

Catalog
Extract
LV 10

Edition
04/2022

SENTRON • SIVACON • ALPHA

Low-Voltage Power Distribution and Electrical Installation Technology

Air Circuit Breakers

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

Innovative solutions for industrial controls and power distribution

In ensuring smooth operation of digital production environments and in the construction and operation of industrial or commercial buildings, the underlying power distribution and industrial controls are decisive:

SIRIUS, SENTRON, SIVACON and ALPHA provide a broad portfolio of systems and components for this purpose that can be used for standard-compliant, requirement-based electrification.

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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 EN ISO 9001 (for the Certified Registration Nos., see www.siemens.com/system-certificates/ep). The certificate is recognized by all IQNet countries.

Technical specifications

The technical specifications are for general information purposes only. Always heed the operating instructions and notices on individual products during assembly, operation and maintenance.

All illustrations are not binding.

Low-Voltage Power Distribution and Electrical Installation Technology

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A



Made for makers. Simply reliable.

All power distribution systems rely on a secure infeed of electrical energy. The 3WA air circuit breaker combines all of the functions which are required of power distribution equipment in the digital companies of today: from reliably protecting people and equipment from electrical accidents and damage, to flexible application and retrofit options, a long service life and low maintenance, to innovative features for integrated e-engineering, reliable energy data recording and seamless integration into digital environments. As the central component of the electrical power distribution, the 3WA air circuit breaker provides the basis for a holistic energy system in the digital age.

Reliable, versatile and perfectly integrated

The 3WL air circuit breakers reliably protect electrical equipment from damage or fire resulting from short circuit, ground fault or overload failures.

Air Circuit Breakers



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A multitude of additional information ...

Information + ordering

All the important things at a glance

For information about air circuit breakers, please visit our websites

www.siemens.com/3WA
www.siemens.com/3WL

Your product in detail

The Siemens Industry Online Support (SIOS) provides comprehensive information

www.siemens.com/lowvoltage/product-support

- Quick selection guide
 - 3WA air circuit breakers (109781967)
 - 3WL air circuit breakers (109751638)
- Brochure
 - 3WA air circuit breakers (109800077)
- Technical basic information
 - 3WL air circuit breakers (109767789)

The relevant tender specifications can be found at www.siemens.com/lowvoltage/tenderspecifications

Use our conversion tool for quick and easy conversion to Siemens products www.siemens.com/conversion-tool

Siemens YouTube channel

- 3WA air circuit breaker – Teaserfilm bit.ly/3p14AOZ
- 3WA air circuit breaker – Highlightfilm bit.ly/2Y0iWD2
- 3WL air circuit breakers (general) bit.ly/2ZH1rXH

Everything you need for your order

Refer to the Industry Mall for an overview of your products

- Air circuit breakers sie.ag/2IXiZjB

Direct forwarding to the individual products in the Industry Mall by clicking on the article number in the catalog or by entering this web address incl. article number www.siemens.com/product?Article No.

Order supports are available in Siemens Industry Online Support (SIOS) at

www.siemens.com/lowvoltage/product-support

- Order support – 3WA air circuit breakers – Made for makers. Simply reliable. (109800074)

Configurators

The configurator reduces the time and effort required in the planning and ordering process, and allows for individual adaptations. Configure your air circuit breaker at www.siemens.com/lowvoltage/3wa-configurator
www.siemens.com/lowvoltage/3wl-configurator
www.siemens.com/lowvoltage/3wl10-configurator

The following are additionally available for your configured air circuit breaker:

- 3D views
- CAD data
- Unit wiring diagrams
- Dimension drawings

The fast track to the experts

Contact persons in your region

We offer a comprehensive portfolio of services.

You can find your local contacts at

www.siemens.com/lowvoltage/components/contact

You can find further information on services at

www.siemens.com/service-catalog

Competent expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

Assistance with technical queries is provided at

www.siemens.com/support-request

... can be found in our online services

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SENTRON powerconfig

The combined commissioning and service tool SENTRON powerconfig for communication-capable measuring devices, circuit protection devices and circuit breakers.

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Free download SENTRON powerconfig mobile via [App Store](#) and [Play Store](#)

Your product in detail

The Siemens Industry Online Support (SIOS) provides detailed technical information www.siemens.com/lowvoltage/product-support

- Operating instructions
- Characteristic curves
- Certificates

Comprehensive mobile support via the Siemens Industry Online Support app available for download from the [App Store](#) and [Play Store](#)

You will find further information under: www.siemens.com/support-app

Provision of 3D data (step and u3d data formats)

- Siemens Industry Mall www.siemens.com/lowvoltage/mall
- Image database www.siemens.com/lowvoltage/picturedb

Engineering data for CAD or CAE systems are available in the CAx Download Manager at www.siemens.com/cax

Manuals

Manuals are available for downloading in Siemens Industry Online Support (SIOS) at www.siemens.com/lowvoltage/manuals

- Equipment manual
 - 3WA air circuit breakers (**109763061**)
 - 3VA27 molded case circuit breakers & 3WL10 air circuit breakers (**109753821**)
- System manual
 - 3WA air circuit breaker communication (**109792368**)
 - 3WL/3VL circuit breakers with communication capability – Modbus (**39850157**)
 - 3WL/3VL circuit breakers with communication capability – PROFIBUS (**12560390**)
- Configuration manual
 - 3WL1 air circuit breakers (**35681108**)
 - Low-voltage protection devices selectivity tables (**109748621**)
- Communications manual
 - 3WL air circuit breakers via COM35 – PROFINET IO, Modbus TCP (**109757987**)
 - 3WL10 air circuit breakers & 3VA27 molded case circuit breakers (**109760220**)

Face-to-face or online training

Our training courses can be found at www.siemens.com/sitrain-lowvoltage

- 3WA air circuit breakers (WT-LV3WA)
- 3WL10 air circuit breaker, size 0 (WT-LVA3WL0)
- 3WL air circuit breakers, sizes 1-3 (WT-LVA3WL)
- Protection systems in low-voltage power distribution (WT-LVAPS)
- LV-3WA Basic (LV-3WA_BA)
- LV-3WA Advanced (LV-3WA_AD)
- Maintenance and operation of 3WL circuit breakers (LV-CBMAIN) with subsequent certification option (LV-CBCERT)
- Communication with SENTRON components (LV-COM)
- Project planning and selection of SENTRON circuit breakers (LV-CBPROJ)

Video tutorial on the 3WL air circuit breaker

www.lowvoltage.siemens.com/wcms/3wl-tutorial

Technical overview – Air circuit breakers

3WA



3WL



The fast way to get you to our online services

This page provides you with comprehensive information and links on air circuit breakers

3WA: www.siemens.com/lowvoltage/product-support (**109781188**)

3WL: www.siemens.com/lowvoltage/product-support (**109766020**)

Circuit breakers and non-automatic circuit breakers for AC and DC

IEC 60947-2

AC



3WA11



3WA12

Basic data

Rated operational voltage U_e	V	≤1000		≤1150	
Rated current I_n	A	630 ... 2500		2000 ... 4000	
Size		1		2	
Type of mounting		Withdrawable	Fixed-mounted	Withdrawable	Fixed-mounted
Number of poles		3/4-pole	3/4-pole	3/4-pole	3/4-pole

Dimensions

Width (3-pole 4-pole)	mm	320 410	320 410	460 590	460 590
Height (for breaking capacity N, S, M, H and D C and E)	mm	468 518	437 462	468 518	437 462
Depth	mm	471	357	471	357

Approvals

General product approvals	VDE, EAC, CCC, CE, C-Tick	VDE, EAC, CCC, CE, C-Tick
Marine/shipbuilding	ABS, DNV, GL, LRS, BV, PRS, CCS, RMRS	ABS, DNV, GL, LRS, BV, PRS, CCS, RMRS

Breaking capacity

		N	S	M	E	S	M	H	C	E
Rated short-circuit breaking capacity										
$I_{cu} I_{cs}$ at U_e up to 415/440 V AC	kA	55 55	66 66	85 85	- -	66 66	85 85	100 100	130 130	- -
$I_{cu} I_{cs}$ at U_e up to 500 V AC	kA	55 55	66 66	85 85	- -	66 66	85 85	100 100	130 130	- -
$I_{cu} I_{cs}$ at U_e up to 690 V AC	kA	42 42	50 50	66 66	85 85	50 50	66 66	85 85	100 100	85 85
$I_{cu} I_{cs}$ at U_e up to 1000 V AC	kA	- -	- -	- -	50 50	- -	- -	- -	- -	85 85
$I_{cu} I_{cs}$ at U_e up to 1150 V AC	kA	- -	- -	- -	- -	- -	- -	- -	- -	50 50
Rated short-circuit making capacity I_{cm}										
I_{cm} at U_e up to 415 V AC	kA	121	145	187	-	145	187	220	286	-
I_{cm} at U_e up to 500 V AC	kA	121	145	187	-	145	187	220	286	-
I_{cm} at U_e up to 690 V AC	kA	88	105	145	187	105	145	187	220	187
I_{cm} at U_e up to 1000 V AC	kA	-	-	-	105	-	-	-	-	187
I_{cm} at U_e up to 1150 V AC	kA	-	-	-	-	-	-	-	-	105

AC



3WA13

DC



3WA12

1

3WA13			3WA12		
≤1150			≤600/1000		
4000 ... 6300			1000 ... 4000		
3			2		
Withdrawable		Fixed-mounted	Withdrawable		Fixed-mounted
3/4-pole		3/4-pole	3/4-pole		3/4-pole
704 914		704 914	460 590		460 590
468 518		437 462	468 518		437 462
471		357	471		357
VDE, EAC, CCC, CE, C-Tick ABS, DNV, GL, LRS, BV, PRS, CCS, RMRS			VDE, EAC, CCC, CE, C-Tick ABS, DNV, GL, LRS, BV, PRS, CCS, RMRS		
H	C	E	D	E	
- -	- -	- -	- -	- -	
100 100	150 150 (3-pole); 130 130 (4-pole)	- -	- -	- -	
85 85	150 150 (3-pole); 130 130 (4-pole)	150 150 (3-pole); 130 130 (4-pole)	- -	- -	
- -	- -	125 125	- -	- -	
- -	- -	70 70	- -	- -	
220	330 (3-pole); 286 (4-pole)	-	-	-	
220	330 (3-pole); 286 (4-pole)	-	-	-	
187	330 (3-pole); 286 (4-pole)	330 (3-pole); 286 (4-pole)	-	-	
-	-	275	-	-	
-	-	154	-	-	

Circuit breakers and non-automatic circuit breakers for AC and DC

IEC 60947-2 (continued)

1

AC



3WA11

3WA12

Breaking capacity			N	S	M	E	S	M	H	C	E
Rated short-time withstand current $I_{cw}^{1)}$											
I_{cw} at U_e up to 500 V AC	0.5 s	kA	55	66	85	–	66	85	100	100	–
	1 s	kA	50	66	85	–	66	85	85	100	–
	2 s	kA	35 ²⁾ /45 ³⁾	45	70	–	66	66 ⁴⁾ /85 ⁵⁾	66 ⁴⁾ /85 ⁵⁾	85	–
	3 s	kA	30 ²⁾ /35 ³⁾	35	60	–	55 ⁴⁾ /66 ⁵⁾	55 ⁴⁾ /75 ⁵⁾	55 ⁴⁾ /75 ⁵⁾	75	–
I_{cw} at U_e up to 690 V AC	0.5 s	kA	42	50	66	85	50	66	85	100	85
	1 s	kA	42	50	66	85	50	66	85	100	85
	2 s	kA	35 ²⁾ /42 ³⁾	45	66	70	50	66	66 ⁴⁾ /85 ⁵⁾	85	66 ⁴⁾ /85 ⁵⁾
	3 s	kA	30 ²⁾ /35 ³⁾	35	60	60	50	55 ⁴⁾ /66 ⁵⁾	55 ⁴⁾ /75 ⁵⁾	75	55 ⁴⁾ /75 ⁵⁾
I_{cw} at U_e up to 1000 V AC	0.5 s	kA	–	–	–	50	–	–	–	–	85
	1 s	kA	–	–	–	50	–	–	–	–	85
	2 s	kA	–	–	–	50	–	–	–	–	66 ⁴⁾ /85 ⁵⁾
	3 s	kA	–	–	–	50	–	–	–	–	55 ⁴⁾ /75 ⁵⁾
I_{cw} at U_e up to 1150 V AC	0.5 s	kA	–	–	–	–	–	–	–	–	50
	1 s	kA	–	–	–	–	–	–	–	–	50
	2 s	kA	–	–	–	–	–	–	–	–	50
	3 s	kA	–	–	–	–	–	–	–	–	50
I_{cw} at U_e up to 220 V DC	1 s	kA	–	–	–	–	–	–	–	–	–
I_{cw} at U_e up to 300 V DC	1 s	kA	–	–	–	–	–	–	–	–	–
I_{cw} at U_e up to 600 V DC	1 s	kA	–	–	–	–	–	–	–	–	–
I_{cw} at U_e up to 1000 V DC	1 s	kA	–	–	–	–	–	–	–	–	–
I_{cw} at U_e up to 1500 V DC	1 s	kA	–	–	–	–	–	–	–	–	–
Rated conditional short-circuit current I_{cc} of the non-automatic air circuit breakers											
Up to 500 V AC	kA	55	66	85	–	66	85	100	100	–	–
Up to 690 V AC	kA	42	50	66	85	50	66	85	100	85	–
Up to 1000 V AC	kA	–	–	–	50	–	–	–	–	–	85
Up to 1150 V AC	kA	–	–	–	–	–	–	–	–	–	50
Up to 220 V DC	kA	–	–	–	–	–	–	–	–	–	–
Up to 300 V DC	kA	–	–	–	–	–	–	–	–	–	–
Up to 600 V DC	kA	–	–	–	–	–	–	–	–	–	–
Up to 1000 V DC	kA	–	–	–	–	–	–	–	–	–	–
Up to 1500 V DC	kA	–	–	–	–	–	–	–	–	–	–
IT network capability											
1-pole short-circuit breaking capacity I_{IT} acc. to. IEC 60947-2 Annex H	≤500 V	kA	50	50	50	–	50	50	50	50	–
	≤690 V	kA	–	–	–	50	–	–	–	–	50
	1000 V	kA	–	–	–	–	–	–	–	–	–

¹⁾ At rated operational voltage $U_e \geq 690$ V, the I_{cw} value of the circuit breaker corresponds to the I_{cu} or I_{cs} value

²⁾ Size 1 with $I_{n \max} \leq 1250$ A
³⁾ Size 1 with $I_{n \max} \geq 1600$ A

⁴⁾ $I_{n \max} \leq 2500$ A
⁵⁾ $I_{n \max} \geq 3200$ A

AC



3WA13

DC



3WA12

1

3WA13			3WA12	
H	C	E	D	E
100	130 (3-pole); 120 (4-pole)	–	–	–
100	130 (3-pole); 120 (4-pole)	–	–	–
100	130 (3-pole); 120 (4-pole)	–	–	–
100	130 (3-pole); 120 (4-pole)	–	–	–
85	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–
85	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–
85	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–
85	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–
–	–	125 (3-pole); 120 (4-pole)	–	–
–	–	125 (3-pole); 120 (4-pole)	–	–
–	–	125 (3-pole); 120 (4-pole)	–	–
–	–	125 (3-pole); 120 (4-pole)	–	–
–	–	70	–	–
–	–	70	–	–
–	–	70	–	–
–	–	70	–	–
–	–	–	35	–
–	–	–	30	–
–	–	–	25	–
–	–	–	–	20
–	–	–	–	– (3-pole); 20 (4-pole)
100	130 (3-pole); 120 (4-pole)	–	–	–
85	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–
–	–	125 (3-pole); 120 (4-pole)	–	–
–	–	70	–	–
–	–	–	35	–
–	–	–	30	–
–	–	–	25	–
–	–	–	–	20
–	–	–	–	– (3-pole); 20 (4-pole)
50	50	–	–	–
–	–	50	–	–
–	–	–	–	–

Circuit breakers and non-automatic circuit breakers for AC

IEC 60947-2

3WA11



Rated current I_n				630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A
General data										
Isolating function acc. to EN 60947-2				Yes						
Utilization category				B						
Permissible ambient temperature	Operation	°C	-40 ... +70							
	Storage	°C	-40 ... +80							
Mounting position										
Degree of protection				IP20 without control cabinet door, IP41 with door sealing frame, IP55 with cover						
Voltage										
Rated operational voltage U_e at 50/60 Hz	1000 V version	V AC	≤1000							
Rated insulation voltage U_i		V AC	1000							
Rated impulse withstand voltage U_{imp}	Main conducting paths	kV	12							
	Auxiliary circuits	kV	4							
	Control circuits	kV	2.5							
Permissible load										
Permissible load for withdrawable versions										
For all connection types (except rear vertical main connections)	Up to 55 °C (Cu bare)	A	630	800	1000	1250	1600	2000	–	
	Up to 60 °C (Cu bare)	A	630	800	1000	1250	1600	1930	–	
	Up to 70 °C (Cu bare)	A	630	800	1000	1210	1490	1780	–	
With rear vertical connections	Up to 55 °C (Cu bare)	A	630	800	1000	1250	1600	2000	2500	
	Up to 60 °C (Cu bare)	A	630	800	1000	1250	1600	2000	2370	
	Up to 70 °C (Cu bare)	A	630	800	1000	1250	1545	1855	2060	
Permissible load for fixed-mounted versions										
For all connection types (except rear vertical main connections)	Up to 55 °C (Cu bare)	A	630	800	1000	1250	1600	2000	–	
	Up to 60 °C (Cu bare)	A	630	800	1000	1250	1600	2000	–	
	Up to 70 °C (Cu bare)	A	630	800	1000	1250	1600	2000	–	
With rear vertical connections	Up to 55 °C (Cu bare)	A	630	800	1000	1250	1600	2000	2500	
	Up to 60 °C (Cu bare)	A	630	800	1000	1250	1600	2000	2500	
	Up to 70 °C (Cu bare)	A	630	800	1000	1250	1600	2000	2500	
Power loss at I_n										
With 3-phase symmetrical load with maximum rated current, complete device (3/4p)	Fixed-mounted	W	30	45	70	105	135	240	360	
	Withdrawable versions	W	55	85	130	205	310	440	600	

3WA12



3WA13



3WA12				3WA13		
2000 A	2500 A	3200 A	4000 A	4000 A	5000 A	6300 A
Yes				Yes		
B				B		
-40 ... +70				-40 ... +70		
-40 ... +80				-40 ... +80		
IP20 without control cabinet door, IP41 with door sealing frame, IP55 with cover				IP20 without control cabinet door, IP41 with door sealing frame, IP55 with cover		
≤1150				≤1150		
≤1150				≤1150		
12				12		
4				4		
2.5				2.5		
2000	2500	3200	–	4000	5000	–
2000	2500	3020	–	4000	5000	–
2000	2280	2870	–	4000	5000	–
2000	2500	3200	4000	4000	5000	5920
2000	2500	3200	3910	4000	5000	5810
2000	2390	2945	3645	4000	5000	5500
2000	2500	3200	–	4000	5000	–
2000	2500	3200	–	4000	5000	–
2000	2500	3200	–	4000	5000	–
2000	2500	3200	4000	4000	5000	6300
2000	2500	3200	4000	4000	5000	6300
2000	2500	3200	4000	4000	5000	5920
180	270	410	750	520	630	900
320	520	710	1040	810	1050	1600

Circuit breakers and non-automatic circuit breakers for AC

IEC 60947-2 (continued)

3WA11



Rated current I_n			630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A
Switching times									
Make time	ms					35			
Opening time	ms					38			
Electrical make time (through closing coil) ¹⁾	ms					80			
Electrical opening time (through shunt trip)	ms					73			
Electrical opening time (instantaneous undervoltage release)	ms					≤80			
Opening time due to ETU, instantaneous short-circuit release	ms					50			
Service life/endurance									
Breaking capacity N, 3/4-pole									
Mechanical	Without maintenance	Operating cycles				15000			
	With maintenance ²⁾	Operating cycles				30000			
Electrical	Without maintenance 690 V	Operating cycles			10000			7500	5000
	With maintenance ²⁾	Operating cycles				30000			
Breaking capacity S, 3/4-pole									
Mechanical	Without maintenance	Operating cycles				15000			
	With maintenance ²⁾	Operating cycles				30000			
Electrical	Without maintenance 690 V	Operating cycles			15000			7500	5000
	With maintenance ²⁾	Operating cycles				30000			
Breaking capacity M, 3/4-pole									
Mechanical	Without maintenance	Operating cycles				10000			
	With maintenance ²⁾	Operating cycles				15000			
Electrical	Without maintenance 690 V	Operating cycles			7500				5000
	With maintenance ²⁾	Operating cycles				15000			
Breaking capacity E, 3/4-pole									
Mechanical	Without maintenance	Operating cycles				10000			
	With maintenance ²⁾	Operating cycles				15000			
Electrical	Without maintenance 690 V	Operating cycles			7500				5000
	Without maintenance 1000 V	Operating cycles				1000			
	Without maintenance 1150 V	Operating cycles				–			
	With maintenance ²⁾	Operating cycles				15000			
Breaking capacity H, 3/4-pole									
Mechanical	Without maintenance	Operating cycles				–			
	With maintenance ²⁾	Operating cycles				–			
Electrical	Without maintenance 690 V	Operating cycles				–			
	With maintenance ²⁾	Operating cycles				–			
Breaking capacity C, 3/4-pole									
Mechanical	Without maintenance	Operating cycles				–			
	With maintenance ²⁾	Operating cycles				–			
Electrical	Without maintenance 690 V	Operating cycles				–			
	With maintenance 690 V ²⁾	Operating cycles				–			
Operating frequency									
Breaking capacity N and S									
Electrical	3-pole	1/h				45			
	4-pole	1/h				45			
Breaking capacity M, H and C									
Electrical	3/4-pole	1/h				60/60 ≤ 690 V			
Breaking capacity E									
Electrical	3/4-pole	1/h				20/20 at 1000 V, 60/60 ≤ 690 V			

¹⁾ Make time through closing coil for momentary duty for synchronization purposes 5% OP = 50 ms

²⁾ Maintenance means: Replacing main contact elements and arc chutes (see operating instructions: www.siemens.com/lowvoltage/manuals).

3WA12



3WA13



2000 A		2500 A		3200 A		4000 A		4000 A		5000 A		6300 A	
			35								35		
			34								34		
			100								100		
			73								73		
			≤80								≤80		
			50								50		
			-								-		
			-								-		
			-								-		
			-								-		
			10000								-		
			20000								-		
7500		7500		4000		2000					-		
			20000								-		
			10000								-		
			20000								-		
7500		7500		4000		2000					-		
			20000								-		
			10000								5000		
			20000								10000		
7500		7500		4000		2000					2000		
			1000								1000		
			500								500		
			20000								10000		
			10000								10000		
			20000								15000		
7500		7500		4000		2000					2000		
20000		20000		20000		20000					15000		
			5000				-				5000		
			10000				-				10000		
5000		5000		4000			-				1000		
10000		10000		10000			-				10000		
			45								-		
			60								-		
			60/60 ≤ 690 V								60/60 ≤ 690 V		
			20/20 at 1000/1150 V, 60/60 ≤ 690 V								20/20 at 1000/1150 V, 60/60 ≤ 690 V		

Circuit breakers and non-automatic circuit breakers for AC

IEC 60947-2 (continued)

3WA11



Rated current I_n		630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	
Connection									
Main conductor minimum cross-sections									
Copper bars, bare	Unit, mm ²	1× 40× 10	1× 50× 10	1× 60× 10	2× 40× 10	2× 50× 10	3× 50× 10	4× 50× 10	
Copper bars, painted black	Unit, mm ²	1× 40× 10	1× 50× 10	1× 60× 10	2× 40× 10	2× 50× 10	3× 50× 10	4× 50× 10	
Auxiliary conductor (Cu) max. number of auxiliary conductors × cross-section (solid/stranded)									
Standard connection = push-in	Without end sleeve				2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)				
	With end sleeve acc. to DIN 46228 Part 2				2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)				
	With twin end sleeve				2× 0.5 ... 1.5 mm ² (AWG 20 ... 16)				
	Stripped length				10 ... 12 mm (0.39 ... 0.47 inch)				
Optional connection with screw connection	Without end sleeve				2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)				
	With end sleeve acc. to DIN 46228 Part 2				1× 0.5 ... 1.5 mm ² (AWG 20 ... 16)				
	With twin end sleeve				1× 0.5 ... 1.5 mm ² (AWG 20 ... 16)				
	Stripped length				7 ... 8 mm (0.28 ... 0.31 inch)				
Position signaling switch									
Spring-loaded terminals for standard signaling contacts	Without end sleeve				0.08 ... 2.5 mm ² (AWG 20 ... 12)				
	With end sleeve acc. to DIN 46228 Part 2				0.25 ... 1.5 mm ²				
	Stripped length				5 ... 6 mm (0.2 ... 0.24 inch)				
Push-in connection for communication signaling contacts	Without end sleeve				0.14 ... 1.5 mm ² (AWG 20 ... 16)				
	With end sleeve acc. to DIN 46228 Part 2				0.25 ... 1.5 mm ² (AWG 20 ... 16)				
	Stripped length				9 mm (0.35 inch)				
Weights									
3-pole	Fixed-mounted circuit breaker	kg	32	32	32	33	33	33	33
	Withdrawable circuit breaker without guide frame	kg	35	35	35	36	36	36	36
	Guide frames	kg	26	26	26	27	27	27	28
4-pole	Fixed-mounted circuit breaker	kg	39	39	39	39	39	40	40
	Withdrawable circuit breaker without guide frame	kg	42	42	42	42	42	43	43
	Guide frames	kg	31	31	31	31	31	31	33

3WA12



3WA13



2000 A	2500 A	3200 A	4000 A	4000 A	5000 A	6300 A
3× 50×10	2× 100×10	3× 100×10	4× 120×10	4× 100×10	6× 100×10	6× 120×10
3× 50×10	2× 100×10	3× 100×10	4× 120×10	4× 100×10	6× 100×10	6× 120×10
	2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)				2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)	
	2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)				2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)	
	2× 0.5 ... 1.5 mm ² (AWG 20 ... 16)				2× 0.5 ... 1.5 mm ² (AWG 20 ... 16)	
	10 ... 12 mm (0.39 ... 0.47 inch)				10 ... 12 mm (0.39 ... 0.47 inch)	
	2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)				2× 0.5 ... 2.5 mm ² (AWG 20 ... 14)	
	1× 0.5 ... 1.5 mm ² (AWG 20 ... 16)				1× 0.5 ... 1.5 mm ² (AWG 20 ... 16)	
	1× 0.5 ... 1.5 mm ² (AWG 20 ... 16)				1× 0.5 ... 1.5 mm ² (AWG 20 ... 16)	
	7 ... 8 mm (0.28 ... 0.31 inch)				7 ... 8 mm (0.28 ... 0.31 inch)	
	0.08 ... 2.5 mm ² (AWG 20 ... 12)				0.08 ... 2.5 mm ² (AWG 20 ... 12)	
	0.25 ... 1.5 mm ²				0.25 ... 1.5 mm ²	
	5 ... 6 mm (0.2 ... 0.24 inch)				5 ... 6 mm (0.2 ... 0.24 inch)	
	0.14 ... 1.5 mm ² (AWG 20 ... 16)				0.14 ... 1.5 mm ² (AWG 20 ... 16)	
	0.25 ... 1.5 mm ² (AWG 20 ... 16)				0.25 ... 1.5 mm ² (AWG 20 ... 16)	
	9 mm (0.35 inch)				9 mm (0.35 inch)	
43	45	50	52	79	80	111
47	48	54	53	84	86	86
33	34	41	40	70	87	86
54	56	63	64	100	102	144
57	60	67	88	107	108	108
40	42	50	71	71	89	110

Non-automatic circuit breakers for DC

IEC 60947-2

3WA12



Rated current I_n			1000 A	2000 A	4000 A
General data					
Isolating function acc. to EN 60947-2			Yes		
Utilization category			B		
Permissible ambient temperature	During operation (in operation with LCD max. 55 °C)	°C	-40 ... +70		
	Storage	°C	-40 ... +80		
Mounting position					
Degree of protection			IP20 without control cabinet door, IP41 with door sealing frame, IP55 with cover		
Voltage					
Rated operational voltage U_e	Breaking capacity D E	V DC	600 1000 (3-pole); 1500 (4-pole)		
Rated insulation voltage U_i	Breaking capacity D E	V DC	600 1000 (3-pole); 1500 (4-pole)		
Rated impulse withstand voltage U_{imp}	Main conducting paths	kV	12		
	Auxiliary circuits	kV	4		
	Control circuits	kV	2.5		
Permissible load					
Permissible load for withdrawable versions					
For all connection types (except rear vertical main connections)	Up to 40 °C (Cu bare)	A	1000	2000	4000
	Up to 55 °C (Cu bare)	A	1000	2000	3640
	Up to 60 °C (Cu bare)	A	1000	2000	3500
	Up to 70 °C (Cu bare)	A	1000	1950	3250
With rear vertical connections	Up to 40 °C (Cu bare)	A	1000	2000	4000
	Up to 55 °C (Cu bare)	A	1000	2000	4000
	Up to 60 °C (Cu bare)	A	1000	2000	3640
	Up to 70 °C (Cu bare)	A	1000	2000	3400
Permissible load for fixed-mounted versions					
For all connection types (except rear vertical main connections)	Up to 40 °C (Cu bare)	A	1000	2000	4000
	Up to 55 °C (Cu bare)	A	1000	2000	4000
	Up to 60 °C (Cu bare)	A	1000	2000	4000
	Up to 70 °C (Cu bare)	A	1000	2000	3900
With rear vertical connections	Up to 40 °C (Cu bare)	A	1000	2000	4000
	Up to 55 °C (Cu bare)	A	1000	2000	4000
	Up to 60 °C (Cu bare)	A	1000	2000	4000
	Up to 70 °C (Cu bare)	A	1000	2000	4000
Power loss at I_n					
With 3-phase symmetrical load, complete device (3/4p)	Withdrawable versions	W	280	770	1640
	Fixed-mounted	W	140	390	820
Switching times					
Make time		ms	35	35	35
Opening time		ms	34	34	34
Electrical make time (through closing coil)		ms	100	100	100
Electrical opening time (through shunt trip)		ms	73	73	73
Electrical opening time (instantaneous undervoltage release)		ms	≤80	≤80	≤80

3WA12



1

Rated current I_n			1000 A	2000 A	4000 A
Service life/endurance					
Breaking capacity D, 3/4-pole					
Mechanical	Without maintenance	Operating cycles	10000	10000	10000
	With maintenance ¹⁾	Operating cycles	20000	20000	20000
Electrical	Without maintenance 600 V	Operating cycles	6000	6000	4000
	With maintenance ¹⁾	Operating cycles	20000	20000	20000
Breaking capacity E, 3/4-pole					
Mechanical	Without maintenance	Operating cycles	10000	10000	10000
	With maintenance ¹⁾	Operating cycles	20000	20000	20000
Electrical	Without maintenance 1000 V	Operating cycles	1000	1000	1000
	With maintenance ¹⁾	Operating cycles	20000	20000	20000
Operating frequency					
Breaking capacity D					
Electrical	3/4-pole	1/h	60/60	60/60	60/60
Breaking capacity E					
Electrical	3/4-pole	1/h	20/20	20/20	20/20
Connection					
Main conductor minimum cross-sections					
Copper bars, bare		Unit, mm ²	1 × 50 × 10	2 × 50 × 10	3 × 100 × 10 on the infeed and outgoing side; 6 × 250 × 500 × 5 for jumpers
Copper bars, painted black		Unit, mm ²	1 × 50 × 10	2 × 50 × 10	3 × 100 × 10 on the infeed and outgoing side; 6 × 250 × 500 × 5 for jumpers
Auxiliary conductor (Cu) max. number of auxiliary conductors × cross-section (solid/stranded)					
Standard connection = push-in	Without end sleeve		2 × 0.5 ... 2.5 mm ² (AWG 20 ... 14)		
	With end sleeve acc. to DIN 46228 Part 2		2 × 0.5 ... 2.5 mm ² (AWG 20 ... 14)		
	With twin end sleeve		2 × 0.5 ... 1.5 mm ² (AWG 20 ... 16)		
	Stripped length		10 ... 12 mm (0.39 ... 0.47 inch)		
Optional connection with screw connection	Without end sleeve		2 × 0.5 ... 2.5 mm ² (AWG 20 ... 14)		
	With end sleeve acc. to DIN 46228 Part 2		1 × 0.5 ... 1.5 mm ² (AWG 20 ... 16)		
	With twin end sleeve		1 × 0.5 ... 1.5 mm ² (AWG 20 ... 16)		
	Stripped length		7 ... 8 mm (0.28 ... 0.31 inch)		
Position signaling switch					
Spring-loaded terminals for standard signaling contacts	Without end sleeve		0.08 ... 2.5 mm ² (AWG 20 ... 12)		
	With end sleeve acc. to DIN 46228 Part 2		0.25 ... 1.5 mm ²		
	Stripped length		5 ... 6 mm (0.2 ... 0.24 inch)		
Push-in connection for communication signaling contacts	Without end sleeve		0.14 ... 1.5 mm ² (AWG 20 ... 16)		
	With end sleeve acc. to DIN 46228 Part 2		0.25 ... 1.5 mm ² (AWG 20 ... 16)		
	Stripped length		9 mm (0.35 inch)		
Weights					
3-pole	Fixed-mounted circuit breaker	kg	56	56	64
	Withdrawable circuit breaker without guide frame	kg	60	60	68
	Guide frames	kg	31	31	45
4-pole	Fixed-mounted circuit breaker	kg	67	67	77
	Withdrawable circuit breaker without guide frame	kg	72	72	82
	Guide frames	kg	37	37	54

¹⁾ Maintenance means: Replacing main contact elements and arc chutes (see operating instructions: www.siemens.com/lowvoltage/manuals).

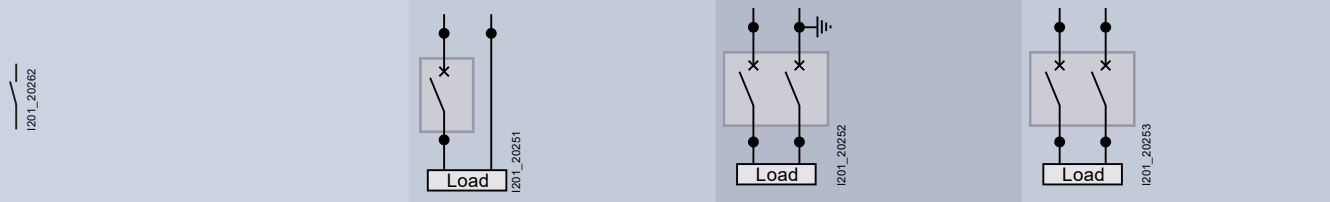
Non-automatic circuit breakers for DC

Application examples

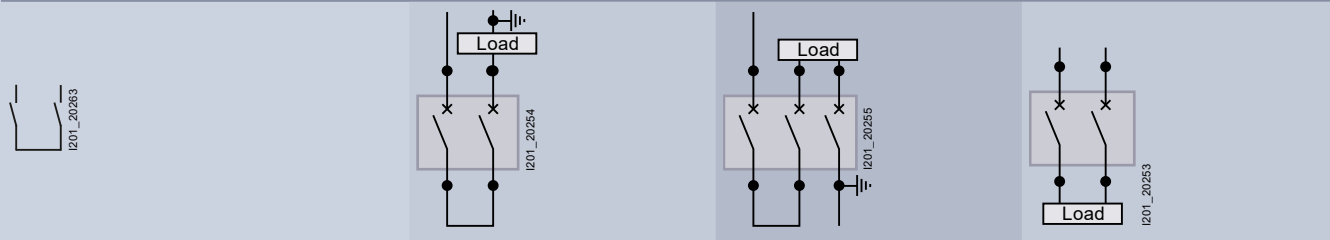
The connection to the circuit breakers is not dependent on direction and polarity; the circuit diagrams can be adapted accordingly. If the parallel or series connections are made directly to the connecting bars, for thermal reasons the continuous load on the circuit breakers must only be 80% of the permissible operational current. If the parallel or series connection is made at a distance of 1 m from the connecting bars, the circuit breaker can be used at full operational current load.

Minimum required contact gaps at rated voltage

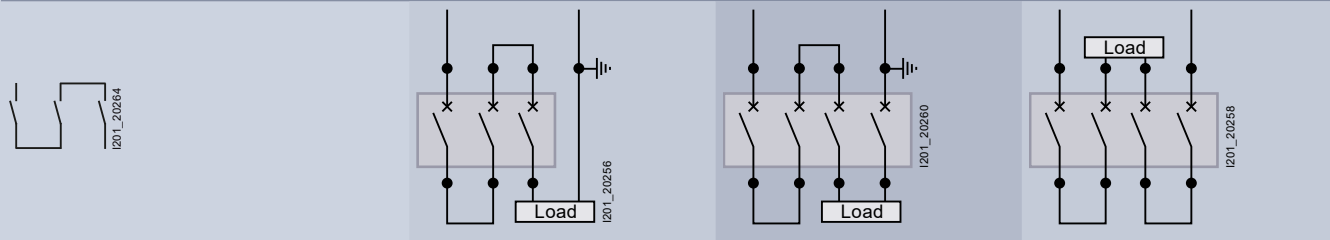
Rated operational voltage up to 300 V



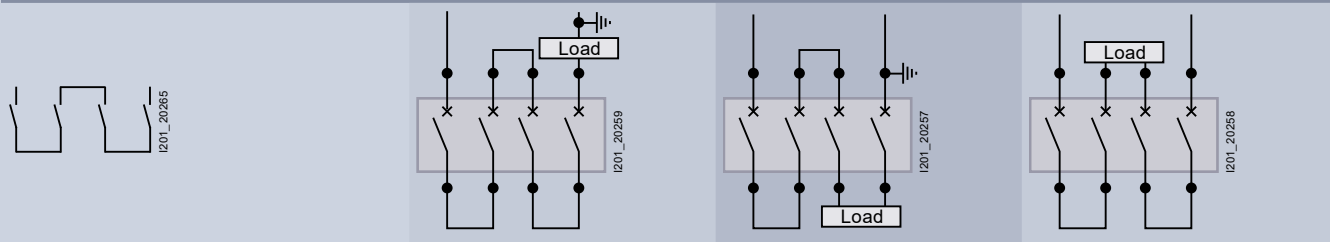
Rated operational voltage up to 600 V



Rated operational voltage up to 1000 V



Rated operational voltage up to 1500 V



Note:

DC 2-pole (all-pole) disconnection; grounded system

The grounded conductor must always be assigned to the individual switching pole of the non-automatic air circuit breaker, so that in the event of a ground fault there are always 2 conducting paths in series in a circuit with 3-pole circuit breakers, and 3 conducting paths in series in a circuit with 4-pole circuit breakers.

The jumpers between the switching poles must be short-circuit and ground-fault proof.

Electronic trip unit ETU600

Protective functions

ETU600 LSI, ETU600 LSIG, ETU600 LSIG Hi-Z			Current metering	ready4COM	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
Protective function	Variable setting range	Setting values with rotary switch					
L: Overload protection LT							
Tripping	Can be switched on/off		■	■	■	■	■
Current setting I_r	0.4 ... 1.0 × I_n	0.5/0.6/0.7/0.75/0.8/0.85/0.9/0.95/1.0 × I_n	■	■	■	■	■
Tripping time t_r at 6 × I_r	For I^2t : 0.5 ... 30 s and at I^2t : 0.5 ... 5 s	1/2/5/8/10/14/17/21/25 s	■	■	■	■	■
Characteristic LT curve	I^2t and I^2t		■	■	■	■	■
Thermal memory	Can be switched on/off		■	■	■	■	■
Cooling time constant	10 and 18 × t_r		■	■	■	■	■
Phase failure detection	Can be switched on/off		■	■	■	■	■
Overload pre-alarm PAL	Can be switched on/off		■	■	■	■	■
Current setting $I_{r,PAL}$	0.7 ... 1.0 × I_r		■	■	■	■	■
Delay time $t_{r,PAL}$	0.5 ... 1.0 × t_r		■	■	■	■	■
L: Overload protection LT, neutral conductor							
Tripping	Can be switched on/off		■	■	■	■	■
Current setting I_N	0.2 ... 2.0 × I_n for 4-pole circuit breakers max. $I_{n,max}$		■	■	■	■	■
Current setting $I_{N,PAL}$	0.7 ... 1.0 × I_N		■	■	■	■	■
S: Short-time-delayed short-circuit protection ST							
Tripping	Can be switched on/off		■	■	■	■	■
Current setting I_{sd}	0.6 × I_n ... 0.8 × I_{cw}	1.5/2/2.5/3/4/5/6/8/10 × I_r	■	■	■	■	■
Tripping time t_{sd}	0.02 ... 0.4 s	For Fix: 0.08/0.15/0.22/0.3/0.4 s For I^2t : 0.1/0.2/0.3/0.4 s	■	■	■	■	■
Characteristic ST curve	I^2t and I^2t		■	■	■	■	■
Reference point $I_{ST,ref}$	6-12 × I_r		■	■	■	■	■
Intermittent acquisition	Can be switched on/off		■	■	■	■	■
S: Directional short-time-delayed short-circuit protection dST							
Tripping	Can be switched on/off		□	□	□	■	■
Current setting $I_{sd,FW}$	0.6 × I_n ... 0.8 × I_{cw}		□	□	□	■	■
Current setting $I_{sd,REV}$	0.6 × I_n ... 0.8 × I_{cw}		□	□	□	■	■
Tripping time $t_{sd,FW}$	0.05 ... 0.4 s		□	□	□	■	■
Tripping time $t_{sd,REV}$	0.05 ... 0.4 s		□	□	□	■	■
I: Instantaneous short-circuit protection INST							
Tripping	Can be switched on/off		■	■	■	■	■
Current setting I_i	1.5 × I_n ... 0.8 × I_{cs}	1.5/2/3/4/6/8/10/12/15 × I_n	■	■	■	■	■
Reverse power protection RP							
Tripping	Can be switched on/off		□	□	□	■	■
Setting value P_{RP}	0.05 ... 0.5 × P_n		□	□	□	■	■
Tripping time t_{RP}	0.01 ... 25 s		□	□	□	■	■
Enhanced Protective functions EPF							
Phase unbalance current and phase unbalance voltage			□	□	□	■	■
Undervoltage and overvoltage			□	□	□	■	■
Active power import and active power export			□	□	□	■	■
Underfrequency and overfrequency			□	□	□	■	■
Total harmonic distortion for current and voltage			□	□	□	■	■
Phase sequence detection			□	□	□	■	■
DAS+ dynamic arc sentry							
Current setting $I_{i,DAS+}$	1.5 ... 10 × I_n		■	■	■	■	■
Current setting $I_{g,DAS+}$	With LSIG GFx option plug Residual: - Sizes 1 and 2: 100 ... 2000 A and - Size 3: 400 ... 2000 A Direct: 15 ... 2000 A		■	■	■	■	■
Tripping time $t_{g,DAS+}$	0 ... 5 s		■	■	■	■	■
Second parameter set							
Parameter set changeover	Switchable between parameter set A and B		□	□	□	■	■

- Available, feature of the application package
- Can be retrofitted

Electronic trip unit ETU600

Protective functions

1

			Current metering	ready4COM	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
ETU600 LSI							
Protective function	Variable setting range						
G: ground fault GF alarm							
Alarm	Can be switched on/off		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Current setting $I_{g\text{ alarm}}$ with LSI GFx option plug	Detection method	Sizes 1 and 2: 100 ... 5000 A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Residual	Size 3: 400 ... 5000 A					
	Detection method	15 ... 5000 A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Direct						
Alarm time $t_{g\text{ alarm}}$	0 ... 0.5 s		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> ■ Available, feature of the application package □ Can be retrofitted 							

			Current metering	ready4COM	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
ETU600 LSIG							
Protective function	Variable setting range						
G: Ground fault GF							
Tripping	Can be switched on/off		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Method of ground fault detection	Residual	Detection of ground-fault current via summation current formation in all phases and the N-conductor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Direct	Direct metering of the ground-fault current with a current transformer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Dual	Protection zone UREF: Detection of the ground-fault current by means of summation current formation, Protection zone REF: Measurement of the ground-fault current with an external current transformer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Characteristic GF curve	With LSI GFx option plug	For Fix (I^2t) $I^2t/I^4t/I^6t$	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Current setting I_g with LSI GFx option plug	Detection method	Sizes 1 and 2: 100 ... 2000 A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Residual	Size 3: 400 ... 2000 A					
Tripping time t_g	Detection method	15 ... 2000 A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Direct						
	For Fix (I^2t)	0 ... 5 s	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	For I^2t at $3 \times I_g$	0 ... 30 s	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	$t_{g\text{ def}}$ at I^2t	0,05 ... 0,5 s	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Intermittent acquisition	Can be switched on/off		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G: ground fault GF alarm							
Alarm	Can be switched on/off		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Current setting $I_{g\text{ alarm}}$ with LSI GFx option plug	Detection method	Sizes 1 and 2: 100 ... 5000 A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Residual	Size 3: 400 ... 5000 A					
	Detection method	15 ... 5000 A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Direct						
Alarm time $t_{g\text{ alarm}}$	0 ... 0.5 s		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> ■ Available, feature of the application package 							

			Current metering	ready4COM	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
ETU600 LSIG Hi-Z							
Protective function	Variable setting range						
G: Ground fault GF Hi-Z							
Tripping	Can be switched on/off		■	■	■	■	■
Method of ground fault detection	Residual	Detection of ground-fault current via summation current formation in all phases and the N-conductor	■	■	■	■	■
	Dual Hi-Z, for high-impedance connection of the external current transformers	Protection zone UREF: Detection of the ground-fault current by means of summation current formation Protection zone REF: Measurement of the ground-fault current with an external current transformer combination	■	■	■	■	■
Characteristic GF curve	With LSIG GFx option plug	For Fix (I^0t)/ I^2t / I^4t / I^6t	■	■	■	■	■
Current setting I_g with LSIG GFx option plug	Protection zone UREF	Size 2: 100 ... 2000 A and Size 3: 400 ... 2000 A	■	■	■	■	■
	Protection zone REF	15 ... 2000 A	■	■	■	■	■
Tripping time t_g	For Fix (I^0t)	0 ... 5 s	■	■	■	■	■
	For I^0t $3 \times I_g$ in protection zone UREF	0 ... 30 s	■	■	■	■	■
	$t_{g,der}$ at I^0t	0,05 ... 0,5 s	■	■	■	■	■
Intermittent acquisition	Can be switched on/off		■	■	■	■	■
G: ground fault GF alarm							
Alarm	Can be switched on/off		■	■	■	■	■
Current setting $I_{g,alarm}$ with LSIG GFx option plug	Protection zone UREF	Size 2: 100 ... 5000 A and Size 3: 400 ... 5000 A	■	■	■	■	■
Alarm time $t_{g,alarm}$	0 ... 0.5 s		■	■	■	■	■

■ Available, feature of the application package

Electronic trip unit ETU600

Operation, interfaces and measurement function

ETU600		Current metering	ready4COM	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring	Non-automatic circuit breakers
Operation and interfaces							
Rotary switch		■	■	■	■	■	–
Display and operating keys		■	■	■	■	■	–
SENTRON powerconfig configuration software		■	■	■	■	■	–
Fieldbus communication		■	■	■	■	■	–
Color display		■	■	■	■	■	–
Bluetooth ¹⁾ and USB interface		■	■	■	■	■	–
Communication							
Prepared for connection of a communication module (ready4COM feature)	Status messages of the circuit breaker	□	□	■	■	■	□
	Status messages of the electronic trip unit ETU600	□	□	■	■	■	–
	Remote operation, requires a communication module, closing coil, shunt trip	□	□	■	■	■	□
Communication module COM190 PROFINET IO/Modbus TCP		□	□	□	□	□	□
Digital input and output on the electronic trip unit ETU600							
Parameterizable input	For activating DAS+ dynamic arc sentry or can be used for parameter set changeover	■	■	■	■	■	–
Parameterizable output	Can be used as a "life contact" and for display of "Parameter set B active" or "DAS+ dynamic arc sentry active".	■	■	■	■	■	–
IOM230 digital input and output module							
Two parameterizable inputs	For controlling the circuit breaker and transmitting information from the switchboard via communication.	□	□	□	□	□	□
Three parameterizable outputs	For signaling events, states, tripping operations or alarms of the circuit breaker	□	□	□	□	□	□

¹⁾ A country-specific radio license is required to operate the Bluetooth interface. Before activating the Bluetooth function, ensure that the license is available: www.siemens.com/lowvoltage/certificates

- Not available
- Available, feature of the application package
- Can be retrofitted

		Current metering	ready4COM	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
ETU600						
Measurement function						
Integrated voltage tap at top/bottom		–	–	■	■	■
Voltage tap module VTM		–	–	■	■	■
Type acc. to IEC 61557-12	PMF-I	–	–	■	■	■
	PMF-II	–	–	–	■	■
	PMF-III	–	–	–	–	■
Metering values						
Temperature		–	■	■	■	■
Accuracy according to IEC 61557-12						
Phase current I_{L1}, I_{L2}, I_{L3}	Class 1	■	■	■	■	■
Neutral conductor current I_N	Class 1	■	■	■	■	■
Voltage U_{LN}	Class 0.5	–	–	■	■	■
Voltage U_{LL}	Class 0.5	–	–	■	■	■
Active energy E_a	Class 2	–	–	■	■	■
Active power P	Class 2	–	–	–	■	■
Accuracy according to manufacturer's specifications						
Ground-fault current I_g with ETU600 LSI	2%	–	–	–	■	■
Ground-fault current I_g with ETU600 LSIG, ETU600 LSIG Hi-Z	2%	■	■	■	■	■
Reactive energy E_r	2%	–	–	–	■	■
Apparent energy E_{ap}	2%	–	–	–	■	■
Reactive power Q	2%	–	–	–	■	■
Apparent power S	2%	–	–	–	■	■
Power factor PF	6%	–	–	–	■	■
$\cos \varphi$	6%	–	–	–	■	■
Frequency f	0.5%	–	–	–	■	■
Current unbalance	2.5%	–	–	–	■	■
Voltage unbalance	1.5%	–	–	–	■	■
Total harmonic distortion $THD-I^{1)}$	2%	–	–	–	–	■
Total harmonic distortion $THD-U^{1)}$	2%	–	–	–	–	■
Harmonic $I, U^{1)}$	2%	–	–	–	–	■

¹⁾ For 2nd to 15th harmonic $\pm 2\%$ and for 16th to 31st harmonic $\pm 5\%$

■ Available, feature of the application package

– Not available

Connection

Main circuit connection

3WA11 – 3WA13

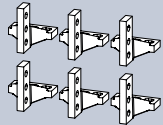
Fixed-mounted

Withdrawable

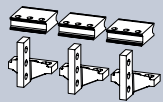
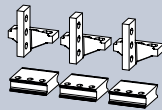
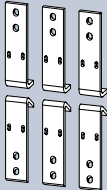
1



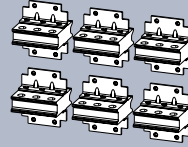
Rear horizontal



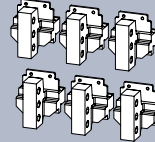
Rear vertical

Horizontal on top,
vertical at the bottomVertical on top,
horizontal at the bottom

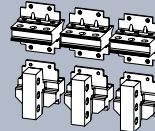
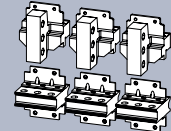
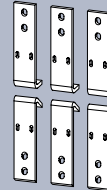
Front connection with double hole



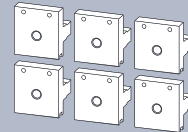
Rear horizontal



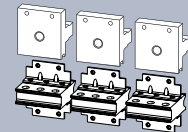
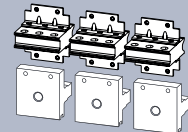
Rear vertical

Horizontal on top,
vertical at the bottomVertical on top,
horizontal at the bottom

Front connection with double hole



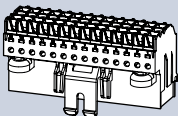
Flange

Flange on top and
horizontal at bottomFlange on bottom and
horizontal at top

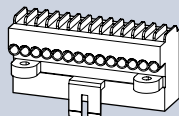
Secondary disconnect terminal

The auxiliary and control cables are connected at the manual connectors using the push-in technology of the auxiliary conductor connections of the circuit breaker.

Coding pins on the manual connectors prevent them being inserted in the wrong slots.

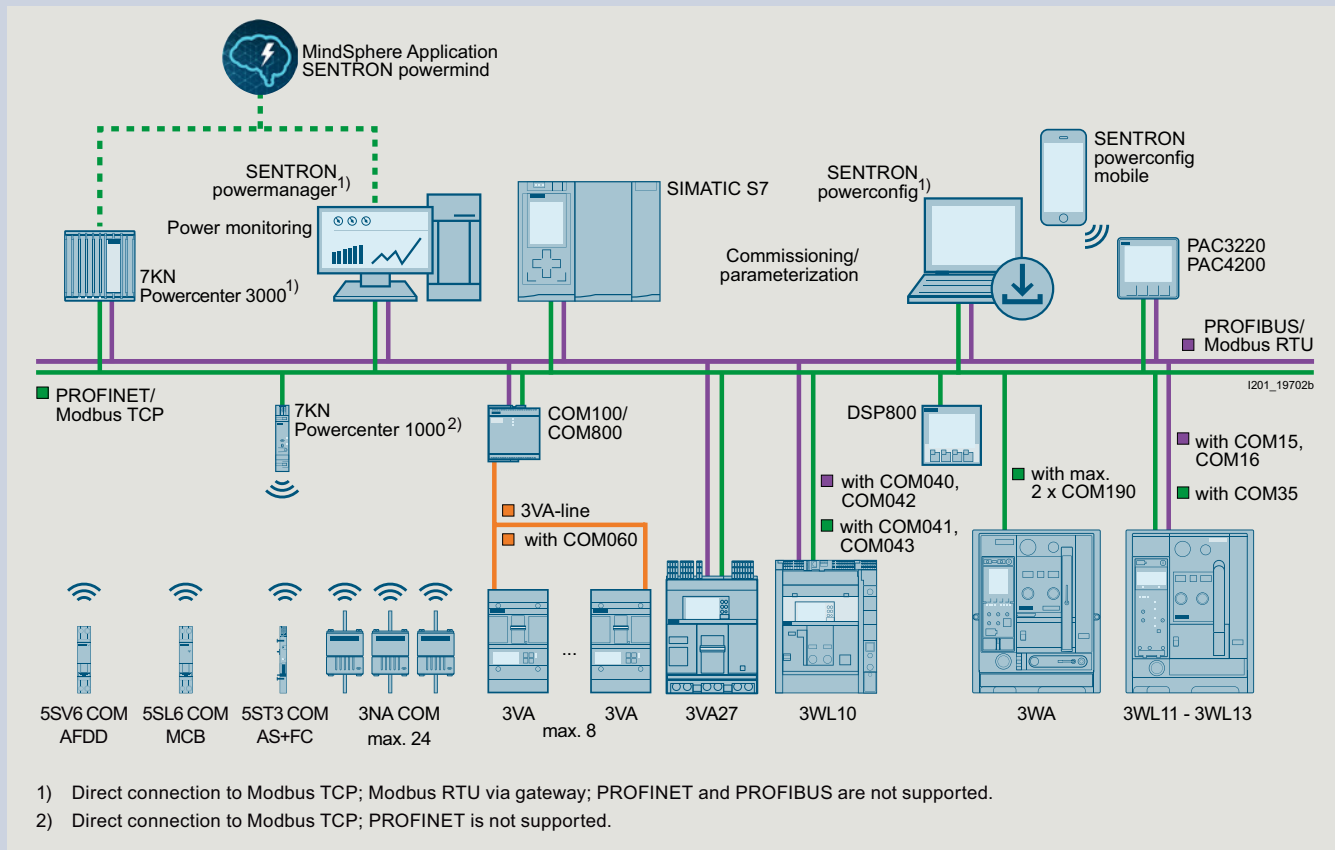


Screwless connection (push in)



Screw connection (optional)

Communication



The 3WA can be equipped with up to two PROFINET IO/Modbus TCP COM190 communication modules and up to five IOM230 digital input/output modules.

For the optional communications interface with the COM190 communication module, a circuit breaker with the "ready4COM" feature must be selected as the circuit breaker/non-automatic air circuit breaker. The first COM190 communication module must be selected via a Z option. If you want to use a further COM190 communication module, this must be ordered separately as an accessory. Both COM190 communication modules can be run in parallel.

The first IOM230 digital input/output module can be selected via a Z option.

The up to four further digital input/output modules must be ordered separately as accessories.

You will find further information on the COM190 in the Equipment Manual – 3WA Air Circuit Breakers

www.siemens.com/lowvoltage/manuals (109763061)

Technical specifications	COM190
Primary operating range	
U_s	24 V DC $\pm 20\%$
Rated power dissipation	1 W
Switched Ethernet Ports	2
Protocol	PROFINET IO (CC-C) and Modbus TCP
Security functions	Yes
Quantity	Up to 2

Technical specifications	IOM230
Primary operating range	
U_s	24 V DC $\pm 20\%$
Rated power dissipation	1 W
Inputs	2
Outputs	3
Maximum switching current	24 V DC, 4 A 250 V AC, 5 A
Maximum continuous current	24 V DC, 0.2 A 250 V AC, 0.2 A
Quantity	Up to 5

System overview 3WA11 – 3WA13

Circuit breakers and non-automatic circuit breakers for AC and DC

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

1

Circuit breakers and non-automatic circuit breakers



Sizes 1 to 3

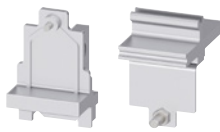
Main circuit connection



Front double hole



Flange



Main connection
vertical, horizontal

Electronic trip unit and measurement function



ETU600

Operating mechanisms and auxiliary switches



Spring charging motor

Closing coil and remote trip alarm reset coil



Closing coil (CC)



Remote trip alarm reset coil

Note:

You will find a detailed range of accessories in the Accessories and spare parts section.

Auxiliary releases



Closing coil (CC)



Shunt trip (ST)



Undervoltage release (UVR)

Accessories for electronics



Communication module



Digital input/output module



Sealable and lockable cover



Current sensors

Accessories for auxiliary circuit



Trip alarm switch



Motor disconnect switch



Local electric close



Emergency OPEN button

Interlocks and locking provisions



Locking provision for charging handle



Locking provision against unauthorized closing



Mechanical interlock

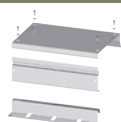


Locking mechanisms

Other accessories



Door sealing frame



Arc chute cover



Automatic reset of the reclosing lockout

Note:

You will find a detailed range of accessories in the Accessories section.

Online configurator highlights

www.siemens.com/lowvoltage/3wa-configurator

Graphical display

- Integration of the legend as a color system
 - Orange: still to be selected
 - Petrol: already selected
 - Gray: preselected (default)
- Graphical highlighting of the individual configuration steps: "What you see is what you get"

The screenshot shows the Siemens 3WA Configurator interface. On the left, there is a configuration panel with various options and their status. The 'Switch mechanism and auxiliary switch' section is highlighted in orange, indicating it is still to be selected. Other sections like 'Basic configuration' and 'Main connection' are highlighted in petrol, indicating they are already selected. The 'CAD-AREA' on the right shows a 3D model of the circuit breaker with components highlighted in colors corresponding to the configuration panel. The price is displayed as 7900,00 €. At the bottom, there are buttons for 'Cancel', 'Reset', 'Load / Save', 'CAx Files', 'Documents', and 'Add to Cart'.

Splitting function (Frame and circuit breaker can be ordered separately)

The screenshot shows the 'Configuration result' dialog box in the Siemens 3WA Configurator. The dialog box has a 'Print' button and an 'Excel export' button. A toggle switch labeled 'Split the configuration' is turned on. Below the toggle, the configuration result is displayed: '3WA Circuit breaker' with part number '3WA1225-5AE60-0AA0' and '3WA frame' with part number '3WA8225-5AA32-1BC1'. There is a 'Show additional information' link at the bottom of the dialog box. On the right side of the dialog box, there is a legend with colored circles and text: 'Closing coil and remote trip alarm reset coil' (gray), '1st Auxiliary switch' (gray), '2nd Auxiliary switch' (gray), 'Electronic accessories' (petrol), 'Auxiliary current accessories' (petrol), 'Locking accessories' (petrol), 'Miscellaneous accessories' (petrol), 'Not assigned' (petrol), and 'Configuration result' (orange). At the bottom of the dialog box, there are buttons for 'Cancel', 'Reset', 'Load / Save', and 'CAx Files'.

Direct conversion of a 3WL article number to a 3WA article number in the configurator

The screenshot shows the Siemens configurator interface. At the top right, there are links for "Log in", "Support", and "Language". A message at the top left states "Configuration is not yet complete". In the center, there is a text input field containing the 3WL article number "3WL1120-8AA72-5AD4" and a "Convert" button. Below this, a "Conversion result" dialog box is displayed, showing the converted 3WA article number "3WA1220-1AU12-7DCO" and an "Apply" button. The background shows a sidebar with configuration options under "Basic configuration", including "Main connection", "Electronic trip unit and measurement function", "Switch mechanism and auxiliary switch", "Closing coil and remote trip alarm reset coil", "1st Auxiliary switch", "2nd Auxiliary switch", "Electronic access", "Auxiliary current", "Locking accessories", "Miscellaneous accessories", and "Not assigned".

Responsive design (adapted to the differing requirements of the displaying devices)



Dynamic customer price during configuration

The screenshot shows a 3D model of an air circuit breaker. In the bottom right corner, a price tag displays "Price 7900,00 €". At the bottom of the interface, there are several buttons: "Cancel", "Reset", "Load / Save", "CAX Files", "Documents", and "Add to Cart".

Structure of the article numbers

Basic configuration for AC circuit breakers and AC non-automatic circuit breakers up to 690 V

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

		5	6	7	8	9	10	11	12	13	14	15	16
3WA1		■	■	■	–	■	■	■	■	–	■	■	■
Circuit breaker and non-automatic circuit breaker													
Size (SZ)	1	1											
	2	2											
	3	3											
		SZ 1	SZ 2	SZ 3									
Max. rated current	630 A	■	–	–	0	6							
$I_{n\max}$	800 A	■	–	–	0	8							
	1000 A	■	–	–	1	0							
	1250 A	■	–	–	1	2							
	1600 A	■	–	–	1	6							
	2000 A	■	■	–	2	0							
	2500 A	■	■	–	2	5							
	3200 A	–	■	–	3	2							
	4000 A	–	■ ¹⁾	■	4	0							
	5000 A	–	–	■	5	0							
	6300 A	–	–	■	6	3							
Short-circuit breaking capacity	N	■	–	–	55/42 kA	2							
I_{cu} at 500/690 V	S	■	■	–	66/50 kA	3							
	M	■	■	–	85/66 kA	4							
	H	–	■	■	100/85 kA	5							
	C	–	■	–	130/100 kA	6							
		–	–	■	3-pole: 150/150 kA 4-pole: 130/130 kA	6							
Non-automatic circuit breakers							A	A					
Non-automatic circuit breakers, ready4COM feature							C	A					
Application packages with protective and measurement functions for circuit breakers	Electronic trip unit ETU600	Current metering		A									
		Current metering, ready4COM feature		C									
	Electronic trip unit ETU600 with measurement function, internal voltage tap in the circuit breaker, VTM680 voltage tap module and ready4COM	PMF-I	Voltage tap on top		L								
		Energy Efficiency	Voltage tap on bottom		E								
		PMF-II Basic Power Monitoring	Voltage tap on top		M								
			Voltage tap on bottom		F								
		PMF-III Advanced Power Monitoring	Voltage tap on top		N								
		Voltage tap on bottom		G									
	Protective functions	■	■	■	LSI	E							
		■	■	■	LSIG	F							
–		■	■	LSIG Hi-Z	G								
Number of poles	Fixed-mounted	3-pole		0									
		4-pole, Neutral left		1									
	Withdrawable	Without position signaling switch		3-pole	3								
				4-pole, Neutral left	4								
		With position signaling switch ²⁾		3-pole	6								
				4-pole, Neutral left	7								

¹⁾ Not available for breaking capacity C

²⁾ Position signaling switch for circuit breakers/non-automatic circuit breakers without ready4COM: 3x connected position, 2x test position, 1x disconnected position;
Position signaling switch for circuit breakers/non-automatic circuit breakers with ready4COM: 1x connected position, 1x test position, 1x disconnected position + message through communication interface for disconnected position and for "not available"

3WA1



Connection

		SZ 1	SZ 2	SZ 3		
Type of mounting	Fixed-mounted	■	■ ¹⁾	■	Vertical	1
		■	■ ³⁾	■ ⁴⁾	Horizontal	2
		■ ²⁾	■ ⁵⁾	■ ⁶⁾	Front	3
		■	■ ³⁾	■ ⁴⁾	Vertical on top/horizontal at the bottom	5
		■	■ ³⁾	■ ⁴⁾	Horizontal on top/vertical at the bottom	6
		Withdrawable		■	■	■
		■	■ ¹⁾	■	Vertical	1
		■ ²⁾	■ ³⁾	■ ⁴⁾	Horizontal	2
		■ ²⁾	■ ⁵⁾	■ ⁶⁾	Front	3
		■ ²⁾	■ ⁵⁾	■ ⁶⁾	Flange	4
		■ ²⁾	■ ³⁾	■ ⁴⁾	Vertical on top/horizontal at the bottom	5
		■ ²⁾	■ ³⁾	■ ⁴⁾	Horizontal on top/vertical at the bottom	6
		■ ²⁾	■ ⁵⁾	■ ⁶⁾	Flange at the bottom/horizontal on top	7
		■ ²⁾	■ ⁵⁾	■ ⁶⁾	Horizontal on top/flange at the bottom	8

¹⁾ The 4000 A vertical connections for the 3WA1 have different dimensions from the 3WL1. Dimensionally compatible connections can be ordered with the additional Z option D01.

²⁾ Not available for 2500 A

³⁾ Not available for 4000 A

⁴⁾ Not available for 6300 A

⁵⁾ Not available for 4000 A and for breaking capacity C

⁶⁾ Not available for 5000 A and 6300 A and for breaking capacity C

Structure of the article numbers

Basic configuration for AC circuit breakers and AC non-automatic circuit breakers up to 690 V

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

1

3WA1 5 6 7 8 – 9 10 11 12 – 13 14 15 16

Operating mechanism, auxiliary switch and auxiliary release

Operating mechanism and auxiliary switch	Manual recharging of the stored energy mechanism	Without spring charging motor	2 NO, 2 NC	0	
			4 NO, 4 NC	1	
	Recharging of the stored energy mechanism by spring charging motor (M)	24 ... 30 V DC		2 NO, 2 NC	2
				4 NO, 4 NC	5
		48 ... 60 V DC		4 NO, 4 NC	6
				2 NO, 2 NC	3
		110 ... 127 V AC/ 110 ... 125 V DC		4 NO, 4 NC	7
				2 NO, 2 NC	4
		208 ... 240 V AC/ 220 ... 250 V DC		4 NO, 4 NC	8
Closing coil and remote trip alarm reset coil ¹⁾²⁾	Without closing coil	Without remote trip alarm reset coil		A	
		With closing coil (CC/CC-COM) ³⁾ for uninterrupted duty, 100% OP	Without remote trip alarm reset coil	24 ... 30 V DC	B
	48 ... 60 V DC			C	
	110 ... 127 V AC/110 ... 125 V DC			D	
			208 ... 240 V AC/220 ... 250 V DC		E
	With remote trip alarm reset coil (RR) for momentary duty 1% OP		24 ... 30 V DC		F
					G
		48 ... 60 V DC		H	
			110 ... 127 V AC/110 ... 125 V DC		J
	With closing coil (CC) for momentary duty, 5% OP	Without remote trip alarm reset coil	24 ... 30 V DC	K	
			48 ... 60 V DC	L	
		110 ... 127 V AC/110 ... 125 V DC		M	
			208 ... 240 V AC/220 ... 250 V DC		N
		With remote trip alarm reset coil (RR) for momentary duty 1% OP	24 ... 30 V DC		P
					Q
	48 ... 60 V DC			R	
			110 ... 127 V AC/110 ... 125 V DC		S
	208 ... 240 V AC/220 ... 250 V DC				
2nd auxiliary release	Without 2nd auxiliary release			A	
	With shunt trip (ST), uninterrupted duty 100% OP	24 ... 30 V DC		B	
		48 ... 60 V DC		C	
		110 ... 127 V AC/110 ... 125 V DC		D	
		208 ... 240 V AC/220 ... 250 V DC		E	
	With shunt trip (ST), momentary duty 5% OP	24 ... 30 V DC		F	
		48 ... 60 V DC		G	
		110 ... 127 V AC/110 ... 125 V DC		H	
		208 ... 240 V AC/220 ... 250 V DC		J	
	With undervoltage release (UVR), instantaneous (≤ 0.08 s) and short-time delayed (≤ 0.2 s)	24 V DC		L	
		48 V DC		N	
		110 ... 127 V AC/110 ... 125 V DC		P	
		208 ... 240 V AC/220 ... 250 V DC		Q	
		380 ... 415 V AC		R	
	With undervoltage release (UVR-t), adjustable delay 0.2 ... 3.2 s	48 V DC		S	
		60 V DC		T	
		110 ... 127 V AC/110 ... 125 V DC		U	
		208 ... 240 V AC/220 ... 250 V DC		V	
		380 ... 415 V AC		W	

¹⁾ Remote trip alarm reset coil is not available for non-automatic circuit breakers

²⁾ When using the remote trip alarm reset coil, the reclosing lockout is generally deactivated. The circuit breaker can be closed again immediately if the conditions for closing are fulfilled.

³⁾ If the ready4COM feature is provided, the communication-capable closing coils (CC-COM) and/or shunt trips (ST-COM) are installed at the factory.

3WA1

5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	----	----	----	----	----	----	----

Auxiliary releases

1st auxiliary release	Without 1st auxiliary release		0
	With shunt trip (ST/ST-COM) ¹⁾ , uninterrupted duty 100% OP	24 ... 30 V DC	1
		48 ... 60 V DC	2
		110 ... 127 V AC/110 ... 125 V DC	3
		208 ... 240 V AC/220 ... 250 V DC	4
	With shunt trip (ST), momentary duty 5% OP	24 ... 30 V DC	5
		48 ... 60 V DC	6
		110 ... 127 V AC/110 ... 125 V DC	7
208 ... 240 V AC/220 ... 250 V DC		8	

¹⁾ If the ready4COM feature is provided, the communication-capable closing coils (CC-COM) and/or shunt trips (ST-COM) are installed at the factory.

Structure of the article numbers

Basic configuration for AC circuit breakers and AC non-automatic circuit breakers in a 690 V IT system and for higher voltages

The structure shown below is intended as an overview of each position and its meaning.

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

1

		3WA1		5	6	7	8	9	10	11	12	13	14	15	16		
Circuit breaker and non-automatic circuit breaker																	
Size (SZ)	1			1													
	2			2													
	3			3													
			SZ 1	SZ 2	SZ 3												
Max. rated current $I_{n \max}$	630 A	■	-	-		0	6										
	800 A	■	-	-		0	8										
	1000 A	■	-	-		1	0										
	1250 A	■	-	-		1	2										
	1600 A	■	-	-		1	6										
	2000 A	■	■	-		2	0										
	2500 A	■	■	-		2	5										
	3200 A	-	■	-		3	2										
	4000 A	-	■	■		4	0										
	5000 A	-	-	■		5	0										
	6300 A	-	-	■		6	3										
Short-circuit breaking capacity I_{cu} at 690 V/1000 V/1150 V	Breaking capacity E	■	-	-		85/50 kA/-	8										
		-	■	-		85/85/50 kA	8										
		-	-	■		3-pole: 150/125/70 kA 4-pole: 130/125/70 kA	8										
Non-automatic circuit breakers										A	A						
Non-automatic circuit breaker, ready4COM feature										C	A						
Application packages with protective and measurement functions for circuit breakers	Electronic trip unit ETU600	Current metering		A													
		Current metering, ready4COM feature		C													
	Electronic trip unit ETU600 with measurement function, internal voltage tap in the circuit breaker, VTM640 voltage tap module and ready4COM	PMF-I Energy Efficiency	Voltage tap on top		U												
			Voltage tap on bottom		Q												
	PMF-II Basic Power Monitoring	Voltage tap on top		V													
		Voltage tap on bottom		R													
	PMF-III Advanced Power Monitoring	Voltage tap on top		W													
		Voltage tap on bottom		S													
	Protective functions	■	■	■	LSI											E	
		■	■	■	LSIG											F	
-		■	■	LSIG Hi-Z											G		
Number of poles	Fixed-mounted	3-pole		0													
		4-pole, Neutral left		1													
	Withdrawable	Without position signaling switch	3-pole		3												
			4-pole, Neutral left		4												
		With position signaling switch ¹⁾	3-pole		6												
			4-pole, Neutral left		7												

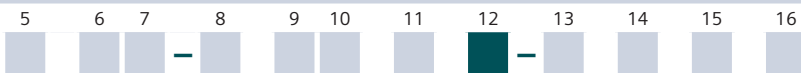
¹⁾ Position signaling switch for circuit breakers/non-automatic circuit breakers without ready4COM:

3× connected position, 2× test position, 1× disconnected position;

Position signaling switch for circuit breakers/non-automatic circuit breakers with ready4COM:

1× connected position, 1× test position, 1× disconnected position + message through communication interface for disconnected position and for "not available".

3WA1



Connection

		SZ 1	SZ 2	SZ 3		
Type of mounting	Fixed-mounted	■	■ ³⁾	■	Vertical	1
		■	■ ²⁾	■ ⁴⁾	Horizontal	2
		■ ¹⁾	■ ²⁾	■ ⁵⁾	Front double hole	3
		■ ¹⁾	■ ²⁾	■ ⁴⁾	Vertical on top/horizontal at the bottom	5
		■ ¹⁾	■ ²⁾	■ ⁴⁾	Horizontal on top/vertical at the bottom	6
		Withdrawable		■	■	■
		■	■ ³⁾	■	Vertical	1
		■ ¹⁾	■ ²⁾	■ ⁴⁾	Horizontal	2
		■ ¹⁾	■ ²⁾	■ ⁵⁾	Front double hole	3
		■ ¹⁾	■ ²⁾	■ ⁵⁾	Flange	4
		■ ¹⁾	■ ²⁾	■ ⁴⁾	Vertical on top/horizontal at the bottom	5
		■ ¹⁾	■ ²⁾	■ ⁴⁾	Horizontal on top/vertical at the bottom	6
		■ ¹⁾	■ ²⁾	■ ⁵⁾	Flange on top/horizontal at the bottom	7
		■ ¹⁾	■ ²⁾	■ ⁵⁾	Horizontal on top/flange at the bottom	8

¹⁾ Only ≤2000 A is available for size 1

²⁾ Only ≤3200 A is available for size 2

³⁾ Vertical connection for 3WA size 2 for 4000 A has different dimensions than for the 3WL.

With Z option D01, vertical connection can be changed to the connection compatible with 3WL.

⁴⁾ Only ≤5000 A is available for size 3

⁵⁾ Only for 4000 A is available for size 3

Structure of the article numbers

Basic configuration for AC circuit breakers and AC non-automatic circuit breakers in a 690 V IT system and for higher voltages

The structure shown below is intended as an overview of each position and its meaning.

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

1

3WA1 5 6 7 8 – 9 10 11 12 – 13 14 15 16

Operating mechanism, auxiliary switch and auxiliary release

Operating mechanism and auxiliary switch	Manual recharging of the stored energy mechanism	Without spring charging	2 NO, 2 NC	0	
		With spring charging	4 NO, 4 NC	1	
	Recharging of the stored energy mechanism by spring charging motor (M)	24 ... 30 V DC	2 NO, 2 NC	2	
			4 NO, 4 NC	5	
		48 ... 60 V DC	4 NO, 4 NC	6	
			2 NO, 2 NC	3	
		110 ... 127 V AC/ 110 ... 125 V DC	4 NO, 4 NC	7	
			2 NO, 2 NC	4	
		4 NO, 4 NC	8		
Closing coil and remote trip alarm reset coil¹⁾	Without closing coil	Without remote trip alarm reset coil		A	
		With closing coil (CC/CC-COM) ²⁾ for uninterrupted duty, 100% OP	Without remote trip alarm reset coil	24 ... 30 V DC	B
				48 ... 60 V DC	C
				110 ... 127 V AC/110 ... 125 V DC	D
			With remote trip alarm reset coil (RR) for momentary duty 1% OP	208 ... 240 V AC/220 ... 250 V DC	E
				24 ... 30 V DC	F
	48 ... 60 V DC			G	
	With closing coil (CC) for momentary duty, 5% OP	Without remote trip alarm reset coil	110 ... 127 V AC/110 ... 125 V DC	H	
			208 ... 240 V AC/220 ... 250 V DC	J	
			24 ... 30 V DC	K	
			48 ... 60 V DC	L	
			110 ... 127 V AC/110 ... 125 V DC	M	
			208 ... 240 V AC/220 ... 250 V DC	N	
		With remote trip alarm reset coil (RR) for momentary duty 1% OP	24 ... 30 V DC	P	
			48 ... 60 V DC	Q	
			110 ... 127 V AC/110 ... 125 V DC	R	
			208 ... 240 V AC/220 ... 250 V DC	S	
			2nd auxiliary release	Without 2nd auxiliary release	
With shunt trip (ST), uninterrupted duty 100% OP				24 ... 30 V DC	B
	48 ... 60 V DC	C			
	110 ... 127 V AC/110 ... 125 V DC	D			
	208 ... 240 V AC/220 ... 250 V DC	E			
	24 ... 30 V DC	F			
	48 ... 60 V DC	G			
With shunt trip (ST), momentary duty 5% OP	110 ... 127 V AC/110 ... 125 V DC	H			
	208 ... 240 V AC/220 ... 250 V DC	J			
	24 V DC	L			
	48 V DC	N			
	110 ... 127 V AC/110 ... 125 V DC	P			
	208 ... 240 V AC/220 ... 250 V DC	Q			
With undervoltage release (UVR), instantaneous (≤ 0.08 s) and short-time delayed (≤ 0.2 s)	380 ... 415 V AC	R			
	48 V DC	S			
	60 V DC	T			
	110 ... 127 V AC/110 ... 125 V DC	U			
	208 ... 240 V AC/220 ... 250 V DC	V			
	380 ... 415 V AC	W			

¹⁾ Remote trip alarm reset coil is not available for non-automatic circuit breakers

²⁾ If the ready4COM feature is provided, the communication-capable closing coils (CC-COM) and/or shunt trips (ST-COM) are installed at the factory.

3WA1 5 6 7 8 – 9 10 11 12 – 13 14 15 16

Auxiliary releases

1st auxiliary release			
	Without 1st auxiliary release		0
	With shunt trip (ST/ST-COM) ¹⁾ , uninterrupted duty 100% OP	24 ... 30 V DC	1
		48 ... 60 V DC	2
		110 ... 127 V AC/110 ... 125 V DC	3
		208 ... 240 V AC/220 ... 250 V DC	4
	With shunt trip (ST), momentary duty 5% OP	24 ... 30 V DC	5
		48 ... 60 V DC	6
		110 ... 127 V AC/110 ... 125 V DC	7
		208 ... 240 V AC/220 ... 250 V DC	8

¹⁾ If the ready4COM feature is provided, the communication-capable closing coils (CC-COM) and/or shunt trips (ST-COM) are installed at the factory.

Structure of the article numbers

Basic configuration for DC non-automatic circuit breakers

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

		5	6	7	8	9	10	11	12	13	14	15	16	
3WA1														
Non-automatic circuit breaker														
Size (SZ)	2	2												
		SZ 2												
Max. rated current $I_{n \max}$	1000 A			1	0									
	2000 A			2	0									
	4000 A			4	0									
Short-circuit breaking capacity I_{cc}	D				1									
	E				8									
Non-automatic circuit breakers						A	U							
Non-automatic circuit breaker, ready4COM feature						C	U							
Number of poles ¹⁾	Fixed-mounted			3-pole				0						
				4-pole				1						
	Withdrawable	Without position signaling switch		3-pole				3						
				4-pole				4						
		With position signaling switch ¹⁾		3-pole				6						
				4-pole				7						
Connection		SZ 2												
Type of mounting	Fixed-mounted	Vertical						1						
		Horizontal						2						
		Front double hole						3						
		Vertical on top/horizontal at the bottom						5						
		Horizontal on top/vertical at the bottom						6						
		Withdrawable		Without guide frame						0				
		Withdrawable	Vertical						1					
			Horizontal						2					
			Front double hole						3					
			Flange						4					
			Vertical on top/horizontal at the bottom						5					
			Horizontal on top/vertical at the bottom						6					
			Flange on top/horizontal at the bottom						7					
			Horizontal on top/flange at the bottom						8					

¹⁾ Position signaling switch for circuit breakers/non-automatic circuit breakers without ready4COM:

3× connected position, 2× test position, 1× disconnected position;

Position signaling switch for circuit breakers/non-automatic circuit breakers with ready4COM:

1× connected position, 1× test position, 1× disconnected position + message through communication interface for disconnected position and for "not available".

3WA1

5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	----	----	----	----	----	----	----

Operating mechanism, auxiliary switch and auxiliary release

Operating mechanism and auxiliary switch	Manual recharging of the stored energy mechanism	Without spring charging motor	2 NO, 2 NC	0	
			4 NO, 4 NC	1	
	Recharging of the stored energy mechanism by spring charging motor (M)	24 ... 30 V DC		2 NO, 2 NC	2
				4 NO, 4 NC	5
		48 ... 60 V DC		4 NO, 4 NC	6
		110 ... 127 V AC/ 110 ... 125 V DC		2 NO, 2 NC	3
				4 NO, 4 NC	7
		208 ... 240 V AC/ 220 ... 250 V DC		2 NO, 2 NC	4
		4 NO, 4 NC	8		
Closing coil	Without closing coil			A	
	With closing coil (CC/CC-COM) ¹⁾ for uninterrupted duty, 100% OP	24 ... 30 V DC		B	
		48 ... 60 V DC		C	
		110 ... 127 V AC/110 ... 125 V DC		D	
		208 ... 240 V AC/220 ... 250 V DC		E	
	With closing coil (CC) for momentary duty, 5% OP	24 ... 30 V DC		K	
		48 ... 60 V DC		L	
		110 ... 127 V AC/110 ... 125 V DC		M	
		208 ... 240 V AC/220 ... 250 V DC		N	
		2nd auxiliary release	Without 2nd auxiliary release		
With shunt trip (ST), uninterrupted duty 100% OP ¹⁾			24 ... 30 V DC		B
	48 ... 60 V DC			C	
	110 ... 127 V AC/110 ... 125 V DC			D	
	208 ... 240 V AC/220 ... 250 V DC			E	
With shunt trip (ST), momentary duty 5% OP	24 ... 30 V DC			F	
	48 ... 60 V DC			G	
	110 ... 127 V AC/110 ... 125 V DC			H	
	208 ... 240 V AC/220 ... 250 V DC			J	
With undervoltage release (UVR), instantaneous (≤ 0.08 s) and short-time delayed (≤ 0.2 s)	24 V DC			L	
	48 V DC			N	
	110 ... 127 V AC/110 ... 125 V DC			P	
	208 ... 240 V AC/220 ... 250 V DC			Q	
	380 ... 415 V AC			R	
				S	
With undervoltage release (UVR-t), adjustable delay 0.2 ... 3.2 s	48 V DC			T	
	60 V DC			U	
	110 ... 127 V AC/110 ... 125 V DC			V	
	208 ... 240 V AC/220 ... 250 V DC		W		
	380 ... 415 V AC				
1st auxiliary release	Without 1st auxiliary release			0	
	With shunt trip (ST/ST-COM) ¹⁾ , uninterrupted duty 100% OP	24 ... 30 V DC		1	
		48 ... 60 V DC		2	
		110 ... 127 V AC/110 ... 125 V DC		3	
		208 ... 240 V AC/220 ... 250 V DC		4	
	With shunt trip (ST), momentary duty 5% OP	24 ... 30 V DC		5	
		48 ... 60 V DC		6	
		110 ... 127 V AC/110 ... 125 V DC		7	
208 ... 240 V AC/220 ... 250 V DC			8		

¹⁾ If the ready4COM feature is provided, the communication-capable closing coils (CC-COM) and/or shunt trips (ST-COM) are installed at the factory.

Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WA....-.....-.... -Z

Order code

Option plug for electronic trip unit

- To reduce the rated current of the circuit breaker
- Only one module is possible per circuit breaker. As standard, the electronic trip unit is equipped with an option plug which is equal to the maximum rated breaker current ($I_{n,max}$). The rated current of the selected option plug must be less than $I_{n,max}$.

Option plug	Rated current I_n	SZ1	SZ2	SZ3	Order code
	250 A	■	■	-	B02
	315 A	■	■	-	B03
	400 A	■	■	-	B04
	500 A	■	■	-	B05
	630 A	■	■	-	B06
	800 A	■	■	-	B08
	1000 A	■	■	-	B10
	1250 A	■	■	■	B12
	1600 A	■	■	■	B16
	2000 A	■	■	■	B20
	2500 A	-	■	■	B25
	3200 A	-	■	■	B32
	4000 A	-	-	■	B40
	5000 A	-	-	■	B50

IOM230 digital input/output module ¹⁾

Module with 2 inputs and 3 outputs	A module including adapter for mounting on the secondary disconnect terminal system of the circuit breaker, connecting cables and CubicleBUS ² terminating resistor; five modules can be operated at the same time. Further modules must be ordered separately as 3WA9111-0EC11, which includes the adapter for mounting on the secondary disconnect terminal system of the circuit breaker and the adapter for external mounting on a DIN rail.	F23
---	--	-----

COM190 communication module ^{1) 2)}

- The precondition for connection is a circuit breaker or non-automatic circuit breaker with the "ready4COM" feature

PROFINET IO/Modbus TCP ²⁾	A module including 2 Switched Ethernet ports, circuit breaker internal. A module including adapter for mounting on the secondary disconnect terminal system of the circuit breaker, connecting cables and CubicleBUS ² terminating resistor; two communication modules can be run at the same time. The second communication module must be ordered separately as 3WA9111-0EC13.	F19
---	--	-----

Automatic reset

- Only possible for circuit breakers with an electronic trip unit

Automatic reset	Automatic reset of the reclosing lockout after ETU tripping; this option is not required when ordering a circuit breaker with a remote trip alarm reset coil RR.	K01
------------------------	--	-----

Tinned version of the main connections on the guide frame

- Only for circuit breakers in withdrawable version with horizontal connection or flange connection
- Cannot be ordered for circuit breakers without a guide frame
- The normal delivery time increases to 15 work days

Tinned connections	Sizes 1, 2, 3	D08
---------------------------	---------------	-----

¹⁾ When ordering this option for a circuit breaker or a non-automatic air circuit breaker of the installation type "withdrawable version without guide frame", this must be used as the order option for the guide frame.

²⁾ For connecting the Ethernet cable, connectors angled 90° to the right are recommended, e.g. PROFINET connector 6GK1901-1BB20-2AA0.

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WA.....-.....-..... -Z

Order code

Broadened vertical main connection

- Only possible on complete order for a withdrawable circuit breaker or when ordering the guide frame separately

Main circuit connection	For 3WA1, 4000 A, size 2	Compatible with 3WL1240 for retrofit	D01
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Secondary disconnect terminal system

- Cannot be ordered for circuit breakers without a guide frame

Secondary disconnect terminal system	With screw connection instead of push-in connection (standard)		N03
---	--	--	-----

Mechanical operating cycles counter

Mechanical operating cycles counter, 5-digit	Can be used with all circuit breakers and non-automatic circuit breakers including those without a spring charging motor		C01
---	--	--	-----

Signaling switch

Tripped signaling switch	2nd tripped signaling switch (S25)	1 NO	K06
	1st tripped signaling switch included as standard for circuit breakers. Can only be used with circuit breakers with an electronic trip unit without ready4COM.		

Pushbuttons/shutdown switches/closing lockouts/special packaging/arc chute cover

Emergency OPEN button	Mushroom pushbutton instead of the mechanical OFF pushbutton		C25
------------------------------	--	--	-----

Local electric close on operator panel (S10)	This prevents unauthorized electrical closing from the operator panel. Mechanical closing and remote closing remain possible. Only possible in combination with a closing coil (CC)	With sealing cap	C11
		With CES lock	C12

Motor disconnect switch on operator panel (S12)	This prevents automatic charging of the stored energy mechanism by the spring charging motor		C24
--	--	--	-----

Cardboard packaging with water-repellent coating on corrugated cardboard (moisture protection)			P61
---	--	--	-----

Arc chute cover mounted on the guide frame	Not available for: <ul style="list-style-type: none"> Fixed-mounted Breaking capacity C, E and D 4000 A size 2 		R10
---	---	--	-----

Sealable and lockable cover	For electronic trip unit		F40
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Internal current sensors (without energy core) for applications with frequency converters

- Used in converter applications with high harmonic components; can only be used for circuit breakers with an electronic trip unit
 - External 24 V DC supply required
 - Undervoltage release required
 - Additionally contains a relay for monitoring the 24 V DC and warning labels
 - If option Z=K60 is provided, an optional measurement function PMF-I to PMF-III according to IEC 61557-12 is not technically feasible.

Internal current sensors	Sizes 2, 3	K60
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Mechanical interlock

- Interlocking module with Bowden cable 2 m

Mechanical interlock	For fixed-mounted breakers	S55
	For withdrawable circuit breakers with guide frame	R55
	For guide frames (ordered separately)	R56
	For withdrawable circuit breakers (ordered separately)	R57

Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WA....-.....-.... -Z

Order code

Locking provisions (for fixed-mounted and withdrawable circuit breakers)

Locking provision		Made by	Order code
Against unauthorized closing from the operator panel of the circuit breaker. The disconnecter unit fulfills the requirements for main circuit breakers according to EN 60204-1		CES	S01
		IKON	S03
		FORTRESS or CASTELL ¹⁾	S05
		Assembly kit for padlocks ²⁾	S07
		RONIS	S08
		PROFALUX	S09
For charging handle with padlock ²⁾			S33

Locking provisions (for withdrawable circuit breakers)

Locking provision to prevent movement of the withdrawable circuit breaker		Made by	Order code
Safety lock for mounting onto the circuit breaker		CES	S71
		PROFALUX	S75
		RONIS	S76

Locking provisions against unauthorized closing, for withdrawable circuit breakers

- The disconnecter unit fulfills the requirements for main circuit breakers acc. to EN 60204-1, consisting of a lock in the guide frame, active in the connected position, function is retained when circuit breaker is replaced.
- Not available in combination with order code "R81", "R85" or "R86".
- Only possible on complete order for a withdrawable circuit breaker or when ordering the guide frame separately

Made by CES	R61
Made by RONIS	R68
Made by PROFALUX	R60

Locking mechanisms

- R30 and R50 not possible in combination with order code "R81", "R85" or "R86".
- R30 and R50 only possible on complete order for a circuit breaker with a guide frame or when ordering the guide frame separately
- R40 can only be ordered with the circuit breaker

For fixed-mounted circuit breakers	To prevent opening of the control cabinet door in ON position	S30
For withdrawable circuit breakers	To prevent opening of the control cabinet door in connected position	R30
	To prevent activation when the control cabinet door is open ³⁾	R40
	To prevent movement when the control cabinet door is open ⁴⁾	R50

Locking provisions to prevent movement of the withdrawable circuit breaker in disconnected position

- Consisting of Bowden cable and lock in the control cabinet door
- Not available in combination with order code "R30", "R50", "R61", "R68" or "R60"
- Only possible for a complete order for a circuit breaker with a guide frame or when ordering the guide frame separately

Made by CES	R81
Made by PROFALUX	R85
Made by RONIS	R86

Increased degree of protection for installation in a control cabinet

Door sealing frame for degree of protection IP41	T40
--	-----

¹⁾ Locks must be ordered from the manufacturer.

²⁾ Padlock not included in the scope of supply

³⁾ Not available in combination with R50

⁴⁾ Not available in combination with R40

Guide frames for AC

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your guide frames, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

		5	6	7	8	9	10	11	12	13	14	15	16
3WA8					–		A	A		–			
Guide frames													
Size	1	1											
	2	2											
	3	3											
			SZ 1	SZ 2	SZ 3								
Max. rated current $I_{n \max}$ (Generate the selection of positions 6, 7 and 8 according to the list below)	630 ... 1000 A	■	–	–		1	0						
	1250 ... 1600 A	■	–	–		1	6						
	630 ... 2000 A	■	■	–		2	0						
	2500 A	■	■	–		2	5						
	2000 ... 3200 A	–	■	–		3	2						
	4000 A	–	■	■		4	0						
	4000 ... 5000 A	–	–	■		5	0						
	6300 A	–	–	■		6	3						
Short-circuit breaking capacity I_{cu} (Generate the selection of positions 6, 7 and 8 according to the list below)	At 500/690 V	N	■	–	–	55/42 kA		2					
		S	■	■	–	66/50 kA		3					
		M	■	■	–	85/66 kA		4					
		H	–	■	■	100/85 kA		5					
		C	–	■	–	130/100 kA		6					
			–	–	■	3-pole: 150/150 kA 4-pole: 130/130 kA		6					
	At 690/1000/1150 V	E	■	–	–	80/50 kA/–		8					
			–	■	–	85/85/50 kA		8					
			–	–	■	3-pole: 150/125/70 kA 4-pole: 130/125/70 kA		8					
Number of poles	3-pole												3
	4-pole, Neutral left												4
Main connection		■	■ ⁵⁾	■		Vertical		1					
		■ ¹⁾	■ ²⁾	■ ³⁾		Horizontal		2					
		■ ¹⁾	■ ²⁾	■ ⁴⁾		Front double hole		3					
		■ ¹⁾	■ ²⁾	■ ⁴⁾		Flange		4					
		■ ¹⁾	■ ²⁾	■ ³⁾		Vertical on top/horizontal at the bottom		5					
		■ ¹⁾	■ ²⁾	■ ³⁾		Horizontal on top/vertical at the bottom		6					
		■ ¹⁾	■ ²⁾	■ ⁴⁾		Flange on top/horizontal at the bottom		7					
		■ ¹⁾	■ ²⁾	■ ⁴⁾		Horizontal on top/flange at the bottom		8					

¹⁾ Only ≤2000 A is available for size 1

²⁾ Only ≤3200 A is available for size 2

³⁾ Only ≤5000 A is available for size 3

⁴⁾ Only for 4000 A is available for size 2

⁵⁾ Vertical connection for 3WA size 2 for 4000 A has different dimensions than for the 3WL.

With Z option D01, vertical connection can be changed to the connection compatible with 3WL.

The following combinations of positions 6, 7 and 8 of the article number are technically feasible

Size	Breaking capacity at $I_{n \max}$	630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A	4000 A	5000 A	6300 A
Representation 6, 7, 8												
1	N	10-2	10-2	10-2	16-2	16-2	20-3	25-3	–	–	–	–
	S	10-3	10-3	10-3	16-3	16-3	20-3	25-3	–	–	–	–
	M	20-4	20-4	20-4	20-4	20-4	20-4	25-4	–	–	–	–
	E	20-8	20-8	20-8	20-8	20-8	20-8	25-8	–	–	–	–
2	S	–	–	–	–	–	20-5	25-5	32-5	40-5	–	–
	M	–	–	–	–	–	20-5	25-5	32-5	40-5	–	–
	H	–	–	–	–	–	20-5	25-5	32-5	40-5	–	–
	E	–	–	–	–	–	20-8	25-8	32-8	40-8	–	–
	C	–	–	–	–	–	32-6	32-6	32-6	–	–	–
3	H	–	–	–	–	–	–	–	–	40-5	50-5	63-5
	E	–	–	–	–	–	–	–	–	50-8	50-8	63-8
	C	–	–	–	–	–	–	–	–	50-8	50-8	63-8

Guide frames for AC

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your guide frames, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

		5	6	7	8	9	10	11	12	13	14	15	16
3WA8						–				1			1
Push-in connection ¹⁾	SZ 1, SZ 2, SZ 3	X7, X6, X5		Non-automatic circuit breakers without ready4COM feature		A							
		X8, X7, X6, X5		Circuit breakers/non-automatic circuit breakers with ready4COM feature		B							
	SZ 2, SZ 3	X9, X8, X7, X6, X5		Including external trip controller ETC600 for circuit breakers with ETU600 LSIG Hi-Z		K							
Position signaling switch	Without position signaling switch					A							
	Position signaling switch PSS (3x connected position, 2x test position, 1x disconnected position)					C							
	Position signaling switch PSS-COM (1x connected position, 1x test position, 1x disconnected position) plus connection to a communication module					G							

¹⁾ Conversion to screw-type connection is possible with Z option N03.

Guide frames for DC

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your guide frames, please use our online configurator at www.siemens.com/lowvoltage/3wa-configurator

		5	6	7	8	9	10	11	12	13	14	15	16
3WA8					–	A	U			–	1		1
Guide frames													
Size (SZ)	2	2											
Max. rated current $I_{n\ max}$	2000 A 4000 A		2 4	0 0									
Short-circuit breaking capacity	D ≤ 600 V DC E ≤ 1000 V DC		25 kA at 600 V DC 20 kA at 1000 V DC		1 8								
Number of poles	3-pole 4-pole							3 4					
Connection	Withdrawable								1 2 3 4 5 6 7 8				
Secondary disconnect terminal	Push-in connection		X7, X6, X5 X8, X7, X6, X5					Non-automatic circuit breakers Non-automatic circuit breakers with ready4COM			A B		
Position signaling switch	Without position signaling switch Position signaling switch PSS (3x connected position, 2x test position, 1x disconnected position) Position signaling switch PSS-COM (1x connected position, 1x test position, 1x disconnected position) plus connection to a communication module											A C G	

1

Accessories and spare parts

Accessories for electronic trip unit

Electronic trip unit ETU600



Basic Protective functions	Article No.
LSI/LSIG	3WA9111-0EE62
LSIG Hi-Z	3WA9111-0EE63

Spare part battery for ETU600



Article No.
3WA9111-0EE81

Option plug



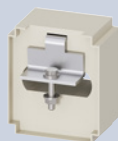
Basic configuration	Rated current I_n	SZ 1	SZ 2	SZ 3	Article No.
Protective function LSI: LT, ST, INST					3WA9111-0EB ..
Protective function LSIG: LT, ST, INST, GF (ground-fault protection with extended setting range)					3WA9111-0EX ..
	250 A	■	■	–	02
	315 A	■	■	–	03
	400 A	■	■	–	04
	500 A	■	■	–	05
	630 A	■	■	–	06
	800 A	■	■	–	08
	1000 A	■	■	–	10
	1250 A	■	■	■	12
	1600 A	■	■	■	16
	2000 A	■	■	■	20
	2500 A	■	■	■	25
	3200 A	–	■	■	32
	4000 A	–	■	■	40
	5000 A	–	–	■	50
	6300 A	–	–	■	63

Function packages for ETU600



Protective and alarm functions	Article No.
Ground fault alarm (GF alarm)	3WA9111-0ES01
Directional short-time-delayed short-circuit protection (dST) and reverse power protection (RP) (requires an optional voltage tap module)	3WA9111-0ES05
Enhanced Protective functions (EPF)	Article No.
Full package with unbalance, voltage, active power, frequency, THD and phase sequence detection	3WA9111-0ES11
Phase unbalance current and phase unbalance voltage	3WA9111-0ES12
Undervoltage and overvoltage	3WA9111-0ES13
Active power import and active power export	3WA9111-0ES14
Underfrequency and overfrequency	3WA9111-0ES15
Total harmonic distortion for current and voltage	3WA9111-0ES16
Phase sequence detection	3WA9111-0ES17
Functional expansions	Article No.
Second protection parameter set	3WA9111-0ES21
Extended measurement function	Article No.
Upgrade to measurement function PMF-II Basic Power Monitoring (metering values, see catalog page 1/21)	3WA9111-0ES52
Upgrade to measurement function PMF-III Advanced Power Monitoring (metering values, see catalog page 1/21)	3WA9111-0ES53

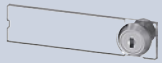
External current sensors for the N-conductor



Version	Size	Article No.
For mounting on busbar	1	3WA9111-0AA21
	2	3WA9111-0AA22
	3	3WA9111-0AA23
For busbar connection	1	3WA9111-0AA31
	2	3WA9111-0AA32
	3	3WA9111-0AA33

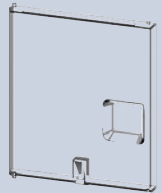
Accessories for electronic trip unit

Sealable and lockable covers



Accessory for
ETU600

Article No.
3WA9111-0EM22



Automatic reset of the reclosing lockout



Version
Spare part for option K01 or for retrofitting

Article No.
3WA9111-0EM31

Remote trip alarm reset coil

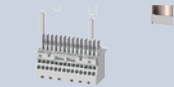


- For mechanical tripped indicator
- Including automatic reset of the reclosing lockout 3WA9111-0EM31

Voltage
24 ... 30 V DC
48 ... 60 V DC
110 ... 127 V AC/110 ... 125 V DC
208 ... 240 V AC/220 ... 250 V DC

Article No.
3WA9111-0EM42
3WA9111-0EM44
3WA9111-0EM45
3WA9111-0EM46

Second tripping solenoid (F6) with reclosing lockout



Version
For external control via the external trip controller ETC600,
including the necessary parts for the secondary disconnect terminal

Article No.
3WA9111-0EM61

External trip controller ETC600



Version
Including adapter for mounting on the secondary disconnect terminal system of the circuit breaker,
adapter for mounting on DIN rail

Article No.
3WA9111-0EM62

1

Accessories and spare parts

Locking provisions and interlocks

Interlocking sets for mechanical Open/Close



- Consisting of two transparent covers each for sealing or for attaching padlocks (padlocks not included in scope of supply)
- Cover with 6.35 mm hole (for tool actuation)
- Lock mount for safety lock for key operation



Version	Article No.
Without safety lock	3WA9111-0BA21
Made by CES	3WA9111-0BA22
Made by IKON	3WA9111-0BA23

Locking provision against unauthorized closing from the operator panel



- The disconnecter unit fulfills the requirements for main circuit breakers acc. to EN 60204-1
- Spare part for options S01 to S09

Type	Scope of supply	Article No.
Assembly kit FORTRESS or CASTELL ¹⁾	Without locks, cylinders or keys	3WA9111-0BA31
Made by RONIS	Locks, cylinders and keys included	3WA9111-0BA32
Made by KIRK-Key ¹⁾	Without locks, cylinders or keys	3WA9111-0BA33
Made by PROFALUX	Locks, cylinders and keys included	3WA9111-0BA34
Made by CES	Locks, cylinders and keys included	3WA9111-0BA35
Made by IKON	Locks, cylinders and keys included	3WA9111-0BA36
Assembly kit for padlocks	Without padlock	3WA9111-0BA37

Locking provision against unauthorized closing of the withdrawable circuit breaker



- The disconnecter unit fulfills the requirements for main circuit breakers acc. to EN 60204-1
- Consisting of lock in the guide frame, active in connected position, function is retained when circuit breaker is replaced
- Spare part for option R60, R61, R68

Type	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WA9111-0BA51
Made by IKON	Locks, cylinders and keys included	3WA9111-0BA53
Made by KIRK-Key ¹⁾	Without locks, cylinders or keys	3WA9111-0BA57
Made by RONIS	Locks, cylinders and keys included	3WA9111-0BA58
Made by PROFALUX	Locks, cylinders and keys included	3WA9111-0BA50

Locking provision for charging handle with padlock



Version	Scope of supply	Article No.
Spare part for S33	Without padlock	3WA9111-0BA71

Locking provision to prevent movement of the withdrawable circuit breaker



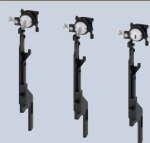
- Safety lock for mounting onto the circuit breaker
- Spare part for option S71, S75, S76

Type	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WA9111-0BA73
Made by IKON	Locks, cylinders and keys included	3WA9111-0BA75
Made by PROFALUX	Locks, cylinders and keys included	3WA9111-0BA76
Made by RONIS	Locks, cylinders and keys included	3WA9111-0BA77
Made by KIRK-Key ¹⁾	Without locks, cylinders or keys	3WA9111-0BA80

¹⁾ Locks, cylinders and keys must be ordered from the manufacturer.
 Suitable cylinder lock KIRK Key C 900-301.
 Suitable lock FORTRESS CLIS X005.
 Suitable lock CASTELL FS2.

Locking provisions and interlocks

Interlock systems

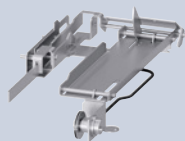


- 2 of the same keys for 3 circuit breakers
- Locking provision in OFF position
- Lock in the operator panel
- A maximum of 2 circuit breakers can be switched on

Type	Article No.
Made by CES	3WA9111-0BA43

Locking mechanisms to prevent movement of the withdrawable circuit breakers in the disconnected position

- Consisting of Bowden cable and the breaker mechanism in the control cabinet door
- Spare part for option R81, R85, R86
- **Note:** Not possible in combination with "Locking mechanism to prevent opening of the control cabinet door" (order code "R30") or "Locking mechanism to prevent movement with the control cabinet door open" (order code "R50")



Type	Article No.
Made by CES	3WA9111-0BA81
Made by IKON	3WA9111-0BA82
Made by PROFALUX	3WA9111-0BA83
Made by RONIS	3WA9111-0BA84

Locking mechanisms to prevent opening of the control cabinet door when the circuit breaker is closed

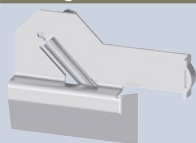
- Defeatable
- **Note:** Not possible in combination with "Locking mechanisms to prevent movement of the withdrawable circuit breakers in the disconnected position" (order codes "R81", "R85" or "R86").



Version	Article No.
Spare part for option S30 Fixed-mounted circuit breaker	3WA9111-0BB12
Spare part for option R30 Guide frames	3WA9111-0BB13

Locking mechanisms to prevent movement when the control cabinet door is open

- Mounted on guide frame
- **Note:** Not possible in combination with "Locking mechanisms to prevent movement of the withdrawable circuit breakers in the disconnected position" (order codes "R81", "R85" or "R86").



Version	Article No.
Spare part for option R50	3WA9111-0BB15

Mechanical interlock

- With Bowden cable 2000 mm (one required for each circuit breaker)



Type	Circuit breaker and guide frame when ordered separately	Spare part for	Article No.
Fixed-mounted circuit breaker	–	Option S55	3WA9111-0BB21
Module for withdrawable circuit breakers with guide frame	–	Option R55	3WA9111-0BB22
Module for guide frame	✓	Option R56	3WA9111-0BB23
Module for withdrawable circuit breaker	✓	Option R57	3WA9111-0BB24
Adapter for size 3 withdrawable circuit breaker	✓	–	3WA9111-0BB25

Coupling on the circuit breaker for mutual interlocking with Bowden cable



- Can be used in all circuit breakers

Article No.
3WA9111-0BB31

Bowden cable for mechanical interlock



Length	Article No.
2000 mm	3WA9111-0BB41
3000 mm	3WA9111-0BB42
4500 mm	3WA9111-0BB43

¹⁾ Locks, cylinders and keys must be ordered from the manufacturer.

Accessories and spare parts

Indicators and control elements

Ready-to-close signaling switch (S20)



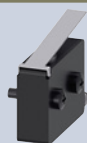
Version	Article No.
Spare part for signaling switch installed as standard	3WA9111-0AH01

1st trip alarm switch (S24)



Version	Article No.
Spare part for signaling switch installed as standard	3WA9111-0AH02

2nd trip alarm switch (S25)



- Can only be used with a circuit breaker with an electronic trip unit without ready4COM
- The 1st trip alarm switch (1 changeover contact) is installed in every circuit breaker with a trip unit as standard

Version	Contacts	Article No.
Spare part for option K06	1 NO	3WA9111-0AH03

Mechanical operating cycles counter (5-digit)



Version	For circuit breakers/non-automatic circuit breakers	Article No.
Spare part for option C01	With manual operating mechanism	3WA9111-0AH04
	With spring charging motor	3WA9111-0AH05

Spring charge signaling switch (S21)



- Standard when a spring charging motor is installed to charge the stored energy mechanism
- When a spring charging motor is retrofitted, the spring charge signaling switch can also be retrofitted

Contacts	Article No.
1 NO	3WA9111-0AH06

Position signaling switch for withdrawable circuit breakers



Contacts	Article No.
PSS: 6 changeover contacts; 3× connected position, 2× test position, 1× disconnected position	3WA9111-0AH11
PSS-COM: 3 changeover contacts; 1× connected position, 1× test position, 1× disconnected position and option for connection to a communication module	3WA9111-0AH12

Local electric close (S10) for operator panel



- Scope of supply: Button + wiring
- Not available with motor disconnect switch
- **Note:** Possible only for circuit breakers with closing coil

Version	Article No.
With sealing cap, spare part for option C11	3WA9111-0AH21
With CES assembly kit, Spare part for option C12	3WA9111-0AH22
With IKON assembly kit	3WA9111-0AH23

Motor disconnect switch (S12)



- Mounting onto operator panel
- Only in combination with the spring charging motor for charging the stored energy mechanism
- Not available in combination with local electric close

Version	Article No.
Spare part for option S25	3WA9111-0AH24

Emergency OPEN button



- Mushroom pushbutton instead of local mechanical open

Version	Article No.
Spare part for option S24	3WA9111-0AH25

Secondary disconnect terminals for circuit breakers and guide frames

- For size 1, up to 4 secondary disconnect terminal blocks are possible; for sizes 2 and 3, up to 5 secondary disconnect terminal blocks are possible
- Circuit breakers and non-automatic circuit breakers with secondary disconnect terminal blocks are supplied from the factory:
 - Non-automatic circuit breakers with 3 blocks
 - Non-automatic circuit breakers with ready4COM feature with 4 blocks
 - Non-automatic circuit breakers with ETU600 LSI or LSI with 4 blocks
 - Non-automatic circuit breaker with ETU600 LSI-HiZ with 5 blocks

Secondary disconnect terminal		
Version	Type	Article No.
Base part ①		3WA9111-0AB01
1000 V extension ¹⁾		3WA9111-0AB02
Manual connector ②	Screw connection	3WA9111-0AB03
	Push-in connection	3WA9111-0AB04
	Ring lug connection	3WA9111-0AB05 new
Coding kit ③	For fixed-mounted X5 to X8	3WA9111-0AB07
Sliding contact module ④	For guide frames	3WA9111-0AB08
Blanking block		3WA9111-0AB12

For a complete secondary disconnect terminal block, you must order:

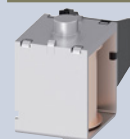
Fixed-mounted version: ① + ② + ③

Withdrawable version: ① + ④ + ②

¹⁾ Secondary disconnect terminal for circuit breakers with breaking capacity C and E must be ordered separately

Auxiliary releases

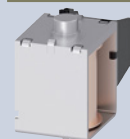
Closing coil (CC)/shunt trip (ST)



- Suitable for uninterrupted duty

Version	Voltage	Article No.
100% OP	24 ... 30 V DC	3WA9111-0AD02
Switching time ≤80 ms	48 ... 60 V DC	3WA9111-0AD04
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AD05
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AD06

Closing coil (CC-COM)/shunt trip (ST-COM) **new**



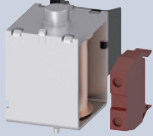
- Suitable for uninterrupted duty

Version	Voltage	Article No.
For circuit breakers and non-automatic circuit breakers with the "ready4com" feature	24 ... 30 V DC	3WA9111-0AD32
100% OP	48 ... 60 V DC	3WA9111-0AD34
Switching time ≤80 ms	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AD35
Switching time via COM ≤120 ms	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AD36

Accessories and spare parts

Auxiliary releases

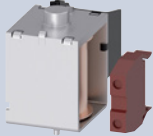
Closing coil (CC)



- For momentary duty, with cut-off switch S15

Version	Voltage	Article No.
5% OP	24 ... 30 V DC	3WA9111-0AD12
Switching time 50 ms	48 ... 60 V DC	3WA9111-0AD14
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AD15
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AD16

Shunt trip (ST)



- For momentary duty, with cut-off switch S14

Version	Voltage	Article No.
5% OP	24 ... 30 V DC	3WA9111-0AD22
Switching time 50 ms	48 ... 60 V DC	3WA9111-0AD24
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AD25
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AD26

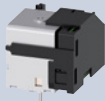
Capacitor trip device



- For shunt trips
- Storage time 5 min
- Also suitable for 3VL, 3VA, 3WL and 3WN circuit breakers
- Note:** Rated control supply voltage must match the rated control supply voltage of the shunt trip

Rated control supply voltage/rated operational voltage	Article No.
AC 50/60 Hz	DC
220 ... 240 V	220 ... 250 V
	3WA9111-0AD81

Undervoltage release (UVR)



Version	Voltage	Article No.
Instantaneous ≤ 0.08 s (UVR) and short-time delayed ≤ 0.2 s	24 V DC	3WA9111-0AE02
	30 V DC	3WL9111-0AE02-0AA0
	48 V DC	3WA9111-0AE04
	60 V DC	3WL9111-0AE07-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AE05
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AE06
Delayed (UVR-t), adjustable delay 0.2 ... 3.2 s	380 ... 415 V AC	3WA9111-0AE07
	48 V DC	3WA9111-0AE13
	60 V DC	3WA9111-0AE14
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AE15
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AE16
	380 ... 415 V AC	3WA9111-0AE17

Operating mechanism

Spring charging motor to charge the stored energy mechanism



Voltage	Article No.
24 ... 30 V DC	3WA9111-0AF02
48 ... 60 V DC	3WA9111-0AF04
110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AF05
220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AF06

Auxiliary contacts

Auxiliary switches (AUX)



Contacts	Article No.
2 NO + 2 NC	3WA9111-0AG01
2 NO	3WA9111-0AG02
1 NO + 1 NC	3WA9111-0AG03

Door sealing frame, protective cover

Door sealing frame



Version	Article No.
Spare part for option T40	3WA9111-0AP01

Protective cover IP55



- Cannot be used in conjunction with door sealing frames
- Hood removable and can be opened on both sides

Article No.
3WA9111-0AP03

Arc chute, arc chute cover

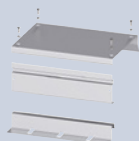
Arc chute



Voltage	Size	Breaking capacity	Article No.
690 V AC	1	N, S	3WA9111-0AS01
		M	3WA9111-0AS02
	2	S, M, H	3WA9111-0AS10
		C	3WA9111-0AS11
	3	H	3WA9111-0AS17
		C	3WA9111-0AS18
1000 V AC	1	E For fixed-mounted breakers	3WA9111-0AS04
		E For withdrawable circuit breakers	3WA9111-0AS05
	2	E	3WA9111-0AS12
	3	E	3WA9111-0AS18
	3	E	3WA9111-0AS18
600 V DC	2	D	3WA9111-0AS13
1000 V DC	1	E	3WA9111-0AS06
	2	E	3WA9111-0AS14

Arc chute cover

- Parts kit for guide frame
- Spare part for option R10
- Not available for:
 - Breaking capacity C, D and E
 - 4000 A size 2



Number of poles	Size	Article No.
3-pole	1	3WA9111-0AS31
	2	3WA9111-0AS32
	3	3WA9111-0AS33
4-pole	1	3WA9111-0AS41
	2	3WA9111-0AS42
	3	3WA9111-0AS43

Coding for withdrawable version

Coding for withdrawable version



- Variant coding by the customer with 36 coding options

Size	Article No.
1, 2	3WA9111-0AR11
3	3WA9111-0AR12

Accessories and spare parts

Grounding connections

Grounding connection between the guide frame and the withdrawable circuit breaker



- For 30 kA and 60 kA ground short-circuit current
- For 60 kA ground short-circuit current, order 2x contact modules for guide frame

Contact module	Size	Number of poles	Article No.
For guide frames	1, 2 ¹⁾		3WA9111-0BG01
	3		3WA9111-0BG02
For withdrawable circuit breakers	1	3-pole	3WA9111-0BG11
		4-pole	3WA9111-0BG21
	2	3-pole ¹⁾	3WA9111-0BG12
		4-pole ¹⁾	3WA9111-0BG22
	3	3-pole ²⁾	3WA9111-0BG13
		4-pole ²⁾	3WA9111-0BG23

¹⁾ Cannot be used for size 2 with breaking capacity C and size 2, 4000 A.

²⁾ Not for breaking capacity E

Support brackets

Support brackets



- For mounting fixed-mounted circuit breakers on vertical plane
- Only for sizes 1 and 2 (1 set = 2 units)

Article No.
3WA9111-0BB50

Modules of the CubicleBUS²

COM190 PROFINET IO/Modbus TCP communication module ¹⁾



Version

Circuit breaker internal or on DIN rail, including adapter for mounting on the secondary disconnect terminal system of the circuit breaker, adapter for mounting on DIN rail, connecting cables and CubicleBUS² terminating resistor

Article No.
3WA9111-0EC13

IOM230 digital input/output module (2 inputs and 3 outputs)

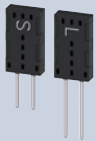


Version

Including adapter for mounting on the secondary disconnect terminal system of the circuit breaker, adapter for mounting on DIN rail, connecting cables and terminating resistor for CubicleBUS²

Article No.
3WA9111-0EC11

Terminating resistor for CubicleBUS²

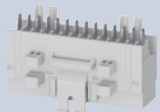


Version

For CubicleBUS² on the last module

Article No.
3WA9111-0EC50

Adapters



Version

For mounting the modules of the CubicleBUS² on the secondary disconnect terminal system of the circuit breaker

Article No.
3WA9111-0EC60


For mounting the modules of the CubicleBUS² on DIN rail

3WA9111-0EC61

¹⁾ For connecting the Ethernet cable, connectors angled 90° to the right are recommended, e.g. PROFINET connector 6GK1901-1BB20-2AA0.


Internal voltage tap

Set of components for conversion of an existing internal voltage tap on the main conducting paths




Conversion	Circuit breaker	Size	Article No.
From bottom to top	3-pole	1	3WA9111-0EK11
		2	3WA9111-0EK12
		3	3WA9111-0EK13
	4-pole	1	3WA9111-0EK21
		2	3WA9111-0EK22
		3	3WA9111-0EK23
From top to bottom	3-pole	1	3WA9111-0EK31
		2	3WA9111-0EK32
		3	3WA9111-0EK33
	4-pole	1	3WA9111-0EK41
		2	3WA9111-0EK42
		3	3WA9111-0EK43

Retrofit of the internal voltage tap on the lower main conducting paths



For breaking capacity	Set for circuit breaker	Size	Article No.
N, S, M, H, C with VTM680 voltage tap module	3-pole	1	3WA9111-0EK51
		2	3WA9111-0EK52
		3	3WA9111-0EK53
	4-pole	1	3WA9111-0EK61
		2	3WA9111-0EK62
		3	3WA9111-0EK63
E with VTM640 voltage tap module	3-pole	1	3WA9111-0EK55
		2	3WA9111-0EK56
		3	3WA9111-0EK57
	4-pole	1	3WA9111-0EK65
		2	3WA9111-0EK66
		3	3WA9111-0EK67


Retrofit kit to connect an external voltage transformer



Size	Article No.
2, 3 including VTM640 voltage tap module and the necessary connection components	3WA9111-0EK81


Main conductor connections, fixed-mounted versions

Front-accessible main connections according to DIN 43673, double hole for main connection at top



Size	Breaking capacity Rated current I_n	Article No.
1	N, S ≤ 1000 A AC	3WA9111-0AL11
	N, S 1250 ... 2000 A AC; M, E ≤ 2000 A AC	3WA9111-0AL12
2	S, M, H, E 2000 A AC; D, E ≤ 2000 A DC	3WA9111-0AL21
	S, M, H, E 2500 A AC	3WA9111-0AL22
	S, M, H, E 3200 A AC; D, E 4000 A DC	3WA9111-0AL23
3	H 4000 A AC	3WA9111-0AL31

Front-accessible main connections according to DIN 43673, double hole for main connection at bottom

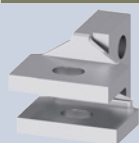


Size	Breaking capacity Rated current I_n	Article No.
1	N, S ≤ 1000 A AC	3WA9111-0AL13
	N, S 1250 ... 2000 A AC; M, E ≤ 2000 A AC	3WA9111-0AL14
2	S, M, H, E 2000 A AC; D, E ≤ 2000 A DC	3WA9111-0AL24
	S, M, H, E 2500 A AC	3WA9111-0AL25
	S, M, H, E 3200 A AC; D, E 4000 A DC	3WA9111-0AL26
3	H 4000 A AC	3WA9111-0AL32

Accessories and spare parts

Main conductor connections, fixed-mounted versions

Rear vertical main connections



Size	Breaking capacity Rated current I_n	Article No.
1	N, S, M, E ≤ 2000 A AC ¹⁾	3WA9111-0AM11
	N, S, M, E 2500 A AC	3WA9111-0AM12
2	S, M, H, C, E ≤ 3200 A AC ²⁾	3WA9111-0AM21
3	H, C, E ≤ 6300 A AC	3WA9111-0AM33

¹⁾ In the case of vertical connection size 1 with breaking capacity N and S, up to 1000 A one 3WA9111-0AM11 vertical connection is required for each connection, from 1250 A to 2000 A or with breaking capacity M or E two 3WA9111-0AM11 vertical connections are required for each connection.

²⁾ In the case of vertical connection size 2, up to 2500 A one 3WA9111-0AM21 vertical connection is required for each connection for breaking capacity S, M, H, E, D, for 3200 A and always for breaking capacity C, two 3WA9111-0AM21 vertical connections are required for each connection

Main conductor connections for withdrawable units

Front-accessible main connections, according to DIN 43673, double hole at top or at bottom¹⁾



Size	Breaking capacity Rated current I_n	Article No.
1	N, S ≤ 1000 A AC	3WA9111-0AN11
	N, S 1250 ... 2000 A AC; M, E ≤ 2000 A AC	3WA9111-0AN12
2	N, S 1250 ... 2000 A AC; M, E ≤ 2000 A AC	3WA9111-0AN21
	S, M, H, E 2500 A AC	3WA9111-0AN22
	S, M, H, E 3200 A AC; D, E 4000 A DC	3WA9111-0AN23
3	H 4000 A AC	3WA9111-0AN31

Supports for front-accessible main connections according to DIN 43673



Number of poles	Size	Article No.
3-pole, set for 3 bars, top or bottom	1	3WA9111-0AN81
	2	3WA9111-0AN82
	3	3WA9111-0AN83
4-pole, set for 4 bars, top or bottom	1	3WA9111-0AN84
	2	3WA9111-0AN85
	3	3WA9111-0AN86

Rear vertical main connections



Size	Breaking capacity Rated current I_n	Article No.
1	N, S ≤ 1000 A AC	3WA9111-0AV11
	N, S 1250 ... 2000 A AC; M, E ≤ 2000 A AC	3WA9111-0AV12
2	S, M, H, E 2000 A AC; D, E ≤ 2000 A DC ²⁾	3WA9111-0AV21
	S, M, H, E 2500 A AC ²⁾	3WA9111-0AV22
	S, M, H, E 3200 A AC; D, E 4000 A DC ²⁾	3WA9111-0AV23
	C 2000 ... 3200 A AC	3WA9111-0AV24
3	H, C, E ≤ 5000 A AC	3WA9111-0AV31

Rear horizontal main connections



Size	Breaking capacity Rated current I_n	Article No.
1	N, S ≤ 1000 A AC	3WA9111-0AX11
	N, S 1250 ... 2000 A AC; M, E ≤ 2000 A AC	3WA9111-0AX12
2	S, M, H, E 2000 A AC; D, E ≤ 2000 A DC ²⁾	3WA9111-0AX21
	S, M, H, E 2500 A AC ²⁾	3WA9111-0AX22
	S, M, H, E 3200 A AC; D, E 4000 A DC ²⁾	3WA9111-0AX23
	C 2000 ... 3200 A AC	3WA9111-0AX24
3	H, C, E ≤ 5000 A AC	3WA9111-0AX31

¹⁾ When using front-accessible main connections (withdrawable circuit breakers) supports are required.

²⁾ Not for circuit breakers with very high breaking capacity C.

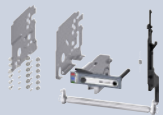
Connecting flange



Size	Breaking capacity Rated current I_n	Article No.
1	N, S ≤ 1000 A AC	3WA9111-0AW11
	N, S 1250 ... 2000 A AC; M, E ≤ 2000 A AC	3WA9111-0AW12
2	S, M, H, E 2000 A AC; D, E ≤ 2000 A DC	3WA9111-0AW21
	S, M, H, E 2500 A AC	3WA9111-0AW22
	S, M, H, E 3200 A AC; D, E 4000 A DC	3WA9111-0AW23
3	H 4000 A AC	3WA9111-0AW31

Conversion kit

Conversion kit for converting fixed-mounted circuit breakers into withdrawable circuit breakers

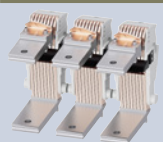


- Guide frames and sliding contact modules must be ordered separately
- Conversion from fixed-mounted to withdrawable circuit breakers is not possible for 3WA circuit breakers with breaking capacity C and breaking capacity E

Number of poles	Size	Article No.
3-pole	1	3WA9111-0BC11
	2	3WA9111-0BC12
	3	3WA9111-0BC13
4-pole	1	3WA9111-0BC14
	2	3WA9111-0BC15
	3	3WA9111-0BC16

Main contact elements

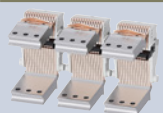
Main contact elements for AC circuit breakers



- **Notes:**
 - To be ordered only once for each circuit breaker
 - On the following circuit breakers, the main contact elements can only be replaced in the factory:
3WA1 size 1 breaking capacity M and E
3WA1 size 2 breaking capacity C
3WA1 size 3 breaking capacity C and E

Number of poles	Size	Breaking capacity	Rated current I_n	Article No.	
3	1	N	≤1000 A	3WA9111-0AQ01	
			1250 A	3WA9111-0AQ02	
			1600 A	3WA9111-0AQ04	
		S	≤ 1000 A	3WA9111-0AQ03	
			1250 ... 1600 A	3WA9111-0AQ04	
			2000 ... 2500 A	3WA9111-0AQ05	
	2	S, M, H, E	2000 A	3WA9111-0AQ08	
			2500 A	3WA9111-0AQ11	
			3200 A	3WA9111-0AQ13	
		S, M, H, E	4000 A	3WA9111-0AQ15	
			3	4000 A	3WA9111-0AQ20
				5000 ... 6300 A	3WA9111-0AQ22
4	1	N		≤ 1000 A	3WA9111-0AQ51
			1250 A	3WA9111-0AQ52	
			1600 A	3WA9111-0AQ54	
		S	≤1000 A	3WA9111-0AQ53	
			1250 ... 1600 A	3WA9111-0AQ54	
			2000 ... 2500 A	3WA9111-0AQ55	
	2	S, M, H, E	2000 A	3WA9111-0AQ58	
			2500 A	3WA9111-0AQ61	
			3200 A	3WA9111-0AQ63	
		S, M, H, E	4000 A	3WA9111-0AQ65	
			3	4000 A	3WA9111-0AQ70
				5000 ... 6300 A	3WA9111-0AQ72

Main contact elements for DC non-automatic circuit breakers



- **Note:** To be ordered only once for each circuit breaker

Number of poles	Size	Breaking capacity	Rated current I_n	Article No.
3	2	D, E	1000/2000 A	3WA9111-0AQ17
			4000 A	3WA9111-0AQ18
4	2	D, E	1000/2000 A	3WA9111-0AQ67
			4000 A	3WA9111-0AQ68

Circuit breakers and non-automatic circuit breakers for AC and DC

IEC 60947-2

1

AC



3WL10

3WL11

Basic data		3WL10		3WL11				
Rated operational voltage U_e	V	≤690		≤1000				
Rated current I_n	A	630 ... 1250		630 ... 2000				
Size		0		1				
Type of mounting		Withdrawable	Fixed-mounted	Withdrawable	Fixed-mounted			
Number of poles		3/4-pole	3/4-pole	3/4-pole	3/4-pole			
Dimensions		3WL10		3WL11				
Width (3-pole 4-pole)	mm	278 348	210 280	320 410	320 410			
Height (standard) A05, A15, A16, DC greater than 600 V)	mm	363.5	296	468 518	462			
Depth	mm	271	183	471	357			
Approvals		3WL10		3WL11				
General product approvals		VDE, EAC, CCC, CE, C-Tick		VDE, EAC, CCC, CE, C-Tick				
Marine/shipbuilding		RMRS		ABS, DNV, LR, BV, GL, PRS, RMRS				
Breaking capacity		B	N	S	N	S	H	
Rated short-circuit breaking capacity								
Rated operational voltage U_e up to 415 V AC I_{cu} I_{cs}	kA	42 42	55 50	66 50	55 55	66 66	85 85	
Rated operational voltage U_e up to 500 V AC I_{cu} I_{cs}	kA	42 42	50 50	50 50	55 55	66 66	85 85	
Rated operational voltage U_e up to 690 V AC I_{cu} I_{cs}	kA	– –	42 42	50 50	42 42	50 50	66 66	
Rated operational voltage U_e up to 690 V AC +20% ⁶⁾ , with Z option: A16 I_{cu} I_{cs}	kA	– –	– –	– –	– –	– –	50 50	
Rated operational voltage U_e up to 1000 V AC, with Z option: A05 I_{cu} I_{cs}	kA	– –	– –	– –	– –	– –	50 50	
Rated operational voltage U_e up to 1150 V AC, with Z option: A15 I_{cu} I_{cs}	kA	– –	– –	– –	– –	– –	– –	
Rated short-time withstand current I_{cw} ⁵⁾								
Rated short-time withstand current I_{cw} at U_e up to 500 V AC	0.5 s	kA	–	–	–	55	66	85
	1 s	kA	42	42	50	50	66	85
	2 s	kA	–	–	–	35 ¹⁾ /45 ²⁾	45	70
	3 s	kA	24	24	36	35 ¹⁾ /45 ²⁾	35	60
Rated short-time withstand current I_{cw} at U_e up to 690 V AC	0.5 s	kA	–	–	–	42	50	66
	1 s	kA	42	42	50	42	50	66
	2 s	kA	–	–	–	35 ¹⁾ /42 ²⁾	45	66
	3 s	kA	24	24	36	30 ¹⁾ /45 ²⁾	35	60
Rated short-time withstand current I_{cw} at DC	1 s	kA	–	–	–	–	–	–
Rated conditional short-circuit current I_{cc} of the non-automatic air circuit breakers								
Up to 500 V AC	kA	–	42	50	55	66	85	
Up to 690 V AC	kA	–	42	50	42	50	66	
Up to 1000 V/1150 V AC, with Z option: A05	kA	–	–	–	–	–	50/–	
Up to 1000 V/1150 V AC, with Z option: A15	kA	–	–	–	–	–	–	
Up to 220 V DC	kA	–	–	–	–	–	–	
Up to 300 V DC	kA	–	–	–	–	–	–	
Up to 600 V DC	kA	–	–	–	–	–	–	
Up to 1000 V DC	kA	–	–	–	–	–	–	
Rated short-circuit making capacity I_{cm}								
I_{cm} at 415 V AC	kA	88	121	145	121	145	187	
I_{cm} at 500 V AC	kA	88	105	105	121	145	187	
I_{cm} at 690 V AC	kA	–	88	105	88	105	145	
I_{cm} at 1000 V AC	kA	–	–	–	–	–	105	
I_{cm} at 1150 V AC	kA	–	–	–	–	–	–	

¹⁾ Size 1 with $I_{n, max.} \leq 1250$ A

²⁾ Size 1 with $I_{n, max.} \geq 1600$ A

³⁾ Size 2 with $I_{n, max.} \leq 2500$ A

⁴⁾ Size 2 with $I_{n, max.} \leq 3200$ A

⁵⁾ At a rated voltage ≥ 690 V the I_{cw} value of the circuit breaker corresponds with the I_{cu} or I_{cs} value

AC

DC



3WL12

3WL13

3WL11

3WL12

≤1150 800 ... 4000 2				≤1150 4000 ... 6300 3			1000 DC 2000 1		≤600/1000 DC 1000 ... 4000 2				
Withdrawable 3/4-pole		Fixed-mounted 3/4-pole		Withdrawable 3/4-pole		Fixed-mounted 3/4-pole		Fixed-mounted 4-pole		Withdrawable 3/4-pole		Fixed-mounted 3/4-pole	
460 590		460 590		704 914		704 914		410		460 590		460 590	
468 518		462		468 518		462		462		468 518		462	
471		357		471		357		357		471		357	
VDE, EAC, CCC, CE, C-Tick ABS, DNV, LR, BV, GL, PRS, RMRS				VDE, EAC, CCC, VDE, CE, C-Tick ABS, DNV, LR, BV, GL, PRS, RMRS			VDE, EAC, CCC, CE, C-Tick ABS, DNV, LR, BV, GL, PRS, RMRS		VDE, EAC, CCC, CE, C-Tick ABS, DNV, LR, BV, GL, PRS, RMRS				
N	S	H	C ⁷⁾	H	C 3p	C 4p	DC		DC				
66 66	85 85	100 100	130 130	100 100	150 150	130 130	-		-				
66 66	85 85	100 100	130 130	100 100	150 150	130 130	-		-				
50 50	75 75	85 85	100 100	85 85	150 150	130 130	-		-				
- -	- -	- -	- -	- -	- -	- -	-		-				
- -	- -	85 85	- -	85 85	125 125	125 125	-		-				
- -	- -	50 50	- -	70 70	- -	- -	-		-				
66	85	100	100	100	130	120	-		-				
66	85	85	100	100	130	120	-		-				
66	66 ³⁾ /85 ⁴⁾	66 ³⁾ /85 ⁴⁾	85	100	130	120	-		-				
55 ³⁾ /66 ⁴⁾	55 ³⁾ /75 ⁴⁾	55 ³⁾ /75 ⁴⁾	75	100	130	120	-		-				
50	75	85	100	85	130	120	-		-				
50	75	85	100	85	130	120	-		-				
50	66 ³⁾ /75 ⁴⁾	66 ³⁾ /85 ⁴⁾	85	85	130	120	-		-				
50	55 ³⁾ /75 ⁴⁾	55 ³⁾ /75 ⁴⁾	75	85	130	120	-		-				
-	-	-	-	-	-	-	20		35 ⁸⁾ /30 ⁹⁾ /25 ¹⁰⁾ /20 ¹¹⁾				
66	85	100	130	100	130	120	-		-				
50	75	85	100	85	130	120	-		-				
-	-	85 85	-	85 85	-	-	-		-				
-	-	- 50	-	70 70	-	-	-		-				
-	-	-	-	-	-	-	20		35				
-	-	-	-	-	-	-	20		30				
-	-	-	-	-	-	-	20		25				
-	-	-	-	-	-	-	20		20				
145	187	220	286	220	330	286	-		-				
145	187	220	286	220	330	286	-		-				
105	165	187	220	187	330	286	-		-				
-	-	105	-	187	267	267	-		-				
-	-	105	-	147	-	-	-		-				

⁶⁾ At 690 V AC +5% the $I_{cu} = I_{cs} = 85$ kA

⁷⁾ Up to 3200 A

⁸⁾ At $U_e = 220$ V DC

⁹⁾ At $U_e = 300$ V DC

¹⁰⁾ At $U_e = 600$ V DC

¹¹⁾ At $U_e = 1000$ V DC

Circuit breakers and non-automatic circuit breakers for AC

IEC 60947-2

3WL10

3WL11



Rated current I_n			630 A	800 A	1000 A	1250 A	1000 A	1250 A
General data								
Isolating function acc. to EN 60947-2			Yes					
Utilization category			B					
Permissible ambient temperature	During operation (in operation with LCD max. 55 °C) ¹⁾	°C	-25 ... +70				-40 ... +70	
	Storage	°C	-40 ... +70				-40 ... +80	
Mounting position								
Degree of protection			IP20 without cabinet door, IP30 with door sealing frame, IP54 with cover				IP20 without cabinet door, IP41 with door sealing frame, IP55 with cover	
Voltage								
Rated operational voltage U_e at 50/60 Hz	1000 V version	V AC	≤690				690/1000	
Rated insulation voltage U_i		V AC	1000				1000	
Rated impulse withstand voltage U_{imp}	Main conducting paths	kV	12				12	
	Auxiliary circuits	kV	4				4	
	Control circuits ³⁾	kV	2.5				2.5	
Rated rotor operational voltage U_{er}		V					2000	
Permissible load for withdrawable versions^{2) 4) 10)}								
At rear horizontal main connections	Up to 55 °C (Cu bare)	A	630	800	1000	1250	1000	1250
	Up to 60 °C (Cu bare)	A	630	800	1000	1250	1000	1250
	Up to 70 °C	A	630	800	1000	1250	1000 ⁸⁾	1210 ⁸⁾
Power loss at I_n								
With 3-phase symmetrical load, complete device (3/4p)	Fixed-mounted circuit breaker	W	31	50	78	122	100	105
	Withdrawable circuit breaker	W	62	100	156	244	195	205
Switching times								
Make time		ms	<20	<20	<20	<20	35	
Opening time		ms	<20	<20	<20	<20	38	
Electrical make time (through closing coil) ⁵⁾		ms	<50	<50	<50	<50	80	
Electrical opening time (through shunt trip)		ms	<35	<35	<35	<35	73	
Electrical opening time (instantaneous undervoltage release)		ms	<50	<50	<50	<50	≤80	
Opening time due to ETU, instantaneous short-circuit release		ms	25	25	25	25	50	
Service life/endurance								
Breaking capacity N and S, 3/4-pole								
Mechanical	Without maintenance	Operating cycles	20000	20000	20000	20000	15000	15000
	With maintenance ⁶⁾	Operating cycles	–	–	–	–	25000	25000
Electrical	Without maintenance 440 V	Operating cycles	8000 ⁷⁾	8000 ⁷⁾	8000 ⁷⁾	8000 ⁷⁾	–	–
	Without maintenance 690 V	Operating cycles	8000 ⁷⁾	8000 ⁷⁾	8000 ⁷⁾	6500 ⁷⁾	10000	10000
	With maintenance ⁶⁾	Operating cycles	– ⁷⁾	– ⁷⁾	– ⁷⁾	– ⁷⁾	25000	25000
Breaking capacity H, 3-pole								
Mechanical	Without maintenance	Operating cycles	–	–	–	–	10000	10000
	With maintenance ⁶⁾	Operating cycles	–	–	–	–	15000	15000
Electrical	Without maintenance 690 V	Operating cycles	–	–	–	–	7500	7500
	Without maintenance 1000 V, with Z option: A05	Operating cycles	–	–	–	–	1000	1000
	Without maintenance 1150 V, with Z option: A15	Operating cycles	–	–	–	–	–	–
	With maintenance ⁶⁾	Operating cycles	–	–	–	–	15000	15000

¹⁾ The LCD on the 3WL10 is always active.

²⁾ 4000 A, size 2 in fixed-mounted version, 3-pole

⁴⁾ ETU76B with graphics display can be used up to max. 55 °C.

⁵⁾ Make time through closing coil for synchronization purposes (short-time excited) 50 ms.

⁶⁾ Maintenance means: Replacing main contact elements and arc chutes (see Operating Manual). Greasing the breaker mechanism on the 3WL10, no spare part of components.

3WL11



3WL12



3WL13



1600 A	2000 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A	4000 A	4000 A	5000 A	6300 A
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Yes

B

-40 ... +70

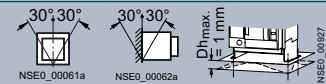
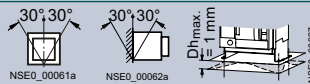
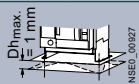
-40 ... +70

-40 ... +70

-40 ... +80

-40 ... +80

-40 ... +80



IP20 without cabinet door, IP41 with door sealing frame, IP55 with cover

IP20 without cabinet door, IP41 with door sealing frame, IP55 with cover

IP20 without cabinet door, IP41 with door sealing frame, IP55 with cover

690/1000

690/1000/1150

690/1000/1150

1000

≤1150

≤1150

12

12

12

4

4

4

2.5

2.5

2.5

2000

2000

2000

1600	2000	800	1000	1250	1600	2000	2500	3200	3950	4000	5000	5920
1600	1930	800	1000	1250	1600	2000	2500	3020	3810	4000	5000	5810
1490 ⁸⁾	1780 ⁸⁾	800 ⁸⁾	1000 ⁸⁾	1250 ⁸⁾	1600 ⁸⁾	2000 ⁸⁾	2280 ⁸⁾	2870 ⁸⁾	3600 ⁸⁾	4000 ⁸⁾	5000 ⁸⁾	5500 ⁸⁾

150	240	40	45	80	85	180	270	410	750	520	630	900
350	440	85	95	165	175	320	520	710	925	810	1050	1600

35						35					35	
38						34					34	
80						100					100	
73						73					73	
≤80						≤80					≤80	
50						50					50	

15000	15000	10000	10000	10000	10000	10000	10000	10000	10000	10000	–	–	–
25000	25000	17500	17500	17500	17500	17500	17500	17500	17500	17500	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–
10000	7500	7500	7500	7500	7500	7500	7500	4000	2000	–	–	–	–
25000	25000	17500	17500	17500	17500	17500	17500	17500	17500	–	–	–	–

10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	5000	5000	5000
15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	10000	10000	10000
7500	7500	7500	7500	7500	7500	7500	7500	4000	2000	2000	2000	2000	2000
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
–	–	500	500	500	500	500	500	500	500	500	500	500	500
15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	10000	10000	10000

⁷⁾ Periodic greasing of breaker mechanism on the 3WL10 (see Manual), no spare part of components

⁸⁾ Cu painted black

⁹⁾ Motorized operating mechanism $U_{imp}=1.2$ kV

¹⁰⁾ For 3WL size 2 4000 A and size 3 6300 A with rear vertical main connections.

Circuit breakers and non-automatic circuit breakers for AC

IEC 60947-2 (continued)

3WL10



3WL11



Rated current I_n			630 A	800 A	1000 A	1250 A	1000 A	1250 A
Service life/endurance								
Breaking capacity H, 4-pole								
Mechanical	Without maintenance	Operating cycles	–	–	–	–	10000	10000
	With maintenance ⁶⁾	Operating cycles	–	–	–	–	15000	15000
Electrical	Without maintenance 690 V	Operating cycles	–	–	–	–	7500	7500
	Without maintenance 1000 V	Operating cycles	–	–	–	–	1000	1000
	Without maintenance 1150 V ⁷⁾	Operating cycles	–	–	–	–	–	–
	With maintenance ⁶⁾	Operating cycles	–	–	–	–	10000	10000
Breaking capacity C								
Mechanical	Without maintenance	Operating cycles	–	–	–	–	–	–
	With maintenance ⁶⁾	Operating cycles	–	–	–	–	–	–
Electrical	Without maintenance 690 V	Operating cycles	–	–	–	–	–	–
	With maintenance 690 V ⁶⁾	Operating cycles	–	–	–	–	–	–
Switching frequency⁸⁾								
Mechanical/electrical	690 V version	1/h	60/30	60/30	60/30	60/30	–	–
	1000 V / 1150 V version	1/h	–	–	–	–	–	–
Connection								
Minimum phase size								
Copper bars, bare		Unit, mm ²	2× 40× 5	2× 50× 5	2× 50× 10 ¹²⁾ 2× 50× 8 ¹³⁾	2× 50× 10 ¹²⁾ 2× 50× 8 ¹²⁾	1× 60× 10	2× 40× 10
Copper bars, painted black		Unit, mm ²	–	–	–	–	1× 60× 10	2× 40× 10
Auxiliary conductor (Cu) max. number of auxiliary conductors × cross-section (solid/stranded)								
Standard connection = screw	Without end sleeve				–		2× 0.5 ... 2× 1.5 mm ² (AWG 20 ... 16); 1× 2.5 mm ² (AWG 14)	
	With end sleeve acc. to DIN 46228 Part 2				–		1× 0.5 ... 1× 1.5 mm ² (AWG 20 ... 16)	
	With twin end sleeve				–		2× 0.5 ... 2× 1.5 mm ² (AWG 20 ... 16)	
Screwless connection technology	Without end sleeve				0.5 ... 2.5 mm ² (AWG 20 ... 14)		2× 0.5 ... 2× 2.5 mm ² (AWG 20 ... 14)	
	With end sleeve acc. to DIN 46228 Part 2				0.5 ... 1.5 mm ² (AWG 20 ... 16)		2× 0.5 ... 2× 1.5 mm ² (AWG 20 ... 16)	
Position signaling switches								
Screwless connection technology					1× 0.5 ... 1× 2.5 mm ² (AWG 20 ... 14)		1× 0.5 ... 1× 2.5 mm ² (AWG 20 ... 14)	
Weights								
3-pole	Fixed-mounted circuit breaker	kg			14		43	43
	Withdrawable circuit breaker	kg			17.3		45	45
	Guide frames	kg			21		25	25
4-pole	Fixed-mounted circuit breaker	kg			16		50	50
	Withdrawable circuit breaker	kg			19.3		54	54
	Guide frames	kg			25		30	30

⁶⁾ Maintenance means: Replacing main contact elements and arc chutes (see Operating Manual).

⁷⁾ Size 2 with order code "A15" and size 3. Data for very high breaking capacity.

⁸⁾ Minimum interval time between 2 tripping operations
⁹⁾ 3-pole switching with breaking capacity N and S: 45/h.

3WL11



3WL12



3WL13



1

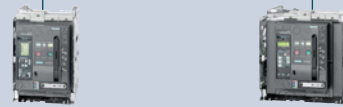
1600 A		2000 A		800 A		1000 A		1250 A		1600 A		2000 A		2500 A		3200 A		4000 A		4000 A		5000 A		6300 A	
10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	5000	5000	5000	5000	5000	5000
15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	10000	10000	10000	10000	10000
7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	7500	4000	2000	2000	2000	2000	2000
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
–	–	–	–	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
10000	10000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	10000	10000	10000	10000	10000
–	–	–	–	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	–	–	5000	5000	5000	5000
–	–	–	–	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	–	–	10000	10000	10000	10000
–	–	–	–	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	4000	–	1000	1000	1000	1000
–	–	–	–	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	8000	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	20/20	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	60/60 ⁹⁾	
–	–	–	–	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20
2 × 50 × 10	3 × 50 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	3 × 50 × 10	2 × 100 × 10	3 × 100 × 10	4 × 120 × 10	4 × 100 × 10	6 × 100 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	
2 × 50 × 10	3 × 50 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	3 × 50 × 10	2 × 100 × 10	3 × 100 × 10	4 × 100 × 10	4 × 100 × 10	6 × 100 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	6 × 120 × 10	
2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16); 1 × 2.5 mm ² (AWG 14)					2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16); 1 × 2.5 mm ² (AWG 14)																2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16); 1 × 2.5 mm ² (AWG 14)				
1 × 0.5 ... 1 × 1.5 mm ² (AWG 20 ... 16)					1 × 0.5 ... 1 × 1.5 mm ² (AWG 20 ... 16)																1 × 0.5 ... 1 × 1.5 mm ² (AWG 20 ... 16)				
2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)					2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)																2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)				
2 × 0.5 ... 2 × 2.5 mm ² (AWG 20 ... 14)					2 × 0.5 ... 2 × 2.5 mm ² (AWG 20 ... 14)																2 × 0.5 ... 2 × 2.5 mm ² (AWG 20 ... 14)				
2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)					2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)																2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)				
1 × 0.5 ... 1 × 2.5 mm ² (AWG 20 ... 14)					1 × 0.5 ... 1 × 2.5 mm ² (AWG 20 ... 14)																1 × 0.5 ... 1 × 2.5 mm ² (AWG 20 ... 14)				
43	43	56	56	56	56	56	59	64	85	82	82	90	90	96	70	108	108	108	108	106	106	106	106	108	
45	45	60	60	60	60	60	63	68	121	88	88	96	96	108	108	108	108	108	108	106	106	106	106	108	
25	25	31	31	31	31	31	39	45	52	60	60	70	70	84	84	84	84	84	84	84	84	84	84	84	
50	50	67	67	67	67	67	71	77	103	99	99	108	108	121	121	121	121	121	121	106	106	106	106	108	
54	54	72	72	72	72	72	76	82	146	106	106	108	108	121	121	121	121	121	121	106	106	106	106	108	
30	30	37	37	37	37	37	47	54	62	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	

¹²⁾ Horizontal¹³⁾ Vertical

Non-automatic circuit breakers for DC

IEC 60947-2

3WL11 3WL12



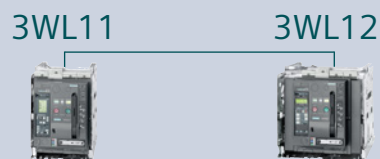
Rated current I_n			2000 A	1000 A	2000 A	4000 A
General data						
Size			1		2	
Isolating function acc. to EN 60947-2					Yes	
Utilization category					B	
Permissible ambient temperature	Operation	°C			-40 ... +70	
	Storage	°C			-40 ... +80	
Mounting position						
Degree of protection			IP20 without cabinet door, IP41 with door sealing frame, IP55 with cover			
Voltage						
Rated operational voltage U_e at 50/60 Hz	1000 V version	V DC	1000		600/1000	
Rated insulation voltage U_i		V DC	1000		1000	
Rated impulse withstand voltage U_{imp}	Main conducting paths	kV	12		12	
	Auxiliary circuits	kV	4		4	
	Control circuits	kV	2.5		2.5	
Permissible load						
At rear horizontal main connections	Up to 40 °C (Cu black painted)	A	2000	1000	2000	4000
	Up to 55 °C (Cu black painted)	A	1910	1000	2000	3640
	Up to 60 °C (Cu black painted)	A	1850	1000	2000	3500
	Up to 70 °C (Cu black painted)	A	1710	1000	1950	3250
Power loss at I_n						
With symmetrical load	Withdrawable circuit breaker	W	150	280	770	1640
Switching times						
Make time		ms	35		35	
Opening time		ms	38		34	
Electrical make time (through activation solenoid) ¹⁾		ms	100		100	
Electrical opening time (through shunt trip)		ms	73		73	
Electrical opening time (instantaneous undervoltage release)		ms	≤80		≤80	
Service life/endurance³⁾						
Mechanical	Without maintenance	Operating cycles	10000	10000	10000	10000
	With maintenance ²⁾	Operating cycles	15000	17500	17500	17500
Electrical	Without maintenance	Operating cycles	1000	6000	6000	4000
	Without maintenance 1000 V	Operating cycles	1000	1000	1000	1000
	With maintenance ²⁾	Operating cycles	2000	17500	17500	17500

¹⁾ Make time through activation solenoid for synchronization purposes (short-time excited) 50 ms.

²⁾ Maintenance means: Replace main contact elements and arc chutes (see Operating Manual).

³⁾ Further technical specifications on request.

⁴⁾ At $U_e = 220$ V DC



Rated current I_n		2000 A	1000 A	2000 A	4000 A	
Short-circuit breaking capacity I_{cc}						
Up to 220 V DC	kA	20		35		
Up to 300 V DC	kA	20		30		
Up to 600 V DC	kA	20		25		
Up to 1000 V DC	kA	20		20		
Rated short-time withstand current I_{cw}						
0.5 s	kA	–		–		
1 s	kA	20		35 ⁴⁾ /30 ⁵⁾ /25 ⁶⁾ /20 ⁷⁾		
2 s	kA	–		–		
3 s	kA	–		–		
Switching frequency						
690 V version	1/h	–	60	60	60	
1000 V version	1/h	20	20	20	20	
Connection						
Auxiliary conductor (Cu) max. number of auxiliary conductors × cross-section (solid/stranded)						
Standard connection = strain-relief clamp	Without end sleeve	2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16); 1 × 2.5 mm ² (AWG 14)				
	With end sleeve acc. to DIN 46228 Part 2	1 × 0.5 ... 1 × 1.5 mm ² (AWG 20 ... 16)				
	With twin end sleeve	2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)				
Optional connection = tension spring	Without end sleeve	2 × 0.5 ... 2 × 2.5 mm ² (AWG 20 ... 14)				
	With end sleeve acc. to DIN 46228 Part 2	2 × 0.5 ... 2 × 1.5 mm ² (AWG 20 ... 16)				
Weights						
3-pole	Fixed-mounted circuit breaker	kg	43	56	56	64
	Withdrawable circuit breaker	kg	–	60	60	68
	Guide frames	kg	–	31	31	45
4-pole	Fixed-mounted circuit breaker	kg	50	67	67	77
	Withdrawable circuit breaker	kg	–	72	72	82
	Guide frames	kg	–	37	37	54

⁵⁾ At $U_e = 300$ V DC⁷⁾ At $U_e = 1000$ V DC.⁶⁾ At $U_e = 600$ V DC

Electronic trip unit ETU

With watchdog monitoring

3WL10



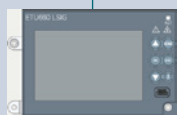
		ETU320 (LI)	ETU350 (LSI)	ETU360 (LSIG)
Basic protective functions				
L Overload protection (L tripping operation)	Setting range of operating value $I_r = I_n \times \dots$	0.4 0.5 0.6 0.7 0.75 0.8 0.85 0.9 0.95 1 Default 0.4	0.4 0.5 0.6 0.7 0.75 0.8 0.85 0.9 0.95 1 Default 0.4	0.4 0.5 0.6 0.7 0.75 0.8 0.85 0.9 0.95 1 Default 0.4
	Switchable overload protection (from I^2t - to I^4t -dependent function)	–	–	–
	Setting range of delay t_r at I^2t (Reference point $6 \times I_n$)	0.75 1 2 5 8 10 14 17 21 25 s Default 0.75 s	0.75 1 2 5 8 10 14 17 21 25 s Default 0.75 s	0.75 1 2 5 8 10 14 17 21 25 s Default 0.75 s
	Setting range of delay t_r at I^4t (Reference point $6 \times I_n$)	–	–	–
	Thermal memory can be switched on/off	Permanently switched on	Permanently switched on	Permanently switched on
	Phase failure sensitivity/asymmetry	–	–	–
S Short-time delay short-circuit protection (ST tripping)	Setting range of operating value $I_{sd} = I_n \times \dots$	–	1 1.5 2 2.5 3 4 6 8 10 Default OFF	1 1.5 2 2.5 3 4 6 8 10 Default OFF
	Setting range of delay time t_{sd} at I^2t	–	0.1 0.2 0.3 0.4 0.5 (Ref. $10 \times I_n$)	0.1 0.2 0.3 0.4 0.5 (Ref. $10 \times I_n$)
	Setting range of delay time t_{sd} ($t = \text{const.}$)	–	0.08 0.15 0.22 0.3 0.4 s	0.08 0.15 0.22 0.3 0.4 s
	ZSI function	–	–	–
I Instantaneous short-circuit protection (INST tripping operation)	Setting range $2 = I_n \times \dots$	OFF 1.5 2 3 4 6 8 10 12 15	OFF 1.5 2 3 4 6 8 10 12 15	OFF 1.5 2 3 4 6 8 10 12 15
N Neutral conductor protection	Neutral conductor setting range $I_N = I_n \times \dots$	OFF 50% 100% 200%	OFF 50% 100% 200%	OFF 50% 100% 200%
G Ground-fault tripping (GF tripping) Detection of ground-fault current through summation current formation with internal or external N conductor transformer	Tripping function can be switched on/off	–	–	■
	Alarm function can be switched on/off	–	–	Permanently switched on
	Detection of ground-fault current through external current transformer	–	–	–
	Setting range of the operating current $I_g = I_n \times \dots$	–	–	0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 1
	Setting range of the operating current I_g for alarm	–	–	–
	Setting range of the delay time t_g	–	–	0.1 0.2 0.4 0.6 0.8 s (fixed delay)
	Switchable ground-fault protection characteristic (I^2t -dependent function)	–	–	$t = \text{const.}/I^2t$ Default I^2t
	Setting range of delay time t_g at I^2t	–	–	0.1 0.2 0.4 0.6 0.8 s (Ref. $2 \times I_n$) (I^2t dependent) Default 0.1 (I^2t)
	ZSI-G function	–	–	–

1) Sizes 1 and 2/size 3

■ Available

– Not available/not present

3WL10



3WL11 – 3WL13



1

ETU650 (LSI)	ETU660 (LSIG)	ETU15B (LI)	ETU25B (LSI)	ETU27B (LSIG)	ETU45B (LSIG)	ETU76B (LSIG)
0.4 ... 1 Default 1 (in steps of 0.001)	0.4 ... 1 Default 1 (in steps of 0.001)	0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 1	0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.8 0.9 1	0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.8 0.9 1	0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.8 0.9 1	0.4 ... 1
■	■	–	–	–	■	■
0.75 ... 36 s (in steps of 0.25 s) Default 36 s	0.75 ... 36 s (in steps of 0.25 s) Default 36 s	10 s fixed	10 s fixed	10 s fixed	2 3.5 5.5 8 10 14 17 21 25 30 s	2 ... 30 s
0.75 ... 5 s (in steps of 0.25 s) Default 5 s	0.75 ... 5 s (in steps of 0.25 s) Default 5 s	–	–	–	1 2 3 4 5 s	1 ... 5 s
■	■	–	–	–	■	■
2% ... 90% (default 50%)	2% ... 90% (default 50%)	–	At $t_{sd} = 20$ ms (M)	At $t_{sd} = 20$ ms (M)	At $t_{sd} = 20$ ms (M)	■ (on/off)
0.6 ... 10 OFF (in steps of 0.1)	0.6 ... 10 OFF (in steps of 0.1)	–	1.25 1.5 2 2.5 3 4 6 8 10 12	1.25 1.5 2 2.5 3 4 6 8 10 12	1.25 1.5 2 2.5 3 4 6 8 10 12 OFF	$1.25 \times I_n \dots 0.8 \times I_{cw}$ OFF
0.05 ... 0.5 s (Ref. $10 \times I_n$)	0.05 ... 0.5 s (Ref. $10 \times I_n$)	–	–	–	100 200 300 400 ms	100 ... 400 ms
0.05 ... 0.4 s	0.05 ... 0.4 s	–	M (0.02 ms) 100 200 300 400 ms	M (0.02 ms) 100 200 300 400 ms	M (0.02 ms) 100 200 300 400 ms	M (0.02 ms) 80 ... 4000 ms
–	–	–	–	–	Via module of the CubicleBUS	Via module of the CubicleBUS
OFF 1.5 ... 15 (in steps of 0.1)	OFF 1.5 ... 15 (in steps of 0.1)	2 3 4 5 6 7 8	Fixed at $2 \geq 20 \times I_{nr}$ max. 50 kA	Fixed at $2 \geq 20 \times I_{nr}$ max. 50 kA	OFF 1.5 2.2 3 4 6 8 10 12 $0.8 \times I_{cs}$	OFF $1.5 \times I_n \dots 0.8 \times I_{cs}$
OFF 50% 100% 150% 200%	OFF 50% 100% 200%	–	–	100%	OFF 50% 100%	OFF 20% ... 200%
–	■	–	–	■	■	■
–	■	–	–	–	–	■
–	Alternative Rc or G-ret ground-fault monitoring	–	–	–	■	■
–	0.1 ... 1 (in steps of 0.001) $I_g = I_n \times \dots$	–	–	A ¹⁾ (100/400 A) B ¹⁾ (300/600 A); C ¹⁾ (600/800 A) D ¹⁾ (900/1000 A); E ¹⁾ (1200/1200 A)	A ¹⁾ (100/400 A) B ¹⁾ (300/600 A); C ¹⁾ (600/800 A) D ¹⁾ (900/1000 A); E ¹⁾ (1200/1200 A)	SZ 1, 2: 100 ... 1200 A SZ 3: 400 ... 1200 A
–	50% ... 90% $\times I_r$ (in steps of 1%) PreAlarm	–	–	–	A ¹⁾ (100/400 A); B ¹⁾ (300/600 A); C ¹⁾ (600/800 A); D ¹⁾ (900/1000 A); E ¹⁾ (1200/1200 A)	SZ 1, 2: 100 ... 1200 A SZ 3: 400 ... 1200 A
–	0.1 ... 1 s Default 0.1 s (in steps of 0.05 s)	–	–	100 200 300 400 500 ms	100 200 300 400 500 ms	100 ... 500 ms
–	$t = \text{const.} / I^2 t$ Default const.	–	–	–	■	■
–	0.1 ... 1 s (in steps of 0.05 s) (Ref. $2 \times I_n$)	–	–	–	100 200 300 400 500 ms	100 ... 500 ms
–	–	–	–	–	Via module of the CubicleBUS	Via module of the CubicleBUS

Electronic trip unit ETU

With watchdog monitoring (continued)

3WL10



		ETU320 (LI)	ETU350 (LSI)	ETU360 (LSIG)
Parameter set changeover	Switchable between parameter set A and B	–	–	–
LCD		–	–	–
Voltage tap on top/bottom		–	–	–
Measurement function		–	–	–
Tripping operation as a result of extended protective function: (including: phase asymmetry current/voltage, harmonic distortion current/voltage, under/overvoltage, phase rotation direction, active power in/opposite to normal direction, under/overfrequency, protective functions dependent on direction of power flow)				
Mode of communication				
Communication PROFIBUS PROFINET Modbus RTU Modbus TCP		–	–	–
Output modules				
Signals via relay: Overload warning, load shedding/load carrying, leading signal, overload tripping 200 ms, temperature alarm, phase asymmetry, instantaneous short-circuit release, short time-delayed short-circuit release, overload trip, neutral conductor trip, auxiliary relay, ETU faults, ground-fault protection tripping and ground-fault alarm (only with ground-fault protection module)		IOM300	IOM300	IOM300

Increment size when settings are made for the ETU76B using the menu

From ... to	Increment size
0 ... 1	0.1
1 ... 100	1
100 ... 500	5
500 ... 1000	10
1000 ... 1600	50
1600 ... 10000	100
10000 ... max.	1000

■ Available – Not available/not present

3WL10

3WL11 – 3WL13


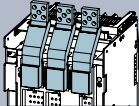
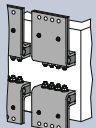
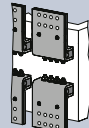
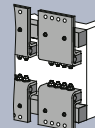
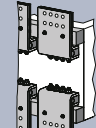

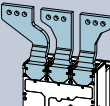
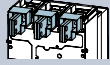
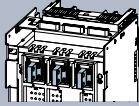
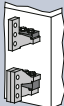

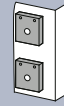

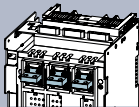
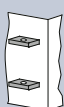
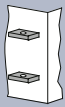
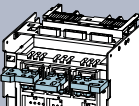
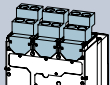
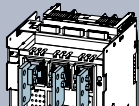


1

ETU650 (LSI)	ETU660 (LSIG)	ETU15B (LI)	ETU25B (LSI)	ETU27B (LSIG)	ETU45B (LSIG)	ETU76B (LSIG)
■	■	–	–	–	–	■
Integrated	Integrated	–	–	–	Optional	Integrated
Optional	Optional	–	–	–	Optional	Optional
Basic/Advanced	Basic/Advanced	–	–	–	Measurement function Plus	Measurement function Plus
■	■	–	–	–	■	■
■	■	–	–	–	■	■
IOM040/IOM300	IOM040/IOM300	–	–	–	■	■

Connection

Main circuit connection

Connection	3WL10		3WL11 – 3WL13			
	Fixed-mounted	Withdrawable	Fixed-mounted		Withdrawable	
Front	 Direct	 Extended	 1-hole	 2-hole	 1-hole	 2-hole
	 Extended					
	 Broadened					
Rear	 Vertical	 Vertical	 Vertical		 Vertical	 Flanges
	 Horizontal	 Horizontal	 Horizontal		 Horizontal	
		 Broadened				
Cable	 Cable terminals	 Cable lug				

Auxiliary circuit connections

3WL10: Withdrawable/fixed-mounted version

- Direct engagement of the auxiliary conductor vertically onto the circuit breaker or horizontally in the guide frame



Screwless connection technology
(push in)

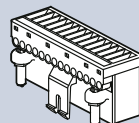
3WL11 – 3WL13: Withdrawable version

- Connection of the internal auxiliary switches to the male connector on the switch side
- When fully inserted, connection with the sliding contact module in the guide frame

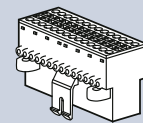
3WL11 – 3WL13: Fixed-mounted version

- Engagement of the auxiliary supply connectors directly onto the circuit breaker

Coding pins on the connectors prevent them being inserted in the wrong slots



Screw connection (standard)



Screwless connection
(tension spring) (optional)

Operating mechanism, auxiliary release, auxiliary switch

Operating mechanism

The circuit breakers are available with various optional operating mechanisms:

- Manual operating mechanism with mechanical closing (standard design)
- Manual operating mechanism with mechanical and electrical closing
- Motorized operating mechanism with mechanical and electrical closing

The operating mechanisms with electrical closing are suitable for synchronization tasks.

	Available for air circuit breakers	
	3WL10	3WL11 – 3WL13
Closing coils (CC)	■	■
Undervoltage releases (UVR)/ shunt trips (ST)	■	■
Shunt trips (ST)	■	■
Remote reset magnets (RR)	■	■
Motorized operating mechanism (MO)	■	■
Mechanical operating cycles counters	■	■

System overview 3WL11 – 3WL13

IEC AC 630 – 6300 A, IEC DC ..

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

1

Circuit breakers and non-automatic circuit breakers



Sizes 1 to 3

ETU



LI



LSI



LSING



LSIN, LSING



LSIN, LSING

Accessories



Communi-
cation
modules



Rating plugs



Remote reset
magnets

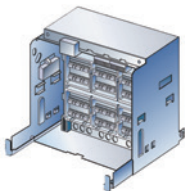


Breaker status
sensors (BSS)



Ground-fault
modules

Connection



Fixed-mounted,
withdrawable versions



Main connection vertical,
horizontal, front, flange

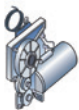
Accessories



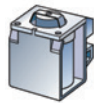
Auxiliary conductor plug-in system



Operating mechanisms and auxiliary releases



Motorized operating mechanisms



Auxiliary releases

Accessories



Closing coils

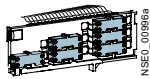
Note:

You will find a detailed range of accessories in the Accessories and spare parts section.

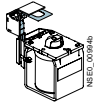
Auxiliary switches



Auxiliary switches



Position signaling switches



Signaling switches

Accessories

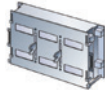


Position signaling switches

Other accessories



Door sealing frames



Shutters

EMERGENCY-OFF
pushbuttonsOperating cycle
counters

Support brackets



Grounding connections

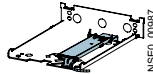
Interlocking



Interlocking sets



Key operation



Locking mechanisms

Note:

You will find a detailed range of accessories in the Accessories section.

Online configurator highlights

www.siemens.com/lowvoltage/3wl-configurator

Ungroup into individual components:
Divides the finished complete article number into single article numbers

SIEMENS
Ingenuity for Life

Additional actions Support Language

on request
Recommended retail price

The configuration is complete. You can order this product.

Basic breaker ETU Connection Motor and auxiliary releases Auxiliary switches Accessories Locking Result CAD/CAE 13.7

Ordering individual components

Yes No

Print Export as Excel

Name	Order number	Properties
Basic breaker	3WL1216-3FG62-1AA2	Order quantity: 1 ST
Multiselect operating mechanisms	3WL9111-0M01-0MAD	Order quantity: 1 ST
Closing interlock	3WL9111-0A01-0MAD	Order quantity: 1 ST
Mutual mechanical interlocking	3WL9111-0B021-0MAD	Order quantity: 1 ST

Automatic generation of the 3D model, 2D dimension drawing and the internal circuit diagram according to IEC

The configuration is complete. You can order this product.

Filter (e.g. "power", ...)

Basic breaker ETU Connection Motor and auxiliary releases Auxiliary switches Accessories Locking Result CAD/CAE 13.7

Basic breaker

Preview

Area Model View | Wire frame view | Unit Wiring Diagram IEC | 3D view
Dimension drawing



Download – quick links

Basic breaker

Click2CAD

Download – all CAD formats

View Area Model View

View option Isometric

File type Joint Photography Experts Group (*.jpg)

Start generation

Download – all documents

open documents dialog

Direct entry of an already known article number or parts of an article number

3WL Air Circuit Breakers

Product Information Configurators

Select a Configurator 3WL Upgrade Air Circuit Breakers

3WL Upgrade Air Circuit Breakers



Selection - Tool for air circuit breakers (ACB) SENTRON 3WL from 630 A to 1250 A

- for selective line protection
- for motor protection
- non-automatic circuit breaker

Using this configurator, you can precisely select the optimum circuit breaker configuration for your application. Comprehensive CAx-data support of the device is provided after successful configuration.

To start the configurator with a preallocation use the direct input e.g. 3WL1116-3EB66-4FG4-Z K07+S07+C01+T40

Start

MLFB direct input (complete):

3WL

Start

Structure of the article numbers

Basic configuration for AC circuit breakers

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

		3WL1		5	6	7	8	9	10	11	12	13	14	15	16	
Air circuit breakers and non-automatic air circuit breakers and ETU																
Size (SZ)	1			1												
	2			2												
	3			3												
		SZ 1	SZ 2	SZ 3												
Max. rated current	630 A	■	–	–	0	6										
$I_{n\ max.}$	800 A	■	■ ⁶⁾	–	0	8										
	1000 A	■	■ ⁶⁾	–	1	0										
	1250 A	■	■ ⁶⁾	–	1	2										
	1600 A	■	■	–	1	6										
	2000 A	■	■	–	2	0										
	2500 A	–	■	–	2	5										
	3200 A	–	■	–	3	2										
	4000 A	–	■ ⁶⁾	■	4	0										
	5000 A	–	–	■	5	0										
	6300 A	–	–	■	6	3										
Short-circuit breaking capacity I_{cu} at 500 V	N	ECO	■	–	–	55 kA	2									
			–	■	–	66 kA	2									
	S	Standard	■	–	–	66 kA	3									
			–	■	–	85 kA	3									
	H	High	■	–	–	85 kA	4									
			–	■	■	100 kA	4									
C	Very high	–	■	■ ⁸⁾	130 kA	5										
		–	–	■ ⁹⁾	150 kA	5										
Trip units	Without trip unit							A	A							
	With trip unit, without ground-fault tripping	ETU15B ⁷⁾					LI	B	B							
		ETU25B					LSI	C	B							
		ETU45B (without display)					LSIN	E	B							
		ETU45B (with display)					LSIN	F	B							
		ETU76B					LSIN	N	B							
	With trip unit, with ground-fault tripping	ETU27B (without display)					LSING	D	G							
		ETU45B (without display)					LSING	E	G							
		ETU45B (with display)					LSING	F	G							
		ETU76B					LSING	N	G							
Number of poles	3-pole (3WL upgrade)										6					
	4-pole (3WL upgrade)										7					
Connection																
		SZ 1	SZ 2	SZ 3												
Type of mounting	Fixed-mounted	■	■	■	Vertical	1										
		■	■ ²⁾	■ ³⁾	Horizontal	2										
		■ ⁴⁾	■ ¹⁾	■ ⁵⁾	Front single hole	3										
		■	■ ¹⁾	■ ⁵⁾	Front double hole	4										
	Withdrawable	■	■	■	Without guide frame	5										
		■	■ ²⁾	■ ³⁾	Horizontal	6										
		■	■	■	Vertical	7										
		■	■ ¹⁾	■ ⁵⁾	Flanges	8										

¹⁾ Not available for 4000 A and breaking capacity C

²⁾ Not available for 4000 A

³⁾ Not available for 6300 A

⁴⁾ Not available for 2000 A and breaking capacity H

⁵⁾ Not available for 5000 A, 6300 A and breaking capacity C

⁶⁾ Not available for breaking capacity C

⁷⁾ Not available for size 3

⁸⁾ Not available for 3-pole

⁹⁾ Not available for 4-pole

3WL1

5	6	7	8	9	10	11	12	13	14	15	16
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Operating mechanisms and auxiliary releases

Stored energy mechanism	Manual recharging of the stored energy mechanismc	With mechanical operation		1
		With mechanical and electrical operation, closing coil suitable for uninterrupted duty, 100% OP	110 V AC 50/60 Hz/110 V DC	2
			230 V AC 50/60 Hz/220 V DC	3
	Motorized recharging	With mechanical and electrical operation, closing coil suitable for uninterrupted duty, 100% OP	208 ... 240 V AC 50/60 Hz/220 ... 250 V DC	4
			110 ... 127 V AC 50/60 Hz/110 ... 125 V DC	5
			24 V DC	6
1st auxiliary release	Without 1st auxiliary release			A
	With shunt trip 100% OP	24 V DC		B
		30 V DC		C
		48 V DC		D
		60 V DC		E
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC		F
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC		G
2nd auxiliary release	Without 2nd auxiliary release			A
	With shunt trip 100% OP	24 V DC		B
		30 V DC		C
		48 V DC		D
		60 V DC		E
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC		F
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC		G
		With undervoltage release, instantaneous	24 V DC	
	30 V DC			K
	48 V DC			L
	60 V DC			U
	110 ... 127 V AC 50/60 Hz/110 ... 125 V DC			M
	208 ... 240 V AC 50/60 Hz/220 ... 250 V DC			N
	380 ... 415 V AC 50/60 Hz			P
	With undervoltage release, delay 0.2 ... 3.2 s		48 V DC	
110 ... 127 V AC 50/60 Hz/110 ... 125 V DC			R	
208 ... 240 V AC 50/60 Hz/220 ... 250 V DC			S	
380 ... 415 V AC 50/60 Hz			T	

Auxiliary switches

1st auxiliary switch block	2 NO + 2 NC	2
1st + 2nd auxiliary switch block	4 NO + 4 NC	4
	6 NO + 2 NC	7
	5 NO + 3 NC	8

Structure of the article numbers

Basic configuration for DC non-automatic air circuit breakers

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

		5	6	7	8	9	10	11	12	13	14	15	16	
		3WL1			-									
Non-automatic air circuit breakers and ETU														
Size (SZ)	1	1												
	2	2												
			SZ 1	SZ 2										
Max. rated current I_n	1000 A	-	■		1	0								
	2000 A	■	■		2	0								
	4000 A	-	■		4	0								
Short-circuit breaking capacity I_{cu}	1000 V DC 20 kA	■	-						8					
	600 V DC 25 kA	-	■						8					
Non-automatic air circuit breakers	Without trip unit					A	A							
Number of poles	3-pole (3WL upgrade)	-	■						6					
	4-pole (3WL upgrade)	■	■						7					
Connection			SZ 1	SZ 2										
Type of mounting	Fixed-mounted	■ ■	■	■	Vertical				1					
		■ ■	■	■	Horizontal				2					
		-	■ ¹⁾		Front single hole				3					
		-	■ ¹⁾		Front double hole				4					
	Withdrawable	-	■		Without guide frame				5					
		-	■		Horizontal				6					
		-	■		Vertical				7					
		-	■		Flanges				8					

¹⁾ Not available for 4000 A

3WL1

5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	----	----	----	----	----	----	----

Operating mechanisms and auxiliary releases

Stored energy mechanism	Manual recharging of the stored energy mechanism	With mechanical operation		1
		With mechanical and electrical operation, closing coil suitable for uninterrupted duty, 100% OP	110 V AC 50/60 Hz/110 V DC	2
			230 V AC 50/60 Hz/220 V DC	3
	Motorized recharging	With mechanical and electrical operation, closing coil suitable for uninterrupted duty, 100% OP	208 ... 240 V AC 50/60 Hz/220 ... 250 V DC	4
			110 ... 127 V AC 50/60 Hz/110 ... 125 V DC	5
			24 V DC	6
1st auxiliary release	Without 1st auxiliary release			A
	With shunt trip 100% OP	24 V DC		B
		30 V DC		C
		48 V DC		D
		60 V DC		E
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC		F
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC		G
2nd auxiliary release	Without 2nd auxiliary release			A
	With shunt trip 100% OP	24 V DC		B
		30 V DC		C
		48 V DC		D
		60 V DC		E
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC		F
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC		G
		With undervoltage release, instantaneous	24 V DC	
	30 V DC			K
	48 V DC			L
	60 V DC			U
	110 ... 127 V AC 50/60 Hz/110 ... 125 V DC			M
	208 ... 240 V AC 50/60 Hz/220 ... 250 V DC			N
	380 ... 415 V AC 50/60 Hz			P
	With undervoltage release, delay 0.2 ... 3.2 s		48 V DC	
110 ... 127 V AC 50/60 Hz/110 ... 125 V DC			R	
208 ... 240 V AC 50/60 Hz/220 ... 250 V DC			S	
380 ... 415 V AC 50/60 Hz			T	

Auxiliary switches

1st auxiliary switch block	2 NO + 2 NC	2
1st + 2nd auxiliary switch block	4 NO + 4 NC	4
	6 NO + 2 NC	7
	5 NO + 3 NC	8

Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL....-.....-..... -Z

Order code

Accessories for basic configuration

Rated operational voltage 1000 V AC and 690 V IT networks

- Only for circuit breakers of size 1 - 3 with high breaking capacity H and of size 3 C class.
- Cannot be combined with rated operational voltage 1150 V AC, order code "A15".

Rated operational voltage	Size 1 ¹⁾	≤2000 A	A05
	Size 2 ^{1) 2)}	≤4000 A	A05
	Size 3 ¹⁾	≤6300 A	A05

Rated operational voltage 1150 V AC

- Only for circuit breakers with high breaking capacity H (8th digit of the article number is a "4").
- Cannot be combined with rated voltage 1000 V AC, order code "A05".

Rated operational voltage	Size 2 ^{1) 2)}	≤4000 A	A15
	Size 3 ^{1) 3)}	≤6300 A	A15

Rated operational voltage 690 V AC (+ 20%)

- Only for 3WL11 circuit breakers, size 1, with high breaking capacity H (8th digit of the article number is a "4").

Rated operational voltage	Size 1	≤ 2000 A	A16
---------------------------	--------	----------	-----

¹⁾ When ordering withdrawable circuit breaker and guide frame separately, specify order code "A05" for withdrawable circuit breaker and guide frame.

²⁾ Not possible for circuit breakers with very high breaking capacity C.

³⁾ Front connections are tinned as standard.

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Order code

Accessories for electronic trip units ETU

Rating plugs

- Only one module is possible per circuit breaker (not in conjunction with electronic trip unit ETU15B).
- As standard, the electronic trip units are equipped with a rating plug which is equal to the maximum rated circuit breaker current ($I_{n \max}$). The rated current of the selected rating plug must be less than $I_{n \max}$.

Module	Sizes 1, 2	250 A	B02
		315 A	B03
		400 A	B04
		500 A	B05
		630 A	B06
		800 A	B08
		1000 A	B10
	Sizes 1, 2, 3	1250 A	B12
		1600 A	B16
		2000 A	B20
	Sizes 2, 3	2500 A	B25
		3200 A	B32
		4000 A	B40
	Size 3	5000 A	B50
		6300 A	B63

Communication ¹⁾

Breaker status sensor (BSS)	For determining the statuses ON/OFF/Tripped	F01
PROFIBUS DP communication port ²⁾	Including COM15 and breaker status sensor (BSS)	F02
Modbus RTU communication port ²⁾	Including COM16 and breaker status sensor (BSS)	F12
PROFINET IO/Modbus TCP communication port ²⁾	Including COM35 and breaker status sensor (BSS)	F35

Measurement function (communication modules not included) ¹⁾

Measurement function Plus	With internal voltage tap on the lower main conducting paths ²⁾	F36
	With internal voltage tap on the upper main conducting paths ²⁾	F37
	For combination with external voltage transformer	F38

EMC filter

- Common-mode interference suppressor filters (e.g. in converter applications)
- Insertion loss (asymmetric) in the range 40 kHz to 10 MHz >40 dB.

EMC filter		F31
------------	--	-----

Overload and short-circuit protection for neutral conductors

- Only possible with 4-pole circuit breaker with ETU27B to ETU76B

Internal current transformer for N conductor	Size 1	F23
	Size 2	F23
	Size 3	F23

¹⁾ The precondition is an ETU45b or ETU76b

²⁾ When ordering withdrawable circuit breaker and guide frame separately, specify order code "F02", "F12" or "F35" only for withdrawable circuit breaker.

³⁾ Can only be used for rated operational voltages up to 690 V AC.

Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Order code

Accessories for electronic trip units ETU

Remote resetting

Automatic reset of the reclosing lockout

- Remote reset for displays and reset buttons including automatic reset of the reclosing lockout

K01

Remote reset magnets

24 V DC

K10

48 V DC

K11

110 ... 127 V AC 50/60 Hz/110 ... 125 V DC

K12

208 ... 240 V AC 50/60 Hz/220 ... 250 V DC

K13

Connection

Tinned version of the customer's connections on the guide frame

- Only for circuit breakers in withdrawable version with horizontal connection or flange connection.
- The normal delivery time increases to 15 work days.

Customer's connections ¹⁾²⁾

Size 1

A08

Size 2

A08

Size 3

A08

Connection technology for main connections (fixed-mounted versions)

Top:³⁾ horizontal

Size 1

≤1600 A

N11

Bottom: accessible from front, single hole

Size 2

≤3200 A

N11

Size 3⁴⁾

≤4000 A

N11

Top: vertical

Size 1

≤2000 A

N20

Bottom: horizontal

Size 2

≤3200 A

N20

Size 3

≤5000 A

N20

Top: horizontal

Size 1

≤2000 A

N24

Bottom: vertical

Size 2

≤3200 A

N24

Size 3

≤5000 A

N24

Connection technology for main connections (withdrawable versions)

Top and bottom:⁵⁾⁶⁾

accessible from front, single hole

Size 1

≤1600 A

P00

Size 2

≤3200 A

P00

Size 3

≤4000 A

P00

Top and bottom:⁵⁾

accessible from front, double hole

Size 1

≤1600 A

P01

Size 2

≤3200 A

P01

Size 3

≤4000 A

P01

Top:⁵⁾⁶⁾ horizontal

Size 1

≤1600 A

P07

Bottom: accessible from front, single hole

Size 2

≤3200 A

P07

Size 3

≤4000 A

P07

¹⁾ Front connections are tinned as standard.

²⁾ The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

³⁾ Not for 3WL1 size 1 with high breaking capacity H and circuit breakers with very high breaking capacity C.

⁴⁾ Not for size 3 with very high breaking capacity C.

⁵⁾ Not for size 2, 3 circuit breakers with very high breaking capacity C.

⁶⁾ Not for 3WL1 size 1 with high breaking capacity H

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Order code

Connection

Connection technology for main connections (withdrawable versions)

Top: vertical Bottom: horizontal	Size 1	≤2000 A	P18
	Size 2	≤3200 A	P18
	Size 3	≤5000 A	P18
Top: ¹⁾ connecting flange Bottom: horizontal	Size 1	≤2000 A	P19
	Size 2	≤3200 A	P19
	Size 3	≤4000 A	P19
Top: horizontal Bottom: vertical	Size 1	≤2000 A	P23
	Size 2	≤3200 A	P23
	Size 3	≤5000 A	P23
Top: ¹⁾ horizontal Bottom: connecting flange	Size 1	≤2000 A	P28
	Size 2	≤3200 A	P28
	Size 3	≤4000 A	P28

Connection technology for auxiliary conductors (for fixed-mounted and withdrawable versions)

Connection technology for screwless terminals (tension spring)	Fixed-mounted	N61
	Withdrawable	P61

Operating mechanisms and auxiliary releases

Motorized operating mechanisms	Only possible if the 13th digit of the article number = "1"	24 ... 30 V DC	M01
		48 ... 60 V DC	M03
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC	M05
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC	M06
Mechanical operating cycles counter, 5-digit ²⁾			C01
Closing coils	<ul style="list-style-type: none"> Suitable for uninterrupted duty, 100% OP Only possible if the 13th digit of the article number = "1" 	24 V DC	M21
		30 V DC	M22
		48 V DC	M23
		60 V DC	M24
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC	M25
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC	M26
	<ul style="list-style-type: none"> Not suitable for uninterrupted duty, 5% OP, synchronizable ³⁾ Only possible if the 13th digit of the article number = "1" 	24 V DC	M31
		48 V DC	M33
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC	M35
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC	M36
Opening coils (shunt trips) ³⁾⁴⁾	Not suitable for uninterrupted duty, 5% OP, synchronizable	24 V DC	M41
		48 V DC	M43
		110 ... 127 V AC 50/60 Hz/110 ... 125 V DC	M45
		208 ... 240 V AC 50/60 Hz/220 ... 250 V DC	M46

¹⁾ Not for size 2, 3 circuit breakers with very high breaking capacity C.

²⁾ Only possible with motorized operating mechanism.

³⁾ Overexcited, i.e. switching time 50 ms (standard >80 ms).

⁴⁾ Only possible if the 14th digit of the article number for the circuit breaker is "A", i.e. "without 1st auxiliary release".

Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL.....-.....-..... -Z

Order code

Auxiliary switches and signaling switches

Position signaling switches for guide frames	1 CO 1 CO 1 CO (connected test disconnected position)		R15
	3 CO 2 CO 1 CO (connected test disconnected position)		R16
Signaling switches	Ready-to-close signaling switch (S20)	1 NO	C22
	Spring charge signaling switch ¹⁾ (S21)	1 NO	C20
	For the first auxiliary release ¹⁾ (S22)	1 CO	C26
	For the second auxiliary release ¹⁾ (S23)	1 CO	C27
	1st tripped signaling switch ¹⁾²⁾ (S24)	1 CO	K07
	2nd tripped signaling switch ¹⁾²⁾³⁾ (S25)	1 NO	K06

Other accessories

Pushbuttons/shutdown switches/closing lockouts

EMERGENCY-OFF pushbuttons	Mushroom pushbutton instead of the mechanical OFF pushbutton		S24
Electrical ON button on the operator panel ¹⁾ (S10)	This prevents unauthorized electrical closing from the operator panel. Mechanical closing and remote closing remain possible. Possible only for circuit breakers with closing coil (CC)	With sealing cap	C11
		With CES lock	C12
Motor shutdown switch on control panel ⁴⁾ (S12)	This prevents automatic charging of the stored energy mechanism by the motorized operating mechanism		S25

Special packaging for increased transport requirements (moisture protection)

Cardboard packaging with water-repellent coating on corrugated cardboard (moisture protection)		A61
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Arc chute covers

- Not available for
 - 1000 V version (order code "A05"),
 - DC version
 - 4000 A size 2
 - 1150 V version (order code "A15")
 - 130 kA version, size 2
 - 150 kA version, size 3

Arc chute covers	3-pole, 4-pole	R10
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Shutters

Shutter: 2-part, lockable, with padlocks ⁵⁾	3-pole, 4-pole	R21
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¹⁾ Not possible with "communications interface" option, order code "F02", "F12" or "F35".

²⁾ Not available for non-automatic air circuit breakers.

³⁾ Only possible with option "K07".

⁴⁾ Only for breakers with motorized operating mechanism, not possible with order codes "C11", "C12".

⁵⁾ Padlock not included in the scope of supply.

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Order code

Other accessories

Measuring transformers (without energy transformers), for powering the ETU

- Used in converter applications with high harmonic components; can only be used with ETU45B or ETU76B
 - External 24 V DC supply required
 - Undervoltage release required
- Comprises:
 - 3 (3-pole) or 4 (4-pole) transformers
 - 24 V DC relay
 - Warning signs
 - Manual

Transformer	3-pole/4-pole	Size 2, 3	K60
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Operating manual, printed version

French/Italian	A11
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Spanish/Portuguese	A12
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Interlocking

Mechanical interlocking mechanism

- Interlocking module with Bowden cable 2 m

Mechanical interlock	For fixed-mounted breakers	S55
	For withdrawable circuit breakers with guide frame	R55
	For guide frames (ordered separately)	R56
	For withdrawable circuit breakers (ordered separately)	R57

Locking provisions (for fixed-mounted and withdrawable versions)

- The disconnecter unit fulfills the requirements for main circuit breakers according to EN 60204-1

Locking provisions	Against unauthorized closing from the operator panel	Made by CES	S01
		Made by IKON	S03
		Assembly kit FORTRESS or CASTELL ¹⁾	S05
		Assembly kit for padlocks ²⁾	S07
		Made by RONIS	S08
		Made by PROFALUX	S09

Locking provisions (for fixed-mounted and withdrawable versions)

Locking provisions	For charging handle with padlock ²⁾	S33
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¹⁾ Locks must be ordered from the manufacturer.

²⁾ Padlock not included in the scope of supply.

Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Order code

Interlocking

Locking provisions (for withdrawable version)

- The disconnecter unit fulfills the requirements for main circuit breakers acc. to EN 60204-1, consisting of a lock in the guide frame, active in the connected position, function is retained when circuit breaker is replaced
- Not possible in combination with order code "R81", "R85" or "R86"

Locking provisions	Against unauthorized closing from the operator panel	Made by CES	R61
		Made by RONIS	R68
		Made by PROFALUX	R60

Locking provisions (for withdrawable version)

- Safety lock for mounting onto the circuit breaker

Locking provisions	To prevent movement of withdrawable circuit breaker	Made by CES	S71
		Made by PROFALUX	S75
		Made by RONIS	S76

Locking mechanisms

- Not possible in combination with order code "R81", "R85" or "R86"

For fixed-mounted circuit breakers	To prevent opening of the cabinet door in ON position	S30
For withdrawable circuit breakers	To prevent opening of the cabinet door in connected position	R30
	To prevent activation when the cabinet door is open ^{1) 3)}	R40
	To prevent movement when the cabinet door is open ²⁾	R50

Locking mechanisms to prevent movement of the withdrawable circuit breaker in disconnected position

- Consisting of Bowden cable and lock in the cabinet door
- Not possible in combination with order code "R30", "R50", "R61", "R68" or "R60"

Made by CES	R81
Made by PROFALUX	R85
Made by RONIS	R86

Seals

Door sealing frame for degree of protection IP41	T40
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Accessories from current catalog

Use of the withdrawable circuit breaker in combination with an older guide frame

- Reduction of the technical specifications for withdrawable circuit breakers 3WL1 for use in combination with older guide frames supplied
 - as complete circuit breaker with 3WL1....3-.... or 3WL1....4-.... or
 - as 3WL92...A-.... or
 - as 3WL92...B-.... or
 - as 3WL92...D-.... or
 - as 3WL92...E-.... or
- for sizes 1, 2, 3.

Use of the circuit breaker in older guide frames, including the appropriate guide frame coding	A41
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¹⁾ Not available in combination with R50

²⁾ Not available in combination with R40

³⁾ Combination with R81, R85 and R86 on request

Further technical specifications

Manual operating mechanism

3WL11 – 3WL13

Switching on/charging energy store

Maximum force required to operate the hand lever	≤230 N
Required number of strokes on the hand lever	9

Closing coils

3WL11 – 3WL13

Primary operating range

Version		For continuous command (100% OP)	5 % OP
Primary operating range		0.85 ... 1.1 × U_s	0.85 ... 1.1 × U_s
Extended operating range for battery operation	At 24 ... 30 V DC, 48 ... 60 V DC 110 ... 125 V DC 220 ... 250 V DC	0.85 ... 1.26 × U_s	0.85 ... 1.26 × U_s

Rated operational voltage

Rated control supply voltage U_s	50/60 Hz AC DC	110 ... 127 V, 208 ... 240 V 24 ... 30 V, 48 ... 60 V, 110 ... 125 V, 220 ... 250 V
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Operation

Closing power	DC/AC	40 W/40 VA	≤60 V: 200 W ≥110 V: 250 W
Continuous power	DC/AC	8 W/8 VA	-
Minimum command duration at 100% U_s		60 ms	60 ms
Maximum command duration at 100% U_s		–	2000 ms
Make time of the circuit breaker at 100% U_s		100 ms	50 ms

Fuse protection of the control circuit at U_s for closing coil

Smallest permissible DIAZED fuse, gL, slow-response	24 ... 30 V DC	2 A	10 A
	48 ... 60 V DC	2 A	10 A
	110 ... 125 V DC/110 ... 127 V AC	1 A	4 A
	220 ... 250 V DC/208 ... 240 V AC	1 A	2 A
Automatic circuit breaker with C characteristic	24 ... 30 V DC	2 A	10 A
	48 ... 60 V DC	2 A	10 A
	110 ... 125 V DC/110 ... 127 V AC	1 A	4 A
	220 ... 250 V DC/208 ... 240 V AC	1 A	2 A

Fuse protection of the control circuit at U_s for spring charging motor + closing coil

Smallest permissible DIAZED fuse, gL, slow-response	24 ... 30 V DC	6 A	10 A
	48 ... 60 V DC	6 A	10 A
	110 ... 125 V DC/110 ... 127 V AC	2 A	4 A
	220 ... 250 V DC/208 ... 240 V AC	2 A	2 A
Automatic circuit breaker with C characteristic	24 ... 30 V DC	6 A	10 A
	48 ... 60 V DC	6 A	10 A
	110 ... 125 V DC/110 ... 127 V AC	2 A	4 A
	220 ... 250 V DC/208 ... 240 V AC	2 A	2 A

Motor

3WL11 – 3WL13

Primary operating range

Primary operating range		0.85 ... 1.1 × U_s
Extended operating range for battery operation	At 24 V DC, 48 V DC 60 V DC, 110 V DC 220 V DC	0.85 ... 1.26 × U_s

Operation

Power consumption of motor	AC/DC	135 VA/135 W
Time required to charge the stored energy mechanism at 1 × U_s		≤10 s

Short-circuit protection

Smallest permissible DIAZED fuse (operational class gL)/automatic circuit breaker with C characteristic (for different rated control supply voltages)	At $U_s = 24 ... 30$ V	6 A
	At $U_s = 48 ... 60$ V	6 A
	At $U_s = 110 ... 125$ V DC/ 110 ... 127 V AC	2 A
	At $U_s = 220 ... 250$ V DC/ 208 ... 240 V AC	2 A

Accessory options

Further technical specifications

Signals of the electronic trip unit

3WL11 – 3WL13

Signals of the electronic trip unit

Measuring accuracy of the electronic trip unit

Protective functions acc. to EN 60947; current indication $\leq 10\%$; measurement function for base quantities $\leq 1\%$; measurement function for derived quantities $\leq 4\%$

Undervoltage releases UVR (F3) and UVR- t_d (F4)

3WL11 – 3WL13

Primary operating range

Response values	Pickup	$\geq 0.85 \times U_s$ (circuit breaker can be closed)
	Dropout	$0.35 \dots 0.7 \times U_s$ (circuit breaker is tripped)
Primary operating range		$0.85 \dots 1.1 \times U_s$
Extended operating range for battery operation	At 24 V DC, 30 V DC, 48 V DC, 110 V DC, 220 V DC	$0.85 \dots 1.26 \times U_s$

Rated voltage

Rated control supply voltage U_s	Instantaneous 50/60 Hz AC	110 ... 127 V, 208 ... 240 V, 380 ... 415 V
	Instantaneous DC	24 V, 30 V, 48 V, 60 V, 110 ... 125 V, 220 ... 250 V ¹⁾
	Delayed 50/60 Hz AC	110 ... 127 V, 208 ... 240 V, 380 ... 415 V
	Delayed DC	48 V, 110 ... 125 V, 220 ... 250 V

Operation

Power consumption (pickup/uninterrupted duty)	AC	20/5 VA
	DC	20/5 W

Opening time of the circuit breaker

Version UVR (F3)	Instantaneous	≤ 80 ms
	With delay	200 ms
Version UVR- t_d (F8)	With delay, $t_d = 0.2$ to 3.2 s	$0.2 \dots 3.2$ s
	Reset through additional NC contact – direct tripping	≤ 100 ms

Short-circuit protection

Smallest permissible DIAZED fuse (operational class gL)/miniature circuit breaker with C characteristic

1 A TDz (slow)/1 A

Shunt trip (ST) (F1, F2)

3WL11 – 3WL13

Primary operating range

Version		For continuous command (100% OP), locks out on momentary-contact commands	5% OP	With spring energy store consisting of shunt trip and capacitor trip device
Primary operating range		$0.85 \dots 1.1 \times U_s$	$0.85 \dots 1.1 \times U_s$	$0.85 \dots 1.1 \times U_s$
Extended operating range for battery operation		$0.85 \dots 1.26 \times U_s$	$0.85 \dots 1.26 \times U_s$	–
Response values	Pickup	$> 0.7 \times U_s$ (circuit breaker is tripped)	$> 0.7 \times U_s$ (circuit breaker is tripped)	–

Rated operational voltage

Rated control supply voltage U_s	50/60 Hz AC	110 ... 127 V, 208 ... 240 V	230 V
	DC	24 ... 30 V, 48 ... 60 V, 110 ... 125 V, 220 ... 250 V	220 V

Operation

Closing power DC	DC/AC	40 W/40 VA	≤ 60 V: 200 W ≥ 110 V: 250 W	1 VA/1 W
Continuous power	DC/AC	8 W/8 VA	–	–
Minimum command duration at 100% U_s		60 ms	60 ms	–
Maximum command duration at 100% U_s		–	2000 ms	–
Opening time of the circuit breaker at $U_s = 100\%$		80 ms	50 ms	80 ms
Storage time at U_s/I_s /Recharging time at U_s		–	–	max. 5 min/min. 5 s

Fuse protection of the control circuit at U_s for shunt trip

Smallest permissible DIAZED fuse, gL, slow-response	24 ... 30 V DC	2 A	10 A	–
	48 ... 60 V DC	2 A	10 A	–
	110 ... 125 V DC/110 ... 127 V AC	1 A	4 A	–
	220 ... 250 V DC/208 ... 240 V AC	1 A	2 A	–
Automatic circuit breaker with C characteristic	24 ... 30 V DC	2 A	10 A	–
	48 ... 60 V DC	2 A	10 A	–
	110 ... 125 V DC/110 ... 127 V AC	1 A	4 A	–
	220 ... 250 V DC/208 ... 240 V AC	1 A	2 A	–

¹⁾ 24 V and 30 V only with undervoltage release UVR (F3)

Remote reset magnet for mechanical tripped indicator (F7)

3WL11 – 3WL13

Primary operating range		3WL11 – 3WL13	
Primary operating range		0.85 ... $1.1 \times U_s$	
Extended operating range for battery operation	At 24 ... 30 V DC, 48 ... 60 V DC, 110 ... 125 V DC, 220 ... 250 V DC	0.7 ... $1.26 \times U_s$	
Operation			
Power consumption	AC/DC	60 VA/60 W	
Min. command duration at U_s for the remote reset magnet		60 ms	
Short-circuit protection			
Smallest permissible DIAZED fuse (operational class gL)/ automatic circuit breaker with C characteristic		2 A TDz (slow)/1 A at $U_s = 24 \dots 60$ V DC 1 A TDz (slow)/1 A at >110 V DC and 100 V AC	

Contact position-driven auxiliary switches (S1, S2, S3, S4, S7, S8)

3WL11 – 3WL13

Rated operational voltage		3WL11 – 3WL13			
Rated insulation voltage U_i	AC/DC	500 V			
Rated operational voltage U_e	AC/DC	500 V			
Rated impulse withstand voltage U_{imp}		4 kV			
Contact reliability		From 1 mA at 5 V DC			
Breaking capacity					
Alternating current 50/60 Hz	Rated operational voltage U_e	24 ... 230 V	380 V, 400 V		
	Rated operational current $I_n/AC-12$	10 A	10 A		
	Rated operational current $I_n/AC-15$	4 A	3 A		
Direct current	Rated operational voltage U_e	24 V	48 V	110 V	220 V
	Rated operational current $I_n/DC-12$	10 A	8 A	3.5 A	1 A
	Rated operational current $I_n/DC-13$	8 A	4 A	1.2 A	0.4 A
Short-circuit protection					
Largest permissible DIAZED fuse (operational class gL)		10 A TDz, 10 A Dz			
Largest permissible miniature circuit breaker with C characteristic		10 A			

Ready-to-close signaling switches (S20) (acc. to DIN VDE 0630)

3WL11 – 3WL13

Breaking capacity		3WL11 – 3WL13			
Alternating current 50/60 Hz	Rated operational voltage U_e	250 V			
	Rated operational current I_e	8 A			
Direct current	Rated operational voltage U_e	125 V	250 V		
	Rated operational current I_e	0.4 A	0.2 A		
	Contact reliability	From 1 mA at 5 V DC			
Short-circuit protection					
Largest permissible DIAZED fuse (operational class gL)		2 A Dz (quick)			

1

Accessory options

Further technical specifications

Tripped signaling switches (S24) and signaling switches for auxiliary releases (S22, S23) (acc. to DIN VDE 0630)

3WL11 – 3WL13

Breaking capacity			
Alternating current 50/60 Hz	Rated operational voltage U_e	250 V	
	Rated operational current $I_e/AC-12$	8 A	
Direct current	Rated operational voltage U_e	24 V	125 V
	Rated operational current $I_e/DC-12$	6 A	0.4 A
	Rated operational current $I_e/DC-12$	6 A	0.2 A
Contact reliability		From 1 mA at 5 V DC	
Short-circuit protection			
Largest permissible DIAZED fuse (operational class gL)		6 A Dz (quick)	
Tripped signaling switches			
Signal duration after tripping		Until manual or electrical remote reset (option)	

Position signaling switches on guide frame

3WL11 – 3WL13

Type of contacts			
Message	"Circuit breaker in connected position"	3 CO	or
	"Circuit breaker in test position"	2 CO	or
	"Circuit breaker in disconnected position"	1 CO	or
Contact reliability		From 1 mA at 5 V DC	
Rated operational voltage			
Rated insulation voltage U_i	50/60 Hz AC	440 V	
	DC	250 V	
Rated operational voltage U_e		250 V	
Rated impulse withstand voltage U_{imp}		4 kV	
Breaking capacity			
Rated operational current I_e	$I_e/AC-12$	24 V 10 A, 110/127 V 10 A, 220/240 V 10 A, 320/440 V 10 A	
	$I_e/AC-15$	220/240 V 4 A, 320/440 V 3 A	
	$I_e/DC-12$	24 V 10 A, 48 V 2.5 A, 220/240 V 0.2 A	
	$I_e/DC-13$	24 V 3.0 A, 220/240 V 0.1 A	
	A 300 (AC)	120 V 6 A, 240 V 3 A	
	R 300 (DC)	125 V 0.22 A, 250 V 0.11 A	
Short-circuit protection			
Largest permissible DIAZED fuse (operational class gL)		8 A TDz (slow)	
Largest permissible automatic circuit breaker with C characteristic		8 A TDz (slow)	

Guide frames for AC

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your guide frames, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

		5	6	7	8	9	10	11	12	13	14	15	16
3WL9		2	1	–	–	–	–	–	–	–	–	–	1
Size (SZ)	1		1										
	2												
	3												
		SZ 1	SZ 2	SZ 3									
Max. rated current	1000 A ^{5) 6)}	■	–	–	1								
$I_{n \max}$	1600 A ^{5) 6)}	■	–	–	2								
(guide frames)	2000 A ⁶⁾	■	■	–	3								
	2500 A ⁶⁾	–	■	–	4								
	3200 A ⁷⁾	–	■	–	5								
	4000 A ⁶⁾	–	■	■	6								
	5000 A	–	–	■	7								
	6300 A	–	–	■	8								
Number of poles	3-pole												F
	4-pole												G
Main connection	Front, single hole	■ ¹⁾	■ ^{2) 6)}	■ ³⁾									A
	Front, double hole	■	■ ^{2) 6)}	■ ³⁾									B
	Horizontal	■	■ ²⁾	■ ⁴⁾									C
	Vertical	■	■	■									D
	Connecting flange	■	■ ^{2) 6)}	■ ³⁾									E
Breaking capacity	N, 55 kA	■	–	–									N
I_{cu} at 500 V	S, 66 kA	■	–	–									S
	H, 85 kA	■ ⁵⁾	–	–									H
	N, S and H ≤100 kA	–	■	■									H
	C, 130 kA	–	■	–									C
	C, 150 kA	–	–	■									C

¹⁾ Not available for rated circuit breaker current 2000 A and breaking capacity H

²⁾ Not available for rated circuit breaker current 4000 A

³⁾ Not available for rated circuit breaker current 5000 A + 6300 A + breaking capacity C

⁴⁾ Not available for rated circuit breaker current 6300 A

⁵⁾ For size 1 with breaking capacity H, please select the max. rated current I_n 2000 A of the guide frame

⁶⁾ Not available for breaking capacity C

⁷⁾ For all rated circuit breaker currents up to 3200 A with breaking capacity C

Options

		5	6	7	8	9	10	11	12	13	14	15	16
3WL9		2	1	–	–	–	–	–	–	–	–	–	1
Number of auxiliary supply connector	Without ²⁾							0					
	1 connector							1					
	2 connectors							2					
	3 connectors							3					
	4 connectors							4					
Type of auxiliary circuit connections	Without ²⁾							0					
	With screw terminals (SIGUT, standard)							1					
	With screwless terminals (tension spring)							2					
Position signaling switches	Without												0
	1 CO 1 CO 1 CO (connected test disconnected position)												1
	3 CO 2 CO 1 CO (connected test disconnected position)												2
Shutters	Without												A
	With shutter, 2-part, lockable												B

⁸⁾ Can only be selected if the number of the auxiliary supply connector is zero.

Guide frames for DC

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your guide frames, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

		5	6	7	8	9	10	11	12	13	14	15	16
3WL9		2	1	2	–					–		0	1
Max. rated current $I_{n \max}$	2000 A				3								
	4000 A				6								
Number of poles	3-pole					H							
	4-pole					J							
Main connection	Front, single hole ¹⁾						A						
	Front, double hole ¹⁾						B						
	Horizontal						C						
	Vertical						D						
	Connecting flange						E						

¹⁾ Not available for rated circuit breaker current 4000 A

Options

		5	6	7	8	9	10	11	12	13	14	15	16
3WL9		2	1	2	–					–		0	1
Number of auxiliary supply connectors	Without							0					
	1 connector							1					
	2 connectors							2					
	3 connectors							3					
	4 connectors							4					
Type of auxiliary circuit connections	Without ²⁾								0				
	With screw terminals (SIGUT, standard)								1				
	With screwless terminals (tension spring)								2				
Position signaling switches	Without									0			
	1 CO 1 CO 1 CO (connected test disconnected position)									1			
	3 CO 2 CO 1 CO (connected test disconnected position)									2			
Shutters	Without										A		
	With shutter, 2-part, lockable										B		

²⁾ Can only be selected if the number of the auxiliary supply connector is zero.

Accessories and spare parts

Accessories for electronic trip units ETU

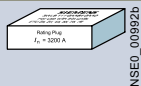
Protective devices with device holder and optional measurement function



- For spare part in existing circuit breakers, please specify the circuit breaker ID No. when ordering.

Type	With protective function	Measurement function	Article No.
ETU15B	LI	Without	3WL9311-5AA00-0AA2
ETU25B	LSI	Without	3WL9312-5AA00-0AA2
ETU27B	LSING	Without	3WL9312-7AA00-0AA2
ETU45B (without display)	LSIN(G)	Without	3WL9314-5AA00-0AA2
		With measurement function Plus	3WL9314-5AA30-0AA2
ETU76B	LSIN(G)	Without	3WL9317-6AA00-0AA2
		With measurement function Plus	3WL9317-6AA30-0AA2

Rating plugs



- With the rating plug selected, the maximum rated current $I_{n,max}$ of the circuit breaker must not be exceeded. The following applies: $I_n \leq I_{n,max}$

Size	Rated current I_n	Article No.
1, 2	250 A	3WL9111-0AA51-0AA0
	315 A	3WL9111-0AA52-0AA0
	400 A	3WL9111-0AA53-0AA0
	500 A	3WL9111-0AA54-0AA0
	630 A	3WL9111-0AA55-0AA0
	800 A	3WL9111-0AA56-0AA0
	1000 A	3WL9111-0AA57-0AA0
1, 2, 3	1250 A	3WL9111-0AA58-0AA0
	1600 A	3WL9111-0AA61-0AA0
	2000 A	3WL9111-0AA62-0AA0
2, 3	2500 A	3WL9111-0AA63-0AA0
	3200 A	3WL9111-0AA64-0AA0
	4000 A	3WL9111-0AA65-0AA0
3	5000 A	3WL9111-0AA66-0AA0
	6300 A	3WL9111-0AA67-0AA0

Ground-fault modules



- Alarm and tripping
- For direct metering of the ground-fault current, e.g. in the star point of the transformer, a 1200 A/1 A current transformer, class 1, is required. The internal load of the 3WL circuit breaker is 0.11 Ω . If the ground-fault current is to be determined using the vectorial sum of the phases, a transformer must be installed in the neutral conductor.

Type	Accessory for	Article No.
GFM AT 45B	ETU45B	3WL9111-OAT53-0AA0
GFM AT 55B – 76B	ETU76B	3WL9111-OAT56-0AA0

Display



Accessory for	Version	Article No.
ETU45B	4-line	3WL9111-OAT81-0AA0

Internal current transformers, for N conductor including wiring kit

ETU Release 2	Size	Article No.
–	1	3WL9111-0AA11-0AA0
	2	3WL9111-0AA12-0AA0
	3	3WL9111-0AA13-0AA0
✓	1	3WL9111-0AA14-0AA0
	2	3WL9111-0AA15-0AA0
	3	3WL9111-0AA16-0AA0

External current transformers for N conductor

Copper connection pieces	Size	Article No.
–	1	3WL9111-0AA21-0AA0
	2	3WL9111-0AA22-0AA0
	3	3WL9111-0AA23-0AA0
✓	1	3WL9111-0AA31-0AA0
	2	3WL9111-0AA32-0AA0
	3	3WL9111-0AA33-0AA0



Accessories and spare parts

Accessories for electronic trip units ETU

EMC filter

- Common-mode interference suppressor filters (e.g. in IT networks, caused by frequency converters)
- Insertion loss (asymmetric) in the range 40 kHz to 10 MHz >40 dB.

Type	Article No.
Only for ETU Release 2	3WL9111-0AK34-0AA0

Sealable and lockable covers

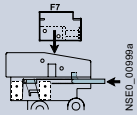


Accessory for	Article No.
ETU15B to ETU45B	3WL9111-0AT45-0AA0
ETU76	3WL9111-0AT46-0AA0

Automatic reset of the reclosing lockout

Version	Article No.
Spare part for option K01	3WL9111-0AK21-0AA0

Remote reset magnets



- For mechanical tripped indicator
- Spare part for options K10 to K13
- **Note:** Automatic reset of the reclosing lockout 3WL9111-0AK21-0AA0 is also required

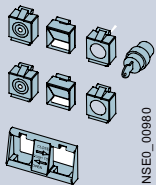
Voltage	Article No.
24 ... 30 V DC	3WA9111-0EM42
48 ... 60 V DC	3WA9111-0EM44
120 V AC/125 V DC	3WA9111-0EM45
208 ... 250 V AC/208 ... 250 V DC	3WA9111-0EM46

Retrofittable internal wiring

Use	Male connector	Accessory for	Article No.
Internal CubicleBUS wiring for connection to terminal X8	Without male connector for retrofitting the communication	ETU45B and ETU76B	3WL9111-0AK30-0AA0
For connection of the external N and G transformers to terminal X8	Without male connector	Not for ETU Release 2 ETU Release 2	3WL9111-0AK31-0AA0 3WL9111-0AK33-0AA0

Locking provisions and interlocks

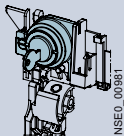
Interlocking sets for mechanical Open/Close



- Consisting of two transparent covers each for sealing or for attaching padlocks (padlocks not included in scope of supply)
- Cover with 6.35 mm hole (for tool actuation)
- Lock mount for safety lock for key operation

Version	Article No.
Without safety lock	3WL9111-0BA21-0AA0
Made by CES	3WL9111-0BA22-0AA0
Made by IKON	3WL9111-0BA24-0AA0

Locking provisions against unauthorized closing from the operator panel

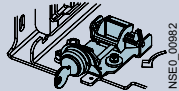


- The disconnecter unit fulfills the requirements for main circuit breakers acc. to EN 60204-1
- Spare part for options S01 to S09

Type	Scope of supply	Article No.
Assembly kit FORTRESS or Castell	Without locks, cylinders or keys	3WL9111-0BA31-0AA0
Made by RONIS	Locks, cylinders and keys included	3WL9111-0BA33-0AA0
Made by KIRK-Key	Without locks, cylinders or keys	3WL9111-0BA34-0AA0
Made by PROFALUX	Locks, cylinders and keys included	3WL9111-0BA35-0AA0
Made by CES	Locks, cylinders and keys included	3WL9111-0BA36-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA38-0AA0
Assembly kit for padlocks	Without padlock	3WL9111-0BA41-0AA0

Locking provisions and interlocks

Locking provisions against unauthorized closing, for withdrawable circuit breakers



NSEU_00982

- The disconnecter unit fulfills the requirements for main circuit breakers acc. to EN 60204-1
- Consisting of lock in the guide frame, active in connected position, function is retained when circuit breaker is replaced
- Spare part for option R60, R61, R68

Type	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WL9111-0BA51-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA53-0AA0
Made by KIRK-Key ¹⁾	Without locks, cylinders or keys	3WL9111-0BA57-0AA0
Made by RONIS	Locks, cylinders and keys included	3WL9111-0BA58-0AA0
Made by PROFALUX	Locks, cylinders and keys included	3WL9111-0BA50-0AA0

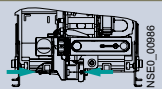
Locking provisions for charging handle with padlock



NSEU_00984

Version	Scope of supply	Article No.
Spare part for S33	Without padlock	3WL9111-0BA71-0AA0

Locking provisions to prevent movement of the withdrawable circuit breaker



NSEU_00986

- Safety lock for mounting onto the circuit breaker
- Spare part for option S71, S75, S76

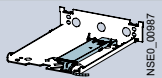
Type	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WL9111-0BA73-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA75-0AA0
Made by PROFALUX	Locks, cylinders and keys included	3WL9111-0BA76-0AA0
Made by RONIS	Locks, cylinders and keys included	3WL9111-0BA77-0AA0
Made by KIRK-Key ¹⁾	Without locks, cylinders or keys	3WL9111-0BA80-0AA0

Interlocking systems

- 2 of the same keys for 3 circuit breakers
- Locking provision in OFF position
- Lock in the operator panel
- A maximum of 2 circuit breakers can be switched on

Type	Article No.
Made by CES	3WL9111-0BA43-0AA0

Locking mechanisms to prevent movement of the withdrawable circuit breakers in disconnected position



NSEU_00987

- Consisting of Bowden cable and lock in the cabinet door on the circuit breaker
- Spare part for option R81, R85, R86
- **Note:** Not possible in combination with "Locking mechanism to prevent opening of the cabinet door" (order code "R30") or "Locking mechanism to prevent movement with the cabinet door open" (order code "R50")

Type	Article No.
Made by CES	3WL9111-0BA81-0AA0
Made by IKON	3WL9111-0BA83-0AA0
Made by PROFALUX	3WL9111-0BA85-0AA0
Made by RONIS	3WL9111-0BA86-0AA0

Locking mechanisms to prevent opening of the cabinet door in ON position



NSEU_00988

- Fixed-mounted
- Defeatable
- **Note:** Not possible in combination with "Locking mechanism to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").

Version	Article No.
Spare part for option S30	3WL9111-0BB12-0AA0

¹⁾ Locks, cylinders and keys must be ordered from the manufacturer.

Accessories and spare parts

Locking provisions and interlocks

Locking mechanisms to prevent opening of the cabinet door

- Guide frames
- Defeatable
- **Note:** Not possible in combination with "Locking mechanism to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").

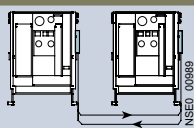
Version	Article No.
Spare part for option R30	3WL9111-0BB13-0AA0

Locking mechanisms to prevent movement with the cabinet door open

- Guide frames
- **Note:** Not possible in combination with "Locking mechanism to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").

Version	Article No.
Spare part for option R50	3WL9111-0BB15-0AA0

Mechanical interlock



- With Bowden cable 2000 mm (one required for each circuit breaker)

Type	When ordered separately	Spare part for	Article No.
Fixed-mounted circuit breaker	–	Option S55	3WL9111-0BB21-0AA0
Module for withdrawable circuit breakers with guide frame	–	Option R55	3WL9111-0BB24-0AA0
Module for guide frame	✓	Option R56	3WL9111-0BB22-0AA0
Module for withdrawable circuit breaker	✓	Option R57	3WL9111-0BB23-0AA0
Adapter for size 3 withdrawable circuit breaker	✓	–	3WL9111-0BB30-0AA0

Couplings on the circuit breaker (with ring) for mutual interlocking



- Can be used in all circuit breakers

Article No.
3WL9112-8AH47-0AA0

Bowden cables

Length	Article No.
2000 mm	3WL9111-0BB45-0AA0
3000 mm	3WL9111-0BB46-0AA0
4500 mm	3WL9111-0BB47-0AA0

Test devices

Manual tester, Release 2 for electronic trip units ETU15B to ETU76B



- For testing the electronic trip unit functions of all 3WL ETUs (Release 1 and Release 2)

Article No.
3WL9111-0AT32-0AA0

Function test unit

- For testing the tripping characteristics for electronic trip units ETU15B to ETU76B (Release 1 and Release 2)

Article No.
3WL9111-0AT44-0AA0

TD400 Kit IEC¹⁾

- Commissioning/Service Tool for IEC 3WL (ETU Release 2) and 3VA
- With adapter, cable and case
- Not suitable for 3WL10 and 3VA27

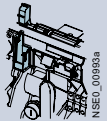
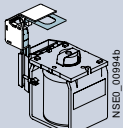

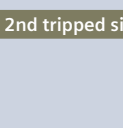
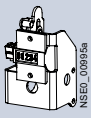
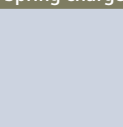
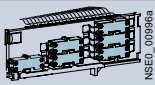
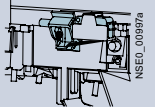
Article No.
3VW9011-0AT40

TD400 adapter (spare part)

Version	Article No.
For 3VA	3VW9011-0AT43
For 3WL ETU Release 1	3VW9011-0AT44
For 3WL ETU Release 2	3VW9011-0AT45

¹⁾ A country-specific radio license is required to operate the Bluetooth interface.
Before activating the Bluetooth function, ensure that the license is available:
www.siemens.com/lowvoltage/certificates

Indicators and control elements

Ready-to-close signaling switch (S20)			
	Version	Contacts	Article No.
	Spare part for option C22	1 NO	3WL9111-0AH01-0AA0
Signaling switch (S22 or S23)			
	<ul style="list-style-type: none"> Not possible with communication port, order code "F02", "F12" or "F35" Auxiliary supply connector X7 required for circuit breakers or guide frames. If this is not already available, please order additionally 		
	Version	Contacts	Article No.
Spare part for options C26 to C27	1st or 2nd auxiliary release	3WL9111-0AH02-0AA0	
1st tripped signaling switch (S24)			
	<ul style="list-style-type: none"> Not possible with communication port, order code "F02", "F12" or "F35" Auxiliary supply connector X7 required for circuit breakers or guide frames. If this is not already available, please order additionally 		
	Version	Contacts	Article No.
Spare part for option K07	1 CO	3WL9111-0AH14-0AA0	
2nd tripped signaling switch (S25)			
	<ul style="list-style-type: none"> Not possible with communication port, order code "F02", "F12" or "F35" Auxiliary supply connector X7 required for circuit breakers or guide frames. If this is not already available, please order additionally Can only be used in combination with 1st tripped signaling switch 		
	Version	Contacts	Article No.
Spare part for option K06	1 NO	3WL9111-0AH17-0AA0	
Operating cycle counters			
	<ul style="list-style-type: none"> Only in conjunction with motorized operating mechanism. 		
	Variant	Version	Article No.
Spare part for option C01	Mechanical	3WL9111-0AH07-0AA0	
Spring charge signaling switch			
	<ul style="list-style-type: none"> Not possible with communication port, order code "F02", "F12" or "F35". Auxiliary supply connector X7 required for circuit breakers or guide frames. If this is not already available, please order additionally 		
	Version	Contacts	Article No.
Spare part for option C20	1 NO	3WL9111-0AH08-0AA0	
Position signaling switches for guide frames			
	Version	Contacts	Article No.
	Spare part for options R15 to R16	1st block (3 CO)	3WL9111-0AH11-0AA0
		2nd block (6 CO)	3WL9111-0AH12-0AA0
Local electric close (S10) for operator panel			
	<ul style="list-style-type: none"> Not possible with communication port, order code "F02", "F12" or "F35" Not possible with motor shutdown switch Button + wiring (Auxiliary supply connector X7 required for circuit breakers or guide frames. If this is not already available, please order additionally) Note: Possible only for circuit breakers with closing coil. 		
	Version	Type	Article No.
Spare part for options C11 and C12	With sealing cap C11	3WL9111-0AJ02-0AA0	
	With CES assembly kit C12	3WL9111-0AJ03-0AA0	
	With IKON assembly kit	3WL9111-0AJ05-0AA0	

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Accessories and spare parts

Indicators and control elements

Motor cutout switch (S12)

- Mounting onto operator panel
- Not possible with local electric close

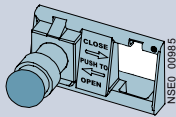
Version

Spare part for option S25

Article No.

3WL9111-0AJ06-0AA0

EMERGENCY-OFF pushbuttons



- Mushroom pushbutton instead of the mechanical OFF pushbutton

Type

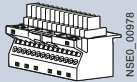
Spare part for option S24

Article No.

3WL9111-0BA72-0AA0

Auxiliary conductor connections

Male connectors for circuit breakers ①



Article No.

3WL9111-0AB01

Extension for male connector

- Male connector must be ordered separately

Version

1000 V

Article No.

3WL9111-0AB02

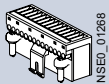
Auxiliary supply connection for circuit breakers or guide frames ②

Version

Screw connection (SIGUT)

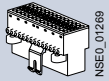
Article No.

3WL9111-0AB03



Screwless connection (tension spring)

3WL9111-0AB04-0AA0



Coding kits ③



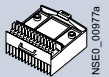
Version

For fixed-mounted X5 to X8

Article No.

3WL9111-0AB07

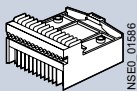
Sliding contact modules for guide frames ④



Article No.

3WL9111-0AB08

One-part sliding contact modules for guide frames ⑤



Version

Screw terminals (SIGUT)

Article No.

3WL9111-0AB18-0AA0

Blanking blocks for circuit breakers

Article No.

3WL9111-0AB12

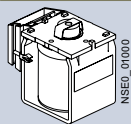
For a complete auxiliary current connection you must order:

Fixed-mounted version: ① + ② + ③

Withdrawable version: ① + ④ + ② or ① + ⑤

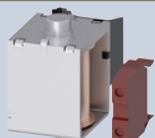
Auxiliary releases

Closing coils/shunt trips



Version	Voltage	Article No.
100% OP	24 ... 30 V DC	3WA9111-0AD02
	48 ... 60 V DC	3WA9111-0AD04
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AD05
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AD06

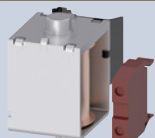
Closing coils (CC)



- For momentary duty, with cut-off switch S15

Version	Voltage	Article No.
5 % OP Switching time 50 ms	24 ... 30 V DC	3WA9111-0AD12
	48 ... 60 V DC	3WA9111-0AD14
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AD15
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AD16

Shunt trips (ST)



- For momentary duty, with cut-off switch S14

Version	Voltage	Article No.
5 % OP Switching time 50 ms	24 ... 30 V DC	3WA9111-0AD22
	48 ... 60 V DC	3WA9111-0AD24
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AD25
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AD26

Undervoltage release



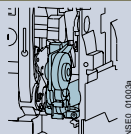
Version	Voltage	Article No.
Instantaneous	24 V DC	3WA9111-0AE02
	30 V DC	3WL9111-0AE02-0AA0
	48 V DC	3WA9111-0AE04
	60 V DC	3WL9111-0AE07-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AE05
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AE06
	380 ... 415 V AC	3WA9111-0AE07



Delayed	48 V DC	3WA9111-0AE13
	110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AE15
	220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AE16
	380 ... 415 V AC	3WA9111-0AE17

Operating mechanism

Motorized operating mechanisms

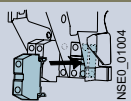


- Auxiliary supply connector X5 required for circuit breakers or guide frames. If this is not already available, please order additionally

Voltage	Article No.
24 ... 30 V DC	3WA9111-0AF02
48 ... 60 V DC	3WA9111-0AF04
110 ... 125 V DC/110 ... 127 V AC	3WA9111-0AF05
220 ... 250 V DC/208 ... 240 V AC	3WA9111-0AF06

Auxiliary contacts

Auxiliary switch blocks



Contacts	Article No.
2 NO + 2 NC	3WL9111-0AG01-0AA0
2 NO	3WL9111-0AG02-0AA0
1 NO + 1 NC	3WL9111-0AG03-0AA0

Accessories and spare parts

Door sealing frames, hoods, shutters

Door sealing frames



Version	Article No.
Spare part for option T40	3WL9111-0AP01-0AA0

Protective cover IP55



- Cannot be used in conjunction with door sealing frames
- Cover removable and can be opened on both sides

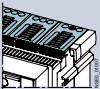
Article No.
3WL9111-0AP02-0AA0

Shutters

Version	Number of poles	Size	Breaking capacity	Article No.
Spare part for option R21	3-pole	1	N, S, H	3WL9111-0AP04-0AA0
		2	N, S, H	3WL9111-0AP06-0AA0
		C	3WL9111-0AP43-0AA0	
	4-pole	3	H, C	3WL9111-0AP07-0AA0
		1	N, S, H	3WL9111-0AP08-0AA0
		2	N, S, H	3WL9111-0AP11-0AA0
		C	3WL9111-0AP44-0AA0	
		3	H, C	3WL9111-0AP12-0AA0

Arc chute

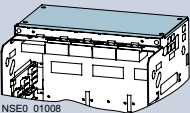
Arc chute



Voltage	Size	Breaking capacity	Article No.
690 V	1	N, S, H	3WL9111-0AS01-0AA0
	2	N, S, H	3WL9111-0AS02-0AA0
	C	3WL9111-0AS10-0AA0	
	3	H, C	3WL9111-0AS03-0AA0
1000 V/1150 V	2	H, C	3WL9111-0AS05-0AA0
	3	H, C	3WL9111-0AS06-0AA0

Arc chute covers

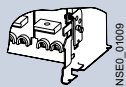
- Parts kit for guide frame
- Spare part for option R10
- Not available for
 - 1000 V version (order code "A05"),
 - 1150 V version (order code "A15")
 - DC version,
 - 4000 A size 2,
 - Circuit breakers with very high breaking capacity C.



Number of poles	Size	Article No.
3-pole	1	3WL9111-0AS32-0AA0
	2	3WL9111-0AS36-0AA0
	3	3WL9111-0AS38-0AA0
4-pole	1	3WL9111-0AS42-0AA0
	2	3WL9111-0AS44-0AA0
	3	3WL9111-0AS46-0AA0

Coding for withdrawable version

Coding for withdrawable version



- By customer, for 36 coding variants

Size	Article No.
1, 2	3WL9111-OAR12-0AA0
3	3WL9111-OAR13-0AA0

Grounding connections

Grounding connection between the guide frame and the withdrawable circuit breaker



- For 30 kA and 60 kA ground short-circuit current
- For 60 kA ground short-circuit current, order 2x contact modules for guide frame

Contact module	Size	Number of poles	Article No.
For guide frames	1, 2 ¹⁾		3WL9111-OBA01-0AA0
	3		3WL9111-OBA02-0AA0
	For withdrawable circuit breakers	1	3-pole
4-pole			3WL9111-OBA08-0AA0
2		3-pole ¹⁾	3WL9111-OBA06-0AA0
		4-pole ¹⁾	3WL9111-OBA04-0AA0
3		3-pole	3WL9111-OBA07-0AA0
		4-pole	3WL9111-OBA10-0AA0

¹⁾ Cannot be used for size 2 with very high breaking capacity C and size 2, 4000 A.

Support brackets

Support brackets



- For mounting fixed-mounted circuit breakers on vertical plane
- Only for sizes 1 and 2 (1 set = 2 units)

Article No.
3WL9111-0BB50-0AA0

Modules of the CubicleBUS

- Each module of the **CubicleBUS** is supplied with a 0.2 m pre-assembled cable to connect the modules with each other. A longer pre-assembled cable is required for connection to the circuit breaker.
- All communication components, modules of the **CubicleBUS** and measurement functions are available for the electronic trip units ETU45B and ETU76B.

CubicleBUS modules



Type	Article No.
Digital output module with rotary coding switch, relay outputs	3WL9111-OAT26-0AA0
Digital output module, configurable, relay outputs	3WL9111-OAT20-0AA0
Digital input module	3WL9111-OAT27-0AA0
Analog output module	3WL9111-OAT23-0AA0
ZSI module	3WL9111-OAT21-0AA0

Preassembled cables for modules of the CubicleBUS

For connection to 3WL	Length	Article No.
With COM15/COM16/COM35	0.5 m	3WL9111-OBC04-0AA0
	1 m	3WL9111-OBC02-0AA0
	2 m	3WL9111-OBC03-0AA0
Without COM15/COM16/COM35	2 m	3WL9111-OBC05-0AA0

Voltage transformers

- Required for 3WL circuit breakers with measurement function Plus, if no direct voltage tap is available.
- 380 ... 690 V/100 V, class 0.5

Number of poles	Measurement function	Article No.
3-pole	With measurement function Plus	3WL9111-0BB68-0AA0

Accessories and spare parts

Retrofitting and spare parts

- For retrofitting the COM15, COM16 or COM35 communication modules in withdrawable 3WL circuit breakers with Z options A05 (1000 V AC), A15 (1150 V AC) or A16 (690 V + 20%), the following additional assembly kits are required: 3WL9111-0AT62-0AA0 for circuit breakers size 1 or 3WL9111-0AT63-0AA0 for circuit breakers size 2/3

COM35 PROFINET IO/Modbus TCP modules



Version	Article No.
For electronic trip units ETU45B and ETU76B	3WL9111-0AT65-0AA0

PROFINET IO/Modbus TCP retrofit kits

- Retrofit kit for the PROFINET IO/Modbus TCP communication including COM35, BSS and set of cables for all 3WL air circuit breakers with ETU45B and ETU76B electronic trip units

Article No.
3WL9111-0AT66-0AA0

PROFIBUS retrofit kits

- Retrofit kit for the PROFIBUS communication including COM15, BSS and set of cables for all 3WL air circuit breakers with ETU45B and ETU76B electronic trip units

Article No.
3WL9111-0AT12-0AA0

COM15 PROFIBUS modules



Version	Article No.
For electronic trip units ETU45B and ETU76B	3WL9111-0AT15-0AA0

COM16 Modbus RTU modules

Version	Article No.
For electronic trip units ETU45B and ETU76B	3WL9111-0AT17-0AA0

Modbus RTU retrofit kits IEC

- Retrofit kit for the Modbus communication including COM16, BSS and set of cables for all 3WL air circuit breakers with electronic trip units ETU45B and ETU76B

Article No.
3WL9111-0AT18-0AA0

Additional parts for retrofitting the COM15/COM16/COM35 communication modules

- In withdrawable 3WL circuit breakers with Z options:
 - A05 (1000 V AC) or
 - A15 (1150 V AC) or
 - A16 (690 V + 20%)

Size	Article No.
1	3WL9111-0AT62-0AA0
2, 3	3WL9111-0AT63-0AA0

Breaker status sensors (BSS)



Version	Article No.
<ul style="list-style-type: none"> For acquisition via communication of the circuit breaker states ON/OFF/tripped For electronic trip units ETU45B and ETU76B 	3WL9111-0AT16-0AA0

Interfaces

Interface to the IEC 61850

- The SICAM A8000 as an intelligent data concentrator ensures the connection of the circuit breakers from the SENTRON portfolio via the Modbus TCP/IP protocol and the forwarding of the data via communication protocols (such as IEC61850, IEC60870-5-104, IEC60870-5-101, Modbus and DNP) to higher-level systems.

Type	Operating voltage	Article No.
SICAM CP-8021 ¹⁾	–	6MF2802-1AA00
SICAM CP-8050 ²⁾	–	6MF2805-0AA00
SICAM PS-8620	24 ... 60 V DC (12 W)	6MF2862-0AA00
SICAM PS-8622	110 ... 220 V DC (12 W)	6MF2862-2AA00



¹⁾ Dimensioned for device quantities of max. 1× 3WL and 1× 3VA

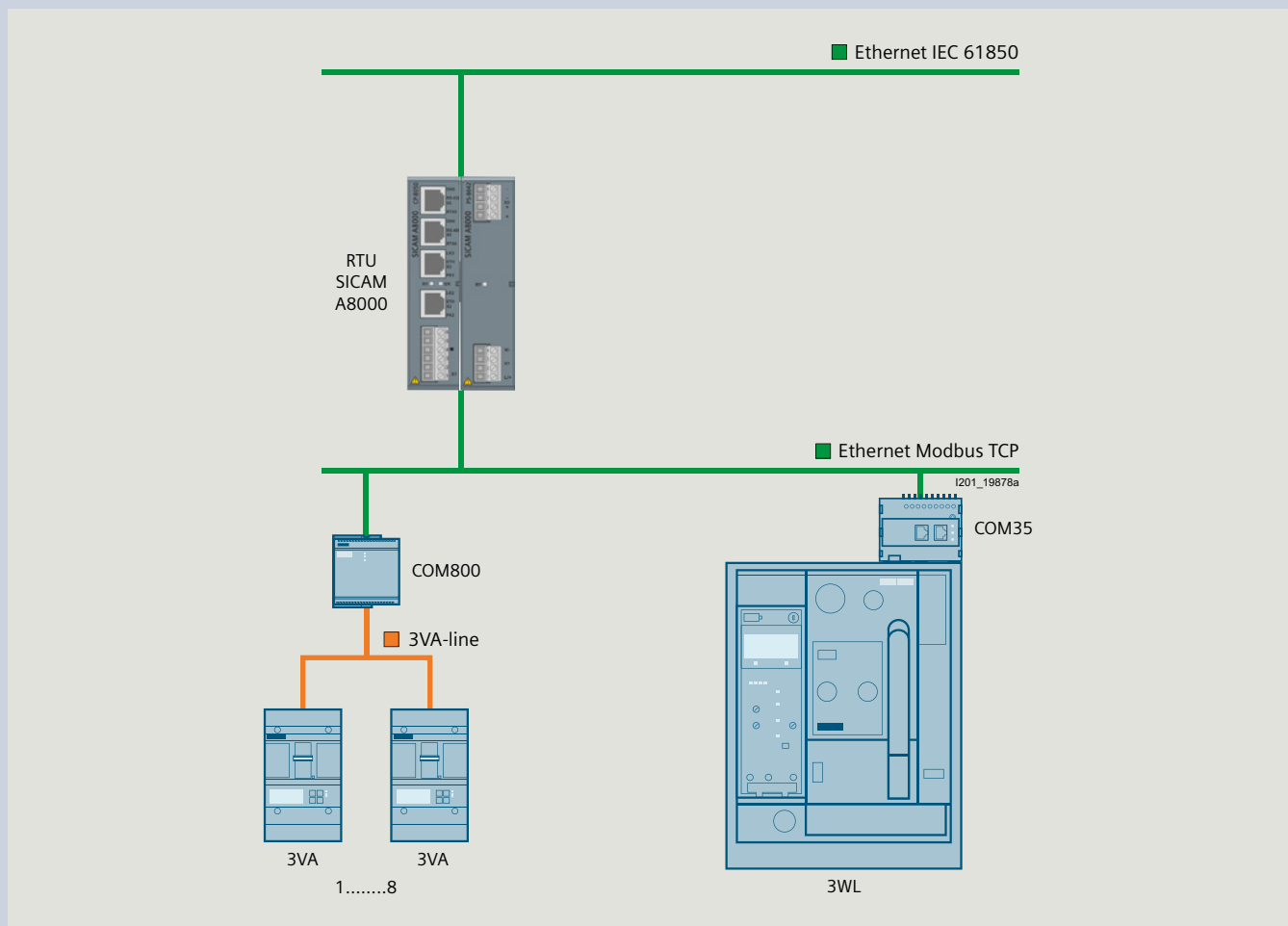
²⁾ Dimensioned for device quantities of 3× 3WL and 8× 3VA

You will find further information at:

www.siemens.com/sicam-a8000

For the SICAM CP-8021 and SICAM CP-8050, predefined modules were created to reduce commissioning work to a minimum.

The modules can be downloaded from SIOS free of charge www.siemens.com/lowvoltage/product-support (109779191)



Accessories and spare parts

Storage devices

Capacitor trip device

- For shunt trips
- Storage time 5 min
- Also suitable for 3VL, 3VA and 3WN circuit breakers
- **Note:** Rated control supply voltage must match the rated control supply voltage of the shunt trip.

Rated control supply voltage/rated operational voltage		Article No.
50/60 Hz AC	DC	
220 ... 240 V	220 ... 250 V	3WL9111-0BA14-0AA0

Spare parts

Measurement function Plus for retrofitting

- As spare part or for retrofitting the measurement function Plus with an external voltage transformer
 - For ETU45B or ETU76B Release 2
 - Voltage transformer required
 - Voltage converter required
 - A measuring accuracy of 3% is achieved if retrofitted.

Article No.
3WL9111-0AT05-0AA0

Voltage converter

Version	Article No.
As spare part or for retrofitting the measurement function Plus	3WL9111-0AT06-0AA0

Components for conversion of an existing internal voltage tap ²⁾

- Conversion requires 3 components for 3-pole 3WL
- Conversion requires 4 components for 4-pole 3WL
- Conversion of a measurement function (Z option A05) is not possible.

Conversion of internal voltage tap to main contact	Size	Article No.
From bottom to top	1	3WL9111-0AT71-0AA0
	2	3WL9111-0AT72-0AA0
	3	3WL9111-0AT73-0AA0
From top to bottom	1	3WL9111-0AT74-0AA0
	2	3WL9111-0AT75-0AA0
	3	3WL9111-0AT76-0AA0

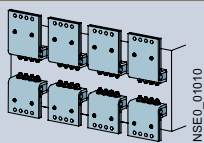
Transformers (without iron core), Rogowski coil only (instrument transformer for the protective function)

- Used in converter applications with high harmonic components; can only be used with ETU45B or ETU76B
 - External 24 V DC supply required
 - Undervoltage release required (e.g. 3WL9111-0AE01-0AA0)
- As retrofit kit or as spare part. With new circuit breakers, please use the Z option K60
- **Scope of supply:**
 - Transformer
 - Warning signs
 - Manual

Number of poles	Size	Article No.
3-pole	1	3WL9111-0AA42-0AA0
	2	3WL9111-0AA43-0AA0
	3	3WL9111-0AA44-0AA0
4-pole	1	3WL9111-0AA45-0AA0
	2	3WL9111-0AA46-0AA0
	3	3WL9111-0AA47-0AA0

Main conductor connections, fixed-mounted versions (essential accessory)

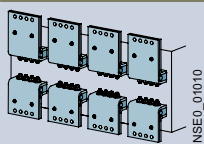
Front-accessible main connections, single hole at top



- Not for 3WL1 size 1 with high breaking capacity H

Size	Rated current I_n	Article No.
1	≤ 1000 A	3WL9111-0AL01-0AA0
	1250 ... 1600 A	3WL9111-0AL02-0AA0
2 ⁴⁾	≤ 2000 A	3WL9111-0AL03-0AA0
	≤ 2500 A	3WL9111-0AL04-0AA0
	≤ 3200 A	3WL9111-0AL05-0AA0
	≤ 4000 A	3WL9111-0AL06-0AA0

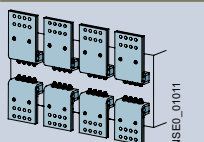
Front-accessible main connections, single hole at bottom



- Not for 3WL1 size 1 with high breaking capacity H

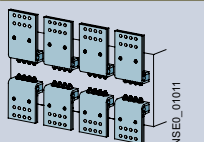
Size	Rated current I_n	Article No.
1	≤ 1000 A	3WL9111-0AL51-0AA0
	1250 ... 1600 A	3WL9111-0AL52-0AA0
2 ⁴⁾	≤ 2000 A	3WL9111-0AL53-0AA0
	≤ 2500 A	3WL9111-0AL54-0AA0
	≤ 3200 A	3WL9111-0AL55-0AA0
	≤ 4000 A	3WL9111-0AL56-0AA0

Front-accessible main connections according to DIN 43673, double hole at top



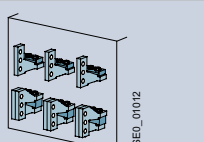
Size	Rated current I_n	Article No.
1	≤ 1000 A ¹⁾	3WL9111-0AL07-0AA0
	1250 ... 2000 A ⁵⁾	3WL9111-0AL08-0AA0
2 ⁴⁾	≤ 2000 A	3WL9111-0AL11-0AA0
	≤ 2500 A	3WL9111-0AL12-0AA0
	≤ 3200 A	3WL9111-0AL13-0AA0
	≤ 4000 A	3WL9111-0AL14-0AA0

Front-accessible main connections according to DIN 43673, double hole at bottom



Size	Rated current I_n	Article No.
1	≤ 1000 A ¹⁾	3WL9111-0AL57-0AA0
	1250 ... 2000 A ⁵⁾	3WL9111-0AL58-0AA0
2 ⁴⁾	≤ 2000 A	3WL9111-0AL61-0AA0
	≤ 2500 A	3WL9111-0AL62-0AA0
	≤ 3200 A	3WL9111-0AL63-0AA0
	≤ 4000 A	3WL9111-0AL64-0AA0

Rear vertical main connections



Size	Rated current I_n	Article No.
1 ²⁾	≤ 2000 A	3WL9111-0AM01-0AA0
2 ³⁾	≤ 3200 A	3WL9111-0AM02-0AA0
3	≤ 6300 A	3WL9111-0AM03-0AA0

¹⁾ Not for 3WL1 size 1 with high breaking capacity H

²⁾ In the case of vertical connection size 1 with breaking capacity N and S, up to 1000 A one 3WL9111-0AM01-0AA0 vertical connection is required, up to 2000 A or with breaking capacity H two 3WL9111-0AM01-0AA0 vertical connections are required.

³⁾ In the case of vertical connection size 2, up to 2500 A one 3WL9111-0AM02-0AA0 vertical connection is required, up to 3200 A two 3WL9111-0AM02-0AA0 vertical connections are required.

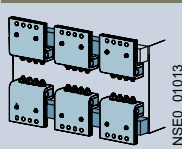
⁴⁾ Not for circuit breakers with very high breaking capacity C.

⁵⁾ Can be used for size 1 with H breaking capacity of 630 A ... 2000 A.

Accessories and spare parts

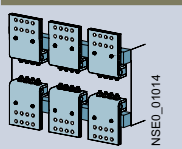
Main conductor connections, withdrawable versions (essential accessory)

Front-accessible main connections, single hole at top or at bottom ¹⁾²⁾



Size	Rated current I_n	Article No.
1	≤ 1000 A	3WL9111-0AN01-0AA0
	1250 ... 1600 A	3WL9111-0AN02-0AA0
2 ³⁾	≤ 2000 A	3WL9111-0AN03-0AA0
	≤ 2500 A	3WL9111-0AN04-0AA0
	≤ 3200 A	3WL9111-0AN05-0AA0
	≤ 4000 A	3WL9111-0AN06-0AA0

Front-accessible main circuit connections, according to DIN 43673, double hole at top or at bottom ¹⁾




Size	Rated current I_n	Article No.
1	≤ 1000 A ²⁾	3WL9111-0AN07-0AA0
	1250 ... 2000 A ⁵⁾	3WL9111-0AN08-0AA0
2 ³⁾	≤ 2000 A	3WL9111-0AN11-0AA0
	≤ 2500 A	3WL9111-0AN12-0AA0
	≤ 3200 A	3WL9111-0AN13-0AA0
	≤ 4000 A	3WL9111-0AN14-0AA0

Supports for front and DIN connecting bars



Number of poles	Size	Article No.
3-pole for 3 bars	1	3WL9111-0AN41-0AA0
	2	3WL9111-0AN42-0AA0
	3	3WL9111-0AN43-0AA0
4-pole for 4 bars	1	3WL9111-0AN44-0AA0
	2	3WL9111-0AN45-0AA0
	3	3WL9111-0AN46-0AA0

Rear vertical main connections

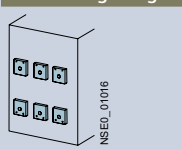


Size	Rated current I_n	Connection pieces	Article No.
1	≤ 1000 A ²⁾		3WL9111-0AN15-0AA0
	1250 ... 2000 A ⁵⁾		3WL9111-0AN16-0AA0
2	≤ 2000 A ³⁾		3WL9111-0AN17-0AA0
	≤ 2500 A ³⁾		3WL9111-0AN18-0AA0
	≤ 3200 A ³⁾		3WL9111-0AN21-0AA0
	1600 ... 3200 A ⁴⁾		3WL9111-0AN38-0AA0
	≤ 5000 A		3WL9111-0AN22-0AA0
3	≤ 6300 A	3 pieces for 3-pole switches	3WL9111-0AN23-0AA0
	≤ 6300 A, top	4 pieces for 4-pole switches	3WL9111-0AN20-0AA0
	≤ 6300 A, bottom	4 pieces for 4-pole switches	3WL9111-0AN10-0AA0

Rear horizontal main connections

Size	Rated current I_n	Article No.
1	≤ 1000 A ²⁾	3WL9111-0AN32-0AA0
	1250 ... 2000 A ⁵⁾	3WL9111-0AN33-0AA0
2	≤ 2000 A ³⁾	3WL9111-0AN34-0AA0
	≤ 2500 A ³⁾	3WL9111-0AN35-0AA0
	≤ 3200 A and 4000 A DC ³⁾	3WL9111-0AN36-0AA0
	1600 ... 3200 A ⁴⁾	3WL9111-0AN47-0AA0
3	≤ 5000 A	3WL9111-0AN37-0AA0

Connecting flange



Size	Rated current I_n	Article No.
1	≤ 1000 A ²⁾	3WL9111-0AN24-0AA0
	1250 ... 2000 A ⁵⁾	3WL9111-0AN25-0AA0
2 ³⁾	≤ 2000 A	3WL9111-0AN26-0AA0
	≤ 2500 A	3WL9111-0AN27-0AA0
	≤ 3200 A	3WL9111-0AN28-0AA0
	≤ 4000 A	3WL9111-0AN31-0AA0

¹⁾ When using front-accessible main connections (withdrawable circuit breakers) supports are required.

²⁾ Not for 3WL1 size 1 with high breaking capacity H

³⁾ Not for circuit breakers with very high breaking capacity C.

⁴⁾ Only for circuit breakers with very high breaking capacity C.

⁵⁾ Can be used for size 1 with H breaking capacity of 630 A ... 2000 A.

Conversion kit

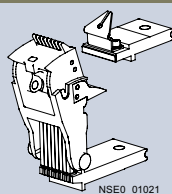
Conversion kit for converting fixed-mounted circuit breakers into withdrawable circuit breakers

- Guide frames and sliding contact modules must be ordered separately
- Conversion from fixed-mounted to withdrawable circuit breakers is not possible for 3WL1 circuit breakers with very high breaking capacity C and for circuit breakers with Z options A05, A15 or A16

Number of poles	Size	Article No.
3-pole	1	3WL9111-OBC11-0AA0
	2	3WL9111-OBC12-0AA0
	3	3WL9111-OBC13-0AA0
4-pole	1	3WL9111-OBC14-0AA0
	2	3WL9111-OBC15-0AA0
	3	3WL9111-OBC16-0AA0

Main contact elements

Main contact elements^{2) 4)}



- **Notes:**
 - The circuit breaker ID number must be specified when ordering³⁾
 - Specified for each connection (depending on the number of poles on the circuit breaker, order 3 or 4 units)
 - Article number is automatically adapted to the circuit breaker ID No.

Size	Rated current I_n	Article No.
1	≤ 1600 A ¹⁾	3WL9111-0AM90 L1Y
	≤ 2500 A	3WL9111-0AM91 L1Y
2	≤ 4000 A	3WL9111-0AM92 L1Y
	≤ 6300 A	3WL9111-0AM93 L1Y

¹⁾ Not for circuit breakers with very high breaking capacity C.

²⁾ Spare part of the main contact elements for 3WL1 circuit breakers with very high breaking capacity C is only possible at the factory.

³⁾ Please specify the circuit breaker ID No. in plain text when ordering.

⁴⁾ Not for size 1 circuit breakers with breaking capacity H and circuit breakers with $I_n=2000$ A.

System overview 3WL10

IEC AC ..

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl10-configurator

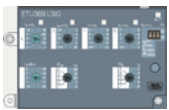
1

Circuit breakers and non-automatic circuit breakers



Size 0

Trip units



Electronic trip units ETU (LI, LSI, LSI G)



Electronic trip units ETU (LSI, LSI G)

Accessories



Communication and I/O modules



Rating plugs



Breaker Connect modules



Measurement function (Basic/Advanced)



External ground fault transformers

Main conductor connections



Fixed-mounted, withdrawable versions



Rear vertical/horizontal connections



Front connections



Front connections, extended



Terminals for Cu/Al cable connection

Motors



Spring charging motor

Accessories



Remote reset magnets



Mechanical operating cycles counters

Note:

You will find a detailed range of accessories in the Accessories and spare parts section.

Auxiliary releases/closing coils



Shunt trips,
undervoltage releases



Closing coils

Auxiliary switches and signaling switches



Auxiliary, alarm, and
signaling switches



Position signaling switches

Interlocking



Interlocking sets



Locking provisions



Locking mechanisms



Door sealing frames



Protective covers

Note:

You will find a detailed range of accessories in the Accessories section.

Online configurator highlights

www.siemens.com/lowvoltage/configurators

Search function with global direct input

Searches for specific terms and jumps to MLFB based on input to the correct configurator

1

Product list stores multiple configurations and can transfer them collectively to the shopping cart

List of products

No.	Article	Quantity	Unit price:	Documents
1	3WL1106-2EB62-1AA2 / Fixed-mounted circuit breaker 3-pole, Size 1, IEC In=630 A to 690 V, 50/60 Hz AC Icu=55 kA at 500 V Rear horizontal connection Overcurrent release ETU 45 LSIN protection adjustable 0.4-1 in with cubicle bus Opt.... Further details	1 Piece	on request	> all documents for position
2	3VA2450-6KP32-0AA0 / 3VA molded case circuit breaker circuit breaker 3VA2 IEC frame 630 breaking capacity class H Icu=85kA @ 415V 3-pole, line protection ETU850, LSI, In=500A overload protection In=200A...500A short-circuit protection Ibd=0.6...10x In,.... Further details	1 Piece	on request	> all documents for position

Recall of completed configurations for modification or additional configuration

List of products

No.	Article	Quantity	Unit price:	Documents
1	3WL1106-2EB62-1AA2 / Fixed-mounted circuit breaker 3-pole, Size 1, IEC In=630 A to 690 V, 50/60 Hz AC Icu=55 kA at 500 V Rear horizontal connection Overcurrent release ETU 45 LSIN protection adjustable 0.4-1 in with cubicle bus Opt.... Further details	1 Piece	on request	> all documents for position
2	3VA2450-6KP32-0AA0 / 3VA molded case circuit breaker circuit breaker 3VA2 IEC frame 630 breaking capacity class H Icu=85kA @ 415V 3-pole, line protection ETU850, LSI, In=500A overload protection In=200A...500A short-circuit protection Ibd=0.6...10x In,.... Further details	1 Piece	on request	> all documents for position

Responsive Design

www.siemens.com/lowvoltage/3wl10-configurator

Download an ePlan selector for 3WL10

The configuration is complete. You can order this product.

Basic configuration | Trip units | Main connection | Motor | Auxiliary release / Closing coil | Result | CAD/CAE

3WL1010-2CE41-0AA0

Preview
Area Model View | Wire frame view | 3D view | Unit Wiring Diagram IEC
Fluorescence drawings

Documentation and reporting

Choose languages for the data sheet: deutsch

Project data for the datasheet

Download selection of document types

Datashheets (PDF)

Selection of download format

All in a ZIP file

Start generation

Component documentation

3WL1010-2CE41-0AA0

Datashheet (PDF)

EPLAN Macro (EDZ)

© Siemens AG | Application information

Download – quick links
3WL1010-2CE41-0AA0
Click2CAD

Download – all CAD formats

View: Area Model View

View option: Isometric

File type: Joint Photography Experts Group (*.jpg)

Start generation

Download – all documents
open documents dialog

Mouseover display of characteristic curves to show the protective function

The configuration is not complete, please set all orange values.

Basic configuration | Trip units | Main connection | Motor | Auxiliary release / Closing coil

Choose value...

Trip units	Protective function	Communication capability	Metering capability	Display
Non-automatic breaker	-	-	-	-
ETU120	LI	-	-	-
ETU150	LI	-	-	-
ETU160	LI	-	-	-
ETU165	LI	-	-	-
ETU166	LI	-	-	-
ETU160	LI	yes	yes	yes
ETU166	LI	yes	yes	yes

Graph showing characteristic curves for I_n and I_r.

Direct entry of an already known article number or parts of an article number

3WL Air Circuit Breakers

Product Information | Configurators

Select a Configurator: 3WL10 Air Circuit-Breakers, FS0

3WL10 Air Circuit-Breakers, FS0

Selection - Tool for air circuit breakers (ACB) SENTRON 3WL10 from 630 A to 1250 A

- for selective line protection
- for motor protection
- non-automatic circuit breaker

Using this configurator, you can precisely select the optimum circuit breaker configuration for your application. Comprehensive CAx-data support of the device is provided after successful configuration.

Start

MLFB direct input (complete): 3WL1010-2CE41-0AA0

Start

Structure of the article numbers

Basic configuration

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl10-configurator

		6	7	8	9	10	11	12	13	14	15	16	
3WL10				-					-				
Circuit breaker, non-automatic circuit breaker and ETU													
Max. rated current	630 A	0	6										
$I_{n\ max}$	800 A	0	8										
	1000 A	1	0										
	1250 A	1	2										
Short-circuit breaking capacity I_{cu} at 415 V	B Basic (42 kA)			1									
	N ECO (55 kA)			2									
	S Standard (66 kA)			3									
Non-automatic air circuit breakers ¹⁾	Without measurement function, without a communication interface	Without trip unit			A	A							
Circuit breakers, ETU 3-series	Without measurement function, without a communication interface	With trip unit	ETU320 LI (N) ²⁾		A	B							
			ETU350 LSI (N) ²⁾		A	C							
			ETU360 LSIG (N) ²⁾		A	D							
Circuit breakers, ETU 6-series	Without a communication interface	With trip unit	ETU650 LSI (N) ²⁾			E							
			ETU660 LSIG (N) ²⁾			F							
	With a communication interface	Without measurement function				A							
		Without measurement function				B							
		Measurement function Basic	Voltage tap on bottom			C							
		Measurement function Advanced	Voltage tap on top			D							
	Measurement function Basic	Voltage tap on bottom			E								
	Measurement function Advanced	Voltage tap on top			F								
Number of poles	Fixed-mounted versions	3-pole						0					
		4-pole	Neutral left					1					
		4-pole	Neutral right					2					
	Withdrawable	3-pole							3				
		4-pole	Neutral left						4				
		4-pole	Neutral right						5				

¹⁾ Only possible with N = ECO (55 kA) and S = Standard (66 kA)

²⁾ Neutral conductor protection for 3-pole breakers with an external neutral conductor transformer or 4-pole breakers

Connection ³⁾

Type of mounting	Withdrawable	Without frame	0
		Rear vertical connection	1
		Rear horizontal connection	2
		Adapter for cable lug connection (rear)	4
		Front-accessible, extended terminal for main circuit connection	5
	Fixed-mounted versions	Rear vertical connection	1
		Rear horizontal connection	2
		Front terminal for main circuit connection	3
		Circular conductor terminals (front)	4
		Front-accessible, extended terminal for main circuit connection	5

³⁾ Broadened connections available as accessories.

3WL10

6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	----	----	----	----	----	----	----

Motor

Operating mechanisms	Manual operating mechanism		0
	Spring charging motor	24 ... 30 V AC/DC	1
		48 ... 60 V AC/DC	2
		110 V AC/DC	3
		230 V AC/DC	4

Auxiliary releases, closing coils

Closing coil (CC), remote reset magnet (RR)	Without closing coil, without remote reset magnet		A
	Closing coils (CC)	24 V AC/DC	B
		30 V AC/DC	C
		48 V AC/DC	D
		60 V AC/DC	E
		110 ... 120 V AC/DC	F
		120 ... 127 V AC/DC	G
		220 ... 240 V AC/DC	H
	240 ... 250 V AC/DC	J	
	Closing coil (CC) and additionally a remote reset magnet (RR)	24 V AC/DC	K
		110 V AC/DC	L
		220 V AC/DC	M

2nd auxiliary release	Without 2nd auxiliary release		A
	With undervoltage release (UVR)	24 V AC/DC	B
		30 V AC/DC	C
		48 V AC/DC	D
		60 V AC/DC	E
		110 ... 120 V AC/DC	F
		120 ... 127 V AC/DC	G
		220 ... 240 V AC/DC	H
		240 ... 250 V AC/DC	J
		380 ... 400 V AC/DC	K
		415 ... 440 V AC/DC	L
	With undervoltage release (UVR), delayable with external time-delay device; Scope of supply: UVR + time-delay device	24 ... 30 V AC/DC	M
		110 ... 127 V AC/DC	N
		220 ... 250 V AC/DC	P
	With 2nd shunt trip (ST2)	24 V AC/DC	Q
		30 V AC/DC	R
		48 V AC/DC	S
		60 V AC/DC	T
		110 ... 120 V AC/DC	U
		120 ... 127 V AC/DC	V
220 ... 240 V AC/DC		W	
240 ... 250 V AC/DC		X	

1st auxiliary release	Without 1st auxiliary release		0
	Shunt trip (ST)	24 V AC/DC	1
		30 V AC/DC	2
		48 V AC/DC	3
		60 V AC/DC	4
		110 ... 120 V AC/DC	5
		120 ... 127 V AC/DC	6
		220 ... 240 V AC/DC	7
		240 ... 250 V AC/DC	8

Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl10-configurator

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Order code

Accessories for basic configuration

Mounting options for fixed-mounted versions

- In the basic configuration, the fixed-mounted circuit breaker is mounted onto the rear panel; floor mounting is an option; in addition, the device must be modified if it is to be extended with functionalities such as external auxiliary switches or mechanical interlocking mechanisms.¹⁾

Mounting options for fixed-mounted versions ¹⁾			Order code
Floor mounting		Mounting support standard	A07
		Mounting support extended ²⁾	S56
Rear panel mounting onto mounting plate		Side wall extended ²⁾	S57

Accessories for electronic trip units ETU

Rating plugs

- As standard, the electronic trip units are equipped with a rating plug for setting the rated current I_{nr} , which is equal to the maximum rated circuit breaker current ($<I_{n,max}$). The rated current of the selected rating plug must be less than or equal to $I_{n,max}$.
- To downrate the circuit breaker, the rated current of less than $I_{n,max}$ is selected for the rating plug by means of a Z option.
- Other functions can also be activated using rating plugs (L = OFF or Rc protection).

Rating plug				Order code
For setting the rated current I_n	For all ETUs	400 A		B04
		630 A		B06
		800 A		B08
		1000 A		B10
		1250 A		B12
For setting the rated current I_{nr} with overload protection L = OFF	For 6-series ETUs	400 A		L04
		630 A		L06
		800 A		L08
		1000 A		L10
		1250 A		L12
For setting the rated current I_{nr} for enabling of the residual current protective function. The residual current function is only possible with the MF advanced measurement function.	For ETU660 only	400 A		G04
		630 A		G06
		800 A		G08
		1250 A		G12

Communication modules

- No more than two different communication modules can be used at the same time.
- When using an IOM040 digital I/O module (Z option K56), only one communication module can be used.

Communication modules			Order code
COM040		PROFIBUS	F02
COM041		PROFINET	F03
COM043		Modbus TCP	F11
COM042		Modbus RTU	F12

Breaker Connect modules

- When a circuit breaker with a communication interface is ordered, a Breaker Connect module for external 24 V DC power supply of the electronic components is also supplied ready installed.
- By means of this Z option, the Breaker Connect module for 24 V DC is replaced by a Breaker Connect module for 110 ... 240 V AC/DC.

Breaker Connect modules			Order code
110 ... 240 V AC/DC			F26

I/O modules internal

I/O modules internal			Order code
Digital I/O module IOM040		2 inputs, 2 outputs	K56

¹⁾ These functionalities can be applied directly to the frame of the withdrawable circuit breaker, without any modification of the side wall.

²⁾ Not possible in connection with or as an alternative to the mounting support, standard (A07)

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3WL.....-.....-..... -Z

Order code

Accessories for the motor

Mechanical operating cycles counter, 5-digit

C01

Auxiliary switches and signaling switches

- Auxiliary and signaling switches for currents >100 mA and up to 400 V AC are installed as standard.
- For currents <100 mA for PLC connections, these auxiliary and signaling switches can be replaced.
- The auxiliary/signaling switches for 24 V DC digital signals are designed for
 - a minimal load from 1 mA at 5 V DC and
 - a maximum breaking capacity of 100 mA at 24 V DC.

Position signaling switches for guide frames¹⁾ 2 CO | 2 CO | 2 CO (connected | test | disconnected position) K55

Signaling switches Ready-to-close signaling switches 1 CO digital, 24 V DC K50

Tripped signaling switches (S24) 1 CO digital, 24 V DC K53

Spring charge signaling switch (S21) 1 CO digital, 24 V DC K54

Auxiliary switches ON/OFF AUX 4 CO digital, 24 V DC K51

2 CO 400 V AC + 2 CO digital, 24 V DC K52

Locking, blocking and interlocking

Locking provisions¹⁾ To prevent movement of withdrawable circuit breaker Cylinder lock Made by RONIS R78

For no more than 3 padlocks, 8 mm R65

Locking mechanisms To prevent movement to disconnected position R79

Locking provision Against unauthorized closing from the operator panel (safe OFF) Cylinder lock, made by RONIS S08

For no more than 3 padlocks, plastic 4 mm S22

For no more than 1 padlock, metal 7 mm S23

For no more than 2 padlocks, metal 8 mm S07

Interlocking sets For mechanical ON and/or OFF on the operator panel For no more than 3 padlocks, plastic 4 mm S42

For no more than 1 padlock, metal 7 mm S43

For no more than 2 padlocks, metal 8 mm S44

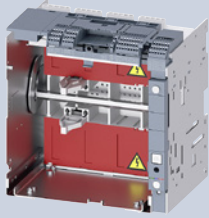
Protective covers For mechanical ON/OFF, not lockable S41

Door sealing frame IP30 IP3x T30

¹⁾ Can be used not only when guide frame is ordered separately, but also with complete order (breaker + guide frame).

Guide frames

Guide frames for ordering separately without circuit breakers



- Guide frames without breakers up to 1250 A
- **Note:** All CB bus modules for communication COM04x/IOM300/Breaker Connect module, as well as COMPSS signaling switches are configured without frames in the withdrawable circuit breaker and defined there by means of Z options, and are included with the circuit breaker. The PSS standard is always included in the frame and can be changed to an electronics-capable signal by means of a Z option.

Number of poles	Connection type	Article No.
3-pole	Rear vertical	3VW8112-0AA01
	Rear horizontal	3VW8112-0AB01
	4× 240 mm ² Cu/Al cable connection, for cable lug connections	3VW8112-0AD01
	Front connection bars, extended	3VW8112-0AE01
4-pole	Rear vertical	3VW8112-0BA01
	Rear horizontal	3VW8112-0BB01
	4× 240 mm ² Cu/Al cable connection, for cable lug connections	3VW8112-0BD01
	Front connection bars, extended	3VW8112-0BE01

To specify the options, add "-Z" to the complete article number and indicate the appropriate order code(s).

3VW8....-.....-.... -Z

Order code

Locking, blocking and interlocking

Locking provisions	To prevent movement of withdrawable circuit breaker	Cylinder lock, made by RONIS	R78
		For no more than 3 padlocks, 8 mm	R65
Locking mechanisms	To prevent movement to disconnected position (only in combination with R78 or R65)		R79

Auxiliary/signaling switches

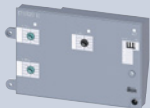

Position signaling switch PSS for guide frame	For 24 V DC digital signals, for minimum currents	2 CO 2 CO 2 CO (connected test disconnected position)	K55
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Auxiliary and signaling switches for currents >100 mA and up to 400 V AC are installed as standard. For currents <100 mA for PLC connections, these auxiliary and signaling switches can be modified. The auxiliary/signaling switches for 24 V DC digital signals are designed for


- a minimal load from 1 mA at 5 V DC and
- a maximum breaking capacity of 100 mA at 24 V DC.

Electronic trip units ETU and accessories


Electronic trip units (ETU)

Version	With communications/measurement function/ enhanced protective functions	Type	Protective function	Article No.	
	With rotary coding switches	No	ETU320	LIN	3VW9011-5AA00
			ETU350	LSIN	3VW9012-5AA00
			ETU360	LSING	3VW9012-7AA00
	With display	Yes	ETU650	LSIN	3VW9017-5AA00
			ETU660	LSING	3VW9017-7AA00

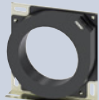
Metering functions for ETU650 or ETU660

Description	Protective function/version	Arrangement	Article No.	
	Measurement function	MF Basic	–	3VW9011-0AT01
		MF Advanced	–	3VW9011-0AT04
Set of cables for voltage tap for MF	For 4-pole circuit breakers with neutral right	Top or bottom	3VW9011-0AT08	
		Top	3VW9011-0AT75	
	For 4-pole circuit breakers with neutral left	Bottom	3VW9011-0AT76	
		Top	3VW9011-0AT72	
For 3-pole circuit breakers	Bottom	3VW9011-0AT73		

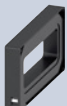
External current transformers for N conductor

Accessory for	Use	Article No.
 ETU320, ETU350, ETU360, ETU650, ETU660	For 3-pole circuit breakers only	3VW9011-0AA30


External current transformers for grounded transformer star point

Accessory for	G_{ret} (ground return)	Article No.
 ETU660	100 A	3VW9011-0GF30
	250 A	3VW9011-0GF31

Summation current transformers external Rc-CT for residual current measurement

	<ul style="list-style-type: none"> Only with MF Advanced measurement function and Rc rating plug 	
Accessory for	Use	Article No.
ETU660	For external residual current measurement	3VW9011-0RC30

Remote reset magnets RR for the circuit breakers including tripped signaling

	<ul style="list-style-type: none"> Remote reset magnet (RR) for resetting the circuit breaker after tripping as a result of overcurrent conditions 	
Accessory for	Voltage	Article No.
ETU320, ETU350, ETU360, ETU650, ETU660	24 V DC	3VW9011-0AK03
	110 V AC/DC	3VW9011-0AK05
	250 V AC/DC	3VW9011-0AK06

Spare part batteries for electronic trip units ETU

Accessory for	Article No.
 ETU320, ETU350, ETU360, ETU650, ETU660	3VW9011-0AT38

Electronic trip units ETU and accessories

Rating plug



- Only one module is possible per circuit breaker

Accessory for	Version	Rated current I_n	Article No.
ETU320, ETU350, ETU360, ETU650, ETU660	Rating plugs for setting ($< I_{n \max}$) the rated current I_n	400 A	3VW9011-0AA53
		630 A	3VW9011-0AA55
		800 A	3VW9011-0AA56
		1000 A	3VW9011-0AA57
		1250 A	3VW9011-0AA58
ETU 6-series	Rating plugs without overload protection (L = OFF) and for setting ($< I_{n \max}$) the rated current I_n	400 A	3VW9011-0LF53
		630 A	3VW9011-0LF55
		800 A	3VW9011-0LF56
		1000 A	3VW9011-0LF57
		1250 A	3VW9011-0LF58
ETU660	Rating plug Rc for ETU660, for enabling the residual current protective function and setting ($< I_{n \max}$) of the rated current I_n . The residual current function is only possible with the MF Advanced measurement function.	400 A	3VW9011-0RC53
		630 A	3VW9011-0RC55
		800 A	3VW9011-0RC56
		1250 A	3VW9011-0RC58

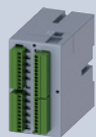
CB bus modules - communication modules



- Contains the communication module
- No more than two different communication modules can be used at the same time
- When using a digital I/O module IOM040 (Z option K56) only one communication module can be used
- Can only be used with ETUs of the 6-series and a Breaker Connect module for connection to the circuit breaker. This can also be configured directly on the device by means of a Z option if the communication interface to the ETU 6-series is selected

Communication modules	Protocol	Article No.
COM040	PROFIBUS	3VW9011-0AT15
COM041	PROFINET	3VW9011-0AT14
COM043	Modbus TCP	3VW9011-0AT16
COM042	Modbus RTU	3VW9011-0AT17

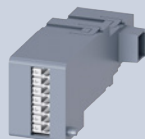
CB bus modules - I/O modules external IOM300



- For snapping onto DIN rail

Accessory for	Maximum switching current per contact	Inputs	Outputs	Article No.
ETU 6-series	<ul style="list-style-type: none"> 2 A at \leq DC 30 V 0.8 A at 50 V DC 0.2 A at 150 V DC 4 A at 250 V AC 	11	10	3VW9011-0AT20

CB bus modules - I/O modules internal IOM040



- When using a digital I/O module IOM040, only one communication module can be used

Accessory for	Maximum switching current per contact	Inputs	Outputs	Article No.
ETU 6-series	<ul style="list-style-type: none"> 2 A at \leq 30 V DC 0.8 A at 50 V DC 0.2 A at 150 V DC 4 A at 250 V AC 	2	2	3VW9011-0AT30

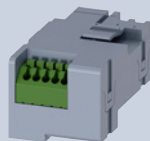
Actuator module COM ACT



- For switching the circuit breaker on/off remotely via communication
- Actuation of the closing coil (CC) and the 1st shunt trip (ST)
- Can only be used in combination with a communication module, spring charging motor, closing coil and 1st shunt trip
- Automatically included if the communication interface of the ETU 6-series is selected in the basic circuit breaker configuration

Accessory for	Article No.
ETU 6-series	3VW9011-0AT10

Breaker Connect modules



- For the external power supply for the electronics components

Voltage	Article No.
110 ... 240 V AC/DC	3VW9011-0AT06
24 ... 48 V DC	3VW9011-0AT07

Auxiliary contact signaling switch for communication interface



- Auxiliary contacts for signaling the readiness to close or for position signaling switches of the withdrawable positions.
- Can only be used in combination with communication module.
- Can be combined with standard position signaling switches or ready-to-close signaling contacts.
- **Note:** Both signaling switches are automatically included in the basic circuit breaker if the communication interface of the ETU 6-series is selected (COM PSS only with withdrawable versions).

Function	Article No.
Ready-to-close signaling switch for communication COM RTC	3VW9011-0AT11
Position signaling switch COM PSS (for withdrawable breakers only)	3VW9011-0AT12

Test devices and Breaker Data Adapters



- Can be used for all ETU 3-series and 6-series

Function	Type	Article No.
Test device <ul style="list-style-type: none"> • For the trip test via ETU and tripping solenoid including release • The ETU and the tripping solenoids are activated by means of a battery built into the test device. • On activation in the ETU 6-series, the parameters can be configured on the display 	TD310	3VW9011-0AT32
Breaker Data Adapter <ul style="list-style-type: none"> • As gateway for parameterization of the ETU with SENTRON powerconfig • For generation of a report of the set parameters with powerservice 	TD410	3VW9011-0AT34
Test devices and Breaker Data Adapters <ul style="list-style-type: none"> • As gateway for parameterization of the ETU with SENTRON powerconfig <ul style="list-style-type: none"> – Testing a tripping operation using SENTRON powerconfig • For use with the powerservice software <ul style="list-style-type: none"> – Testing of the basic protective functions LSING – Testing of the enhanced protective functions – Test data storage – Readout of ETU buffer – Generation of a report of the set parameters 	TD420	3VW9011-0AT33

Accessories and spare parts

Accessories for connection

Front terminals for main circuit connections acc. to IEC 60947-2

- To be ordered separately for top and bottom

Mounting	Version	Mounted onto	Number of poles/ quantity	Article No.
Fixed-mounted	Front terminals for main circuit connection	Front terminals for main circuit connection	3-pole/3 units	3VW9011-0AL01
			4-pole/4 units	3VW9011-0AL02
	Extended main terminals, including insulating plate and phase barriers, standard	Front terminals for main circuit connection	3-pole/3 units	3VW9011-0AL77
			4-pole/4 units	3VW9011-0AL78
	Broadened main terminals, including insulating plate and extended phase barriers	Front terminals for main circuit connection, top	3-pole/3 units	3VW9011-0AL73
			Front terminals for main circuit connection, bottom	3-pole/3 units
Front terminals for main circuit connection, top, bottom			4-pole/4 units	3VW9011-0AL74
Withdrawable	Front-accessible terminals for main circuit connection	Flange of the guide frame	3-pole/3 units	3VW9011-0AN01
			4-pole/4 units	3VW9011-0AN02
	Broadened main circuit connections	Front-accessible terminals for main circuit connection	3-pole/3 units	3VW9011-0AN73
			4-pole/4 units	3VW9011-0AN74

Rear terminals for main circuit connections acc. to IEC 60947-2

- To be ordered separately for top and bottom

Mounting	Version	Mounted onto	Number of poles/ quantity	Article No.
Fixed-mounted	Rear terminals for main circuit connection; rotatable for horizontal/vertical connection, including terminal cover	Rear terminals for main circuit connection	3-pole/3 units	3VW9011-0AL32
			4-pole/4 units	3VW9011-0AL33
Withdrawable	Rear terminals for main circuit connection; rotatable for horizontal/vertical connection, including terminal cover	Rear terminals for main circuit connection	3-pole/3 units	3VW9011-0AN32
			4-pole/4 units	3VW9011-0AN33
	Broadened main circuit connections	Rear horizontal main connections	3-pole/3 units	3VW9011-0AN75
			4-pole/4 units	3VW9011-0AN76

Cu/Al cable connections

- To be ordered separately for top and bottom

Mounting	Version	Mounted onto	Number of poles/ quantity	Article No.
Fixed-mounted	Circular conductor terminals 4 × 240 mm ² for front cable connection ¹⁾ , including insulating plate and high, extended terminal cover	Front terminals for main circuit connection	3-pole/3 units	3VW9011-0AL71
			4-pole/4 units	3VW9011-0AL72
Withdrawable	Set of circular conductor connection pieces 4 × 240 mm ² for cable lug connections, rear cable connection	Rear vertical main connections	3-pole/3 units	3VW9011-0AN71
			4-pole/4 units	3VW9011-0AN72

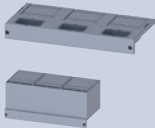



Auxiliary supply connectors in push-in version

- Control wire tap in push-in version for upgrading fixed-mounted breakers and guide frames.
- The device is always fitted at the factory with the exact number of control wire taps required.

Version	Article No.
Push-in	3VW9011-0AB11

¹⁾ For connecting Al cables up to 1000 A

Accessories for connection

Terminal covers for fixed-mounted			
	<ul style="list-style-type: none"> Finger-proof for front main circuit connection for fixed-mounted Necessary isolation measures are always supplied with the corresponding connection technology and do not need to be ordered separately. 		
	Version	Number of poles/quantity	Article No.
	Standard	3-pole/2 units	3VW9723-0WD30
		4-pole/2 units	3VW9724-0WD40
Extended	3-pole/2 units	3VW9723-0WF30	
	4-pole/2 units	3VW9724-0WF40	
Phase barriers for fixed-mounted			
	<ul style="list-style-type: none"> Necessary isolation measures are always supplied with the corresponding connection technology and do not need to be ordered separately. For operating voltages >440 V AC the use of phase barriers is mandatory; up to 440 V AC their use is optional. 		
	Height	Number of poles/quantity	Article No.
	100 mm (standard)	3-pole/4 units	3VW9723-0WA00
		4-pole/6 units	3VW9724-0WA10
200 mm (extended)	3-pole/4 units	3VW9723-0WA01	
	4-pole/6 units	3VW9724-0WA11	
Support for mounting the fixed-mounted breaker on the floor			
<ul style="list-style-type: none"> For fixed-mounted versions 			
	Version	Use	Article No.
	Mounting support standard (circuit breaker feet) (= Z option A07)		3VW9011-0BB51
	Mounting support extended (circuit breaker feet), including mechanical transmission of switch position on circuit breaker side panel (= Z option S56)	<ul style="list-style-type: none"> Fixation for external auxiliary switches AUX 15 W (3VW9011-0AG15) Locking mechanism for control cabinet door, direct (for 3VW9011-0BB10) Locking mechanism for control cabinet door, Bowden cable (for 3VW9011-0BB16) Mechanical interlock for 3WL/3VA (for 3VW9011-0BB21) 	3VW9011-0BB52
Extension kit for modification of the side wall of the fixed-mounted breaker			
	<ul style="list-style-type: none"> For fixed-mounted versions Rear wall fixing on mounting plate For modification for mechanical transmission of switch position on circuit breaker side panel (= Z option S57) 		
	Version	Use	Article No.
	Extension kit for side wall	<ul style="list-style-type: none"> Fixation for external auxiliary switches AUX 15 W (3VW9011-0AG15) Locking mechanism for control cabinet door, direct (for 3VW9011-0BB10) Locking mechanism for control cabinet door, Bowden cable (for 3VW9011-0BB16) Mechanical interlock for 3WL/3VA (for 3VW9011-0BB21) 	3VW9011-0BB53

Accessories and spare parts

Motor

Spring charging motor (MO)



Description	Voltage	Article No.
For automatic charging of the stored-energy operating mechanism	24 ... 30 V AC/DC	3VW9011-0AF01
	48 ... 60 V AC/DC	3VW9011-0AF02
	100 ... 130 V AC/DC	3VW9011-0AF03
	220 ... 250 V AC/DC	3VW9011-0AF04

Mechanical operating cycles counters



Description	Version	Article No.
In combination with a spring charging motor	5 digits	3VW9011-0AH07

Auxiliary releases, closing coils

Closing coils CC/shunt trips ST



Voltage	Article No.
24 V AC/DC	3VW9011-0AD01
30 V AC/DC	3VW9011-0AD02
48 V AC/DC	3VW9011-0AD03
60 V AC/DC	3VW9011-0AD04
110 ... 120 V AC/DC	3VW9011-0AD05
120 ... 127 V AC/DC	3VW9011-0AD06
220 ... 240 V AC/DC	3VW9011-0AD07
240 ... 250 V AC/DC	3VW9011-0AD08
380 ... 400 V AC	3VW9011-0AD17
415 ... 440 V AC	3VW9011-0AD18

TD320 function test unit for closing coil/shunt trip



- The TD320 test unit allows the operational availability and functions of the closing coils and shunt trips with a rated operational voltage between 24 V and 250 V (AC and DC) to be tested
- The operational availability test is performed cyclically at intervals of 30 seconds
- The unit has visual indicators in the form of LEDs on the front in order to display the following states:
 - LED POWER ON LIT: Correct function of the YO/YC test unit
 - LED DEACTIVATION LIT: Power supply failure, wire break
 - LED SHORT-CIRCUIT LIT: Winding short-circuit
 - LED DEACTIVATION and SHORT-CIRCUIT FLASHING: Incorrect power supply
 - LED DEACTIVATION and SHORT-CIRCUIT OFF: Closing coil/shunt trip OK

Version	Article No.
For all closing coils/shunt trips	3VW9011-0AT31

Auxiliary releases, closing coils

Auxiliary/signaling switches



- The auxiliary/signaling switches for 24 V DC digital signals are designed for
 - a minimum load from 1 mA at 5 V DC and a
 - a maximum breaking capacity of 100 mA at 24 V DC
- For external auxiliary switches ON/OFF AUX 15 CO, a 3VW9011-0AG1x fixation must be ordered in addition, and for fixed-mounted breakers a 3VW9011-0BB5x side wall modification

Type	Contacts	Article No.
Ready-to-close signal RTC	1 CO standard	3VW9011-0AH01
	1 CO digital	3VW9011-0AH02
Auxiliary switch ON/OFF AUX	4 CO standard	3VW9011-0AG01
	4 CO digital	3VW9011-0AG02
	2 CO standard + 2 CO digital	3VW9011-0AG03
External auxiliary switch ON/OFF AUX	15 CO standard	3VW9011-0AG05
	15 CO digital	3VW9011-0AG06
Tripped signaling switch S24	1 CO standard	3VW9011-0AH14
	1 CO digital	3VW9011-0AH15
Spring charge signaling switch S21	1 CO standard	3VW9011-0AH10
	1 CO digital	3VW9011-0AH08
Position signaling switch PSS (for withdrawable devices)	2 CO 2 CO 2 CO (connected test disconnected position) standard	3VW9011-0AH11
	2 CO 2 CO 2 CO (connected test disconnected position) digital	3VW9011-0AH12

Fixing for external auxiliary switches AUX 15 CO



- External auxiliary switches ON/OFF AUX 15 CO must be ordered separately.

Version	Article No.
For fixed-mounted circuit breakers with rear panel or floor mounting (in combination with Z option S56 or S57)	3VW9011-0AG15
For guide frames	3VW9011-0AG17

Undervoltage releases UVR



Voltage	Article No.
24 V AC/DC	3VW9011-0AE01
30 V AC/DC	3VW9011-0AE02
48 V AC/DC	3VW9011-0AE03
60 V AC/DC	3VW9011-0AE04
110 ... 120 V AC/DC	3VW9011-0AE05
120 ... 127 V AC/DC	3VW9011-0AE06
220 ... 240 V AC/DC	3VW9011-0AE07
240 ... 250 V AC/DC	3VW9011-0AE08
380 ... 400 V AC	3VW9011-0AE17
415 ... 440 V AC	3VW9011-0AE18

External time-delay device for undervoltage release



- With adjustable delay time from 0.5 to 3 s.
- Suitable for mounting onto DIN rail.

Voltage	Article No.
24 ... 30 V AC/DC	3VW9011-0AE10
48 V AC/DC	3VW9011-0AE11
60 V AC/DC	3VW9011-0AE15
110 ... 127 V AC/DC	3VW9011-0AE12
220 ... 250 V AC/DC	3VW9011-0AE13

Accessories and spare parts

Interlocking

Locking provisions to prevent movement of the withdrawable circuit breaker



Version	Article No.
RONIS cylinder lock (spare part for R78)	3VW9011-0BA80
Padlock 8 mm (spare part for R65), for no more than 3 padlocks	3VW9011-0BA87

Locking mechanisms to prevent movement of the withdrawable circuit breakers in disconnected position



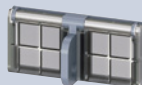
<ul style="list-style-type: none"> Only possible as a supplement in conjunction with R78 (3VW9011-0BA80) and/or R65 (3VW9011-0BA87) 	
Description	Article No.
Locking mechanism (spare part for R79)	3VW9011-0BA84

Locking provisions in OFF position



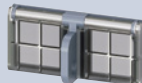
<ul style="list-style-type: none"> For fixed-mounted versions and withdrawable versions Against unauthorized closing from the operator panel (safe OFF) The disconnecter unit fulfills the conditions for a supply disconnecting (isolating) device acc. to EN 60204-1 	
Description	Article No.
Cylinder lock, made by RONIS (spare part for S08)	3VW9011-0BA33

Locking provisions in OFF position



<ul style="list-style-type: none"> For fixed-mounted versions and withdrawable versions Against unauthorized closing from the operator panel (safe OFF) The disconnecter unit fulfills the conditions for a supply disconnecting (isolating) device acc. to EN 60204-1 		
Description	Version	Article No.
Padlock 4 mm (spare part for S22)	Plastic for no more than 3 padlocks	3VW9011-0BA41
Padlock 7 mm (spare part for S23)	Metal for no more than 1 padlock	3VW9011-0BA42
Padlock 8 mm (spare part for S07)	Metal for no more than 2 padlocks	3VW9011-0BA44

Interlocking sets for mechanical Open and/or Close on the operator panel



Description	Version	Article No.
Padlock 4 mm (spare part for S42)	Plastic for no more than 3 locks	3VW9011-0BA22
Padlock 7 mm (spare part for S43)	Metal for no more than 1 lock	3VW9011-0BA23
Padlock 8 mm (spare part for S44)	Metal for no more than 2 locks	3VW9011-0BA24

Protective cover for mechanical ON/OFF



<ul style="list-style-type: none"> Mechanical ON/OFF to protect against unintentional actuation on the operator panel Not lockable 	
Description	Article No.
Not lockable (spare part for S41)	3VW9011-0BA21

Mechanical interlock



<ul style="list-style-type: none"> Mechanical interlock for 3WL/3VA with Bowden cable 2 m For fixed-mounted versions, an additional support 3VW9011-0BB52 (option S56) or extension kit 3VW9011-0BB53 (option S57) must be ordered 		
Mounting	Mounting	Article No.
Fixed-mounted	Rear panel or floor mounting	3VW9011-0BB21
Withdrawable	Mounting onto guide frame	3VW9011-0BB22

Bowden cable, separate

<ul style="list-style-type: none"> One required for each circuit breaker 	
Type	Article No.
1000 mm	3VW9011-0BB23
2000 mm	3WL9111-0BB45-0AA0
3000 mm	3WL9111-0BB46-0AA0

Interlocking

Locking mechanisms for control cabinet door



- To prevent opening of the cabinet door in ON position
- It additionally prevents the circuit breaker from being closed when the control cabinet door is open

Mounting	Version	Article No.
Fixed-mounted onto side panel or floor	Direct fixed interlocking	3VW9011-0BB10
	Locking with Bowden cable	3VW9011-0BB16
Withdrawable	Direct fixed interlocking	3VW9011-0BB14
	Locking with Bowden cable	3VW9011-0BB18

Door sealing frame IP30



- Can be used up to IP3x degree of protection

Version	Mounting	Version	Article No.
Spare part for Z option T30.	Fixed-mounted	IP3x	3VW9011-0AP01
	Withdrawable	IP3x	3VW9011-0AP02

Protective cover IP54



- Protective cover/hood IP54 lockable for fixed-mounted breakers and withdrawable breakers
- For implementing degrees of protection IP4x and IP54 when installing in switchboard door
- Cannot be combined with IP30 door sealing frame and door mounted rotary operator

Version	Version	Article No.
Lock with unique key	IP54	3VW9011-0AP03
Lock with standard key	IP54	3VW9011-0AP13

1



Appendix



Conditions of sale and delivery _____ A/2

Link directory _____ A/4

Conditions of sale and delivery

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.

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- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
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- for other services the „International Terms & Conditions for Services“¹⁾ supplemented by „Software Licensing Conditions“¹⁾ and/or
- for other supplies of hard- and software the „International Terms & Conditions for Products“¹⁾ supplemented by „Software Licensing Conditions“¹⁾

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¹⁾ 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

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Catalog LV 10

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