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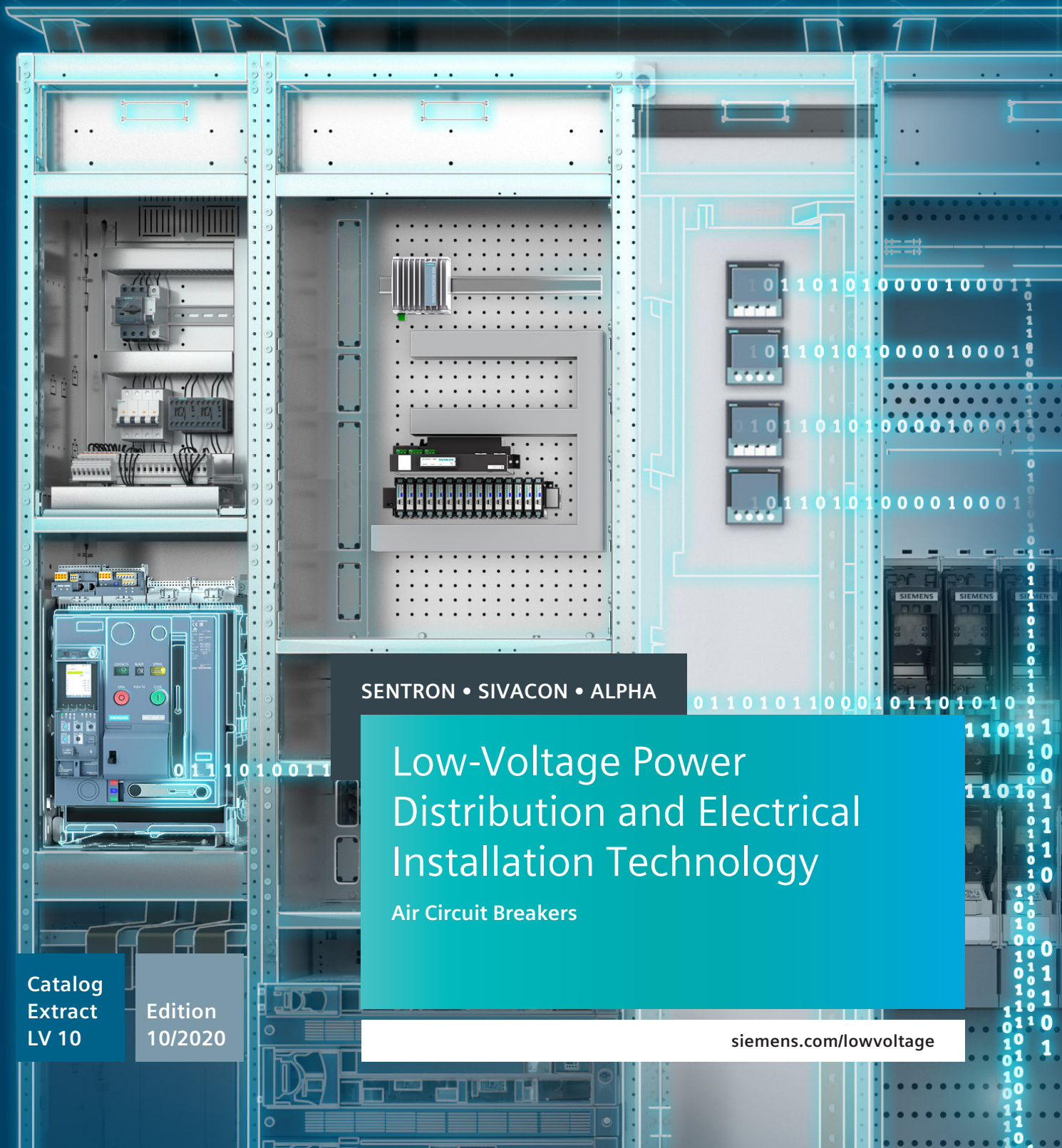

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Low-Voltage Power Distribution and Electrical Installation Technology

Air Circuit Breakers

Catalog Extract LV 10

Edition 10/2020

siemens.com/lowvoltage

Making sure power makes its way

Consistent, safe and intelligent low-voltage power distribution and electrical installation technology

Whether industries, infrastructures or buildings: Each environment depends on a reliable power supply.

Which is why products and systems featuring maximum safety and optimum efficiency are in demand. This comprehensive portfolio for low-voltage power distribution and electrical installation technology covers every requirement – from the switchboard to the socket outlet.

We are there when you need us

Catalog LV 10 · 10/2020

The products and systems listed in this catalog are developed and manufactured using a certified quality management system in accordance with DIN EN ISO 9001:2008.

Technical data
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

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

Switching devices 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 U_e											
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
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	–	–	–	–	–	–	–	–	–

[1] At rated operational voltage U_e ≥690 V, the I_{cw} value of the circuit breaker corresponds to the I_{cu} or I_{cs} value

[2] Size 1 with $I_{n\,max}$ ≤1250 A

[3] Size 1 with $I_{n\,max}$ ≥1600 A

[4] $I_{n\,max}$ ≤2500 A

[5] $I_{n\,max}$ ≥3200 A

System overview, page 1/24

AC		DC	
			
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		VDE, EAC, CCC, CE, C-Tick	
ABS, DNV, GL, LRS, BV, PRS, CCS, RMRS		ABS, DNV, GL, LRS, BV, PRS, CCS, RMRS	

H	C	E	D	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	–	–	–	–
100	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–	–	–
100	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–	–	–
100	130 (3-pole); 120 (4-pole)	130 (3-pole); 120 (4-pole)	–	–	–	–
100	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)	–	–	–	–
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	–	–	–	–
–	–	70 | 70	–	–	–	–
–	–	70 | 70	–	–	–	–
–	–	–	35	–	35	–
–	–	–	30	–	30	–
–	–	–	25	–	25	–
–	–	–	–	20	–	20

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Switching devices for AC and DC

IEC 60947-2 (continued)

AC

			3WA11				3WA12				
Breaking capacity			**N**	**S**	**M**	**E**	**S**	**M**	**H**	**C**	**E**
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/300 V DC		kA	–	–	–	–	–	–	–	–	–
Up to 600 V/1000 V DC		kA	–	–	–	–	–	–	–	–	–
IT system 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	–	–	–	–	–	–	–	–	–

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AC

DC

3WA13			3WA12			
H	C	E	D	E	D	E
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	–/–	35/30	–/–
–	–	–	25/–	–/20	25/–	–/20
50	50	–	–	–	–	–
–	–	50	–	–	–	–
–	–	–	–	–	–	–

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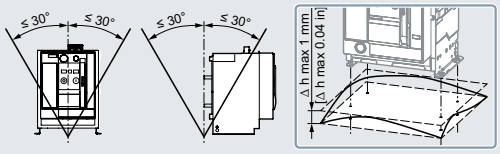
Switching devices for AC

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	2500
	Up to 70 °C (Cu bare)	A	630	800	1000	1250	1545	1855	2215
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 three-phase symmetrical load with maximum rated current, complete device (3/4p)	Fixed-mounted circuit breaker	W	30	45	70	105	135	240	360
	Withdrawable circuit breaker	W	55	85	130	205	310	440	600

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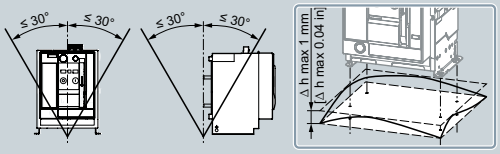
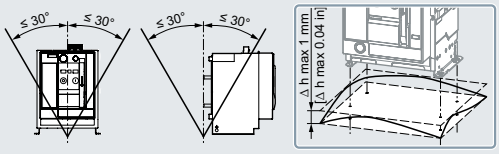
	3WA12			3WA13		
						
2000 A	**2500 A**	**3200 A**	**4000 A**	**4000 A**	**5000 A**	**6300 A**
Yes				Yes		
B				B		
–40 ... +70				–40 ... +70		
–40 ... +80				–40 ... +80		
						
IP20 without control cabinet door, IP41 with door sealing frame, IP55 with cover				IP20 without control cabinet door, 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

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Switching devices 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									
Closing time		ms				35			
Opening time		ms				38			
Electrical closing time (through closing coil)		ms				80 / 50 [1]			
Electrical opening time (through shunt trip)		ms				73			
Electrical opening time (instantaneous undervoltage release)		ms				73			
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			
	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			
	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			
	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			
	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				60			
Breaking capacity M, H and C									
Electrical	3/4-pole	1/h				60 / 60			
Breaking capacity E									
Electrical	3/4-pole	1/h				20 / 20			

[1] Closing time through closing coil for momentary duty for synchronization purposes = 50 ms
[2] Maintenance means: Replacing main contact elements and arc chutes

System overview, page 1/24

3WA12				3WA13		
						
2000 A	2500 A	3200 A	4000 A	4000 A	5000 A	6300 A
35				35		
34				34		
100				100		
73				73		
73				73		
50				50		
–				–		
–				–		
–				–		
–				–		
10000				–		
20000				–		
7500	7500	4000	2000	–		
20000				–		
10000				–		
20000				–		
7500	7500	4000	2000	–		
20000				–		
10000				7500		
20000				15000		
7500	7500	4000	2000	2000		
1000				1000		
500				500		
20000				10000		
10000				7500		
20000				15000		
7500	7500	4000	2000	2000		
20000	20000	20000	20000	15000		
5000				5000		
10000				10000		
5000	5000	4000	2000	1000		
10000	10000	8000	8000	10000		
45				–		
60				–		
60 / 60				60 / 60		
20 / 20				20 / 20		

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Switching devices 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	43	43	43	43	43	43	43
	Withdrawable circuit breaker	kg	45	45	45	45	45	45	45
	Guide frames	kg	25	25	25	25	25	25	25
4-pole	Fixed-mounted circuit breaker	kg	50	50	50	50	50	50	50
	Withdrawable circuit breaker	kg	54	54	54	54	54	54	54
	Guide frames	kg	30	30	30	30	30	30	30

System overview, page 1/24

	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 mm² (AWG 20 ... 14)				2× 0.5 ... 2.5 mm² (AWG 20 ... 14)		
2× 0.5 ... 2.5 mm² (AWG 20 ... 14)				2× 0.5 ... 2.5 mm² (AWG 20 ... 14)		
2× 0.5 ... 1.5 mm² (AWG 20 ... 16)				2× 0.5 ... 1.5 mm² (AWG 20 ... 16)		
10 ... 12 mm (0.39 ... 0.47 inch)				10 ... 12 mm (0.39 ... 0.47 inch)		
2× 0.5 ... 2.5 mm² (AWG 20 ... 14)				2× 0.5 ... 2.5 mm² (AWG 20 ... 14)		
1× 0.5 ... 1.5 mm² (AWG 20 ... 16)				1× 0.5 ... 1.5 mm² (AWG 20 ... 16)		
1× 0.5 ... 1.5 mm² (AWG 20 ... 16)				1× 0.5 ... 1.5 mm² (AWG 20 ... 16)		
7 ... 8 mm (0.28 ... 0.31 inch)				7 ... 8 mm (0.28 ... 0.31 inch)		
0.08 ... 2.5 mm² (AWG 20 ... 12)				0.08 ... 2.5 mm² (AWG 20 ... 12)		
0.25 ... 1.5 mm²				0.25 ... 1.5 mm²		
5 ... 6 mm (0.2 ... 0.24 inch)				5 ... 6 mm (0.2 ... 0.24 inch)		
0.14 ... 1.5 mm² (AWG 20 ... 16)				0.14 ... 1.5 mm² (AWG 20 ... 16)		
0.25 ... 1.5 mm² (AWG 20 ... 16)				0.25 ... 1.5 mm² (AWG 20 ... 16)		
9 mm (0.35 inch)				9 mm (0.35 inch)		
56	59	64	85	82	82	90
60	63	68	121	88	88	96
31	39	45	52	60	60	70
67	71	77	103	99	99	108
72	76	82	146	106	106	108
37	47	54	62	84	84	119

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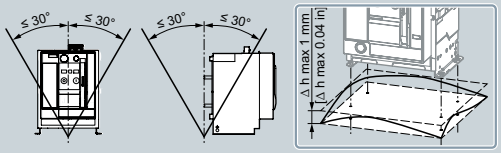
Switching devices for DC

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	1000 V version	V DC		1000	
Rated insulation voltage U_i		V DC		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 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 three-phase symmetrical load, complete device (3/4p)	Withdrawable circuit breaker	W	280	770	1640
	Fixed-mounted circuit breaker	W	140	390	820
Switching times					
Closing time		ms	35	35	35
Opening time		ms	34	34	34
Electrical closing 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	73	73	73

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3WA12

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 x 10	2× 50 x 10	3 x 100 x 10 on the infeed and outgoing side; 6 x 250 x 500 x 5 for jumpers
Copper bars, painted black		Unit, mm^2	1× 50 x 10	2× 50 x 10	3 x 100 x 10 on the infeed and outgoing side; 6 x 250 x 500 x 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	kg	60	60	68
	Guide frames	kg	31	31	45
4-pole	Fixed-mounted circuit breaker	kg	67	67	77
	Withdrawable circuit breaker	kg	72	72	82
	Guide frames	kg	37	37	54

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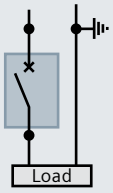
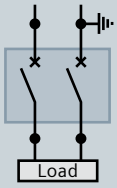
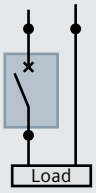
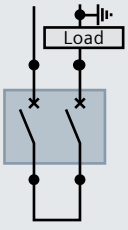
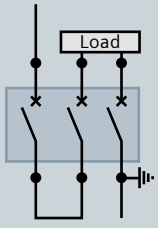
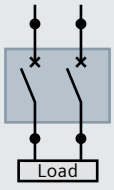
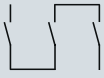
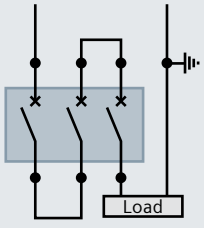
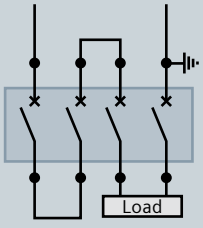
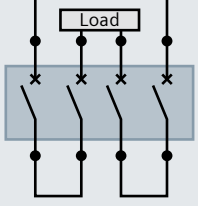
Switching devices for DC

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.

Required contact gaps at rated voltage	DC 1-pole disconnection Grounded system	DC 2-pole (all-pole) disconnection Grounded system	 Non-grounded system
Rated operational voltage <300 V			
			
Rated operational voltage >300 V ... 600 V			
			
Rated operational voltage >600 V ... 1000 V			
			

Note:
DC 2-pole (all-pole) disconnection; grounded system
The grounded pole is always assigned to the individual conducting path, 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.

System overview, page 1/24

Electronic trip unit ETU600

Protective functions

ETU600 LSI, ETU600 LSIG, ETU600 LSIG Hi-Z			Current metering	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
Protective function	**Setting range**	**Setting values with rotary switch**				
L: Overload protection LT						
Tripping operation	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 x I_n	■	■	■	■
Tripping time t_r at 6 × I_r	For I^2t: 0.5 ... 30 s and at I^4t: 1 ... 5 s	1 / 2 / 5 / 8 / 10 / 14 / 17 / 21 / 25 s	■	■	■	■
Characteristic LT curve	I^2t and I^4t		■	■	■	■
Thermal memory	Can be switched on/off		■	■	■	■
Cooling time constant	10 and 18 x 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 x I_r		■	■	■	■
Delay time $t_{r\ PAL}$	0.5 ... 1.0 x 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_{nmax}		■	■	■	■
Current setting $I_{N\ PAL}$	0.7 ... 1.0 × I_N		■	■	■	■
S: Delayed short-circuit protection ST						
Tripping	Can be switched on/off		■	■	■	■
Current setting I_{sd}	0.6 x I_n ... 0.8 x I_{cw}	1.5 / 2 / 2.5 / 3 / 4 / 5 / 6 / 8 / 10 x 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^0t and I^2t		■	■	■	■
Reference point $I_{ST\ ref}$	6-12 x I_r		■	■	■	■
Intermittent acquisition	Can be switched on/off		■	■	■	■
S: Directed delayed short-circuit protection dST						
Tripping	Can be switched on/off		□	□	■	■
Current setting I_{sd} FW	0.6 x I_n ... 0.8 x I_{cw}		□	□	■	■
Current setting I_{sd} REV	0.6 x I_n ... 0.8 x 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 x I_n ... 0.8 x I_{cs}	1.5 / 2 / 3 / 4 / 6 / 8 / 10 / 12 / 15 x 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						
Unbalance (voltage, current)			□	□	■	■
Harmonic distortion			□	□	■	■
Voltage			□	□	■	■
Active power			□	□	■	■
Frequency			□	□	■	■
Phase rotation			□	□	■	■
DAS+ dynamic arc sentry						
Current setting $I_{i\ DAS+}$	1.5 ... 10 x 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

System overview, page 1/24

Electronic trip unit ETU600

Protective functions

ETU600 LSIG			Current metering	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
Protective function	**Setting range**					
G: Ground fault GF						
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	■	■	■	■
	Direct	Direct metering of the ground-fault current with a current transformer	■	■	■	■
	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	■	■	■	■
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	Detection method Residual	Sizes 1 and 2: 100 ... 2000 A Size 3: 400 ... 2000 A	■	■	■	■
	Detection method Direct	15 ... 2000 A	■	■	■	■
Tripping time t_g	For Fix (I^0t)	0 ... 5 s	■	■	■	■
	For I^xt at 3 x I_g	0 ... 30 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	Detection method Residual	Sizes 1 and 2: 100 ... 5000 A Size 3: 400 ... 5000 A	■	■	■	■
	Detection method Direct	15 ... 5000 A	■	■	■	■
Alarm time $t_{g\ alarm}$		0 ... 0.5 s	■	■	■	■

■ Available, feature of the application package

System overview, page 1/24

ETU600 LSIG Hi-Z			Current metering	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
Protective function	**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^xt 3 x I_g in protection zone UREF	0 ... 30 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

System overview, page 1/24

Electronic trip unit ETU600

Operation, interfaces and metering function

ETU600		Current metering	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 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 switching device	□	□	□	□	□

– Not available
■ Available, feature of the application package
□ Can be retrofitted

System overview, page 1/24

ETU600		Current metering	PMF-I Energy efficiency	PMF-II Basic Power Monitoring	PMF-III Advanced Power Monitoring
Metering 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 acc. to IEC61557-12					
Phase current I_{L1}, I_{L2}, I_{L3}	Class 1	■	■	■	■
Neutral conductor current I_N	Class 1	■	■	■	■
Voltage U_{LN}	Class 1	□	■	■	■
Voltage U_{LL}	Class 1	□	■	■	■
Active energy E_a	Class 2	□	■	■	■
Reactive energy E_r		□	□	■	■
Apparent energy E_{ap}		□	□	■	■
Active power P	Class 2	□	□	■	■
Reactive power Q		□	□	■	■
Apparent power S		□	□	■	■
Power totals S, P, Q		□	□	■	■
Power factor PF		□	□	■	■
cos φ		□	□	■	■
Frequency f		□	□	■	■
Current unbalance		□	□	■	■
Voltage unbalance		□	□	■	■
Total harmonic distortion THD-I		□	□	□	■
Total harmonic distortion THD-U		□	□	□	■

■ Available, feature of the application package
□ Can be retrofitted

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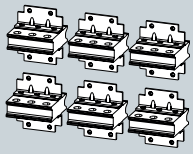
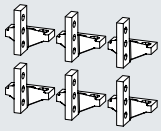
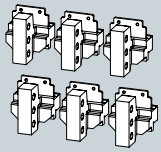
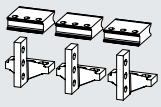
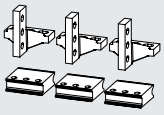
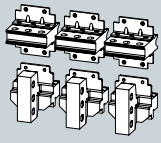
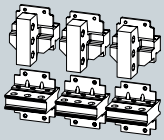
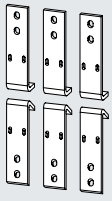
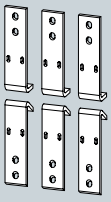
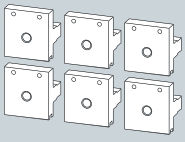
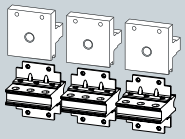
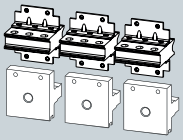
Connection

Main circuit connection

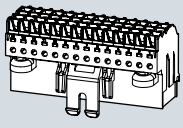
3WA11 – 3WA13

Fixed-mounted		Withdrawable	
 Rear horizontal		 Rear horizontal	
 Rear vertical		 Rear vertical	
 Horizontal on top, vertical at the bottom	 Vertical on top, horizontal at the bottom	 Horizontal on top, vertical at the bottom	 Vertical on top, horizontal at the bottom
 Front connection with double hole		 Front connection with double hole	
		 Flange	
		 Flange on top and horizontal at bottom	 Flange on bottom and horizontal at top

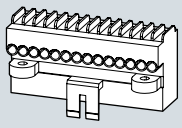
Secondary disconnect terminal

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.



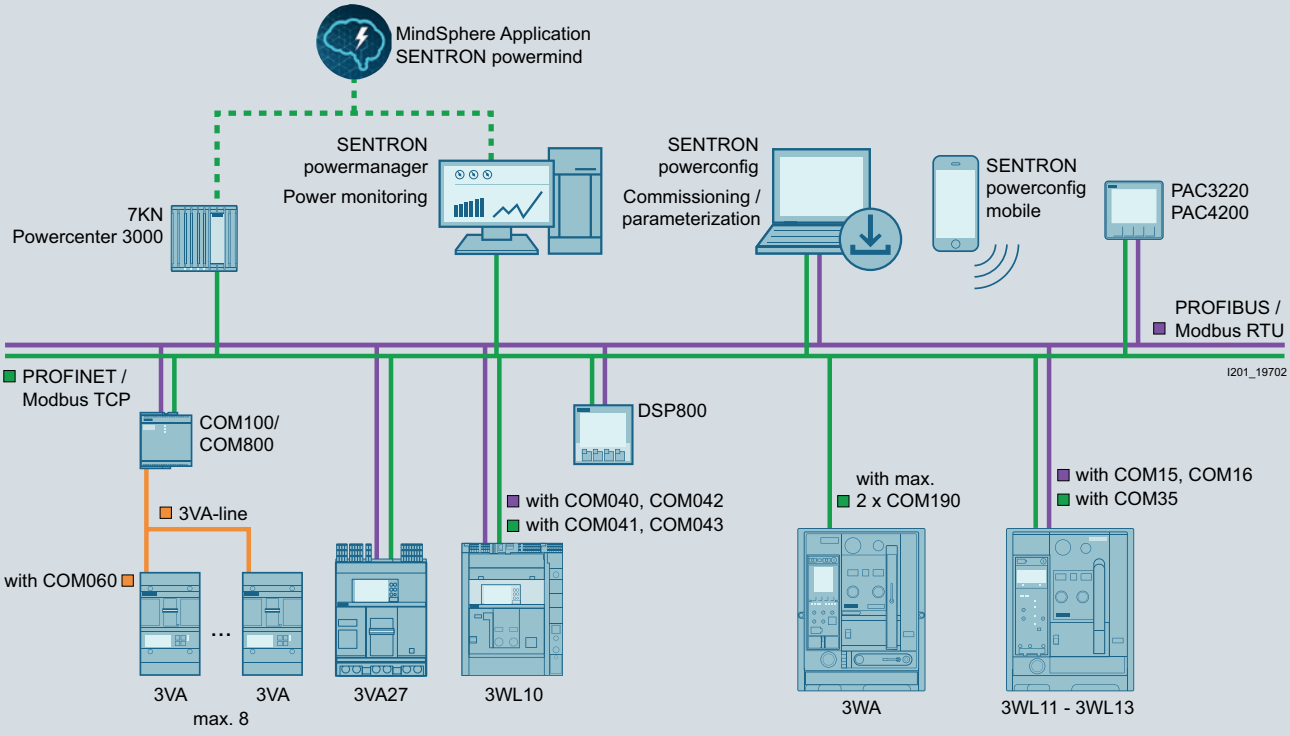
Screwless connection (push-in)



Screw connection (optional)

System overview, page 1/24

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 COM190 communication module, a "ready4COM" must be selected as the switching device. 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 **(109763061)**

Technical specifications	COM190
Operating values	
U_s	24 V DC ±20%
Rated power dissipation	1 W
Switched Ethernet Ports	2
Protocol	PROFINET IO (CC-C) and Modbus TCP
Security functions	Yes
Number	Up to 2

Technical specifications	IOM230
Operating values	
U_s	24 V DC ±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
Number	Up to 5

System overview, page 1/24

System overview 3WA11 – 3WA13

Switching devices for AC and DC

Switching devices

Sizes 1 to 3

Main circuit connection

Front double hole

Flange

Main connection
vertical, horizontal

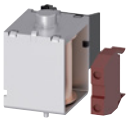
Electronic trip unit and metering function

ETU600

Operating mechanisms and auxiliary switches

Spring charging motor

Closing coil and remote trip alarm reset coil

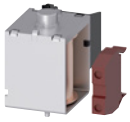


Closing coil (CC)

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


Internal 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

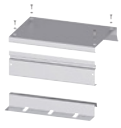

Locking provision against unauthorized closing


Mutual mechanical interlockings


Locking mechanisms

Other accessories


Door sealing frame


Arc chute cover

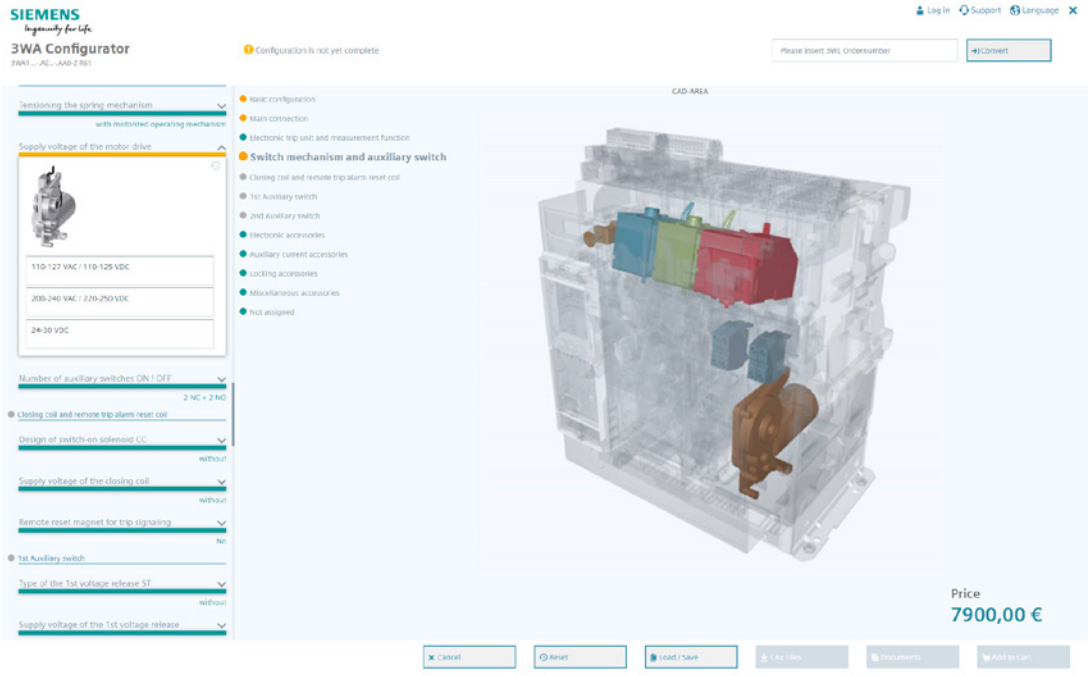

Automatic reset of the reclosing lockout

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

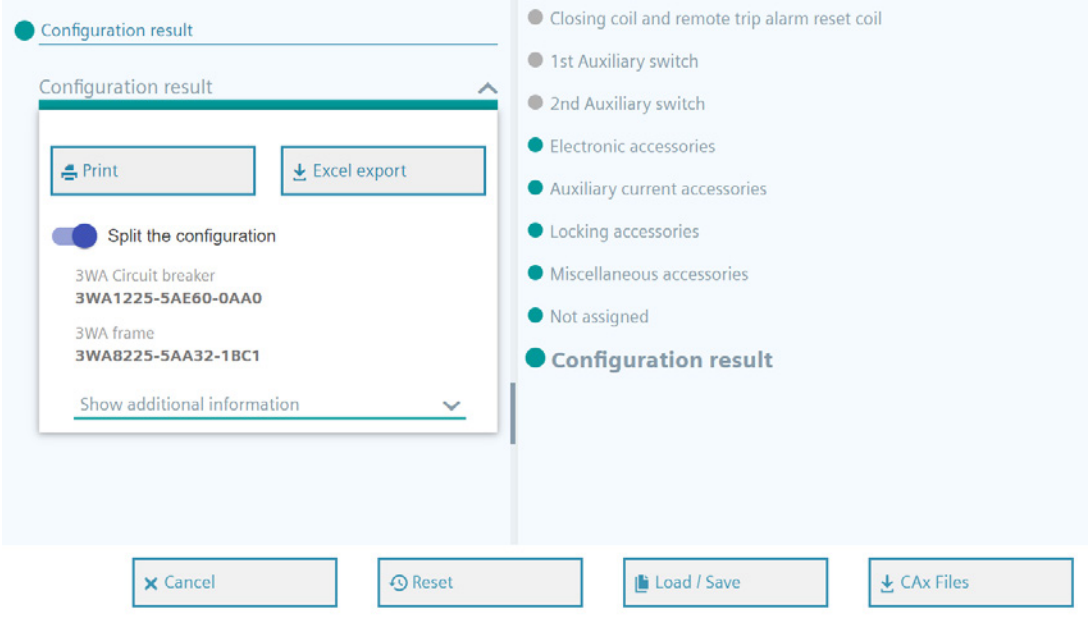
Online configurator highlights

Graphical display

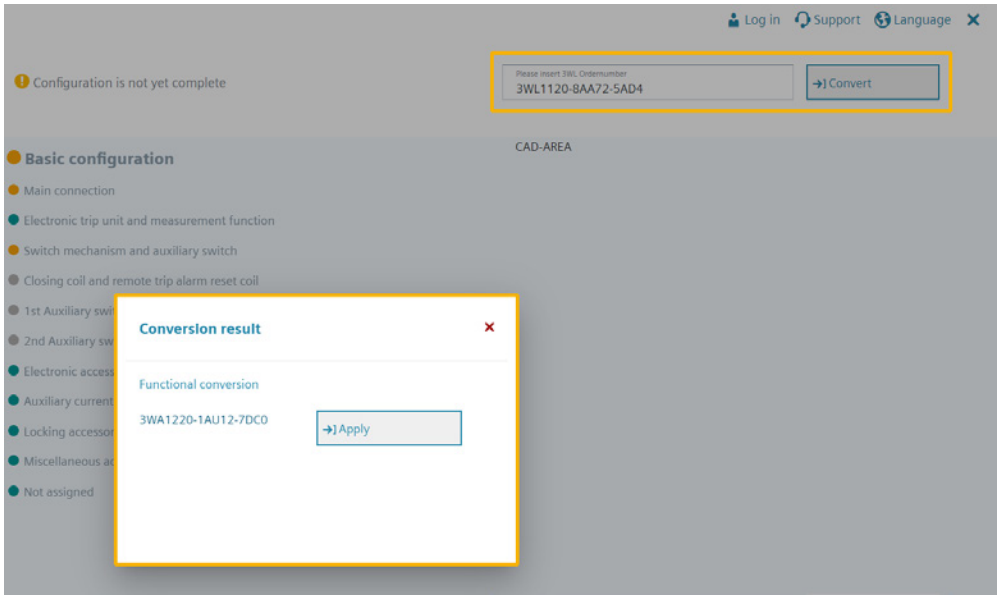
- Integration of the legend as a color system
  - Orange: still to be selected
  - Petrol: already selected
  - Gray: preselected (default)
- Graphical highlighting of the individual configuration steps: "What you see is what you get"



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

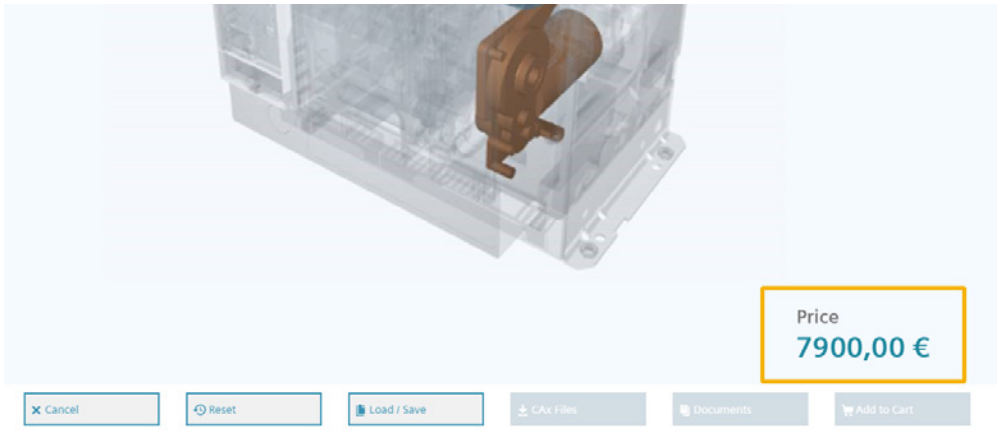


Direct conversion of a 3WL article number to a 3WA article number in the configurator



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

Dynamic customer price during configuration



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.

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

Switching device

		Position 5
Size (SZ)	1	1
	2	2
	3	3

		SZ 1	SZ 2	SZ 3	Position 6	Position 7
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	–	■ [1)]	■	4	0
	5000 A	–	–	■	5	0
	6300 A	–	–	■	6	3

			SZ 1	SZ 2	SZ 3	Position 8
Short-circuit breaking capacity I_{cu} **at 500 V**	N	55 kA	■	–	–	2
	S	66 kA	■	■	–	3
	M	85 kA	■	■	–	4
	H	100 kA	–	■	■	5
	C	130 kA	–	■	–	6
		150 kA	–	–	■	6

	Position 9	Position 10
Non-automatic circuit breakers	A	A
Non-automatic circuit breakers, ready4COM feature	C	A

				Position 9
Application packages with protective and metering functions for circuit breakers	Electronic trip unit ETU600	Current metering		A
		Current metering, ready4COM feature		C
	Electronic trip unit ETU600 with metering function, internal voltage tap in the circuit breaker, voltage supply of the ETU600 through the voltage tap module and ready4COM	PMF-I Energy Efficiency	Voltage tap on top	L
			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

		SZ 1	SZ 2	SZ 3		Position 10
Application packages with protective and metering functions for circuit breakers	Protective functions	■	■	■	LSI	E
		■	■	■	LSIG	F
		–	■	■	LSIG Hi-Z	G

				Position 11
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	3-pole	6
			4-pole, Neutral left	7

[1)] Not available for breaking capacity C

Quick selection guide, pages 1/4 and 1/8

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

Connection

		SZ 1	SZ 2	SZ 3		
Type of mounting	Fixed-mounted	■	■ [1]	■	Vertical	1
		■ [2]	■ [3]	■ [4]	Horizontal	2
		■ [2]	■ [5]	■ [6]	Front	3
		■ [2]	■ [3]	■ [4]	Vertical / horizontal	5
		■ [2]	■ [3]	■ [4]	Horizontal / vertical	6
	Withdrawable	■	■	■	Without guide frame	0
		■	■ [1]	■	Vertical	1
		■ [2]	■ [3]	■ [4]	Horizontal	2
		■ [2]	■ [5]	■ [6]	Front	3
		■ [2]	■ [5]	■ [6]	Flange	4
		■ [2]	■ [3]	■ [4]	Vertical / horizontal	5
		■ [2]	■ [3]	■ [4]	Horizontal / vertical	6
		■ [2]	■ [5]	■ [6]	Flange / horizontal	7
		■ [2]	■ [5]	■ [6]	Horizontal / flange	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

Quick selection guide, pages 1/4 and 1/8

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.

1

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

Operating mechanism, auxiliary switch and auxiliary release

				13	14	15
Operating mechanism and auxiliary switch	Manual recharging of the stored energy mechanism	Without spring charging motor	2 NO contacts, 2 NC contacts	0		
			4 NO contacts, 4 NC contacts	1		
	Recharging of the stored energy mechanism by spring charging motor (M)	24 ... 30 V DC	2 NO contacts, 2 NC contacts	2		
			4 NO contacts, 4 NC contacts	5		
		48 ... 60 V DC	4 NO contacts, 4 NC contacts	6		
		110 ... 127 V AC / 110 ... 125 V DC	2 NO contacts, 2 NC contacts	3		
			4 NO contacts, 4 NC contacts	7		
		208 ... 240 V AC / 220 ... 250 V DC	2 NO contacts, 2 NC contacts	4		
			4 NO contacts, 4 NC contacts	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) for continuous 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	
			48 ... 60 V DC		G	
			110 ... 127 V AC / 110 ... 125 V DC		H	
			208 ... 240 V AC / 220 ... 250 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	
			48 ... 60 V DC		Q	
			110 ... 127 V AC / 110 ... 125 V DC		R	
			208 ... 240 V AC / 220 ... 250 V DC		S	

			15
2nd auxiliary release	Without 2nd auxiliary release		A
	With shunt trip (ST), continuous 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 ... 30 V DC	L
		48 ... 60 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.

Quick selection guide, pages 1/4 and 1/8

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

Auxiliary releases

			16
1st auxiliary release	Without 1st auxiliary release		**0**
	With shunt trip (ST), continuous 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**

Quick selection guide, pages 1/4 and 1/8

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.

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

Switching device

		5
Size (SZ)	1	1
	2	2
	3	3

		SZ 1	SZ 2	SZ 3	6	7
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

		SZ 1	SZ 2	SZ 3		8
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

	9	10
Non-automatic circuit breakers	A	A
Non-automatic circuit breaker, ready4COM feature	C	A

				9
Application packages with protective and metering functions for circuit breakers	Electronic trip unit ETU600	Current metering		A
		Current metering, ready4COM feature		C
	Electronic ETU600 trip unit with metering function, internal voltage tap in the circuit breaker, voltage supply of the ETU600 through the 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

		SZ 1	SZ 2	SZ 3		10
Application packages with protective and metering functions for circuit breakers	Protective functions	■	■	■	LSI	E
		■	■	■	LSIG	F
		–	■	■	LSIG Hi-Z	G

				11
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	3-pole	6
			4-pole, Neutral left	7

Quick selection guide, pages 1/4 and 1/8

1

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

Connection

		SZ 1	SZ 2	SZ 3		
Type of mounting	Fixed-mounted	■	■ [3]	■	Vertical	1
		■ [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	■	■	■	Without guide frame	0
		■	■ [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

Quick selection guide, pages 1/4 and 1/8

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.

1

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

Operating mechanism, auxiliary switch and auxiliary release

				13	14	15
Operating mechanism and auxiliary switch	Manual recharging of the stored energy mechanism	Without spring charging motor	2 NO contacts, 2 NC contacts	0		
			4 NO contacts, 4 NC contacts	1		
	Recharging of the stored energy mechanism by spring charging motor (M)	24 ... 30 V DC	2 NO contacts, 2 NC contacts	2		
			4 NO contacts, 4 NC contacts	5		
		48 ... 60 V DC	4 NO contacts, 4 NC contacts	6		
		110 ... 127 V AC / 110 ... 125 V DC	2 NO contacts, 2 NC contacts	3		
			4 NO contacts, 4 NC contacts	7		
		208 ... 240 V AC / 220 ... 250 V DC	2 NO contacts, 2 NC contacts	4		
			4 NO contacts, 4 NC contacts	8		
Closing coil and remote trip alarm reset coil [1]	Without closing coil	Without remote trip alarm reset coil			A	
	With closing coil (CC) for continuous 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	
			48 ... 60 V DC		G	
			110 ... 127 V AC / 110 ... 125 V DC		H	
			208 ... 240 V AC / 220 ... 250 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	
			48 ... 60 V DC		Q	
			110 ... 127 V AC / 110 ... 125 V DC		R	
			208 ... 240 V AC / 220 ... 250 V DC		S	

			15
2nd auxiliary release	Without 2nd auxiliary release		A
	With shunt trip (ST), continuous 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 ... 30 V DC	L
		48 ... 60 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

Quick selection guide, pages 1/4 and 1/8

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), continuous 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**

Quick selection guide, pages 1/4 and 1/8

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.

1

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

Switching device

				5	6	7	8	9	10	11	12
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	■	25 kA, 600 V DC				1				
	E	■	20 kA, 1000 V DC				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	3-pole							6	
			4-pole							7	

Connection

		SZ 2		12
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
		■	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

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

Operating mechanism, auxiliary switch and auxiliary release

				13	14	15	16
Operating mechanism and auxiliary switch	Manual recharging of the stored energy mechanism	Without spring charging motor	2 NO contacts, 2 NC contacts	0			
			4 NO contacts, 4 NC contacts	1			
	Recharging of the stored energy mechanism by spring charging motor (M)	24 ... 30 V DC	2 NO contacts, 2 NC contacts	2			
			4 NO contacts, 4 NC contacts	5			
		48 ... 60 V DC	4 NO contacts, 4 NC contacts	6			
		110 ... 127 V AC / 110 ... 125 V DC	2 NO contacts, 2 NC contacts	3			
			4 NO contacts, 4 NC contacts	7			
		208 ... 240 V AC / 220 ... 250 V DC	2 NO contacts, 2 NC contacts	4			
			4 NO contacts, 4 NC contacts	8			
Closing coil	Without closing coil				A		
	With closing coil (CC) for continuous 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					A	
	With shunt trip (ST), continuous 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 ... 30 V DC			L	
			48 ... 60 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	
1st auxiliary release	Without 1st auxiliary release						0
	With shunt trip (ST), continuous 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

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Accessory options

To specify the options, add "-Z" to the complete Article No. 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 $I_{n\,max}$.

		SZ1	SZ2	SZ3				
Option plug	250 A	■	■	–		B	0	2
	315 A	■	■	–		B	0	3
	400 A	■	■	–		B	0	4
	500 A	■	■	–		B	0	5
	630 A	■	■	–		B	0	6
	800 A	■	■	–		B	0	8
	1000 A	■	■	–		B	1	0
	1250 A	■	■	–		B	1	2
	1600 A	■	■	■		B	1	6
	2000 A	■	■	■		B	2	0
	2500 A	–	■	■		B	2	5
	3200 A	–	■	■		B	3	2
	4000 A	–	–	■		B	4	0
	5000 A	–	–	■		B	5	0

IOM230 digital input/output module

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 **Cubicle**BUS^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 standard mounting rail.	F	2	3

COM190 communication module

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

PROFINET IO / Modbus TCP	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 **Cubicle**BUS^2 terminating resistor; two communication modules can be run at the same time. The second communication module must be ordered separately as 3WA9111-0EC13.	F	1	9

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.	K	0	1

Tinned version of the main connections on the guide frame

- Only for switching devices 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	D	0	8

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To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

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

			Order code		
Broadened vertical main connection					
• Only possible on complete order for a withdrawable switching device or when ordering the guide frame separately					
Main circuit connection	For 3WA1, 4000 A, size 2	Compatible with 3WL1240 for retrofit	D	0	1
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)		N	0	3
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		C	0	1
Signaling switch					
Tripped signaling switch	2nd tripped signaling switch (S25) 1st tripped signaling switch included as standard. Can only be used with circuit breakers with an electronic trip unit	1 NO contact	K	0	6
Pushbuttons / shutdown switches / closing lockouts / special packaging / Arc chute cover					
Emergency OPEN button	Mushroom pushbutton instead of the mechanical OFF pushbutton		C	2	5
Local electrical close on the 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	C	1	1
		With CES lock	C	1	2
Motor disconnect switch on operator panel (S12)	This prevents automatic charging of the stored energy mechanism by the spring charging motor		C	2	4
Cardboard packaging with water-repellent coating on corrugated cardboard (moisture protection)			P	6	1
Arc chute cover mounted on the guide frame	Not available for: – Fixed-mounted – Breaking capacity C, E and D – 4000 A size 2		R	1	0
Sealable and lockable cover	For electronic trip unit		F	4	0
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					
Internal current sensors	Sizes 2, 3		K	6	0
Mutual mechanical interlockings					
• Interlocking module with Bowden cable 2 m					
Mutual mechanical interlockings	For fixed-mounted breakers		S	5	5
	For withdrawable circuit breakers with guide frame		R	5	5
	For guide frames (ordered separately)		R	5	6
	For withdrawable circuit breakers (ordered separately)		R	5	7

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Accessory options

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

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

			Order code		
Locking provisions (for fixed-mounted and withdrawable circuit breakers)					
Locking provision	To prevent unauthorized activation in the operator panel of the circuit breaker. The disconnector unit fulfills the requirements for main circuit breakers according to EN 60204-1	Made by CES	S	0	1
		Made by IKON	S	0	3
		Assembly kit FORTRESS or CASTELL [1]	S	0	5
		Assembly kit for padlocks [2]	S	0	7
		Made by RONIS	S	0	8
		Made by PROFALUX	S	0	9
Locking provision	For charging handle with padlock [2]		S	3	3
Locking provisions (for withdrawable circuit breakers)					
Locking provision to prevent movement of the withdrawable circuit breakers	Safety lock for mounting onto the circuit breaker	Made by CES	S	7	1
		Made by PROFALUX	S	7	5
		Made by RONIS	S	7	6
Locking provisions against unauthorized closing, for withdrawable circuit breakers • The disconnector 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 switching device or when ordering the guide frame separately					
Made by CES			R	6	1
Made by RONIS			R	6	8
Made by PROFALUX			R	6	0
Locking mechanisms • Not available 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		S	3	0
For withdrawable circuit breakers	To prevent opening of the control cabinet door in connected position		R	3	0
	To prevent activation when the control cabinet door is open [3]		R	4	0
	To prevent movement when the control cabinet door is open [4]		R	5	0
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", "R40", "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			R	8	1
Made by PROFALUX			R	8	5
Made by RONIS			R	8	6
Increased degree of protection for installation in a control cabinet					
Door sealing frame for degree of protection IP41			T	4	0

[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

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Guide frames for AC

		5	6	7		8	9	10	11	12		13	14	15	16
3WA8					–		A	A			–				

Guide frames

			SZ 1	SZ 2	SZ 3					
Size	1					1				
	2					2				
	3					3				
Max. rated current $I_{n\,max}$ [1]	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}	At 500 V [1]	N	■	–	–	55 kA			2	
		S	■	■	–	66 kA			3	
		M	■	■	–	85 kA			4	
		H	–	■	■	100 kA			5	
		C	–	■	■	150 kA			6	
	At 690 V / 1000 V / 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			■	■ [6]	■	Vertical				1
			■ [2]	■ [3]	■ [4]	Horizontal				2
			■ [2]	■ [3]	■ [5]	Front double hole				3
			■ [2]	■ [3]	■ [5]	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]	■ [3]	■ [5]	Flange on top / horizontal at the bottom				7
			■ [2]	■ [3]	■ [5]	Horizontal on top / flange at the bottom				8

[1] Generate the selection of positions 6, 7 and 8 according to the list below
[2] Only ≤2000 A is available for size 1
[3] Only ≤3200 A is available for size 2
[4] Only ≤5000 A is available for size 3
[5] Only for 4000 A is available for size 3
[6] 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 are technically possible

Size	Short-circuit breaking capacity I_{cu} at 500 V AC (position 8)			Max. rated current $I_{n\,max}$ (positions 6 and 7)													
				630 A		800 A		1000 A		1250 A		1600 A		2000 A		2500 A		3200 A		4000 A		5000 A		6300 A	
				3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
1	N	2	55 kA	10-2		10-2		10-2		16-2		16-2		20-3		25-3		–		–		–	
	S	3	66 kA	10-3		10-3		10-3		16-3		16-3		20-3		25-3		–		–		–	
	M	4	85 kA	20-4		20-4		20-4		20-4		20-4		20-4		25-4		–		–		–	
	E	8	50 kA at 1000 V	20-8		20-8		20-8		20-8		20-8		20-8		25-8		–		–		–	
2	S	3	66 kA	–		–		–		–		–		20-5		25-5		32-5		40-5		–	
	M	4	85 kA	–		–		–		–		–		20-5		25-5		32-5		40-5		–	
	H	5	100 kA	–		–		–		–		–		20-5		25-5		32-5		40-5		–	
	E	8	85 kA at 1000 V	–		–		–		–		–		20-8		25-8		32-8		40-8		–	
	C	6	150 kA	–		–		–		–		–		32-6		32-6		32-6		–		–	
3	H	5	100 kA	–		–		–		–		–		–		–		–		40-5		50-5		63-5	
	E	8	125 kA at 1000 V	–		–		–		–		–		–		–		–		50-8		50-8		63-8	
	C	6	150 kA	–		–		–		–		–		–		–		–		50-8		50-8		63-8	

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Guide frames for AC

		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) for connection to a communication module	G

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

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Guide frames for DC

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

	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			2 0
	4000 A			4 0
Short-circuit breaking capacity	D	≤ 600 V DC	25 kA at 600 V DC	1
	E	≤ 1000 V DC	20 kA at 1000 V DC	8
Number of poles	3-pole			3
	4-pole			4
Connection	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
Secondary disconnect terminal	Push-in connection	X7, X6, X5	Non-automatic circuit breakers	A
		X8, X7, X6, X5	Non-automatic circuit breakers with ready4COM	B
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) for connection to a communication module			G

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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

Replacement battery for ETU600

	Article No.
	3WA9111-0EE81

Option plug

Basic configuration	Size	Rated current I_n	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	..
	1, 2	250 A		02
		315 A		03
		400 A		04
		500 A		05
		630 A		06
		800 A		08
		1000 A		10
	1, 2, 3	1250 A		12
		1600 A		16
		2000 A		20
		2500 A		25
	2, 3	3200 A		32
		4000 A		40
	3	5000 A		50
		6300 A		63

Function packages for ETU600

Protective and alarm functions	Article No.
Ground fault alarm (GF alarm)	3WA9111-0ES01
Directed 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
Under-frequency and over-frequency	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 metering function	**Article No.**
Upgrade to metering function PMF-II Basic Power Monitoring (metering values, see catalog page 1/21)	3WA9111-0ES52
Upgrade to metering 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

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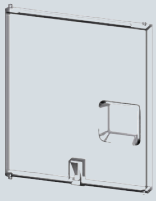
Accessories for electronic trip unit

Internal current sensors (without energy core) for applications with frequency converters

Note: Used in converter applications with high harmonic components
- External 24 V DC supply required
- Undervoltage release required

Scope of supply	Size	Article No.
All parts for 3-pole breaker	2	3WA9111-0AA43
	3	3WA9111-0AA44
All parts for 4-pole breaker	2	3WA9111-0AA46
	3	3WA9111-0AA47

Sealable and lockable cover



Accessory for	Article No.
ETU600	3WA9111-0EM22

Automatic reset of the reclosing lockout

Version	Article No.
Spare part for option K01 or for retrofitting	3WA9111-0EM31

Remote trip alarm reset coil

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

Voltage	Article No.
24 ... 30 V DC	3WA9111-0EM42
48 ... 60 V DC	3WA9111-0EM44
110 ... 127 V AC / 110 ... 125 V DC	3WA9111-0EM45
208 ... 240 V AC / 220 ... 250 V DC	3WA9111-0EM46

Second tripping solenoid (F6) with reclose lockout

Version	Article No.
For external control via the external trip controller ETC600, including the necessary parts for the secondary disconnect terminal	3WA9111-0EM61

External trip controller ETC600

Version	Article No.
Including adapter for mounting on the secondary disconnect terminal system of the circuit breaker, adapter for mounting on standard mounting rail	3WA9111-0EM62

System overview, page 1/24

Accessories and spare parts

Locking provisions and interlocks

Interlocking sets for mechanical Close/Open

- 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, in the operator panels

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

Variant	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

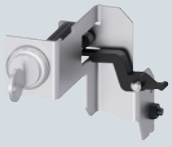
- The disconnector unit fulfills the requirements for main circuit breakers acc. to EN 60204-1
- Consisting of lock in the guide frame, active in connected position, function is retained when circuit breaker is replaced
- Spare part for option R60, R61, R68

Variant	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

Variant	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.

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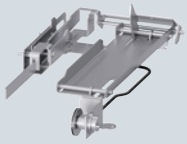
Locking provisions and interlocks

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

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

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



- Consisting of Bowden cable and 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")

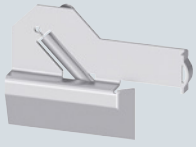
Variant	Article No.
Made by CES	3WA9111-0BA81
Made by IKON	3WA9111-0BA82
Made by PROFALUX	3WA9111-0BA83
Made by RONIS	3WA9111-0BA84

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

- Defeatable
- **Note:** Not possible in combination with "Locking 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	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 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	3WA9111-0BB15

Mutual mechanical interlockings

- 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 mutual mechanical interlocking

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.

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Accessories and spare parts

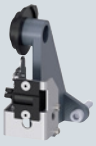
Indicators and control elements

2nd trip alarm switch (S25)

- Can only be used with a circuit breaker with an electronic trip unit
- 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 contact	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 charged 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 charged signaling switch can also be retrofitted

Contacts	Article No.
1 NO contact	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	Variant	Article No.
Spare part for option C11	With sealing cap	3WA9111-0AH21
	With CES assembly kit	3WA9111-0AH22
Spare part for option C12	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

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

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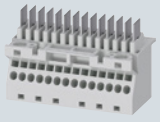
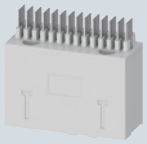
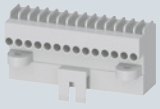
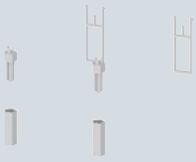
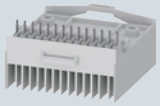
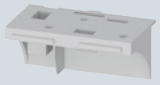
Secondary disconnect terminals for circuit breakers and guide frames

- 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 LSIG with 4 blocks
  - Non-automatic circuit breaker with ETU600 LSIG-HiZ with 5 blocks

Secondary disconnect terminal

	Version	Variant	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
	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

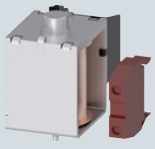
Auxiliary releases

Closing coil (CC) / shunt trip (ST)

- Suitable for continuous duty

Version	Voltage	Article No.
100% OP Switching time ≦80 ms	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 coil (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

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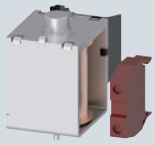
Accessories and spare parts

Auxiliary releases

Shunt trip (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

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 ... 30 V DC	3WA9111-0AE02
	48 ... 60 V DC	3WA9111-0AE04
	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 (UVR-t), adjustable delay 0.2 ... 3.2 s	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 contacts + 2 NC contacts	3WA9111-0AG01
2 NO contacts	3WA9111-0AG02
1 NO contact + 1 NC contact	3WA9111-0AG03

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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

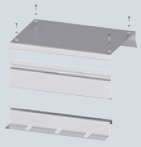
Article No.
3WA9111-0AP03

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	3WA9111-0AS04
			3WA9111-0AS05
	2	E	3WA9111-0AS12
	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

System overview, page 1/24

Accessories and spare parts

Grounding connections

Grounding connection between the guide frame and the 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
		3-pole [2]	3WA9111-0BG13
		4-pole [1]	3WA9111-0BG22
		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)

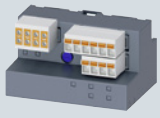
Article No.
3WA9111-0BB50

Modules of the **Cubicle**BUS²

COM190 Modbus TCP PROFINET IO communication module

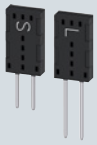
Version	Article No.
Circuit breaker internal or on standard mounting rail, including adapter for mounting on the secondary disconnect terminal system of the circuit breaker, adapter for mounting on standard mounting rail, connecting cables and **Cubicle**BUS² terminating resistor	3WA9111-0EC13

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



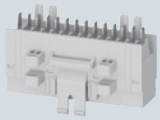
Version	Article No.
Including adapter for mounting on the secondary disconnect terminal system of the circuit breaker, adapter for mounting on standard mounting rail, connecting cables and terminating resistor for **Cubicle**BUS²	3WA9111-0EC11

Terminating resistor for CubicleBUS²



Version	Article No.
For **Cubicle**BUS² on the last module	3WA9111-0EC50

Adapters



Version	Article No.
For mounting the modules of the **Cubicle**BUS² on the secondary disconnect terminal system of the circuit breaker	3WA9111-0EC60
For mounting the modules of the **Cubicle**BUS² on standard mounting rail	3WA9111-0EC61

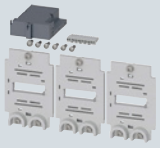
System overview, page 1/24

Internal voltage tap

Set of components for conversion of an existing internal voltage tap

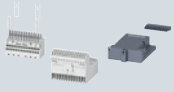
Conversion of internal voltage tap on main contact	Circuit breaker	Size	Article No.
From bottom to top	3-pole	1	3WA9111-0EK11
		2	3WA9111-0EK12
		3	3WA9111-0EK13
	4-pole	1	3WA9111-0EK21
		2	3WA9111-0EK22
		3	3WA9111-0EK23
From top to bottom	3-pole	1	3WA9111-0EK31
		2	3WA9111-0EK32
		3	3WA9111-0EK33
	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	All parts 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

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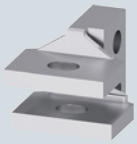
Accessories and spare parts

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

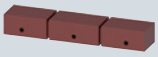
[1] In the case of vertical connection size 1 with breaking capacity N and S, up to 1000 A one 3WA9111-0AM11 vertical connection is required for each connection, from 1250 A to 2000 A or with breaking capacity M or E two 3WA9111-0AM11 vertical connections are required for each connection.
[2] In the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

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

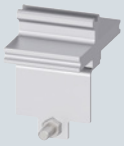


Number of poles	Size	Article No.
3-pole, set for 3 bars, top or bottom	1	3WA9111-0AN81
	2	3WA9111-0AN82
	3	3WA9111-0AN83
4-pole, set for 4 bars, top or bottom	1	3WA9111-0AN84
	2	3WA9111-0AN85
	3	3WA9111-0AN86

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

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Conversion kit

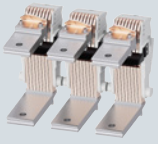
Conversion kit for converting fixed-mounted circuit breakers into withdrawable circuit breakers

- 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 size 3 with 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

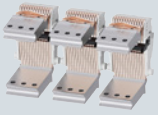
Main contact elements for AC circuit breakers



- **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
		N, S	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	H	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
		N, S	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	H	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

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Switching devices for AC and DC

IEC 60947-2

AC

			3WL10		3WL11	
Basic data						
Rated operational voltage U_e		V	≤690		≤1000	
Rated current I_n		A	630 ... 1250		630 ... 2000	
Size			0		1	
Installation type			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	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						
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 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/300 V DC		kA	–	–	–	–	–	–
Up to 600 V/1000 V DC		kA	–	–	–	–	–	–
Rated short-circuit breaking 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 $I_{n\ max.}$ ≤1250 A
[2] Size 1 with $I_{n\ max.}$ ≥1600 A
[3] Size 2 with $I_{n\ max.}$ ≤2500 A
[4] Size 2 with $I_{n\ max.}$ ≤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

System overview, pages 1/108 and 1/72

AC

DC

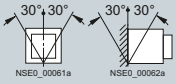
3WL12				3WL13			3WL11	3WL12	
≤1150				≤1150			1000 DC	≤600/1000 DC	
800 ... 4000				4000 ... 6300			2000	1000 ... 4000	
2				3			1	2	
Withdrawable		Fixed-mounted		Withdrawable		Fixed-mounted	Fixed-mounted	Withdrawable	Fixed-mounted
3/4-pole		3/4-pole		3/4-pole		3/4-pole	4-pole	3/4-pole	3/4-pole
460|590		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				VDE, EAC, CCC, VDE, CE, C-Tick			VDE, EAC, CCC, CE, C-Tick	VDE, EAC, CCC, CE, C-Tick	
ABS, DNV, LR, BV, GL, PRS, RMRS				ABS, DNV, LR, BV, GL, PRS, RMRS			ABS, DNV, LR, BV, GL, PRS, RMRS	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	–	–	–	–	
–	–	–	–	–	–	–	20/20	35/30	
–	–	–	–	–	–	–	20/20	25/20	
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

System overview, pages 1/108 and 1/72

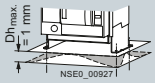
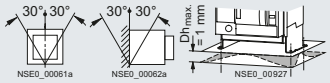
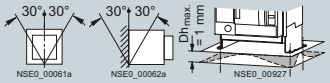
Switching devices for AC

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 [9]	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 three-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	73	
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 replacement of components.

System overview, pages 1/108 and 1/72

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**
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								690/1000		
1000		1000								1000		
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		
73		73								73		
50		50								50		
15000	15000	10000	10000	10000	10000	10000	10000	10000	10000	–	–	–
25000	25000	17500	17500	17500	17500	17500	17500	17500	17500	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
10000	10000	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	5000	5000	5000
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
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
–	–	500	500	500	500	500	500	500	500	500	500	500
15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	10000	10000	10000

[7] Periodic greasing of breaker mechanism on 3WL10 (see Manual), components not to be replaced

[8] Cu painted black

[9] Motorized operating mechanism U_{imp}=1.2 kV

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

System overview, pages 1/108 and 1/72

Switching devices 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 frequency [8]								
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, mm²	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, mm²	–	–	–	–	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 mm² (AWG 20 ... 16); 1× 2.5 mm² (AWG 14)	
	With end sleeve acc. to DIN 46228 Part 2		–				1× 0.5 ... 1× 1.5 mm² (AWG 20 ... 16)	
	With twin end sleeve		–				2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)	
Screwless connection technology	Without end sleeve		0.5 ... 2.5 mm² (AWG 20 ... 14)				2× 0.5 ... 2× 2.5 mm² (AWG 20 ... 14)	
	With end sleeve acc. to DIN 46228 Part 2		0.5 ... 1.5 mm² (AWG 20 ... 16)				2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)	
Position signaling switches								
Screwless connection technology			1× 0.5 ... 1× 2.5 mm² (AWG 20 ... 14)				1× 0.5 ... 1× 2.5 mm² (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.

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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**
10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	5000	5000	5000
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
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
–	–	500	500	500	500	500	500	500	500	500	500	500
10000	10000	15000	15000	15000	15000	15000	15000	15000	15000	10000	10000	10000
–	–	5000	5000	5000	5000	5000	5000	5000	–	5000	5000	5000
–	–	10000	10000	10000	10000	10000	10000	10000	–	10000	10000	10000
–	–	5000	5000	5000	5000	5000	5000	4000	–	1000	1000	1000
–	–	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]
–	–	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
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
2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16); 1× 2.5 mm² (AWG 14)		2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16); 1× 2.5 mm² (AWG 14)								2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16); 1× 2.5 mm² (AWG 14)		
1× 0.5 ... 1× 1.5 mm² (AWG 20 ... 16)		1× 0.5 ... 1× 1.5 mm² (AWG 20 ... 16)								1× 0.5 ... 1× 1.5 mm² (AWG 20 ... 16)		
2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)		2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)								2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)		
2× 0.5 ... 2× 2.5 mm² (AWG 20 ... 14)		2× 0.5 ... 2× 2.5 mm² (AWG 20 ... 14)								2× 0.5 ... 2× 2.5 mm² (AWG 20 ... 14)		
2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)		2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)								2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)		
1× 0.5 ... 1× 2.5 mm² (AWG 20 ... 14)		1× 0.5 ... 1× 2.5 mm² (AWG 20 ... 14)								1× 0.5 ... 1× 2.5 mm² (AWG 20 ... 14)		
43	43	56	56	56	56	56	59	64	85	82	82	90
45	45	60	60	60	60	60	63	68	121	88	88	96
25	25	31	31	31	31	31	39	45	52	60	60	70
50	50	67	67	67	67	67	71	77	103	99	99	108
54	54	72	72	72	72	72	76	82	146	106	106	108
30	30	37	37	37	37	37	47	54	62	84	84	119

[12] Horizontal
[13] Vertical

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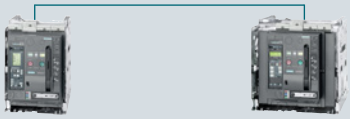
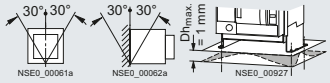
Switching devices for DC

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	73		73	
Service life/endurance [3]							
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

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			3WL11		3WL12	
						
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 mm² (AWG 20 ... 16); 1× 2.5 mm² (AWG 14)			
	With end sleeve acc. to DIN 46228 Part 2		1× 0.5 ... 1× 1.5 mm² (AWG 20 ... 16)			
	With twin end sleeve		2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)			
Optional connection = tension spring	Without end sleeve		2× 0.5 ... 2× 2.5 mm² (AWG 20 ... 14)			
	With end sleeve acc. to DIN 46228 Part 2		2× 0.5 ... 2× 1.5 mm² (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 DC
[6] At U_e = 600 V DC
[7] At U_e = 1000 V DC.

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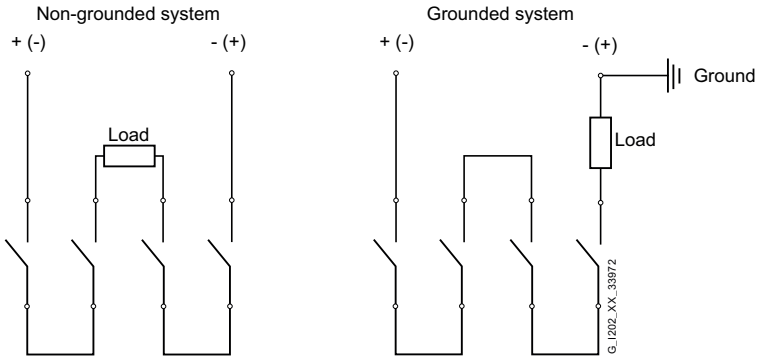
Switching devices for DC

Application examples size 1

Permissible interconnection circuit diagrams for size 1,
1000 V DC non-automatic air circuit breakers



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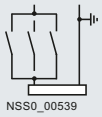
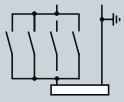
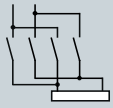
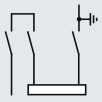
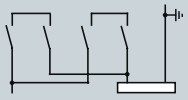
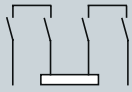
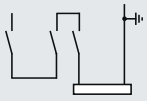
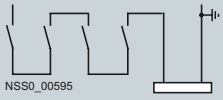
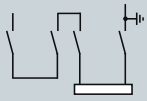
Application examples size 2

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.

Required contact gaps at rated voltage	For 3-pole non-automatic air circuit breakers		For 4-pole non-automatic air circuit breakers	
	1-pole	2-pole	1-pole	2-pole
Rated operational voltage <300 V + 10%				
	 NSS0_00539 only with grounded system [2]		 only with grounded system [3]	
Rated operational voltage >300 V + 10% ... 600 V + 10%				
		 only with grounded system	 only with grounded system [2]	
Rated operational voltage >600 V + 10% ... 1000 V + 10% [4]				
	 only with grounded system		 NSS0_00595 only with grounded system	 only with grounded system

[1] Conducting paths series-connected
[2] 2 parallel conducting paths
[3] 3 parallel conducting paths
[4] Version for 1000 V required, order with "-Z" and order code A05
Grounded system
Load

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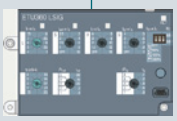
Electronic trip unit ETU

With watchdog monitoring

3WL10



			ETU320 (LI)	ETU350 (LSI)	ETU360 (LSIG)
Basic protection functions					
L	Overload protection (L tripping operation)	Setting range of operating value $I_r = I_n \times ...$	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× 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× 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 $I_{sd} = I_n \times ...$	–	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× I_n)	0.1 | 0.2 | 0.3 | 0.4 | 0.5 | (Ref. 10× I_n)
		Setting range of delay time t_{sd} (t = 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 = $I_n \times ...$	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 $I_N = I_n \times ...$	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 $I_g = I_n \times ...$	–	–	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 grounding protection characteristic (I^2t-dependent function)	–	–	t = 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× 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

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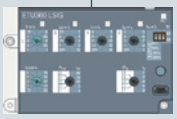
3WL10		3WL11 – 3WL13				
						
ETU650 (LSI)	**ETU660 (LSIG)**	**ETU15B (LI)**	**ETU25B (LSI)**	**ETU27B (LSIG)**	**ETU45B (LSIG)**	**ETU76B (LSIG)**
0.4 ... 1 | Default 1 (in steps of 0.001)	0.4 ... 1 | Default 1 (in steps of 0.001)	0.5 | 0.55 | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 1	0.4 | 0.45 | 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 × I_n ... 0.8 × I_{cw} OFF
0.05 ... 0.5 s (Ref. 10× I_n)	0.05 ... 0.5 s (Ref. 10× 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 **Cubicle**BUS	Via module of the **Cubicle**BUS
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 ≥20 × I_n, max. 50 kA	Fixed at 2 ≥20 × I_n, max. 50 kA	OFF | 1.5 | 2.2 | 3 | 4 | 6 | 8 | 10 | 12 | 0.8 × I_{cs}	OFF | 1.5 × I_n ... 0.8 × 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) $I_g = I_n$ x	–	–	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% × 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 = const. / I^2t | Default const.	–	–	–	■	■
–	0.1 ... 1 s | (in steps of 0.05 s) (Ref. 2× I_n)	–	–	–	100 | 200 | 300 | 400 | 500 ms	100 ... 500 ms
–	–	–	–	–	Via module of the **Cubicle**BUS	Via module of the **Cubicle**BUS

System overview, pages 1/108 and 1/72

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		–	–	–
Metering function		–	–	–
Tripping operation as a result of extended protection function: (including: phase asymmetry current/voltage, harmonic distortion current/voltage, under/ overvoltage, phase rotation direction, active power in/opposite to normal direction, under/ over-frequency, protection 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, grounding protection tripping and grounding protection alarm (only with grounding 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

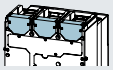
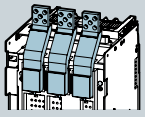
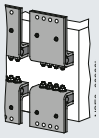
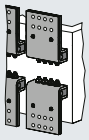
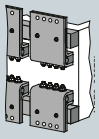
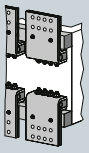
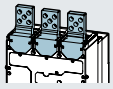
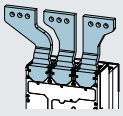
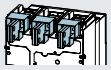
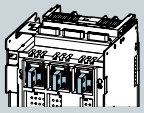
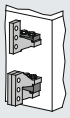
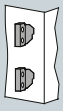
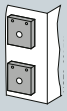
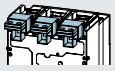
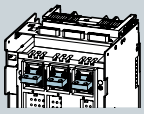
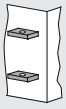
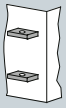
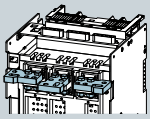
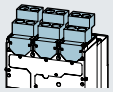
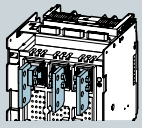
System overview, pages 1/108 and 1/72

3WL10		3WL11 – 3WL13				
						
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	–	–	–	Metering function Plus	Metering function Plus
■	■	–	–	–	■	■
■	■	–	–	–	■	■
IOM040 / IOM300	IOM040 / IOM300	–	–	–	■	■

System overview, pages 1/108 and 1/72

Connection

Main circuit connection

	3WL10		3WL11 – 3WL13			
Connection	**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

3WL 10: 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)

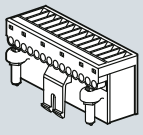
3WL11 – 3WL13: Withdrawable version

- 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

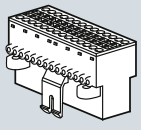
3WL11 – 3WL13: Fixed-mounted version

- 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)

System overview, pages 1/108 and 1/72

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)	■	■
Spring charging motor (MO)	■	■
Mechanical operating cycles counters	■	■

System overview, pages 1/108 and 1/72

System overview 3WL11 – 3WL13

IEC AC 630 – 6300 A, IEC DC ..

Switching devices

Sizes 1 to 3

ETU

LI

LSI

LSING

LSIN, LSING

LSIN, LSING

Accessories

Communi-cation modules

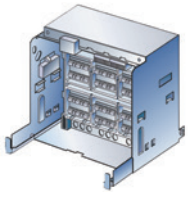
Rating plugs

Remote reset magnets

Breaker status sensors (BSS)

Ground-fault modules

Connection



Fixed-mounted, withdrawable versions

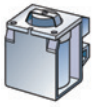
Main connection vertical, horizontal, front, flange

Accessories

Auxiliary conductor plug-in system

Operating mechanisms and auxiliary releases

Motorized operating mechanisms



Auxiliary releases

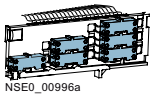
Accessories

Closing coils

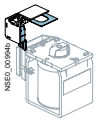
Note:
You will find a detailed range of accessories in the Accessories and spare parts section.

Auxiliary switches

Auxiliary switches



Position signaling switches



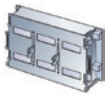
Signaling switches

Accessories

Position signaling switches

Further accessories

Door sealing frames

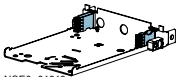


Shutters

EMERGENCY-OFF pushbuttons

Operating cycle counters

Support brackets

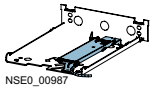


Grounding connections

Interlocking

Interlocking sets

Key operation

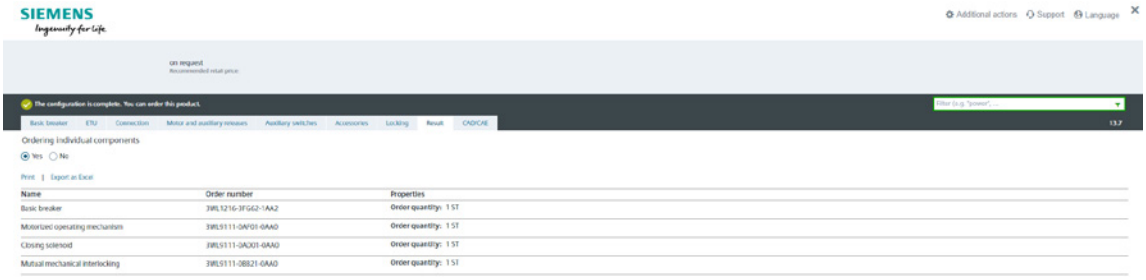


Locking mechanisms

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

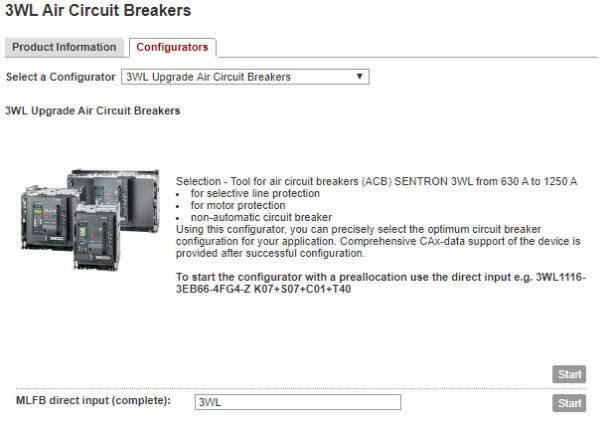
Online configurator highlights

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



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

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



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.

1

	5	6	7		8	9	10	11	12		13	14	15	16
3WL1				–						–				

Basic unit and ETU

Size (SZ)	1				1				
	2				2				
	3				3				
		SZ 1	SZ 2	SZ 3					
Max. rated current I_n	630 A	■	–	–		0	6		
	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		
Installation type	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

Quick selection guide, pages 1/56 and 1/58

3WL1 5 6 7 8 – 9 10 11 12 – 13 14 15 16

Operating mechanisms and auxiliary releases

				13
Stored energy mechanism	Manual recharging of the stored energy mechanismc	With mechanical operation		1
		With mechanical and electrical operation	110 V AC 50/60 Hz / 110 V DC	2
			230 V AC 50/60 Hz / 220 V DC	3
	Motorized operating mechanisms	With mechanical and electrical operation	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

			14
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

			15
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	J
		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	Q
		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

		16
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

Quick selection guide, pages 1/56 and 1/58

Structure of the article numbers

Basic configuration for DC circuit breakers

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

1

				5	6	7		8	9	10	11	12		13	14	15	16
3WL1							–						–				

Basic unit 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		
Installation type	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

Quick selection guide, pages 1/56 and 1/62

	5	6	7	8		9	10	11	12	13	14	15	16
3WL1					–					–			

Operating mechanisms and auxiliary releases

				13
Stored energy mechanism	Manual recharging of the stored energy mechanism	With mechanical operation		1
		With mechanical and electrical closing, closing coil suitable for uninterrupted duty, 100% ED	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 closing, closing coil suitable for uninterrupted duty, 100% ED	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

			14
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

			15
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 (≤80 ms), short-delay (≤200 ms)	24 V DC	J
		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	Q
		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

		16
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

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Accessory options

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z Order code

Accessories for basic configuration

Rated 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 voltage 1150 V AC, order code "A15".

Rated voltage	Size 1 [1]	≤2000 A	A	0	5
	Size 2 [1] [2]	≤4000 A	A	0	5
	Size 3 [1]	≤6300 A	A	0	5

Rated voltage 1150 V AC

- Only for circuit breakers with high breaking capacity H (8th digit of the Article No. is a "4").
- Cannot be combined with rated voltage 1000 V AC, order code "A05".

Rated voltage	Size 2 [1] [2]	≤4000 A	A	1	5
	Size 3 [1] [3]	≤6300 A	A	1	5

Rated voltage 690 V AC (+ 20%)

- Only for 3WL11 circuit breakers, size 1, with high breaking capacity H (8th digit of the Article No. is a "4").

Rated voltage	Size 1	≤ 2000 A	A	1	6

[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.

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To specify the options, add "-Z" to the complete Article No. 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	B	0	2
		315 A	B	0	3
		400 A	B	0	4
		500 A	B	0	5
		630 A	B	0	6
		800 A	B	0	8
		1000 A	B	1	0
	Sizes 1, 2, 3	1250 A	B	1	2
		1600 A	B	1	6
		2000 A	B	2	0
	Sizes 2, 3	2500 A	B	2	5
		3200 A	B	3	2
		4000 A	B	4	0
	Size 3	5000 A	B	5	0
		6300 A	B	6	3

Communication [1]

Breaker status sensor (BSS)	For determining the statuses ON / OFF / Tripped	F	0	1
PROFIBUS DP communication port [2]	Including COM15 and breaker status sensor (BSS)	F	0	2
MODBUS RTU communication port [2]	Including COM16 and breaker status sensor (BSS)	F	1	2
PROFINET IO / Modbus TCP communication port [2] new	Including COM35 and breaker status sensor (BSS)	F	3	5

Metering function (communication modules not included) [1]

Metering function Plus	With internal voltage tap on the lower main conducting paths [2]	F	3	6
	With internal voltage tap on the upper main conducting paths [2]	F	3	7
	For combination with external voltage transformer	F	3	8

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		F	3	1

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	F	2	3
	Size 2	F	2	3
	Size 3	F	2	3

[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 voltages up to 690 V AC.

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Accessory options

To specify the options, add "-Z" to the complete Article No. 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			K	0	1
• Remote reset for displays and reset buttons including automatic reset of the reclosing lockout					
Remote reset magnets	24 V DC		K	1	0
	48 V DC		K	1	1
	110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC		K	1	2
	208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC		K	1	3

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		A	0	8
	Size 2		A	0	8
	Size 3		A	0	8

Connection technology for main connections (fixed mounting)

Top: [3)] **horizontal Bottom: accessible from front, single hole**	Size 1	≤1600 A	N	1	1
	Size 2	≤3200 A	N	1	1
	Size 3 [4)]	≤4000 A	N	1	1
Top: vertical Bottom: horizontal	Size 1	≤2000 A	N	2	0
	Size 2	≤3200 A	N	2	0
	Size 3	≤5000 A	N	2	0
Top: horizontal Bottom: vertical	Size 1	≤2000 A	N	2	4
	Size 2	≤3200 A	N	2	4
	Size 3	≤5000 A	N	2	4

Connection technology for main connections (withdrawable versions)

Top and bottom: [5) 6)] **accessible from front, single hole**	Size 1	≤1600 A	P	0	0
	Size 2	≤3200 A	P	0	0
	Size 3	≤4000 A	P	0	0
Top and bottom: [5)] **accessible from front, double hole**	Size 1	≤1600 A	P	0	1
	Size 2	≤3200 A	P	0	1
	Size 3	≤4000 A	P	0	1
Top: [5) 6)] **horizontal Bottom: accessible from front, single hole**	Size 1	≤1600 A	P	0	7
	Size 2	≤3200 A	P	0	7
	Size 3	≤4000 A	P	0	7

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

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To specify the options, add "-Z" to the complete Article No. 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	P	1	8
	Size 2	≤3200 A	P	1	8
	Size 3	≤5000 A	P	1	8
Top: [1] connecting flange **Bottom: horizontal**	Size 1	≤2000 A	P	1	9
	Size 2	≤3200 A	P	1	9
	Size 3	≤4000 A	P	1	9
Top: horizontal **Bottom: vertical**	Size 1	≤2000 A	P	2	3
	Size 2	≤3200 A	P	2	3
	Size 3	≤5000 A	P	2	3
Top: [1] horizontal **Bottom: connecting flange**	Size 1	≤2000 A	P	2	8
	Size 2	≤3200 A	P	2	8
	Size 3	≤4000 A	P	2	8

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

Connection technology for screwless terminals (tension spring)	Fixed-mounted	N	6	1
	Withdrawable	P	6	1

Operating mechanisms and auxiliary releases

Motorized operating mechanisms	Only possible if the 13th digit of the Article No. = "1"	24 ... 30 V DC	M	0	1
		48 ... 60 V DC	M	0	3
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	0	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	0	6
Mechanical operating cycles counter, 5-digit [2]			C	0	1
Closing coils	• Suitable for uninterrupted duty, 100% OP • Only possible if the 13th digit of the Article No. = "1"	24 V DC	M	2	1
		30 V DC	M	2	2
		48 V DC	M	2	3
		60 V DC	M	2	4
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	2	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	2	6
	• Not suitable for uninterrupted duty, 5% OP, synchronizable [3] • Only possible if the 13th digit of the Article No. = "1"	24 V DC	M	3	1
		48 V DC	M	3	3
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	3	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	3	6
Opening coils (shunt trips) [3] [4]	Not suitable for uninterrupted duty, 5% OP, synchronizable	24 V DC	M	4	1
		48 V DC	M	4	3
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	4	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	4	6

[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 No. for the circuit breaker is "A", i.e. "without 1st auxiliary release".

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Accessory options

To specify the options, add "-Z" to the complete Article No. 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)		R	1	5
	3 CO | 2 CO | 1 CO (connected | test | disconnected position)		R	1	6
Signaling switches	Ready-to-close signaling switches (S20)	1 NO contact	C	2	2
	Spring charged signaling switch [1] (S21)	1 NO contact	C	2	0
	For the first auxiliary release [1] (S22)	1 CO contact	C	2	6
	For the second auxiliary release [1] (S23)	1 CO contact	C	2	7
	1st tripped signaling switch [1] [2] (S24)	1 CO contact	K	0	7
	2nd tripped signaling switch [1] [2] [3] (S25)	1 NO contact	K	0	6
Further accessories					
Pushbuttons / shutdown switches / closing lockouts					
EMERGENCY-OFF pushbuttons	Mushroom pushbutton instead of the mechanical OFF pushbutton		S	2	4
Electrical ON button S10 in the operator panel [1]	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	C	1	1
		With CES lock	C	1	2
Motor shutdown switch on control panel (S12) [4]	This prevents automatic charging of the stored energy mechanism by the spring charging motor		S	2	5
Special packaging for increased transport requirements (moisture protection)					
Cardboard packaging with water-repellent coating on corrugated cardboard (moisture protection)			A	6	1
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		R	1	0
Shutters					
Shutter: 2-part, lockable, with padlocks [5]	3-pole, 4-pole		R	2	1

[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.

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To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

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

Order code

Further 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	K	6	0

Operating manual, printed version

French/Italian			A	1	1
Spanish/Portuguese			A	1	2

Interlocking

Mechanical interlocks

- Interlocking module with Bowden cable 2 m

Mutual mechanical interlockings		For fixed-mounted breakers	S	5	5
		For withdrawable circuit breakers with guide frame	R	5	5
		For guide frames (ordered separately)	R	5	6
		For withdrawable circuit breakers (ordered separately)	R	5	7

Locking devices (for fixed-mounted and withdrawable versions)

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

Locking devices	To prevent unauthorized activation in the operator panel	Made by CES	S	0	1
		Made by IKON	S	0	3
		Assembly kit FORTRESS or CASTELL [1]	S	0	5
		Assembly kit for padlocks [2]	S	0	7
		Made by RONIS	S	0	8
		Made by PROFALUX	S	0	9

Locking devices (for fixed-mounted and withdrawable versions)

Locking devices	For operating mechanism handle with padlock [2]		S	3	3

[1] Locks must be ordered from the manufacturer.

[2] Padlock not included in the scope of supply.

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Accessory options

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z Order code

Interlocking

Locking devices (for withdrawable version)

- The disconnector 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 devices	To prevent unauthorized activation in the operator panel	Made by CES	R	6	1
		Made by RONIS	R	6	8
		Made by PROFALUX	R	6	0

Locking devices (for withdrawable version)

- Safety lock for mounting onto the circuit breaker

Locking devices	To prevent movement of withdrawable circuit breaker	Made by CES	S	7	1
		Made by PROFALUX	S	7	5
		Made by RONIS	S	7	6

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	S	3	0
For withdrawable circuit breakers	To prevent opening of the cabinet door in connected position	R	3	0
	To prevent activation when the cabinet door is open [1) 3)]	R	4	0
	To prevent movement when the cabinet door is open [2)]	R	5	0

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	R	8	1
Made by PROFALUX	R	8	5
Made by RONIS	R	8	6

Seals

Door sealing frame for degree of protection IP41	T	4	0

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	A	4	1

[1)] Not available in combination with R50

[2)] Not available in combination with R40

[3)] Combination with R81, R85 and R86 on request

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Further technical specifications

Manual operating mechanism

		3WL11 – 3WL13
Switching on/charging the stored-energy operating mechanism		
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		
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	0.7 ... 1.26 × U_s
Rated voltage		
Rated control supply voltage U_s	50/60 Hz AC	110 ... 127 V, 208 ... 240 V
	DC	24 V, 30 V, 48 V, 60 V, 110 ... 125 V, 220 ... 250 V
Operation		
Power consumption	AC/DC	15 VA/15 W
Min. command duration at U_s for the closing coil		60 ms
Short-circuit protection		
Smallest permissible DIAZED fuse (operational class gL)/ automatic circuit breaker with C characteristic; manual operating mechanism with mechanical and electrical closing		1 A TDz (slow)/1 A
Smallest permissible DIAZED fuse (operational class gL)/ automatic circuit breaker with C characteristic; motor and closing coil for the same rated control supply voltages; motorized operating mechanism with mechanical and electrical closing		6 A TDz (slow)/2 A
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

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	0.7 ... 1.26 × U_s
Operation		
Power consumption of motor	AC/DC	24/30 V DC, 110 W; 48/60 V DC, 120 W; 110 ... 127 V AC/110 ... 125 V DC, 150 W; 200 ... 240 V AC/220 ... 250 V DC, 130 W
Time required to charge the spring energy store at 1 × U_s		≤10 s
Short-circuit protection		
Smallest permissible DIAZED fuse (operational class gL)/ automatic circuit breaker with C characteristic; motor and closing coil for the same rated control supply voltages		6 A TDz (slow)/2 A
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

Signals of the electronic trip unit

	3WL11 – 3WL13
Signals of the electronic trip unit	
Measuring accuracy of the electronic trip unit	Protection functions acc. to EN 60947; current indication ≤10%; metering function for base quantities ≤1%; metering function for derived quantities ≤4%

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Accessory options

Further technical specifications

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

		3WL11 – 3WL13
Primary operating range		
Response values	Pickup	≥0.85 × U_s (circuit breaker can be closed)
	Dropout	0.35 ... 0.7 × U_s (circuit breaker is tripped)
Primary operating range		0.85 ... 1.1 × 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 ... 1.26 × 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		
Opening time of the circuit breaker at U_s = 0		200 ms
Version UVR (F3)	Instantaneous	73 ms
	With delay	200 ms
Version UVR-t_d (F8)	With delay, t_d = 0.2 to 3.2 s	0.2 ... 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 storage device
Response values	Pickup	>0.7 × U_s (circuit breaker is tripped)	>0.7 × U_s (circuit breaker is tripped)	–
Primary operating range		0.7 ... 1.1 × U_s	0.7 ... 1.1 × U_s	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	0.7 ... 1.26 × U_s	0.7 ... 1.26 × U_s	–
Rated voltage				
Rated control supply voltage U_s	50/60 Hz AC	110 ... 127 V, 208 ... 240 V	110 ... 127 V, 208 ... 240 V	110 V, 230 V
	DC	24 V, 30 V, 48 V, 60 V, 110 ... 125 V, 220 ... 250 V	24 V, 48 V, 110 ... 125 V, 220 ... 250 V	110 V, 220 V
Operation				
Power consumption	AC/DC	15 VA/15 W	15 VA/15 W	1 VA/1 W
Min. command duration at U_s		60 ms	25 ms	–
Storage time at Us/$_s$/ Recharging time at U_s		–	–	max. 5 min/ min. 5 s
Opening time of the circuit breaker				
Opening time of the circuit breaker at U_s = 100%	At AC/DC	80 ms	50 ms	80 ms
Short-circuit protection				
Smallest permissible DIAZED fuse (operational class gL)/ automatic circuit breaker with C characteristic		1 A TDz (slow)/1 A		

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

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Remote reset magnet for mechanical tripped indicator (F7)

		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 110 V DC 220 V DC	0.7 ... 1.26 × U_s
Operation		
Power consumption	AC/DC	50 VA/50 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 24 V DC and 48 V DC, 1 A TDz (slow)/1 A at 110 V and 208 ... 250 V

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

		3WL11 – 3WL13			
Rated voltage					
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_e/AC-12	10 A		10 A	
	Rated operational current I_e/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_e/DC-12	10 A	8 A	3.5 A	1 A
	Rated operational current I_e/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			
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)	

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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	250 V
	Rated operational current I_e/DC-12	6 A	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)		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	1 CO
	"Circuit breaker in test position"	2 CO	or	1 CO
	"Circuit breaker in disconnected position"	1 CO	or	1 CO
Contact reliability (valid from April 1, 2020)		From 1 mA at 5 V DC		
Rated 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)		

Quick selection guide, pages 1/56 and 1/62

Guide frames for AC

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

3WL9	5	6	7	8	9	10	11	12	13	14	15	16
	2	1										1

			SZ 1	SZ 2	SZ 3	7	8	9	10	15
Size (SZ)	1					1				
	2					2				
	3					3				
Max. rated current I_n	1000 A [6]		■	–	–		1			
	1600 A [6]		■	–	–		2			
	2000 A [6]		■	■	–		3			
	2500 A [6]		–	■	–		4			
	3200 A		–	■	–		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]	■ [3]				A	
	Front, double hole		■	■ [2]	■ [3]				B	
	Horizontal		■	■ [2]	■ [4]				C	
	Vertical		■	■	■				D	
	Connecting flange		■	■ [2]	■ [3]				E	
Breaking capacity $I_{cu} = I_{cs}$	N,	55 kA	■	–	–					N
	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 and breaking capacity C
[3] Not available for rated circuit breaker current 5000 A+6300A+breaking capacity C
[4] Not available for rated circuit breaker current 6300 A
[5] Not available for rated circuit breaker current 1000 A + 1600 A
[6] Not available for breaking capacity C

Options

3WL9	5	6	7	8	9	10	11	12	13	14	15	16
	2	1										1

		11	12	13	14
Number of auxiliary supply connectors	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 | isolated position)			1	
	3 CO | 2 CO | 1 CO (connected | test | isolated 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.

Quick selection guide, pages 1/56 and 1/62

Guide frames for DC

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

	5	6	7		8	9	10	11	12		13	14	15	16
3WL9	2	1	2	–						–			0	1

Max. rated current I_n	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

Optionen

	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 | isolated position)	1
	3 CO | 2 CO | 1 CO (connected | test | isolated 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.

Quick selection guide, pages 1/56 and 1/62

Accessories and spare parts

Accessories for electronic trip units ETU

Protective devices with device holder and optional metering function

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

Type	With protection function	Metering 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 metering function Plus	3WL9314-5AA30-0AA2
ETU76B	LSIN(G)	Without	3WL9317-6AA00-0AA2
		With metering function Plus	3WL9317-6AA30-0AA2

Rating plugs


NSE0_00992b

- 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


NSE0_01027a

- 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	3WL9111-0AT53-0AA0
GFM AT 55B – 76B	ETU76B	3WL9111-0AT56-0AA0

Display


NSE0_01609

Accessory for	Version	Article No.
ETU45B	4-line	3WL9111-0AT81-0AA0

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


NSE0_00990a


NSE0_00991a

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

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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.

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

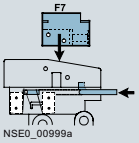
Sealable and lockable covers

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

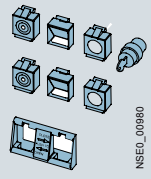
Voltage	Article No.
24 V DC	3WL9111-0AK03-0AA0
48 V DC	3WL9111-0AK04-0AA0
120 V AC / 125 V DC	3WL9111-0AK05-0AA0
208 ... 250 V AC / 208 ... 250 V DC	3WL9111-0AK06-0AA0

Retrofittable internal wiring

Purpose	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	3WL9111-0AK31-0AA0
		ETU Release 2	3WL9111-0AK33-0AA0

Locking devices and interlocks

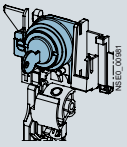
Padlockable protective cover ON / OFF



- 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 devices against unauthorized closing, in the operator panels



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

Variant	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

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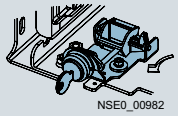
Locking devices and interlocks

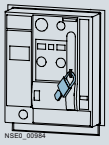
Locking devices against unauthorized closing, for withdrawable circuit breakers


NSE0_00982

- The disconnector 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

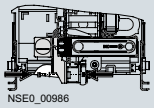
Variant	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WL9111-0BA51-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA53-0AA0
Made by KIRK-Key [1]	Without locks, cylinders or keys	3WL9111-0BA57-0AA0
Made by RONIS	Locks, cylinders and keys included	3WL9111-0BA58-0AA0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

Locking devices for operating mechanism handle with padlock


NSE0_00984

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

Locking device against movement of the withdrawable circuit breaker


NSE0_00986

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

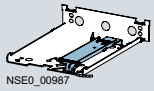
Variant	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WL9111-0BA73-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA75-0AA0
Made by PROFALUX	Locks, cylinders and keys included	3WL9111-0BA76-0AA0
Made by RONIS	Locks, cylinders and keys included	3WL9111-0BA77-0AA0
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 device in OFF position
- Lock in the operator panel
- A maximum of 2 circuit breakers can be switched on

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

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


NSE0_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")

Variant	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 devices to prevent opening of the cabinet door in ON position


NSE0_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.

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Accessories and spare parts

Locking devices and interlocks

Locking devices 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").

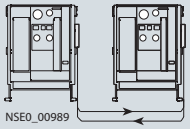
Version	Article No.
Spare part for option R30	3WL9111-0BB13-0AA0

Locking devices 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

Mutual mechanical interlockings



- 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 IEC

- Commissioning /Service Tool for IEC 3WL (ETU Release 2) and 3VA
- With adapter, cable and case

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

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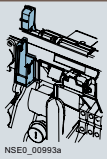
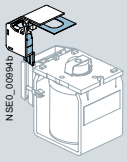
Indicators and control elements

Ready-to-close signaling switches (S20)


NSE0_00993a

Version	Contacts	Article No.
Spare part for option C22	1 NO contact	3WL9111-0AH01-0AA0

Signaling switch (S22 or S23).


NSE0_00994b

- Not possible with communication port, order code "F02", "F12" or "F35"
- Auxiliary supply connection 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)

- Not possible with communication port, order code "F02", "F12" or "F35"
- Auxiliary supply connection X7 required for circuit breakers or guide frames. If this is not already available, please order additionally

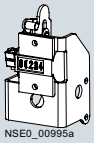
Version	Contacts	Article No.
Spare part for option K07	1 CO contact	3WL9111-0AH14-0AA0

2nd tripped signaling switch (S25)

- Not possible with communication port, order code "F02", "F12" or "F35"
- Auxiliary supply connection 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 contact	3WL9111-0AH17-0AA0

Operating cycle counters


NSE0_00995a

- Only in conjunction with motorized operating mechanism.

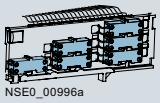
Variant	Version	Article No.
Spare part for option C01	Mechanical	3WL9111-0AH07-0AA0

Spring charged signaling switch

- Not possible with communication port, order code "F02", "F12" or "F35".
- Auxiliary supply connection X7 required for circuit breakers or guide frames. If this is not already available, please order additionally

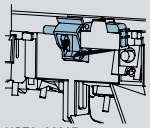
Version	Contacts	Article No.
Spare part for option C20	1 NO contact	3WL9111-0AH08-0AA0

Position signaling switches for guide frames


NSE0_00996a

Version	Contacts	Article No.
Spare part for options R15 to R16	1st block (3 CO contacts)	3WL9111-0AH11-0AA0
	2nd block (6 CO contacts)	3WL9111-0AH12-0AA0

Electrical ON button (S10) for operator panel


NSE0_00997a

- Not possible with communication port, order code "F02", "F12" or "F35"
- Not possible with motor shutdown switch
- Button + wiring (Auxiliary supply connection 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	Variant	Article No.
Spare part for options C11 to 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

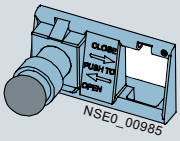
Indicators and control elements

Motor cutout switch (S12)

- Mounting onto operator panel
- Not possible with electrical ON button

Version	Article No.
Spare part for option S25	3WL9111-0AJ06-0AA0

EMERGENCY-OFF pushbuttons

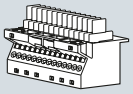


- Mushroom pushbutton instead of the mechanical OFF pushbutton

Variant	Article No.
Spare part for option S24	3WL9111-0BA72-0AA0

Auxiliary conductor connections

Male connectors for circuit breakers ①



Article No.
3WL9111-0AB01-0AA0

Extension for male connector

- Male connector must be ordered separately

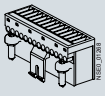
Version	Article No.
1000 V	3WL9111-0AB02-0AA0

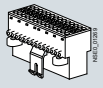
Male connectors and extension

Version	Article No.
1000 V	3WL9111-0AB10-0AA0

Auxiliary supply connection for circuit breakers or guide frames ②

Version	Article No.
Screw connection (SIGUT)	3WL9111-0AB03-0AA0
Screwless connection (tension spring)	3WL9111-0AB04-0AA0





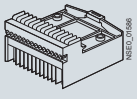
Coding kits ③

Version	Article No.
For fixed-mounted X5 to X8	3WL9111-0AB07-0AA0

Sliding contact modules for guide frames ④

Article No.
3WL9111-0AB08-0AA0

One-part sliding contact modules for guide frames ⑤



Version	Article No.
Screw terminals (SIGUT)	3WL9111-0AB18-0AA0

Blanking blocks for circuit breakers

Article No.
3WL9111-0AB12-0AA0

For a complete auxiliary current connection you must order:
Fixed-mounted version: ① + ② + ③
Withdrawable version: ① + ④ + ② and ① + ⑤

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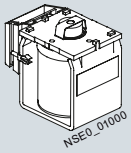
Auxiliary releases

Closing coils / shunt trips



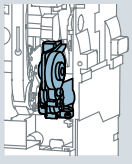
Version	Voltage	Article No.
100% OP	24 V DC	3WL9111-0AD01-0AA0
	30 V DC	3WL9111-0AD02-0AA0
	48 V DC	3WL9111-0AD03-0AA0
	60 V DC	3WL9111-0AD04-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AD05-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AD06-0AA0
5% OP Switching time 50 ms (standard >80 ms).	24 V DC	3WL9111-0AD11-0AA0
	48 V DC	3WL9111-0AD12-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AD13-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AD14-0AA0

Undervoltage release

Version	Voltage	Article No.
Instantaneous	24 V DC	3WL9111-0AE01-0AA0
	30 V DC	3WL9111-0AE02-0AA0
	48 V DC	3WL9111-0AE03-0AA0
	60 V DC	3WL9111-0AE07-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AE04-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AE05-0AA0
	380 ... 415 V AC	3WL9111-0AE06-0AA0
Delayed	48 V DC	3WL9111-0AE11-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AE12-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AE13-0AA0
	380 ... 415 V AC	3WL9111-0AE14-0AA0

Operating mechanism

Motorized operating mechanisms

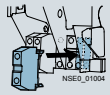


- Auxiliary supply connection X5 required for circuit breakers or guide frames.
  If this is not already available, please order additionally

Voltage	Article No.
24 ... 30 V DC	3WL9111-0AF01-0AA0
48 ... 60 V DC	3WL9111-0AF02-0AA0
110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AF03-0AA0
220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AF04-0AA0

Auxiliary contacts

Auxiliary switch blocks



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

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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
- Hood removable and can be opened on both sides

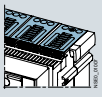
Article No.
3WL9111-0AP02-0AA0

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
		3	H, C	3WL9111-0AP07-0AA0
	4-pole	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

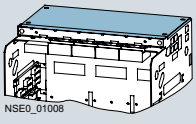
Arc chute



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

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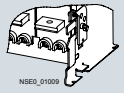
Coding for withdrawable version

Coding for withdrawable version

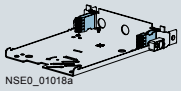


- By customer, for 36 coding variants

Size	Article No.
1, 2	3WL9111-0AR12-0AA0
3	3WL9111-0AR13-0AA0

Grounding connections

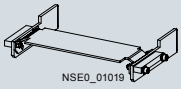
Grounding connection between the guide frame and the withdrawable circuit breaker



- Order 2× for 30 kA ground short-circuit current
- Contacting modules for guide frame

Size	Article No.
1 and 2 [1]	3WL9111-0BA01-0AA0
3	3WL9111-0BA02-0AA0

Contacting modules for withdrawable circuit breakers



Number of poles	Size	Article No.
3-pole	1	3WL9111-0BA05-0AA0
	2 [1]	3WL9111-0BA06-0AA0
	3	3WL9111-0BA07-0AA0
4-pole	1	3WL9111-0BA08-0AA0
	2 [1]	3WL9111-0BA04-0AA0
	3	3WL9111-0BA10-0AA0

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

Support brackets

Support brackets

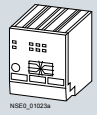
- For mounting fixed-mounted circuit breakers on vertical plane
- Only for sizes 1 and 2 (1 set = 2 units)

Article No.
3WL9111-0BB50-0AA0

Modules of the CubicleBUS

- Each modules of the **Cubicle**BUS 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 **Cubicle**BUS and metering functions are available for the electronic trip units ETU45B and ETU76B.

CubicleBUS modules



Type	Article No.
Digital output modules with rotary coding switch, relay outputs	3WL9111-0AT26-0AA0
Digital output modules, configurable, relay outputs	3WL9111-0AT20-0AA0
Digital input module	3WL9111-0AT27-0AA0
Analog output module	3WL9111-0AT23-0AA0
ZSI module	3WL9111-0AT21-0AA0

Preassembled cables for Modules of the CubicleBUS

For connection to 3WL	Length	Article No.
With COM15/COM16/COM35	0.5 m	3WL9111-0BC04-0AA0
	1 m	3WL9111-0BC02-0AA0
	2 m	3WL9111-0BC03-0AA0
Without COM15/COM16/COM35	2 m	3WL9111-0BC05-0AA0

Voltage transformers

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

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

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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 new

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 ETU45B and ETU76B electronic trip units

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.
• For acquisition via communication of the circuit breaker states ON / OFF / tripped • For electronic trip units ETU45B and ETU76B	3WL9111-0AT16-0AA0

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Interfaces

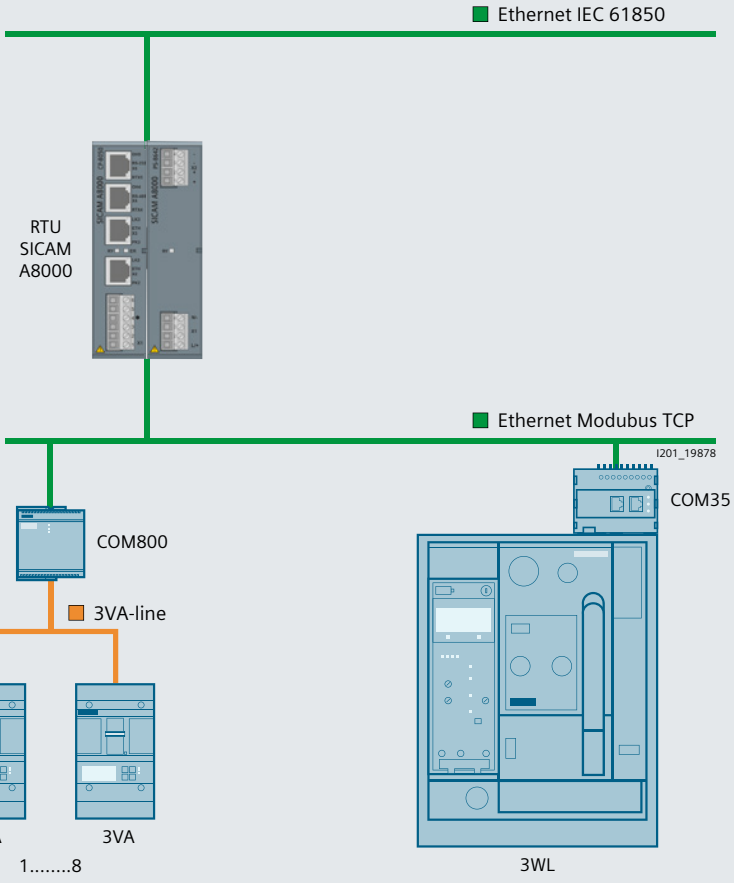
Interface to the IEC 61850

- 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]	–	6MF28021AA00
SICAM CP-8050 [2]	–	6MF2805-0AA00 new
SICAM PS-8620	24 ... 60 V DC (12 W)	6MF28620AA00
SICAM PS-8622	110 ... 220 V DC (12 W)	6MF28622AA00

[1] Designed for maximum data volumes of 20 devices each with 50 data points

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



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Accessories and spare parts

Storage devices

Capacitor storage devices

- 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 new

Metering function Plus for retrofitting

- As spare part or for retrofitting the metering 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 metering 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 metering 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 protection 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

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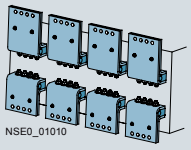
Main conductor connections, fixed-mounted versions (essential accessory)

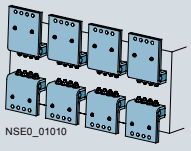
Front-accessible main connections, single hole at top


NSE0_01010

- 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
3	≤4000 A	3WL9111-0AL06-0AA0

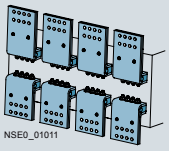
Front-accessible main connections, single hole at bottom


NSE0_01010

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

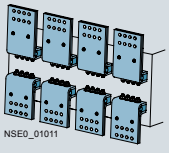
Size	Rated current I_n	Article No.
1	≤1000 A	3WL9111-0AL51-0AA0
	1250 ... 1600 A	3WL9111-0AL52-0AA0
2 [4]	≤2000 A	3WL9111-0AL53-0AA0
	≤2500 A	3WL9111-0AL54-0AA0
	≤3200 A	3WL9111-0AL55-0AA0
3	≤4000 A	3WL9111-0AL56-0AA0

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


NSE0_01011

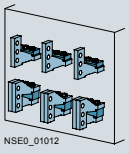
Size	Rated current I_n	Article No.
1	≤1000 A [1]	3WL9111-0AL07-0AA0
	1250 ... 2000 A [5]	3WL9111-0AL08-0AA0
2 [4]	≤2000 A	3WL9111-0AL11-0AA0
	≤2500 A	3WL9111-0AL12-0AA0
	≤3200 A	3WL9111-0AL13-0AA0
3	≤4000 A	3WL9111-0AL14-0AA0

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


NSE0_01011

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
3	≤4000 A	3WL9111-0AL64-0AA0

Rear vertical main connections


NSE0_01012

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] Nor 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 3WL9 111-0AM01-0AA0 vertical connection is required, up to 2000 A or with breaking capacity H two 3WL9 111-0AM01-0AA0 vertical connections are required.
[3] In the case of vertical connection size 2, up to 2500 A one 3WL9 111-0AM02-0AA0 vertical connection is required, up to 3200 A two 3WL9 111-0AM02-0AA0 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.

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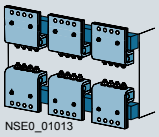
Accessories and spare parts

Main conductor connections, withdrawable versions (essential accessory)

Front-accessible main connections, single hole at top or at bottom [1] [2]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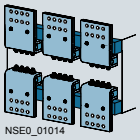
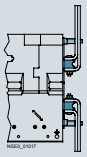
Size	Rated current I_n	Article No.
1	≤1000 A	3WL9111-0AN01-0AA0
	1250 ... 1600 A	3WL9111-0AN02-0AA0
2 [3]	≤2000 A	3WL9111-0AN03-0AA0
	≤2500 A	3WL9111-0AN04-0AA0
	≤3200 A	3WL9111-0AN05-0AA0
3	≤4000 A	3WL9111-0AN06-0AA0

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


NSE0_01014

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
3	≤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

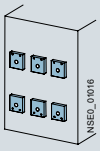

NSE0_01015

Size	Rated current I_n	Terminal 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
3	≤5000 A		3WL9111-0AN22-0AA0
	≤6300 A	3 units for 3-pole switches	3WL9111-0AN23-0AA0
	≤6300 A, top	4 units for 4-pole switches	3WL9111-0AN20-0AA0
	≤6300 A, bottom	4 units 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 [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
3	≤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.

System overview, page 1/72

Conversion kit

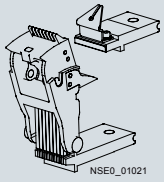
Conversion kit for converting fixed-mounted circuit breakers into withdrawable circuit breakers

- Guide frames and sliding contact modules must be ordered separately.
- Conversion from fixed-mounted to withdrawable is not possible for 3WL1 circuit breakers with very high breaking capacity C

Number of poles	Size	Article No.
3-pole	1	3WL9111-0BC11-0AA0
	2	3WL9111-0BC12-0AA0
	3	3WL9111-0BC13-0AA0
4-pole	1	3WL9111-0BC14-0AA0
	2	3WL9111-0BC15-0AA0
	3	3WL9111-0BC16-0AA0

Main contact elements

Main contact elements [2) 4)]



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

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

1) Not for circuit breakers with very high breaking capacity C.
2) Replacement 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.
1) Not for size 1 circuit breakers with breaking capacity H and circuit breakers with I_n=2000A.

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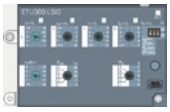
3WL10 system overview

IEC AC ..

Switching devices

Size 0

Trip units



Electronic trip units ETU (LI, LSI, LSIG)

Electronic trip units ETU (LSI, LSIG)

Accessories

Communi-cation and I/O modules

Rating plugs

Breaker Connect modules

Metering 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

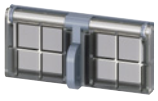
Closing coils

Auxiliary switches and signaling switches

Auxiliary, alarm, and signaling switches

Position signaling switches

Interlocking



Interlocking sets

Locking devices

Locking mechanisms

Door sealing frames

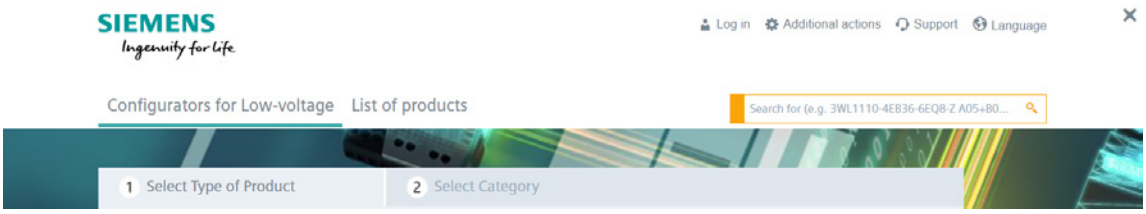
Protective covers

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

Online configurator highlights

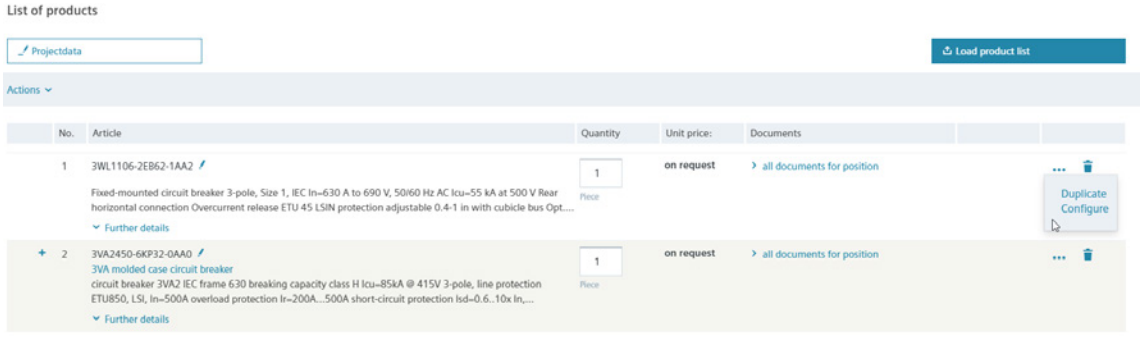
Search function with global direct input

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

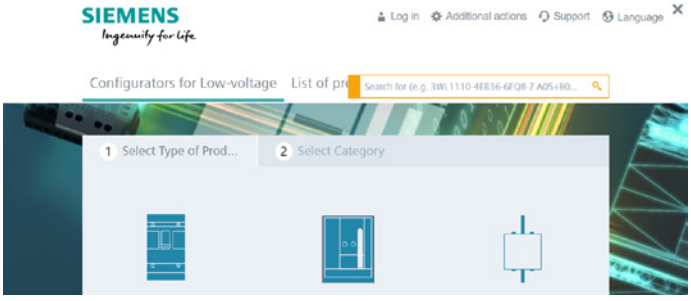


Product list stores multiple configurations and can transfer them collectively to the shopping cart

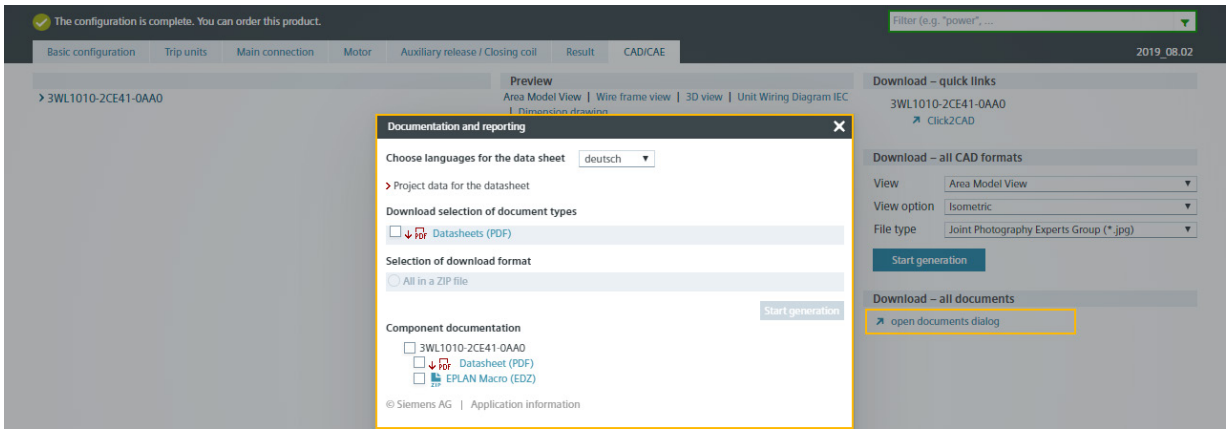
Recall of completed configurations for modification or additional configuration



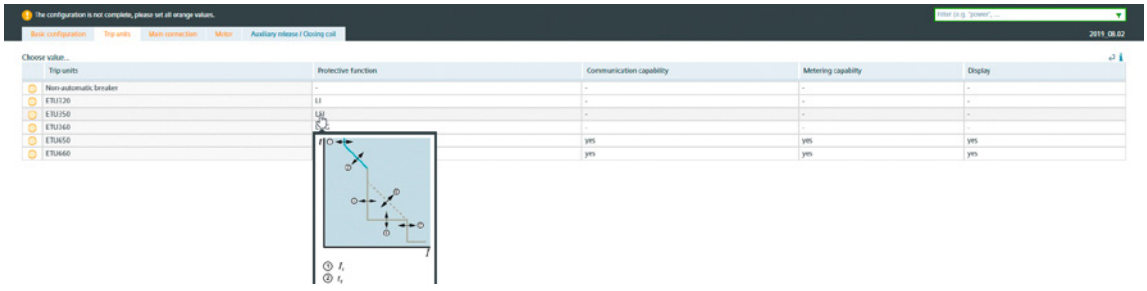
Responsive Design



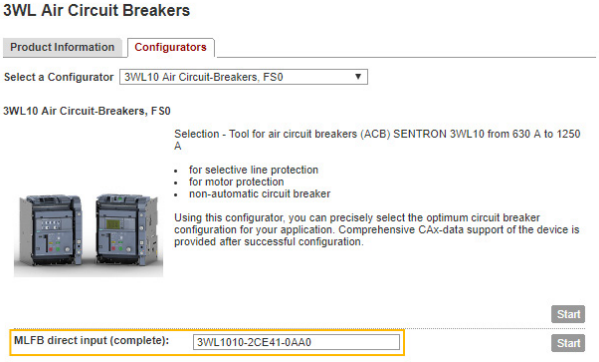
Download an ePlan Selector for 3WL10



Mouseover display of characteristic curves to show the protection function



Direct entry of an already known Article No. or parts of an Article No.



Structure of the article numbers

Basic configuration

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

1

	6	7		8	9	10	11	12		13	14	15	16
3WL10			–						–				

Basic unit and ETU

Max. rated current I_n	630 A					0	6			
	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	Without metering function, without a communication link	Without trip unit					A	A		
Circuit breakers, ETU 3-series	Without metering function, without a communication link	With trip unit	ETU320 LI	(N) [1]			A	B		
			ETU350 LSI	(N) [1]			A	C		
			ETU360 LSIG	(N) [1]			A	D		
Circuit breakers, ETU 6-series		With trip unit	ETU650 (LSI)					E		
			ETU660 (LSIG)					F		
	Without a communication link	Without metering function					A			
	With a communication link	Without metering function					B			
		Metering function Basic	Voltage tap on bottom				C			
			Voltage tap on top				D			
		Metering function Advanced	Voltage tap on bottom				E			
			Voltage tap on top				F			

[1] Neutral conductor protection for 3-pole breakers with an external neutral conductor transformer or 4-pole breakers

Number of poles	Fixed-mounted versions	3-pole		0
		4-pole	Neutral left	1
			Neutral right	2
	Withdrawable	3-pole		3
		4-pole	Neutral left	4
			Neutral right	5

Connection [2]

Installation type	Withdrawable	Without frame	0
		Rear vertical connection	1
		Rear horizontal connection	2
		Adapter for compression 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

[2] Broadened connections available as accessories.

Quick selection guide, pages 1/56 and 1/58

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

Quick selection guide, pages 1/56 and 1/58

Accessory options

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

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

Accessories for basic configuration

Mounting options for fixed mounting

- 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 interlocks.[1)]

			Order code		
Mounting options for fixed mounting [1)]	Floor mounting	Mounting support standard	A	0	7
		Mounting support extended [2)]	S	5	6
	Rear panel mounting onto mounting plate	Side wall extended [2)]	S	5	7

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 In, 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).

				Order code		
Rating plug	For setting the rated current I_n	For all ETU	400 A	B	0	4
			630 A	B	0	6
			800 A	B	0	8
			1000 A	B	1	0
	For setting the rated current I_n, with overload protection L = OFF	For ETU 6-series	400 A	L	0	4
			630 A	L	0	6
			800 A	L	0	8
			1000 A	L	1	0
			1250 A	L	1	2
	For setting the rated current I_n, For enabling of the residual current protection function. The residual current function is only possible with the MF Advanced metering function.	For ETU660 only	400 A	G	0	4
			630 A	G	0	6
			800 A	G	0	8
			1250 A	G	1	2

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.

			Order code		
Communication modules	COM040	PROFIBUS	F	0	2
	COM041	PROFINET	F	0	3
	COM043	Modbus TCP	F	1	1
	COM042	Modbus RTU	F	1	2

Breaker Connect modules

- When a circuit breaker with a communications 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.

		Order code		
Breaker Connect modules	110 ... 240 V AC/DC	F	2	6

I/O modules internal

			Order code		
I/O modules internal	Digital I/O module IOM040	2 inputs, 2 outputs	K	5	6

[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)

System overview, page 1/108

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

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

				Order code		
Accessories for the motor						
Mechanical operating cycles counter, 5-digit				C	0	1
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 – minimum load above 1 mA at 5 V DC and a – maximum breaking capacity of 100 mA at 24 V DC.						
Position signaling switches for guide frames [1]		2 CO | 2 CO | 2 CO (connected | test | disconnected position)		K	5	5
Signaling switches	Ready-to-close signaling switches		1 CO digital, 24 V DC	K	5	0
	Tripped signaling switches (S24)		1 CO digital, 24 V DC	K	5	3
	Spring charged signaling switches (S21)		1 CO digital, 24 V DC	K	5	4
Auxiliary switches	ON / OFF AUX	4 CO digital, 24 V DC		K	5	1
		2 CO 400 V AC + 2 CO digital, 24 V DC		K	5	2
Locking, blocking and interlocking						
Locking devices [1]	To prevent movement of withdrawable circuit breaker	Cylinder lock	Made by RONIS	R	7	8
		For no more than 3 padlocks, 8 mm		R	6	5
Locking mechanisms	To prevent movement to disconnected position			R	7	9
Locking devices	To prevent unauthorized activation in the operator panel (safe OFF)	Cylinder lock, made by RONIS		S	0	8
		For no more than 3 padlocks, plastic 4 mm		S	2	2
		For no more than 1 padlock, metal 7 mm		S	2	3
		For no more than 2 padlocks, metal 8 mm		S	0	7
Interlocking sets	For mechanical ON and/or OFF on the operator panel	For no more than 3 padlocks, plastic 4 mm		S	4	2
		For no more than 1 padlock, metal 7 mm		S	4	3
		For no more than 2 padlocks, metal 8 mm		S	4	4
Protective covers	For mechanical ON/OFF, not lockable			S	4	1
Door sealing frame IP30	IP3x			T	3	0

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

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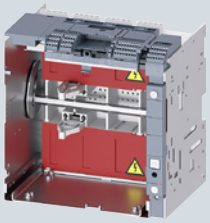
Guide frames

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 switching device. 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 mm² Cu/Al cable connection, for compression lugs	3VW8112-0AD01
	Front connection bars, extended	3VW8112-0AE01
4-pole	Rear vertical	3VW8112-0BA01
	Rear horizontal	3VW8112-0BB01
	4× 240 mm² Cu/Al cable connection, for compression lugs	3VW8112-0BD01
	Front connection bars, extended	3VW8112-0BE01

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

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

Locking, blocking and interlocking

			Order code		
Locking devices	To prevent movement of withdrawable circuit breaker	Cylinder lock, made by RONIS	R	7	8
		For no more than 3 padlocks, 8 mm	R	6	5
Locking mechanisms	To prevent movement to disconnected position (only in combination with R78 or R65)		R	7	9

Auxiliary/signaling switches

			Order code		
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)	K	5	5

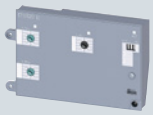
Auxiliary and signaling switches for currents >100 mA and up to 400 V AC are installed as standard.
For currents <100 mA for PLC connections, these auxiliary and signaling switches can be modified.
The auxiliary/signaling switches for 24 V DC digital signals are designed for

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

System overview, page 1/108

Electronic trip units ETU and accessories

Electronic trip units (ETU)



Version	With communications / metering function / enhanced protection 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

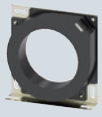
Metering functions for ETU650 or ETU660

Description	Protective function / version	Arrangement	Article No.
Metering 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
	For 4-pole circuit breakers with neutral left	Top	3VW9011-0AT75
		Bottom	3VW9011-0AT76
	For 3-pole circuit breakers	Top	3VW9011-0AT72
		Bottom	3VW9011-0AT73

External current transformers for N conductor

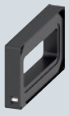
Accessory for	Purpose	Article No.
ETU320, ETU350, ETU360, ETU650, ETU660	For 3-pole circuit breakers only	3VW9011-0AA30

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



- Only with MF Advanced metering function and Rc rating plug

Accessory for	Purpose	Article No.
ETU660	For external residual current measurement	3VW9011-0RC30

Remote reset magnets RR for the circuit breakers including tripped signal

- 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

Replacement batteries for electronic trip units ETU

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

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Electronic trip units ETU and accessories

Rated current module / rating plug

- Only one module is possible per circuit breaker

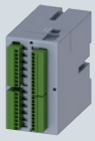
Accessory for	Version	Rated current I_n	Article No.
ETU320, ETU350, ETU360, ETU650, ETU660	Rating plugs for setting (< $I_{n\ max}$) the rated current I_n	400 A	3VW9011-0AA53
		630 A	3VW9011-0AA55
		800 A	3VW9011-0AA56
		1000 A	3VW9011-0AA57
		1250 A	3VW9011-0AA58
ETU 6-series	Rating plugs without overload 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 protection function and setting (< $I_{n\ max}$) of the rated current I_n. The residual current function is only possible with the MF Advanced metering 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 communications 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 standard mounting rail

Accessory for	Maximum switching current per contact	Inputs	Outputs	Article No.
ETU 6-series	• 2 A at ≤ 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	• 2 A at ≤ DC 30 V • 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 communications interface of the ETU 6-series is selected in the basic circuit breaker configuration

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

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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 communications 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 communications 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 • 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 • 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 • As gateway for parameterization of the ETU with SENTRON powerconfig – Testing a tripping operation using SENTRON powerconfig • For use with the powerservice software – Testing of the basic protection functions LSING – Testing of the enhanced protection functions – Test data storage – Readout of ETU buffer – Generation of a report of the set parameters	TD420	3VW9011-0AT33

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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

Fixing	Version	Mounted onto	Number of poles / quantity	Article No.
Fixed-mounted	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	3VW9011-0AL75
		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

Fixing	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		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		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

Fixing	Version	Mounted onto	Number of poles / quantity	Article No.
Fixed-mounted	Circular conductor terminals 4 × 240 mm² for front cable connection, 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 mm² for compression lugs, 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

- Auxiliary conductor terminal 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 auxiliary conductor terminals required.

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

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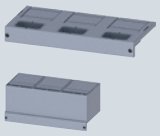
Accessories for connection

Terminal covers for fixed circuit breakers



- Finger-proof for front main circuit connection for fixed-mounting
- 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 breakers

- 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

- For fixed-mounted versions

Version	Purpose	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)	• 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) • Mutual mechanical interlockings for 3WL/3VA (for 3VW9011-0BB21)	3VW9011-0BB52

Extension kit for modification of the side wall of the fixed-mounted breaker

- 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	Purpose	Article No.
Extension kit for side wall	• 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) • Mutual mechanical interlockings for 3WL/3VA (for 3VW9011-0BB21)	3VW9011-0BB53

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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

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Auxiliary releases, closing coils

Auxiliary/signaling switches

- The auxiliary/signaling switches for 24 V DC digital signals are designed for a
  - minimum load above 1 mA at 5 V DC and 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 charged 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

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Accessories and spare parts

Interlocking

Locking devices to prevent movement of the withdrawable circuit breakers

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

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

- Only possible as a supplement in conjunction with R78 (3VW9011-0BA80) and/or R65 (3VW9011-0BA87)

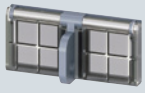
Description	Article No.
Locking mechanism (replacement for R79)	3VW9011-0BA84

Locking devices in OFF position

- For fixed-mounted versions and withdrawable versions
- To prevent unauthorized activation in the operator panel (safe OFF)
- The disconnector unit fulfills the conditions for a supply disconnecting (isolating) device acc. to EN 60204-1

Description	Artikel-Nr.
Cylinder lock, made by RONIS (replacement for S08)	3VW9011-0BA33

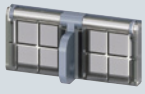
Locking devices in OFF position



- For fixed-mounted versions and withdrawable versions
- To prevent unauthorized activation in the operator panel (safe OFF)
- The disconnector unit fulfills the conditions for a supply disconnecting (isolating) device acc. to EN 60204-1

Description	Version	
Padlock 4 mm (replacement for S22)	Plastic for no more than 3 padlocks	3VW9011-0BA41
Padlock 7 mm (replacement for S23)	Metal for no more than 1 padlock	3VW9011-0BA42
Padlock 8 mm (replacement for S07)	Metal for no more than 2 padlocks	3VW9011-0BA44

Padlockable protective cover ON/OFF on the operator panel



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

Protective cover for mechanical ON/OFF

- Mechanical ON/OFF to protect against unintentional actuation on the operator panel
- Not lockable

Description	Article No.
Not lockable (replacement for S41)	3VW9011-0BA21

Mutual mechanical interlockings

- Mutual mechanical interlocking for 3WL / 3VA with Bowden cable 2 m

Fixing	Mounting	Article No.
Fixed-mounted	Rear panel or floor mounting	3VW9011-0BB21
Withdrawable	Mounting onto guide frame	3VW9011-0BB22

Bowden cable, separate

- One required for each circuit breaker

Variant	Article No.
1000 mm	3VW9011-0BB23
2000 mm	3WL9111-0BB45-0AA0
3000 mm	3WL9111-0BB46-0AA0

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Interlocking

Locking mechanisms to prevent opening of the control cabinet doors in ON position

- 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

Fixing	Version	Article No.
Fixed mounting 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	Befestigung	Version	Article No.
Replacement 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

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Published by
Siemens AG

Smart Infrastructure
Electrical Products
Siemensstraße 10
93055 Regensburg, Germany

For the U.S. published by
Siemens Industry Inc.

100 Technology Drive
Alpharetta, GA 30005
United States

PDF (Extract from E86060-K8280-A101-B2-7600)
KG 1220 130 En
Produced in Germany

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