection</b>		
IP (all-round)	IP65	IP65
IP (at the front)	USB plug, meets IP67 with screws, if only inserted then without IP	USB plug, meets IP67 with screws, if only inserted then without IP
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes; Available soon	Yes; Available soon
cULus	Yes; Available soon	Yes; Available soon
EAC (formerly Gost-R)	Yes; Available soon	Yes; Available soon
CCC	No; not necessary	No; not necessary
BIS	No; required for export to India	No; required for export to India
RoHS conformity	Yes	Yes
China RoHS compliance	Yes; Available soon	Yes; Available soon

## Technical specifications

Article number	<b>6AV6881-0AU14-0DB0</b> USB keyboard GER, KV25605, INOX	<b>6AV6881-0AU14-1DB0</b> USB keyboard INT, KV25605, INOX
<b>Ambient conditions</b>		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No; > 0 °C possible under certain conditions	No; > 0 °C possible under certain conditions
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	60 °C	60 °C
<b>Relative humidity</b>		
• Operation, max.	80 %; no condensation	80 %; no condensation
• Condensation permissible	No	No
<b>Operating systems</b>		
<b>Runs under operating system</b>		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 8	Yes	Yes
• Windows 10	Yes	Yes
<b>Cables</b>		
Cable length	0.4 m; USB	0.4 m; USB
<b>Mechanics/material</b>		
Material		
• Stainless steel	Yes; Front stainless steel AISI 304	Yes; Front stainless steel AISI 304
Enclosure material (rear)	aluminum	aluminum
Material of the front ring	Generally silicone-free PORON seal	Generally silicone-free PORON seal
Enclosure color (front)	INOX AISI 304	INOX AISI 304
Enclosure color (rear)	Aluminum paint	Aluminum paint
<b>Torques/forces</b>		
• Breakdown torque	1.5 N·m; Switching force buttons 1.5 N to 1.8 N	1.5 N·m; Switching force buttons 1.5 N to 1.8 N
<b>Service life</b>		
• Number of operating cycles, keys	20 000 000; Operations (minimum)	20 000 000; Operations (minimum)
<b>Dimensions</b>		
Width	369 mm	369 mm
Height	18 mm	18 mm
Depth	130 mm; Without cable outlet (with + 3 cm)	130 mm; Without cable outlet (with + 3 cm)
<b>Scope of supply</b>		
Delivery quantity in pieces	1	1
<b>Other</b>		
printable with laser printer	No	No
Merchandise	Yes; GETT KV25605 / VES001681	Yes; GETT KV27610 / VES001681
Manufacturer name	GETT Gerätetechnik GmbH	GETT Gerätetechnik GmbH
Manufacturer's address	Mittlerer Ring 1, 08233 Treuen (Vogtland), Germany	Mittlerer Ring 1, 08233 Treuen (Vogtland), Germany
contacting the manufacturer	Phone +49 37468 660-0, email: info@gett.de	Phone +49 37468 660-0, email: info@gett.de
Target devices	For SIMATIC HMI devices and IPCs with the appropriate slot	For SIMATIC HMI devices and IPCs with the appropriate slot

## Accessories

### Input devices, cables

#### Technical specifications

Article number	<b>6AV6881-0AU14-0AA0</b> USB keyboard GER, TKL-105	<b>6AV6881-0AU14-1AA0</b> USB keyboard INT, TKL-105
<b>General information</b>		
Product type designation	USB keyboard GERMAN	USB keyboard international US
<b>Control elements</b>		
Version of actuating element	Long-stroke key with 4 mm contact travel	Long-stroke key with 4 mm contact travel
Operating principle of the actuating element	Keyboard with long-stroke keys with membrane switching contacts	Keyboard with long-stroke keys with membrane switching contacts
<b>Input device</b>		
• Scroll wheel	No	No
• Movement tracking	none	none
<b>Keyboard fonts</b>		
• Design	Keyboard with long-stroke keys	Keyboard with long-stroke keys
• Keyboard assignment	105 keys, German layout	105 keys, international US layout
• Color of the buttons	Black	Black
• Color of the key inscription	White	White
• Key illumination	No	No
• Function keys	Yes	Yes
- Number of function keys	12	12
- Number of function keys with LEDs	0	0
- Programmable	No	No
• Number pad	Yes; Free-standing	Yes; Free-standing
• status LED displays	Yes; Num, Caps and Scroll	Yes; Num, Caps and Scroll
- for number pad	Yes	Yes
- for Shift keys	Yes	Yes
• Multi-key operation		
- 2-key rollover	No	No
- n-key rollover	Yes; 10 finger system, quick typing possible	Yes; 10 finger system, quick typing possible
<b>Connection type</b>		
• USB	Yes; USB 2.0 type A	Yes; USB 2.0 type A
• PS/2	No	No
• Cable length	0 m; See cable length	0 m; See cable length
<b>Frame size/design</b>		
• Standard	Yes; For industrial applications	Yes; For industrial applications
<b>Installation type/mounting</b>		
Mounting	Desktop	Desktop
Mounting type	none	none
<b>Supply voltage</b>		
Rated value (DC)	5 V; via USB	5 V; via USB
<b>Battery</b>		
Battery-operated	No; maintenance-free	No; maintenance-free
<b>Interfaces</b>		
Number of USB interfaces	1; USB 2.0	1; USB 2.0
<b>Degree and class of protection</b>		
IP (all-round)	IP68 all-round and dishwasher safe	IP68 all-round and dishwasher safe
IP (at the front)	USB connector without degree of protection	USB connector without degree of protection
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes; cUL	Yes; cUL
cULus	Yes; cUL	Yes; cUL
KC approval	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes
BIS	No; required for export to India	No; required for export to India
RoHS conformity	Yes	Yes

## Technical specifications

Article number	<b>6AV6881-0AU14-0AA0</b> USB keyboard GER, TKL-105	<b>6AV6881-0AU14-1AA0</b> USB keyboard INT, TKL-105
<b>Ambient conditions</b>		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No; possible under certain conditions	No; possible under certain conditions
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	70 °C	70 °C
<b>Relative humidity</b>		
• Operation, max.	80 %; no condensation	80 %; no condensation
• Condensation permissible	No	No
<b>Operating systems</b>		
<b>Runs under operating system</b>		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 8	Yes	Yes
• Windows 10	Yes	Yes
<b>Cables</b>		
Cable length	1.5 m; USB	1.5 m; USB
<b>Mechanics/material</b>		
Material		
• Plastic	Yes; Black	Yes; Black
Enclosure material (front)		
• Plastic	Yes; ABS with antimicrobial coating	Yes; ABS with antimicrobial coating
Enclosure color (front)	Black	Black
Enclosure color (rear)	Black	Black
<b>Torques/forces</b>		
• Breakdown torque	0.53 N·m; Switching force buttons	0.53 N·m; Switching force buttons
<b>Service life</b>		
• Number of operating cycles, keys	10 000 000; Operations (minimum)	10 000 000; Operations (minimum)
<b>Dimensions</b>		
Width	459 mm	459 mm
Height	35 mm	35 mm
Depth	174 mm	174 mm
<b>Weights</b>		
Weight (without packaging)	800 g	800 g
<b>Scope of supply</b>		
Delivery quantity in pieces	1	1
<b>Other</b>		
printable with laser printer	No	No
Merchandise	Yes; GETT TKL-105	Yes; GETT TKL-105
Manufacturer name	GETT Gerätetechnik GmbH	GETT Gerätetechnik GmbH
Manufacturer's address	Mittlerer Ring 1, 08233 Treuen (Vogtland), Germany	Mittlerer Ring 1, 08233 Treuen (Vogtland), Germany
contacting the manufacturer	Phone +49 37468 660-0, email: info@gett.de	Phone +49 37468 660-0, email: info@gett.de
Target devices	For SIMATIC HMI devices and IPCs with the appropriate slot	For SIMATIC HMI devices and IPCs with the appropriate slot
Note:	Corresponds to KL21203	Corresponds to KL24603

## Accessories

### Input devices, cables

#### Technical specifications

Article number	<b>6AV7674-0NE01-0AA0</b> Tray for 4:3 PRO devices
<b>General information</b>	
Product type designation	Tray incl. 2x USB
<b>Control elements</b>	
<b>Connection type</b>	
• USB	Yes; USB 2.0
• PS/2	No
• Cable length	500 mm; Typical
<b>Frame size/design</b>	
• Standard	Yes; For industrial applications
• Ergonomic	Yes; 90° adjustable / tiltable
<b>Ergonomics</b>	
• Trackball rest	No
• Adjustable height	Yes; By adjusting inclination angle 0° to 90°
<b>Installation type/mounting</b>	
Mounting	Max. load bearing capacity of 2 kg
Mounting type	Suitable for PRO devices
maximum permissible angle of inclination without external ventilation	90°; Between 0° and 90° in steps of 15°
<b>Interfaces</b>	
Number of USB interfaces	2; USB 2.0
<b>Degree and class of protection</b>	
IP (all-round)	IP65 fully enclosed (when protective cover is closed)
<b>Standards, approvals, certificates</b>	
RoHS conformity	Yes

Article number	<b>6AV7674-0NE01-0AA0</b> Tray for 4:3 PRO devices
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	45 °C
<b>Relative humidity</b>	
• Operation, max.	80 %; no condensation
• Condensation permissible	No; Condensation not permissible
<b>Mechanics/material</b>	
Material	
• Aluminum	Yes; Powder-coated, RAL 9023
<b>Dimensions</b>	
Width	500 mm
Height	64 mm
Depth	200 mm
<b>Weights</b>	
Weight (without packaging)	3 000 g
<b>Scope of supply</b>	
Delivery quantity in pieces	1; With support arm bracket, without keyboard
<b>Other</b>	
Merchandise	Yes; Sasse no. 1580.9906124
Manufacturer name	Sasse Elektronik GmbH
Manufacturer's address	Berliner Straße 12, 91126 Schwabach, Germany
Target devices	Merchandise suitable for 4:3 PRO devices

## Technical specifications

Article number	6AV6881-0AF21-0LB0	6AV6881-0AF22-0DC0	6AV6881-0AF22-0LC0	6AV6881-0AF21-0LC0
	USB cable type A	USB cable type B	USB cable type C	USB cable type D
<b>General information</b>				
Product type designation	Connecting cable USB	Connecting cable USB	Connecting cable USB	Connecting cable USB
<b>Control elements</b>				
<b>Connection type</b>				
• USB	Yes; USB 2.0 type A IP20 to type A IP20	Yes; USB 2.0 type x IP67 to type A IP20	Yes; USB 2.0 type x IP67 to type A IP20	Yes; USB 2.0 type x IP67 to type A IP20
<b>Degree and class of protection</b>				
IP (all-round)	IP20	On the female side up to IP65 screw connection, then IP20	On the female side up to IP65 screw connection, then IP20	On the female side up to IP65 screw connection, then IP20
<b>Standards, approvals, certificates</b>				
CE mark	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation
RoHS conformity	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>				
Suited for indoor use	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
<b>Relative humidity</b>				
• Operation, max.	95 %	95 %	95 %	95 %
<b>Cables</b>				
Cable length	2.5 m	2.5 m	2.5 m	0.8 m
smallest bending radius	0 mm; 10x d (cable diameter)			
Color of cable sheath	Black	Black	Black	Black
<b>Mechanics/material</b>				
Enclosure material (front)				
• Plastic	Yes; Connector enclosure	Yes; Connector enclosure	Yes; Connector enclosure	Yes; Connector enclosure
<b>Torques/forces</b>				
• Tightening torque, min.		1 N·m; Hand-tight	1 N·m; Hand-tight	1 N·m; Hand-tight
• Tightening torque, max.		1.5 N·m; Hand-tight	1.5 N·m; Hand-tight	1.5 N·m; Hand-tight
<b>Scope of supply</b>				
Delivery quantity in pieces	1; USB 2.0 cable (max. 500 mA)			
<b>Other</b>				
Merchandise	Yes; USB-IP20-2500-C7294-Siemens	Yes; USB-IP67-2500M-C7294-Siemens	Yes; USB-IP67-2500-C7294-Siemens	Yes; USB-IP67-800M-C7294-Siemens
Manufacturer name	GETT Gerätetechnik GmbH	GETT Gerätetechnik GmbH	GETT Gerätetechnik GmbH	GETT Gerätetechnik GmbH
Manufacturer's address	Mittlerer Ring 1, 08233 Treuen (Vogtland), Germany			
Target devices	For Panels and PC systems with suitable interface; observe operating instructions of the target device!	For Panels and PC systems with suitable interface; observe operating instructions of the target device!	For Panels and PC systems with suitable interface; observe operating instructions of the target device!	For Panels and PC systems with suitable interface; observe operating instructions of the target device!
Note:	Request certificates and drawings from manufacturer			

## Accessories

### Input devices, cables

#### Technical specifications

Article number	<b>6GF6710-2AC</b>	<b>6GF6710-2BC</b>
	PS2 foil keyboard GER, touchpad	PS2 foil keyboard INT, touchpad
<b>General information</b>		
Product type designation	PS/2 membrane keyboard GER	PS/2 membrane keyboard INT
<b>Control elements</b>		
<b>Keyboard fonts</b>		
• Design	Membrane keyboard	Membrane keyboard
• Keyboard assignment	B3F, 101/102 or 104/105 OMRON	B3F, 101/102 or 104/105 OMRON
• Key illumination	No	No
• Function keys		
- Number of function keys	12	12
- Programmable	Yes	Yes
• Number pad	Yes	Yes
• status LED displays	Yes; Num, Caps and Scroll	Yes; Num, Caps and Scroll
- for number pad	Yes	Yes
- for Shift keys	Yes	Yes
<b>Connection type</b>		
• USB	Yes; With PS/2 USB adapter (not included in the scope of supply)	Yes; With PS/2 USB adapter (not included in the scope of supply)
• PS/2	Yes	Yes
• Cable length	1.75 m	1.75 m
<b>Frame size/design</b>		
• Standard	Yes; For industrial applications	Yes; For industrial applications
<b>Installation type/mounting</b>		
Rack mounting	No; Desktop housing	No; Desktop housing
<b>Battery</b>		
Battery-operated	No; maintenance-free	No; maintenance-free
<b>Degree and class of protection</b>		
IP (all-round)	IP65	IP65
Splashproof	Yes	Yes
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	40 °C	40 °C
<b>Relative humidity</b>		
• Operation, max.	90 %; no condensation	90 %; no condensation
• Condensation permissible	No	No

## Technical specifications

Article number	<b>6GF6710-2AC</b>	<b>6GF6710-2BC</b>
	PS2 foil keyboard GER, touchpad	PS2 foil keyboard INT, touchpad
<b>Operating systems</b>		
<b>Runs under operating system</b>		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 10	Yes	Yes
<b>Mechanics/material</b>		
Material		
• Plastic	Yes; AUTOTEX (R) V150	Yes; AUTOTEX (R) V150
• Sheet steel	No	No
Enclosure material (front)		
• Plastic	Yes; AUTOTEX (R) V150	Yes; AUTOTEX (R) V150
<b>Service life</b>		
• Number of operating cycles, keys	1 000 000; Operations (minimum)	1 000 000; Operations (minimum)
<b>Dimensions</b>		
Width	478.5 mm	478.5 mm
Height	28 mm	28 mm
Depth	180 mm	180 mm
<b>Weights</b>		
Weight (without packaging)	2 260 g	2 260 g
<b>Scope of supply</b>		
Delivery quantity in pieces	1; Membrane keyboard with mouse pad	1; Membrane keyboard with mouse pad
<b>Other</b>		
Merchandise	Yes; TIPRO no. K-547	Yes; TIPRO no. K-547
Manufacturer name	TIPRO Representative Office	TIPRO Representative Office
Manufacturer's address	Vogelweg 20, 31785 Hameln, Germany	Vogelweg 20, 31785 Hameln, Germany
Target devices	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)
Note:	Suitable PS/2 USB adapter (keyboard/mouse): 1x USB 1.1, plug A on 2x PS/2 sockets, 0.20 m, black; manufacturer: Renkforce; supply by Conrad Elektronik, order no.: 1360251 - 62	Suitable PS/2 USB adapter (keyboard/mouse): 1x USB 1.1, plug A on 2x PS/2 sockets, 0.20 m, black; manufacturer: Renkforce; supply by Conrad Elektronik, order no.: 1360251 - 62

## Accessories

### Input devices, cables

#### Technical specifications

Article number	<b>6GF6710-3BJ</b> PS2 keyboard 19" GER Trackb.	<b>6GF6710-3BK</b> PS2 keyboard 19" INT Trackb.
<b>General information</b>		
Product type designation	PS/2 withdrawable keyboard GER	PS/2 withdrawable keyboard INT
<b>Control elements</b>		
<b>Keyboard fonts</b>		
• Design	Membrane keyboard	Membrane keyboard
• Keyboard assignment	84 (Germany (QWERTZ))	84 (US version)
• Color of the buttons	light gray	light gray
• Color of the key inscription	dark gray	dark gray
• Key illumination	No	No
• Function keys		
- Number of function keys	12	12
• Number pad	Yes; Integrated into key layout	Yes; Integrated into key layout
• status LED displays	Yes; Num, Caps, Scroll and Pad	Yes; Num, Caps, Scroll and Pad
- for number pad	Yes	Yes
- for Shift keys	Yes	Yes
<b>Connection type</b>		
• Bluetooth radio standard	No	No
• USB	No	No
• PS/2	Yes	Yes
• Cable length	1.5 m	1.5 m
<b>Frame size/design</b>		
• Standard	Yes; For industrial applications	Yes; For industrial applications
• 19" keyboard	Yes	Yes
<b>Installation type/mounting</b>		
Rack mounting	Yes	Yes
Front mounting	No	No
Wall mounting/direct mounting	No	No
maximum permissible angle of inclination without external ventilation	0°	0°
<b>Supply voltage</b>		
Design of the power supply	via PS/2	via PS/2
<b>Battery</b>		
Battery-operated	No; maintenance-free	No; maintenance-free
<b>Degree and class of protection</b>		
Splashproof	No	No
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	50 °C	50 °C
<b>Relative humidity</b>		
• Operation, max.	80 %; no condensation	80 %; no condensation
• Condensation permissible	No	No

## Technical specifications

Article number	6GF6710-3BJ	6GF6710-3BK
	PS2 keyboard 19" GER Trackb.	PS2 keyboard 19" INT Trackb.
<b>Operating systems</b>		
<b>Runs under operating system</b>		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 8	Yes	Yes
• Windows 10	Yes	Yes
<b>Connection method</b>		
Connector type	PS/2	PS/2
<b>Mechanics/material</b>		
Material		
• Plastic	Yes; Keyboard itself	Yes; Keyboard itself
• Sheet steel	Yes; Powder-coated drawer	Yes; Powder-coated drawer
<b>Service life</b>		
• Number of operating cycles, keys	20 000 000; Operations (approx.)	20 000 000; Operations (approx.)
<b>Dimensions</b>		
Width	370 mm; Keyboard	370 mm; Keyboard
Height	20 mm; Keyboard	20 mm; Keyboard
Depth	138.5 mm; Keyboard	138.5 mm; Keyboard
Width of the housing front	485 mm; Keyboard incl. drawer	485 mm; Keyboard incl. drawer
Height of housing front	45 mm; Keyboard incl. drawer	45 mm; Keyboard incl. drawer
Enclosure diameter	465 mm; Mounting depth drawer	465 mm; Mounting depth drawer
<b>Weights</b>		
Weight (without packaging)	8 000 g; Without accessories	8 000 g; Without accessories
<b>Scope of supply</b>		
Delivery quantity in pieces	1; Keyboard incl. drawer	1; Keyboard incl. drawer
<b>Other</b>		
Merchandise	Yes	Yes
Manufacturer name	ZF Friedrichshafen AG, Cherry GmbH, Electronic Systems	ZF Friedrichshafen AG, Cherry GmbH, Electronic Systems
Manufacturer's address	Cherrystr., 91275 Auerbach/OPf., Germany	Cherrystr., 91275 Auerbach/OPf., Germany
Target devices	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)

## Accessories

### Input devices, cables

#### Technical specifications

Article number	<b>6GF6710-3AE</b> PS2 keyboard 19" GER, touch pad	<b>6GF6710-3BG</b> PS2 keyboard 19" INT, track ball	<b>6GF6710-3BE</b> PS2 keyboard 19" INT, touch pad
<b>General information</b>			
Product type designation	PS/2 built-in keyboard GER	PS/2 built-in keyboard INT	PS/2 built-in keyboard INT
<b>Control elements</b>			
<b>Keyboard fonts</b>			
• Design	Membrane keyboard	Membrane keyboard	Membrane keyboard
• Keyboard assignment	B3F, 101/102 or 104/105 OMRON	B3F, 101/102 or 104/105 OMRON	B3F, 101/102 or 104/105 OMRON
• Color of the buttons		light gray	
• Color of the key inscription		Black	
• Key illumination	No	No	No
• Function keys			
- Number of function keys	12	12	12
- Programmable	Yes	Yes	Yes
• Number pad	Yes	Yes; Free-standing	Yes
• status LED displays	Yes; Num, Caps and Scroll	Yes; Num, Caps and Scroll	Yes; Num, Caps and Scroll
- for number pad	Yes	Yes	Yes
- for Shift keys	Yes	Yes	Yes
<b>Connection type</b>			
• USB	Yes; With PS/2 USB adapter (not included in the scope of supply)	Yes; With PS/2 USB adapter (not included in the scope of supply)	Yes; With PS/2 USB adapter (not included in the scope of supply)
• PS/2	Yes	Yes	Yes
<b>Frame size/design</b>			
• Standard	Yes; For industrial applications	Yes; For industrial applications	Yes; For industrial applications
• 19" keyboard	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Rack mounting	No; Built-in keyboard, 19" rack	No	No; Built-in keyboard, 19" rack
Front mounting		Yes	
Wall mounting/direct mounting		No	
<b>Battery</b>			
Battery-operated	No; maintenance-free	No; maintenance-free	No; maintenance-free
<b>Degree and class of protection</b>			
IP (all-round)		IP65 when the ball is actuated; mouse only IP55	
IP (at the front)	IP65		IP65
IP (rear)	IP20		IP20
Splashproof	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	40 °C	40 °C	40 °C
<b>Relative humidity</b>			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
• Condensation permissible	No	No	No

## Technical specifications

Article number	6GF6710-3AE	6GF6710-3BG	6GF6710-3BE
	PS2 keyboard 19" GER, touch pad	PS2 keyboard 19" INT, track ball	PS2 keyboard 19" INT, touch pad
<b>Operating systems</b>			
<b>Runs under operating system</b>			
• Windows CE	Yes	Yes	Yes
• Windows Vista	Yes	Yes	Yes
• Windows XP	Yes	Yes	Yes
• Windows 7	Yes	Yes	Yes
• Windows 10	Yes	Yes	Yes
<b>Mechanics/material</b>			
Material			
• Sheet steel	Yes	Yes	Yes
Enclosure material (front)			
• Plastic	Yes; AUTOTEX (R) V150	Yes; AUTOTEX (R) V150	Yes; AUTOTEX (R) V150
<b>Service life</b>			
• Number of operating cycles, keys	1 000 000; Operations (minimum)	1 000 000; Operations (minimum)	1 000 000; Operations (minimum)
<b>Dimensions</b>			
Width	482.6 mm	482.6 mm	482.6 mm
Height	42.5 mm	38 mm	42.5 mm
Depth	177.8 mm	177.8 mm	177.8 mm
<b>Weights</b>			
Weight (without packaging)	1 480 g	1 490 g	1 480 g
<b>Scope of supply</b>			
Delivery quantity in pieces	1; Built-in keyboard rack mounting	1; Built-in keyboard with stud bolts	1; Built-in keyboard rack mounting
<b>Other</b>			
Merchandise	Yes; TIPRO no. K-647 (K-847)	Yes; TIPRO no. K-842 (K-642)	Yes; TIPRO no. K-647 (K-847)
Manufacturer name	TIPRO Representative Office	TIPRO Representative Office	TIPRO Representative Office
Manufacturer's address	Vogelweg 20, 31785 Hameln, Germany	Vogelweg 20, 31785 Hameln, Germany	Vogelweg 20, 31785 Hameln, Germany
Target devices	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)
Note:	Suitable PS/2 USB adapter (keyboard/mouse): 1x USB 1.1, plug A on 2x PS/2 sockets, 0.20 m, black; manufacturer: Renkforce; supply by Conrad Elektronik, order no.: 1360251 - 62		

## Accessories

### Input devices, cables

#### Technical specifications

Article number	<b>6AV2181-8AT00-0AX0</b> USB 2.0 mouse
<b>General information</b>	
Product type designation	USB mouse
<b>Control elements</b>	
With parameterizable keys	No; 5 including scroll wheel
<b>Input device</b>	
• Scroll wheel	Yes; Vertical and horizontal scrolling
• Movement tracking	Microsoft - proprietary BlueTrack™ Technology
• Movement resolution	1 000 dpi; 8 000 images/second
• Speed	1 829 mm/s; 1.829 m/s
<b>Connection type</b>	
• USB	Yes; USB 2.0 type A
<b>Frame size/design</b>	
• Standard	Yes; For industrial applications
<b>Supply voltage</b>	
Rated value (DC)	5 V; via USB
<b>Battery</b>	
Battery-operated	No; Without battery
<b>Interfaces</b>	
Number of USB interfaces	1
<b>Standards, approvals, certificates</b>	
CE mark	Yes; WEEE (European Union) available
cULus	Yes; ICES-003 (Canada) available
RCM (formerly C-TICK)	No; EIP / EPUP available
KC approval	Yes
FCC Class B	Yes; FCC ID available
BSMI	Yes
<b>Marine approval</b>	
• Nippon Kaiji Kyokai (Class NK)	No; Only VCCI available

Article number	<b>6AV2181-8AT00-0AX0</b> USB 2.0 mouse
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	40 °C
<b>Relative humidity</b>	
• Operation, max.	80 %; 65 % for storage
• Condensation permissible	No
<b>Operating systems</b>	
<b>Runs under operating system</b>	
• Windows CE	Yes; Not all functions are available
• Windows Vista	Yes
• Windows XP	Yes; SP2 and higher
• Windows 7	Yes
• Windows 8	Yes
• Windows 10	Yes
<b>Cables</b>	
Cable length	1 930 mm
smallest bending radius	10 mm
Color of cable sheath	
• Gray	Yes
<b>Mechanics/material</b>	
Material	
• Plastic	Yes; anthracite
<b>Dimensions</b>	
Width	67.9 mm
Height	42.3 mm
Depth	116 mm
<b>Weights</b>	
Weight (without packaging)	131 g
<b>Scope of supply</b>	
Delivery quantity in pieces	1
<b>Other</b>	
Merchandise	Yes; 4EH-0002
Manufacturer name	Microsoft Deutschland GmbH
Manufacturer's address	Walter-Gropius-Straße 5, 80807 Munich, Germany
Target devices	Suitable for HMI Panels and IPCs with USB interface

### More information

#### Certificates:

Import/export certificates are available for downloading from Industry Online Support/Product Support:

<https://support.industry.siemens.com/cs/products>

Enter the "Article No." as the search term and select "Certificate" as the Entry type.

You can always find the current certification for trade goods on the manufacturer's home page.

The manufacturer data appear at the end of the technical specifications.

#### Notes:

The degree of protection stated for input media does not apply to the USB connection pieces.

IP20 is typical for use with USB interfaces, without any particular degree of protection.

If you need to modify or supplement the products described here, we'll be pleased to provide the necessary information at: "Custom made products".

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Input tools

#### Overview



Touch pen system ELO for capacitive or resistive touch screen pen ELO, including holder for 22.5 mm

#### Input tools

Input tools facilitate operation and input in difficult environments.

Touch pens are often extremely useful when operating touch displays, particularly if you are wearing gloves, because you can operate small buttons or entry fields precisely despite the gloves.

Touch pens also protect the display from dirt and scratching during operation and when used in extreme environments.

The following input tools are available for operating the touch display:

- Touch pen
- Touch pen holder
- Spare caps for touch pens

Please be sure to note the correct touch system when ordering (resistive or capacitive).

Not all touch pens are compatible with all touch types. There are touch pens available for both resistive and capacitive touch systems.

#### Note:

Continuous operation with hard touch pens on the same part of the display can significantly reduce the service life of a touch screen.

A longer service life can be achieved by using soft, wide-tip pens and variable-position entry fields.

#### Ordering data

#### Article No.

##### Touch pen, thin, resistive

For purely resistive touch screens, incl. retaining cord.

6AV6645-7AB14-0AS1

##### Touch pen system ELO

For capacitive and resistive touch screens, pen black anodized and suitable for industrial use, including adhesive or screw-on holder. Alternatives to "Touch pen system, aluminum, classic" and "Touch pen, thick, resistive"

6AV6881-0AV21-0AA0

##### Touch pen system V2A, food-safe

For capacitive and resistive touch screens, pen V2A high-gloss polished and food-safe, incl. stick-on holder (e.g. glass front). Alternative to touch pen system ELO.

6AV6881-0AV22-0AA0

##### Touch pen caps, classic

Replacement caps for touch pen systems for capacitive and resistive touch screens. Only suitable for touch pen system classic!

6AV2181-8AV60-0AX0

##### Touch pen caps ELO

Replacement caps for touch pen systems for capacitive and resistive touch screens. Only suitable for touch pen system ELO!

6AV6881-0AV61-0AA0

##### Touch pen caps V2A

Replacement caps for touch pen systems for capacitive and resistive touch screens. Not suitable for touch pen system classic!

6AV6881-0AV62-1AA0

##### Touch pen caps RES

Replacement caps for touch pen systems optimized exclusively for resistive touch screens. Only suitable for touch pen system ELO and touch pen system V2A!

6AV6881-0AV63-0BA0

## Technical specifications

Article number	6AV6645-7AB14-0AS1	6AV6881-0AV21-0AA0	6AV6881-0AV22-0AA0
	Touch pen, thin, ALU resistive	Touch pen system ELO	Touch pen system V2A
<b>General information</b>			
Product type designation	touch pen, thin, aluminum, resistive technology	universal touch pen system (resistive/capacitive), including support	universal touch pen system (resistive/capacitive), including support
<b>Control elements</b>			
<b>Touch operation</b>			
• operator help touch operation design (resistive)	Yes	Yes	Yes
• operator help touch operation design (capacitive)	No	Yes	Yes
<b>Frame size/design</b>			
• Standard	Yes; For industrial applications	Yes; For industrial applications	Yes; For industrial applications
• Exceptional		Yes; Spare caps can be stowed in the pen	Yes; Spare caps can be stowed in the pen
• Ergonomic		Yes; With holder	Yes; With holder
<b>Installation type/mounting</b>			
Mounting type		Wall-mounting bracket can be mounted with mounting disk, 2x M3 screw or adhesive pads	Wall-mounting bracket can be mounted with mounting disk, 2x M3 screw or adhesive pads
Front mounting		Yes; also optimized for PRO Extension Unit 22.5 mm opening (from HS01)	Yes; also optimized for PRO Extension Unit 22.5 mm opening (from HS01)
Wall mounting/direct mounting	Yes; using approx. 35 cm retaining cord	Yes; using approx. 60 cm retaining cord	Yes; using approx. 60 cm retaining cord
<b>Degree and class of protection</b>			
IP (at the front)		IP65 (depending on mounting)	IP65 (depending on mounting)
<b>Standards, approvals, certificates</b>			
CE mark	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation
REACH	Yes	Yes; Threaded insert screw tip - according to Article 33 of the REACH Regulation, we hereby inform you that the threaded insert supplied by us contains a substance included on the REACH Candidate List (SVHC). The substance in question is lead. CAS number: 7439-92-1 / EC number: 231-100-4	Yes; Threaded insert screw tip - according to Article 33 of the REACH Regulation, we hereby inform you that the threaded insert supplied by us contains a substance included on the REACH Candidate List (SVHC). The substance in question is lead. CAS number: 7439-92-1 / EC number: 231-100-4
RoHS conformity	Yes	Yes	Yes
FDA-compliant			Yes; the included adhesive pads are RoHS compliant, but not FDA§177.2600 compliant
<b>Ambient conditions</b>			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	Yes	Yes; only suitable under certain conditions due to different environmental conditions; replacement cycle can be increased	Yes; only suitable under certain conditions due to different environmental conditions; replacement cycle can be increased
<b>Ambient temperature during operation</b>			
• min.	-40 °C	-40 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	
• max.	80 °C	80 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	
<b>Relative humidity</b>			
• Operation, max.	90 %	95 %	95 %

## Accessories

### Input tools

#### Technical specifications

Article number	<b>6AV6645-7AB14-0AS1</b>	<b>6AV6881-0AV21-0AA0</b>	<b>6AV6881-0AV22-0AA0</b>
	Touch pen, thin, ALU resistive	Touch pen system ELO	Touch pen system V2A
<b>Mechanics/material</b>			
Material			
• Plastic		Yes; Attachment cord	Yes; Attachment cord
• Aluminum	Yes; pen, anodized	Yes; pen, anodized	
• Stainless steel			Yes; food safe, suitable for F&B
Enclosure material (front)			
• Plastic		Yes; pen holder	Yes; pen holder
Color	Aluminum paint	black, anodized	stainless steel, polished
Enclosure color (front)		Black	Black
<b>Dimensions</b>			
Length	125 mm	150 mm	150 mm
Diameter	8 mm	14 mm	14 mm
Enclosure diameter		37 mm; Diameter wall-mounting bracket	37 mm; Diameter wall-mounting bracket
Mounting cutout, height		39 mm; Height wall-mounting bracket	39 mm; Height wall-mounting bracket
<b>Weights</b>			
Weight (without packaging)		0.13 kg	0.13 kg
<b>Scope of supply</b>			
Delivery quantity in pieces	5; Incl. retaining cord for Mobile Panel 277 10"	1; 1x touch pen, 1x attachment cord, 1x resistive/capacitive cap, 1x resistive cap (in the touch pen), 1x complete wall bracket	1; 1x touch pen, 1x attachment cord, 1x resistive/capacitive cap, 1x resistive cap (in the touch pen), 1x complete wall bracket
<b>Other</b>			
Merchandise	Yes; touch pen, thin, aluminum, resistive technology	Yes; ELO touch pen, small	Yes; touch pen V2A
Manufacturer name	QUERUM products UG	QUERUM products UG	QUERUM products UG
Manufacturer's address	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany
contacting the manufacturer	email: querumproducts@web.de	email: querumproducts@web.de	email: querumproducts@web.de
Target devices	for resistive touch screens	For common capacitive and resistive touch systems	For common capacitive and resistive touch systems
Note:	length of the interconnecting lead approx. 35 cm	length of the interconnecting lead approx. 55 cm ... 62 cm	length of the interconnecting lead approx. 55 cm ... 62 cm

## Technical specifications

Article number	6AV2181-8AV60-0AX0	6AV6881-0AV61-0AA0	6AV6881-0AV62-1AA0	6AV6881-0AV63-0BA0
	Touch pen caps	Touch pen caps ELO	Touch pen caps V2A	Touch pen caps RES
<b>General information</b>				
Product type designation	Touch pen caps	Touch pen caps	Touch pen caps	Touch pen caps
<b>Control elements</b>				
<b>Frame size/design</b>				
• Standard	Yes; Special cap for capacitive touch pens	Yes; threaded special cap for universal touch system	Yes; threaded special cap for universal touch system	Yes; special cap only for resistive touch systems
<b>Installation type/mounting</b>				
Wall mounting/direct mounting	Yes; Capacitive touch system	Yes; can be used for touch pen system ELO	Yes; can be used for touch pen system ELO and V2A	Yes; can be used for touch pen system ELO and V2A
<b>Standards, approvals, certificates</b>				
CE mark			No; No CE marking obligation	No; No CE marking obligation
RoHS conformity		Yes; Threaded insert screw tip - according to Article 33 of the REACH Regulation, we hereby inform you that the threaded insert supplied by us contains a substance included on the REACH Candidate List (SVHC). The substance in question is lead. CAS number: 7439-92-1 / EC number: 231-100-4	Yes; FDA§177.2600 compliant	Yes; FDA§177.2600 compliant
FDA-compliant			Yes; FDA§177.2600 compliant	Yes; FDA§177.2600 compliant
<b>Ambient conditions</b>				
Suited for indoor use		Yes	Yes	Yes
Suited for outdoor use	Yes; only suitable under certain conditions due to different environmental conditions; replacement cycle can be increased	Yes; only suitable under certain conditions due to different environmental conditions; replacement cycle can be increased	Yes; only suitable under certain conditions due to different environmental conditions; replacement cycle can be increased	Yes; only suitable under certain conditions due to different environmental conditions; replacement cycle can be increased
<b>Ambient temperature during operation</b>				
• min.	-40 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	-40 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	-40 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	-40 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended
• max.	80 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	80 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	80 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended	80 °C; at temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended
<b>Relative humidity</b>				
• Operation, max.	95 %	95 %	95 %	95 %
<b>Accessories</b>				
belongs to product		can be used for touch pen system ELO	can be used for touch pen system ELO and V2A	can be used for touch pen system ELO and V2A
<b>Mechanics/material</b>				
Material				
• Plastic	Yes	Yes; special cap only for resistive and capacitive touch systems	Yes; special cap only for resistive and capacitive touch systems	Yes; special cap only for resistive touch systems
• Aluminum		Yes	Yes; food safe, suitable for F&B	
• Stainless steel				
Color				
		Aluminum paint	stainless steel, polished	light beige
<b>Torques/forces</b>				
• Tightening torque, max.		Hand-tight	Hand-tight	Hand-tight

## Accessories

### Input tools

#### Technical specifications

Article number	<b>6AV2181-8AV60-0AX0</b>	<b>6AV6881-0AV61-0AA0</b>	<b>6AV6881-0AV62-1AA0</b>	<b>6AV6881-0AV63-0BA0</b>
	Touch pen caps	Touch pen caps ELO	Touch pen caps V2A	Touch pen caps RES
<b>Dimensions</b>				
Height	8 mm	8 mm	8 mm	8 mm
Diameter	8 mm	8 mm	8 mm	8 mm
<b>Weights</b>				
Weight (without packaging)	0.8 g	0.8 g	0.8 g	0.8 g
<b>Scope of supply</b>				
Delivery quantity in pieces	10; Caps for touch pen	5; Caps for touch pen	5; Caps for touch pen	5; Caps for touch pen
<b>Other</b>				
Merchandise	Yes; Function depending on touch sensitivity, not suitable for Ceran cooktops, MP377 Daylight, possibly others	Yes; touch replacement cap ELO	Yes; touch replacement cap V2A	Yes; touch replacement cap RES
Manufacturer name	QUERUM products UG	QUERUM products UG	QUERUM products UG	QUERUM products UG
Manufacturer's address	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany
contacting the manufacturer	email: querumproducts@web.de	email: querumproducts@web.de	email: querumproducts@web.de	email: querumproducts@web.de
Target devices	For common capacitive and resistive touch systems	For common capacitive and resistive touch systems	For common capacitive and resistive touch systems	For common capacitive and resistive touch systems
Note:	only usable for touch pen 6AV2181-8AV20-0AX0	for Business	food safe, suitable for F&B	food safe, suitable for F&B

#### More information

##### Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically.

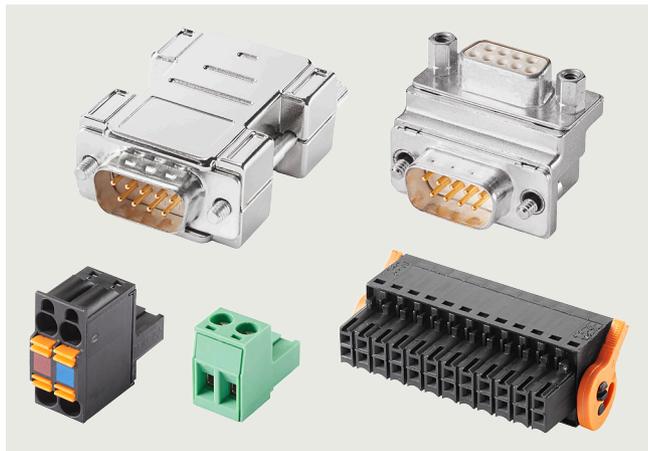
This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Overview



## HMI connecting components

The following HMI connecting components are available for our operator panels and industrial PCs:

- **Converters**  
change signals from one physical system to another.  
Example: An RS 232 V.24 signal is converted to a TTY 20mA signal. The transmitted data is not affected.
- **Connectors**  
are used for connecting devices or expansion components to the power supply, data cables or I/O devices.
- **Adapters**  
can modify the pinning, as well as the output direction of a connector attached to the core product. It is also possible to implement transitions from "n"-pin" to "x"-pin.

## Ordering data

## Article No.

## Converters

**RS422 to RS232 converter**

9-pin male contact (on HMI) to 9-pin male contact, to be screwed onto HMI RS422 interface, cable outlet 180 degrees, for connection of non-Siemens PLC

6AV6671-8XE00-0AX0

**RS422 to TTY converter**

9-pin male contact (on HMI) to 15-pin socket, to be screwed onto HMI RS422 interface, 180 degree cable outlet, for the connection to SIMATIC S5

6AV6671-8XJ00-0AX0

## Plugs

**24 V DC plug (2-pin)**

For all SIMATIC HMI Panels, without screw fixing, loop-through not possible.  
Approved for all SIMATIC HMI Panels except Key Panels.

6AV6671-8XA00-0AX0

**24 V DC plug (2-pin) (can be looped through)**

For all SIMATIC HMI Panels, without screw fixing, loop through possible, even with unconnected plug.  
Approved for Key Panels.

6ES7193-4JB00-0AA0

**8-pin connection plug**

8-pin, 24 V DC for Extension Unit, etc.

6AV6881-0HE20-0AA0

**12-pin connection plug**

12-pin, 24 V DC for SIMATIC HMI Key Panel KP8 PN

6AV6671-3XY38-4AX0

**16-pin connection plug**

16-pin, 24 V DC for SIMATIC HMI Key Panel KP8F PN and Key Panel KP32F PN

6AV6671-3XY48-4AX0

**24-pin connection plug**

24-pin, 24 V DC for SIMATIC HMI Key Panel KP32F PN

6AV6671-3XY58-4AX0

## Adapters

**90 degree angle adapter**

9-pin male contact (on HMI) to 9-pin socket, 1:1 connection, to be screwed onto the RS485/422/232 HMI interface, or any other suitable interface

6AV6671-8XD00-0AX0

**VGA and DVI adapters**

For onboard interfaces and PCI-Express graphics card NVS 295

- Display port to VGA adapter
- Display port to DVI-D adapter

6ES7648-3AG00-0XA0

6ES7648-3AF00-0XA0

## Accessories

### HMI connecting components

#### Technical specifications

Article number	<b>6AV6671-8XE00-0AX0</b> RS422 to RS232 converter	<b>6AV6671-8XJ00-0AX0</b> RS422 to TTY converter
<b>General information</b>		
Product type designation	Converter, RS 422 to RS 232	Converter RS 422 to TTY
<b>Installation type/mounting</b>		
Wall mounting/direct mounting	Yes; Can be screwed onto the HMI	Yes; Can be screwed onto the HMI
<b>Interfaces</b>		
HMI-side interface		
• Number of pins HMI-side	9; Male (RS 422)	9; Male (RS 422)
Device-side interface		
• Number of pins device-side	9; Female (RS 232)	15; Female (TTY)
<b>Degree and class of protection</b>		
IP (all-round)	none	none
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes
China RoHS compliance	Yes	Yes
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	55 °C	55 °C
<b>Relative humidity</b>		
• Operation, max.	95 %	95 %
<b>Mechanics/material</b>		
Enclosure material (front)		
• Plastic	Yes	Yes
Screw type		
• 4.5 V	Yes; HMI page	Yes; HMI page
<b>Torques/forces</b>		
• Tightening torque, min.	0.18 N·m; Insufficient torque can lead to loosening of the screws	0.18 N·m; Insufficient torque can lead to loosening of the screws
• Tightening torque, max.	0.2 N·m	0.2 N·m
• Tightening torque, recommended	0.2 N·m; Higher torques may damage the product	0.2 N·m; Higher torques may damage the product
<b>Dimensions</b>		
Width	31 mm	42 mm
Height	50 mm	62 mm
Thickness	11 mm	11 mm
<b>Weights</b>		
Weight (without packaging)	26 g	28 g
<b>Scope of supply</b>		
Delivery quantity in pieces	1	1
<b>Other</b>		
Merchandise	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	suitable for all SIMATIC HMI RS 422 interfaces, for details refer to the operating instructions of the respective device	suitable for all SIMATIC HMI RS 422 interfaces, for details refer to the operating instructions of the respective device

## Technical specifications

Article number	<b>6AV6671-8XA00-0AX0</b> Connector, female, 2-pin, type 1
<b>General information</b>	
Product type designation	Connector, female, 2-pin, type 1
<b>Control elements</b>	
<b>Frame size/design</b>	
• Standard	Yes; Z shape
<b>Installation type/mounting</b>	
Wall mounting/direct mounting	Yes; can be plugged into SIMATIC HMI device
<b>Supply voltage</b>	
Rated value (DC)	24 V
<b>Interfaces</b>	
HMI-side interface	
• Number of pins HMI-side	2; Male
Device-side interface	
• Number of pins device-side	2; Female, screw terminals
<b>Standards, approvals, certificates</b>	
RoHS conformity	Yes
China RoHS compliance	Yes
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes; Device-dependent, see operating instructions
• ATEX Zone 22	Yes; Device-dependent, see operating instructions
• IECEx Zone 2	Yes; Device-dependent, see operating instructions
• IECEx Zone 22	Yes; Device-dependent, see operating instructions
• cULus Class I Zone 1	Yes; Device-dependent, see operating instructions
• cULus Class I Zone 2, Division 2	Yes; Device-dependent, see operating instructions
• FM Class I Division 2	Yes; Device-dependent, see operating instructions

Article number	<b>6AV6671-8XA00-0AX0</b> Connector, female, 2-pin, type 1
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	55 °C
<b>Relative humidity</b>	
• Operation, max.	95 %
<b>Mechanics/material</b>	
Material	
• Plastic	Yes; green
Enclosure material (front)	
• Plastic	Yes; Contact spacing 5.08 mm
Screw type	
• 4.5 V	Yes; Screw terminals
<b>Dimensions</b>	
Width	10 mm
Height	15 mm
Thickness	27 mm
<b>Scope of supply</b>	
Delivery quantity in pieces	10
<b>Other</b>	
Merchandise	No
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany for Comfort Panel, IPC, Flat Panel, Thin Client
Target devices	

## Accessories

### HMI connecting components

#### Technical specifications

Article number	<b>6ES7193-4JB00-0AA0</b> Connector, female, 2x2-pin
<b>General information</b>	
Product type designation	Connector, female, 2x2-pin
<b>Installation type/mounting</b>	
Wall mounting/direct mounting	Yes; can be plugged into SIMATIC HMI device
<b>Supply voltage</b>	
Rated value (DC)	24 V
<b>Interfaces</b>	
HMI-side interface	
• Number of pins HMI-side	2; Outgoing side jumpered internally, color-coded
Device-side interface	
• Number of pins device-side	4; Female, spring-loaded terminals 0.75 mm <sup>2</sup>
<b>Standards, approvals, certificates</b>	
CE mark	Yes
RoHS conformity	Yes
China RoHS compliance	Yes

Article number	<b>6ES7193-4JB00-0AA0</b> Connector, female, 2x2-pin
<b>Ambient conditions</b>	
<b>Ambient temperature during storage/transportation</b>	
• min.	-20 °C
• max.	70 °C
<b>Mechanics/material</b>	
Design of housing	plastic
<b>Dimensions</b>	
Width	10 mm
Height	22 mm
Thickness	25 mm
<b>Scope of supply</b>	
Delivery quantity in pieces	10
<b>Other</b>	
Merchandise	No
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Note:	For ET 200S, interface module, KP32F, PN/PN coupler

## Technical specifications

Article number	6AV6881-0HE20-0AA0	6AV6671-3XY38-4AX0	6AV6671-3XY48-4AX0	6AV6671-3XY58-4AX0
	Connector, female, 8-pin	Connector, female, 12-pin	Connector, female, 16-pin	Connector, female, 24-pin
<b>General information</b>				
Product type designation	Connector, female, 8-pin	Connector, female, 12-pin	Connector, female, 16-pin	Connector, female, 24-pin
<b>Installation type/mounting</b>				
Mounting type		Conductor cross-section 0.14 to 1.5 mm <sup>2</sup>	Conductor cross-section 0.14 to 1.5 mm <sup>2</sup>	
Wall mounting/direct mounting	Yes; can be plugged into SIMATIC HMI device	Yes; can be plugged into SIMATIC HMI device	Yes; can be plugged into SIMATIC HMI device	Yes; can be plugged into SIMATIC HMI device
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	24 V
<b>Interfaces</b>				
HMI-side interface				
• Number of pins HMI-side	8; Female	12; Female, spring-loaded terminals, 3.5 mm grid	16; Female, spring-loaded terminals, 3.5 mm grid	24; Female
Device-side interface				
• Number of pins device-side	8; Female, spring-loaded terminals	12; Female, spring-loaded terminals	16; Female, spring-loaded terminals 0.75 mm <sup>2</sup>	24; Female, spring-loaded terminals 0.75 mm <sup>2</sup>
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
CSA approval	Yes	Yes; 200039-1121690	Yes; 200039-1121690	
UL approval	Yes; E60693	Yes; E60693	Yes; E60693	
cULus		Yes; cURus	Yes; cURus	
EAC (formerly Gost-R)	Yes	Yes	Yes	
RoHS conformity	Yes	Yes	Yes	Yes
China RoHS compliance				Yes
<b>Use in hazardous areas</b>				
• ATEX Zone 2		Yes; Device-dependent, see operating instructions		
• ATEX Zone 22		Yes; Device-dependent, see operating instructions		
• IECEx Zone 2		Yes; Device-dependent, see operating instructions		
• IECEx Zone 22		Yes; Device-dependent, see operating instructions		
• cULus Class I Zone 1		Yes; Device-dependent, see operating instructions		
• cULus Class I Zone 2, Division 2		Yes; Device-dependent, see operating instructions		
• FM Class I Division 2		Yes; Device-dependent, see operating instructions		
<b>Marine approval</b>				
• Germanischer Lloyd (GL)		Yes; Always comply with the operating instructions of the target device.		
• American Bureau of Shipping (ABS)		Yes; Always comply with the operating instructions of the target device.		
• Bureau Veritas (BV)		Yes; Always comply with the operating instructions of the target device.		
• Det Norske Veritas (DNV)		Yes; Always comply with the operating instructions of the target device.		
• Korean Register of Shipping (KRS)		Yes; Always comply with the operating instructions of the target device.		
• Lloyds Register of Shipping (LRS)		Yes; Always comply with the operating instructions of the target device.		
• Nippon Kaiji Kyokai (Class NK)		Yes; Always comply with the operating instructions of the target device.		
• Polski Rejestr Statkow (PRS)		Yes; Always comply with the operating instructions of the target device.		
• Chinese Classification Society (CCS)		Yes; Always comply with the operating instructions of the target device.		

## Accessories

### HMI connecting components

#### Technical specifications

Article number	6AV6881-0HE20-0AA0	6AV6671-3XY38-4AX0	6AV6671-3XY48-4AX0	6AV6671-3XY58-4AX0
	Connector, female, 8-pin	Connector, female, 12-pin	Connector, female, 16-pin	Connector, female, 24-pin
<b>Ambient conditions</b>				
Suited for indoor use		Yes; Flammability class according to UL 94-V0	Yes; Flammability class according to UL 94-V0	
Suited for outdoor use		Yes; possible under certain conditions	Yes; possible under certain conditions	
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
<b>Relative humidity</b>				
• Operation, max.	80 %	80 %	80 %	95 %
<b>Mechanics/material</b>				
Material				
• Plastic	Yes; PA 66 GF 30	Yes; Insulating material PA66 GF30, actuators PA66/6	Yes; Insulating material PA66 GF30, actuators PA66/6	
Enclosure material (front)				
• Plastic	Yes; Spring-loaded terminals 1.5 mm <sup>2</sup>	Yes; Spring-loaded terminals 1.5 mm <sup>2</sup>	Yes; Spring-loaded terminals 1.5 mm <sup>2</sup>	Yes; Spring-loaded terminals 1.5 mm <sup>2</sup>
Enclosure color (front)	RAL 9011 (black)	Black	Black	
Enclosure color (rear)	RAL 9011 (black)			
<b>Service life</b>				
• Mechanical service life (mating cycles)		25	25	
<b>Dimensions</b>				
Width	10.5 mm; 8-pin connector	21 mm; 12-pin connector	28 mm; 16-pin connector	16 mm
Height	20 mm	15.2 mm	15.2 mm	54 mm
Depth		26.25 mm	26.25 mm	
Thickness	20 mm			20 mm
<b>Weights</b>				
Weight, approx.		7.9 g	10.5 g	
Weight (without packaging)	5.3 g; Per unit			
<b>Scope of supply</b>				
Delivery quantity in pieces	10; Without ejector	10; Without ejector	10; Without ejector	4; with ejector
<b>Other</b>				
Merchandise	Yes; B2CF 3.50/08/180 SN BK BX O/N:1277480000	Yes	No	No
Manufacturer name	Weidmüller Interface GmbH & Co. KG	Weidmüller Interface GmbH & Co. KG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Klingenbergstraße 16, 32758 Detmold, Germany	Klingenbergstraße 16, 32758 Detmold, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	suitable for all appropriate interfaces	for KP8 PN	for KP8F PN, KP32F PN	for KP32F PN

## Technical specifications

Article number	<b>6AV6671-8XD00-0AX0</b> 90 degree bracket adapter, 1:1
<b>General information</b>	
Product type designation	90 degree angle adapter, 1:1
<b>Installation type/mounting</b>	
Wall mounting/direct mounting	Yes; Can be screwed onto the HMI
<b>Interfaces</b>	
HMI-side interface	
• Number of pins HMI-side	9; Male
Device-side interface	
• Number of pins device-side	9; Female
<b>Degree and class of protection</b>	
IP (all-round)	none
<b>Standards, approvals, certificates</b>	
CE mark	Yes
RoHS conformity	Yes
China RoHS compliance	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	55 °C
<b>Relative humidity</b>	
• Operation, max.	95 %

Article number	<b>6AV6671-8XD00-0AX0</b> 90 degree bracket adapter, 1:1
<b>Mechanics/material</b>	
Enclosure material (front)	Yes
• Aluminum casting	Yes
Screw type	Yes; HMI page
• 4.5 V	Yes; HMI page
<b>Torques/forces</b>	
• Tightening torque, min.	0.18 N·m; Insufficient torque can lead to loosening of the screws
• Tightening torque, max.	0.2 N·m
• Tightening torque, recommended	0.2 N·m; Higher torques may damage the product
<b>Dimensions</b>	
Width	31 mm
Height	25 mm
Thickness	25 mm
<b>Weights</b>	
Weight (without packaging)	34 g
<b>Scope of supply</b>	
Delivery quantity in pieces	1
<b>Other</b>	
Merchandise	No
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	suitable for all appropriate interfaces

## Accessories

### HMI connecting components

#### Technical specifications

Article number	<b>6ES7648-3AG00-0XA0</b> Displayport to VGA adapter	<b>6ES7648-3AF00-0XA0</b> Displayport to DVI-D Adapter
<b>General information</b>		
Product type designation	Adapter	Adapter
<b>Interfaces</b>		
Interfaces/bus type	DisplayPort to VGA adapter	DisplayPort to DVI-D adapter
Device-side interface	For onboard interfaces and PCI graphics card NVS 295	For onboard interfaces and PCI Express graphics card NVS 295
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
KC approval		Yes
FCC Class B	Yes	Yes
RoHS conformity	Yes	Yes
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	50 °C	50 °C
<b>Relative humidity</b>		
• Condensation permissible	No	No
<b>Cables</b>		
Cable length	178 mm; incl. connector	203 mm; incl. connector
<b>Mechanics/material</b>		
Material		
• Plastic	Yes; PVC	Yes; PVC
Color	PBT, blue / LCP, black	
<b>Dimensions</b>		
Width	36 mm; widest point	44 mm; widest point
Height	11.9 mm; Highest point	20 mm; Highest point
Length	178 mm; total length	203 mm; total length
Width of the housing front	36 mm	
Height of housing front	19 mm	
<b>Scope of supply</b>		
Delivery quantity in pieces	1; Quantity	1; Quantity
<b>Other</b>		
Merchandise	Yes; 117G0-038482-R1 / KS10073-172	Yes; 11720009 / KS10009-172
Manufacturer name	BizLink Technology, Inc.	BizLink Technology, Inc.
Manufacturer's address	47211 Bayside Parkway, Fremont, CA 94538, USA	47211 Bayside Parkway, Fremont, CA 94538, USA
contacting the manufacturer	Phone +1 510 252 0786, email: sales@bizlinktech.com	Phone +1 510 252 0786, email: sales@bizlinktech.com
Target devices	SIMATIC Rack IPC427D, IPC477D, IPC547D, IPC547E, IPC627D, IPC647C, IPC647D, IPC677D, IPC827D, IPC847C, IPC847D	SIMATIC Rack IPC227E, IPC277E, IPC427D, IPC477D, IPC547D, IPC547E, IPC627D, IPC647C, IPC647D, IPC677D, IPC827D, IPC847C, IPC847D

#### More information

##### Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Overview



HMI accessories, power supply units, cables, series

**Power supply unit and connecting cables**

The external power supply unit is intended for laboratory and office operation only.

The following power supply units and non-heating apparatus cables are available:

- Mobile Panel IWLAN power supply unit without non-heating apparatus cable
- Mobile Panel IWLAN power supply unit with non-heating apparatus cable
- Non-heating apparatus cable for Box and Panel PCs

## Ordering data

## Article No.

**Power supply units****Power supply unit, external, Mobile Panel IWLAN without non-heating apparatus cable**

Suitable only for operation under laboratory/office conditions.

6AV6671-5CN00-0AX3

**Power supply unit, external, Mobile Panel IWLAN with 90° non-heating apparatus cable**

Suitable only for operation under laboratory/office conditions.

6AV2181-5AL10-0AX0

- Power supply unit with non-heating apparatus cable for Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland

- Power supply unit with non-heating apparatus cable for the United Kingdom

6AV2181-5AL20-0AX0

- Power supply unit with non-heating apparatus cable for Switzerland

6AV2181-5AL30-0AX0

- Power supply unit with non-heating apparatus cable for USA

6AV2181-5AL40-0AX0

- Power supply unit with non-heating apparatus cable for Italy

6AV2181-5AL50-0AX0

- Power supply unit with non-heating apparatus cable for China

6AV2181-5AL60-0AX0

**Power supply cable****Power supply cable 230 V AC, angled 90°**

For Box PCs and Panel PCs

- For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland

6ES7900-1AA00-0XA0

- For the United Kingdom

6ES7900-1BA00-0XA0

- For Switzerland

6ES7900-1CA00-0XA0

- For the USA

6ES7900-1DA00-0XA0

- For Italy

6ES7900-1EA00-0XA0

- For China

6ES7900-1FA00-0XA0

**Power supply cable 230 V AC, straight 180°**

For Box PCs and Panel PCs

- For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland

6ES7900-0AA00-0XA0

- For the United Kingdom

6ES7900-0BA00-0XA0

- For Switzerland

6ES7900-0CA00-0XA0

- For the USA

6ES7900-0DA00-0XA0

- For Italy

6ES7900-0EA00-0XA0

- For China

6ES7900-0FA00-0XA0

## Accessories

### Power supply units, power supply cords

#### Technical specifications

Article number	<b>6AV6671-5CN00-0AX3</b> Power supply AC/DC, external
<b>General information</b>	
Product type designation	Power supply unit
<b>Control elements</b>	
Functional lighting	Yes; LED indicator for power on
<b>Frame size/design</b>	
• Standard	Yes; For industrial applications
<b>Supply voltage</b>	
Rated value (AC)	100 - 240 V AC
<b>Output voltage</b>	
Rated value (DC)	12 V
<b>Output current</b>	
Current output (rated value)	5 A
<b>Standards, approvals, certificates</b>	
CE mark	Yes; TÜV EN 60950-1, BSMI CNS14336
CSA approval	Yes; CSA C22.2
UL approval	Yes; UL 60950-1
cULus	Yes
KC approval	Yes; KC K60950-1
EAC (formerly Gost-R)	Yes; Approved EAC TP TC 004
CCC	Yes; CCC GB4943
FCC Class B	Yes; EN 55032 (CISPR 32), FCC PART 15 / CISPR 22, CAN ICES-3(B)/NMB-3(B), CNS13438, GB17625.1, EAC TP TC 020, MSIP KN32
China RoHS compliance	Yes
<b>Ambient conditions</b>	
Suited for indoor use	Yes
Suited for outdoor use	No
<b>Ambient temperature during operation</b>	
• min.	-30 °C
• max.	50 °C; Up to 70 °C, see manufacturer's data sheet
<b>Relative humidity</b>	
• Operation, max.	90 %; Non-condensing (max. 95% humidity for storage)
<b>Cables</b>	
Cable length	
• Input side	0 m; 3-pole AC inlet IEC320-C14, Class power unit
• Output side	1 m; With ferrite core
Color of cable sheath	Black

Article number	<b>6AV6671-5CN00-0AX3</b> Power supply AC/DC, external
<b>Connection method</b>	
Connector type	Connector 5.5 mm jack ( - ) / 2.1 mm pin ( + ) 12 V DC
<b>Mechanics/material</b>	
Material	
• Plastic	Yes
Color	Black
<b>Service life</b>	
• Mechanical service life (mating cycles)	1; See manufacturer's data sheet
<b>Dimensions</b>	
Width	125 mm
Height	50 mm
Thickness	31.5 mm
<b>Weights</b>	
Weight (without packaging)	305 g
<b>Scope of supply</b>	
Delivery quantity in pieces	1; Incl. DC cable with P1J jack connector, excl. 3-pin AC connecting cable IEC320-C14
<b>Other</b>	
Merchandise	Yes; MeanWell GST60A12-P1J
Manufacturer name	Elpro GmbH Importeur (MEAN WELL)
Manufacturer's address	Marzahnner Straße 34, 13053 Berlin, Germany
Target devices	Standard power supply, e.g. suitable for Mobile Panel IWLAN (always see the Operating Instructions for the target device)
Note:	Manufacturer's address = importer's address (for manufacturer, see commercial goods information text)

## Power supply units, power supply cords

## Technical specifications

Article number	6AV2181-5AL10-0AX0	6AV2181-5AL20-0AX0	6AV2181-5AL30-0AX0	6AV2181-5AL40-0AX0	6AV2181-5AL50-0AX0	6AV2181-5AL60-0AX0
	Power supply, ext., Mobile P. IWLAN DE	Power supply, ext., Mobile P. IWLAN UK	Power supply, ext., Mobile P. IWLAN SW	Power supply, ext., Mobile P. IWLAN US	Power supply, ext., Mobile P. IWLAN IT	Power supply, ext., Mobile P. IWLAN CN
<b>General information</b>						
Product type designation	External power supply unit					
<b>Supply voltage</b>						
Rated value (AC)	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC
<b>Output voltage</b>						
Rated value (DC)	12 V	12 V	12 V	12 V	12 V	12 V
<b>Output current</b>						
Current output (rated value)	5 A	5 A	5 A	5 A	5 A	5 A
<b>Standards, approvals, certificates</b>						
CE mark	Yes; UL 69950, TÜV EN 600950-1, BSMI CNS14336, CCC GB4942 approved	Yes; UL 69950, TÜV EN 600950-1, BSMI CNS14336, CCC GB4942 approved	Yes; UL 69950, TÜV EN 600950-1, BSMI CNS14336, CCC GB4942 approved	Yes; UL 69950, TÜV EN 600950-1, BSMI CNS14336, CCC GB4942 approved	Yes; UL 69950, TÜV EN 600950-1, BSMI CNS14336, CCC GB4942 approved	Yes; UL 69950, TÜV EN 600950-1, BSMI CNS14336, CCC GB4942 approved
CCC	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C
• max.	50 °C					
<b>Relative humidity</b>						
• Operation, max.	90 %	90 %	90 %	90 %	90 %	90 %
<b>Cables</b>						
Cable length						
• Input side	3 m	3 m	3 m	3 m	3 m	3 m
• Output side	0.9 m	0.9 m	0.9 m	0.9 m	0.9 m	0.9 m
Color of cable sheath	Black	Black	Black	Black	Black	Black
<b>Connection method</b>						
Connector type	Connector 5.5 mm jack (-) / 2.1 mm pin (+) 12 V DC	Connector 5.5 mm jack (-) / 2.1 mm pin (+) 12 V DC	Connector 5.5 mm jack (-) / 2.1 mm pin (+) 12 V DC	Connector 5.5 mm jack (-) / 2.1 mm pin (+) 12 V DC	Connector 5.5 mm jack (-) / 2.1 mm pin (+) 12 V DC	Connector 5.5 mm jack (-) / 2.1 mm pin (+) 12 V DC
<b>Mechanics/material</b>						
Material						
• Plastic	Yes	Yes	Yes	Yes	Yes	Yes
Color	Black	Black	Black	Black	Black	Black
<b>Dimensions</b>						
Width	125 mm	125 mm	125 mm	125 mm	125 mm	125 mm
Height	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Thickness	31.5 mm	31.5 mm	31.5 mm	31.5 mm	31.5 mm	31.5 mm
<b>Weights</b>						
Weight (without packaging)	540 g	560 g	525 g	540 g	520 g	540 g
<b>Scope of supply</b>						
Delivery quantity in pieces	1; Incl. AC and DC connecting cable					
• Parts per unit	1; AC cable for DE, FR, ES, NL, BE, SE, AT, FI	1; AC cable for GB	1; AC cable for CH	1; AC cable for US	1; AC cable for IT	1; AC cable for CN
<b>Other</b>						
Merchandise	Yes	Yes	Yes	Yes	Yes	Yes
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleißerstraße 555, 90475 Nuremberg, Germany					
Target devices	for Mobile Panel IWLAN					

## Accessories

### Power supply units, power supply cords

#### Technical specifications

Article number	<b>6ES7900-0AA00-0XA0</b>	<b>6ES7900-0BA00-0XA0</b>	<b>6ES7900-0CA00-0XA0</b>	<b>6ES7900-0DA00-0XA0</b>	<b>6ES7900-0EA00-0XA0</b>	<b>6ES7900-0FA00-0XA0</b>
	Power cord, Germany and others	Power cord, United Kingdom,	Power cord, Switzerland	Power cord, USA, Canada	Power cord, Italy type L	Power cord, China GB 1002 and others
<b>General information</b>						
Product type designation	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus
<b>Interfaces</b>						
Interfaces/bus type	Line-side, country-specific connector: Type CEE 7/7 Schuko	Line-side, country-specific connector: Type BS 1363 (Commonwealth connector)	Line-side, country-specific connector: Type J (SEV 1011)	Line-side, country-specific connector: Type B (NEMA 5-15)	Line-side, country-specific connector: Type L (CEI 23-50)	Line-side, country-specific connector: Type I: GB 1002 (China), AS 3112 (Australia), IRAM 2073 (Argentina)
Device-side interface						
• Number of pins device-side	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>						
Suited for indoor use	Yes; Max. 10 A	Yes; Equipped with internal 13 A melting fuse	Yes; Max. 10 A	Yes; Max. 10 A	Yes; Max. 10 A	Yes; Max. 10 A
<b>Ambient temperature during operation</b>						
• min.	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
<b>Relative humidity</b>						
• Operation, max.	90 %	90 %	90 %	90 %	90 %	90 %
<b>Cables</b>						
Cable length	3 m	3 m	3 m	3 m	3 m	3 m
Color of cable sheath	Black	Black	Black	Black	Black	Black
<b>Weights</b>						
Weight, approx.	290 g	300 g	260 g	230 g	255 g	280 g
<b>Scope of supply</b>						
Delivery quantity in pieces	1; AC cable for DE, FR, ES, NL, BE, SE, AT, FI	1; AC cable for GB	1; AC cable for CH	1; AC cable for US	1; AC cable for IT	1; AC cable for CN
<b>Other</b>						
Merchandise	Yes; VII-H05VVF3G100-C13/3,00M SW9005 (L50/PROD)	Yes; BS13/13-H05VVF3G100-C13/3,00M SW9005	Yes; 12G-H05VVF3G100-C13/3,00M SW9005	Yes; 498G-SVT3X18AWG-C13/3,00M SW9005 (GNSWWS)	Yes; I/3G-H05VVF3G100-C13/3,00M SW9005	Yes; PRC/3-H05VVF3G100-C13/3,00M SW9005
Manufacturer name	FELLER GmbH	FELLER GmbH	FELLER GmbH	FELLER GmbH	FELLER GmbH	FELLER GmbH
Manufacturer's address	Wärndorferstraße 3, 2525 Günselsdorf, Austria; email: sales@feller-at.com					
Target devices	Suitable for all appropriate DC interfaces					
Note:	<a href="http://www.feller-at.com">http://www.feller-at.com</a>					

## Power supply units, power supply cords

## Technical specifications

Article number	6ES7900-1AA00-0XA0	6ES7900-1BA00-0XA0	6ES7900-1CA00-0XA0	6ES7900-1DA00-0XA0	6ES7900-1EA00-0XA0	6ES7900-1FA00-0XA0
	Power cord, Germany	Power cord, United Kingdom,	Power cord, Switzerland	Power cord, USA	Power cord, Italy	Power cord, China
<b>General information</b>						
Product type designation	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus	Cable for non-heating apparatus
<b>Interfaces</b>						
Interfaces/bus type	Line-side, country-specific connector: Type CEE 7/7 Schuko	Line-side, country-specific connector: Type BS 1363 (Commonwealth connector)	Line-side, country-specific connector: Type J (SEV 1011)	Line-side, country-specific connector: Type B (NEMA 5-15)	Line-side, country-specific connector: Type L (CEI 23-50)	Line-side, country-specific connector: Type I: GB 1002 (China), AS 3112 (Australia), IRAM 2073 (Argentina)
Device-side interface						
• Number of pins device-side	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type	3; Female, C13 connector type
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>						
Suited for indoor use	Yes; Max. 10 A	Yes; Equipped with internal 13 A melting fuse	Yes; Max. 10 A	Yes; Max. 10 A	Yes; Max. 10 A	Yes; Max. 10 A
<b>Ambient temperature during operation</b>						
• min.	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
<b>Relative humidity</b>						
• Operation, max.	90 %	90 %	90 %	90 %	90 %	90 %
<b>Cables</b>						
Cable length	3 m	3 m	3 m	3 m	3 m	3 m
Color of cable sheath	Black	Black	Black	Black	Black	Black
<b>Weights</b>						
Weight, approx.	290 g	300 g	260 g	230 g	255 g	280 g
<b>Scope of supply</b>						
Delivery quantity in pieces	1; AC cable for DE, FR, ES, NL, BE, SE, AT, FI	1; AC cable for GB	1; AC cable for CH	1; AC cable for US	1; AC cable for IT	1; AC cable for CN
<b>Other</b>						
Merchandise	Yes; VII-H05VVVF3G100-C13W/3,00M SW9005 (L53)	Yes; BS13/13-H05VVVF3G100-C13W/3,00M SW9005	Yes; 12G-H05VVVF3G100-C13W/3,00M SW9005	Yes; 498G-SVT3X18AWG-C13W/3,00M SW9005 (GNSWWS)	Yes; I/3G-H05VVVF3G100-C13W/3,00M SW9005	Yes; PRC/3-H05VVVF3G100-C13W/3,00M SW9005
Manufacturer name	FELLER GmbH	FELLER GmbH	FELLER GmbH	FELLER GmbH	FELLER GmbH	FELLER GmbH
Manufacturer's address	Wärndorferstraße 3, 2525 Günselsdorf, Austria; email: sales@feller-at.com					
Target devices	Suitable for all appropriate DC interfaces					
Note:	http://www.feller-at.com					

## More information

## Notice:

The technical specifications remain unchanged; however, the power supply cable now has to be ordered separately.

Suitable SITOP power supplies are available for use with machinery and plants.

Network cables for the connection of IPC systems for various countries are also available.

The replacement type has the article number: 6AV6671-5CN00-0AX3

## Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.  
Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

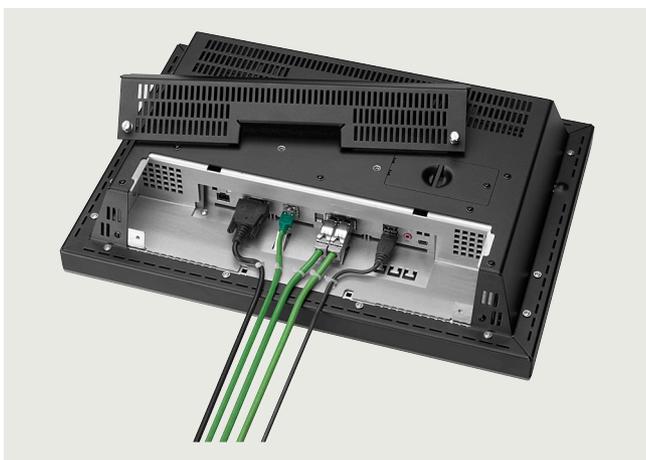
Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Back covers

#### Overview



Back cover IP20, partly installed

The back covers in IP20 design are ideal for simple mounting of Panels, Panel PCs, Flat Panels and industrial Thin Clients on VESA 100 brackets.

They are screwed onto the device and implement low-cost wall-mounting or connection to a supporting arm system.

Back covers are available for display size 15", 19" and 22" for the following SIMATIC HMI devices:

- Touch Panels
- Panel PC IPC477D <sup>1)</sup> and IPC277D
- Flat Panels
- Thin Clients

<sup>1)</sup> IPC477D 15" is only available as a single touch version.

#### Ordering data

##### Back covers IP20

15" devices  
 • IPC477D 15" MT <sup>1)</sup>

22" devices  
 • IPC477D 22" <sup>1)</sup>

<sup>1)</sup> Without DVD/PCIe expansion

#### Article No.

**6AV7675-2RH00-0AA0**

**6AV7675-2RE00-0AA0**

## Technical specifications

Article number	<b>6AV7675-2RH00-0AA0</b> BACK COVER IP20 15" (IPC477D MT)
<b>General information</b>	
Product type designation	Backplane cover
<b>Installation type/mounting</b>	
Mounting type	VESA
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
<b>Degree and class of protection</b>	
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes; CE marking / EC Declaration of Conformity
cULus	Yes; UL 60950-1, file number E115352
RoHS conformity	Yes
China RoHS compliance	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	
• max.	40 °C
<b>Relative humidity</b>	
• Operation, max.	95 %
• Condensation permissible	No
<b>Mechanics/material</b>	
Material	
• Aluminum	Yes
Screw type	
• Torx	Yes; T10
<b>Dimensions</b>	
Width	416.5 mm
Height	298 mm
Depth	89 mm
<b>Weights</b>	
Weight (without packaging)	1.6 kg

Article number	<b>6AV7675-2RE00-0AA0</b> back cover IP20 22" (IPC477x)
<b>General information</b>	
Product type designation	Backplane cover
<b>Installation type/mounting</b>	
Mounting type	VESA
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
<b>Degree and class of protection</b>	
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes; CE marking / EC Declaration of Conformity
cULus	Yes; UL 60950-1, file number E115352
RoHS conformity	Yes
China RoHS compliance	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	
• max.	40 °C
<b>Relative humidity</b>	
• Operation, max.	95 %
• Condensation permissible	No
<b>Mechanics/material</b>	
Material	
• Aluminum	Yes
Screw type	
• Torx	Yes; T10
<b>Dimensions</b>	
Width	560 mm
Height	380 mm
Depth	89 mm
<b>Weights</b>	
Weight (without packaging)	2.2 kg

**More information**Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Protective films

#### Overview



Protective film 24"; front type 5, full-area adhesive matt reflection shield

#### **Protective films**

Protective films are available for almost all SIMATIC HMI devices. They protect the display from dirt and scratching during operation and in harsh environments. The SIMATIC protective films are non-reflective. This ensures that the display is always easy to read, even when using protective films. The protective film can be removed without leaving any adhesive residue on the front. Adhesive-edged protective films are now available for resistive touch systems (membrane touch). For multi-touch systems (typically with glass fronts), full-width adhesive protective films are available. Full-width adhesive films should not be used on single-touch systems, as the touch system could be damaged when removing the film. All full-width adhesive films can be trimmed to any size, this does not affect the quality of the film. Adhesive-edged films should not be trimmed, as this would lead to the loss of the adhesive edge.

For complete protection of the front side in harsh environments, protective covers are also available for some devices.

Benefits of protective films/protective covers:

- Reduced reflections and mirroring
- Lightweight, thin and frameless design
- Simple and fast to attach
- Residue-free removal
- Dust-resistant
- Antibacterial coating, e.g. for medical area or food and beverage (please note: only options with BAC<sup>1)</sup> marking)

The protective film does not always need to cover the whole front. For compatibility reasons, not all protective films extend as far as the edge of the enclosure. This does not in any way impair the function of protecting the display.

<sup>1)</sup> BAC stands for antibacterial coating. These films are suitable in particular for the F&B and pharmaceuticals industries, or wherever hygiene is a priority.

Ordering data	Article No.	Ordering data	Article No.
<b>Protective films 4"</b>		<b>Protective films 12"</b>	
• Touch devices	6AV6671-2EC00-0AX0	• Widescreen, Type 1	6AV2124-6MJ00-0AX0
• Widescreen	6AV2124-6DJ00-0AX0	• Widescreen, Type 2	6AV2181-3MJ20-0AX0
• Widescreen, Type 13	6AV2181-5DJ00-0AX0	• Widescreen, Type 5 Unified / IPC	6AV6881-0MJ22-0AA0
<b>Protective films 6"</b>		• Widescreen, Type 5 BAC <sup>1)</sup> Unified / IPC	6AV6881-0MJ22-1AA0
• Touch devices, Type 1	6AV6574-1AD00-4AX0	• Protective film, Type 6 IFP	6AV6881-7MJ13-2AA0
• Touch devices, Type 2	6AV6574-1AD00-4DX0	<b>Protective films 15"</b>	
• Touch devices, Type 4	6AV6671-2XC00-0AX0	• Touch devices	6AV6574-1AD00-4EX0
• Touch devices, Type 10	6AV6574-1AD04-4AA0	• Widescreen	6AV2124-6QJ00-0AX1
<b>Protective films 7"</b>		• Widescreen, Type 5 Unified / IPC	6AV6881-0QJ22-0AA0
• Widescreen	6AV2124-6GJ00-0AX0	• Widescreen, Type 5 BAC <sup>1)</sup> Unified / IPC	6AV6881-0QJ22-1AA0
• Widescreen, Type 5 Unified / IPC	6AV6881-0GJ22-0AA0	• Protective film, Type 6 IFP	6AV6881-7QJ13-2AA0
• Widescreen, Type 5 BAC <sup>1)</sup> Unified / IPC	6AV6881-0GJ22-1AA0	<b>Protective films 19"</b>	
• Widescreen, Type 13	6AV2181-5GJ00-0AX0	• Touch devices	6AV7672-1CE00-0AA0
<b>Protective films 8"</b>		• Widescreen	6AV2124-6UJ00-0AX1
• Touch devices, Type 1	6AV6671-3CC00-0AX0	• Widescreen "full-surface bonding"	6AV6881-0UJ20-0AA0
• Touch devices, Type 2	6AV6671-3CC00-0AX5	• Widescreen, Type 5 Unified / IPC	6AV6881-0UJ22-0AA0
• Touch devices, Type 10	6AV6671-5BC00-0AX0	• Widescreen, Type 5 BAC <sup>1)</sup> Unified / IPC	6AV6881-0UJ22-1AA0
<b>Protective films 9"</b>		• Protective film, Type 6 IFP	6AV6881-7UJ13-2AA0
• Widescreen, Type 1	6AV2124-6JJ00-0AX0	<b>Protective films 22"</b>	
• Widescreen, Type 2	6AV2181-3JJ20-0AX0	• Widescreen	6AV2124-6XJ00-0AX1
• Widescreen, Type 13	6AV2181-5JJ00-0AX0	• Widescreen, Type 5 Unified / IPC	6AV6881-0VJ22-0AA0
<b>Protective films 10"</b>		• Widescreen, Type 5 BAC <sup>1)</sup> Unified / IPC	6AV6881-0VJ22-1AA0
• Touch devices, Type 1	6AV6671-3DC00-0AX0	• Protective film, Type 6 IFP	6AV6881-7VJ13-2AA0
• Touch devices, Type 2	6AV6671-3DC00-0AX5	<b>Protective films 24"</b>	
• Widescreen "full-surface bonding", Type 4	6AV6881-0AJ21-0AA0	• Widescreen, Type 5 Unified / IPC	6AV6881-0WJ22-0AA0
• Widescreen, Type 5 Unified / IPC	6AV6881-0KJ22-0AA0		
• Widescreen, Type 5 BAC <sup>1)</sup> Unified / IPC	6AV6881-0KJ22-1AA0		
• Touch devices, Type 10	6AV6645-7AB15-0AS0		
<b>Protective films for 10" to 12" touch devices</b>	6AV6574-1AD00-4CX0		

<sup>1)</sup> BAC stands for antibacterial coating. These films are suitable in particular for the F&B and pharmaceuticals industries, or wherever hygiene is a priority.

## Accessories

### Protective films

#### Technical specifications

Article number	<b>6AV6671-2EC00-0AX0</b>	<b>6AV2124-6DJ00-0AX0</b>	<b>6AV2181-5DJ00-0AX0</b>
	Protect. Film 4" Touch Device	Protect. Film 4" Widescreen	Protect. film 4" widescreen, type 13
<b>General information</b>			
Product type designation	Protective film 4"	Protective film 4" widescreen	Protective film 4" widescreen
<b>Installation type/mounting</b>			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
RoHS conformity	Yes	Yes	
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
• Condensation permissible		No	No
<b>Mechanics/material</b>			
Material			
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
<b>Dimensions</b>			
Width	120 mm	131.4 mm	110.1 mm
Height	105 mm	107.4 mm	68.9 mm
Thickness	0.125 mm	0.125 mm	0.125 mm
<b>Scope of supply</b>			
Delivery quantity in pieces	10	10	10
<b>Other</b>			
printable with laser printer	Yes	Yes	No
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	for TP 177B 4", KTP 400 Basic	For KTP400 Basic, KTP400 Basic 2nd, KTP400 Comfort, KTP400F Mobile	KTP400F Mobile 4"

## Technical specifications

Article number	6AV6671-3DC00-0AX0	6AV6671-3DC00-0AX5	6AV6881-0AJ21-0AA0	6AV6881-0KJ22-0AA0	6AV6881-0KJ22-1AA0	6AV6645-7AB15-0AS0	6AV6574-1AD00-4CX0
	Protect. Film 10" Touch Device, Type 1	Protect. Film 10" Touch Device, Type 2	Protect. film 10" widescreen, type 4	Protect. film 10" front, type 5	Protect. film 10" BAC front, type 5	Protect. film 10" Touch device, type10	Protect. Film 10" to 12" Touch Device
<b>General information</b>							
Product type designation	Protective film 10"	Protective film 10"	Protective film 10" widescreen, type 4	Protective film 10" front, surface, type 5	Protective film 10" front, surface, type 5	Protective film 10"	Protective film 10" ... 12"
<b>Installation type/mounting</b>							
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>							
CE mark	Yes	Yes	No; No CE marking obligation			Yes	Yes
REACH			Yes; Tested				
EAC (formerly Gost-R)				Yes	Yes		
RoHS conformity		Yes	Yes; unnecessary	Yes; unnecessary	Yes; unnecessary		
<b>Ambient conditions</b>							
Suited for indoor use			Yes	Yes; Processing temperature 5 °C to 32 °C, empirical value			
Suited for outdoor use			No; possible under certain conditions	No; possible under certain conditions	No; possible under certain conditions		
<b>Ambient temperature during operation</b>							
• min.	-40 °C	-40 °C	0 °C	-20 °C	-20 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	55 °C	80 °C	80 °C	80 °C	50 °C
<b>Relative humidity</b>							
• Operation, max.	90 %	90 %	50 %	50 %	50 %	90 %	90 %
<b>Accessories</b>							
Function description					antibacterial		
<b>Mechanics/material</b>							
Material			Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer				
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant			Yes; Nonreflecting	Yes; Polyester; non-reflecting
• PET			Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue				
Enclosure material (front)			Scratching 0.011 N/25 mm	Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)			
• Plastic				Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1			
• PET				Yes; Basic foil, storage life > 1 year			
<b>Dimensions</b>							
Width	292 mm	299.8 mm	216.96 mm	277 mm	277 mm	223.17 mm	297.4 mm
Height	248 mm	259.9 mm	135.6 mm	198 mm	198 mm	170.37 mm	254.4 mm
Thickness	0.125 mm	0.125 mm	0.225 mm; Corners radius 0 mm	0.225 mm; Corners radius 3.1 mm	0.225 mm; Corners radius 3.1 mm	0.3 mm	0.125 mm
<b>Weights</b>							
Weight (without packaging)			30 g; Per unit	16 g; Per unit	16 g; Per unit		

## Accessories

### Protective films

#### Technical specifications

Article number	<b>6AV6671-3DC00-0AX0</b>	<b>6AV6671-3DC00-0AX5</b>	<b>6AV6881-0AJ21-0AA0</b>	<b>6AV6881-0KJ22-0AA0</b>	<b>6AV6881-0KJ22-1AA0</b>	<b>6AV6645-7AB15-0AS0</b>	<b>6AV6574-1AD00-4CX0</b>
	Protect. Film 10" Touch Device, Type 1	Protect. Film 10" Touch Device, Type 2	Protect. film 10" widescreen, type 4	Protect. film 10" front, type 5	Protect. film 10 BAC front, type 5	Protect. film 10" Touch device, type10	Protect. Film 10" to 12" Touch Device
<b>Scope of supply</b>							
Delivery quantity in pieces	10	10	5; Units per set	5; Units per set	5; Units per set	10	10
Components included			5x removers, 5x cleaning cloths, 5x spatulas for applying				
<b>Other</b>							
printable with laser printer	Yes	Yes; Test printer suitability beforehand. No liability for printer damage	No; suitable for screen printing or UV printing	No	No	Yes	Yes
Merchandise	No	No	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte		No
Manufacturer name	SIEMENS AG	SIEMENS AG	Bedifol GmbH	Bedifol GmbH	Bedifol GmbH	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany		Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany			Gleiwitzerstraße 555, 90475 Nuremberg, Germany	
contacting the manufacturer			Phone +49 (7531) 12738 10, email: info@bedifol.com	phone: +49 (7531) 12738-60, email: shop@schutzfolien24.de			
Target devices			SIMATIC ITP1000	Panels and IPC with start of delivery from 2020 (WFP2.3)		for Mobile Panel 277 10"	
Note:			Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems			

## Technical specifications

Article number	6AV6574-1AD00-4AX0	6AV6574-1AD00-4DX0	6AV6671-2XC00-0AX0	6AV6574-1AD04-4AA0
	Protect. Film 6" Touch Device, Type 1	Protect. Film 6" Touch Device, Type 2	Protect. Film 6" Touch Device, Type 3	Protect. Film 6" Touch Device, Type 10
<b>General information</b>				
Product type designation	Protective film 6"	Protective film 6"	Protective film 6"	Protective film 6"
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	-40 °C	-40 °C	-40 °C	-40 °C
• max.	50 °C	50 °C	80 °C	80 °C
<b>Relative humidity</b>				
• Operation, max.	90 %	90 %	90 %	90 %
<b>Mechanics/material</b>				
Material				
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
<b>Dimensions</b>				
Width	118.4 mm	178.4 mm	179.4 mm	120.5 mm
Height	89 mm	135.4 mm	141.4 mm	91 mm
Thickness	0.125 mm	0.125 mm	0.125 mm	0.125 mm
<b>Scope of supply</b>				
Delivery quantity in pieces	10	10	10	10
<b>Other</b>				
printable with laser printer	Yes	Yes	Yes	Yes
Merchandise	No	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	For TP070, TP170micro, TP170A/B, C7-635 touch	For TP270 6", TP277 6", MP177 6" touch, MP270B 6" touch	for TP 177micro, TP 177A, TP 177B, OP 177B, KTP 600 Basic	For Mobile Panel 170, Mobile Panel 177

## Accessories

### Protective films

#### Technical specifications

Article number	<b>6AV2181-5GJ00-0AX0</b> Protect. film 7" widescreen, type 13	<b>6AV2124-6GJ00-0AX0</b> Protect. film 7" widescreen	<b>6AV6881-0GJ22-0AA0</b> Protect. film 7" front, type 5	<b>6AV6881-0GJ22-1AA0</b> Protect. film 7 BAC front, type 5
<b>General information</b>				
Product type designation	Protective film 7" widescreen	Protective film 7" widescreen	Protective film 7" front, surface, type 5	Protective film 7" front, surface, type 5
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	No; No CE marking obligation	No; No CE marking obligation
EAC (formerly Gost-R)			Yes	Yes
RoHS conformity		Yes	Yes; unnecessary	Yes; unnecessary
<b>Ambient conditions</b>				
Suited for indoor use			Yes; Processing temperature 5 °C to 32 °C, empirical value	Yes; Processing temperature 5 °C to 32 °C, empirical value
Suited for outdoor use			No; possible under certain conditions	No; possible under certain conditions
<b>Ambient temperature during operation</b>				
• min.	-40 °C	-40 °C	-20 °C	-20 °C
• max.	80 °C	80 °C	80 °C	80 °C
<b>Relative humidity</b>				
• Operation, max.	90 %	90 %	50 %	50 %
• Condensation permissible	No	No		
<b>Accessories</b>				
Function description				antibacterial
<b>Mechanics/material</b>				
Material			Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer	
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant	
• PET			Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue	
Enclosure material (front)			Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)	
• Plastic			Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1	
• PET			Yes; Basic foil, storage life > 1 year	
<b>Dimensions</b>				
Width	169.5 mm	205.4 mm	206 mm	206 mm
Height	108.5 mm	149.4 mm	150 mm	150 mm
Thickness	0.125 mm	0.125 mm	0.225 mm; Corners radius 3.1 mm	0.225 mm; Corners radius 3.1 mm
<b>Weights</b>				
Weight (without packaging)			8 g; Per unit	8 g; Per unit

## Technical specifications

Article number	<b>6AV2181-5GJ00-0AX0</b> Protect. film 7" widescreen, type 13	<b>6AV2124-6GJ00-0AX0</b> Protect. film 7" widescreen	<b>6AV6881-0GJ22-0AA0</b> Protect. film 7" front, type 5	<b>6AV6881-0GJ22-1AA0</b> Protect. film 7 BAC front, type 5
<b>Scope of supply</b>				
Delivery quantity in pieces	10; Units per set	10	5; Units per set	5; Units per set
Components included	10x protective films without additional accessories/components		5x removers, 5x cleaning cloths, 1x spatula for applying	5x removers, 5x cleaning cloths, 1x spatula for applying
<b>Other</b>				
printable with laser printer	No	No; digital UV printing	No	No
Merchandise	No	No	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte
Manufacturer name	SIEMENS AG	SIEMENS AG	Bedifol GmbH	Bedifol GmbH
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany
contacting the manufacturer			phone: +49 (7531) 12738-60, email: shop@schutzfolien24.de	
Target devices	KTP700 Mobile, KTP700F Mobile	for KTP700 Basic 2nd, TP700 Comfort, IPC277D	Panels and IPC with start of delivery from 2020 (WFP2.3)	Panels and IPC with start of delivery from 2020 (WFP2.3)
Note:		Edge-adhesive film, can be trimmed to a limited extent, printable, observe target device manual before attaching, high suitability for resistive touch systems, limited suitability for glass fronts	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems	

## Accessories

### Protective films

#### Technical specifications

Article number	<b>6AV6671-3CC00-0AX0</b>	<b>6AV6671-3CC00-0AX5</b>	<b>6AV6671-5BC00-0AX0</b>
	Protect. Film 8" Touch Device, Type 1	Protect. Film 8" Touch Device, Type 2	Protect. film 8" Touch device, type 10
<b>General information</b>			
Product type designation	Protective film 8"	Protective film 8"	Protective film 8"
<b>Installation type/mounting</b>			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
RoHS conformity		Yes	
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
<b>Mechanics/material</b>			
Material			
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
<b>Dimensions</b>			
Width	207 mm	217 mm	155.5 mm
Height	165 mm	217 mm	117.7 mm
Thickness	0.125 mm	0.125 mm	0.3 mm
<b>Scope of supply</b>			
Delivery quantity in pieces	10	10	2
<b>Other</b>			
printable with laser printer	Yes	Yes	Yes
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	For MP277 8" touch up to product version "ES 14"	For MP277 8" touch in product version "ES 15" and later	for Mobile Panel 277 8"

## Technical specifications

Article number	6AV2124-6JJ00-0AX0	6AV2181-3JJ20-0AX0	6AV2181-5JJ00-0AX0
	Protect. Film 9" Widescreen	Protect. Film 9" Widescreen, Type 2	Protect. film 9" widescreen, type 13
<b>General information</b>			
Product type designation	Protective film 9" widescreen	Protective film 9" widescreen	Protective film 9" widescreen
<b>Installation type/mounting</b>			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
RoHS conformity	Yes		
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
• Condensation permissible	No	No	No
<b>Mechanics/material</b>			
Material			
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
<b>Dimensions</b>			
Width	265.4 mm	258.4 mm	214.6 mm
Height	181.4 mm	173.4 mm	134.6 mm
Thickness	0.125 mm	0.125 mm	0.125 mm
<b>Scope of supply</b>			
Delivery quantity in pieces	10	10	10
<b>Other</b>			
printable with laser printer	Yes	Yes	No
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	for TP900 Comfort, IPC277D	for KTP900 Basic	KTP900 Mobile, KTP900F Mobile

## Accessories

### Protective films

#### Technical specifications

Article number	<b>6AV6881-0MJ22-1AA0</b>	<b>6AV2124-6MJ00-0AX0</b>	<b>6AV2181-3MJ20-0AX0</b>	<b>6AV6881-0MJ22-0AA0</b>
	Protect. film 12 BAC front, type 5	Protect. Film 12" Widescreen	Protect. Film 12" Widescreen, Type 2	Protect. film 12" front, type 5
<b>General information</b>				
Product type designation	Protective film 12" front, surface, type 5	Protective film 12" widescreen	Protective film 12" widescreen	Protective film 12" front, surface, type 5
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark	No; No CE marking obligation	Yes	Yes	No; No CE marking obligation
EAC (formerly Gost-R)	Yes			Yes
RoHS conformity	Yes; unnecessary	Yes		Yes; unnecessary
<b>Ambient conditions</b>				
Suited for indoor use	Yes; Processing temperature 5 °C to 32 °C, empirical value			Yes; Processing temperature 5 °C to 32 °C, empirical value
Suited for outdoor use	No; possible under certain conditions			No; possible under certain conditions
<b>Ambient temperature during operation</b>				
• min.	-20 °C	-40 °C	-40 °C	-20 °C
• max.	80 °C	80 °C	80 °C	80 °C
<b>Relative humidity</b>				
• Operation, max.	50 %	90 %	90 %	50 %
• Condensation permissible		No	No	
<b>Accessories</b>				
Function description	antibacterial			
<b>Mechanics/material</b>				
Material	Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer			Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer
• Plastic	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant
• PET	Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue			Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue
Enclosure material (front)	Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)			Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)
• Plastic	Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1			Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1
• PET	Yes; Basic foil, storage life > 1 year			Yes; Basic foil, storage life > 1 year
<b>Dimensions</b>				
Width	318 mm	321.4 mm	321.4 mm	318 mm
Height	229 mm	232.4 mm	236.8 mm	229 mm
Thickness	0.225 mm; Corners radius 3.1 mm	0.125 mm	0.125 mm	0.225 mm; Corners radius 3.1 mm
<b>Weights</b>				
Weight (without packaging)	22 g; Per unit			22 g; Per unit

## Technical specifications

Article number	<b>6AV6881-0MJ22-1AA0</b>	<b>6AV2124-6MJ00-0AX0</b>	<b>6AV2181-3MJ20-0AX0</b>	<b>6AV6881-0MJ22-0AA0</b>
	Protect. film 12 BAC front, type 5	Protect. Film 12" Widescreen	Protect. Film 12" Widescreen, Type 2	Protect. film 12" front, type 5
<b>Scope of supply</b>				
Delivery quantity in pieces	5; films per package	10	10	5; films per package
Components included	5x removers, 5x cleaning cloths, 1x spatula for applying			5x removers, 5x cleaning cloths, 1x spatula for applying
<b>Other</b>				
printable with laser printer	No	Yes	Yes	No
Merchandise	Yes; URM55 reflection shield, matte	No	No	Yes; URM55 reflection shield, matte
Manufacturer name	Bedifol GmbH	SIEMENS AG	SIEMENS AG	Bedifol GmbH
Manufacturer's address	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany
contacting the manufacturer	phone: +49 (7531) 12738-60, email: shop@schutzfolien24.de			phone: +49 (7531) 12738-60, email: shop@schutzfolien24.de
Target devices	Panels and IPC with start of delivery from 2020 (WFP2.3)	for TP1200 Comfort, IPC277D	for KTP1200 Basic	Panels and IPC with start of delivery from 2020 (WFP2.3)
Note:	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems			Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems

## Accessories

### Protective films

#### Technical specifications

Article number	<b>6AV2124-6QJ00-0AX1</b> Protect. Film 15" Widescreen	<b>6AV6574-1AD00-4EX0</b> Protect. Film 15" Touch Device	<b>6AV6881-0QJ22-0AA0</b> Protect. film 15" front, type 5	<b>6AV6881-0QJ22-1AA0</b> Protect. film 15 BAC front, type 5
<b>General information</b>				
Product type designation	Protective film 15" widescreen	Protective film 15", 4:3	Protective film 15" front, surface, type 5	Protective film 15" front, surface, type 5
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark		Yes	No; No CE marking obligation	No; No CE marking obligation
EAC (formerly Gost-R)			Yes	Yes
RoHS conformity			Yes; unnecessary	Yes; unnecessary
<b>Ambient conditions</b>				
Suited for indoor use	Yes		Yes; Processing temperature 5 °C to 32 °C, empirical value	Yes; Processing temperature 5 °C to 32 °C, empirical value
Suited for outdoor use	No		No; possible under certain conditions	No; possible under certain conditions
<b>Ambient temperature during operation</b>				
• min.	-40 °C	-40 °C	-20 °C	-20 °C
• max.	80 °C	50 °C	80 °C	80 °C
<b>Relative humidity</b>				
• Operation, max.	90 %	90 %	50 %	50 %
<b>Accessories</b>				
Function description				antibacterial
<b>Mechanics/material</b>				
Material			Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer	
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant	
• PET			Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue	
Enclosure material (front)			Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)	
• Plastic			Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1	
• PET			Yes; Basic foil, storage life > 1 year	Yes; Basic foil, storage life > 1 year
<b>Dimensions</b>				
Width	368 mm	362 mm	390 mm	390 mm
Height	259 mm	289 mm	249 mm	249 mm
Thickness	0.125 mm	0.125 mm	0.225 mm; Corners radius 5.5 mm	0.225 mm; Corners radius 3.1 mm
<b>Weights</b>				
Weight (without packaging)	26 g; Per unit		150 g; Per unit	150 g; Per unit

## Technical specifications

Article number	<b>6AV2124-6QJ00-0AX1</b> Protect. Film 15" Widescreen	<b>6AV6574-1AD00-4EX0</b> Protect. Film 15" Touch Device	<b>6AV6881-0QJ22-0AA0</b> Protect. film 15" front, type 5	<b>6AV6881-0QJ22-1AA0</b> Protect. film 15 BAC front, type 5
<b>Scope of supply</b>				
Delivery quantity in pieces	10; Units per set	10	5; films per package	5; films per package
Components included			5x removers, 5x cleaning cloths, 1x spatula for applying	5x removers, 5x cleaning cloths, 1x spatula for applying
<b>Other</b>				
printable with laser printer	Yes	Yes	No; Suitable for screen printing	No; Suitable for screen printing
Merchandise	No	No	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte
Manufacturer name	SIEMENS AG	SIEMENS AG	Bedifol GmbH	Bedifol GmbH
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany
contacting the manufacturer			Phone +49 (7531) 12738 10, email: info@bedifol.com	phone: +49 (7531) 12738-60, email: shop@schutzfolien24.de
Target devices	for Comfort Panel, IPC, Flat Panel, Thin Client		Panels and IPC with start of delivery from 2020 (WFP2.3)	Panels and IPC with start of delivery from 2020 (WFP2.3)
Note:	not suitable for multi-touch (glass front)	Not suitable for widescreen	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems

## Accessories

### Protective films

#### Technical specifications

Article number	6AV7672-1CE00-0AA0	6AV2124-6UJ00-0AX1	6AV6881-0UJ20-0AA0	6AV6881-0UJ22-0AA0	6AV6881-0UJ22-1AA0
	Protect. Film 19" Touch Device	Protect. Film 19" Widescreen	Protect. film 19" glass front, type 1	Protect. film 19" front, type 5	Protect. film 19 BAC front, type 5
<b>General information</b>					
Product type designation	Protective film 19", 4:3	Protective film 19" widescreen	Protective film, 19" glass front	Protective film 19" front, surface, type 5	Protective film 19" front, surface, type 5
<b>Installation type/mounting</b>					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>					
CE mark	Yes		No; No CE marking obligation Yes; Tested	No; No CE marking obligation	No; No CE marking obligation
REACH				Yes	Yes
EAC (formerly Gost-R)				Yes; unnecessary	Yes; unnecessary
RoHS conformity				Yes; unnecessary	Yes; unnecessary
<b>Ambient conditions</b>					
Suited for indoor use		Yes	Yes	Yes; Processing temperature 5 °C to 32 °C, empirical value	
Suited for outdoor use		No	No; possible under certain conditions	No; possible under certain conditions	No; possible under certain conditions
<b>Ambient temperature during operation</b>					
• min.	-40 °C	-40 °C	0 °C	-20 °C	-20 °C
• max.	80 °C	80 °C	55 °C	80 °C	80 °C
<b>Relative humidity</b>					
• Operation, max.	90 %	90 %	50 %	50 %	50 %
<b>Accessories</b>					
Function description					antibacterial
<b>Mechanics/material</b>					
Material			Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer	Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer	Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant
• PET			Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue	Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue	Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue
Enclosure material (front)			Scratching hardness 2H, adhesive force 0.011 N/25 mm	Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)	Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)
• Plastic				Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1	Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1
• PET				Yes; Basic foil, storage life > 1 year	Yes; Basic foil, storage life > 1 year
<b>Dimensions</b>					
Width	378 mm	451 mm	409 mm	456 mm	456 mm
Height	302.5 mm	285 mm	231 mm	286 mm	286 mm
Thickness	0.2 mm	0.125 mm	0.225 mm; Corners radius 0.5 mm	0.225 mm; Corners radius 5.5 mm	0.225 mm; Corners radius 3.1 mm
<b>Weights</b>					
Weight (without packaging)		34 g; Per unit	34 g; Per unit	190 g; Per unit	190 g; Per unit

## Technical specifications

Article number	<b>6AV7672-1CE00-0AA0</b>	<b>6AV2124-6UJ00-0AX1</b>	<b>6AV6881-0UJ20-0AA0</b>	<b>6AV6881-0UJ22-0AA0</b>	<b>6AV6881-0UJ22-1AA0</b>
	Protect. Film 19" Touch Device	Protect. Film 19" Widescreen	Protect. film 19" glass front, type 1	Protect. film 19" front, type 5	Protect. film 19 BAC front, type 5
<b>Scope of supply</b>					
Delivery quantity in pieces	10	10; Units per set	5; Units per set	5; films per package	5; films per package
Components included			5x removers, 5x cleaning cloths, 5x spatulas for applying	5x removers, 5x cleaning cloths, 1x spatula for applying	5x removers, 5x cleaning cloths, 1x spatula for applying
<b>Other</b>					
printable with laser printer	Yes	Yes	No; suitable for screen printing or UV printing	No; Suitable for screen printing	No; Suitable for screen printing
Merchandise	No	No	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte
Manufacturer name	SIEMENS AG	SIEMENS AG	Bedifol GmbH	Bedifol GmbH	Bedifol GmbH
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany
contacting the manufacturer			Phone +49 (7531) 12738 10, email: info@bedifol.com	Phone +49 (7531) 12738 10, email: info@bedifol.com	phone: +49 (7531) 12738-60, email: shop@schutzfolien24.de
Target devices		for Comfort Panel, IPC, Flat Panel, Thin Client	For 19" widescreen flat panels, can also be cut to size for smaller, glass front displays, not suitable for membrane fronts	Panels and IPC with start of delivery from 2020 (WFP2.3)	Panels and IPC with start of delivery from 2020 (WFP2.3)
Note:	Not suitable for widescreen	not suitable for multi-touch (glass front)	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems

## Accessories

### Protective films

#### Technical specifications

Article number	<b>6AV2124-6XJ00-0AX1</b> Protect. Film 22" Widescreen	<b>6AV6881-0VJ22-0AA0</b> Protect. film 22" front, type 5	<b>6AV6881-0VJ22-1AA0</b> Protect. film 22 BAC front, type 5	<b>6AV6881-0WJ22-0AA0</b> Protect. film 24" front, type 5
<b>General information</b>				
Product type designation	Protective film 22" widescreen	Protective film 22" front, surface, type 5	Protective film 22" front, surface, type 5	Protective film 24" front, surface, type 5
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CE mark		No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation
EAC (formerly Gost-R)		Yes	Yes	Yes
RoHS conformity		Yes; unnecessary	Yes; unnecessary	Yes; unnecessary
<b>Ambient conditions</b>				
Suited for indoor use	Yes	Yes; Processing temperature 5 °C to 32 °C, empirical value	Yes; Processing temperature 5 °C to 32 °C, empirical value	Yes; Processing temperature 5 °C to 32 °C, empirical value
Suited for outdoor use	No	No; possible under certain conditions	No; possible under certain conditions	No; possible under certain conditions
<b>Ambient temperature during operation</b>				
• min.	-40 °C	-20 °C	-20 °C	-20 °C
• max.	80 °C	80 °C	80 °C	80 °C
<b>Relative humidity</b>				
• Operation, max.	90 %	50 %	50 %	50 %
<b>Accessories</b>				
Function description			antibacterial	
<b>Mechanics/material</b>				
Material		Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer	Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer	Polyester with functional hard layer, dirt-repellant, URM55, silicone adhesive layer
• Plastic	Yes; Nonreflecting	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant	Yes; Non-reflecting, matte, can be removed without residue, hard-coated, dirt-repellant
• PET		Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue	Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue	Yes; Non-antistatic, non-reflecting, scratch-resistant, can be removed without residue
Enclosure material (front)		Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)	Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)	Scratch resistance 2H (acc. to JIS K 5600), adhesive force 0.011 N/25 mm (acc. to JIS Z 0237)
• Plastic		Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1	Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1	Yes; Haze 11.9% acc. to JIS K 7136 and transmission 90.5% acc. to JIS K 7361-1
• PET		Yes; Basic foil, storage life > 1 year	Yes; Basic foil, storage life > 1 year	Yes; Basic foil, storage life > 1 year
<b>Dimensions</b>				
Width	518 mm	521 mm	521 mm	577 mm
Height	334 mm	323 mm	323 mm	355 mm
Thickness	0.125 mm	0.225 mm; Corners radius 5.5 mm	0.225 mm; Corners radius 3.1 mm	0.225 mm; Corners radius 5.5 mm
<b>Weights</b>				
Weight (without packaging)	44 g; Per unit	220 g; Per unit	220 g; Per unit	240 g; Per unit

### Technical specifications

Article number	<b>6AV2124-6XJ00-0AX1</b> Protect. Film 22" Widescreen	<b>6AV6881-0VJ22-0AA0</b> Protect. film 22" front, type 5	<b>6AV6881-0VJ22-1AA0</b> Protect. film 22 BAC front, type 5	<b>6AV6881-0WJ22-0AA0</b> Protect. film 24" front, type 5
<b>Scope of supply</b>				
Delivery quantity in pieces	10; Units per set	5; films per package	5; films per package	5; films per package
Components included		5x removers, 5x cleaning cloths, 1x spatula for applying	5x removers, 5x cleaning cloths, 1x spatula for applying	5x removers, 5x cleaning cloths, 1x spatula for applying
<b>Other</b>				
printable with laser printer	Yes	No; Suitable for screen printing	No; Suitable for screen printing	No; Suitable for screen printing
Merchandise	No	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte	Yes; URM55 reflection shield, matte
Manufacturer name	SIEMENS AG	Bedifol GmbH	Bedifol GmbH	Bedifol GmbH
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany	Byk-Gulden-Straße 2 // F22, 78467 Constance, Germany
contacting the manufacturer		Phone +49 (7531) 12738 10, email: info@bedifol.com	phone: +49 (7531) 12738-60, email: shop@schutzfolien24.de	Phone +49 (7531) 12738 10, email: info@bedifol.com
Target devices	for Comfort Panel, IPC, Flat Panel, Thin Client	Panels and IPC with start of delivery from 2020 (WFP2.3)	Panels and IPC with start of delivery from 2020 (WFP2.3)	Panels and IPC with start of delivery from 2020 (WFP2.3)
Note:	not suitable for multi-touch (glass front)	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems	Surface-adhesive film, can be trimmed, printable, observe target device manual before attaching, limited suitability for resistive touch systems

### More information

#### Note:

Suitable target devices and contents can be found at the end of the technical specifications of each protective film.

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Protective covers, dust caps, INOX frames

#### Overview



INOX frame 12" and 15"

#### INOX frame

When using the INOX frame with protective film, areas are opened up where on the front an increased degree of protection up to IP69 is required. INOX frames can be used when installing Unified Comfort Panels, Industrial Thin Clients, Industrial Flat Panels, and Industrial PCs.

#### Protective covers and dust caps

##### Protective covers

With a protective cover the complete panel front can be additionally protected. This gives IP65 degree of protection to the complete panel front.

Protective covers with IP65 degree of protection provide complete front protection of the panel and IPC against dirt and scratches. If the protective cover is now attacked by corrosive substances, the actual front of the device remains unaffected. If it is damaged, the protective cover can easily be replaced at any time.

Self-adhesive protective films are available for simple display protection. The protective covers can be kept clean using high-pressure cleaning equipment. Ready-made templates can be downloaded to help you create and print out your own low-cost frame designs between panel and protective cover.

Unfortunately, no protective covers are available for the Basic and Comfort Panels, or the IPCs.

##### Dust caps

It is also possible to dustproof unused or rarely used interfaces on the back or underside of the device.

For this purpose we offer dust caps.

#### Ordering data

#### Article No.

##### INOX frame

Can be used, for example, for Unified Comfort Panels, Industrial Thin Clients and Industrial Flat Panels. The Panel front is completely covered and protected. The degree of protection is raised to IP69. The set of protective films (antibacterial or standard) must be ordered separately. Attention: not approved for hazardous and marine environments!

##### INOX frames:

- 7" Type 1, without mounting frame **6AV6881-0GH21-2AA0**
- 10" Type 1, without mounting frame **6AV6881-0KH21-2AA0**
- 12" Type 1, without mounting frame **6AV6881-0MH21-2AA0**
- 15" Type 1, without mounting frame **6AV6881-0QH21-2AA0**
- 19" Type 1, without mounting frame **6AV6881-0UH21-2AA0**
- 22" Type 1, without mounting frame **6AV6881-0VH21-2AA0**

##### INOX frame sets

INOX frame and required mounting frame in set. Only the protective film set (antibacterial or standard) must still be ordered separately.

Attention: not approved for hazardous and marine environments!

- 7" Type 1, with mounting frame **6AV6881-0GH21-2BA0**
- 10" Type 1, with mounting frame **6AV6881-0KH21-2BA0**
- 12" Type 1, with mounting frame **6AV6881-0MH21-2BA0**
- 15" Type 1, with mounting frame **6AV6881-0QH21-2BA0**
- 19" Type 1, with mounting frame **6AV6881-0UH21-2BA0**
- 22" Type 1, with mounting frame **6AV6881-0VH21-2BA0**

##### Protective covers for 6" touch devices

for TP 070, TP 170micro, TP 177micro, TP 170A/B, TP 177A/B, TP 270 6", TP 277 6", MP 177 6" touch, MP 270 6" touch

**6AV6574-1AE00-4AX0**

##### Protective covers for OP 77

for OP77 and OP77B

**6AV6671-1AJ00-0AX0**

##### Protective covers for OP 177

for OP177B

**6AV6671-2DJ00-0AX0**

##### Protective covers for MP 277 8" touch devices

Only suitable for MP 277 8" touch up to E14 <sup>1)</sup> (for devices with a narrow frame geometry)

**6AV6671-3CK01-0AX0**

##### Protective covers for MP 277 10" touch devices

Only suitable for MP 277 10" touch up to E14 <sup>1)</sup> and 10" Thin Client up to E03 <sup>2)</sup> (for devices with a narrow frame geometry)

**6AV6671-3CK00-0AX0**

##### Dust protection set for USB and RJ45 interfaces

SIMATIC PC, dust protection set accessory, interfaces for Panels, Thin Clients and IPCs with suitable USB or RJ45 (LAN) interface

**6ES7648-1AA50-0XG0**

<sup>1)</sup> E14 = Product version 14

<sup>2)</sup> E03 = Product version 03

## Protective covers, dust caps, INOX frames

## Technical specifications

Article number	6AV6881-0MH21-2AA0	6AV6881-0GH21-2AA0	6AV6881-0QH21-2AA0	6AV6881-0UH21-2AA0	6AV6881-0KH21-2AA0	6AV6881-0VH21-2AA0
	INOX frame 12", type 1, Unified	INOX frame 7", type 1, Unified	INOX frame 15", type 1, Unified	INOX frame 19", type 1, Unified	INOX frame 10", type 1, Unified	INOX frame 22", type 1, Unified
<b>General information</b>						
Product type designation	protective frame INOX	protective frame INOX	protective frame INOX	protective frame INOX	protective frame INOX	protective frame INOX
<b>Display</b>						
Suitable for screen diagonal	12.1 in	7 in	15.6 in	18.5 in	10.1 in	21.5 in
<b>Installation type/mounting</b>						
Mounting		for mounting in a built-in widescreen Panel				
Mounting type	screw fixing	screw fixing	screw fixing	screw fixing	screw fixing	screw fixing
Front mounting	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>						
IP (at the front)	IP69	IP69	IP69	IP69	IP69	IP69
Splashproof	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
responsibility with the manufacturer	Yes	Yes	Yes	Yes	Yes	Yes
CE mark	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation	No; No CE marking obligation
UL approval	No	No	No	No	No	No
REACH	Yes	Yes	Yes	Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes	Yes	Yes	Yes
FDA-compliant		gaskets are FDA-compliant				
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.
<b>Ambient temperature during operation</b>						
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C					
<b>Relative humidity</b>						
• Operation, max.	95 %	95 %	95 %	95 %	95 %	95 %
<b>Mechanics/material</b>						
Material	Matte	Matte	Matte	Matte	Matte	Matte
• Stainless steel	Yes; V2A 1.4300	Yes; V2A 1.4300	Yes; V2A 1.4300	Yes; V2A 1.4300	Yes; V2A 1.4300	Yes; V2A 1.4300
Enclosure material (rear)	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A
Enclosure color (front)		matte, ceramic-blasted				
Screw type						
• Torx	Yes	Yes; T20	Yes	Yes	Yes	Yes
<b>Torques/forces</b>						
• Tightening torque, min.	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed
• Tightening torque, max.	14 N·m	14 N·m	14 N·m	14 N·m	14 N·m	14 N·m

## Accessories

### Protective covers, dust caps, INOX frames

#### Technical specifications

Article number	6AV6881-0MH21-2AA0	6AV6881-0GH21-2AA0	6AV6881-0QH21-2AA0	6AV6881-0UH21-2AA0	6AV6881-0KH21-2AA0	6AV6881-0VH21-2AA0
	INOX frame 12", type 1, Unified	INOX frame 7", type 1, Unified	INOX frame 15", type 1, Unified	INOX frame 19", type 1, Unified	INOX frame 10", type 1, Unified	INOX frame 22", type 1, Unified
<b>Dimensions</b>						
Width	353.2 mm	241.2 mm	425.2 mm	491.2 mm	307.2 mm	556.2 mm
Height	264.2 mm	185.2 mm	284.2 mm	321.2 mm	232.2 mm	358.2 mm
Depth	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm
<b>Scope of supply</b>						
Delivery quantity in pieces	1; 1x protective frame INOX					
• Parts per unit	1; 1x protective frame INOX incl. screws and seals (mounting frame and protective films can be ordered separately)	1; 1x protective frame INOX incl. screws and seals (mounting frame and protective films can be ordered separately)	1; 1x protective frame INOX incl. screws and seals (mounting frame and protective films can be ordered separately)	1; 1x protective frame INOX incl. screws and seals (mounting frame and protective films can be ordered separately)	1; 1x protective frame INOX incl. screws and seals (mounting frame and protective films can be ordered separately)	1; 1x protective frame INOX incl. screws and seals (mounting frame and protective films can be ordered separately)
<b>Other</b>						
Merchandise	Yes; INOX frame	Yes; INOX frame	Yes; INOX frame	Yes; INOX frame	Yes; INOX frame	Yes; INOX frame
Manufacturer name	QUERUM products UG					
Manufacturer's address	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany					
contacting the manufacturer	email: querumproducts@web.de					
Target devices	Unified Comfort Panels, Industrial Thin Clients, Industrial Flat Panels and Industrial Pcs with suitable dimensions	Unified Comfort Panels, Industrial Thin Clients, Industrial Flat Panels and Industrial Pcs with suitable dimensions	Unified Comfort Panels, Industrial Thin Clients, Industrial Flat Panels and Industrial Pcs with suitable dimensions	Unified Comfort Panels, Industrial Thin Clients, Industrial Flat Panels and Industrial Pcs with suitable dimensions	Unified Comfort Panels, Industrial Thin Clients, Industrial Flat Panels and Industrial Pcs with suitable dimensions	Unified Comfort Panels, Industrial Thin Clients, Industrial Flat Panels and Industrial Pcs with suitable dimensions
Note:	Not released for hazardous areas and marine applications!					

## Protective covers, dust caps, INOX frames

## Technical specifications

Article number	6AV6881-0VH21-2BA0	6AV6881-0KH21-2BA0	6AV6881-0QH21-2BA0	6AV6881-0GH21-2BA0	6AV6881-0MH21-2BA0	6AV6881-0UH21-2BA0
	INOX frame 22", type 1, SET	INOX frame 10", type 1, SET	INOX frame 15", type 1, SET	INOX frame 7", type 1, SET	INOX frame 12", type 1, SET	INOX frame 19", type 1, SET
<b>General information</b>						
Product type designation	protective frame INOX SET					
<b>Display</b>						
Suitable for screen diagonal	21.5 in	10.1 in	15.6 in	7 in	12.1 in	18.5 in
<b>Installation type/mounting</b>						
Mounting	for mounting in a built-in widescreen Panel					
Mounting type	screw fixing					
Front mounting	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes	Yes
<b>Degree and class of protection</b>						
IP (at the front)	IP69	IP69	IP69	IP69	IP69	IP69
Splashproof	Yes	Yes	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>						
responsibility with the manufacturer	Yes	Yes	Yes	Yes	Yes	Yes
CE mark	No; No CE marking obligation					
UL approval	No	No	No	No	No	No
REACH	Yes	Yes	Yes	Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes	Yes	Yes	Yes
FDA-compliant	Yes; gaskets are FDA-compliant	gaskets are FDA-compliant	gaskets are FDA-compliant	gaskets are FDA-compliant	gaskets are FDA-compliant	Yes; gaskets are FDA-compliant
<b>Ambient conditions</b>						
Suited for indoor use	Yes	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.	Yes; Always comply with the operating instructions of the target device.
<b>Ambient temperature during operation</b>						
• min.	-40 °C					
• max.	80 °C					
<b>Relative humidity</b>						
• Operation, max.	95 %	95 %	95 %	95 %	95 %	95 %
<b>Accessories</b>						
Function description	contains further article numbers					
<b>Mechanics/material</b>						
Material	Matte	Matte	Matte	Matte	Matte	Matte
• Sheet steel	Yes; powder-coated mounting frame					
• Stainless steel	Yes; V2A 1.4300					
Enclosure material (rear)	Stainless steel V2A					
Enclosure color (front)	matte, ceramic-blasted					
Screw type						
• Torx	Yes; T20					
<b>Torques/forces</b>						
• Tightening torque, min.	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed	12 N·m; If there is not enough torque, the degree of protection on the front may not be guaranteed
• Tightening torque, max.	14 N·m					

## Accessories

### Protective covers, dust caps, INOX frames

#### Technical specifications

Article number	<b>6AV6881-0VH21-2BA0</b>	<b>6AV6881-0KH21-2BA0</b>	<b>6AV6881-0QH21-2BA0</b>	<b>6AV6881-0GH21-2BA0</b>	<b>6AV6881-0MH21-2BA0</b>	<b>6AV6881-0UH21-2BA0</b>
	INOX frame 22", type 1, SET	INOX frame 10", type 1, SET	INOX frame 15", type 1, SET	INOX frame 7", type 1, SET	INOX frame 12", type 1, SET	INOX frame 19", type 1, SET
<b>Dimensions</b>						
Width	556.2 mm	307.5 mm	425.2 mm	241.2 mm	353.2 mm	491.2 mm
Height	358.2 mm	232.2 mm	284.2 mm	185.2 mm	264.2 mm	321.2 mm
Depth	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm
<b>Scope of supply</b>						
Delivery quantity in pieces	1; 1 set contains a stainless steel front frame and a mounting frame for IP69 mounting. The required protective film, standard or antibacterial, must be ordered separately and is not included in the scope of delivery.					protective film,
• Parts per unit	1x protective frame INOX including screws, 1x mounting frame	1x protective frame INOX including screws, 1x mounting frame	1x protective frame INOX including screws, 1x mounting frame	1x protective frame INOX including screws, 1x mounting frame	1x protective frame INOX including screws, 1x mounting frame	1x protective frame INOX including screws, 1x mounting frame
Components included	complete MLFB (set) contains other article numbers	complete MLFB (set) contains other article numbers	complete MLFB (set) contains other article numbers	complete MLFB (set) contains other article numbers	complete MLFB (set) contains other article numbers	complete MLFB (set) contains other article numbers
<b>Other</b>						
Merchandise	Yes; INOX front frame panel	Yes; INOX front frame panel	Yes; INOX front frame panel	Yes; INOX front frame panel	Yes; INOX front frame panel	Yes; INOX front frame panel
Manufacturer name	QUERUM products UG					
Manufacturer's address	Wirtsstr. 23, 85110 Kipfenberg-Böhming, Germany					
contacting the manufacturer	email: <a href="mailto:querumproducts@web.de">querumproducts@web.de</a>					
Target devices	Unified Panels and IPC with suitable dimensions	Unified Panels and IPC with suitable dimensions	Unified Panels and IPC with suitable dimensions	Unified Panels and IPC with suitable dimensions	Unified Panels and IPC with suitable dimensions	Unified Panels and IPC with suitable dimensions
Note:	not released for hazardous areas and marine applications! increase of the degree of protection only when using the clamping frame	not released for hazardous areas and marine applications! increase of the degree of protection only when using the clamping frame	not released for hazardous areas and marine applications! increase of the degree of protection only when using the clamping frame	not released for hazardous areas and marine applications! increase of the degree of protection only when using the clamping frame	not released for hazardous areas and marine applications! increase of the degree of protection only when using the clamping frame	not released for hazardous areas and marine applications! increase of the degree of protection only when using the clamping frame

## Protective covers, dust caps, INOX frames

## Technical specifications

Article number	6AV6574-1AE00-4AX0	6AV6671-1AJ00-0AX0	6AV6671-2DJ00-0AX0	6AV6671-3CK01-0AX0	6AV6671-3CK00-0AX0	6ES7648-1AA50-0XG0
	Protective Cover 6" Touch Devices	Protective Cover OP 77	Protective Cover OP 177	Protective Cover MP 277-8" Touch	Protective Cover MP 277 10" Touch	Dust protection set interfaces
<b>General information</b>						
Product type designation	Protective cover 6" touch devices	Protective cover	Protective cover	Protective cover MP277 8" touch	Protective cover MP277 10" touch	Dust protection set interfaces
<b>Installation type/mounting</b>						
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes	
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C	
• max.	80 °C	80 °C	80 °C	80 °C	80 °C	
<b>Relative humidity</b>						
• Operation, max.	95 %	95 %	95 %	95 %	95 %	
<b>Mechanics/material</b>						
<b>Material</b>						
• Plastic	Yes	Yes	Yes	Yes	Yes	
<b>Dimensions</b>						
Width	242.3 mm	178.6 mm	274.3 mm	270.8 mm	355.8 mm	
Height	186.3 mm	214.6 mm	243.26 mm	211 mm	294 mm	
Thickness	10 mm	7.8 mm	7.8 mm	7.8 mm	7.8 mm	
Mounting cutout, width	198 mm	135 mm	229 mm	226 mm	310 mm	
Mounting cutout, height	142 mm	171 mm	196 mm	166 mm	248 mm	
<b>Weights</b>						
Weight (without packaging)	750 g	750 g	750 g	750 g	750 g	
<b>Scope of supply</b>						
Delivery quantity in pieces						
• Parts per unit	2; 2 cover frames, 2 base frames, 2 protective covers, molded (for TP070, TP170micro, TP170A/B), 2 protective covers, smooth (for TP177micro, TP177A/B, TP270 6", MP177 6" touch, MP270 6" touch)	2; 2 cover frames, 2 base frames, 2 protective covers	2; 2 cover frames, 2 base frames, 2 protective covers	2; 2 cover frames, 2 base frames, 2 protective covers	2; 2 cover frames, 2 base frames, 2 protective covers	
<b>Other</b>						
Merchandise	No	No	No	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany					
Target devices	For TP070, TP170A, TP170B, TP170micro, TP177micro, TP177A, TP177B, TP270 6", TP277 6", MP270 6" touch	for OP 77A, OP 77B	For OP177B	For MP277 8" touch as far as product version "ES 14" with narrow frame	For MP277 10" touch up to product version "ES 14", Thin Client 10" up to "ES 03" (6AV6646-0AA21-2AX0) with narrow frame	

## Accessories

### Protective covers, dust caps, INOX frames

#### More information

Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Overview

**Service sets**

A service set contains all the typical parts that are required for a core product.

If several identical parts are required, e.g. mounting clips, it makes more sense to order these separately.

Detailed information and quantities can be obtained from the relevant technical specifications. The number and contents are optimized in terms of functionality and cost. For this reason, accessories can only be obtained in the specified pack sizes.

## Ordering data

## Article No.

Ordering data	Article No.
<b>Service sets</b> For contents and matching devices, see technical specifications in the Mall	
<b>For 4" and 6" devices</b> Service set for KTP400 Basic, KTP600 Basic, TP 177B 4"	<b>6AV6671-2EA00-0AX0</b>
<b>For 6" devices, type 1</b> Service set for TP 070, TP 170A/B, OP 170B, TP 170micro, OP 270, TP 270B, MP 270B touch	<b>6AV6574-1AA00-4AX0</b>
<b>For 6" devices, type 2</b> Service set for TP 070, TP 170A/B, OP 170B, TP 170micro, TP/OP 270 6", MP 270B 6" touch	<b>6AV2181-8XA80-0AX0</b>
<b>For 6" devices, type 3</b> Service set for TP 177micro, TP 177A/B, OP 177B	<b>6AV6671-2XA00-0AX0</b>
<b>For 6" to 10" devices</b> Service set for TP/OP 277 6", MP 277 8" touch, MP 277 8" key, MP 277 10" key and MP 277 10" touch devices up to product version "ES 14"	<b>6AV6671-3XA01-0AX0</b>
<b>For 8" to 10" devices</b> Service set for MP 277 8" touch and key devices from product version "ES 15", MP 277 10" touch devices from product version "ES 15"	<b>6AV6671-3XA01-0AX1</b>
<b>For 10", type 1</b> Service set for OP 270 10", MP 270B key devices	<b>6AV6574-1AA00-2DX0</b>
<b>For 10" to 15" devices</b> Service set for C7-636 touch, TP 270 10", MP 270B 10" touch, MP 370 12"/15" touch devices	<b>6AV6574-1AA00-2CX0</b>

## Accessories

### Service sets

Ordering data	Article No.		Article No.
<b>For 12" devices</b> Service set suitable for MP 370 12"/15" touch/key devices and TP37	<b>6AV6574-1AA00-2BX0</b>	<b>For Pushbutton Panels</b> Service set for PP7, PP17I, PP17 II, PP17 mounting gasket, 5x mounting clamps, 2-pin 24 V DC plug, 3-pin 24 V DC plug, 4-pin plug, 16-pin plug	<b>6AV3678-3XC30</b>
<b>For 12" to 19" devices</b> Service set for MP 377 12" touch and key devices, MP 377 15" touch, MP 377 19" touch devices	<b>6AV6671-4XA00-0AX0</b>	<b>For TD17, OP7/17</b> Service set for OP7/OP17 and TD17; TD17 mounting gasket, OP7 mounting gasket, OP17 mounting gasket 5x mounting clamps	<b>6AV3678-1CC10</b>
<b>For 15" devices</b> Service set for MP 377 15" touch devices with stainless steel front	<b>6AV6671-4CA00-0AX0</b>	<b>For OP73 micro, OP73, OP77</b> Service set for OP73micro, OP 73, OP 77A, OP 77B	<b>6AV6671-1XA00-0AX0</b>
<b>For Mobile Panel 177/277</b>	<b>6AV6574-1AA04-4AA0</b>	<b>KTP Mobile covers complete set</b> Cable clamp, USB cover incl. M3x10 screws.	<b>6AV6881-5AA00-0AA2</b>
<b>For Mobile Panel 277(F) IWLAN V1</b>	<b>6AV6671-5CA00-0AX1</b>	<b>KTP Mobile covers</b> Cable clamp, USB cover	<b>6AV6881-5AA00-0AA1</b>
<b>For Mobile Panel 277(F) IWLAN V2</b>	<b>6AV6671-5CA00-0AX2</b>	<b>KTP Mobile screw set M3x10</b> M3x10 screws	<b>6AV6881-0AG11-0AA0</b>
<b>For Industrial USB Hub 4</b>	<b>6AV6671-3EA01-0AX0</b>		

## Technical specifications

Article number	6AV6671-2EA00-0AX0	6AV6574-1AA00-4AX0	6AV2181-8XA80-0AX0	6AV6671-2XA00-0AX0	6AV6671-3XA01-0AX0	6AV6671-3XA01-0AX1
	Service set for 4" and 6" devices	Service set for 6" devices, type 1	Service set for 6" devices, type 2	Service set for 6" devices, type 3	Service set for 6" to 10" devices	Service set for 8" to 10" devices
<b>General information</b>						
Product type designation	Service set			Service set	Service set 6" ... 10"	Service set 8" ... 10"
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
RoHS conformity	Yes		Yes			Yes
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C	55 °C	55 °C
<b>Relative humidity</b>						
• Operation, max.	95 %	95 %	95 %	95 %	95 %	95 %
<b>Scope of supply</b>						
Delivery quantity in pieces						
• Parts per unit	1; Content: 2x seal KTP 400-TP 177B 4", 2x seal for KTP 600, 7x aluminum mounting clip, 1x 2-pin female connector	1; Content: 3x mounting seal, 2x labeling strip, 7x plastic mounting clip, 1x 2-pin female connector	1; Content: 3x mounting seal, 2x labeling strip, 7x plastic mounting clip, 20x aluminum mounting clip, 1x 2-pin female connector	1; Content: 1x mounting seal TP 177, 1x mounting seal OP 177, 7x plastic mounting clip, 1x 2-pin female connector	1; Content: 6x device-specific seals, 15x aluminum mounting clips, 1x 2-pin female connector, 1x product information clamp	1; Content: 14x spring mounting clip, 1x 2-pin female connector
<b>Other</b>						
Merchandise	No	No	No	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	for KTP 400 Basic, KTP 600 Basic, TP 177B 4"	For TP070, TP170A/B, OP170B, TP170micro, OP270 6", TP270 6", MP270B 6" touch	For TP070, TP170A/B, OP170B, TP170micro, OP/TP270 6", MP177 6", MP270B 6" touch	for TP 177micro, TP 177A, TP 177B, OP 177B	For TP/OP277 6", MP277 8" touch, MP277 8" key, MP277 10" key product version "ES 14" and later, MP277 10" touch product version "ES 14" and later	For MP277 8" touch, MP277 8" key product version "ES 15" and later, MP277 10" touch product version "ES 15" and later

## Accessories

### Service sets

#### Technical specifications

Article number	<b>6AV6574-1AA00-2DX0</b>	<b>6AV6574-1AA00-2CX0</b>	<b>6AV6574-1AA00-2BX0</b>
	Service set for 10" devices, type 1	Service set for 10" to 15" devices	Service set for 12" devices
<b>General information</b>			
Product type designation			Service set, 12" ... 15"
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.			0 °C
• max.			55 °C
<b>Relative humidity</b>			
• Operation, max.	95 %	95 %	95 %
<b>Mechanics/material</b>			
Screw type			
• Hexagon socket			Yes; 2.5 mm
<b>Scope of supply</b>			
Delivery quantity in pieces			
• Parts per unit	1; Content: 1x slide-in label strip for OP270 10" and MP270 10" key, 1x installation seal for OP270 10" and MP270 10" key, 10x cast aluminum mounting clips, 1x 2-pin female connector, 1x Allen key	1; Content: 10x aluminum mounting clips, 1x 2-pin female connector, 1x CF card interlock, 1x PC card interlock, 1x installation seal, C7-636, TP/MP270(B), MP370-12"T, 1x installation seal for MP370-15"T, all other panels have a non-replaceable foam seal	1; Content: 1x mounting gasket sold by the meter, 2x memory card lock wide, 2x memory card lock narrow, 10x mounting clip cast aluminum, 6x mounting bracket, 1x female connector 2-pole 90 degrees, 1x female connector 2-pole 180 degrees, 2x Allen key and labeling strips for Key Panel
<b>Other</b>			
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	for OP270 10", MP270B key	For C7-636 touch, TP270 10", MP270B 10" touch, MP370 12" touch, MP370 15" touch	For MP370 12" ... 15" Touch/Key and TP37

## Technical specifications

Article number	<b>6AV6671-4XA00-0AX0</b> Service set for 12" to 19" devices	<b>6AV6671-4CA00-0AX0</b> Service set for 15" devices
<b>General information</b>		
Product type designation	Service set 12" ... 19"	Service set 15"
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• min.	0 °C	0 °C
• max.	55 °C	55 °C
<b>Relative humidity</b>		
• Operation, max.	95 %	95 %
<b>Mechanics/material</b>		
Screw type		
• 4.5 V	Yes	
<b>Scope of supply</b>		
Delivery quantity in pieces		
• Parts per unit	1; Content: 1x mounting seal MP377 12" key, 1x mounting seal MP377 12" touch, 1x mounting seal MP377 15" touch, 1x mounting seal MP377 19" touch, 18x aluminum mounting clip, 1x 2-pin female connector	1; Content: 1x mounting seal, 1x memory card lock, 12x cast aluminum mounting clip, 1x 2-pin female connector, 1x Allen key
<b>Other</b>		
Merchandise	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	For MP377 12" key, MP377 12" touch, MP377 15" touch, MP377 19" touch	For MP377 15" touch with stainless steel front

## Accessories

### Service sets

#### Technical specifications

Article number	<b>6AV6574-1AA04-4AA0</b> Service set Mobile Panel	<b>6AV6671-5CA00-0AX1</b> Service set Mobile Panel Wireless V1	<b>6AV6671-5CA00-0AX2</b> Service set Mobile Panel Wireless V2	
<b>General information</b>				
Product type designation		Service set Mobile Panel 277 (F) IWLAN V1	Service set Mobile Panel 277 (F) IWLAN V2	
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.		0 °C	0 °C	
• max.		55 °C	55 °C	
<b>Relative humidity</b>				
• Operation, max.	95 %	95 %	95 %	
<b>Scope of supply</b>				
Delivery quantity in pieces				
• Parts per unit	1; Content: 1x blanking plug, 2x PG cable gland A-box, 1x screw set cover A-box, 2x 12-pin terminal box, 1x 3-pin terminal box, 1x dummy cap A-box, 2x corner seal l/r and O-ring, 4x decorative film corner seal l/r	1; Content: 2x covers for charging station l/r, 1x connector for charging station, 2x corner seals l/r, 2x gasket corner seals, 4x decorative film corner seals l/r, 1x backup battery 3.6 V / 1.5 Ah including cover, 1x spare key for charging cradle	1; Content: 1x battery slot cover device with seal, 2x cover charging station l/r, 1x circular connector charging station, 2x corner seal l/r, 2x O-ring seal, 4x decorative foil, 1x charging tray spare key incl. lock and lock holder, screws	
<b>Other</b>				
Merchandise	No	No	No	
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	
Target devices	For Mobile Panel 170, Mobile Panel 177	for Mobile Panel 277 IWLAN V1, Mobile Panel 277F IWLAN V1	for Mobile Panel 277 IWLAN V2, Mobile Panel 277F IWLAN V2	
Article number	<b>6AV6671-3EA01-0AX0</b> Service set Industrial USB Hub 4	<b>6AV3678-3XC30</b> Service Package F: PP7, PP17 I, PP17 II	<b>6AV3678-1CC10</b> Service Package f.OP7/17 and TD17	<b>6AV6671-1XA00-0AX0</b> OP73Micro, OP73, OP77 Service Set
<b>General information</b>				
Product type designation	Service set	Service pack	Service pack	Service set
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
RoHS conformity	Yes			
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
<b>Relative humidity</b>				
• Operation, max.	95 %	95 %	95 %	95 %
<b>Scope of supply</b>				
Delivery quantity in pieces				
• Parts per unit	1; Content: 1x mounting seal, 1x mounting frame, 5x plastic mounting clip, 1x 2-pin female connector	1; Content: 1x mounting seal PP7, 1x mounting seal PP17, 5x plastic mounting clip, 1x 2-pin female connector, 1x 3-pin female connector, 1x 4-pin female connector, 2x 16-pin female connector	1; Content: 1x mounting seal TD17, 1x mounting seal OP7, 1x mounting seal TD/OP17, 5x plastic mounting clip	1; Content: 1x mounting seal OP73, 1x mounting seal OP77, 4x plastic mounting clip, 1x 2-pin female connector
<b>Other</b>				
Merchandise	Yes			
Manufacturer name	SIEMENS AG			
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany			
Target devices	For the Industrial USB Hub 4			
Note:		for PP7, PP17-I, PP17-II	for TD17, OP7, OP17	for OP73micro, OP73, OP77A, OP77B

## Technical specifications

Article number	<b>6AV6881-5AA00-0AA1</b>	<b>6AV6881-5AA00-0AA2</b>	<b>6AV6881-0AG11-0AA0</b>
	Service set KTP Mobile covers	Service set KTP Mobile covers	Service set KTP Mobile screws M3
<b>General information</b>			
Product type designation	Mobile Panel Cover Set without M3	Mobile Panel Cover Set incl. M3	Mobile Panel M3 screw
<b>Standards, approvals, certificates</b>			
CE mark	No; No CE marking obligation		
RoHS conformity	Yes; unnecessary	Yes; unnecessary	Yes; unnecessary
<b>Ambient conditions</b>			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No; possible under certain conditions	No; possible under certain conditions	No; possible under certain conditions
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
<b>Relative humidity</b>			
• Operation, max.	95 %	95 %	95 %
<b>Mechanics/material</b>			
Material			general requirement according to DIN ISO 8992
• Plastic	Yes; Misc. parts	Yes; Misc. parts	
• Sheet steel	Yes; Miscellaneous screws	Yes; Miscellaneous screws	
Screw type			
• Cross-tip	Yes; Cross-tip including slot	Yes; Cross-tip including slot	Yes; Cross-tip including slot
<b>Dimensions</b>			
Height			12 mm; Overall
Depth			10 mm; Up to underside of screw head
Thickness			11 mm; Screw head
<b>Weights</b>			
Weight (without packaging)	40 g	45 g	2.2 g
<b>Scope of supply</b>			
Delivery quantity in pieces	1; 5x plastic cable clamps, 5x USB covers	1; 5x plastic cable clamps, 5x USB covers, and 5x (M3x10) screws	5; Combination cross-tip collar screw (M3x10)
Components included	5x plastic cable clamps, 5x USB covers	5x plastic cable clamps, 5x USB covers, and 5x (M3x10) screws	Screws for attachment
<b>Other</b>			
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	Wired Mobile Panel (PROFIBUS and PROFINET)	Wired Mobile Panel (PROFIBUS and PROFINET)	Wired Mobile Panel (PROFIBUS and PROFINET)
Note:	Observe documentation of the target device	Observe documentation of the target device	Observe documentation of the target device

### More information

#### Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Storage media

#### Overview



#### Memory media

Memory media which has been tested and approved by Siemens ensure the best possible functionality and compatibility. SIMATIC HMI memory media are suitable for industry and optimized for the requirements in industrial environments. Special formatting and write algorithms ensure fast read/write cycles and a long service life of the memory cells.

Multi Media Cards can also be used in operator panels with SD slots. Detailed information on usability can be found in the memory media and panels technical specifications.

The actual memory capacity of the memory cards or USB flash drives may change depending on production factors. This means that the specified memory capacity may not always be 100% available to the user. When selecting or searching for core products using the SIMATIC selection guide, accessories appropriate to the core product are always automatically displayed or offered.

Due to the nature of the technology used, the reading/writing speed can diminish over time. This is always dependent on the environment, the size of the files saved, the extent to which the card is filled and a number of additional factors. SIMATIC memory cards, however, are always designed so that typically all of the data is reliably written to a card even when the device is being switched off. More information can be taken from the operating instructions of the respective devices.

The following memory media are available:

- MM memory card (Multi Media Card)
- Secure Digital Memory Card
- SD memory card Outdoor
- PC memory card (PC Card)
- PC memory card adapter (PC Card Adapter)
- CF memory card (CompactFlash Card)
- CFast memory card
- SIMATIC HMI USB memory stick
- SIMATIC HMI USB FlashDrive
- Pushbutton Panel memory module
- IPC memory expansions

#### Note:

SIMATIC S7 Memory Cards from S7 controllers **may not** be used in operator panels or PC systems.

If used in this way, the memory cards lose their functionality and can then no longer be used with S7 controllers.

SIMATIC HMI system cards **must not be formatted** because this irrevocably deletes system files, and **they can then no longer be used for their usual functions**, or may even become totally worthless.

Cyclic archiving may place very high stress on the memory and could lead to failure. In this case, it is necessary to calculate the write cycles in respect of the frequency and size of the data volume in advance. Network drives are more suitable for archiving larger data volumes at short to very short intervals.

In cases of doubt, please clarify with your Siemens contact person. Failure to comply rules out any repair or replacement.

Ordering data	Article No.	Article No.
<i>Memory cards</i> <sup>1)</sup>		
<i>Indoor use only</i>		
<b>SIMATIC MM memory card 128 MB</b>	<b>6AV6671-1CB00-0AX2</b>	
<b>SIMATIC SD memory card 512 MB</b>	<b>6AV6671-8XB10-0AX1</b>	
<b>SIMATIC SD memory card 2 GB</b>	<b>6AV2181-8XP00-0AX0</b>	
<b>SIMATIC SD memory card 32 GB</b> <sup>2)</sup>	<b>6AV6881-0AP40-0AA0</b>	
<b>SIMATIC CF memory card 512 MB</b>	<b>6AV6574-2AC00-2AA1</b>	
<b>PC memory card, 512 MB (PCMCIA)</b>	<b>6AV6574-2AC00-2AF1</b>	
<b>PC card adapter for CF memory card</b>	<b>6AV6574-2AF00-8AX0</b>	
<i>Can be used indoors and outdoors</i>		
<b>SIMATIC SD memory card, outdoor 2 GB</b>	<b>6AV6881-0AQ10-0AA0</b>	
<b>SIMATIC SD memory card, outdoor 32 GB</b>	<b>6AV6881-0AQ40-0AA0</b>	
		<b>USB flash drive</b> <sup>3)</sup>
		32 GB, USB 3.0, metal enclosure, boot capability, without software, for current and new SIMATIC HMI Panels and IPCs.
		<b>SIMATIC HMI USB FlashDrive EX1</b>
		• 32 GB, explosion protection, for HMI devices and IPCs with the corresponding slot.
		• 32 GB, explosion protection, for HMI devices and IPCs with the corresponding slot, with recovery function
		<b>SIMATIC IPC CFast</b>
		• 2 GB
		• 4 GB
		• 8 GB
		• 16 GB
		• 30 GB
		• 128 GB
		<b>6AV6881-0AS42-0AA1</b>
		<b>6AV7675-0FX00-0AA0</b>
		<b>6AV7675-0FX10-0AA0</b>
		<b>6ES7648-2BF10-0XF0</b>
		<b>6ES7648-2BF10-0XG0</b>
		<b>6ES7648-2BF10-0XH0</b>
		<b>6ES7648-2BF10-0XJ0</b>
		<b>6ES7648-2BF10-0XK1</b>
		<b>6ES7648-2BF10-0XM1</b>

<sup>1)</sup> Not all memory is compatible with every target device. Please observe the current technical specifications of the memory. For compatibility and innovations, see SIMATIC Support pages, search term "Status Accessories" or entry "40466415"

<sup>2)</sup> For compatibility and innovations, see SIMATIC Support pages, entry 109759104

<sup>3)</sup> Note: This memory stick does not support Classic Panels such as TPs, OPs, and Multi Panels.  
The following software in SIOS is available for download for IPC systems. SIMATIC IPC Image & Partition Creator V3.3.2 and SIMATIC IPC BIOS Manager V3.3 (Win PE) preinstalled, incl. CD.

## Accessories

### Storage media

#### Technical specifications

Article number	<b>6AV6671-1CB00-0AX2</b> SIMATIC MM memory card 128 MB	<b>6AV6671-8XB10-0AX1</b> SIMATIC SD memory card 512 MB	<b>6AV2181-8XP00-0AX0</b> SIMATIC SD memory card 2 GB	<b>6AV6881-0AP40-0AA0</b> SIMATIC SD indoor card 32 GB
<b>General information</b>				
Product type designation	MM memory card	SD memory card	SD memory card	SD memory card
<b>Control elements</b>				
<b>Frame size/design</b>				
• Standard	Yes; Typically 10 000 insertion cycles	Yes; Typically 10 000 insertion cycles	Yes; Typically 10 000 insertion cycles	Yes; Typically 10 000 insertion cycles
• Flat	Yes	Yes	Yes	Yes
<b>Installation type/mounting</b>				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes
<b>Supply voltage</b>				
Rated value (DC)	3.3 V; Max 3.6 V	3.3 V; Max 3.6 V	3.3 V; Max 3.6 V	3.3 V; Max 3.6 V
<b>Memory</b>				
Type of memory	MultiMediaCard	Secure Digital memory card	Secure Digital memory card	Secure Digital memory card
Memory size	128 Mbyte	512 Mbyte	2 Gbyte	32 Gbyte
Transmission rate for reading, max.	0 kbit/s; No value available	1.6 Mbit/s; Minimum, typical for newly formatted memory	600 Mbit/s; Typical	600 Mbit/s; Typical
Transmission rate for writing, max.	300 kbit/s; Minimum, typical for newly formatted memory	1.6 Mbit/s; Minimum, typical for newly formatted memory	600 Mbit/s; Typical	600 Mbit/s; Typical
Wear leveling (distributed writing)	Yes; > 100 000 write/read cycles per cell and > 3 000 000 write/read cycles per card	Yes; > 100 000 write/read cycles per cell and > 3 000 000 write/read cycles per card	Yes	Yes
Write protection switch	No	Yes; Effectiveness depends on the device	Yes; Effectiveness depends on the device	Yes; Effectiveness depends on the device
<b>Interfaces</b>				
Device-side interface				
• Number of pins device-side	7	9	9	9
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
UL approval		Yes	Yes	Yes
cULus		Yes	Yes	Yes
KC approval		Yes	Yes	Yes
EAC (formerly Gost-R)		Yes	Yes	Yes
RoHS conformity		Yes	Yes	Yes
China RoHS compliance		Yes	Yes	Yes
Marine approval	Yes; Passive component, therefore dependent on target device	Yes; Passive component, therefore dependent on target device	Yes; Passive component, therefore dependent on target device	Yes; Passive component, therefore dependent on target device

## Technical specifications

Article number	6AV6671-1CB00-0AX2	6AV6671-8XB10-0AX1	6AV2181-8XP00-0AX0	6AV6881-0AP40-0AA0
	SIMATIC MM memory card 128 MB	SIMATIC SD memory card 512 MB	SIMATIC SD memory card 2 GB	SIMATIC SD indoor card 32 GB
<b>Use in hazardous areas</b>				
• ATEX Zone 2	Yes; Always comply with the operating instructions of the target device.			
• ATEX Zone 22	Yes; Always comply with the operating instructions of the target device.			
• IECEx Zone 2	Yes; Always comply with the operating instructions of the target device.			
• IECEx Zone 22	Yes; Always comply with the operating instructions of the target device.			
• cULus Class I Zone 2, Division 2	Yes; Always comply with the operating instructions of the target device.			
• FM Class I Division 2	Yes; Always comply with the operating instructions of the target device.			
<b>Marine approval</b>				
• Germanischer Lloyd (GL)	Yes; Always comply with the operating instructions of the target device.			
• American Bureau of Shipping (ABS)	Yes; Always comply with the operating instructions of the target device.			
• Bureau Veritas (BV)	Yes; Always comply with the operating instructions of the target device.			
• Det Norske Veritas (DNV)	Yes; Always comply with the operating instructions of the target device.			
• Lloyds Register of Shipping (LRS)	Yes; Always comply with the operating instructions of the target device.			
• Nippon Kaiji Kyokai (Class NK)	Yes; Always comply with the operating instructions of the target device.			
• Polski Rejestr Statkow (PRS)	Yes; Always comply with the operating instructions of the target device.			
• Chinese Classification Society (CCS)	Yes; Always comply with the operating instructions of the target device.			
• Compass working clearance	5 m	5 m	5 m	5 m
<b>Ambient conditions</b>				
Suited for indoor use	Yes	Yes	Yes	Yes
Suited for outdoor use		No	No	No
<b>Ambient temperature during operation</b>				
• min.	0 °C; Indoor	0 °C; Indoor	0 °C	0 °C
• max.	50 °C; Indoor	50 °C; Indoor	55 °C	55 °C
<b>Relative humidity</b>				
• Operation, max.	90 %	90 %	95 %	95 %; no condensation
• Condensation permissible	No; Condensation not permissible	No; Condensation not permissible	No; Condensation not permissible	No; Condensation not permissible
<b>Operating systems</b>				
<b>pre-installed operating system</b>				
• Windows CE			No; Preinstalled system files	No; Preinstalled system files
<b>Runs under operating system</b>				
• Windows CE	Yes	Yes	Yes	Yes
• Windows Vista	Yes	Yes	Yes	Yes
• Windows XP	Yes	Yes	Yes	Yes
• Windows 7	Yes	Yes	Yes	Yes
• Windows 8	Yes	Yes	Yes	Yes
• Windows 10	Yes	Yes	Yes	Yes
• Linux	No	No	Yes	Yes
• other	Yes; Card must not be formatted!	Yes; Card must not be formatted!	Yes; Card must not be formatted!	Yes; Card must not be formatted!

## Accessories

### Storage media

#### Technical specifications

Article number	<b>6AV6671-1CB00-0AX2</b>	<b>6AV6671-8XB10-0AX1</b>	<b>6AV2181-8XP00-0AX0</b>	<b>6AV6881-0AP40-0AA0</b>
	SIMATIC MM memory card 128 MB	SIMATIC SD memory card 512 MB	SIMATIC SD memory card 2 GB	SIMATIC SD indoor card 32 GB
<b>Mechanics/material</b>				
Enclosure material (front)				
• Plastic	Yes; Gold contacts	Yes; Gold contacts	Yes; Gold contacts	Yes; Gold contacts
Enclosure color (front)	RAL 6034 (color deviation possible)	RAL 6034 (color deviation possible)	RAL 6034 (color deviation possible)	RAL 6034 (color deviation possible)
<b>Service life</b>				
• Number of operating cycles, keys	10; Min. data storage without loss (in years)	10; Min. data storage without loss (in years)	10; min. data storage without loss of data (in years) with new card	10; min. data storage without loss of data (in years) with new card
<b>Dimensions</b>				
Width	24 mm	24 mm	24 mm	24 mm
Height	32 mm	32 mm	32 mm	32 mm
Thickness	2.1 mm	2.1 mm	2.1 mm	2.1 mm
<b>Weights</b>				
Weight (without packaging)	3 g	3 g	3 g	3 g
<b>Scope of supply</b>				
Delivery quantity in pieces	1	1	1	1
<b>Other</b>				
Merchandise	No	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	for OP77B, TP177B, OP177B, TP277, OP277, C7-635, MP177, MP277, MP377, Mobile Panel 177, Mobile Panel 277, Comfort Panel	for MP177, MP277, MP377 and Mobile Panel 277, WinCC flexible 2008 SP1 and higher for OP77, TP/OP177, TP/OP277, Mobile Panel 177, with SD/MMC slot	Especially for KTP Mobile Panels 2nd Generation, MP377 and Comfort Panels, but also for all other panels (other than Classic Panels) and PCs with suitable slot	Storage medium especially for indoor areas, suitable for Panels as of TIA V16 (observe manual for target panel) but also for PCs with a suitable slot. Formatting destroys the system properties of the card
Note:		MP377 only up to and including FS:04 or ES:04 - Alternatively 2 GB SD card	Not suitable for MP177, MP277, Mobile Panel 277, OP77, TP/OP177, TP/OP277 and Mobile Panel 177	can only be used with TIA V16 or higher, panel firmware must be upgraded if necessary (cannot be used in Classic Panels)

## Technical specifications

Article number	<b>6AV6574-2AC00-2AA1</b> SIMATIC HMI CF memory card, 512 MB	<b>6AV6574-2AC00-2AF1</b> PC memory card 512 MB	<b>6AV6574-2AF00-8AX0</b> PC card adapter for CF memory card
<b>General information</b>			
Product type designation	CompactFlash card	PC memory card	PC card adapter
<b>Control elements</b>			
<b>Connection type</b>			
• USB		No	
<b>Frame size/design</b>			
• Standard	Yes	Yes	Yes
• Flat	Yes	Yes	Yes
<b>Installation type/mounting</b>			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
<b>Supply voltage</b>			
Rated value (DC)	3.3 V; Selectable power supply: 3.3 V ±10% or 5.0 V ±10%	3.3 V	
<b>Memory</b>			
Type of memory	CompactFlash memory CF type I	Personal computer memory card type II	Personal computer memory card type II
Design	CompactFlash		
Memory size	512 Mbyte	512 Mbyte	0 byte; Only adapter
SLC flash write cycles	2; Millions, consumer quality		
Write protection switch	No	No	No
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
UL approval	No		No
cULus	No		No
KC approval	No		No
EAC (formerly Gost-R)	No		No
RoHS conformity	Yes	Yes	Yes
China RoHS compliance	Yes	Yes	Yes
Marine approval	Yes; Passive component, therefore dependent on target device		Yes; Passive component, therefore dependent on target device
<b>Use in hazardous areas</b>			
• ATEX Zone 2	Yes; Always comply with the operating instructions of the target device.		
• ATEX Zone 22	Yes; Always comply with the operating instructions of the target device.		
• IECEx Zone 2	Yes; Always comply with the operating instructions of the target device.		
• IECEx Zone 22	Yes; Always comply with the operating instructions of the target device.		
• cULus Class I Zone 2, Division 2	Yes; Always comply with the operating instructions of the target device.		
• FM Class I Division 2	Yes; Always comply with the operating instructions of the target device.		
<b>Marine approval</b>			
• Germanischer Lloyd (GL)	Yes; Always comply with the operating instructions of the target device.		
• American Bureau of Shipping (ABS)	Yes; Always comply with the operating instructions of the target device.		
• Bureau Veritas (BV)	Yes; Always comply with the operating instructions of the target device.		
• Det Norske Veritas (DNV)	Yes; Always comply with the operating instructions of the target device.		
• Lloyds Register of Shipping (LRS)	Yes; Always comply with the operating instructions of the target device.		
• Nippon Kaiji Kyokai (Class NK)	Yes; Always comply with the operating instructions of the target device.		
• Polski Rejestr Statkow (PRS)	Yes; Always comply with the operating instructions of the target device.		
• Chinese Classification Society (CCS)	Yes; Always comply with the operating instructions of the target device.		
• Compass working clearance	5 m		5 m

## Accessories

### Storage media

#### Technical specifications

Article number	<b>6AV6574-2AC00-2AA1</b> SIMATIC HMI CF memory card, 512 MB	<b>6AV6574-2AC00-2AF1</b> PC memory card 512 MB	<b>6AV6574-2AF00-8AX0</b> PC card adapter for CF memory card
<b>Ambient conditions</b>			
Suited for indoor use	Yes		Yes
<b>Ambient temperature during operation</b>			
• min.	0 °C; Any mounting angle	0 °C	0 °C; Indoor
• max.	50 °C; Any mounting angle	50 °C	50 °C; Indoor
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
• Condensation permissible	No; Condensation not permissible	No	No; Condensation not permissible
<b>Operating systems</b>			
<b>Runs under operating system</b>			
• Windows CE	Yes	Yes	Yes
• Windows Vista	Yes	Yes	Yes
• Windows XP	Yes	Yes	Yes
• Windows 7	Yes	Yes	Yes
• Windows 8	Yes	Yes	Yes
• Linux	No	No	No
• other	Yes; Card must not be formatted!		No
<b>Mechanics/material</b>			
Enclosure material (front)			
• Plastic	Yes	Yes	
• Sheet steel			Yes
<b>Service life</b>			
• Number of operating cycles, keys	10; Min. data storage without loss (in years)		
<b>Dimensions</b>			
Width	42.8 mm	54 mm	54 mm
Height	36.4 mm	85.6 mm	85.6 mm
Thickness	3.3 mm	5 mm	5 mm
<b>Weights</b>			
Weight (without packaging)	10 g	34 g	24 g
<b>Scope of supply</b>			
Delivery quantity in pieces	1	1; Content: CF memory card, 512 MB, and PC card adapter	1
<b>Other</b>			
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	for SIMATIC HMI devices with CF slot	for SIMATIC HMI devices with PC card slot	for SIMATIC HMI devices with PC card slot

## Technical specifications

Article number	<b>6AV6881-0AQ10-0AA0</b> SIMATIC SD outdoor card 2 GB	<b>6AV6881-0AQ40-0AA0</b> SIMATIC SD outdoor card 32 GB
<b>General information</b>		
Product type designation	SD memory card	SD memory card
<b>Control elements</b>		
<b>Frame size/design</b>		
• Standard	Yes; Typically 10 000 insertion cycles	Yes; Typically 10 000 insertion cycles
• Flat	Yes	Yes
<b>Installation type/mounting</b>		
Mounting in portrait format possible	Yes	Yes
Mounting in landscape format possible	Yes	Yes
<b>Supply voltage</b>		
Rated value (DC)	3.3 V; Max 3.6 V	3.3 V; Max 3.6 V
<b>Memory</b>		
Type of memory	Secure Digital memory card	Secure Digital memory card
Memory size	2 Gbyte	32 Gbyte
Transmission rate for reading, max.	600 Mbit/s; Typical	600 Mbit/s; Typical
Transmission rate for writing, max.	600 Mbit/s; Typical	600 Mbit/s; Typical
Wear leveling (distributed writing)	Yes	Yes
Write protection switch	Yes; Effectiveness depends on the device	Yes; Effectiveness depends on the device
<b>Interfaces</b>		
Device-side interface		
• Number of pins device-side	9	9
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
UL approval	Yes	Yes
cULus	Yes	Yes
KC approval	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes
RoHS conformity	Yes	Yes
China RoHS compliance	Yes	Yes
Marine approval	Yes; Passive component, therefore dependent on target device	Yes; Passive component, therefore dependent on target device
<b>Use in hazardous areas</b>		
• ATEX Zone 2	Yes; Always comply with the operating instructions of the target device.	
• ATEX Zone 22	Yes; Always comply with the operating instructions of the target device.	
• IECEx Zone 2	Yes; Always comply with the operating instructions of the target device.	
• IECEx Zone 22	Yes; Always comply with the operating instructions of the target device.	
• cULus Class I Zone 2, Division 2	Yes; Always comply with the operating instructions of the target device.	
• FM Class I Division 2	Yes; Always comply with the operating instructions of the target device.	
<b>Marine approval</b>		
• Germanischer Lloyd (GL)	Yes; Always comply with the operating instructions of the target device.	
• American Bureau of Shipping (ABS)	Yes; Always comply with the operating instructions of the target device.	
• Bureau Veritas (BV)	Yes; Always comply with the operating instructions of the target device.	
• Det Norske Veritas (DNV)	Yes; Always comply with the operating instructions of the target device.	
• Lloyds Register of Shipping (LRS)	Yes; Always comply with the operating instructions of the target device.	
• Nippon Kaiji Kyokai (Class NK)	Yes; Always comply with the operating instructions of the target device.	
• Polski Rejestr Statkow (PRS)	Yes; Always comply with the operating instructions of the target device.	
• Chinese Classification Society (CCS)	Yes; Always comply with the operating instructions of the target device.	
• Compass working clearance	5 m	5 m

## Accessories

### Storage media

#### Technical specifications

Article number	<b>6AV6881-0AQ10-0AA0</b> SIMATIC SD outdoor card 2 GB	<b>6AV6881-0AQ40-0AA0</b> SIMATIC SD outdoor card 32 GB
<b>Ambient conditions</b>		
Suited for indoor use	Yes	Yes
Suited for outdoor use	Yes	Yes
<b>Ambient temperature during operation</b>		
• min.	-30 °C; Indoor/outdoor	-30 °C; Indoor/outdoor
• max.	60 °C; Indoor/outdoor	60 °C; Indoor/outdoor
<b>Relative humidity</b>		
• Operation, max.	95 %; no condensation	95 %; no condensation
• Condensation permissible	No; Condensation not permissible	No; Condensation not permissible
<b>Operating systems</b>		
<b>pre-installed operating system</b>		
• Windows CE	No; Preinstalled system files	No; Preinstalled system files
<b>Runs under operating system</b>		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 8	Yes	Yes
• Windows 10	Yes	Yes
• Linux	Yes	Yes
• other	Yes; Card must not be formatted!	Yes; Card must not be formatted!
<b>Mechanics/material</b>		
Enclosure material (front)		
• Plastic	Yes; Gold contacts	Yes; Gold contacts
Enclosure color (front)	RAL 6034 (color deviation possible)	RAL 6034 (color deviation possible)
<b>Service life</b>		
• Number of operating cycles, keys	10; min. data storage without loss of data (in years) with new card	10; min. data storage without loss of data (in years) with new card
<b>Dimensions</b>		
Width	24 mm	24 mm
Height	32 mm	32 mm
Thickness	2.1 mm	2.1 mm
<b>Weights</b>		
Weight (without packaging)	3 g	3 g
<b>Scope of supply</b>		
Delivery quantity in pieces	1	1
<b>Other</b>		
Merchandise	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	Storage medium especially for outdoor or indoor areas, suitable for Panels as of TIA V16 (observe manual for target panel) but also for PCs with a suitable slot. Formatting destroys the system properties of the card	Storage medium especially for outdoor or indoor areas, suitable for Panels as of TIA V16 (observe manual for target panel) but also for PCs with a suitable slot. Formatting destroys the system properties of the card
Note:	can only be used with TIA V16 or higher, panel firmware must be upgraded if necessary (cannot be used in Classic Panels)	can only be used with TIA V16 or higher, panel firmware must be upgraded if necessary (cannot be used in Classic Panels)

## Technical specifications

Article number	<b>6AV6881-0AS42-0AA1</b> USB flash drive, 32 GB
<b>General information</b>	
Product type designation	USB flash drive (without software)
<b>Control elements</b>	
<b>Connection type</b>	
• USB	Yes; USB 3.0 type A
<b>Frame size/design</b>	
• Standard	Yes
• Flat	Yes
<b>Installation type/mounting</b>	
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
<b>Supply voltage</b>	
Rated value (DC)	5 V
<b>Memory</b>	
Type of memory	Multi-level cell (MLC)
Memory size	32 Gbyte
Speed class	Up to: read: 75 MB/s, write: 21 MB/s
File format	FAT32
Write cycles MLC flash	3 000; Program/Erase cycle
Write protection switch	No
<b>Interfaces</b>	
Number of USB interfaces	1; USB 3.0 type A
<b>Standards, approvals, certificates</b>	
CE mark	Yes

Article number	<b>6AV6881-0AS42-0AA1</b> USB flash drive, 32 GB
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	50 °C
<b>Relative humidity</b>	
• Operation, max.	85 %
• Condensation permissible	No
<b>Operating systems</b>	
<b>pre-installed operating system</b>	
• Windows CE	Yes
<b>Runs under operating system</b>	
• Windows CE	Yes
• Windows Vista	No
• Windows XP	Yes
• Windows 7	Yes
• Windows 8	Yes
• Windows 10	Yes
• Linux	Yes
<b>Mechanics/material</b>	
Enclosure material (front)	
• Aluminum	Yes
<b>Dimensions</b>	
Width	16.7 mm
Height	59.1 mm
Thickness	7 mm
<b>Weights</b>	
Weight (without packaging)	12 g
<b>Scope of supply</b>	
Delivery quantity in pieces	1; Without content
<b>Other</b>	
Merchandise	No
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)
Note:	TP1500 Comfort Outdoor, TP700 Comfort Outdoor: Observe the temperature range

## Accessories

### Storage media

#### Technical specifications

Article number	<b>6AV7675-0FX00-0AA0</b> SIMATIC USB flash drive 32 GB, Ex	<b>6AV7675-0FX10-0AA0</b> SIMATIC USB flash drive 32 GB, Ex
<b>General information</b>		
Product type designation	USB flash drive	USB flash drive
<b>Control elements</b>		
<b>Connection type</b>		
• USB	Yes	Yes
<b>Frame size/design</b>		
• Standard	No; Special enclosure for screw mounting	No; Special enclosure for screw mounting
• Flat	No	No
• Space-saving	Yes; Suitable for hazardous zones with locking screw	Yes; Suitable for hazardous zones with locking screw
<b>Installation type/mounting</b>		
Mounting in portrait format possible	Yes	Yes
Mounting in landscape format possible	Yes	Yes
<b>Supply voltage</b>		
Rated value (DC)	5.9 V	5.9 V
<b>Memory</b>		
Type of memory	USB drive	USB drive
Memory size	32 Gbyte	32 Gbyte
Write protection switch	No	No
<b>Degree and class of protection</b>		
IP (all-round)	IP20	IP20
<b>Standards, approvals, certificates</b>		
CE mark	Yes	Yes
CSA approval	Yes	Yes
RoHS conformity	Yes	Yes
<b>Use in hazardous areas</b>		
• ATEX Zone 2	Yes	Yes
• ATEX Zone 22	Yes	Yes
• IECEx Zone 1	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005
• IECEx Zone 11	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005
• IECEx Zone 2	Yes	Yes
• IECEx Zone 22	Yes	Yes
• cULus Class I Zone 1	Yes; CSA Class II No. 2649448	Yes; CSA Class II No. 2649448
• cULus Class I Zone 2, Division 2	Yes; CSA Class II No. 2649448	Yes; CSA Class II No. 2649448
• FM Class I Division 2	Yes; CSA Class II No. 2649448	Yes; CSA Class II No. 2649448
• FM Class II Division 2	Yes; CSA, Group F and G; T 130 °C	Yes; CSA, Group F and G; T 130 °C
<b>Ambient conditions</b>		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No	No
<b>Ambient temperature during operation</b>		
• min.	-20 °C	-20 °C
• max.	70 °C	70 °C
<b>Relative humidity</b>		
• Condensation permissible	No	No

## Technical specifications

Article number	<b>6AV7675-0FX00-0AA0</b>	<b>6AV7675-0FX10-0AA0</b>
	SIMATIC USB flash drive 32 GB, Ex	SIMATIC USB flash drive 32 GB, Ex
<b>Operating systems</b>		
<b>Runs under operating system</b>		
• Windows CE	No	No
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 8	Yes	Yes
• Linux	No	No
<b>Mechanics/material</b>		
Material		
• Aluminum	Yes	Yes
<b>Dimensions</b>		
Width	25 mm	25 mm
Height	110 mm	110 mm
Thickness	15 mm	15 mm
<b>Weights</b>		
Weight (without packaging)	70 g	70 g
<b>Scope of supply</b>		
Delivery quantity in pieces	1	1
Components included	USB flash drive (encapsulated) screw fastening and leather casing	USB flash drive (encapsulated) screw fastening and leather casing
<b>Other</b>		
Merchandise	Yes; USBi drive, 16 GB	Yes; USBi drive, 16 GB recovery
Manufacturer name	R. Stahl HMI Systems GmbH	R. Stahl HMI Systems GmbH
Manufacturer's address	Adolf-Grimme-Allee 8, 50829 Cologne, Germany	Adolf-Grimme-Allee 8, 50829 Cologne, Germany
Target devices	ATEX certified for operating on xx6 USB Ex-i and non-Ex interfaces, Zones 1, 2, 21<(>&<)>22 Gas Zones: II 2 G Ex is IIC T4 Dust Zones: II 2 D Ex ibD 21 T110 degrees C	ATEX certified for operating on xx6 USB Ex-i and non-Ex interfaces, Zones 1, 2, 21<(>&<)>22 Gas Zones: II 2 G Ex is IIC T4 Dust Zones: II 2 D Ex ibD 21 T110 degrees C
Note:	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)

### More information

#### Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<http://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Transport and storage

#### Overview



Tablet PC transport case



Tablet PC additional case



Tablet PC storage case

#### Transport and storage cases

Transport and storage cases are perfectly suited for tablet PCs and industrial tablet PCs such as the ITP100.

The basic transport case was created especially for mobile operation of a tablet PC with all of the required accessories, such as a power supply unit, mouse, keyboard, etc. It can be modularly expanded. Various expansion pockets are available for this purpose.

Additional expansion pockets can easily be connected to the basic case. Covered holes allow the tablet to be connected to the power supply unit even during transport without the cable visibly hanging out of the case. This ensures particularly fast access times when used. The basic case features a hook-and-loop strip and a wrist rest for using an optional Bluetooth keyboard. The rear part of the transport case can be opened to allow the tablet PC to be optimally set up in the case as well. The outer fabric straps can be used for securing anything from tools to writing materials, meaning that everything is at your fingertips during a service call.

Optimal ventilation during operation is also provided for. Thick, elastic material ribs not only protect against small impacts, but also against over-heating. A rugged shoulder strap, a double carrying handle, and side reflective strips round off the well thought out transport case.

A case with all-round protection meant purely for storage purposes is also available for tablet PCs.

#### Note:

The expansion module pockets must be ordered separately. 1 to 3 small expansion pockets or 1 small and 1 medium expansion pocket can be attached to one basic case at the same time.

#### Ordering data

#### Article No.

#### Basic transport bag for tablet PC:

6AV6881-0AW11-3AA0

Multifunctional transport bag, suitable, for example, for the tablet PC ITP1000 or other tablet PCs, laptops. Can be expanded. Can be used as stand, with carrying strap.

#### Small expansion pocket for tablet PC

6AV6881-0AW12-3AA0

Expansion pocket, small, suitable for transport bag ITP1000.

#### Medium expansion pocket for tablet PC

6AV6881-0AW13-3AA0

Expansion pocket, medium-size, suitable for transport bag ITP1000. Can be used instead of 2 small ones.

#### Storage bag for tablet PC

6AV6881-0AW11-2AA0

Universal storage bag, suitable for all tablet PCs.

#### Tablet PC support with handle for ITP1000

6AV6881-0AW21-3AA0

#### Tablet PC carrying strap for ITP1000

6AV6881-0AW31-3AA0

## Technical specifications

Article number	6AV6881-0AW11-3AA0	6AV6881-0AW12-3AA0	6AV6881-0AW13-3AA0	6AV6881-0AW11-2AA0	6AV6881-0AW21-3AA0	6AV6881-0AW31-3AA0
	Transport bag Basic Tablet	Additional pocket small Tablet	Additional pocket medium Tablet	Storage bag Tablet	Tablet PC support with handle	Tablet PC carrying strap
<b>General information</b>						
Product type designation	Transport pouch basic	Transport pouch small	Transport pouch medium	Transport pouch storage	Tablet PC holder with handle	Tablet PC carrying strap
<b>Control elements</b>						
<b>Frame size/design</b>						
• Exceptional	Yes; Integrated ventilation, laying of cables possible	No	Yes; With integrated cable opening	No	Yes; Optimized for tablet PC, ITP1000	Yes; Optimized for tablet PC, ITP1000
<b>Ergonomics</b>						
• Trackball rest	Yes	No	No	No	No; Adjustable handle with hook-and-loop connection, any useful angle can be set	No; Carrying strap with adjustable shoulder pad
• Adjustable height	No; Case with stand function	No	No	No	No	No; Strap can be adjusted for length
<b>Installation type/mounting</b>						
Mounting type					Real assembly with provided screws	Rear lug mounting, also suitable as a belt strap
<b>Degree and class of protection</b>						
IP (all-round)					none	none
<b>Standards, approvals, certificates</b>						
CE mark					No; No CE marking obligation	No; No CE marking obligation
<b>Ambient conditions</b>						
Suited for indoor use	Yes; Washable	Yes; Washable	Yes; Washable	Yes; Washable	Yes	Yes
Suited for outdoor use	Yes; Washable	Yes; Washable	Yes; Washable	Yes; Washable	Yes	Yes
<b>Ambient temperature during operation</b>						
• min.	-30 °C; Indoor/outdoor	-30 °C; Indoor/outdoor	-30 °C; Indoor/outdoor	-30 °C; Indoor/outdoor	0 °C	0 °C
• max.	60 °C; Indoor/outdoor	60 °C; Indoor/outdoor	60 °C; Indoor/outdoor	60 °C; Indoor/outdoor	50 °C	50 °C
<b>Relative humidity</b>						
• Operation, max.	95 %	95 %	95 %	95 %	90 %	90 %
• Condensation permissible	Yes; Applies only for case, not for contents	Yes; Applies only for case, not for contents	Yes; Applies only for case, not for contents	Yes; Applies only for case, not for contents		
<b>Mechanics/material</b>						
Material						
• Plastic	Yes; 420 HD nylon	Yes; 420 HD nylon	Yes; 420 HD nylon	Yes; 420 HD nylon		
<b>Torques/forces</b>						
• Tightening torque, min.					1 N·m; Insufficient torque can lead to loosening of the screws	1 N·m; Insufficient torque can lead to loosening of the screws
• Tightening torque, max.					1.5 N·m	1.5 N·m

## Accessories

### Transport and storage

#### Technical specifications

Article number	6AV6881-0AW11-3AA0	6AV6881-0AW12-3AA0	6AV6881-0AW13-3AA0	6AV6881-0AW11-2AA0	6AV6881-0AW21-3AA0	6AV6881-0AW31-3AA0
	Transport bag Basic Tablet	Additional pocket small Tablet	Additional pocket medium Tablet	Storage bag Tablet	Tablet PC support with handle	Tablet PC carrying strap
<b>Dimensions</b>						
Width	40 cm; Approximate dimension	18 cm; Approximate dimension	25 cm; Approximate dimension	35 cm; Approximate dimension		
Height	30 cm; Approximate dimension	12 cm; Approximate dimension	18 cm; Approximate dimension	24 cm; Approximate dimension		
Depth	10 cm; Approximate dimension	5 cm; Approximate dimension	5 cm; Approximate dimension	5 cm; Approximate dimension		
Mounting cutout, width	33 cm; Max. device width	10 cm; Max. device width	20 cm; Max. device width	33 cm; Max. device width		
Mounting cutout, height	23 cm; Max. device height	14 cm; Max. device height	14 cm; Max. device height	23 cm; Max. device height		
Overall depth	3 cm; Max. device depth	3 cm; Max. device depth	3 cm; Max. device depth	3 cm; Max. device depth		
<b>Weights</b>						
Weight (without packaging)	280 g	35 g	50 g	50 g	0.4 kg	0.25 kg
<b>Scope of supply</b>						
Delivery quantity in pieces	1	1	1	1	1; 1x mounting plate with 4 lugs, 1x handle with hook-and-loop pad, 4x M4 screws, 4x washers	1; 1x carrying strap, adjustable length with snap hooks, 2 lugs, 2x M4 screws, 2x washers
<b>Other</b>						
Merchandise	Yes; Tatonka 6540.040	Yes; Tatonka 6541.040	Yes; Tatonka 6542.040	Yes; Tatonka 6539.040	Yes	Yes
Manufacturer name	TATONKA GmbH	TATONKA GmbH	TATONKA GmbH	TATONKA GmbH	ADVITEX GmbH	ADVITEX GmbH
Manufacturer's address	Robert-Bosch-Straße 3, 86451 Dasing, Germany	Eisenbahnstraße 40, 75228 Ispringen, Germany	Eisenbahnstraße 40, 75228 Ispringen, Germany			
Target devices	Suitable laptops and tablets, or similar	suitable for all appropriate interfaces	suitable for all appropriate interfaces			
Note:	Integrated cable inlets for power supply unit, hard disks etc. - simply flip open to get started	Integrated cable inlets for power supply unit, hard disks etc. - simply flip open to get started	Integrated cable inlets for power supply unit, hard disks etc. - simply flip open to get started	Integrated cable inlets for power supply unit, hard disks etc. - simply flip open to get started	Commodity, can be used for ITP1000	Commodity, can be used for ITP1000

#### More information

##### Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

**Overview****Distribution boards**

Industrial distribution boards are used for extending and/or multiplying interfaces. The distribution boards offered here are optimized for SIMATIC devices and intended for industrial use.

This also includes the interface extensions. A USB device interface with IP65 <sup>1)</sup> degree of protection is provided on the front of the control cabinet or console.

<sup>1)</sup> The stated degree of protection always refers to the closed interface. The stated degree of protection can differ significantly from the stated value when using the USB interfaces.

**USB extension**

Installation of an external USB interface is practical if external input devices or mass storage devices are frequently connected to a SIMATIC HMI PRO device. The USB interface can optionally be mounted at the top or bottom of the device. Use of the USB interface increases the availability of the system to be operated. It is also no longer necessary to open the backplane of the SIMATIC HMI PRO device to connect I/O.

Further benefits:

- Accessible to any operator without the need for tools
- Also suitable for retrofitting in enclosure
- Mountable on the front
- Increased degree of protection at front if protective cover is closed

**Ordering data****Article No.****1-port USB interface set  
RAL9023**

RAL9023 (gray), with USB 2.0 socket, type A, for basic adapter for PRO devices, max. current consumption USB with Thin Client, MP377 and Flat Panel must be observed

**6AV7674-0LX00-0AA0****2-port USB interface set  
RAL9023**

RAL9023 (gray), with USB 2.0 socket, type A, for basic adapter for PRO devices, max. current consumption USB with Thin Client, MP377 and Flat Panel must be observed

**6AV7674-0LX01-0AA0****Technical specifications**

Article number	<b>6AV7674-0LX00-0AA0</b> 1 port USB interface set RAL9023	<b>6AV7674-0LX01-0AA0</b> 2 port USB interface set RAL9023
<b>General information</b>		
Product type designation	USB port	USB port
<b>Standards, approvals, certificates</b>		
CE mark	No; No CE marking obligation	No; No CE marking obligation
RoHS conformity	Yes	Yes
<b>Scope of supply</b>		
Delivery quantity in pieces	1	1
<b>Other</b>		
Merchandise	Yes; 1-port USB interface	
Manufacturer name	RITTAL GmbH & Co. KG	
Manufacturer's address	Auf dem Stützelberg, 35745 Herborn, Germany	
Note:	for general use or for PRO devices with a suitable USB interface	

**More information**Note:

Modifications or additions to the products described here can be found and ordered under "Customer-specific products". It is also still possible to request special sector-specific products for customer-specific modification and adaptation.

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Additional accessories

#### Overview



SIMATIC small components are also perfected for the industrial environment and optimally matched to the SIMATIC HMI devices.

In order to achieve attractive prices, it is only possible in some cases to order packages containing larger quantities.

#### Note:

Keys for KTP Mobile come with a preset breaking point. This ensures that a key can still always be removed from a KTP Mobile lock even if it breaks off.

#### Ordering data

#### Article No.

<b>Spare key for Mobile Panel, Type 10</b> For key-operated switch of the Mobile Panel.	<b>6AV6574-1AG04-4AA0</b>
<b>Spare key for Mobile Panel, Type 13</b> For key-operated switch of the Mobile Panel 2 <sup>nd</sup> Generation.	<b>6AV2181-5AR80-0AX0</b>
<b>Spare key PRO, Type 14</b> For Extension Unit	<b>6AV6881-4AR23-0AA0</b>
<b>Spare key PRO, Safety, Type 14</b> For Extension Unit	<b>6AV6881-4AR23-1AA0</b>
<b>Battery compartment lid for all IWLAN Mobile Panels with Article No. 6AV6645-0...</b>	<b>6AV6881-5AM52-0AA0</b>

## Technical specifications

Article number	<b>6AV6574-1AG04-4AA0</b>	<b>6AV2181-5AR80-0AX0</b>	<b>6AV6881-5AM52-0AA0</b>
	Spare key Mobile Panel, type 10	Spare key Mobile Panel, type 13	Battery cover IWLAN Mobile Panel
<b>General information</b>			
Product type designation	Spare key Mobile Panel 1st Generation	Spare key	Battery compartment cover
<b>Standards, approvals, certificates</b>			
CE mark	Yes	No; No CE marking obligation	No; No CE marking obligation
RoHS conformity	Yes		
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
<b>Relative humidity</b>			
• Operation, max.	90 %	90 %	90 %
<b>Mechanics/material</b>			
Material			
• Plastic			Yes; Incl. seal
• Sheet steel	Yes; Handle made of plastic	Yes; Handle made of plastic	
<b>Dimensions</b>			
Width	35 mm	15 mm	8 mm; Approximate dimension
Height	18 mm	35 mm	10 mm; Approximate dimension
Depth			5 mm; Approximate dimension
Thickness	4 mm	4 mm	
<b>Weights</b>			
Weight (without packaging)	30 g	5 g	22 g
<b>Scope of supply</b>			
Delivery quantity in pieces	10; Coupled with key ring	5	1
<b>Other</b>			
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Target devices	For Mobile Panel 1st Generation	For Mobile Panel 2nd Generation	For Mobile Panel 2nd Generation
Note:			Only required for IWLAN

### More information

#### Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

<http://support.automation.siemens.com>

## Accessories

### Industrial Wireless LAN, Access Control with RFID

#### Access points IEEE 802.11n

#### Overview



#### **SCALANCE W1788 M12 for indoor use:**

The SCALANCE W-1788 M12 Access Points are rugged IP65 IWLAN devices with an M12 connector for 10/100/1000 Mbps with Power over Ethernet according to IEEE 802.3at Type 2 for applications outside the control cabinet. They enable wireless local networking of plant parts with a requirement for high bandwidths, for example through Gigabit data rates or high user density in the network. The access points are therefore especially suitable for cabinet-free industrial applications indoors.

The integrated, innovative MU-MIMO (Multi-user MIMO) technology ensures an even more efficient data throughput and the option to structure data flows. In addition, the switch integrated in the access point offers various networking options thanks to two Ethernet Gigabit ports.

Permanently mounted M12 and N-Connect connectors and the high IP65 degree of protection ensure simple and secure mounting outside the control cabinet while the proven iPRP iFeature enables bumpless redundancy via WLAN. In mobile applications, such as automated guided vehicles or railway applications, redundant wireless communication ensures reliable data transmission.

#### Product versions:

##### SCALANCE W1788-1 M12

- One radio card permanently installed in the device; functional scope can be expanded using a CLP

##### SCALANCE W1788-2 M12

- Two radio cards permanently installed in the device; functional scope can be expanded using a CLP.

##### SCALANCE W1788-2IA M12

- Two radio cards permanently installed in the device; eight internal antennas; functional scope can be expanded using a CLP.

#### **SCALANCE W1788 M12 EEC for an extended range of ambient conditions:**

The SCALANCE W-1788 M12 EEC Access Point is a rugged IP65 IWLAN device with one M12 connector for 10/100/1000 Mbps with Power over Ethernet according to IEEE 802.3at Type 2 for applications outside the control cabinet.

It also offers an extended temperature range, special approvals and conformal coating. This means it allows wireless local networking of plant parts in especially harsh industrial environments with a requirement for high bandwidths, for example through Gigabit data rates or high user density in the network.

The access point is suitable for use in industrial and automation applications, especially in the rail transport environment.

The integrated, innovative MU-MIMO (Multi-user MIMO) technology ensures an even more efficient data throughput and the option to structure data flows. In addition, the switch integrated in the access point offers various networking options, such as link aggregation or redundancy, thanks to two Ethernet Gigabit ports.

Permanently mounted M12 and N-Connect connectors and the high IP65 degree of protection ensure simple and secure mounting outside the control cabinet while the proven iPRP iFeature enables bumpless redundancy via WLAN. In mobile applications, such as automated guided vehicles or railway applications, redundant wireless communication ensures reliable data transmission.

#### Product version:

##### SCALANCE W1788-2 M12 EEC

- Two radio cards permanently installed in the device; extended ambient conditions and conformal coating
- Functional scope can be expanded using a CLP

#### **SCALANCE W788 RJ45 for use in control cabinet:**

The rugged SCALANCE W788 RJ45 Access Points with IP30 degree of protection and one RJ45 connector for 10/100/1000 Mbps with Power over Ethernet according to IEEE 802.3at are perfectly suitable for setting up Industrial Wireless LAN (IWLAN) wireless networks in which the access point is to be mounted in the control cabinet.

With data transfer rates of up to 450 Mbps according to the standard IEEE 802.11n, the access points enable reliable, wireless data transmission in real time. The access point portfolio also includes an extensive range of antennas as well as numerous mounting options for a wide variety of applications.

With iFeatures such as iPCF (Industrial Point Coordination Function) activated via the KEY-PLUG W780 iFeatures, new application areas are opened up: Data transmission along rail tracks, in amusement parks or even applications with EMERGENCY OFF function with PROFIsafe over wireless become possible.

#### Product versions:

##### SCALANCE W788-1 RJ45

- A radio card is permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

##### SCALANCE W788-2 RJ45

- Two radio cards permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

#### **SCALANCE W788 M12 for indoor use:**

The rugged SCALANCE W788 RJ45 Access Points with IP65 degree of protection and one M12 connector for 10/100/1000 Mbps with Power over Ethernet according to IEEE 802.3at are perfectly suitable for setting up Industrial Wireless LAN (IWLAN) wireless networks and for applications outside the control cabinet.

With data transfer rates of up to 450 Mbps according to the standard IEEE 802.11n, the access points enable reliable, wireless data transmission in real time. The access point portfolio also includes an extensive range of antennas as well as numerous mounting options for a wide variety of applications.

With iFeatures such as iPCF (Industrial Point Coordination Function) activated via the KEY-PLUG W780 iFeatures, new application areas are opened up:

## Overview

Data transmission along rail tracks, in amusement parks or even applications with EMERGENCY OFF function with PROFIsafe over wireless become possible.

### Product versions:

#### SCALANCE W788-1 M12

- A radio card is permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

#### SCALANCE W788-2 M12

- Two radio cards permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

### **SCALANCE W788 M12 EEC for an extended range of ambient conditions:**

The rugged SCALANCE W788 RJ45 access point with IP65 degree of protection and one M12 connector for 10/100/1000 Mbps with Power over Ethernet according to IEEE 802.3at Type 2 is perfectly suitable for setting up Industrial Wireless LAN (IWLAN) wireless networks and for applications outside the control cabinet. It also offers an extended temperature range, special approvals and conformal coating. This means it enables wireless local networking of plant parts in especially harsh industrial environments and is therefore suitable for use in industrial and automation applications, especially in the rail transport environment.

With data transfer rates of up to 450 Mbps according to the standard IEEE 802.11n, the access points enable reliable, wireless data transmission in real time. The access point portfolio also includes an extensive range of antennas as well as numerous mounting options for a wide variety of applications.

With iFeatures such as iPCF (industrial Point Coordination Function) activated via the KEY-PLUG W780 iFeatures, new application areas are opened up: Data transmission along rail tracks, in amusement parks or even applications with EMERGENCY OFF function with PROFIsafe over wireless become possible.

### Product version:

#### SCALANCE W788-2 M12 EEC

- Two radio cards permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

### **SCALANCE W786 RJ45 for outdoor use:**

The rugged SCALANCE W786 RJ45 Access Point with IP65 degree of protection and one RJ45 connector for 10/100/1000 Mbps with Power over Ethernet according to IEEE 802.3at for integrated solutions from the control level to the field with easy mounting in the control cabinet. This access point is particularly well-suited to outdoor applications with demanding climatic requirements and in areas accessible to the public.

With data transfer rates of up to 450 Mbps according to the standard IEEE 802.11n, the access points enable reliable, wireless data transmission in real time. The access point portfolio also includes an extensive range of antennas as well as numerous mounting options for a wide variety of applications.

With iFeatures such as iPCF (industrial Point Coordination Function) activated via the KEY-PLUG W780 iFeatures, new application areas are opened up: Data transmission along rail tracks, in amusement parks or even applications with EMERGENCY OFF function with PROFIsafe over wireless become possible.

### Product versions:

#### SCALANCE W786-1 RJ45

- A radio card is permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

#### SCALANCE W786-2 RJ45

- Two radio cards permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

#### SCALANCE W786-2IA RJ45

- Two radio cards permanently installed in the device; six internal antennas; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

### **SCALANCE W786 SFP for outdoor use:**

The rugged SCALANCE W786 SFP Access Point with IP65 degree of protection and 6 x R-SMA sockets for connection of remote antennas as well as two slots for SFP plug-in transceivers (optical 2 port switch) for integrated solutions from the control level to the field with easy mounting in the control cabinet. This access point is particularly well-suited to outdoor applications with demanding climatic requirements and in areas accessible to the public.

With data transfer rates of up to 450 Mbps according to the standard IEEE 802.11n, the access points enable reliable, wireless data transmission in real time. The access point portfolio also includes an extensive range of antennas as well as numerous mounting options for a wide variety of applications.

With iFeatures such as iPCF (industrial Point Coordination Function) activated via the KEY-PLUG W780 iFeatures, new application areas are opened up: Data transmission along rail tracks, in amusement parks or even applications with EMERGENCY OFF function with PROFIsafe over wireless become possible.

### Product version:

#### SCALANCE W786-2 SFP

- Two radio cards permanently installed in the device; can be expanded to establish wireless connections with KEY-PLUG W780 iFeatures

### **SCALANCE W774 RJ45 for use in control cabinet:**

The SCALANCE W774 RJ45 Access Point with IP30 degree of protection is a WLAN-capable device with two RJ45 connectors for 10/100 Mbps, where one connector has Power over Ethernet according to IEEE 802.3at, for integrated solutions from the control level to the field with easy mounting in the control cabinet. The W774-1 RJ45 enables local, wireless access to the plant and coexistence with other wireless systems by supporting 2.4 GHz and 5 GHz frequency bands. The access points in SIMATIC S7-1500 design are especially suitable for applications where the device is to be mounted in the control cabinet.

In perfect interaction with SIMATIC S7-1500, the device enables wireless transmission of data as well as communication between the PLC and an ET 200MP. It can be used to implement simple machine networks all the way to large wireless areas using MIMO technology with data transfer rates of up to 300 Mbps. In addition, it offers wireless data transmission in real time via PROFINET IO thanks to optional iFeatures provided by the KEY-PLUG W780 iFeature.

### Product version:

#### SCALANCE W774-1 RJ45

- A radio card is permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

## Accessories

### Industrial Wireless LAN, Access Control with RFID

#### Access points IEEE 802.11n

##### Overview

##### **SCALANCE W774 M12 EEC for an extended range of ambient conditions:**

The compact SCALANCE W774 M12 EEC Access Point with IP30 degree of protection is a WLAN-capable device with two M12 connectors for 10/100 Mbps, where one connector has Power over Ethernet according to IEEE 802.3at; it has railway approval and is suitable for partition wall installation.

In perfect interaction with SIMATIC S7-1500, the device enables wireless transmission of data as well as communication between the PLC and an ET 200MP. It can be used to implement simple machine networks all the way to large wireless areas using MIMO technology with data transfer rates of up to 300 Mbps. In addition, it offers wireless data transmission in real time via PROFINET IO thanks to optional iFeatures provided by the KEY-PLUG W780 iFeature.

Thanks to coated printed circuit boards (conformal coating), the SCALANCE W774-1 M12 EEC access point meets the requirements for traffic and transportation (EN 50155, E1).

##### Product version:

##### SCALANCE W774-1 M12 EEC

- A radio card is permanently installed in the device; functional scope can be expanded by using a KEY-PLUG W780 iFeatures

##### **SCALANCE W778-1 M12 for indoor use:**

The rugged SCALANCE W778-1 M12 Access Point with IP65 degree of protection and two M12 connectors for 10/100 Mbps, where one connector has Power over Ethernet according to IEEE 802.3at, is perfectly suitable for setting up Industrial Wireless LAN (IWLAN) wireless networks and for applications outside the control cabinet. Low-wear communication can be set up to movable stations using a PROFINET or EtherNet/IP connection via WLAN. The access point is suitable for easy, space-saving and cabinet-free on-site assembly in industrial and automation applications.

In perfect interaction with SIMATIC S7-1500, the device enables wireless transmission of data as well as communication between the PLC and an ET 200MP. It can be used to implement simple machine networks all the way to large wireless areas using MIMO technology with data transfer rates of up to 300 Mbps. In addition, it offers wireless data transmission in real time via PROFINET IO thanks to optional iFeatures provided by the KEY-PLUG W780 iFeature.

Due to their IP65 rating and compact design, the devices can be used in harsh ambient conditions and offer various mounting options using a DIN rail mounting adapter, angled adapter or direct wall mounting with screws. The access point portfolio also includes an extensive range of antennas.

##### Product version:

##### SCALANCE W778-1 M12

- Access point with one radio card permanently installed in the device; functional scope can be expanded using a KEY-PLUG W780 iFeature

##### **SCALANCE W778-1 M12 EEC for an extended range of ambient conditions:**

The rugged SCALANCE W778-1 M12 access point with IP65 degree of protection and two M12 connectors for 10/100 Mbps, where one connector has Power over Ethernet according to IEEE 802.3at, is perfectly suitable for setting up Industrial Wireless LAN (IWLAN) wireless networks and for applications outside the control cabinet. In addition, the device increases security in the network in combination with KEY-PLUG W700 Security when "Inter AP-Blocking" is activated. The access point is suitable for use in general industrial and automation applications, but especially for extended ambient conditions such as in the rail transport environment

In perfect interaction with SIMATIC S7-1500, the device enables wireless transmission of data as well as communication between the PLC and an ET 200MP. It can be used to implement simple machine networks all the way to large wireless areas using MIMO technology with data transfer rates of up to 300 Mbps. In addition, it offers wireless data transmission in real time via PROFINET IO thanks to optional iFeatures provided by the KEY-PLUG W780 iFeature.

Due to their IP65 rating and compact design, the devices can be used in harsh ambient conditions and offer various mounting options using a DIN rail mounting adapter, angled adapter or direct wall mounting with screws. The access point portfolio also includes an extensive range of antennas.

Thanks to coated printed circuit boards (conformal coating), the SCALANCE W774-1 M12 EEC and SCALANCE W778-1 M12 EEC access points meet the requirements for traffic and transportation (EN 50155, E1).

##### Product version:

##### SCALANCE W778-1 M12 EEC

- Access point with one radio card permanently installed in the device; functional scope can be expanded using a KEY-PLUG W780 iFeature

##### **SCALANCE W761 RJ45 for use in control cabinet:**

The SCALANCE W761 RJ45 Access Point with IP20 degree of protection and one RJ45 connector for 10/100 Mbps is perfectly suitable for setting up Industrial Wireless LAN (IWLAN) wireless networks for integrated solutions from the control level to the field. The space-saving device supports 2.4 GHz and 5 GHz frequency bands and is suitable for applications where the device is to be mounted in the control cabinet.

The SCALANCE W761 RJ45 Access Point gives you the option to easily and cost-efficiently implement wireless machine networks. The access point portfolio also includes an extensive range of antennas. It is the counterpart of the W721 clients for cost-efficient point-to-point connections and enables wireless commissioning of the plant.

Thanks to their SIMATIC design, automation components such as an ET 200SP can be seamlessly integrated into an Industrial Wireless LAN to save space in the control cabinet. This is implemented according to the IEEE 802.11n standard and with data transfer rates of up to 150 Mbps; thanks to the increased bandwidth, it can be expanded to include video data.

##### Product version:

##### SCALANCE W761-1 RJ45

- One radio card permanently installed in the device

**Overview**

- Space-saving access point, suitable for applications where the device is to be mounted in the control cabinet

**Ordering data****Article No.****SCALANCE W761 access points**

IWLAN access point with built-in wireless interface; wireless networks IEEE 802.11a/b/g/h/n at 2.4/5 GHz up to 150 Mbps; WPA2/AES; degree of protection IP20 (0 °C to +55 °C); scope of delivery: Mounting hardware, 3-pin screw terminal for 24 V DC; manual on CD-ROM; German/English

**SCALANCE W761-1 RJ45**

IWLAN access point with one built-in wireless interface

- Country approvals for operation outside the USA
- Country approvals for operation within the USA<sup>1)</sup>

**6GK5761-1FC00-0AA0****6GK5761-1FC00-0AB0**

<sup>1)</sup> Please note country approvals under <http://www.siemens.com/wireless-approvals>

**More information****Selection Tool:**

To support the selection of SCALANCE network components, the TIA Selection Tool is available at:

<http://www.siemens.com/tst>

**Wireless approvals:**

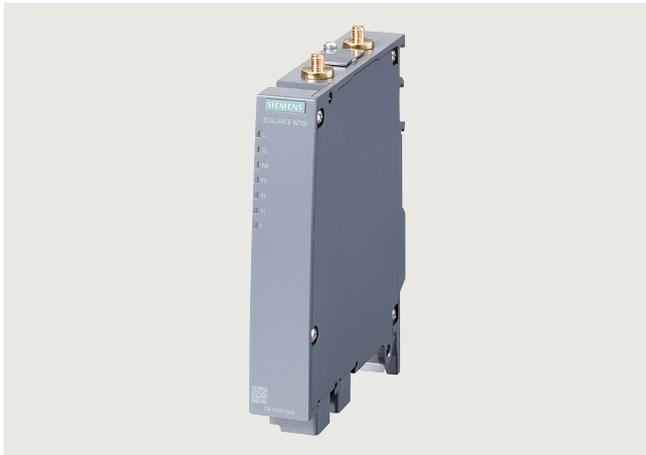
Current approvals can be found on the Internet at: <http://www.siemens.com/wireless-approvals>

## Accessories

Industrial Wireless LAN, Access Control with RFID  
Access points IEEE 802.11n

### SCALANCE W774 RJ45 for the control cabinet

#### Overview



- Access points in SIMATIC S7-1500 design are suitable for applications where the device is to be mounted in the control cabinet

#### Ordering data

#### Article No.

##### SCALANCE W774 access points

IWLAN access points with built-in wireless interface for establishing radio connections with iFeatures; wireless networks  
IEEE 802.11a/b/g/h/n  
at 2.4/5 GHz up to 300 Mbps;  
WPA2/AES;  
integrated 2-port switch;  
Power over Ethernet (PoE),  
IP30 degree of protection  
(-20 °C to +60 °C);  
scope of delivery:  
Mounting hardware,  
4-pin screw terminal for 24 V DC;  
manual on CD-ROM;  
German/English

##### SCALANCE W774-1 RJ45

IWLAN access point with one built-in wireless interface

- Country approvals for operation outside the USA
- Country approvals for operation within the USA<sup>1)</sup>
- Country approvals for operation in Israel<sup>1)</sup>

**6GK5774-1FX00-0AA0**

**6GK5774-1FX00-0AB0**

**6GK5774-1FX00-0AC0**

<sup>1)</sup> Please note country approvals under  
<http://www.siemens.com/wireless-approvals>

#### More information

##### Selection Tool:

To support the selection of SCALANCE network components, the TIA Selection Tool is available at:

<http://www.siemens.com/tst>

##### Wireless approvals:

Current approvals can be found on the Internet at:  
<http://www.siemens.com/wireless-approvals>

**SCALANCE W774 M12 EEC for an extended range of ambient conditions****Overview**

- Suitable for use in industrial and automation applications in general, but especially in railway applications where the access point is to be mounted in the control cabinet

**Ordering data****Article No.****SCALANCE W774 M12 EEC  
access points**

IWLAN Access Points with built-in wireless interface; wireless networks IEEE 802.11a/b/g/h/n at 2.4/5 GHz up to 300 Mbps; railway approval in accordance with EN 50155; conformal coating; WPA2/AES; Power over Ethernet (PoE), IP20 degree of protection; scope of delivery: Mounting hardware; manual on CD-ROM, English/German

**SCALANCE W774-1 M12 EEC**

IWLAN access point with one integrated wireless interface

- Country approvals for operation outside the USA
- Country approvals for operation within the USA<sup>1)</sup>

**6GK5774-1FY00-0TA0****6GK5774-1FY00-0TB0**

<sup>1)</sup> Please note country approvals under <http://www.siemens.com/wireless-approvals>

**More information****Selection Tool:**

To support the selection of SCALANCE network components, the TIA Selection Tool is available at:

<http://www.siemens.com/tst>

**Wireless approvals:**

Current approvals can be found on the Internet at: <http://www.siemens.com/wireless-approvals>

## Accessories

Industrial Wireless LAN, Access Control with RFID  
Access points IEEE 802.11n

### KEY-PLUG W700, CLP W700

#### Overview



- Removable data storage medium with which iFeatures and security features are enabled
- If a fault occurs, it allows fast and simple device replacement of SCALANCE W components without a PG
- Can be used in all SCALANCE W700 IEEE 802.11n products with a PLUG compartment
- For the automatic backup of configuration data

#### Ordering data

##### KEY-PLUG W780 iFeatures

Removable data storage medium for enabling additional iFeatures, for simple device replacement in the event of a fault, and for storing configuration data. Can be used in SCALANCE W access points with a PLUG slot

6GK5907-8PA00

##### KEY-PLUG W740 iFeatures

Removable data storage medium for enabling additional iFeatures, for simple device replacement in the event of a fault, and for storing configuration data. Can be used in SCALANCE W client modules with a PLUG slot

6GK5907-4PA00

##### KEY-PLUG W700 Security

Removable data storage medium for enabling security features for SCALANCE W700, for simple device replacement in the event of a fault, and for storing configuration data.

6GK5907-0PA00

#### More information

##### Selection Tool:

To support the selection of SCALANCE network components, the TIA Selection Tool is available at:

<http://www.siemens.com/tst>

#### Overview



- Removable data storage medium with which iFeatures and security features are enabled
- If a fault occurs, it allows fast and simple device replacement of SCALANCE W components without a PG
- Can be used in all SCALANCE W700 IEEE 802.11ac and IEEE 802.11ax products with a CLP slot
- For the automatic backup of configuration data

#### Ordering data

##### SCALANCE CLP 2GB W700 client iFeatures

Removable data storage medium for enabling iFeatures for SCALANCE W in client mode, enables easy device replacement in the event of a fault, as well as storage of configuration data or engineering and application data, for all SCALANCE W1700 devices.

#### Article No.

6GK5907-4UA00-0AA0

##### SCALANCE CLP 2GB W700 AP iFeatures

Removable data storage medium for enabling iFeatures for SCALANCE W in access point mode, enables easy device replacement in the event of a fault, as well as storage of configuration data or engineering and application data, for all SCALANCE W1700 devices.

6GK5907-8UA00-0AA0

#### More information

##### Selection Tool:

The TIA Selection Tool supports the selection of corresponding network components and software and is available at:

<http://www.siemens.com/tst>

**SCALANCE WAM763-1 for use in control cabinet****Overview**

Industrial access point according to IEEE 802.11ax (WiFi 6)

- Especially suitable for industrial applications where the device is to be mounted in the control cabinet

**Ordering data****SCALANCE WAM763-1 access points**

IWLAN access point,  
1 radio, 2.4/5 GHz,  
IEEE 802.11ax (WiFi 6),  
2 RSMA connectors,  
iFeatures support via CLP,  
1201 Mbps (gross),  
4x10/100/1000 Mbps RJ45 port,  
redundant 24 V DC,  
terminal block,  
IP30,  
-30...+60 °C,  
CLP slot, DI/DQ,  
terminal block,  
note country approvals!  
CERT ID: MSAX-W1-RJ-E2  
operation outside USA/Israel  
scope of delivery:  
Manuals on DVD,  
English/German,  
3x terminal block

**Article No.****6GK5763-1AL00-7DA0****More information****Selection Tool:**

To support the selection of SCALANCE network components, the TIA Selection Tool is available at:

<http://www.siemens.com/tst>

## Accessories

Industrial Wireless LAN, Access Control with RFID  
Access points IEEE 802.11ax

### SCALANCE WAM766-1 for indoor use

#### Overview



Industrial access point according to IEEE 802.11ax (WiFi 6).

- Particularly suitable for industrial applications with cabinet-free setup

#### Ordering data

#### Article No.

##### SCALANCE WAM766-1 access points

IWLAN access point;  
1 radio, 2.4/5 GHz,  
2 N-Connect connectors,  
iFeatures support via CLP,  
IEEE 802.11ax (WiFi 6),  
1201 Mbps (gross) per radio,  
1x10/100/1000 Mbps M12 socket,  
redundant 24 V DC,  
M12 L-coded, PoE,  
IP65 (non-EEC variant:  
-30 °C to +60 °C;  
EEC variant: -30 °C to +75 °C),  
CLP slot, DI/DQ, A-coded,  
note country approvals!  
CERT ID: MSAX65-W1-M12-E2,  
FCCID: LYHMSAX\*,  
scope of delivery:  
Manuals on DVD,  
English/German,  
sealing caps for connectors

##### SCALANCE WAM766-1

- Country approvals for operation outside the USA/Israel<sup>1)</sup>
- Country approval for operation in the USA<sup>1)</sup>

**6GK5766-1GE00-7DA0**

**6GK5766-1GE00-7DB0**

##### SCALANCE WAM766-1 EEC

- Country approvals for operation outside the USA/Israel<sup>1)</sup>
- Country approval for operation in the USA<sup>1)</sup>

**6GK5766-1GE00-7TA0**

**6GK5766-1GE00-7TB0**

<sup>1)</sup> Please note country approvals under <http://www.siemens.com/wireless-approvals>

#### More information

##### Selection Tool:

To support the selection of SCALANCE network components, the TIA Selection Tool is available at:

<http://www.siemens.com/tst>

**SCALANCE WAM766-1 EEC for an extended range of ambient conditions****Overview**

Industrial access point according to IEEE 802.11ax (WiFi 6).

- Particularly suitable for industrial applications with cabinet-free setup

**Ordering data****Article No.****SCALANCE WAM766-1 EEC access points**

IWLAN access point;  
1 radio, 2.4/5 GHz,  
2 N-Connect connectors,  
iFeatures support via CLP,  
IEEE 802.11ax (WiFi 6),  
1201 Mbps (gross) per radio,  
1x10/100/1000 Mbps M12 socket,  
redundant 24 V DC, M12 L-coded,  
PoE, IP65 (-30 °C to +75 °C),  
CLP slot, DI/DQ, A-coded,  
note country approvals!  
CERT ID: MSAX65-W1-M12-E2,  
FCCID: LYHMSAX\*,  
scope of delivery:  
Manuals on DVD,  
English/German,  
sealing caps for connectors

**SCALANCE WAM766-1 EEC**

- Country approvals for operation outside the USA/Israel<sup>1)</sup>
- Country approval for operation in the USA<sup>1)</sup>

**6GK5766-1GE00-7TA0****6GK5766-1GE00-7TB0**

<sup>1)</sup> Please note country approvals under <http://www.siemens.com/wireless-approvals>

**More information****Selection Tool:**

To support the selection of SCALANCE network components, the TIA Selection Tool is available at:

<http://www.siemens.com/tst>

## Accessories

Industrial Wireless LAN, Access Control with RFID  
SIMATIC RF1000

### RF1040R

#### Overview



SIMATIC RF1040R Reader with card holder

The SIMATIC RF1040R Reader allows individual control of access rights on machinery and systems. The reader operates primarily in the LF range with 125 kHz and supports conventional standards for employee IDs (Hitag 1/2/S, EM41xx, Cotag, EKS). Transponders with ISO 14443 A/B (MIFARE) and ISO 15693 standards can also be read.

SIMATIC RF1000 readers feature a USB interface for connection to Windows-based computers and third-party HMIs (1.8 m cable with USB plug, type A). Due to its rugged, compact design and shallow installation depth, the reader is ideally suited for applications where mounting space is at a premium or in harsh industrial environments, such as in panels.

The RF1040R Reader features an additional RS232 interface. This allows the reader to be easily integrated into a wide range of system environments:

- PROFINET via RF18xC/CI
- S7-1200 via RF120C
- PROFIBUS via RF166C
- ET 200pro via RF170C
- ET 200SP, PCs, third-party HMI, other control systems

The reader features a 3-color LED status display as well as an acoustic signaling element.

#### Ordering data

#### Article No.

##### SIMATIC RF1040R Reader

6GT2831-6CA50

Access control reader (LF 125 kHz) for HITAG 1/2/S, EM41xx/45xx, EKS as well as (HF 13.56 MHz) for ISO14443 A/B (MIFARE), ISO15693, with USB connection (incl. 1.8 m connecting cable) and RS232

##### Accessories

##### Card holder for RF1040R

6GT2890-0CA00

##### Config card RF1100T for all RF1000 readers

6GT2300-0CC00-0AX0

MIFARE DESFire EV2 8kB  
Memory EEPROM, IP67,  
-25 ... +60 °C, 85 x 54 x 0.8 mm

##### Optional USB cable 0.5 m (type A plug)

6GT2891-0UE50

Reader with USB cable and card holder

**Overview**

SIMATIC RF1060R Reader with card holder

The SIMATIC RF1060R Reader makes it easy to use existing employee IDs (ISO 14443 A/B and ISO 15693 standards) for the operation of machines and plants. The RF1060R Reader features a USB interface (1.8 m cable with USB plug, type A) for connection to Windows-based computers.

Due to its compact design and shallow installation depth, the reader is ideally suited for applications where mounting space is at a premium, such as in panels.

**Ordering data****Article No.**

**SIMATIC RF1060R Reader**  
Access control reader  
(13.56 MHz) for ISO 14443 A/B  
(MIFARE) and ISO 15693,  
with USB connection  
(incl. 1.8 m connecting cable)

**6GT2831-6AA50****Accessories****Card holder for RF1060R****6GT2890-0CA00****Config card RF1100T for all  
RF1000 readers****6GT2300-0CC00-0AX0**

MIFARE DESFire EV2 8kB  
Memory EEPROM, IP67,  
-25 ... +60 °C, 85 x 54 x 0.8 mm

**Optional USB cable 0.5 m  
(type A plug)****6GT2891-0UE50**

Reader with USB cable and  
card holder

## Accessories

Industrial Wireless LAN, Access Control with RFID  
SIMATIC RF1000

### RF1070R

#### Overview



SIMATIC RF1070R Reader with card holder

The SIMATIC RF1070R Reader allows individual control of access rights on machinery and systems. In addition to ISO 14443 A/B (MIFARE) and ISO 15693, the reader also complies with the LEGIC Prime and LEGIC Advant standards, thus enabling the use of existing employee IDs.

Readers of the SIMATIC RF1000 series feature a USB interface for connection to Windows-based computers and third-party HMIs (1.8 m cable with USB plug, type A). Due to its rugged, compact design and shallow installation depth, the reader is ideally suited for applications where mounting space is at a premium or in harsh industrial environments, such as in panels.

The RF1070R Reader features an additional RS232 interface. This allows the reader to be easily integrated into a wide range of system environments:

- PROFINET via RF18xC/CI
- S7-1200 via RF120C
- PROFIBUS via RF166C
- ET 200pro via RF170C
- ET 200SP, PCs, third-party HMI, other control systems

The reader features a 3-color LED status display as well as an acoustic signaling element.

The reader is also available as RF1070R OEM version with neutral front film. In addition to the supplied neutral front film, you can also create your own design and attach this to the reader. Please note that the OEM version does not have ATEX approval.

#### Ordering data

#### Article No.

##### SIMATIC RF1070R Reader

6GT2831-6BA50

Access control reader (13.56 MHz) for ISO 14443 A/B (MIFARE), ISO 15693, Legic Prime, Legic Advant, with USB connection (incl. 1.8 m connecting cable) and RS232

##### SIMATIC RF1070R OEM Reader

6GT2831-6BA50-0AX0

Access control reader (13.56 MHz) for ISO 14443 A/B (MIFARE), ISO 15693, Legic Prime, Legic Advant, with USB connection (incl. 1.8 m connecting cable) and RS232 with supplied neutral front film

## Overview



Universal data memory (752 bytes EEPROM) in credit card format (85 mm × 54 mm × 0.8 mm), degree of protection IP68, temperature range up to +60 °C and max. read/write distance of 70 mm.

## Ordering data

## Article No.

**Transponder MDS E600**

MOBY E Mobile data storage unit  
MDS E600 ISO card, 752 byte  
EEPROM, IP68, -25 ... +60 °C,  
85 × 54 × 0.8 mm

- For RF300, MOBY E
- Minimum order quantity: 50 units

**6GT2300-0AA00****Accessories****Fixing lug pocket for  
MDS E600****6GT2390-0AA00****Fixing lug for  
MDS E600/E611****6GT2190-0AB00****Spacer for fixing lug,  
thickness 20 mm****6GT2190-0AA00**

## Accessories

### Process coupling

#### Connecting cables

##### Overview



Connecting cables

##### Key

P = PROCESS COUPLING

K = Optional process coupling (option required)

D = DOWNLOAD (update operating system, project, ...)

U = Booting (factory setting in the case of a missing or damaged operating system)

MBP = Mobile Panel

**Overview**
**Overview of SIMATIC HMI connection options**

	RS 232 external (15/9-pin)	TD-PPI (incl. voltage)	RS 232 Null modem	RS 232/PPI multi-master cable	USB/PPI multi-master cable	MPI (PG-S7) up to 187.5 kbaud
	6XV1440-2Kxxx	6ES7901-3EB10-0XA0	6ES7901-1BF00-0XA0	6ES7901-3CB30-0XA0	6ES7901-3DB30-0XA0	6ES7901-0BF00-0AA0
Key Panel KP8/KP8F, KP32F	-	-	-	-	-	-
PP7, PP17-I, PP17-II	-	-	-	-	-	-
KTP400 Basic mono PN	-	-	-	-	-	-
KTP600 Basic mono PN	-	-	-	-	-	-
KTP600 Basic color DP	-	-	-	D/U	D/U	P/D
KTP600 Basic color PN	-	-	-	-	-	-
KTP1000 Basic color DP	-	-	-	D/U	D/U	P/D
KTP1000 Basic color PN	-	-	-	-	-	-
KTP1500 Basic color PN	-	-	-	-	-	-
K(T)P400 Comfort	-	-	-	-	-	P/D
K(T)P700 - KP1500 Comfort	-	-	-	-	-	P/D
TP700 -TP2200 Comfort	-	-	-	-	-	P/D
MBP 177	-	-	-	D/U	-	-
MBP 277	-	-	-	D/U	-	-
TD200	-	P	-	D/U	-	P
TD400C	-	P	-	D/U	-	P
OP73micro	-	P	-	D/U	D/U	P
TP177micro	-	-	-	D/U	D/U	-
OP73	-	P	-	D/U	D/U	P/D
OP77A	-	-	-	D/U	D/U	P/D
OP77B	P	-	D/U	-	-	P/D
TP177A	-	-	-	D/U	D/U	P/D
TP177B	P <sup>1)</sup>	-	-	D/U	-	P/D
TP177B 4"	P <sup>1)</sup>	-	D	D	-	P/D
OP177B	P <sup>1)</sup>	-	-	D/U	-	P/D
TP277-6	P <sup>1)</sup>	-	-	D/U	-	P/D
OP277-6	P <sup>1)</sup>	-	-	D/U	-	P/D
MP177-6 T	P <sup>1)</sup>	-	-	D/U	-	P/D
MP277-8 T	P <sup>1)</sup>	-	-	D/U	-	P/D
MP277-10 T	P <sup>1)</sup>	-	-	D/U	-	P/D
MP377-12 T	P <sup>1)</sup>	-	-	D	-	P/D
MP377-15 T	P <sup>1)</sup>	-	-	D	-	P/D
MP377-19 T	P <sup>1)</sup>	-	-	D	-	P/D

<sup>1)</sup> Only in conjunction with the RS 422/232 converter

## Accessories

### Process coupling

#### Connecting cables

#### Overview

	DP PtP	DP Standard	DP (Mobile Panel)	PN (cross cable) <sup>1)</sup> Point-to-point	PN (standard cable) <sup>1)</sup>	PN (Mobile Panel)	RS 422 to RS 232 converter	RS 232 to TTY converter (20 mA)	90° angular (9-pin 1:1)
Key Panel KP8/KP8F, KP32F	-	-	-	P/D	P/D	-	-	-	-
PP7, PP17-I, PP17-II	P	P	-	-	-	-	-	-	-
KTP400 Basic mono PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP600 Basic mono PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP600 Basic color DP	P/D	P/D	-	-	-	-	-	-	P/D/U
KTP600 Basic color PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP1000 Basic color DP	P/D	P/D	-	-	-	-	-	-	P/D/U
KTP1000 Basic color PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP1500 Basic color PN	-	-	-	P/D/U	P/D/U	-	-	-	-
K(T)P400 Comfort	P/D	P/D	-	P/D/U	P/D/U	-	-	-	P/D/U
K(T)P700 - TP1500 Comfort	P/D	P/D	-	P/D/U	P/D/U	-	-	-	P/D/U
TP700 -TP2200 Comfort	P/D	P/D	-	P/D/U	P/D/U	-	-	-	P/D/U
MBP 177 DP	P/D	P/D	P/D	-	-	-	-	-	-
MBP 177 PN	-	-	-	-	-	P/D	-	-	-
MBP 277	P/D	P/D	P/D	-	-	P/D	-	-	-
TD200	-	-	-	-	-	-	-	-	-
TD400C	-	-	-	-	-	-	-	-	-
OP73micro	P	-	-	-	-	-	-	-	-
TP177micro	P	P	-	-	-	-	-	-	P/D/U
OP73	P	P	-	-	-	-	-	-	-
OP77A	P	P	-	-	-	-	-	-	P/D/U
OP77B	P/D	P/D	-	-	-	-	-	P	P/D/U
TP177A	P	P	-	-	-	-	-	-	P/D/U
TP177B DP	P/D	P/D	-	-	-	-	P	P <sup>2)</sup>	P/D/U
TP177B PN/DP	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
TP177B 4*	P/D	P/D	-	P/D/U	P/D/U	-	P	P <sup>2)</sup>	P/D/U
OP177B DP	P/D	P/D	-	-	-	-	P	P <sup>2)</sup>	P/D/U
OP177B PN/DP	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
TP277-6	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
OP277-6	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
MP177-6 T	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
MP277-8 T	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
MP277-8 K	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
MP277-10 T	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
MP277-10 K	P/D	P/D	-	P/D	P/D	-	P	P <sup>2)</sup>	P/D/U
MP377-12 T	P/D	P/D	-	P/D/U	P/D/U	-	P	P <sup>2)</sup>	P/D
MP377-12 K	P/D	P/D	-	P/D/U	P/D/U	-	P	P <sup>2)</sup>	P/D
MP377-15 T	P/D	P/D	-	P/D/U	P/D/U	-	P	P <sup>2)</sup>	P/D
MP377-19 T	P/D	P/D	-	P/D/U	P/D/U	-	P	P <sup>2)</sup>	P/D

#### Note:

This table is for basic orientation only. Technical characteristics are described in the communication manual or the respective user manual.

<sup>1)</sup> PROFINET IRT (isochronous runtime); isochronous mode only possible with IRT-enabled switch

<sup>2)</sup> WinCC flexible 2008 SP2 and higher

Ordering data	Article No.	Article No.																																										
<b>Connecting cables</b> <b>SIMATIC S7 connecting cables</b> <b>MPI cable</b> between SIMATIC S7 and programming device via MPI max. 187.5 kBaud, standard length 5.0 m	6ES7901-0BF00-0AA0	<b>Connecting cable for KTP Mobile Panels</b> <ul style="list-style-type: none"> <li>• 2 m</li> <li>• 5 m</li> <li>• 8 m</li> <li>• 10 m</li> <li>• 15 m</li> <li>• 20 m</li> <li>• 25 m</li> </ul> <b>USB connecting cable</b> 6GT2891-0UE50 Optional 0.5 m USB cable (type A connector) female to male, can be used as extension for USB cable with type "A" connector 1) Instead of using longer cables, we recommend that you use additional connection boxes. 2) See length code.																																										
<b>Connecting cable</b> between HMI adapter and PC/TS Adapter (RS 232 cable/null-modem cable) for OP 77B, TP 177A/B, OP 177B, standard length 5.0 m	6ES7901-1BF00-0XA0																																											
<b>PROFIBUS 830-1T connecting cable</b> For connection of data terminals, pre-assembled with two D-sub connectors, 9-pin terminated at both ends for PP, OP 73micro, OP 73, TP 177micro, OP 77A/B, TP 177A, TP/OP 177B <ul style="list-style-type: none"> <li>• 1.5 m</li> <li>• 3.0 m</li> </ul>	6XV1830-1CH15 6XV1830-1CH30																																											
<b>PROFIBUS FC standard cable <sup>2)</sup></b> For connection to PPI; standard type with special design for quick mounting, 2-wire, shielded, sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m	6XV1830-0EH10	<b>Length code for connecting cables</b> With connecting cables whose length is freely selectable according to the following lists, the blanks (...) in the Article No. must be completed in accordance with the length codes given. The different length codes must be taken into account here! Other lengths on request. <u>Length code for 6XV connecting cables</u> <b>6XV. ... connecting cables</b> <table border="1"> <thead> <tr> <th>Length of the connecting cable = Multiplier x length key</th> <th>Article No. supplement of the connecting cable</th> </tr> </thead> <tbody> <tr> <td></td> <td>6XV....-.....</td> </tr> <tr> <td><b>Multiplier</b></td> <td></td> </tr> <tr> <td>• 0.01 m</td> <td>6XV....-..E..</td> </tr> <tr> <td>• 0.1 m</td> <td>6XV....-..H..</td> </tr> <tr> <td>• 1.0 m</td> <td>6XV....-..N..</td> </tr> <tr> <td>• 10.0 m</td> <td>6XV....-..T..</td> </tr> <tr> <td>• 100.0 m</td> <td>6XV....-..U..</td> </tr> <tr> <td><b>Length digit</b></td> <td></td> </tr> <tr> <td>• 10</td> <td>6XV....-...10</td> </tr> <tr> <td>• 12</td> <td>6XV....-...12</td> </tr> <tr> <td>• 15</td> <td>6XV....-...15</td> </tr> <tr> <td>• 16</td> <td>6XV....-...16</td> </tr> <tr> <td>• 20</td> <td>6XV....-...20</td> </tr> <tr> <td>• 25</td> <td>6XV....-...25</td> </tr> <tr> <td>• 32</td> <td>6XV....-...32</td> </tr> <tr> <td>• 40</td> <td>6XV....-...40</td> </tr> <tr> <td>• 50</td> <td>6XV....-...50</td> </tr> <tr> <td>• 60</td> <td>6XV....-...60</td> </tr> <tr> <td>• 63</td> <td>6XV....-...63</td> </tr> <tr> <td>• 80</td> <td>6XV....-...80</td> </tr> </tbody> </table>	Length of the connecting cable = Multiplier x length key	Article No. supplement of the connecting cable		6XV....-.....	<b>Multiplier</b>		• 0.01 m	6XV....-..E..	• 0.1 m	6XV....-..H..	• 1.0 m	6XV....-..N..	• 10.0 m	6XV....-..T..	• 100.0 m	6XV....-..U..	<b>Length digit</b>		• 10	6XV....-...10	• 12	6XV....-...12	• 15	6XV....-...15	• 16	6XV....-...16	• 20	6XV....-...20	• 25	6XV....-...25	• 32	6XV....-...32	• 40	6XV....-...40	• 50	6XV....-...50	• 60	6XV....-...60	• 63	6XV....-...63	• 80	6XV....-...80
Length of the connecting cable = Multiplier x length key	Article No. supplement of the connecting cable																																											
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• 63	6XV....-...63																																											
• 80	6XV....-...80																																											
<b>Industrial Ethernet TP XP cord RJ45/RJ45</b> Crossed twisted pair line 4 x 2, preassembled with 2 x RJ45 connectors <ul style="list-style-type: none"> <li>• 0.5 m</li> <li>• 1.0 m</li> <li>• 2.0 m</li> <li>• 6.0 m</li> <li>• 10.0 m</li> </ul>	6XV1870-3RE50 6XV1870-3RH10 6XV1870-3RH20 6XV1870-3RH60 6XV1870-3RN10																																											
<b>DP connecting cable (MPI/PROFIBUS)</b> For wired Mobile Panels 177, Mobile Panels 277, standard lengths <ul style="list-style-type: none"> <li>• 2 m</li> <li>• 5 m</li> <li>• 8 m</li> <li>• 10 m</li> <li>• 15 m</li> <li>• 20 m</li> <li>• 25 m <sup>1)</sup></li> </ul>	6XV1440-4AH20 6XV1440-4AH50 6XV1440-4AH80 6XV1440-4AN10 6XV1440-4AN15 6XV1440-4AN20 6XV1440-4AN25																																											
<b>PN connecting cable (PROFINET)</b> For wired Mobile Panels 177, Mobile Panels 277, standard lengths <ul style="list-style-type: none"> <li>• 2 m</li> <li>• 5 m</li> <li>• 8 m</li> <li>• 10 m</li> <li>• 15 m</li> <li>• 20 m</li> <li>• 25 m <sup>1)</sup></li> </ul>	6XV1440-4BH20 6XV1440-4BH50 6XV1440-4BH80 6XV1440-4BN10 6XV1440-4BN15 6XV1440-4BN20 6XV1440-4BN25																																											

#### Ordering example:

The 6XV1404-0A... connecting cable must be 16 m long. Multiplier 1.0 m (N) x length digit 16 (16) gives a length of 16 m. The Article No. supplement is N16. Enter this in the blank spaces of the Article No.  
 The complete Article No. for the 16-m-long connecting cable is then: **6XV1404-0AN16**.

## Accessories

### Process coupling

#### Connecting cables

##### Technical specifications

Article number	<b>6ES7901-0BF00-0AA0</b> S7 MPI Cable, 5m			<b>6ES7901-1BF00-0XA0</b> RS232 / zero Modem Cable, 6 M			
<b>General information</b>							
Product type designation	MPI cable			RS 232/null modem cable			
<b>Cables</b>							
Cable length	5 m			6 m			
<b>Weights</b>							
Weight, approx.	293 g			272 g			
Article number	<b>6XV1440-4AH20</b>	<b>6XV1440-4AH50</b>	<b>6XV1440-4AH80</b>	<b>6XV1440-4AN10</b>	<b>6XV1440-4AN15</b>	<b>6XV1440-4AN20</b>	<b>6XV1440-4AN25</b>
	Connecting cable Mobile Panels, 2M	Connecting cable Mobile Panels, 5M	Connecting cable Mobile Panels, 8M	Connecting cable Mobile Panels, 10M	Connecting cable Mobile Panels, 15M	Connecting cable Mobile Panels, 20M	Connecting cable Mobile Panels, 25M
<b>General information</b>							
Product type designation	MPI/DP connecting cable	MPI/DP connecting cable	MPI/DP connecting cable	MPI/DP connecting cable	MPI/DP connecting cable	MPI/DP connecting cable	MPI/DP connecting cable
<b>Supply voltage</b>							
Rated value (DC)	24 V; DC	24 V; DC	24 V; DC		24 V; DC	24 V; DC	24 V; DC
<b>Degree and class of protection</b>							
IP (at the front)	IP65	IP65	IP65		IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65		IP65	IP65	IP65
<b>Standards, approvals, certificates</b>							
CE mark	Yes	Yes	Yes		Yes	Yes	Yes
<b>Ambient conditions</b>							
<b>Ambient temperature during operation</b>							
• min.	0 °C	0 °C	0 °C		0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C		55 °C	55 °C	55 °C
<b>Relative humidity</b>							
• Operation, max.	85 %	85 %	85 %		85 %	85 %	85 %
<b>Cables</b>							
Cable length	2 m	5 m	8 m	10 m	15 m	20 m	25 m
smallest bending radius	45 mm	45 mm	45 mm		45 mm	45 mm	45 mm
Color of cable sheath	red	red	red		red	red	red
Oil resistance of outer sheath	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils		Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils
Resistance to MEK, xylene, toluene, isopropanol	Yes	Yes	Yes		Yes	Yes	Yes
<b>Mechanics/material</b>							
Material of cable sheath	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963		Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963
<b>Dimensions</b>							
Thickness	9 mm	9 mm	9 mm		9 mm	9 mm	9 mm
<b>Scope of supply</b>							
Delivery quantity in pieces	1	1	1		1	1	1
<b>Other</b>							
Merchandise	No	No	No	No	No	No	No
Manufacturer name	SIEMENS AG						
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany						
contacting the manufacturer	Email: simatic_hmi_panel_helpdesk.i-ia@siemens.com						

**Technical specifications**

Article number	<b>6XV1440-4BH20</b> Conn. cable PN for MOBILE PANELS, 2M	<b>6XV1440-4BH50</b> Conn. cable PN for MOBILE PANELS, 5M	<b>6XV1440-4BH80</b> Conn. cable PN for MOBILE PANELS, 8M
<b>General information</b>			
Product type designation	PN connecting cable	PN connecting cable	PN connecting cable
<b>Supply voltage</b>			
Rated value (DC)	24 V	24 V	24 V
<b>Degree and class of protection</b>			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65
<b>Standards, approvals, certificates</b>			
CE mark	Yes	Yes	Yes
<b>Ambient conditions</b>			
<b>Ambient temperature during operation</b>			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
<b>Relative humidity</b>			
• Operation, max.	85 %	85 %	85 %
<b>Cables</b>			
Cable length	2 m	5 m	8 m
smallest bending radius	45 mm	45 mm	45 mm
Color of cable sheath	green	green	green
Oil resistance of outer sheath	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils
Resistance to MEK, xylene, toluene, isopropanol	Yes	Yes	Yes
<b>Mechanics/material</b>			
Material of cable sheath	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963
<b>Dimensions</b>			
Thickness	9 mm	9 mm	9 mm
<b>Scope of supply</b>			
Delivery quantity in pieces	1	1	1
<b>Other</b>			
Merchandise	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
contacting the manufacturer	Email: simatic_hmi_panel_helpdesk.i-ia@siemens.com		

## Accessories

### Process coupling

#### Connecting cables

#### Technical specifications

Article number	<b>6XV1440-4BN10</b> Conn. cable PN for MOBILE PANELS,10M	<b>6XV1440-4BN15</b> Conn. cable PN for MOBILE PANELS,15M	<b>6XV1440-4BN20</b> Conn. cable PN for MOBILE PANELS,20M	<b>6XV1440-4BN25</b> Conn. cable PN for MOBILE PANELS,25M
<b>General information</b>				
Product type designation	PN connecting cable	PN connecting cable	PN connecting cable	PN connecting cable
<b>Supply voltage</b>				
Rated value (DC)	24 V	24 V	24 V	24 V
<b>Degree and class of protection</b>				
IP (at the front)	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65
<b>Standards, approvals, certificates</b>				
CE mark	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
<b>Relative humidity</b>				
• Operation, max.	85 %	85 %	85 %	85 %
<b>Cables</b>				
Cable length	10 m	15 m	20 m	25 m
smallest bending radius	45 mm	45 mm	45 mm	45 mm
Color of cable sheath	green	green	green	green
Oil resistance of outer sheath	Yes; Hydrolysis-resistant and lubricants and hydraulic oils	oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available		
Resistance to MEK, xylene, toluene, isopropanol	Yes	Yes	Yes	Yes
<b>Mechanics/material</b>				
Material of cable sheath	Special PUR, flame-resistant	acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963		
<b>Dimensions</b>				
Thickness	9 mm	9 mm	9 mm	9 mm
<b>Scope of supply</b>				
Delivery quantity in pieces	1	1	1	1
<b>Other</b>				
Merchandise	No	No	No	No
Manufacturer name	SIEMENS AG	SIEMENS AG	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany			
contacting the manufacturer	Email: simatic_hmi_panel_helpdesk.i-ia@siemens.com			

#### Technical specifications

Article number	6AV2181-5AF02-0AX0	6AV2181-5AF05-0AX0	6AV2181-5AF08-0AX0	6AV2181-5AF10-0AX0	6AV2181-5AF15-0AX0	6AV2181-5AF20-0AX0	6AV2181-5AF25-0AX0
	Connecting Cable 2 M KTP Mobile	Connecting Cable 5 M KTP Mobile	Connecting Cable 8 M KTP Mobile	Connecting Cable 10 M KTP Mobile	Connecting Cable 15 M KTP Mobile	Connecting Cable 20 M KTP Mobile	Connecting Cable 25 M KTP Mobile
<b>General information</b>							
Product type designation	Connecting cable	Connecting cable	Connecting cable	Connecting cable	Connecting cable	Connecting cable	Connecting cable
<b>Standards, approvals, certificates</b>							
CE mark	Yes	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ambient conditions</b>							
<b>Ambient temperature during operation</b>							
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C	55 °C	55 °C	55 °C
<b>Cables</b>							
Cable length	2 m	5 m	8 m	10 m	15 m	20 m	25 m
Maximum tensile load	300 N	300 N	300 N	300 N	300 N	300 N	300 N
Color of cable sheath							
• green	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Scope of supply</b>							
Delivery quantity in pieces	1	1	1	1	1	1	1
<b>Other</b>							
Merchandise	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manufacturer name	On request	On request	On request	On request	On request	On request	On request

#### More information

##### Note:

Cable pin assignments can be found on the Internet in the Online Help of WinCC flexible and under FAQs.

<http://support.automation.siemens.com>

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.

Industry Mall:

<https://mall.industry.siemens.com>

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

<http://www.siemens.com/tia-selection-tool>

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

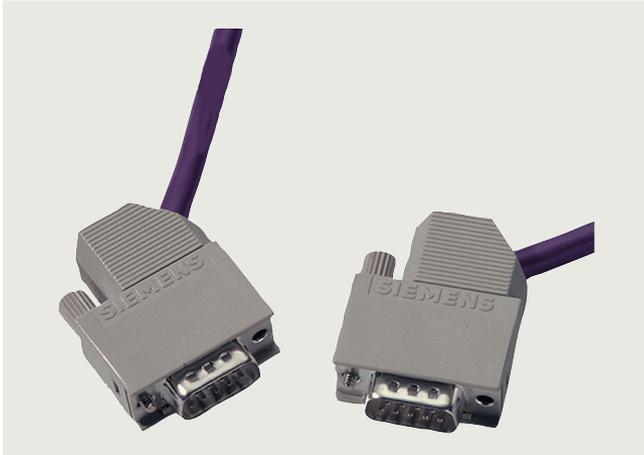
<http://support.automation.siemens.com>

## Accessories

### Process coupling

#### Connecting cable 830-1T

##### Overview



- Prefabricated cable for fast and cost-effective connection of PROFIBUS nodes to OLM and OBT
- Flexible PROFIBUS connecting cable

##### Ordering data

###### PROFIBUS 830-1T connecting cable

For connecting a data terminal, pre-assembled with two D-sub connectors, 9-pin, terminated at both ends

- 1.5 m long
- 3 m long

##### Article No.

6XV1830-1CH15  
6XV1830-1CH30

**Overview**


- Patch cable, available fully assembled
- With 4 x 2 cores for 10/100/1 000 Mbps Ethernet
- Small cable diameter
- Cat6<sub>A</sub> (4 x 2) of the ISO/IEC 11801 and EN 50173 international cabling standards

**Ordering data**
**IE TP Cord  
RJ45/RJ45**

TP cable 4 x 2 with  
2 RJ45 plugs

- 0.3 m
- 0.5 m
- 1 m
- 2 m
- 3 m
- 4 m
- 6 m
- 10 m
- 15 m
- 20 m
- 25 m
- 30 m
- 35 m
- 40 m
- 45 m
- 50 m

**Article No.**

6XV1870-3QE30  
6XV1870-3QE50  
6XV1870-3QH10  
6XV1870-3QH20  
6XV1870-3QH30  
6XV1870-3QH40  
6XV1870-3QH60  
6XV1870-3QN10  
6XV1870-3QN15  
6XV1870-3QN20  
6XV1870-3QN25  
6XV1870-3QN30  
6XV1870-3QN35  
6XV1870-3QN40  
6XV1870-3QN45  
6XV1870-3QN50

**IE TP XP cord  
RJ45/RJ45**

Twisted pair cable 4 x 2 with  
2 RJ45 plugs

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

6XV1870-3RE50  
6XV1870-3RH10  
6XV1870-3RH20  
6XV1870-3RH60  
6XV1870-3RN10

**Article No.**
**IE TP Cord  
M12-180/RJ45-180**

TP cable 4 x 2 with  
1 x RJ45 plugs and  
1 x M12 (X-coded)

- 0.5 m
- 1.0 m
- 1.5 m
- 2.0 m
- 3.0 m
- 5.0 m
- 10 m
- 15 m
- 30 m
- 50 m

6XV1878-5TE50  
6XV1878-5TH10  
6XV1878-5TH15  
6XV1878-5TH20  
6XV1878-5TH30  
6XV1878-5TH50  
6XV1878-5TN10  
6XV1878-5TN15  
6XV1878-5TN30  
6XV1878-5TN50

**More information**
**Selection Tool:**

The TIA Selection Tool is available to assist you in selecting cabling systems for SIMATIC NET at:

<http://www.siemens.com/tst>

**Ordering overview:**

You can find more information on the FastConnect range in the ordering overview

<https://support.industry.siemens.com/cs/document/109766358/ordering-overview-cabling-technology-for-communication-networks-in-industry?dti=0&lc=en-DE>

## Accessories

### Process coupling

#### RS485 bus connector

##### Overview

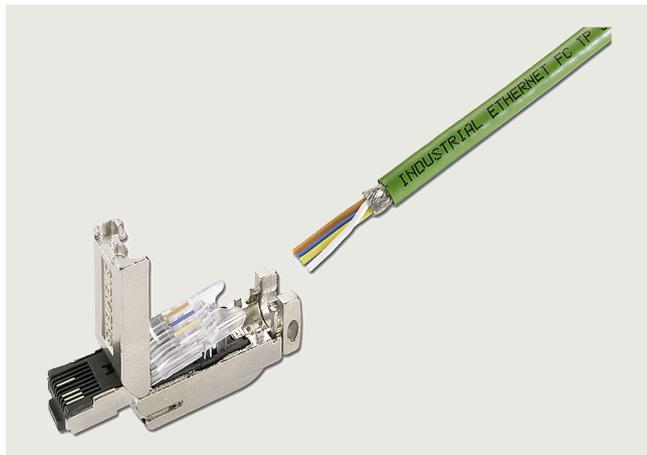


- Used for connecting PROFIBUS nodes to the PROFIBUS bus cable
- Easy installation
- FastConnect plugs ensure extremely short assembly times due to their insulation-displacement technology
- Integrated terminating resistors (not in the case of 6ES7972-0BA30-0XA0)
- Connectors with D-sub sockets permit PG connection without the additional installation of network nodes

##### Ordering data

Ordering data	Article No.	Ordering data	Article No.
<b>RS485 bus connector with axial cable outlet (180°)</b> For industrial PC, SIMATIC HMI OP, OLM; max. transfer rate 12 Mbps	6GK1500-0EA02	<b>RS485 bus connector with 30° cable outlet</b> With screw terminals low-cost variant, max. transfer rate 1.5 Mbps	6ES7972-0BA30-0XA0
<b>PROFIBUS FastConnect RS485 bus connector plug 180</b> With 180° cable outlet, with insulation displacement terminals	6GK1500-0FC10	<b>PROFIBUS RS485 bus connector with FastConnect technology</b> <b>PROFIBUS FastConnect RS485 bus connector with 90° cable outlet</b> With insulation displacement terminals, max. transfer rate 12 Mbps Without programming device interface <ul style="list-style-type: none"> <li>• 1 unit</li> <li>• 100 units</li> </ul> With programming device interface <ul style="list-style-type: none"> <li>• 1 unit</li> <li>• 100 units</li> </ul> Without programming device interface, grounding via control cabinet cover <ul style="list-style-type: none"> <li>• 1 unit</li> </ul> With programming device interface, grounding via control cabinet cover <ul style="list-style-type: none"> <li>• 1 unit</li> </ul>	6ES7972-0BA52-0XA0 6ES7972-0BA52-0XB0 6ES7972-0BB52-0XA0 6ES7972-0BB52-0XB0 6ES7972-0BA70-0XA0 6ES7972-0BB70-0XA0
<b>SIPLUS DP PB RS485 plug with axial cable outlet (180°)</b> For exposure to environmental substances; Based-on 6GK1 500-0EA02	6AG1500-0EA02-2AA0	<b>PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°)</b> With insulation displacement terminals, max. transfer rate 12 Mbps <ul style="list-style-type: none"> <li>• Without programming device interface</li> <li>• With programming device interface</li> </ul>	6ES7972-0BA12-0XA0 6ES7972-0BB12-0XA0 6ES7972-0BA61-0XA0 6ES7972-0BB61-0XA0
<b>RS485 bus connector with 90° cable outlet</b> With screw terminals, max. transfer rate 12 Mbps <ul style="list-style-type: none"> <li>• Without programming device interface</li> <li>• With programming device interface</li> </ul>	6ES7972-0BA12-0XA0 6ES7972-0BB12-0XA0	<b>PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°)</b> With insulation displacement terminals, max. transfer rate 12 Mbps <ul style="list-style-type: none"> <li>• Without programming device interface</li> <li>• With programming device interface</li> </ul>	6ES7972-0BA42-0XA0 6ES7972-0BB42-0XA0
<b>SIPLUS DP PB RS485 plug with 90° cable outlet</b> For extended temperature range -25 ... +60 °C <ul style="list-style-type: none"> <li>• Without programming device interface Based on 6ES7 972-0BA12-0XA0</li> <li>• With programming device interface Based on 6ES7 972-0BB12-0XA0</li> </ul>	6AG1972-0BA12-2XA0 6AG1972-0BB12-2XA0	<b>PROFIBUS FastConnect RS485 bus connector plug 180</b> With insulation displacement terminals, with 180° cable outlet, for industrial PC, SIMATIC HMI OP, OLM; max. transfer rate 12 Mbps	6GK1500-0FC10
<b>RS485 bus connector with angled cable outlet (35°)</b> With screw terminals, max. transfer rate 12 Mbps <ul style="list-style-type: none"> <li>• Without programming device interface</li> <li>• With programming device interface</li> </ul>	6ES7972-0BA42-0XA0 6ES7972-0BB42-0XA0	<b>SIMATIC S5/S7 connecting cable for PROFIBUS</b> Pre-assembled with two 9-pin D-sub connectors; max. transfer rate 12 Mbps; 3 m	6ES7901-4BD00-0XA0
<b>SIPLUS DP PB RS485 plug with angled cable outlet (35°)</b> For extended temperature range -25 ... +60 °C <ul style="list-style-type: none"> <li>• Without programming device interface Based on 6ES7 942-0BA42-0XA0</li> <li>• With programming device interface Based on 6ES7 942-0BB42-0XA0</li> </ul>	6AG1972-0BA42-7XA0 6AG1972-0BB42-7XA0		

### Overview



- Implementation of direct device connections of up to 100 m with Industrial Ethernet FC installation cable 2 x 2 without using patch technology
- Easy connection (insulation displacement contacts) for 4-wire Twisted Pair installation cables (100 Mbps) without the need for special tools
- Error-minimizing connection system thanks to visible connection area as well as colored insulation displacement termination
- Industry-compatible design (rugged metal enclosure, no easy-to-lose small parts)
- Good EMC shielding and deflection (metal enclosure)
- Integrated strain relief for installation cables
- Compatible with the EN 50173 (RJ45) / ISO IEC 11801 standard
- Additional strain and bending relief of plug-in connection possible through latching of plug on device enclosure, e.g. with SCALANCE X, SCALANCE S, SCALANCE M, SIMATIC CPs, SIMATIC S7-1500.

### Ordering data

### Article No.

#### IE FC RJ45 plugs

RJ45 plug-in connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables

#### IE FC RJ45 plug 180

180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface

- 1 pack = 1 unit
- 1 pack = 10 units
- 1 pack = 50 units

**6GK1901-1BB10-2AA0**  
**6GK1901-1BB10-2AB0**  
**6GK1901-1BB10-2AE0**

#### IE FC RJ45 plug 90

90° cable outlet; e.g. for ET 200S

- 1 pack = 1 unit
- 1 pack = 10 units
- 1 pack = 50 units

**6GK1901-1BB20-2AA0**  
**6GK1901-1BB20-2AB0**  
**6GK1901-1BB20-2AE0**

#### IE FC RJ45 plug 145

145° cable outlet; e.g. for SIMOTION and SINAMICS

- 1 pack = 1 unit
- 1 pack = 10 units
- 1 pack = 50 units

**6GK1901-1BB30-0AA0**  
**6GK1901-1BB30-0AB0**  
**6GK1901-1BB30-0AE0**

### More information

#### Selection Tool:

The TIA Selection Tool is available to assist you in selecting cabling systems for SIMATIC NET at:

<http://www.siemens.com/tst>

#### Ordering overview:

You can find more information on the FastConnect range in the ordering overview  
<https://support.industry.siemens.com/cs/document/109766358/ordering-overview-cabling-technology-for-communication-networks-in-industry?dti=0&lc=en-DE>

## Accessories

### Process coupling

#### IE FC RJ45 plugs 4 x 2, Cat6a

##### Overview



- Implementation of direct device connections of up to 100 m using IE FC RJ45 plug 4 x 2 with Industrial Ethernet FC installation cable 4 x 2 without patch technology
- Connection of rack switches (e.g. SCALANCE XR-500) in a 19" cabinet by means of FC installation cables 4 x 2 and patch cable via IE FC keystone RJ45 4 x 2 in 19" racks
- Easy connection (insulation displacement contacts) for 8-core twisted pair installation cables (10/100/1000/10000 Mbps) without the need for special tools
- Error-minimizing connection system thanks to visible connection area as well as color-coded insulation displacement contacts
- Industry-compatible design (rugged metal enclosure, no easy-to-lose small parts)
- Excellent EMC shielding and deflection (metal enclosure)
- Integrated cable grip for installation cables
- Compatible with the EN 50173 (RJ45) / ISO IEC 11801 standard
- Additional strain and bending relief of the plug-in connection possible by latching of the IE FC RJ45 plug 4 x 2 onto the device enclosure, e.g. with SCALANCE X, SCALANCE S, SCALANCE W.

##### Ordering data

##### Article No.

###### IE FC RJ45 plug 4 x 2

RJ45 plug-in connector for Industrial Ethernet (10/100/1000/10000 Mbps, Cat6<sub>A</sub>) with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

- 1 pack = 1 unit
- 1 pack = 10 units
- 1 pack = 50 units

**6GK1901-1BB12-2AA0**  
**6GK1901-1BB12-2AB0**  
**6GK1901-1BB12-2AE0**

###### IE FC keystone RJ45 4 x 2

RJ45 socket for Industrial Ethernet (10/100/1000/10000 Mbps, Cat 6<sub>A</sub>) with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for mounting on DIN rails and 19" racks

- 1 pack = 1 unit

**6GK1901-0BE10-0AA0**

##### More information

###### Selection Tool:

The TIA Selection Tool is available to assist you in selecting cabling systems for SIMATIC NET at:

<http://www.siemens.com/tst>

###### Ordering overview:

You can find more information on the FastConnect range in the ordering overview

<https://support.industry.siemens.com/cs/document/109766358/ordering-overview-cabling-technology-for-communication-networks-in-industry?dti=0&lc=en-DE>

### Overview



- 4-wire FastConnect installation cables for structured Fast Ethernet cabling with special design for fast installation
- Easy stripping with the FastConnect stripping tool; the protective jacket and the braided shield are stripped accurately in one step
- Connection to FastConnect products using insulation displacement
- Exceeds Category 5 (Cat5e) of the international cabling standards ISO/IEC 11801 and EN 50173
- PROFINET-compatible
- UL approval
- Different variants for different application areas (e.g. trailing, food, marine, railways, robots)
- High interference immunity thanks to double shielding
- Easy length measurement thanks to printed meter markings

### Ordering data

### Article No.

#### IE FC TP standard cable GP 2 x 2 (type A)

4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO; PROFINET-compatible; with UL approval:

Sold by the meter;  
max. delivery unit 1000 m;  
minimum order quantity 20 m

#### Preferred length

- 20 m
- 50 m
- 100 m
- 200 m
- 500 m
- 1000 m

6XV1840-2AH10

6XV1840-2AN20

6XV1840-2AN50

6XV1840-2AT10

6XV1840-2AT20

6XV1840-2AT50

6XV1840-2AU10

#### IE FC TP robust cable GP 2 x 2 (type A)

4-core, shielded TP installation cable with TPE protective jacket for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO; PROFINET-compatible; with UL approval

Sold by the meter;  
max. delivery unit 1000 m,  
minimum order quantity 20 m

6XV1841-2A

#### IE FC TP flexible cable GP 2 x 2 (type B)

4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for occasional movement; PROFINET-compatible; with UL approval:

Sold by the meter;  
max. delivery unit 1000 m,  
minimum order quantity 20 m

6XV1870-2B

#### Preferred length

- 1000 m

6XV1870-2BU10

#### IE FC TP robust flexible cable GP 2 x 2 (type B)

4-core, shielded TP installation cable with TPE protective jacket for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for occasional movement; PROFINET-compatible; with UL approval;

Sold by the meter;  
max. delivery unit 1000 m;  
minimum order quantity 20 m

6XV1841-2B

#### IE FC TP FRNC cable GP 2 x 2 (type B)

4-core, shielded, halogen-free TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for occasional movement; PROFINET-compatible; with UL approval;

sold by the meter;  
max. delivery unit 1000 m,  
minimum order quantity 20 m

6XV1871-2F

#### IE FC TP trailing cable GP 2 x 2 (type C)

4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for use in cable carriers; PROFINET-compatible; with UL approval;

sold by the meter;  
max. delivery unit 1000 m,  
minimum order quantity 20 m

6XV1870-2D

## Accessories

### Process coupling

#### IE FC TP cable 2 x 2

##### Ordering data

Ordering data	Article No.	Ordering data	Article No.
<b>IE FC TP trailing cable 2 x 2 (type C)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for use in cable carriers; PROFINET-compatible; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1840-3AH10	<b>IE FC TP robust food cable GP 2 x 2 (type B)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for the food and beverages industry (IP69); PROFINET-compatible; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1881-2A
<b>IE FC TP festoon cable GP 2 x 2 (type B)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for use in festoon applications; PROFINET-compatible; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1871-2S	<b>IE FC TP marine cable 2 x 2 (type B)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for marine applications; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1840-4AH10
<b>IE TP torsion cable 2 x 2 (type C)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO; PROFINET-compatible; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1870-2F	<b>IE TP ground cable 2 x 2 (type C)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO (additional protective jacket must be removed) for laying in soil; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1871-2G
<b>IE TP robot cable GP 2 x 2 (type R)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for use with robots; PROFINET-compatible; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1840-2R	<b>IE TP robust ground cable</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO (additional protective jacket must be removed) for laying in soil, with metallic rodent protection; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1871-2N
<b>IE FC TP food cable GP 2 x 2 (type C)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet/IE FC RJ45/IE FC M12 plug PRO for the food and beverages industry; PROFINET-compatible; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1871-2L	<b>IE TP train cable 2 x 2 (type C)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 plug and IE FC M12 plug PRO; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1871-2T
		<b>IE hybrid cable 2 x 2 + 4 x 0.34</b> Flexible cable, 4 x Cu Cat5, shielded (0.75 mm) and 4 x Cu (0.34 mm <sup>2</sup> ) with IE FC modular outlet with power insert and IP67 hybrid plug-in connector; sold by the meter; max. delivery unit 1000 m; minimum order quantity 20 m	6XV1870-2J

##### More information

##### Selection Tool:

The TIA Selection Tool is available to assist you in selecting cabling systems for SIMATIC NET at:

<http://www.siemens.com/tst>

##### Ordering overview:

You can find more information on the FastConnect range in the ordering overview  
<https://support.industry.siemens.com/cs/document/109766358/ordering-overview-cabling-technology-for-communication-networks-in-industry?dti=0&lc=en-DE>

**Overview**


- 8-core FastConnect installation cables for cabling system with Gigabit capability (AWG22 and AWG24 variants)
- Easy stripping with the FastConnect stripping tool; the protective jacket and the braided shield are stripped accurately in one step
- Connection to IE FC RJ45 modular outlet (AWG22), IE FC RJ45 plug 4 x 2 (AWG24/AWG26) or IE FC M12 plug PRO 4x2 (X-coded, AWG24/AWG26) using insulation displacement method
- Satisfies Category 6 (Cat6<sub>A</sub>) and Category 7 (Cat7) of the international cabling standards ISO/IEC 11801 and EN 50173
- UL approval
- Easy length measurement thanks to printed meter markings

**Ordering data**
**Article No.**
**IE FC TP standard cable GP 4 x 2**

8-core, shielded TP installation cable for universal applications; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m

- AWG24, for connection to IE FC RJ45 plug 4 x 2, IE FC M12 plug PRO 4 x 2, IE FC keystone RJ45
- Preferred length 1000 m
- AWG22, for connection to IE FC modular outlet

**6XV1878-2A**
**6XV1878-2AU10  
6XV1870-2E**
**IE FC TP flexible cable GP 4 x 2**

8-core, shielded TP installation cable for occasional movement; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m

- AWG24, for connection to IE FC RJ45 plug 4 x 2, IE FC M12 plug PRO 4 x 2, IE FC keystone RJ45

**6XV1878-2B**
**IE FC TP trailing cable GP 4 x 2**

8-core, shielded TP trailing cable; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m

- AWG24, for connection to IE FC RJ45 plug 4 x 2, IE FC M12 plug PRO 4 x 2, IE FC keystone RJ45

**6XV1878-2C**
**IE TP ground cable 4 x 2**

8-core, shielded TP installation cable for occasional movement; with UL approval; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m

- AWG24, for connection to IE FC RJ45 plug 4 x 2, IE FC M12 plug PRO 4 x 2, IE FC Keystone RJ45 (after removing the additional PE protective jacket)

**6XV1878-2G**
**IE TP train cable GP 4 x 2**

8-core, shielded TP installation cable for use in trains; Cat7; sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m

- AWG24, for connection to IE M12 RJ45 plug PRO 4 x 2

**6XV1878-2T**

## Accessories

### Process coupling

#### IE FC TP cable 4 x 2

##### Ordering data

##### Article No.

##### Article No.

##### IE FC TP FRNC cable GP 4 x 2

8-core, shielded;  
halogen-free TP installation cable  
for fixed routing in buildings;  
sold by the meter;  
max. delivery unit 1000 m,  
minimum order quantity 20 m

- AWG24,  
for connection to IE FC RJ45 plug  
4 x 2, IE FC M12 plug PRO 4 x 2,  
IE FC keystone RJ45

**6XV1878-2F**

##### IE FC TP flexible cable GP 4 x 2

8-core, shielded TP installation  
cable for occasional movement;  
with UL approval; Cat7;  
sold by the meter;  
max. delivery unit 1000 m,  
minimum order quantity 20 m

- AWG26,  
for connection to IE FC RJ45 plug  
4 x 2, IE FC M12 plug PRO 4 x 2,  
IE FC keystone RJ45

**6XV1876-2B**

##### More information

##### Selection Tool:

The TIA Selection Tool is available to assist you in selecting  
cabling systems for SIMATIC NET at:

<http://www.siemens.com/tst>

##### Ordering overview:

You can find more information on the FastConnect range in the  
ordering overview

[https://cache.industry.siemens.com/dl/files/358/109766358/att\\_1093003/v1/IE\\_cabling-technology\\_EN\\_Web.pdf](https://cache.industry.siemens.com/dl/files/358/109766358/att_1093003/v1/IE_cabling-technology_EN_Web.pdf)

## Appendix



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## Appendix

### SITRAIN – Digital Industry Academy

#### Introduction



SITRAIN – DIGITAL INDUSTRY ACADEMY  
**The Future of Learning starts now**

SITRAIN - Digital Industry Academy stands for a modern learning culture that focuses on the needs of learners and the demands of innovative companies.

SITRAIN offers a comprehensive range of knowledge on Siemens industrial products and, under the vision "Future of Learning", pursues a holistic approach that combines different forms and methods of learning. Different learning formats allow for more effective, flexible and continuous learning depending on the type of learning.

#### Education and training directly from the manufacturer



##### Industrial Automation Systems SIMATIC

Training available for: SIMATIC S7-1500, TIA Portal, SIMATIC S7-300/400, SIMATIC S7-1200



##### Drive Technology

Training available for: SINAMICS S120 and SINAMICS G120 low-voltage converters, SINAMICS G130 / G150 / G180 / S150



##### SINUMERIK CNC automation system

Training available for: SINUMERIK 840D, SINUMERIK 840D sl and SINUMERIK ONE



##### Process Control Systems

Training available for: SIMATIC PCS 7, SIMATIC PCS neo



##### Digital Enterprise

Training available for: Openness, SIMIT, OPC UA, Industrial Edge, Virtual commissioning



##### Industrial Communications

Training available for: PROFINET, SCALANCE, RUGGEDOM, Industrial Ethernet, Fieldbus communication, Industrial Security, Remote communication



##### Identification and Locating

Training available for: RFID, RTLS-Systems



##### Operator Control and Monitoring Systems

Training available for: SIMATIC WinCC Unified in TIA Portal, SIMATIC WinCC in TIA Portal, SIMATIC WinCC V7x



##### Motion Control System SIMOTION

Training available for: SIMOTION (Programming, Commissioning, Diagnostics, Service)



##### Smart Infrastructure

Training available for: SIRIUS, SENTRON, SIVACON, ALPHA, SIMOCODE, Circuit breakers



##### Process Analytics & Instrumentation

Training is available for process analytics and instrumentation, explosion protection, process gas chromatographs



##### Additional training offer

SIMOVE with Automated Guided Vehicles (AGV), SIPLUS CMS, Guidelines and standards for control cabinets

**Introduction**

**Different learning formats and methods for maximum learning success**

Face-to-face training in the training center or in the virtual classroom, with fixed dates and course times, learning in a group with a learning guide? Or digital training, on your own responsibility and location-independent, on demand, 24/7?

With the learning formats "Learning Journey", "Learning Membership" and "Learning Event", SITRAIN offers a wide range of different learning options in connection with didactically effective methods and modular possibilities.



**Learning Journey**

The combination for sustainable learning success

- The optimal mix of self-study units and guided live modules
- Includes a Learning Membership to work through the self-study modules and access on-demand content
- The SITRAIN learning consultant is available for questions and one-on-one consultations
- Ideal integration into the daily work routine and adaptation to one's own learning pace.



**Learning Membership**

Securing knowledge through continuous learning on your own responsibility

- With access to the comprehensive and constantly growing range of self-study units on SITRAIN access, the digital learning platform
- Search and find specific learning content or simply have a look around – anytime and anywhere
- A modern learning culture through continuous learning on your own responsibility and transparency about your learning success in the team or company.



**Learning Event**

Acquire theoretical and practical knowledge in a compact and guided format

- You achieve a defined learning goal in the shortest possible time
- The learning consultant guides you through the practical exercises and is also exclusively available to you during the theoretical sessions for the entire duration
- Focused learning, outside of the daily work routine, in a protected learning environment – virtually, in the training center, or at your company.



**Live**

Learn together with others, simultaneously and guided by a learning consultant. Online, in the SITRAIN training center or at your company.



**Self-reliant**

Expand your knowledge self-determined with industry learning and work on your learning units at your own pace and according to your own schedule.



**On demand**

Get the knowledge you need, exactly when you need it. Be it to answer a current question or to work on a special topic.



**Individuell**

Talk directly with the learning consultant, clarify detailed questions and get personal coaching for transferring the learned topics to your own application.



**Training cases catalog**

<https://www.siemens.com/sitrain-catalog-training-cases>

Find your local offer here



**SITRAIN – Digital Industry Academy worldwide**

You will find the regional knowledge offer in the country selection. One click will take you to the corresponding website.

## Appendix

### SITRAIN – Digital Industry Academy

#### SIMATIC HMI course overview

##### Training for SIMATIC HMI

This page contains an overview of the SITRAIN training offer for SIMATIC HMI operator control and monitoring systems.

Depending on your demands we'll make you fit for specific applications or teach you important background knowledge about products and systems.

All courses contain the largest possible share of practical exercises (also in online training), so that training can be carried out very intensively in small groups and directly on the systems.

Further information regarding course contents, dates and prices can be found in the Internet at:

[www.siemens.com/sitrain-simatic-hmi](http://www.siemens.com/sitrain-simatic-hmi)

Title		Course suitable for			Medium/Duration	Order code
		Implementation	Operation			

##### SIMATIC WinCC Unified in the TIA Portal

SIMATIC WinCC Unified & Unified Comfort Panels System Course	TIA	✓	✓	On-site training / 3 days	TIA-UWCC1
	TIA	✓	✓	Online-training / 3 days	TIA-UWCC1
SIMATIC WinCC Unified for PC-Systems Advanced Course	TIA	✓	✓	On-site training / 2 days	TIA-UWCC2
	TIA	✓	✓	Online-training / 2 days	TIA-UWCC2

##### SIMATIC WinCC in the TIA Portal

SIMATIC WinCC on the machine level in the TIA Portal, System Course	TIA	✓	✓	On-site training / 3 days	TIA-WCCM1
	TIA	✓	✓	Online-training / 3 days	TIA-WCCM1
SIMATIC WinCC on the machine level in the TIA Portal, Advanced Course	TIA	✓	✓	On-site training / 2 days	TIA-WCCM2
	TIA	✓	✓	Online-training / 2 days	TIA-WCCM2
SIMATIC WinCC SCADA in the TIA Portal	TIA	✓	✓	On-site training / 5 days	TIA-WCCS
SiVArc – Options of Automatic Visualization Generation	TIA	✓		On-site training / 1 day	TIA-SIVARC

##### SIMATIC WinCC V7.x

SIMATIC WinCC, System Course		✓	✓	On-site training / 5 days	ST-BWINCCS
SIMATIC WinCC, System Course		✓	✓	Online-training / 5 days	ST-BWINCCS
SIMATIC WinCC, Advanced Course		✓	✓	On-site training / 5 days	ST-BWINOND
ANSI-C in the SIMATIC World, Introduction		✓		On-site training / 5 days	ST-SIMACE
Visual Basic Script in the SIMATIC World		✓		On-site training / 3 days	ST-VBSCR

**Operating system licenses for SIMATIC PC/PG**

The accompanying operating system license is only valid for installation on the supplied SIMATIC PC/PG.

Installation can only be performed on these SIMATIC systems in accordance with Microsoft OEM licensing regulations.

**Standards UL (U) and CSA (C)**

All HMI products comply with the standards UL (U) and CSA (C), or the approval procedure has been applied for.

Products which have no approval are specially marked (see ordering data of the products).

**CE marking**

The electronic products described in this catalog comply with the requirements and protection objectives of the following EC-directives insofar as they relate to the product concerned. They also comply with the corresponding harmonized European standards (EN) published for these products in the Official Journals of the European Community.

- Directive 2004/108/EC of the European Parliament and Council on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive)
- Directive 2006/95/EC of the European Parliament and of the Council on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits (Low Voltage Directive)
- Directive 94/9/EC of the European Parliament and the Council on approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres (ATEX Directive)
- Directive 1999/5/EC of the European Parliament and of the Council on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (RTTE Directive)

The originals of the declarations of conformity are kept available for the responsible supervisory authorities at:

SIMATIC PLC / HMI:

Siemens Aktiengesellschaft  
DF FA MF QM  
Postfach 4848  
90327 Nürnberg  
Germany

SIMATIC IPC:

Siemens Aktiengesellschaft  
DF FA AS DH KHE  
Oestliche Rheinbrueckenstr. 50  
76187 Karlsruhe  
Germany

SIMATIC NET:

Siemens Aktiengesellschaft  
Industry Sector  
PD PA CI  
Postfach 4848  
90327 Nürnberg  
Germany

**Note on the Directives:**

The installation instructions in the manuals must be adhered to when installing and operating the products described in this catalog. These contain, for example, important information on installation in cabinets and on the use of shielded cables.

## Appendix

### WinCC Competence Center

#### Overview

The WinCC Competence Centers are Siemens-internal partners. They offer a wide range of products and services designed to make optimal economic and system-oriented use of the openness and integration capability of WinCC.

In addition to the development of standard solutions/add-on products, they are authorized to implement customized/industry-specific solutions in the areas of application development and system integration on the basis of WinCC.

The portfolio is rounded off with consulting services, project-related training, and workshops for decision-makers and users.

Sector competence in addition to automation expertise and WinCC system know-how ensure professional and efficient solutions. The software is, of course, developed in compliance with recognized standards on the basis of certified quality management in accordance with ISO 9001.

More information is available on the internet at:

[www.siemens.com/process-management](http://www.siemens.com/process-management)

**Knowledge & technology – the keystones to success in digitalization**



**Digitalization is quickly and radically changing our world. What does this mean for education?**

In the world of Industry 4.0, companies can expect a host of new opportunities and challenges. New systems are verified on the spot through simulations. Automated mass production processes can make every product on the conveyor belt a unique product.

New products are now market-ready much faster. Siemens is shaping this transformation as a technology leader in the field of automation and process lifecycle management (PLM).

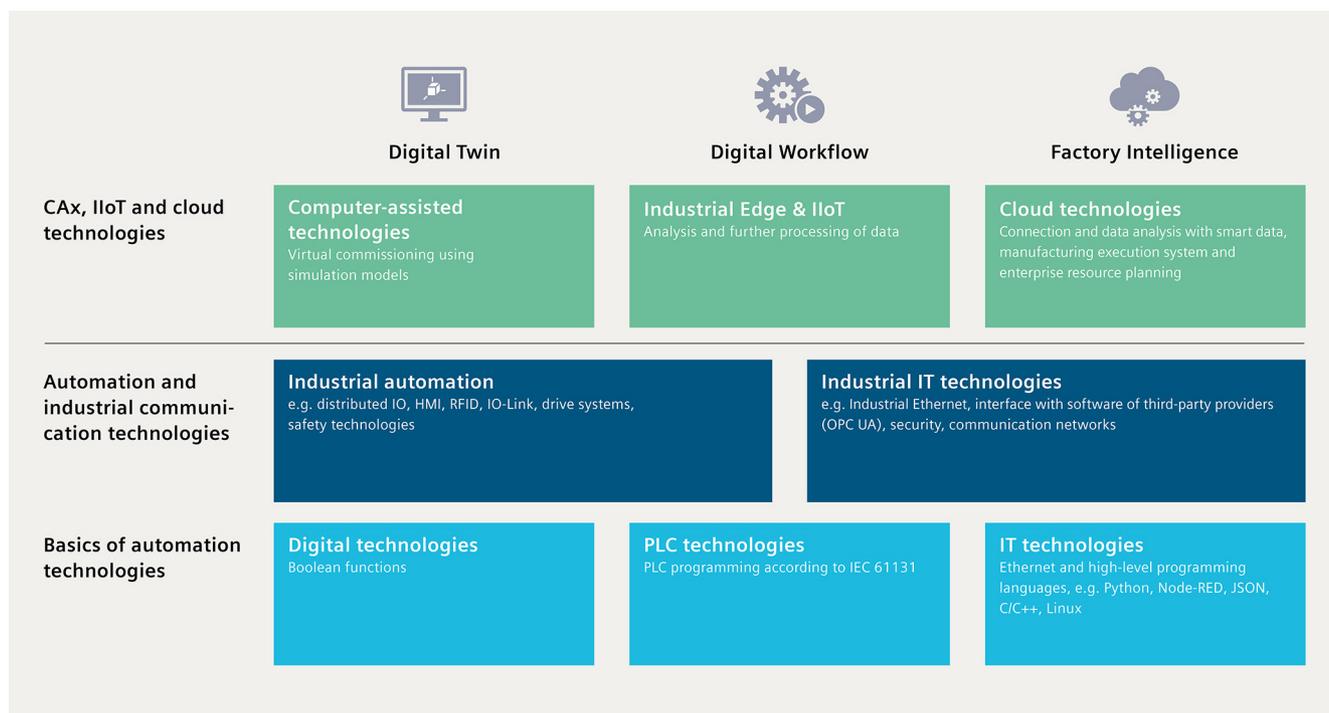
These new digitalization processes are changing the know-how requirements for employees. Many educational institutions are facing the challenge of conveying Industry 4.0 know-how as part of their teaching and training. The Siemens Automation Cooperates with Education (SCE) program is supporting educators on the way to Industry 4.0.

**The SCE digitalization concept for educators**

**The SCE digitalization concept presented here shows how digitalization can be implemented in educational institutions – from vocational schools to universities.**

Digitalization (or Industry 4.0) know-how is now introduced through computer aided technology, Industrial Edge and IIoT as well as Cloud technologies. It is founded on the basics of automation, such as digital technologies, PLC and information technologies, and on advanced automation and industrial communication technologies.

The level of digitalization knowledge can be weighted, depending on the vocational field or branch of study – e.g. mechanical engineering, automation engineering or computer science.



## Appendix

### Siemens Automation Cooperates with Education (SCE)

#### Teaching made easy - Comprehensive support on the way to Industry 4.0

##### The SCE digitalization concept for educators (continued)



As part of their project work, students at Vocational School 2 in Wolfsburg, Germany, have implemented the three levels of the SCE Industry 4.0 concept. A virtual twin created with the Siemens NX Mechatronics Designer (MCD) CAD software was used for the design and virtual commissioning. This enables fast and efficient assembly of the real automation system, e.g. with SIMATIC S7-1500/ET 200SP/RFID, for use in classes. Production data, such as the number of bottles filled, production date and system parameters, are uploaded to a cloud using SIMATIC IOT2000.

[siemens.com/sce/iot2000](https://siemens.com/sce/iot2000)

[siemens.com/nx](https://siemens.com/nx)

##### The SCE offers



##### Learning and training documents

More than 100 didactically prepared learning and training documents are available through SCE and incorporate the digitalization concept. They are designed for use in classes, but can also be customized or used for individual study. These documents are available for free download, most of them in 7 languages.

[siemens.com/sce/documents](https://siemens.com/sce/documents)

##### Educator courses

Excellent teaching content is needed to introduce students to digitalization. For this purpose, SCE holds educator courses in certain regions. Based on our learning and training documents and through practical exercises, educators acquire the latest Industry 4.0 know-how.

[siemens.com/sce/courses](https://siemens.com/sce/courses)



##### Trainer packages

The 90 SCE trainer packages help educators teaching and implementing the SCE digitalization concept. Trainer packages comprise specially compiled, genuine Siemens hardware and software products. The trainer packages are based on the learning and training documents and are offered to schools, colleges and universities at special terms.

[siemens.com/sce/tp](https://siemens.com/sce/tp)

##### Support for your projects / textbooks

We support you on selected projects with advice and assistance from SCE contact partners.

As a special service, we support textbook authors. We maintain a list of textbooks on the SCE website.

[siemens.com/sce/contact](https://siemens.com/sce/contact)

[siemens.com/sce/books](https://siemens.com/sce/books)

## Partnerships for proliferation of Industry 4.0 in education

**Partnership with WorldSkills**

As a technology powerhouse, we support vocational training of students around the world. Since 2010, we have partnered with WorldSkills as a Global Industry Partner in order to amplify this cause.

WorldSkills is an international organization whose mission is to raise the profile and recognition of skilled people, and show how important vocational skills are in achieving economic growth and personal success. Every two years, WorldSkills hosts the world championships of skills.

Siemens provides the competitors with automation products, such as SIMATIC S7-1500 and LOGO!, for the disciplines: industrial control, electrical installations, Polymechanics/Automation and manufacturing technology.

Additionally, we support selected continental and regional competitions.

[siemens.com/worldskills](https://www.siemens.com/worldskills)

**Partnerships with educators**

We provide support to educators and educational organizations in the form of one-on-one advice through SCE contact partners and Siemens experts as well as long-term cooperation.

[siemens.com/sce/contact](https://www.siemens.com/sce/contact)

**Partnerships with producers of learning systems**

For practical training in classrooms and labs, numerous producers of learning systems offer a wide range of complete didactic solutions based on SCE trainer packages.

[siemens.com/sce/learningsystems](https://www.siemens.com/sce/learningsystems)

## Information portal



To facilitate your teaching assignment and/or for selfstudy, we offer educators and students a comprehensive SCE information portal. At this portal you have quick access to all SCE offers, e.g. learning and training documents including projects, Getting Started information, videos, manuals, trial software and newsletters.

[siemens.com/sce](https://www.siemens.com/sce)

Global  
Industry  
Partner

worldskills

## Appendix Partners

### 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.

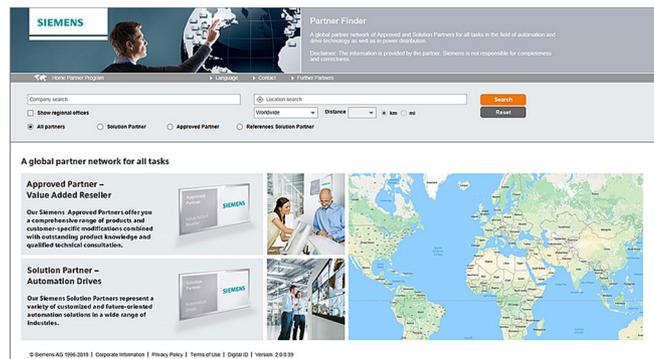
#### Siemens Approved Partner – Industry Services



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:

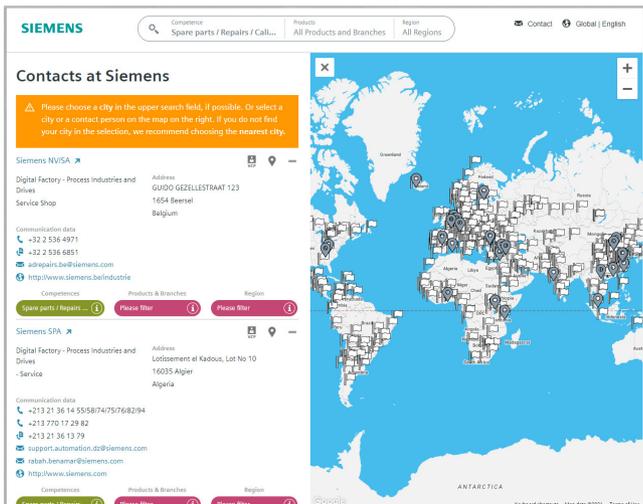
Use our electronic query form:

[www.siemens.com/partnerfinder](http://www.siemens.com/partnerfinder)

Additional information of the Siemens Partners for industry is available online at:

[www.siemens.com/partnerprogram](http://www.siemens.com/partnerprogram)

## Partners at Siemens



At your service locally, around the globe for consulting, sales, training, service, support, spare parts on the entire portfolio of Siemens.

Your partner can be found in our Personal Contacts Database at: [www.siemens.com/automation-contact](http://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.

## Appendix

### Siemens Service Option for SIMATIC IPC

#### Siemens Service Option for SIMATIC IPC

##### **The expanded hardware service for SIMATIC IPC products**

Purchasing and registering this additional agreement for a SIMATIC IPC extends the time period for free repairs of this device to 36 or 48 months after delivery.

Scope of services of the service option within the period of service (36/48 months):

- Free<sup>1)</sup> repair during the period of service at one of our authorized repair centers near you  
The addresses of our worldwide partners can be found on the Internet at [www.siemens.com/asis](http://www.siemens.com/asis)
- Within the agreed contractual period, Siemens will bear the costs that are incurred in the repair center (labor and materials/replacement parts), which are needed to restore the functions<sup>2)</sup> of the hardware
- Siemens will also assume the return shipping costs of the repaired device from the repair center to the customer

<sup>1)</sup> Wear and tear as well as problems that arise due to improper handling of the devices are not included.

<sup>2)</sup> For hard disk defects that require the system to be restored, the repair service will only cover restoring the installation to its original condition exworks. The uploading of additional application software, drivers and setting up the operating software are not covered by the free repair service.

Product family	Article No. Service Option	Article designation
<b>SIMATIC Rack PC</b>	<b>6ES7648-4AB36-0AA0</b>	<b>36</b> or
<ul style="list-style-type: none"> <li>• SIMATIC IPC347</li> <li>• SIMATIC IPC547</li> <li>• SIMATIC IPC647</li> <li>• SIMATIC IPC847</li> </ul>	<b>6ES7648-4AB48-0AA0</b>	<b>48</b> months service option for SIMATIC Rack PCs and Box PCs
<b>SIMATIC Box PC</b>		
<ul style="list-style-type: none"> <li>• SIMATIC IPC227</li> <li>• SIMATIC IPC327</li> <li>• SIMATIC IPC427</li> <li>• SIMATIC IPC627</li> <li>• SIMATIC IPC827</li> </ul>		
<b>SIMATIC Panel PC</b>	<b>6ES7648-4AP36-0AA0</b>	<b>36</b> or
<ul style="list-style-type: none"> <li>• SIMATIC IPC277</li> <li>• SIMATIC IPC377</li> <li>• SIMATIC IPC477</li> <li>• SIMATIC IPC577</li> <li>• SIMATIC IPC677</li> </ul>	<b>6ES7648-4AP48-0AA0</b>	<b>48</b> months service option for SIMATIC Panel PC

##### **Ordering and registering the additional agreement:**

- Select the appropriate article number for the optional package based on the product family and place your order
- Scope of supply:  
Description of services in 4 languages + service device label with a license number for identifying the additional agreement on the device
- Activation of the service license number for a SIMATIC PC/SIMATIC PG via the Internet (<https://id.login.siemens.com/about/faq?&lang=en>):  
The registration must be completed within the first 90 days after initial delivery of the device!

## Expertise and services relating to all aspects of PC-based Automation

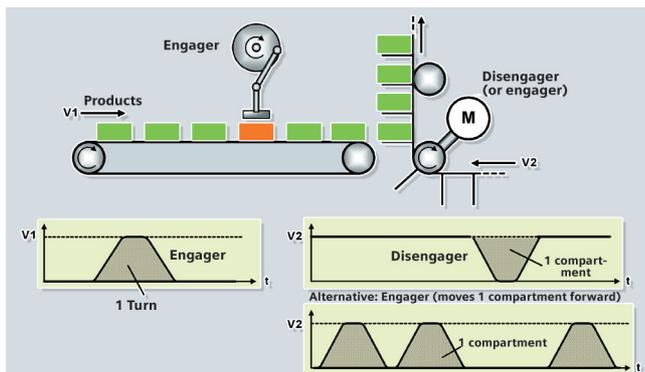
## Overview

**Expertise and services relating to all aspects of PC-based Automation**

Do you require support with the dimensioning and options of a PC-based Automation project, or even engineering support?

Specifically for this purpose, Siemens has established a team of specialists in Cologne and Milan who work closely with Development and Product Marketing and can thus provide our sales departments worldwide with competent support in PC-based Automation.

## Our core competencies



- Design of PC-based Automation systems from Siemens
- Integrated, customer-specific technology (add-ons) using high-level languages (C++) in Windows or real-time environments
- Knowledge transfer/workshops for the integration of third-party components, as well as for applications using the Open Development Kit (ODK)
- Technology and application know-how
- Development of add-ons for WinAC and WinCC flexible

## Reference applications



- Fast recording of measured values
- Software blocks for drives library
- Customer-specific communications via Ethernet (OPC/ActiveX, TCP socket)
- Synchronous operation, flying shear, table interpolation for electric and hydraulic axes
- Integration of PCI cards into PC-based Automation applications (e.g. WinAC and ASi-Bus)
- Customer-specific development and integration of C++ programs
- Database connections
- Integration of complex control algorithms

## Contacts

Activation of the Competence Centers for your application via your regional contact.

If you do not yet have a contact person in your region, just go to: <http://www.siemens.com/automation/partner>

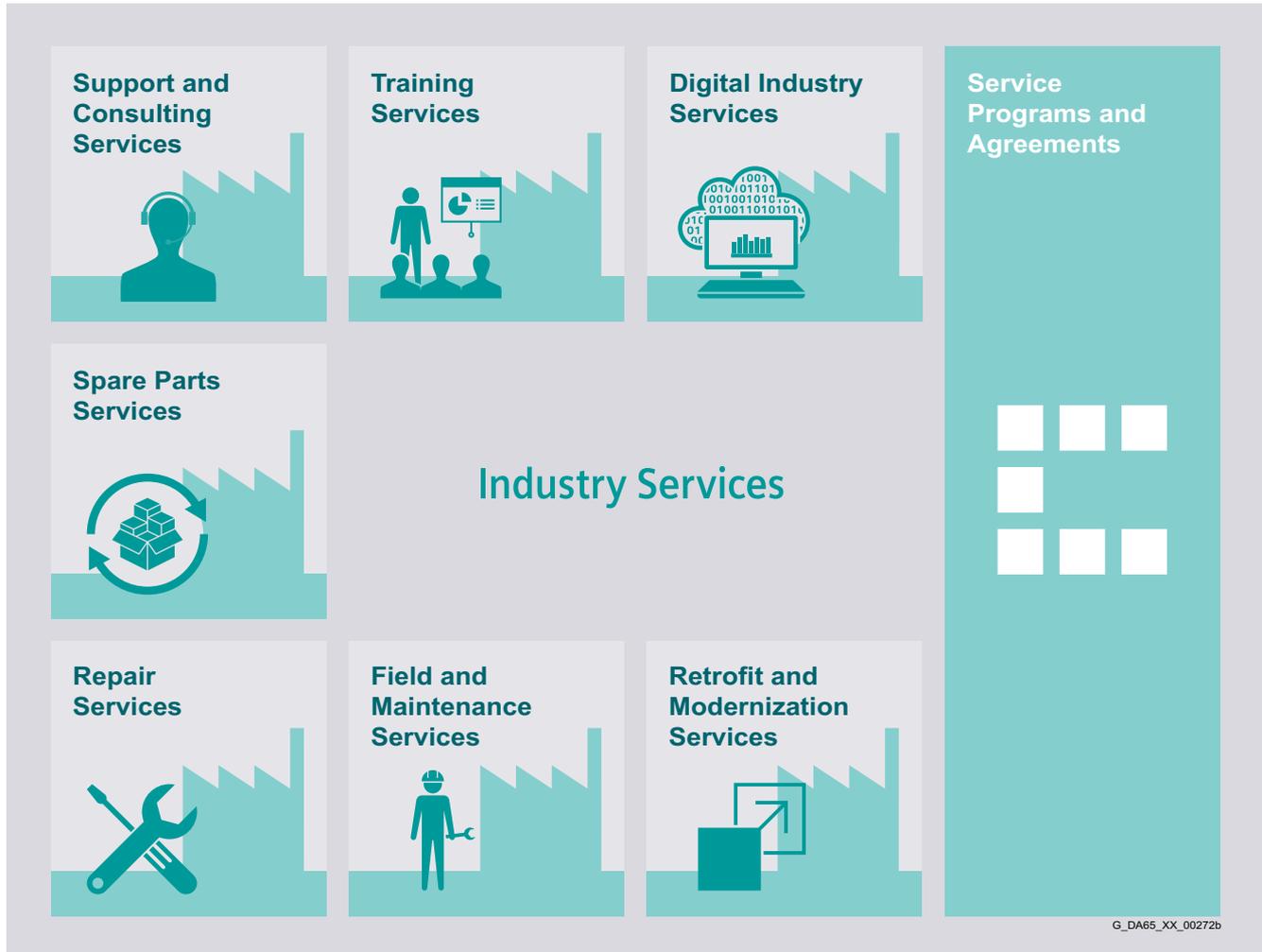
The latest information about the workshops offered can be found on the internet:

<http://www.siemens.com/pc-based>

## Appendix

### Industry Services

#### 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](http://www.siemens.com/industryservices)

## Overview

**Digital Industry Services**

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.

[www.siemens.com/global/en/products/services/industry/digital-industry-services.html](http://www.siemens.com/global/en/products/services/industry/digital-industry-services.html)

**Training Services**

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>

**Support and Consulting Services**

**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**

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 manage-

ment. 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>

**Repair Services**

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>

**Field and Maintenance Services**

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>

**Retrofit and Modernization Services**

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>

**Service Programs and Agreements**

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

Online Support – fast, intuitive, whenever you want, wherever you need

**Web**

[www.siemens.com/online-support](http://www.siemens.com/online-support)

**App**

SIEMENS

GET IT ON Google Play | Learn on the App Store | Herunterladen von Microsoft

Scan the QR code for information on our Online Support app.

- FAQ / Application examples**  
Information about industrial products, programming and configuration as well as application examples
- Technical information**  
Videos, documentation, manuals, updates, product notes, compatibility tool, certificates, planning data such as dimensional drawings, product data, 3D models
- Forum**  
Exchange information and experience with other users and experts

## Online Support for Siemens Industry Products

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 supply 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.

## Appendix

### 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 [https://mall.industry.siemens.com/legal/ww/en/terms\\_of\\_trade\\_en.pdf](https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf)

#### 1. General Provisions

By using this catalog you can purchase products (hardware, software and services) described therein from Siemens Aktiengesellschaft 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 European Union

For customers with a seat or registered office in European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- 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"<sup>1)</sup> and/or
- for consulting services the "Allgemeine Geschäftsbedingungen für Beratungsleistungen der Division DF – Deutschland" (available only in German) and/or
- for other services, the „Supplementary Terms and Conditions for Services ("BL")"<sup>1)</sup> and/or
- for other supplies the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"<sup>1)</sup>.

In case such supplies 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"<sup>1)</sup>, 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 European Union

For customers with a seat or registered office outside European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- for consulting services the "Standard Terms and Conditions for Consulting Services of the Division DF for Customers with a Seat or Registered Office Outside of Germany"<sup>1)</sup> and/or
- for other services the "International Terms & Conditions for Services"<sup>1)</sup> supplemented by "Software Licensing Conditions"<sup>1)</sup> and/or
- for other supplies of hard- and software the "International Terms & Conditions for Products"<sup>1)</sup> supplemented by "Software Licensing Conditions"<sup>1)</sup>

##### 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: [https://mall.industry.siemens.com/legal/ww/en/terms\\_of\\_trade\\_en.pdf](https://mall.industry.siemens.com/legal/ww/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.

<sup>1)</sup> The text of the Terms and Conditions of Siemens AG can be downloaded at [https://mall.industry.siemens.com/legal/ww/en/terms\\_of\\_trade\\_en.pdf](https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf)

## Appendix

### Conditions of sale and delivery

#### Export Regulations

#### 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. Products labeled with "AL" unequal "N" are subject to European / national export authorization.

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 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 shall comply with all applicable national and international (re-)export control regulations. In any event of such transfer of goods, works and services you shall comply with the (re-) export control regulations of the Federal Republic of Germany, of the European Union and of the United States of America.

Prior to any transfer of goods, works and services provided by us to a third party you shall in particular check and guarantee by appropriate measures that

- there will be no infringement of an embargo imposed by the European Union, by the United States of America and/ or by the United Nations by such transfer, by brokering of contracts concerning those goods, works and services or by provision of other economic resources in connection with those goods, works and services, also considering the limitations of domestic business and prohibitions of by-passing those embargoes;
- such goods, works and services are not intended for use in connection with armaments, nuclear technology or weapons, if and to the extent such use is subject to prohibition or authorization, unless required authorization is provided;
- the regulations of all applicable Sanctioned Party Lists of the European Union and the United States of America concerning the trading with entities, persons and organizations listed therein are considered.

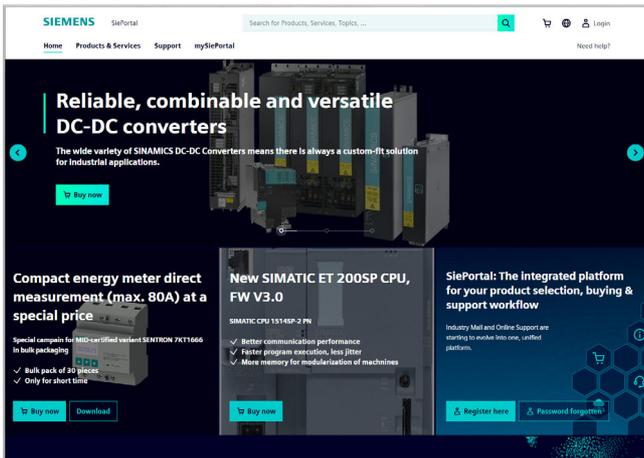
If required to enable authorities or us to conduct export control checks, you, upon request by us, shall promptly provide us with all information pertaining to the particular end customer, the particular destination and the particular intended use of goods, works and services provided by us, as well as any export control restrictions existing.

You acknowledge that under the EU embargo regulations against Iran, Syria and Russia respectively the sale of certain listed goods and related services is subject to authorization by the competent export control authorities of the European Union. If (i) the goods or services ordered by you are destined for Iran, Syria or Russia, and (ii) the contract for our supplies and/or services is subject to prior authorization of the competent export control authorities of the European Union, the contract between you and us shall come into force in this respect only upon granting of such authorization.

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.

# Selection and ordering at Siemens SiePortal – Ordering products and downloading catalogs



## Easy product selection and ordering with SiePortal

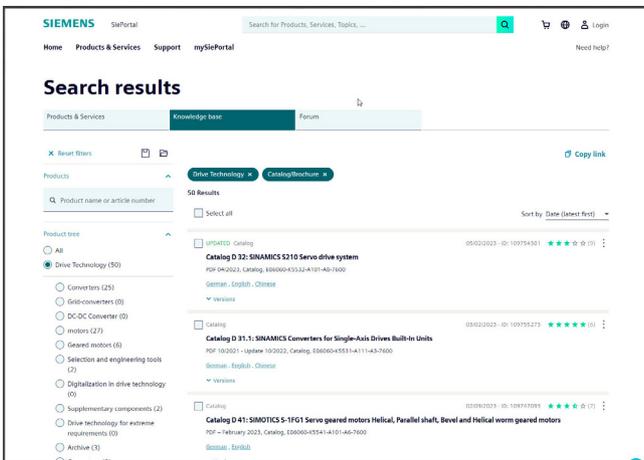
### SiePortal > Products & Services

The internet ordering platform of Siemens AG is located in SiePortal. It provides you with online access to a comprehensive product spectrum that is presented in an informative, well-organized way.

Powerful search functions help you select the required products, while configurators enable you to configure complex product and system components quickly and easily. CAX data are also available for you to use.

Data transfer allows the entire procedure, from selection through ordering to tracking and tracing, to be carried out online. Availability checks, individual customer discounting, and quotation preparation are also possible.

<https://sieportal.siemens.com>



## Downloading catalogs

### SiePortal > Support > Knowledge base

You can download catalogs and brochures in PDF format from Siemens Industry Online Support without having to register.

The filter box makes it possible to perform targeted searches.

<https://sieportal.siemens.com>

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## Security Information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

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 constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit <https://www.siemens.com/industrialsecurity>.

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under <https://www.siemens.com/industrialsecurity>.

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products.

The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

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