SASSIN

Better Electric, Better Life

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SASSIN

V 28.1

PRODUCT CATALOG

SASSIN

Power Distribution Electrics





Company Profile

As one of the leading enterprises in the low voltage electrics field in China, Sassin International Electric Shanghai Co., Ltd is committed to offering professional solutions of low voltage electric and smart electricity for different fields customers from the countries and regions around the world, to satisfy worldwide customers' requirements on utilizing energy more safely and conveniently, help customers to constantly improve efficiency of production and energy, and reducing their impact on the environment.

Sassin focuses on the global market, driving the company development with technical R&D. Sassin is committed to researching and developing different low electric products to satisfy the different requirements from customers all over the world. With the trend of intelligent electricity, Sassin has developed the smart electric devices and Smart Power Management System - SPMS to protect the safety of life and property, make the electricity management easily and remotely in any time at any place, and improve the power efficiency. In order to achieve the quick R&D, Sassin has set up the Test Center including a 10kA Short Circuit Breaking Laboratory, the Test Center has been certified by the CNAS (China National Accreditation Service for Conformity Assessment).

Quality is company's life. Sassin is always sparing no effort to promote the construction of quality management system and improve it. For this purpose, Sassin implemented the Total Quality Management System, and oriented by market and customers, to drive the employees and suppliers focusing on the continuous improvement of product quality. Sassin has been certified by the ISO9001 Quality Management System and ISO14001 Environment Management System.

Corporate Culture - Value System

Vision

Better Electric, Better Life.

Mission

Make Electric Safe, Simple, Smart.

Value

Confidence, Faith, Credit.

Catalog Classification

V 28.1 Power Distribution Electrics

Air Circuit Breakers / Moulded Case Circuit Breakers / Automatic Transfer Switches / Fuses



V 28.2 Modular DIN Rail Devices

MCB / Residual Current Devices / Surge Protective Devices / Switching Devices / Distribution Boxes



V 28.3 Industrial Control and Protection

Contactors / Starters / Thermal Overload Relays / Motor Protection Circuit Breakers



Online Catalog

All catalogs can be downloaded as PDF files from SASSIN website.

www.sassin.com













Power Distribution Electrics

Air Circuit Breakers

P 1-87 3SW68
P 88-116 3SW8

Moulded Case Circuit Breakers

P 117-132 3SM8, MCCBs with thermal magnetic trip units
P 133-160 3SM29, MCCBs with thermal magnetic trip units
P 161-169 PM61, MCCBs with thermal magnetic trip units
P 170-179 3SM8E, MCCBs with electronic trip units
P 180-183 3SM8L, MCCBs with earth leakage protection

P 184 **Automatic Transfer Switches**

P 185-186 3SAQ1, CB class, up to 63 A
P 187-195 3SAQ2, CB class, up to 800 A
P 196-210 3SAQ3, PC class, up to 5000 A
P 211-212 3SAQ5, CB class, up to 100 A
P 213-219 3SAQ6, PC class, up to 3200 A

Load Break Switches

P 220-221 3SGL load break switches

Fuse Combination Switches

P 222-223 3SGLR fuse combination switches

Fuse Disconnector Switches

P 224-225 3SHR17 fuse disconnector switches

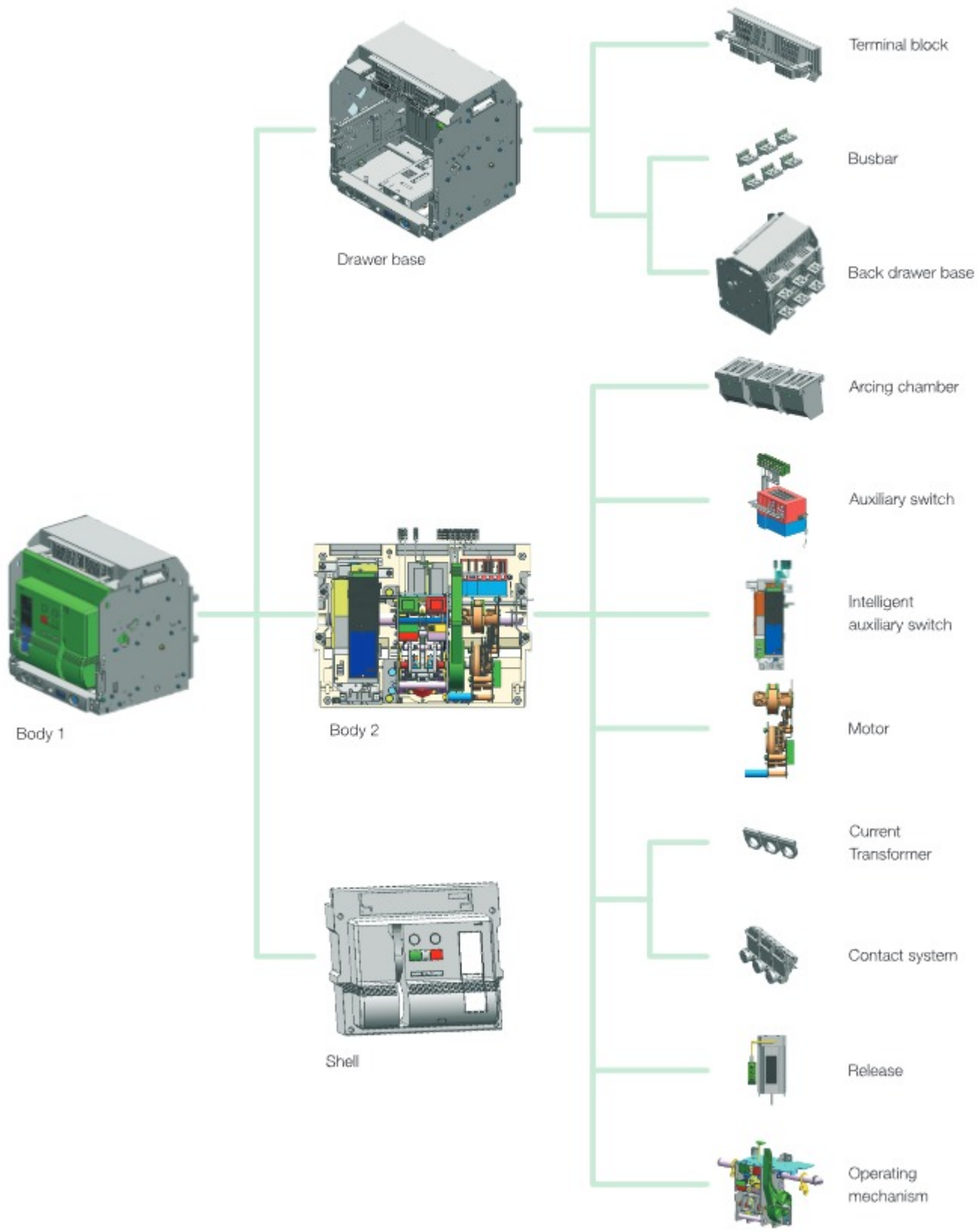
Low Voltage Fuses

P 226-228 RT16 low voltage fuses

Contents

Overview

The 3SW68 air circuit breaker not only provides protections against overload, short circuit, undervoltage but also has a lot of advantages like optimized size, inner communication module and the function of measurement and management to just name a few.



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Applications and functions

- Distributing electricity and protecting loads from overload, short circuit, undervoltage, and residual current
- Providing high reliability of power supply by smart and optional protection
- Used as an isolator
- Operating the motor directly for occasionally starting and stopping when the rated current of the breaker is not higher than 630A



Standards

- IEC60947-1: Low-voltage switchgear and controlgear - Part 1: General rules
- IEC60947-2: Low-voltage switchgear and controlgear - Part 2: circuit breaker
- IEC60947-4-1: Low-voltage switchgear and controlgear - Part 4-1: Contactors and motor-starters – Electromechanical contactors and motor-starters

Instruction of type code

W68 A F 3 N 1000 L3

Type of electronic trip unit

Size A:	Size B, C, D:
AL3: Basic type LSI	BL3: Basic type LSI
AL4: Basic type LSIG	BL4: Basic type LSIG
AM: Standard type LSIG, LCD display	BM3: Basic type LSI, LCD display
AH: Communicate type LSIG, LCD display, Communication function	BM4: Basic type LSIG, LCD display
	BHP: Communicate type LSIG, LCD display
	BHQ: Communicate type LSIG, LCD display, measurement function
	BHG: Communicate type LSIG, LCD display, measurement function, motor protection function

Rated current

Size A:	Size B:	Size C:	Size D:
200	630	2000	4000
400	800	2500	5000
630	1000	2900	6300
800	1250	3200	
1000	1600	3600	
1250	2000	4000	
1600	2500		

Short circuit breaking capacity Icu (kA) (400 V AC)
N: Size A: 65; Size B: 70; Size C: 85; Size D: 100
H: Size A: 65; Size B: 85; Size C: 120; Size D: 120
S: Size D: 150

Poles: 3: 3-pole; 4: 4-pole

Installation type
F: Fixed type
D: Withdrawable type

Frame code
A: Size A, 3SW68-1600
B: Size B, 3SW68-2500
C: Size C, 3SW68-4000
D: Size D, 3SW68-6300

Series code

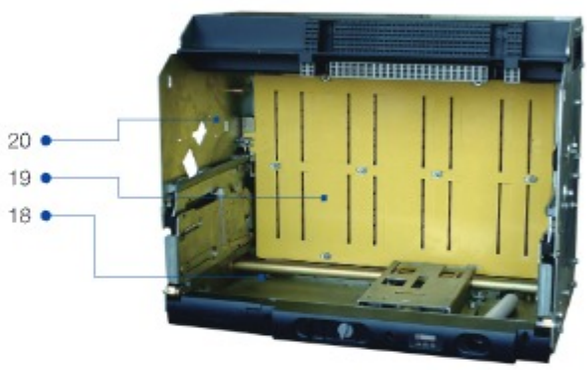
Characteristic

Structure of withdrawable type

Withdrawable type circuit breaker seat

Withdrawable type circuit breaker seat has block board for main circuit, so it can play the protective function when the breaker is removed.





1. Electronic trip unit
2. Stored energy release indicator
3. Switching-ON button
4. Lever to manually charge closing springs
5. Data label
6. Terminal of secondary circuit
7. Brand mark
8. Wiring diagram of secondary circuit
9. Signal for mechanical trip / Resetting button
10. Locking device of circuit breaker open (O)
11. Switching-OFF button
12. Indicator of circuit breaker closed (I) and open (O)
13. Safety padlock position
14. "Unlocking button" for the three positions ("separated", "test" and "connected")
15. Cranking bar operation hole
16. Positions indication of the three positions ("separated", "test" and "connected")
17. Cranking bar storage hole
18. Safety hole
19. Safety block board
20. Side board

Note:

1. "separated": Indicating main circuit and secondary circuit are isolated;
2. "test": Indicating main circuit is isolated, and secondary circuit is connected;
3. "connected": Indicating both main circuit and secondary circuit are connected;
4. When the circuit breaker is set to the given positions ("separated" or "test" or "connected"), it will be locked automatically and can be unlocked by sliding the unlock button to the left.

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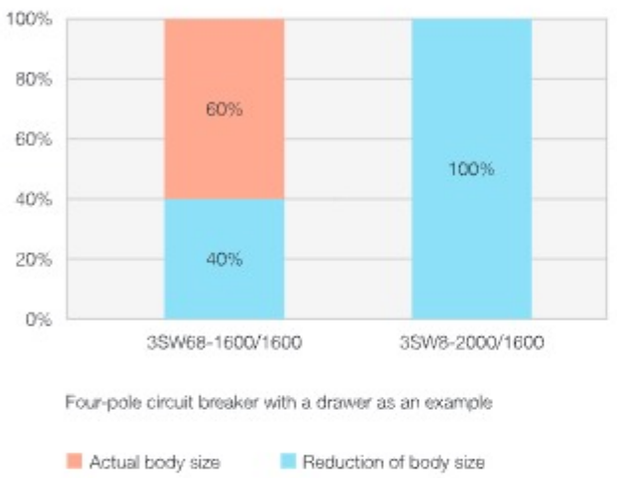
Features and benefits

- **Low space requirements**

3SW68 devices are very compact require very little space for installation. Frame A devices (up to 1600 A) fit into a 400 mm wide switchgear panel.
Frame B, C, D devices (up to 6300 A) are the smallest of their kind and with their smallest construction width fit into a 800 mm wide switchgear panel.

- **Example of comparison with 3SW8 in measurement**



Four-pole circuit breaker with a drawer as an example

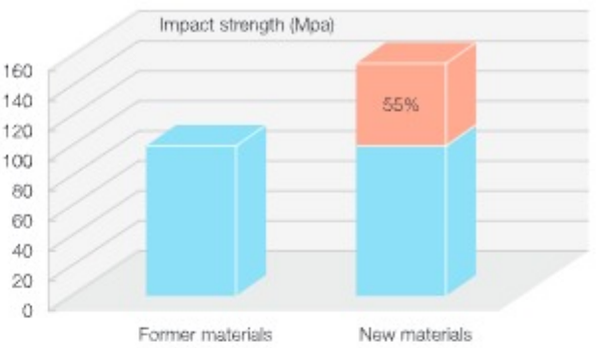
- **Modular design**

Components like auxiliary, motorized operating mechanisms, electronic releases, current sensors, auxiliary circuit signaling switches, automatic reset devices, interlocks and engagement operating mechanisms can all be exchanged or retrofitted in the back-ground, thus allowing the circuit breaker to be adapted to new, changing required.

- **Communication**

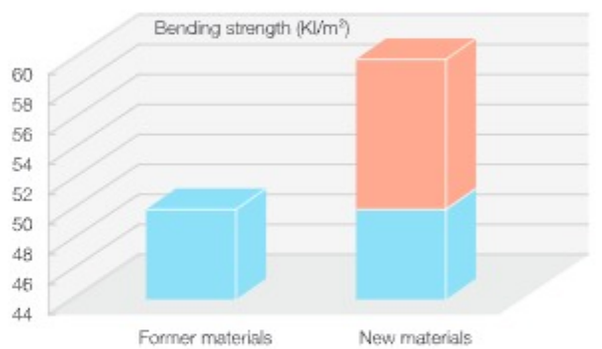
The use of modern communication capable circuit breakers opens up completely new possibilities in terms of start-up, parameterization, diagnostic, maintenance and operation. This allows varieties of ways to reduce costs and to improve productivity in industrial plants, buildings and infrastructure projects.

- **Strength of new material**



Strength of former insulation materials.

Strength increased after adopting new insulation materials using nanotechnology.

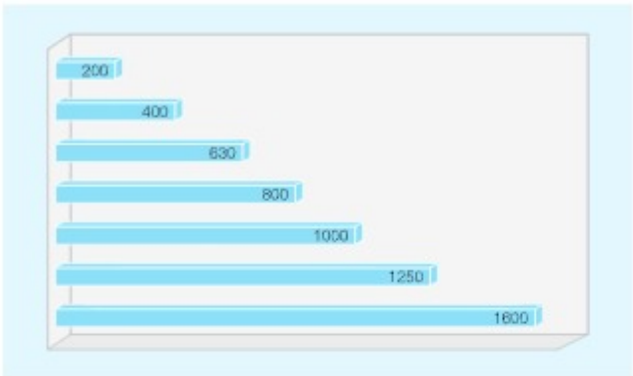


Strength of former insulation materials.

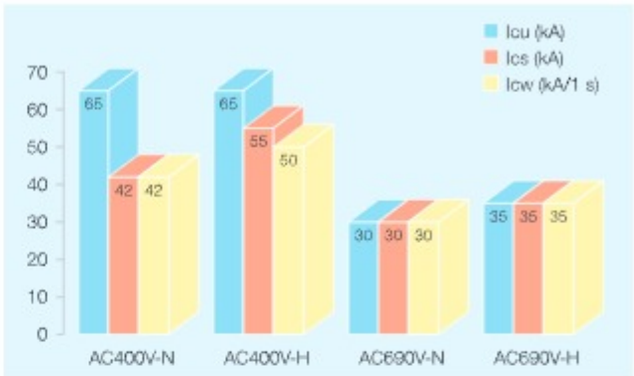
Strength increased after adopting new insulation materials using nanotechnology.

Complete current range and high breaking capacity

3SW68-1600 Rated current In (A)



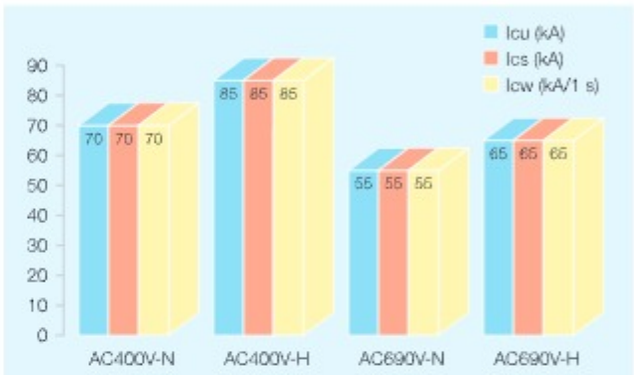
3SW68-1600 Breaking capacity



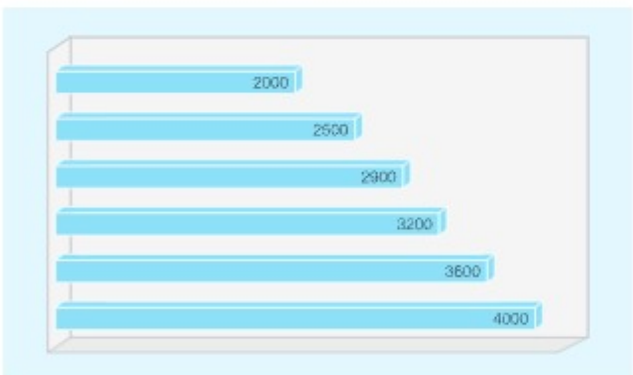
3SW68-2500 Rated current In (A)



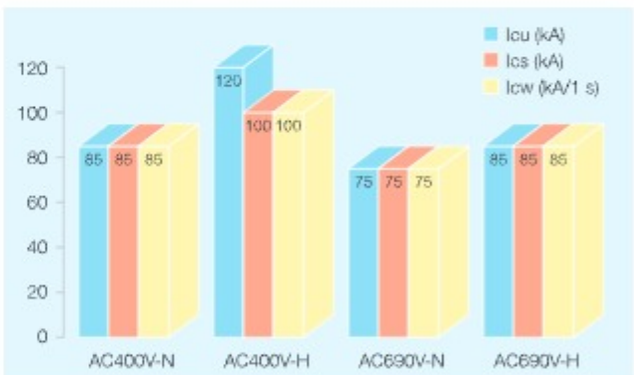
3SW68-2500 Breaking capacity



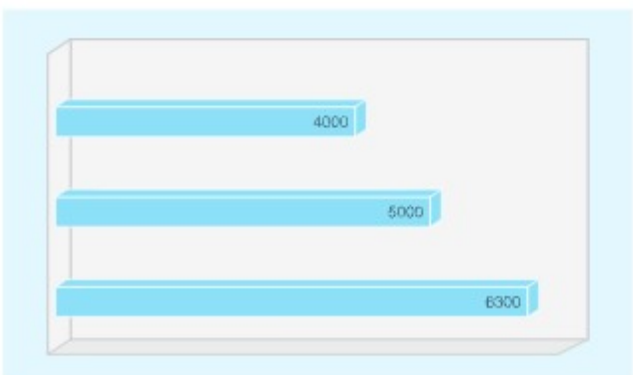
3SW68-4000 Rated current In (A)



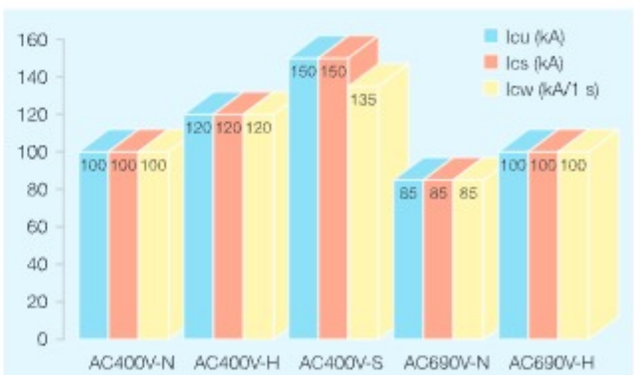
3SW68-4000 Breaking capacity



3SW68-6300 Rated current In (A)



3SW68-6300 Breaking capacity



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Technical specifications

Size				A		B		C		D		
Type				3SW68-1600		3SW68-2500		3SW68-4000		3SW68-6300		
Rated frame current Inm			A	1600		2500		4000		6300		
Rated current In			A	200, 400, 630, 800, 1000, 1250, 1600		630, 800, 1000, 1250, 1600, 2000, 2500		2000, 2500, 2900, 3200, 3600, 4000		4000, 5000, 6300		
Rated operational voltage Ue			V	400, 690		400, 690		400, 690		400, 690		
Rated insulating voltage Ui			V	1000		1000		1000		1000		
Rated impulsed withstand voltage Uimp			kV	12		12		12		12		
Power-frequency withstand voltage 1min			V	3500		3500		3500		3500		
Poles			P	3, 4		3, 4		3, 4		3, 4		
Neutral pole current-carrying capacity for 4-pole CBs				100 % In		100 % In		100 % In		100 % In		
Breaking capacity				N	H	N	H	N	H	N	H	S
Rated ultimate short-circuit breaking capacity Icu												
O-CO up to 400 V AC 50-60 Hz			kA	65	65	70	85	85	120	100	120	150
O-CO up to 690 V AC 50-60 Hz			kA	30	35	55	65	75	85	85	100	100
Rated operating short-circuit breaking capacity Ics												
O-CO-CO up to 400 V AC 50-60 Hz			kA	42	55	70	85	85	100	100	120	150
O-CO-CO up to 690 V AC 50-60 Hz			kA	30	35	55	65	75	85	85	100	100
Rated short-circuit making capacity Icm												
up to 400 V AC 50-60 Hz			kA	143	143	154	187	187	264	220	264	330
up to 690 V AC 50-60 Hz			kA	63	73	121	143	165	187	187	220	220
Rated short-time withstand current for 1 s Icw												
up to 400 V AC 50-60 Hz			kA	42	50	70	85	85	100	100	120	135
up to 690 V AC 50-60 Hz			kA	30	35	55	65	65	85	85	100	100
Breaking time			ms	25-30		25-30		25-30		25-30		
Closing time (max.)			ms	70		70		70		70		
Electrical life												
400 V			cycles	6500		5000		2000		1000		
690 V			cycles	3000		2500		1500		800		
Mechanical life												
Without maintenance			cycles	15000		12500		10000		5000		
With maintenance			cycles	30000		25000		20000		10000		
Available terminal type				Horizontal Vertical Front		Horizontal Vertical Front		Horizontal Vertical Front (1)		Horizontal (2) Vertical		
Versions				Withdrawable Fixed		Withdrawable Fixed		Withdrawable Fixed		Withdrawable Fixed		
Dimensions												
Withdrawable type	3-pole / 4-pole	W	mm	248 / 318		347 / 442		440 / 566		818 / 1070		
		H	mm	360		450		450		490		
		D	mm	310		406.5		406.5		406.5		
Withdrawable type	3-pole / 4-pole	W	mm	254 / 324		368 / 463		461 / 587		839 / 1091		
		H	mm	328.5		415.5		415.5		415.5		
		D	mm	217.5		308		308		308		

1. Front terminal is available for fixed version only.
2. Horizontal terminal is not available for circuit breaker with rated current 6300 A.

Electronic trip unit

Functions

Suitable size	A					B, C, D						
	3SW68-AL3	3SW68-AL4	3SW68-AM3	3SW68-AM4	3SW68-AH	3SW68-BL3	3SW68-BL4	3SW68-BM3	3SW68-BM4	3SW68-BHP	3SW68-BHQ	3SW68-BHG
Protection and alarm												
Overload protection	●	●	●	●	●	●	●	●	●	●	●	●
Short-time delayed short-circuit protection	●	●	●	●	●	●	●	●	●	●	●	●
Instantaneous short-circuit protection	●	●	●	●	●	●	●	●	●	●	●	●
Earth fault protection	-	●	-	●	●	-	●	-	●	●	●	●
Current leakage protection	-	-	○	○	○	-	-	-	-	○	○	○
Neutral pole protection	●	●	○	○	○	●	●	●	●	●	●	●
Thermal memory	●	●	●	●	●	●	●	●	●	●	●	●
Fault trip display	●	●	-	-	-	●	●	●	●	●	●	●
MCR & HSISC protection	○	○	●	●	●	○	○	○	○	○	○	○
Zone selective interlocking	-	-	○	○	○	-	-	○	○	○	○	○
Load monitoring display	○	○	●	●	●	○	○	○	○	○	○	○
Overload pre-alarm	-	-				-	-	○	○	○	○	○
Grounding alarm	-	-	●	●	●	-	-	-	-	○	○	○
Current imbalance protection	-	-	●	●	●	-	-	-	-	●	●	●
Required current protection	-	-	○	○	○	-	-	-	-	●	●	●
Phase loss protection	-	-	●	●	●	-	-	-	-	●	●	●
Undervoltage protection	-	-	○	○	○	-	-	-	-	○	○	○
Overvoltage protection	-	-	○	○	○	-	-	-	-	○	○	○
Voltage imbalance protection	-	-	○	○	○	-	-	-	-	○	○	○
Phase sequence protection	-	-	○	○	○	-	-	-	-	○	○	○
Under frequency protection	-	-	○	○	○	-	-	-	-	-	-	●
Over frequency protection	-	-	○	○	○	-	-	-	-	-	-	●
Inverse power protection	-	-	○	○	○	-	-	-	-	-	-	●
Measurement												
Current (three-phase, neutral, earth, current imbalance rate)	-	-	●	●	●	-	-	●	●	●	●	●
Voltage (line, phase, average, voltage imbalance rate)	-	-	○	○	○	-	-	-	-	●	●	●
power (active power, reactive power, power factors)	-	-	○	○	○	-	-	-	-	●	●	●
Frequency	-	-	○	○	○	-	-	-	-	●	●	●
Energy (active energy, reactive energy, apparent energy)	-	-	○	○	○	-	-	-	-	●	●	●
Heat capacity	-	-	●	●	●	-	-	-	-	●	●	●
Phase sequence	-	-	○	○	○	-	-	-	-	●	●	●
Required value (current, power)	-	-	○	○	○	-	-	-	-	●	●	●
Harmonic analysis	-	-	○	○	○	-	-	-	-	-	●	●
Waveform	-	-	-	-	-	-	-	-	-	-	●	●
Maintain												
Test function	●	●	-	-	-	●	●	●	●	●	●	●
Self-diagnostic function	●	●	●	●	●	●	●	●	●	●	●	●
Contact loss indicator	-	-	●	●	●	-	-	●	●	●	●	●
Operation times of trip unit on electricity	-	-	●	●	●	-	-	●	●	●	●	●
Remote reset	-	-	-	-	-	-	-	-	-	○	○	○
Historic record												
Historic fault record	●	●	●	●	●	●	●	●	●	●	●	●
Historic maximum current	-	-	●	●	●	-	-	●	●	●	●	●
Alarm record	-	-	●	●	●	-	-	-	-	●	●	●
Clock function (Y, M, D, h, m, s)	-	-	●	●	●	-	-	-	-	●	●	●
Communication												
Communication output	-	-	-	-	●	-	-	-	-	●	●	●
Modbus	-	-	-	-	-	-	-	-	-	○	○	○
Profibus	-	-	-	-	○	-	-	-	-	○	○	○
Devicenet	-	-	-	-	○	-	-	-	-	○	○	○

Series 3SW68 (Electronic trip unit 3SW68-AL)

Suitable for size A (3SW68-1600)

3SW68-AL electronic trip units are with LED displays, the protection value and delay time is set by dialing device.

- Type 3SW68-AL3: provides selective protections of long-time delayed protection, short-time delayed protection and instantaneous protection.
- Type 3SW68-AL4: provides additional selective earth fault protection and all protection functions of type 3SW68-AL3.



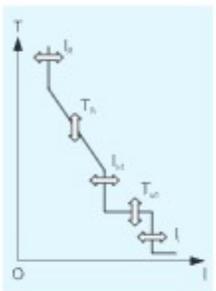
1. RESET button
   It pops up when fault tripping or test tripping. The circuit breaker can be switched on only when the button is pressed down, together with the fault indicator.
2. Indication of rated current (In)
3. MCU indicator
   It remains lit when the controller is under normal working.
4. Overvoltage indicator
   It lights up when current reaches 1.15 I_R.
5. Current bar indicator
   To display the real time current as the percentage of IR; 10% each step.
6. Fault type indicator
   To show the fault type after tripping occurs.
   - If power supply works normally, it will indicate the fault type after fault tripping. Press RESET to quit.
   - If power supply is lost, press FAULT CHECK key to show the type of last tripping when power recovers.
7. Current settings adjustor
8. Time settings adjustor
9. FAULT CHECK key
   Press the key to check fault status when the electronic trip unit is under normal working.
10. TEST key
    Press TEST key, the breaker trips immediately, but no fault recorded. Press RESET and CLEAR after test.
11. CLEAR key

Note: Parameter setting I_R < Isd < Ii

Characteristics

- Protection

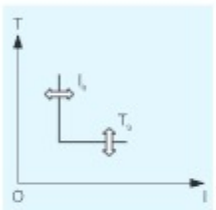
Type 3SW68-AL3, suitable for size A 3SW68-1600



Long-time delayed protection										
Current setting I_r (A)		I_r = In x …	0.4	0.5	0.6	0.7	0.8	0.9	1	OFF
Action characteristics			≤1.05 I_r, >2 h no action; >1.3 I_r (generator >1.2 I_r), <1 h action							
Time delay t_r (s)	Accuracy ±10% (Original difference ±40 ms)	Time setting t_r (s)	30		60		120		240	
$T_r = \frac{(1.5I_r)^2 \times t_r}{I^2}$		I = 1.5 x I_r	30		60		120		240	
		I = 2 x I_r	16.9		33.8		67.5		135	
		I = 6 x I_r	1.88		3.75		7.5		15	
I - overcurrent		I = 7.2 x I_r	1.3		2.6		5.2		10	
		I = 10 x I_r	0.68		1.35		2.7		5.4	
Thermal memory			10 min cold reset or remove after trip unit out of electricity							
Short-time delayed protection										
Current setting Isd (A)		Isd = I_r x …	3	4	5	6	7	8	10	OFF
Action characteristics			≤ 0.9 Isd no action; > 1.1 Isd action							
Time delay Tsd (s) (definite time protection)	Accuracy within 10% (Original difference ±40 ms)	Time setting tsd (s)	0.1		0.2		0.3		0.4	
		Return time (s)	0.06		0.14		0.23		0.35	
Instantaneous protection										
Current setting Ii (A)		Ii = In x …	3	4	6	8	10	12	15	OFF
Action characteristics			≤ 0.85 Ii no action; > 1.15 Ii action							
Action time delayed			< 30 ms							

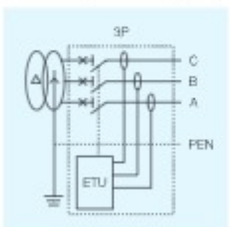
- Protection

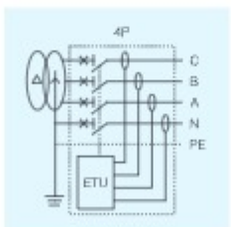
Type 3SW68-AL4, suitable for size A 3SW68-1600

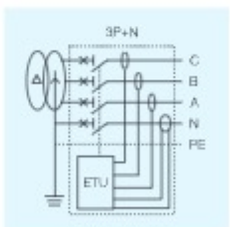


Long-time delayed protection: the same as type 3SW68-AL3										
Short-time delayed protection: the same as type 3SW68-AL3										
Instantaneous protection: the same as type 3SW68-AL3										
Earth fault protection										
Current setting Ig (A)		In ≤ 1250 A, Ig = In x …	0.4	0.5	0.6	0.65	0.7	0.75	0.8	OFF
		In > 1250 A, Ig = …	500	600	700	800	900	1000	1200	OFF
Action characteristics			≤ 0.9 Ig no action; > 1.1 Ig action							
Time delay Tg (s) (definite time protection)	Accuracy within 10% (Original difference ±40 ms)	Time setting tg (s)	0.2		0.4		0.6		0.8	

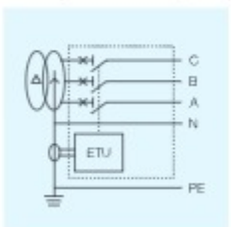
Differential protection (type T)







Source ground return (type W)



- Default settings

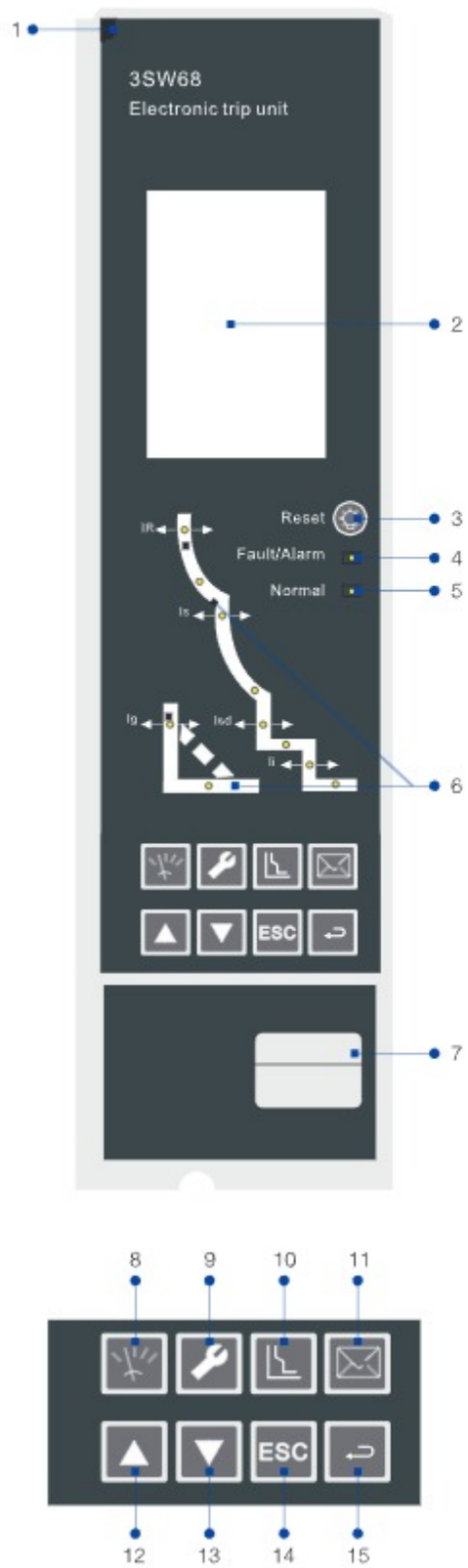
I_r = 1.0 In, t_r = 15 s;
Isd = 3.0 I_r, tsd = 0.4 s;
Ii = 10 In;
Ig = OFF, tg = 0.8 s.

Series 3SW68 (Electronic trip unit 3SW68-AM, 3SW68-AH)

Suitable for size A (3SW68-1600)

3SW68-AM and 3SW68-AH electronic trip unit equips with a LCD display, and all the operations can be conducted through function buttons.

- 3SW68-AM3: provides selective protections of long-time delayed protection, short-time delayed protection and instantaneous protection.
- 3SW68-AM4: provides additional selective earth fault protection and all protection functions of type 3SW68-AM3.
- 3SW68-AH: provides selective protections of long-time delayed protection, short-time delayed protection, instantaneous protection and earth fault protection, as well as the communication function to take remote measurement, control, setting and communication.



1. RESET button
   It pops up when fault tripping or test tripping. The circuit breaker can be switched on only when the button is pressed down, together with the fault indicator.
2. LCD display
3. Fault and alarm RESET key
4. FAULT/ALARM LED indicator
   The indicator is out when normal working; it flashes quickly when maintenance; it turns on in red when alarm.
5. NORMAL LED indicator
   It always flashes in green when the power is on and under normal working.
6. LED curve
   Red LED indicators are equipped in the curve.
   The corresponding indicator flashes to indicate the fault reason when fault tripping.
   The corresponding indicator remains lit to indicate the current setting when protection settings.
7. Test port
   A 16-pin test port is available on the bottom of front panel for plug-in portable power supply or inspection unit.

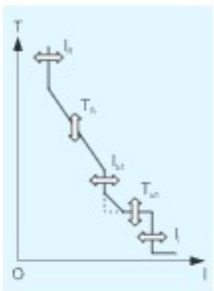
Keyboard

8. Measurement: For measuring (In password input interface, the LEFT key)
   Press to enter the measurement default menu to measure current "I", voltage "U", frequency "F", power "P", energy "E", and harmonic "H".
9. Settings: For system parameter settings (In password input interface, the RIGHT key)
   Press to enter the setting default menu to set "Clock settings", "Meter settings", "Test & Lock", "Communication settings", "I/O settings".
10. Protections: For protection parameter settings Press to set the parameters of "Current protection", "Load monitor", "Voltage protection", and "Other protection".
11. Information: For history record and maintenance Press to check "Current alarm", "Operation times", "Contact wear", "Product information", "Tripping record", "Alarm record", "Transposition record".
12. UP - To move up or change the parameters upwards.
13. DOWN - To move down or change the parameters downwards.
14. Esc - To exit and return to previous menu or cancel the current setting selection.
15. ENTER - To enter the next menu, select the current parameter, or save the updates.

Characteristics

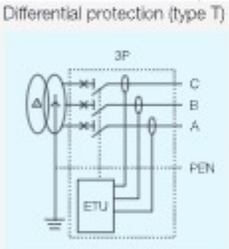
- Protection

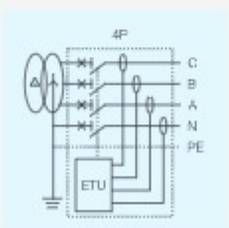
Type 3SW68-AM3, 3SW68-AM4, 3SW68-AH, suitable for size A 3SW68-1600

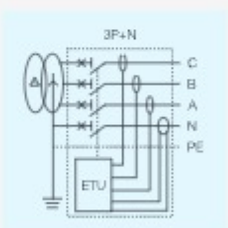


Long-time delayed protection			
Current setting I_r (A)		I_r = In x …	(0.4 ~ 1.0) + OFF, setting step: 1 A or 2 A
Action characteristics			< 1.05 I_r, > 2 h no action; ≥ 1.2 I_r, < 1 h action
Type of curves	SI: Standard Inverse curve VI: Very Inverse curve EI(G): Extremely Inverse curve (general power distribution) EI(M): Extremely Inverse curve (motor protection) HV: High-voltage fuse compatibility I2t: General inverse time protection		selectable in menu Default setting is I^2t, the same as 3SW68-AL.
Time delay t_r (s)	Accuracy within 10% (Original difference ±40 ms)	Time setting t_r (s)	C1 ~ C16, selectable in menu
Thermal memory			(10, 20, 30, 45) min, (1, 2, 3) h reset or remove after trip unit out of electricity
Short-time delayed protection			
Current setting Isd (A)		Isd = I_r x …	(1.5 ~ 15) + OFF, setting step: 1 A or 2 A
Action characteristics			< 0.9 Isd no action; ≥ 1.1 Isd action
I^2t: (OFF) (definite time) Time delay Tsd (s)	Accuracy within 10% (Original difference ±40 ms)	Time setting tsd (s)	(0.1 ~ 0.4) s, setting step: 0.1 s
I2t: (ON) (Inverse time) Time delay T (s)	Accuracy within 10% (Original difference ±40 ms)		The same as long-time delayed protection, the delayed action time is 1/10 of that long-time delayed.
Thermal memory			5 min reset or remove after trip unit out of electricity
Instantaneous protection			
Current setting Ii (A)		Ii = In x …	(1.0 ~ 20) + OFF, setting step: 1 A or 2 A
Action characteristics			< 0.85 Ii no action; ≥ 1.15 Ii action
Action time delayed			< 30 ms
Earth fault protection			
Current setting Ig (A)		In ≤ 1250 A, Ig = In x … In > 1250 A, Ig = …	(0.4 ~ 0.8) + OFF, setting step: 1 A (500 A ~ 1200 A) + OFF, setting step: 2 A
Action characteristics			≤ 0.8 Ig no action; > 1.0 Ig action
Time delay Tg (s) (definite time protection)	Accuracy within 10% (Original difference ±40 ms)	Time setting tg (s)	(0.1 ~ 1.0) s, setting step: 0.1 s

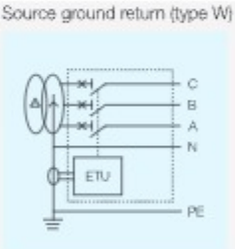
Differential protection (type T)







Source ground return (type W)



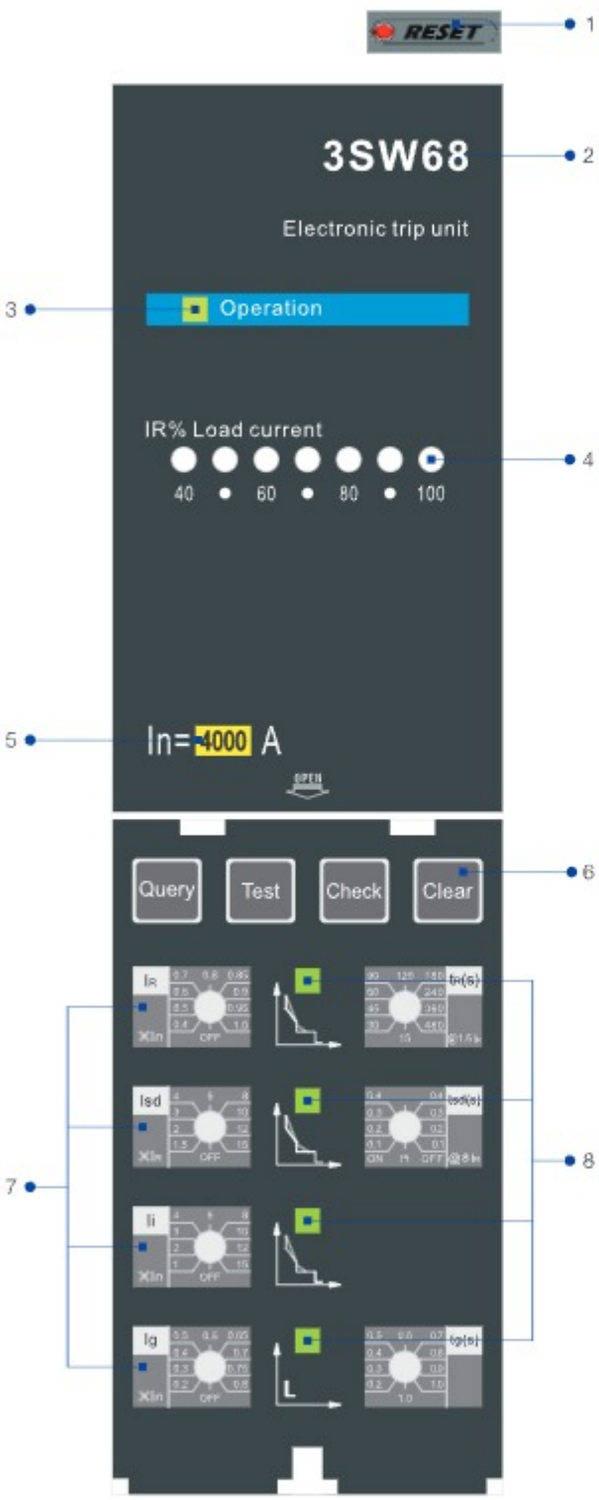
- Neutral pole protection
- Applications:
  When the neutral line is thin, half value will be applied.
  When the neutral line is the same as others, full value will be applied.
  When harmonic wave is heavy, double or 1.6 times value will be applied.
- Setting range:
  50 %, 100 %, 160 %, 200 %, OFF

Series 3SW68 (Electronic trip unit 3SW68-BL)

Suitable for size B/C/D (3SW68-2500/4000/6300)

3SW68-BL electronic trip unit equips with LED displays, the protection value and delay time is set by knobs.

- 3SW68-BL3: provides selective protections of long-time delayed protection, short-time delayed protection and instantaneous protection.
- 3SW68-BL4: provides additional selective earth fault protection and all protection functions of type 3SW68-BL3.

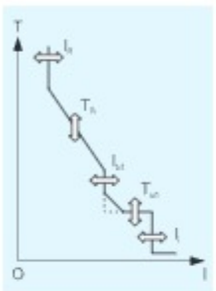


1. Mechanical RESET button
   It pops up after tripping. Manual reset is required.
2. Indication of electronic trip unit
3. Operation indicator
   It remains flashing when the electronic trip unit is under normal working.
4. I_r%
   40%–100% indicator:
   To display the real time current as the percentage of I_r.
5. Indication of rated current (In)
6. Simulation test area
   Query: check the last fault record (Record is shown as: one of the four fault indicators, IR, Isd, Ii, and Ig, becomes lighting. Press Clear button to clear indication).
   Test: When press Test Key under normal working status of controller, the breaker, commanded by the controller, trips instantaneously. Meanwhile, Ii fault indicator lights up, but no fault recorded.
   Check: self-diagnosis of inner working, each light will automatically scan, and will show a menu in one minute.
   Clear: clear the fault indicator.
7. Protect characteristic parameter setting area
   Default settings are as follows:
   I_r = 1.0 In, t_r =15 s
   Isd = 3 I_r, tsd = 0.4 s
   (ON: inverse time status, OFF: definite time status)
   Ii =10 In
   Ig = 0.8 In, tg = 0.4 s
8. Fault indicator: Lighting when fault occurs.

Characteristics

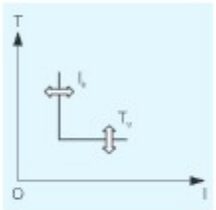
- Protection

Type 3SW68-BL3, suitable for size B/C/D 3SW68-2500/4000/6300



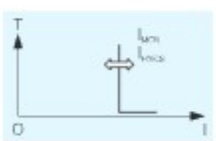
Long-time delayed protection												
Current setting I_r (A)		I_r = In x …	0.4	0.5	0.6	0.7	0.8	0.85	0.9	0.95	1	OFF
Action characteristics			≤1.05 I_r, >2 h no action; >1.3 I_r (generator >1.2 I_r), <1 h action									
Time delay t_r (s)	Accuracy ±10%	Time setting t_r (s)	15	30	45	60	90	120	180	240	360	480
$T_r = \frac{(1.5I_r)^2 \times t_r}{I^2}$	(Original difference ±40 ms)	I = 1.5 x I_r	15	30	45	60	90	120	180	240	360	480
		I = 2 x I_r	8.4	16.9	25.3	33.8	50.6	67.5	101.2	135	203	270
		I = 6 x I_r	0.94	1.88	3.81	3.75	5.62	7.5	11.3	15	22.5	30
I - overcurrent		I = 7.2 x I_r	0.65	1.3	1.95	2.6	3.9	5.2	7.74	10	15.62	21
		I = 10 x I_r	0.34	0.68	1.01	1.35	2.03	2.7	4.05	5.4	8.1	10.8
Thermal memory			10 min cold reset or remove after trip unit out of electricity									
Short-time delayed protection												
Current setting Isd (A)		Isd = I_r x …	1.2	2	3	4	6	8	10	12	15	OFF
Action characteristics			≤ 0.9 Isd no action; > 1.1 Isd action									
I^2t (OFF) (definite time)	Accuracy within 10%	Time setting tsd (s)	0.1			0.2		0.3			0.4	
Time delay Tsd (s)	(Original difference ±40 ms)	Return time (s)	0.06			0.14		0.23			0.35	
I^2t (ON) I > 8 I_r	Accuracy within 10%	Time setting tsd (s)	0.1			0.2		0.3			0.4	
(definite time)	(Original difference	Return time (s)	0.06			0.14		0.23			0.35	
Time delay Tsd (s)	±40 ms)											
I^2t (ON) I □ 8 I_r	Accuracy within 10%	8 I_r tsd (s)	0.1			0.2		0.3			0.4	
(Inverse time)	(Original difference	Time delay T = [(8 x I_r) / I] x [(8 x I_r) / I] x tsd										
Time delay T (s)	±40 ms)											
Instantaneous protection												
Current setting Ii (A)	Size B/C	Ii = In x …	1	2	4	6	8	10	12	15	20	OFF
	Size D	Ii = In x …	1	2	3	4	6	8	10	12	15	OFF
Action characteristics			≤ 0.85 Ii no action; > 1.15 Ii action									
Action time delayed			< 30 ms									

Type 3SW68-BL4, suitable for size B/C/D 3SW68-2500/4000/6300



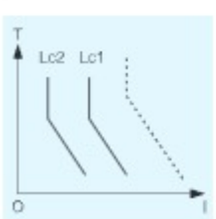
Long-time delayed protection: the same as type 3SW68-BL3												
Short-time delayed protection: the same as type 3SW68-BL3												
Instantaneous protection: the same as type 3SW68-BL3												
Earth fault protection												
Current setting Ig (A)		In ≤ 1250 A, Ig = In x …	0.4	0.45	0.5	0.55	0.6	0.65	0.7	0.75	0.8	OFF
		In > 1250 A, Ig = …	500	600	700	800	850	900	1000	1100	1200	OFF
Action characteristics			≤ 0.9 Ig no action; > 1.1 Ig action									
Time delay Tg (s)	Accuracy within 10%	Time setting tg (s)	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1
(definite time protection)	(Original difference ±40 ms)											

- MCR & HSISC (Trip beyond limit) protection (selection function)



MCR & HSISC			
Current setting IMCR (A)	IMCR = In x …	10 (Other settings depend on requirement)	OFF
Current setting IHSISC (A)	IHSISC = In x …	15 (Other settings depend on requirement)	OFF
Action characteristics		MCR: ≤ 0.85 IMCR, no action; > 1.15 IMCR, action;	
		HSISC: ≤ 0.85 IHSISC, no action; > 1.15 IHSISC, action;	
Action time delayed		< 20 ms	

- Load monitoring (selection function)



Load monitoring (discharge current Lc1, discharge current Lc2)												
Current setting Ic1 (A)	Setting is unavailable, Ic1 depends on IR = In x …		0.4	0.5	0.6	0.7	0.8	0.85	0.9	0.95	1	OFF
Current setting Ic2 (A)	Setting is unavailable, Ic2 depends on IR= In x …		0.4	0.5	0.6	0.7	0.8	0.85	0.9	0.95	1	OFF
Action characteristics Lc1			≤ 1.05 Ic1, > 2 h no pick-up > 1.3 Ic1(generator > 1.2 Ic1), < 1 h time delayed pick-up									
Action characteristics Lc2			≤ 1.05 Ic2, > 2 h no pick-up > 1.3 Ic2(generator > 1.2 Ic2), < 1 h time delayed pick-up									
Action time delayed			< 20 ms									
Time delay Tc1 (s)	Accuracy within 10%	Setting is unavailable,	15	30	45	60	90	120	180	240	360	480
Tc1 = 50% t_r	(Original difference ±40 ms)	depends on t_r (s)										
Time delay Tc2 (s)	Accuracy within 10%	Setting is unavailable,	15	30	45	60	90	120	180	240	360	480
Tc2 = 25% t_r	(Original difference ±40 ms)	depends on t_r (s)										

- Default settings

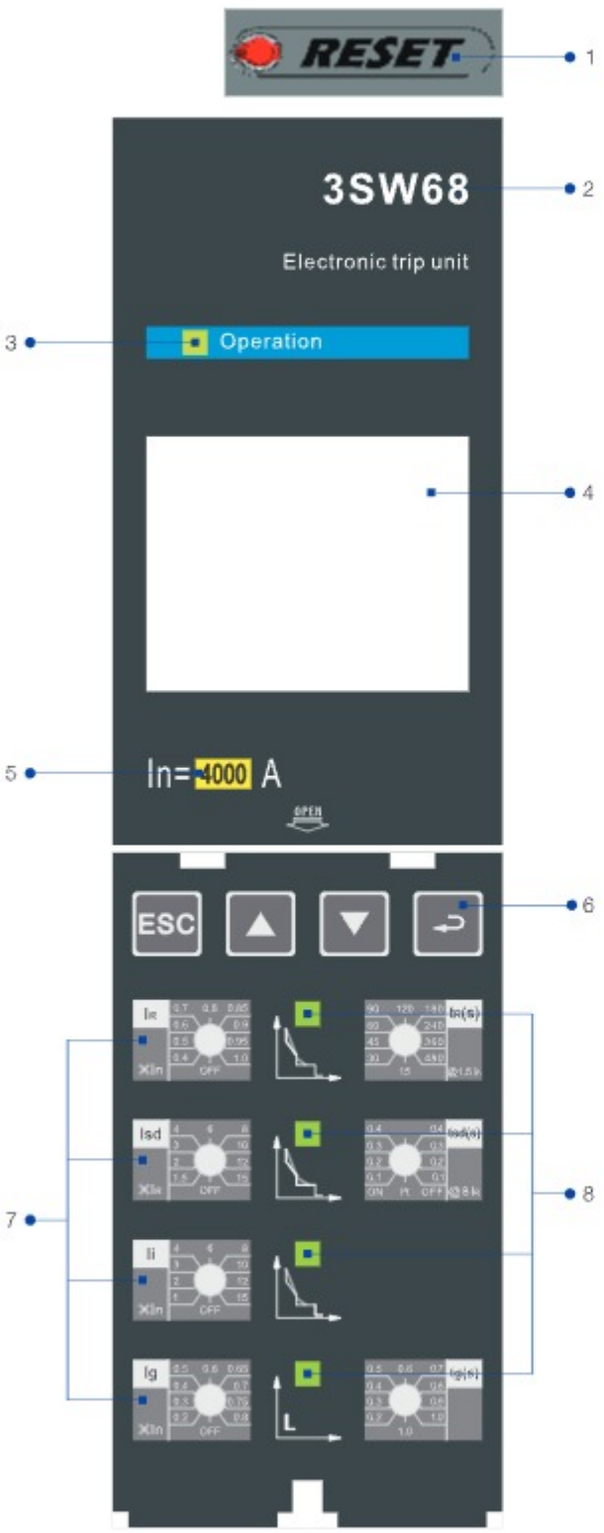
I_r = 1.0 In, t_r = 15 s; Isd = 3.0 I_r, tsd = 0.4 s; (I^2t = OFF) Ii = 10 In; Ig = OFF, tg = 0.8 s.

Series 3SW68 (Electronic trip unit 3SW68-BM)

Suitable for size B/C/D (3SW68-2500/4000/6300)

3SW68-BM electronic trip unit equips with a LCD display, the protection value and delay time are set by knobs, some functions can be set by function keys.

- 3SW68-BM3: provides selective protections of long-time delayed protection, short-time delayed protection and instantaneous protection.
- 3SW68-BM4: provides additional selective earth fault protection and all protection functions of type 3SW68-BM3.



Function

Except all the functions of 3SW68-BL, 3SW68-BMis with additional or different functions as follows:

- Protection
  Protection value and delay time can be set by the knobs and be checked on the LCD display, some functions can be set by function keys.
- Fault trip display
  When circuit breaker trips due to any fault, the fault type is indicated by LED light accordingly, and the data is shown on the LCD display.
- Measure
  Current measurement.
- Without self- diagnosis
- Indicator of contact loss
  Show the percentage of the contact loss (based on breaking current equivalent and total life)
- Operation cycles when electronic trip unit on charge
  Record the total operation cycles
- Record of historical fault
  Check the latest 10 faults (display fault type and data)
- Historical maximum current
  Record the maximum current since running.
- Zone selective interlocking (ZSI) (selection function)
  ZSI connected with several breakers from upstream and downstream, to provide full selective protection of earth fault protection and short circuit protection, with instantaneous trip.
- Overload pre-alarm(selection function)
  When load current reaches the overload setting values, the electronic trip unit give a DO alarm signal and indicate.

Characteristics

- Protection

Type 3SW68-BM3, suitable for size B/C/D 3SW68-2500/4000/6300

Long-time delayed protection: the same as type 3SW68-BL3
Short-time delayed protection: the same as type 3SW68-BL3
Instantaneous protection: the same as type 3SW68-BL3

- Protection

Type 3SW68-BM4, suitable for size B/C/D 3SW68-2500/4000/6300

Long-time delayed protection: the same as type 3SW68-BM3
Short-time delayed protection: the same as type 3SW68-BM3
Instantaneous protection: the same as type 3SW68-BM3
Earth fault protection: the same as type 3SW68-BL4

- Protection

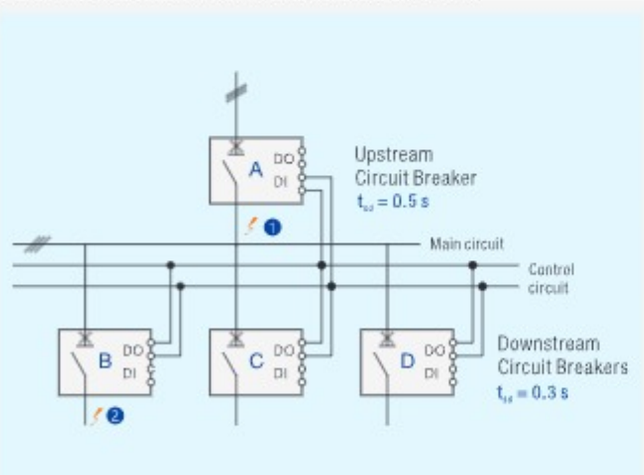
Type 3SW68-BM3, 3SW68-BM4, suitable for size B/C/D 3SW68-2500/4000/6300

Current (Continuous current measurement)		
Measurement parameters:	Measurement range:	Measurement accuracy:
I_a, I_b, I_c, I_n, I_g	I_a, I_b, I_c, I_n based on 25 In	≤ 2In: ± 1.5%; > 2 In: ± 5%

- MCR & HSISC (Trip beyond limit) protection (selection function) - the same as type 3SW68-BL.

- Protection

Type 3SW68-BL3, 3SW68-BL4, suitable for size B/C/D 3SW68-2500/4000/6300

Zone selective interlocking (ZSI) (Selection function)	
Application: Used to reduce the electrodynamic forces exerted on installation by shortening the time required to clear faults, while maintaining time discrimination between the various devices. Including short-circuit interlocking and earth fault interlocking.	Settings requirements: At least 1 DI of upstream circuit breaker is set to detect and receive signal from zone interlocking circuit breakers; At least 1 DO of downstream circuit breaker is set to send signal upstream.
	Operating mode The electronic trip unit detecting a fault current sends a signal upstream and checks the signal arriving from downstream. If there is a signal from downstream, the circuit breaker remains closed for the full duration of its tripping-delay time. If there is no signal from downstream, the circuit breaker opens immediately, regardless of its tripping-delay setting. Example explaination Fault 1: Only circuit breaker A detects the fault. Because it does not receive signal from downstream, it opens immediately, regardless of its tripping-delay tsd set to 0.5 s. Fault 2: Both circuit breaks A and B detect the fault. Circuit breaker B does not receive a signal from downstream and opens immediately, in spite of its tripping-delay tsd set to 0.3 s, meanwhile sends a signal to upstream circuit breaker A. Circuit breaker A receives the signal and remains closed for the full duration of its tripping-delay tsd set to 0.5 s. If the fault current disappears within the duration 0.5 s, the circuit breaker A does not trip. If the fault current does not disappear within 0.5 s, the circuit breaker A trips also, to cut off the fault circuit.

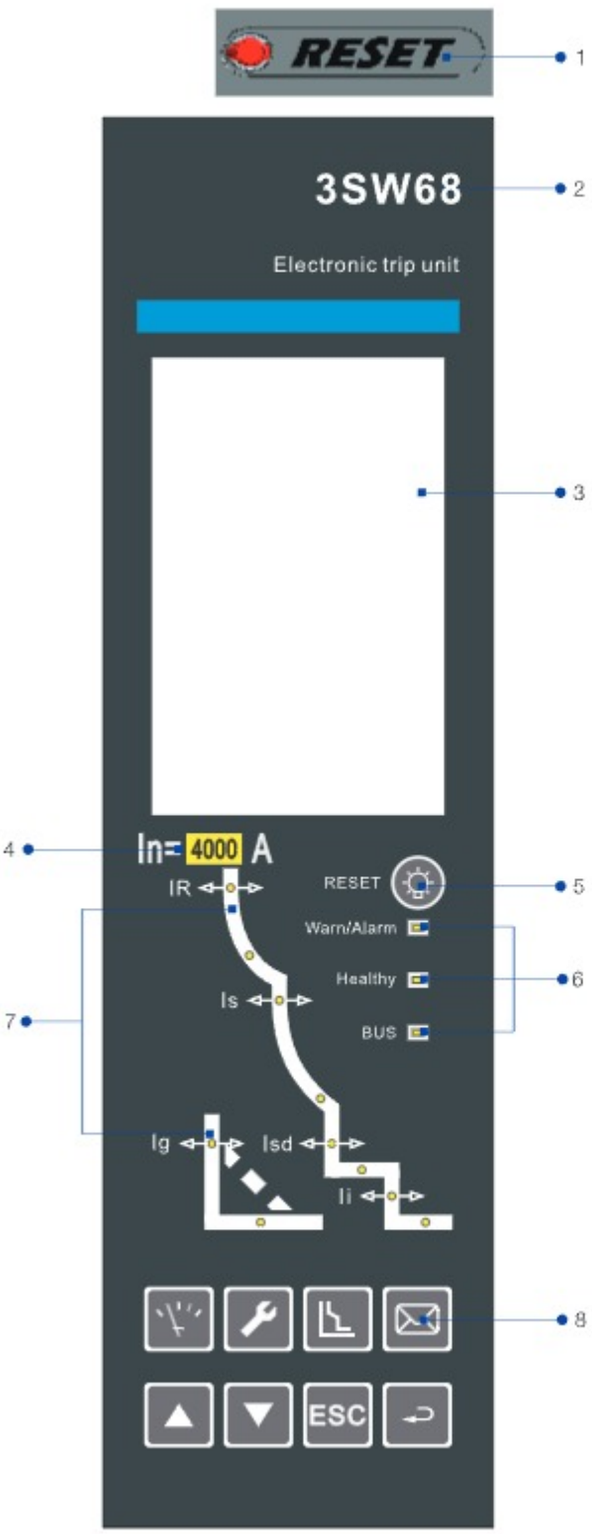
- Load monitoring (selection function) - the same as type 3SW68-BL.

- Default settings
  Ir = 1.0 In, tr = 15 s;
  Isd = 3.0 IR, tsd = 0.4 s; (I²t = OFF)
  Ii = 10 In;
  Ig = OFF, tg = 0.8 s.

Series 3SW68 (Electronic trip unit 3SW68-BH)

Suitable for size B/C/D (3SW68-2500/4000/6300)

3SW68-BH electronic trip unit equips with a LCD displays, the protection value and delay time are set by function keys.
Provides full selective protections of long-time delayed protection, short-time delayed protection, instantaneous protection and earth fault protection, as well as the communication function to take remote measurement, control, setting and communication.



Function

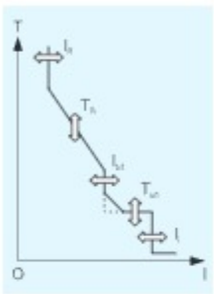
Except all the functions of 3SW68-BM, 3SW68-BM has additional or different functions as follows:

- Protection
  Protection value and delay time are set and checked by function keys.
- Overload protection
  Based on true RMS and long-time delay multi-curve protection, can be switched OFF.
  Thermal memory: The heat accumulation before or after tripping.
- Short-circuit protection
  Short-time delay (RMS) and instantaneous protection, can be switched OFF.
  Short-time delay I^2t can be switched ON or OFF by function keys.
- Earth fault protection
  Type T and type W both are available, type T is default setting, can be switched OFF.
  Time-delay characteristic I^2t (definite time protection), can be selected by function keys.
- Neutral protection
  Provide half, whole, 1.6 times and 2 times protection, can be switched ON or OFF.
- Current imbalance, current required, phase-loss protection
- Under frequency, over frequency, reverse frequency protection (only 3SW68-HG)
- Measurement
  Provide measurement of current, voltage, power, frequency, electricity, heat capacity, phase sequence, value required. And type 3W68-BHQ and 3SW68-BHG have additional functions of harmonic analyze and wave display.
- Alarm record
  Record the latest 10 alarms.
- Clock
  Setting date and time.
- Communication
  Provide outputs for communication functions.
- Residual current protection (selection function)
  Sampling by zero sequence current to get high accuracy and sensitivity, applied for protection of lower current.
- Load monitor (selection function)
  Can be used for pre-alarm, as well as the branch load control, act according to current and power.
- Earth alarm (selection function)
  Send alarm signal, can be switched OFF.
- Undervoltage, over voltage, voltage imbalance, phase sequence protection (selection function)
- Remote reset (selection function)
  Remote reset operational button, remove fault indication.
- Communicating (selection function)
  Software support for remote measurement, control, setting and communication.
  Modbus-RTU, Progibus-DP and Devicenet are available.

Characteristics

Protection

Type 3SW68-BH, suitable for size B/C/D 3SW68-2500/4000/6300

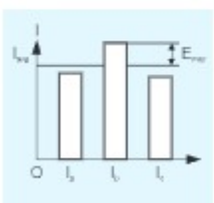


Long-time delayed protection			
Current setting I_r (A)		I_r = In x …	(0.4 ~ 1.0) + OFF, setting step: 1 A or 2 A
Action characteristics			<1.05 I_r, >2 h no action; ≥1.2 I_r, <1 h action
Type of curves	SI: Standard inverse time VI: Fast inverse time EI(G): Express inverse time (general power distribution) EI(M): Express inverse time (motor protection) HV: High-voltage fuse compatibility I^2t: General inverse time protection		selectable in menu Default setting is I^2t, the same as 3SW68-BL.
Time delay t_r (s)	Accuracy within 10% (Original difference ±40 ms)	Time setting t_r (s)	C1 ~ C16, selectable in menu
Thermal memory			(10, 20, 30, 45) min, (1, 2, 3) h reset or remove after trip unit out of electricity
Short-time delayed protection			
Current setting Isd (A)		Isd = I_r x …	(1.5 ~ 15) + OFF, setting step: 1 A or 2 A
Action characteristics			< 0.9 Isd no action; ≥ 1.1 Isd action
I^2t: (OFF) (definite time) Time delay Tsd (s)	Accuracy within 10% (Original difference ±40 ms)	Time setting tsd (s)	(0.1 ~ 0.4) s, setting step: 0.1 s
I^2t: (ON) (Inverse time) Time delay T (s)	Accuracy within 10% (Original difference ±40 ms)		The same as long-time delayed protection, the delayed action time is 1/10 of that long-time delayed.
Thermal memory			5 min reset or remove after trip unit out of electricity
Instantaneous protection			
Current setting Ii (A)		Size B/C, Ii = In x …	(1.0 ~ 20) + OFF, setting step: 1 A or 2 A
		Size D, Ii = In x …	(1.0 ~ 15) + OFF, setting step: 2 A
Action characteristics			< 0.85 Ii no action; ≥ 1.15 Ii action
Action time delayed			< 30 ms
Earth fault protection			
Current setting Ig (A)		In ≤ 1250 A, Ig = In x …	(0.4 ~ 0.8) + OFF, setting step: 1 A
		In > 1250 A, Ig = …	(500 A ~ 1200 A) + OFF, setting step: 2 A
Action characteristics			≤ 0.8 Ig no action; > 1.0 Ig action
Time delay Tg (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Time setting tg (s)	(0.1 ~ 1.0) s, setting step: 0.1 s

Neutral pole protection

Neutral pole protection			
Applications: When the neutral line is thin, half value will be applied. When the neutral line is the same as others, full value will be applied. When harmonic wave is heavy, double or 1.6 times value will be applied.			Setting range: 50 %, 100 %, 160 %, 200 %, OFF

Current imbalance protection



Current imbalance protection			
Current imbalance rate Iunbal setting for protection start-up			(5 ~ 60) %, setting step: 1 %
Action characteristics			< 0.9 $I_{r.set}$ no action; ≥ 1.1 $I_{r.set}$ action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed action time setting (s)	(0.1 ~ 40) s, setting step: 0.1 s Definite time is the same as delay time.
Setting for protection return			5 % ~ start-up setting. Setting step: 1 % (available when ALARM mode only)
Return characteristics			>1.1 $I_{r.set}$ no return; ≤ 0.9 $I_{r.set}$ return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(10 ~ 200) s, setting step: 1 s (available when ALARM mode only); Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

Required current protection

Required current protection			
Setting for protection start-up			(0.2 ~ 1) In, setting step: 1 A or 2 A
Action characteristics			< 0.9 (I/setting) no action; ≥ 1.1 (I/setting) action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed action time setting (s)	(15 ~ 1500) s, setting step: 1 s Definite time is the same as delay time.
Setting for protection return			0.2 In ~ start-up setting. Setting step: 1 A or 2 A (available when ALARM mode only)
Return characteristics			>1.1 (I/setting) no return; ≤ 0.9 (I/setting) return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(15 ~ 3000) s, setting step: 1 s (available when ALARM mode only); Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

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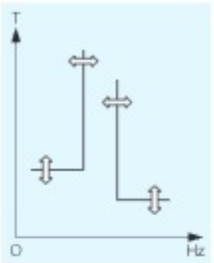
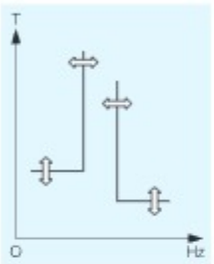
Characteristics

- Under frequency protection



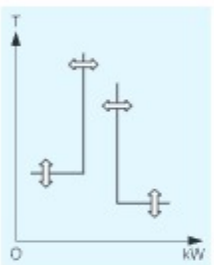
Under frequency protection			
Setting for protection start-up			45 Hz ~ setting, setting step: 0.5 Hz
Action characteristics			> setting +1 Hz no action; ≤ setting - 1 Hz action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed action time setting (s)	(0.2 ~ 5.0) s, setting step: 1 s Definite time is the same as delay time.
Setting for protection return			Start-up setting ~ 65 Hz. Setting step: 0.5 Hz (available when ALARM mode only)
Return characteristics			< setting -1 Hz no return; ≥ setting + 1 Hz return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(0.2 ~ 36) s, setting step: 0.1 s (available when ALARM mode only); Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

- Over frequency protection



Over frequency protection			
Setting for protection start-up			Return setting ~ 65 Hz, setting step: 0.5 Hz
Action characteristics			< setting - 1 Hz no action; ≥ setting +1 Hz action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed action time setting (s)	(0.2 ~ 5.0) s, setting step: 1 s Definite time is the same as delay time.
Setting for protection return			45 Hz ~ start-up setting. Setting step: 0.5 Hz (available when ALARM mode only)
Return characteristics			> setting + 1 Hz no return; ≤ setting -1 Hz return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(0.2 ~ 36) s, setting step: 0.1 s (available when ALARM mode only); Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

- Reverse power protection



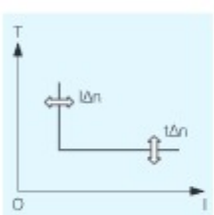
Reverse power protection			
Setting for protection start-up			5 ~ 50 kW, setting step: 1 kW
Action characteristics			< 0.9 (reverse power/setting) no action; ≥ 1.1 (reverse power/setting) action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed action time setting (s)	(0.2 ~ 20) s, setting step: 1 s Definite time is the same as delay time.
Setting for protection return			5 kW ~ start-up setting. Setting step: 1 kW (available when ALARM mode only)
Return characteristics			> 1.1 (reverse power/setting) no return ≤ 0.9 (reverse power/setting) return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(1.0 ~ 360) s, setting step: 0.1 s (available when ALARM mode only); Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

Characteristics

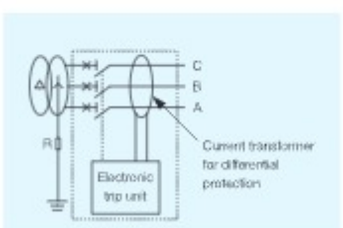
- Measurement

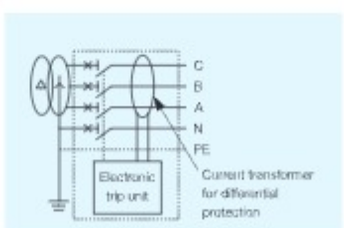
Current (Continuous current measurement, applied to power system with 50 Hz or 60 Hz)		
Content: I_a, I_b, I_c (three phase) I_n (netural pole), I_g (earth current) I_{unbal} (current imbalance rate)	Range: I_a, I_b, I_c, I_n : 25 In	Accuracy: ≤ 2 In: ± 1.5 % > 2 In: ± 5 %
Current (Continuous current measurement, applied to power system with 50 Hz or 60 Hz)		
Content: Line voltage, phase voltage, average voltage, phase sequence, voltage imbalance rate	Range: Line voltage: 0 ~ 1200 V phase voltage: 0 ~ 600 V display the phase sequence	Accuracy: ± 5 %
Power		
Content: Active power, reactive power, apparent power (not applied to three phase three line)	Range: Active power: - 32768 kW ~ + 32767 kW Reactive power: - 32768 kar ~ + 32767 kar Apparent power: 0 kVA ~ 65535 kVA	Accuracy: ± 2.5 %
Power factor		
Content: System power factor, phase power factor (not applied to three phase three line)	Range: - 1.00 ~ + 1.00	Accuracy: ± 0.02
Frequency		
Content: Frequency	Range: 40 Hz ~ 65 Hz	Accuracy: ± 0.05 Hz
Energy		
Content: Input (output) active energy Input (output) reactive energy Total active (reactive, apparent) energy	Range: Active: 0 ~ 4294967295 kWh Reactive: 0 ~ 4294967295 karh Apparent: 0 ~ 4294967295 kVAh	Accuracy: ± 2.5 %
Required value		
Content: Required current I_a, I_b, I_c, I_n Required power P, Q, S	Range: The same as real-time measured value of current and power	Accuracy: The same as accuracy of current and power
Harmonic wave (available for type 3SW68-BHQ and 3SW68-BHG)		
Fundamental wave of current, voltage; Total harmonic distortion of current, voltage THD and thd; Latest 31 odd harmonics amplitude Pope;		
Waveform (available for type 3SW68-BHQ and 3SW68-BHG)		
Capture waveform display: 4 current I_a, I_b, I_c, I_n; 3 phase voltage U_{ab}, U_{bc}, U_{ca}		

- Residual current protection (selection function)



Residual current protection													
Action current setting IΔ,			0.5 ~ 30.0 A, setting step: 0.1 A										
Action characteristics			< 0.8 (I/IΔn) no action; ≥ 1.0 (I/IΔn) action										
Time delay tΔn (s)	Accuracy within 10% (Original difference ±40 ms)	Time setting (s)	0.06	0.08	0.17	0.25	0.33	0.42	0.5	0.58	0.67	0.75	0.8.	instantaneous
		IΔn	0.36	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	0.04
		2 IΔn	0.18	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	0.04
		5 IΔn	0.07	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	0.04
		10 IΔn												
Mode			Trip / OFF											





- MCR & HSISC (Trip beyond limit) protection (selection function) - the same as type 3SW68-BL.
- Zone selective interlocking (ZSI) (selection function) - the same as type 3SW68-BL.

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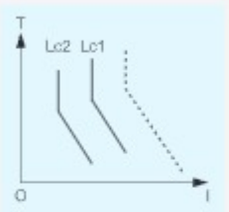
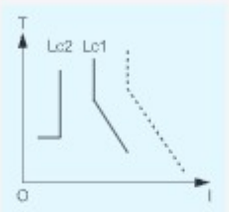
Characteristics

- Load monitoring (selection function)

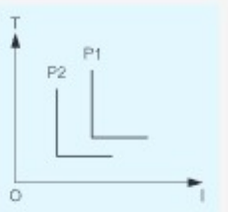
Load monitoring		
Action according to current or power	Mode 1: Control two loads independently, when actual value over setting value, load monitor DO action with time delay (DO function should be set accordingly), to break the branch load, ensure the main power supply.	Mode 2: Generally used for controlling one load, when value over setting start-up value, load monitor 1 DO action with time delay, open branch load; if actual values after breaking are lower than return value, after setting time delay, load monitor1 DO returns, load monitor 2 DO action. to close the circuit and recovery the supply power. Note: Load1 start-up value ≥ Load 2 return value

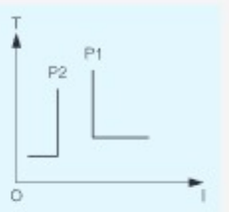
According to current:



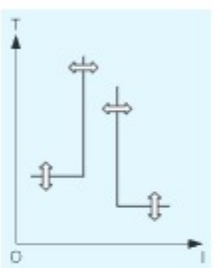


According to power:



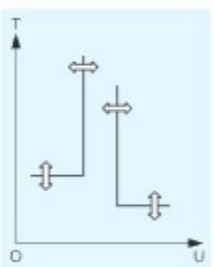


- Earth alarm (selection function)



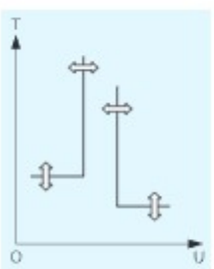
Earth alarm			
Current setting for alarm		In ≤ 1250 A	(0.4 ~ 0.8) x In + OFF, setting step: 1 A
		In > 1250 A	(500 A ~ 1200 A) + OFF, setting step: 2 A
Action characteristics			< 0.8 (I/setting value) no action; ≥ 1.0 (I/setting value) action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delay time setting (s)	(0.1 ~ 1.0) s, setting step: 0.1 s Definite time is the same as delay time.
Current setting for alarm return (available when ALARM mode only)		In ≤ 1250 A	(0.4 ~ 0.8) x In, setting step: 0.1 s
		In > 1250 A	500 A ~ 1200 A, setting step: 2 A
Return characteristics			> 1.0 (I/setting value) no return; ≤ 0.9 (I/setting value) return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(0.1 ~ 1.0) s, setting step: 0.1 s (available when ALARM mode only) Definite time is the same as delay time.
Mode			Alarm / OFF

- Under voltage protection (selection function)



Under voltage protection			
Setting for protection start-up			100 V ~ return value, setting step: 1 V
Action characteristics			> 1.1 (Umax/setting of action value) no action ≤ 0.9 (Umax/setting of action value) action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delay time setting (s)	(0.2 ~ 60) s, setting step: 0.1 s Definite time is the same as delay time.
Setting for protection return			start-up value ~ 1200 V, setting step: 1 V (available when ALARM mode only, setting value for return ≥ start-up value)
Return characteristics			< 0.9 (Umax/setting of return value) no return ≥ 1.1 (Umax/setting of return value) return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(0.2 ~ 60) s, setting step: 0.1 s (available when ALARM mode only) Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

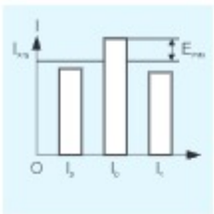
- Over voltage protection (selection function)



Over voltage protection (setting value for under voltage protection must less than that for over voltage protection)			
Setting for protection start-up			Return value ~ 1200 V, setting step: 1 V
Action characteristics			< 0.9 (Umin/setting of action value) no action ≥ 1.1 (Umin/setting of action value) action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delay time setting (s)	(0.2 ~ 60) s, setting step: 0.1 s Definite time is the same as delay time.
Setting for protection return			100 V ~ start-up value, setting step: 1 V (available when ALARM mode only, setting value for start-up ≥ return value)
Return characteristics			≥ 1.1 (Umin/setting of return value) no return < 0.9 (Umin/setting of return value) return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(0.2 ~ 60) s, setting step: 0.1 s (available when ALARM mode only) Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

Characteristics

- Voltage imbalance protection (selection function)



Voltage imbalance protection			
Voltage imbalance rate U unbal setting for protection start-up			(2 – 30) %, setting step: 1 %
Action characteristics			< 0.9 (actual voltage imbalance rate/setting value) no action ≥ 1.1 (actual voltage imbalance rate/setting value) action
Time delay (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delay time setting (s)	(0.2 – 60) s, setting step: 0.1 s Definite time is the same as delay time.
Setting for protection return			2 % ~ start-up value, setting step: 1 % (available when ALARM mode only, setting value for return ≥ start-up value)
Return characteristics			> 1.1 (actual voltage imbalance rate/setting value) no return ≤ 0.9 (actual voltage imbalance rate/setting value) return
Time delay return (s) (definite time)	Accuracy within 10% (Original difference ±40 ms)	Delayed return time setting (s)	(0.2 – 60) s, setting step: 0.1 s (available when ALARM mode only) Definite time is the same as delay time.
Mode			Alarm / Trip / OFF

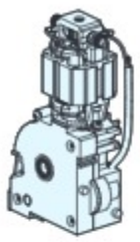
- Phase sequence protection (selection function)

Phase sequence protection	
Action phase sequence	Setting range: Δø: A, B, C / Δø: A, C, B
Mode	Alarm / Trip / OFF

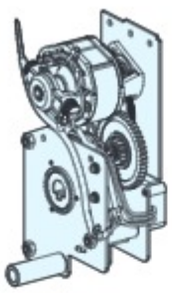
- Default settings

  I_p = 1.0 In, t_s = 15 s;
  Isd = 3.0 I_p, tsd = 0.4 s; (definite time)
  Ii = 10 In;
  Ig = OFF, tg = 0.8 s.

Accessories for circuit breakers



for size A



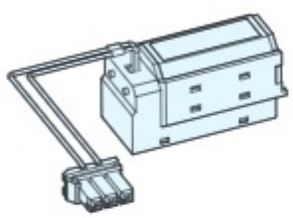
for size B/C/D

- Motorized operating mechanism - EM (Standard configuration)

The motorized operating mechanism can automatically charge and recharge the spring mechanism when the circuit breaker is closed, to ensure the instantaneous reclosing of the breaker after possible opening.
As a standard configuration, it is already equipped in circuit breaker before delivery.

General characteristics

Size	Size A	Size B/C	Size D
Power supply Us	AC 230 V AC 400 V DC 110 V DC 220 V		
Operating limits	85 % ... 110 % Us		
Consumption	40 W	50 W	75 W
Charging time	< 5 s	< 7 s	< 7 s

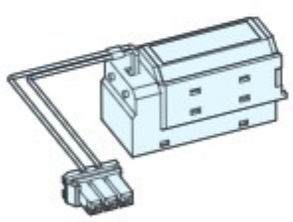


- Closing coil - CM (Standard configuration)

The closing coil can remotely close the circuit breaker if the spring mechanism is charged.
As a standard configuration, it is already equipped in circuit breaker before delivery.

General characteristics

Power supply Us	AC 230 V AC 400 V DC 110 V DC 220 V
Operating limits	85 % ... 110 % Us
Consumption	500 W
Closing time	≤ 100 ms

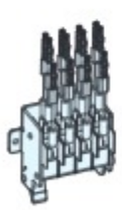


- Shunt release - SH (Standard configuration)

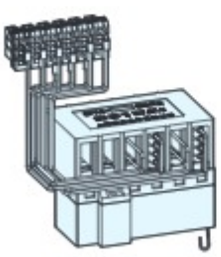
The shunt release can remotely open the circuit breaker instantaneously when energized.
As a standard configuration, it is already equipped in circuit breaker before delivery.

General characteristics

Power supply Us	AC 230 V AC 400 V DC 110 V DC 220 V
Operating limits	70 % ... 110 % Us
Consumption	500 W
Opening time	≤ 100 ms



for size A



for size B/C/D

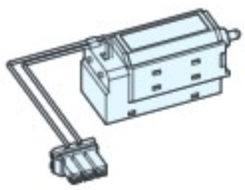
- Auxiliary contact - AU (Standard configuration)

The circuit breaker can be equipped with auxiliary contacts that signal the status of the circuit breaker.
The first block of contacts (4 convertible contact) is always configurated inside of the circuit breaker before delivery.
Special contacts as 4 NO + 4 NC or 6 NO + 6 NC are also available as optional applications.

General characteristics

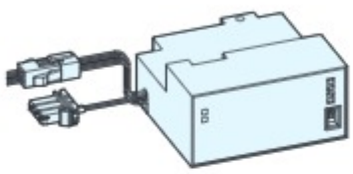
Size	Size A		Size B/C/D	
Type	4NO-C 4NO+4C 6NO+6NC		4NO-C 4NO+4C 6NO+6NC	
Power supply Us	AC 230 V AC 400 V	DC 110 V DC 220 V	AC 230 V AC 400 V AC 415 V	DC 110 V DC 220 V DC 250 V
Rated control capacity	300 VA	60 W	830 VA	75 W
Conventional thermal current	10			

Accessories for circuit breakers



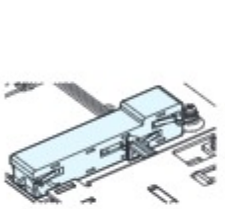
- Under-voltage release - UV (Optional configuration)

The under-voltage release can open the circuit breaker when the supply voltage drops to a value between 35% and 70% of its rated voltage or there is power supply failure. If there is no power supply on the release, it is impossible to close the circuit breaker, either manually or electrically. It can be used for safe remote tripping, for blocking unexpected closing or to control the voltage in the primary and secondary circuits.
Circuit breaker closing is enable again only when the supply voltage returns to 85% of its rated value.
It is an optional accessory which is configurated in circuit breaker before delivery unless there is request.

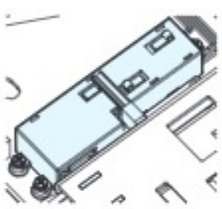


General characteristics

Power supply Us		AC 230 V , AC 400 V
Operating limits	Opening	35 % ... 70 % Ue
	Closing	85 % ... 110 % Ue
	Non-closing	≤ 25 % Ue
Consumption	Starting	500 W
	Holding	12 W
Opening time		≤100 ms
Time delay		0, 1, 2, 3 s



for size A



for size B/C/D

- Closing coil - CM (Standard configuration)

The closing coil can remotely close the circuit breaker if the spring mechanism is charged.
As a standard configuration, it is already equipped in circuit breaker before delivery.

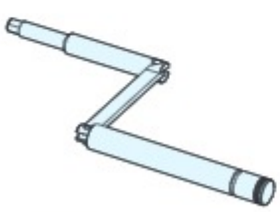
General characteristics

Size	Size A	Size B/C/D
Quantity of contact	1NO (separated), 1NO (test), 1NC (connected)	
Power supply Ue	AC 230 V, AC 400 V, AC 415 V, DC 110 V, DC 220 V, DC 250 V	
Rated control capacity	300 VA / 60 W	830 VA / 75 W
Conventional thermal current	10 A	



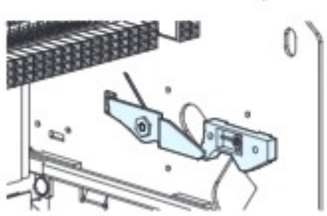
- Mechanical operation counter - MOC (Optional configuration)

The mechanical operation counter makes the number of mechanical operations visible on the front of the circuit breaker, the user knows how many mechanical operations the circuit breaker has performed and determines the frequency of ordinary maintenance operations.



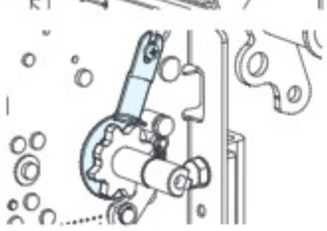
- Crank– CRK (Standard configuration)

The crank is used to rack in or out the mobile part.
It is for withdrawable circuit breaker only.



- Opening protection for racking in / racking out– OPC (Standard configuration)

It can automatically open the circuit breaker when the mobile part is racked out from the drawer base, and prohibit the racking in at closing condition.
It is for withdrawable circuit breaker only.

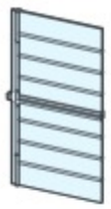


- Protection device for unexpected charging - PUC (Standard configuration)

This device is to separate the handle pawl and the mesh surface of the mechanism ratchet when spring charging, and prevent the unexpected charging during process flowing or maintaining. It is unlocked before delivery inspection.

1

Accessories for circuit breakers

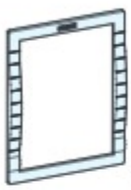


Withdrawable type



Fixed type

- Separators -PSB (Optional configuration)
  These protection devices increase the insulation distance between adjacent phases. They are available for all the sizes.
  Separators must be used if the operation voltage is higher than 500 V.

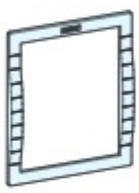


for withdrawable type for size A



for size B/C/D

- Door frame (Optional configuration)
  The door frame is installed on the door of cabinet to achieve IP40 degree of protection on the front part of the circuit breaker.



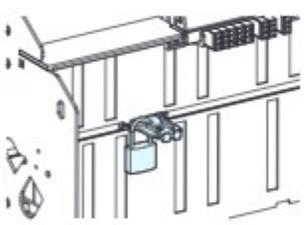
for fixed type for size A



for size B/C/D

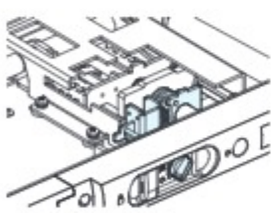


- Protection cover for secondary terminal (Optional configuration)
  It is equipped on the drawer base to prevent dust and touching to electrical parts of secondary terminal.
  It is available for withdrawable circuit breaker only.



- Separate lock device (Optional configuration)
  To lock the safety board at OFF position (the lock should be prepared by user):
  - Prevent the mobile part connecting to the drawer base
  - Prevent touching the electrical parts in case of racking in or out the mobile part or taking maintenance.

  It is available for withdrawable circuit breaker only.



- 3-position locking device (Optional configuration)
  This device enables the mobile part to be locked in one of the three positions: separated, test and connected.
  It is available for withdrawable circuit breaker only.



- Position locking device (Optional configuration)
  To prevent crank inserting in and make the circuit breaker to be in the “separated” position.
  It is available for withdrawable circuit breaker only.



- Protection device for opening and closing buttons (Optional configuration)
  This device enables it is possible to prevent any unexpected operation on both the openingand closing buttons (the lock should be prepared by user). The lock of opening button and closing button is independent, usually used for remote operation.

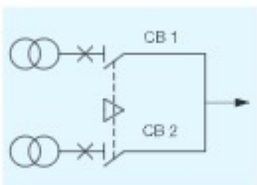
Accessories for circuit breakers



- Key lock in open position (Optional configuration)
  Keep the open button at pressed position by a lock which should be prepared by user, to lock the circuit breaker in OFF position. It is possible to make interlock between different locks of serval circuit breakers.

- One key for one lock
  One lock and one key for one circuit breaker. The key could be pull out in locked position only, and the circuit breaker can't be closed.

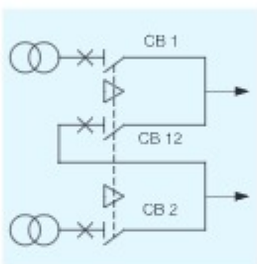
- Two locks with one key
  There are two same locks and one key for two circuit breakers, to enable that only one circuit breaker can be closed.



CB 1	CB 2
O	O
O	I
I	O

O: open I: close

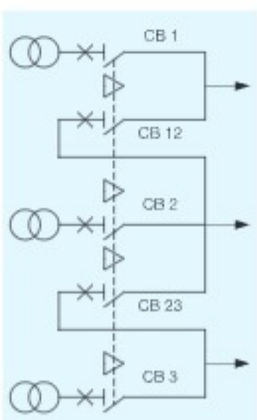
- Three locks with two keys
  There are three same locks and two keys for three circuit breakers, to enable that only two circuit breakers can be closed.



CB 1	CB 12	CB 2
O	O	O
I	O	O
O	I	O
O	O	I
I	I	O
O	I	I
I	O	I

O: open I: close

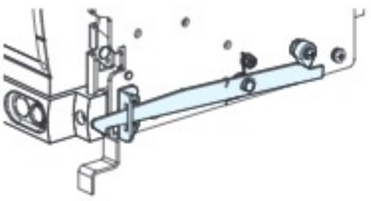
- Five locks with three keys
  Used in power distribution systems with three power supplies and two bus couples, and breakers are dispersedly installed.



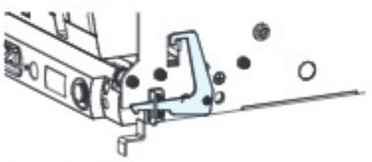
CB 1	CB 12	CB 2	CB 23	CB 3
O	O	O	O	O
I	O	O	O	O
O	I	O	O	O
O	O	I	O	O
O	O	O	I	O
O	O	O	O	I
I	I	O	O	O
I	O	I	O	O
I	O	O	I	O
I	O	O	O	I
O	I	I	O	O
O	I	O	I	O
O	I	O	O	I
O	O	I	I	O
O	O	I	O	I
O	O	O	I	I
I	I	O	I	O
I	I	O	O	I
I	O	I	O	I
I	O	O	I	I
O	I	I	I	O
O	I	O	I	I

O: open I: close

Accessories for circuit breakers

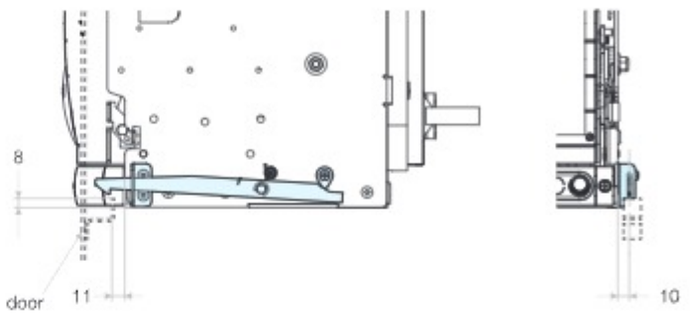


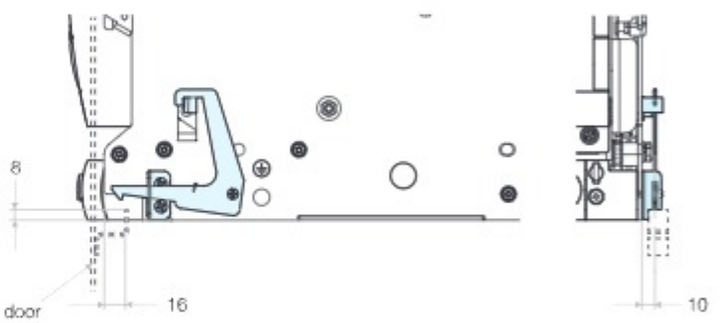
for size A

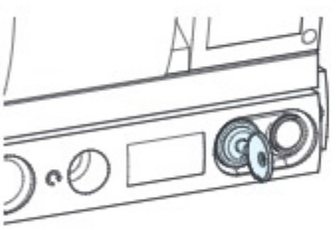


for size B/C/D

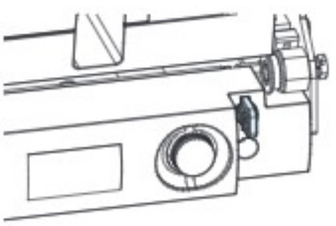
- Interlock for switchgear door (Optional configuration)
  This device can be Installed on either the left side or right side of the drawer base to prevent the switchgear door from being opened when the mobile part of the withdrawable version of circuit breaker is in position of "test" or "connected". If the switchgear door is open and circuit breaker is in "connected" position, then it can be closed directly without opening the circuit breaker.
  It is available for withdrawable circuit breaker only.





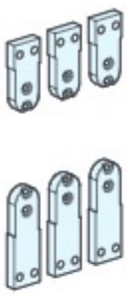


- Position key lock (Optional configuration)
  The same as position locking devices, this position key lock can lock the circuit-breaker in"separated" position.
  Besides, it is possible to install two same locks on two circuit breakers with only one key, to achieve the interlock of "separated" position between these two circuit breakers.
  It is available for size A (3SW68-1600) of withdrawable version of circuit breaker.

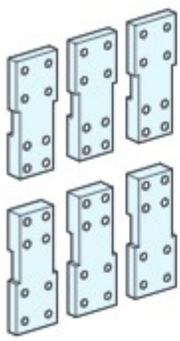


- Blocking device for inserting in crank when the door is open (Optional configuration)
  It is used to block the crank being inserted in and prevent the mobile part from being racked in or out when the switchgear door is open.
  It is available forsize B/C/D (3SW68-2500/4000/6300) of withdrawable version of circuit breaker.

Accessories for circuit breakers

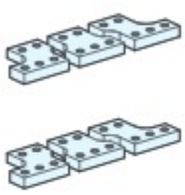


for size A of withdrawable type

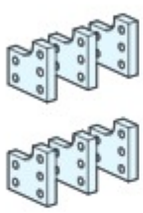


for size B/C/D

- Front terminals (Optional configuration)
  Used for circuit breakers with rated current up to 4000A.

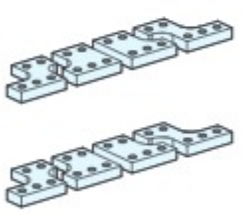


Horizontal

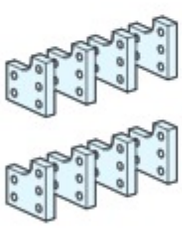


Vertical

- Spread terminals for 3-pole circuit breakers (Optional configuration)
  The terminals are available for size A (3SW68-1600) of 3-pole circuit breakers with purpose to enlarge the phase distances and ensure the electric safety by reducing the temperature rise.



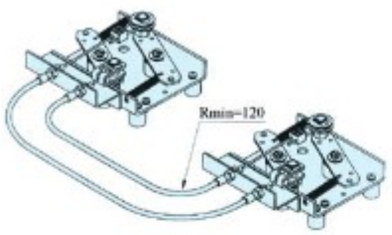
Horizontal



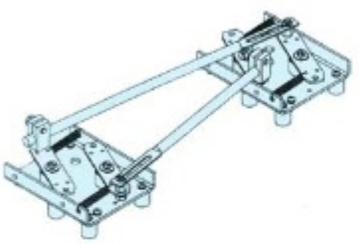
Vertical

- Spread terminals for 4-pole circuit breakers (Optional configuration)
  The terminals are available for size A (3SW68-1600) of 4-pole circuit breakers with purpose to enlarge the phase distances and ensure the electric safety by reducing the temperature rise.

Accessories for circuit breakers



Cable type



Connecting rod type

- Mechanical interlock (Optional configuration)
  It is installed on the right side of drawer base to enable various opening and closing configurations to be obtained between two or three circuit breakers.
  The mechanical interlock is installed by user.

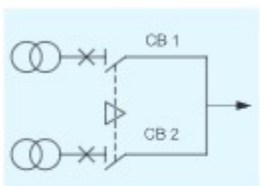
- Two types of mechanical interlock are available:
  - Cable type
  - Connecting rod type

- Four types of interlock configuration are available:

Possible running status	Typical application

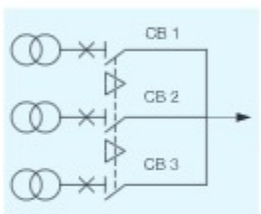
Type A
Two circuit breakers can't be in closed position at the same time.

CB 1	CB 2
O	O
O	I
I	O



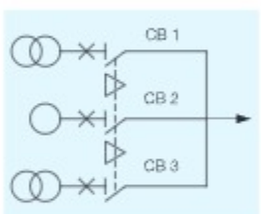
Type B
One out of three interlocked circuit breakers can be closed.

CB 1	CB 2	CB 2
O	O	O
I	O	O
O	I	O
O	O	I



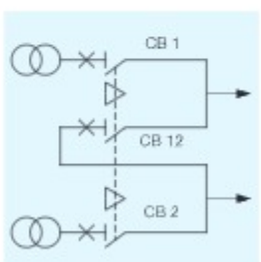
Type C
Two circuit breakers can be closed if the third is open. The latter can only be closed when the two circuit-breakers are open.

CB 1	CB 2	CB 2
O	O	O
I	O	O
O	I	O
I	O	I
O	O	I



Type D
Two out of three circuit breakers can be closed at the same time.

CB 1	CB 2	CB 2
O	O	O
I	O	O
O	I	O
O	O	I
I	I	O
O	I	I
I	O	I

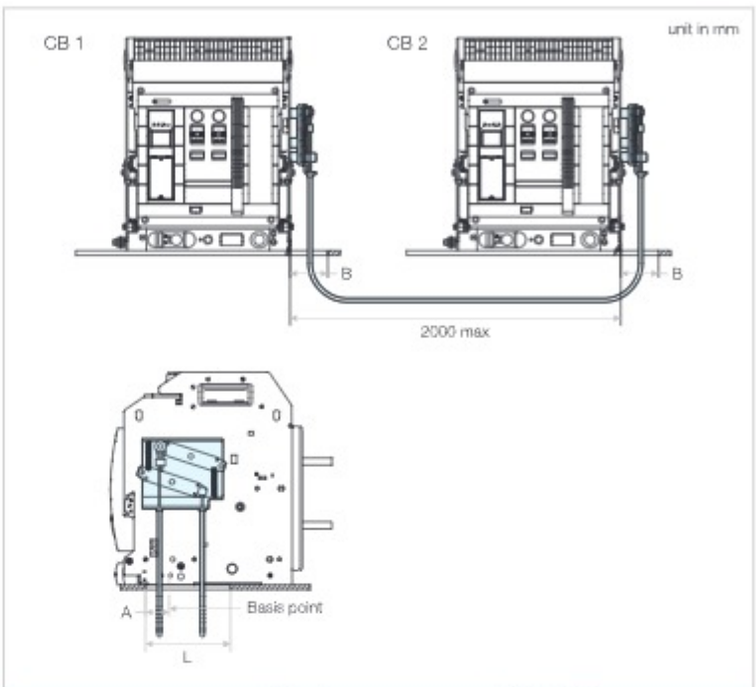


Accessories for circuit breakers

● Mechanical interlock (Optional configuration)

○ Cable type mechanical interlock for two horizontal installed circuit breakers

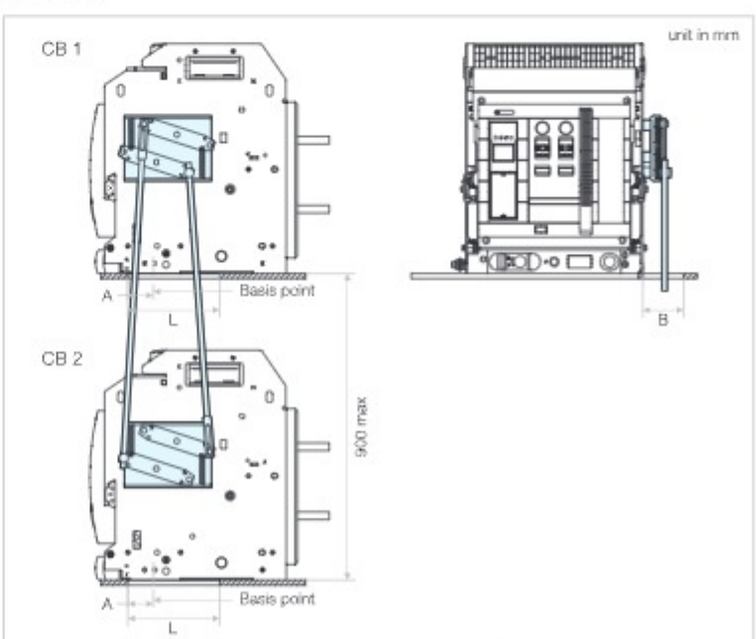
Dimensions



	Size A	Size B/C/D
B	50	80
A	40	50
L	120	180

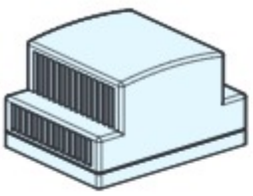
○ Connecting rod type mechanical interlock for two vertical installed circuit breakers

Dimensions



	Size A	Size B/C/D
B	50	80
A	40	50
L	120	180

Accessories for electronic trip units



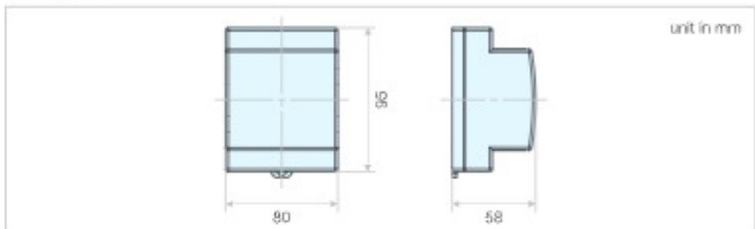
- DC power supply module (optional)

If the control voltage is DC 220 V or DC 110 V, a DC power supply module is necessary.

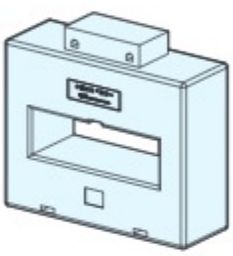
The DC power supply module can be installed on 35 mm DIN-rail.

Characteristics	
Input voltage	DC 220 V ± 15% or DC 110 V ± 15%
Output voltage	DC 24 V ± 5%
Output current	1.5 A

Dimensions



Electrical diagram reference: Wiring diagram



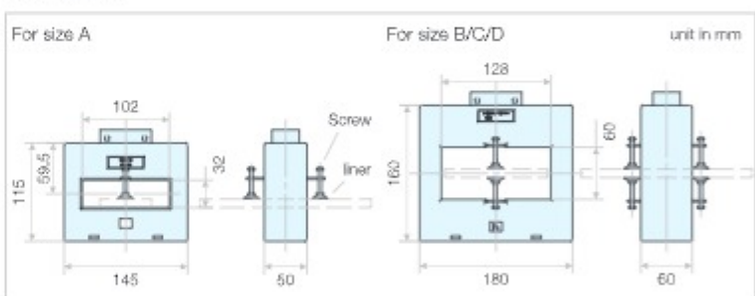
- External current transformer for neutral conductor

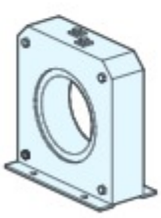
This is only for 3-pole circuit breakers;

According to requirements of particular situations, connecting a current transformer to the electronic trip unit, to enable the protection of the neutral conductor. A different electronic trip unit is needed accordingly.

The distance between current transformer and circuit breaker should be less than 2 meters.

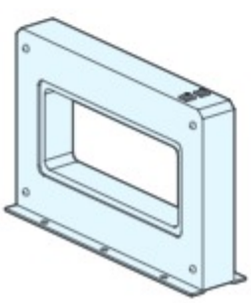
Dimensions:





- External current transformer for earth-fault protection

In the case of grounding connection named Source Ground Return (type W), the external current transformer can be used to check the current on the earthing cables and protect the circuits from both upstream and downstream from the earth-fault at the same time. The distance between current transformer and circuit-breaker should be less than10 meters.

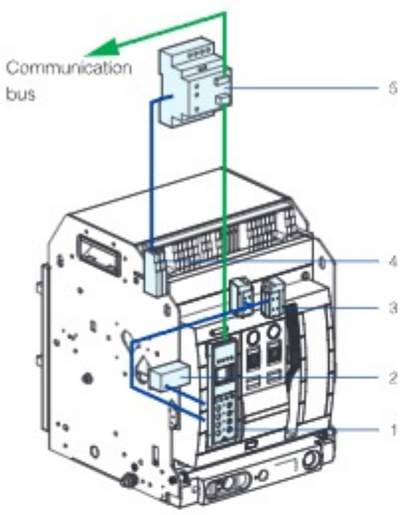


- External current transformer for differential protection

It is used in the case of grounding connection is with differential protection. The distance between current transformer and circuit breakershould be less than 2 meters.

Accessories for communication

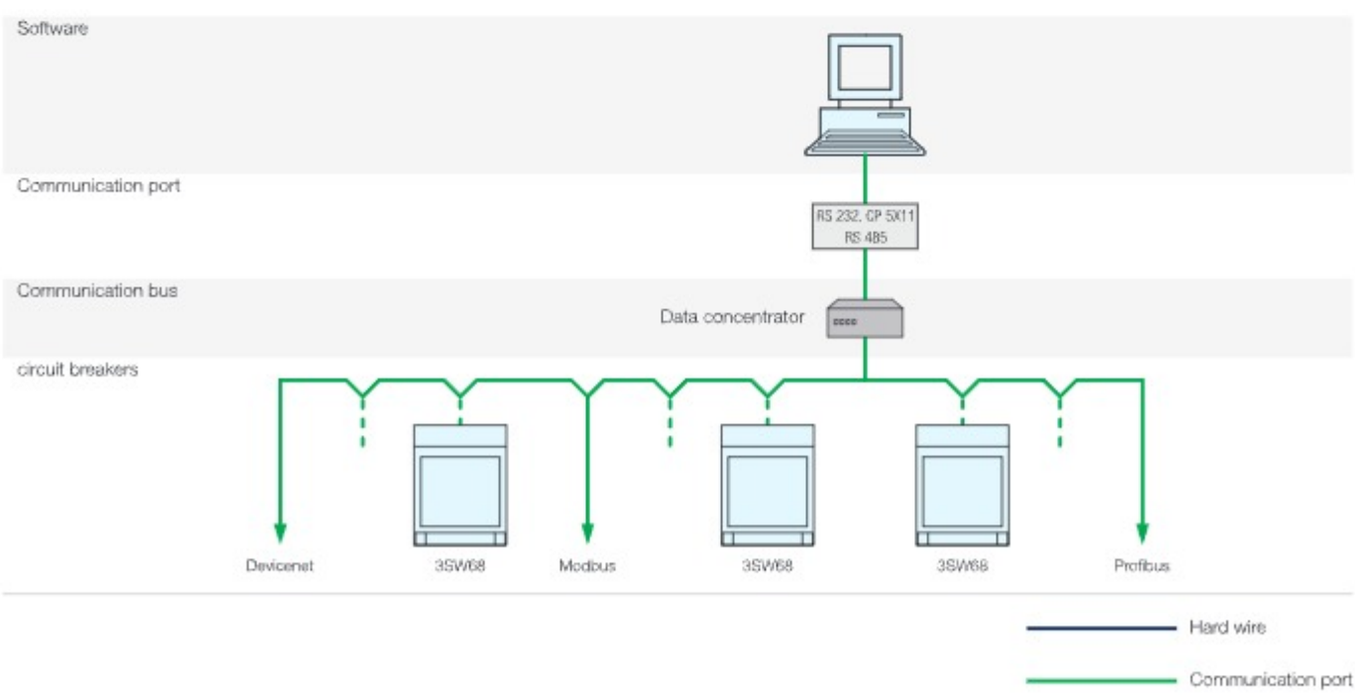
Including software, data transformer, communication module, data collector, relay module, power-supply module, and kinds of communication cables etc.



Structure and network

1. Internal communication module
2. Micro switch (Open/Close, fault trip, Ready to close, charged)
3. Coil of close and open
4. Signal of connected, test and separated
5. External communication module

- For fixed circuit breakers, the communication COM option is made up of:
  an internal communication module installed behind the electronic trip unit and signals are given by auxiliary contacts (open/close, fault trip, ready to close, charged) which is connected to the communicating voltage release.
- For withdrawable circuit breakers, the communication COM option is made up of:
  - an internal communication module installed behind the electronic trip unit and signals are given by auxiliary contacts (open/close, fault trip, ready to close, charged) which is connected to the communicating voltage release.
  - an external communication module with signals given by 3-positon micro switch (connected, test, separated).
- The status indication by the COM option is independent of the circuit breaker indication contacts. These contacts remain available for conventional uses.
- Internal communication module
  This module is installed behind the electronic trip unit and is independent of the control unit. It receives and transmits information on the communicating network. An infra-red link transmits data between the control unit and the communication module.
- External communication module
  This module makes it possible to address the frame and to maintain the address when the circuit breaker is in the separated position.
  A power-supply with DC 24 V is needed.
- Communication voltage release of open/close
  The communication voltage release of open/close is connected to the internal communication module.
  The remote-tripping function (the second voltage release of open or under voltage release) are independent of the communication option. They are not connected to the internal communication module.



1

Installation - Installation environment

- Utilization category (according to IEC 60947-2)
  Main circuit:
  - type A: without selective protection
  - type B: with selective protection
  - AC-3: motor protection
  Auxiliary circuit:
  - AC-15: for controlling the electromagnet load which capacity is higher than 72 VA
  - DC-13: for controlling the DC electromagnet load

- Electromagnetic compatibility (EMC)
  Applies to environment A: relates to low-voltage non-public or industrial networks/locations/installations including highly disturbing sources.

- Ambient temperature
  The circuit breakers can be operated in temperature range from -5 °C to + 40 °C, and the average temperature in 24 hours should below + 35 °C. Under certain installation conditions, the circuit breakers can be operated at higher temperature than the reference temperature of + 40 °C. In this case the current-carrying capacity of the circuit breaker may be lower than the rated current-carrying capacity at the reference temperature, therefore the derating rated current shown in the table must be applied.

Size	Rated frame current Inm	Rated current	Maximum rated current under different ambient temperature		
			+ 40 °C	+ 50 °C	+ 60 °C
	(A)	(A)	(A)		
A	1600	200	200	200	200
		400	400	400	400
		630	630	630	630
		800	800	800	800
		1000	1000	900	800
		1250	1250	1250	1250
		1600	1600	1440	1280
B	2500	630	630	630	630
		800	800	800	800
		1000	1000	900	800
		1250	1250	1250	1250
		1600	1600	1600	1600
		2000	2000	2000	2000
		2500	2500	2250	2000
C	4000	2000	2000	2000	2000
		2500	2500	2500	2500
		2900	2900	2900	2880
		3200	3200	3200	2880
		3600	3600	3240	2880
		4000	4000	3600	3200
D	6300	4000	4000	4000	4000
		5000	5000	4500	4000
		6300	6300	5670	5040

- Altitude
  The rated performance of circuit breaker remains unchanged with altitude up to 2000 meters. Beyond this altitude, the properties of the atmosphere in terms of composition, dielectric capacitance, cooling power and pressure can vary, and effects the rated operational voltage, rated insulating voltage and rated current, which are subject to derating.

Altitude	m	2000	3000	4000	5000
Rated insulating voltage	V	1000	900	700	600
Max. operational voltage	V	690	590	520	460
Rated current	% In	100	98	95	93

- Atmospheric conditions
  - Humidity: air relative humidity no higher than 50 % when the ambient temperature is + 40 °C. The higher relative humidity is allowable under lower ambient temperature. In the most humidity month, the average relative humidity no higher than 90 %, and the average lowest temperature no lower than + 25 °C, special measures should be adopted also for the condensation occasionally produced due to the temperature change.
  - Pollution degree: 3

  Note:
  User should negotiate with manufacturer about the circuit breakers which may be used under conditions of over + 40 °C or below - 25 °C or the altitude higher than 2000 meters.

Installation - Installation environment

- Overvoltage category
  - Main circuit: IV
  - Coil of under-voltage release: IV
  - Primary coil of power transformer: IV
  - Auxiliary circuit, control circuit: III

- Other installation conditions
  - The circuit breaker should be installed under the conditions without risks of explosive, without conductive dust, and without gas which would corrode metal or destroy the insulation.
  - The vertical gradient should be less than 5 °C.

- Power loss and resistance

  The power loss of a circuit breaker is the total power consumption between the input and output of main circuits, usually they are measured under the rated frame current.

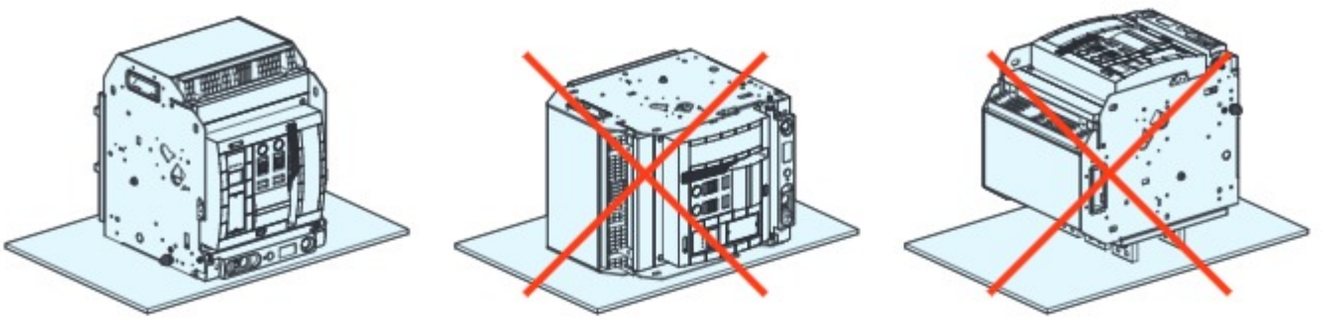
  The resistance between input/output is the value measured per pole (cold state).

Version		Withdrawable circuit breaker		Fixed circuit breaker	
Size	Rated frame current (A)	Power loss (W)	Input/output resistance (μΩ)	Power loss (W)	Input/output resistance (μΩ)
A	1600	460	36	220	26
B	2500	600	20	260	12
C	4000	900	12	650	8
D	6300	1200	8	1050	5

1

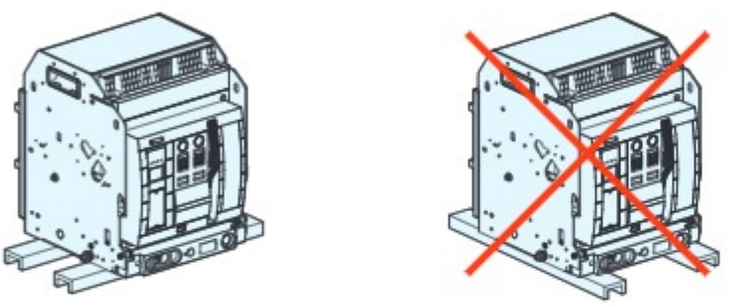
Installation - Installation environment

- Permitted placing of circuit breaker before installing



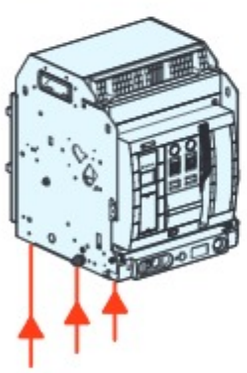
- Installation position

  The circuit breaker is required to be installed on the flat surface which is hard without deformation, and make the weight evenly distributed on it.



- Power incoming

  The circuit breaker is available to connect the incoming power from either the top side or the bottom side without any impact on performance.



Installation - Power connection

- Clamping

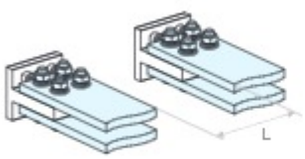
The copper busbars connected to the circuit breaker should be fixed with steel nuts and bolts, class 8.8, and with proper tightening torque which are shown in the table below, over-tightening may have the same consequences as under-tightening and is prohibited.

Example



Ø Nominal (mm)	Ø Drilling (mm)	Tightening torques with grower or flat washers (Nm)	with contact or corrugatec washers
10	11	37.5	50
12	13	45	60

- Isolation distance



Rated impulse withstand voltage Uimp (kV)	L minimum (mm)
12	14

- Busbar bending

When bending busbars maintain the radius indicated below (a smaller radius would cause cracks).



Dimensions (mm)

B	Radius of curvature R	
	Minimum	Recommended
5	5	7.5
10	15	18 – 20

- Busbar sizing and quantity

Size of circuit breaker	Rated frame current	Rated current (A)	Thickness	Width	Quantity per pole
A	1600	200	5	50	1
		400	5	50	1
		630	5	50	2
		800	5	50	2
		1000	5	50	3
		1250	5	50	3
		1600	5	50	4
B	2500	630	5	80	1
		800	5	60	2
		1000	5	60	2
		1250	5	80	2
		1600	10	60	2
		2000	10	80	2
		2500	10	80	3
C	4000	2000	5	100	3
		2500	10	100	2
		2900	10	100	3
		3200	10	100	3
		3600	10	100	4
		4000	10	100	4
D	6300	4000	10	100	4
		5000	10	100	6
		6300	10	100	6 (vertical)

1

Installation - Power connection

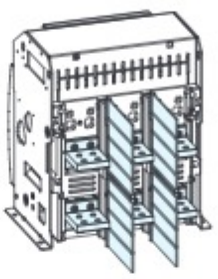
There are four types of connection are available:

- Horizontal connection or vertical connection
- Front connection
- Mix connection
- Spread connection

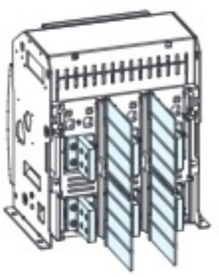
Horizontal connection or vertical connection

- For size A/B, just simply turn the horizontal terminals at 90° to make vertical terminals
- For size D, only vertical connections available
- Phase separators are optional depending on user's requirement

Horizontal connection

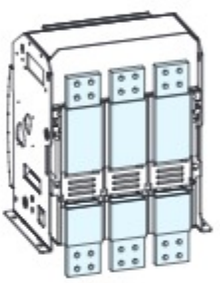


Vertical connection



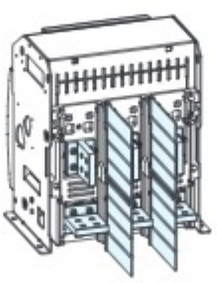
Front connection

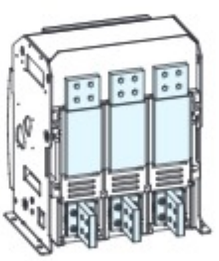
- Front connection is available for circuit breakers with rated current up to 4000 A, but excluding the circuit-breakers of size A

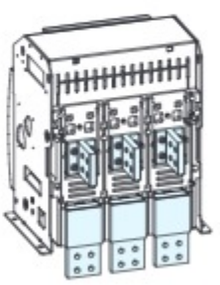


Mixed connection

- For the mixed connections involved front connections, only available for the circuit breakers with rated current up to 4000 A, but excluding the circuit breakers of size A.

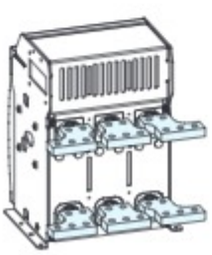




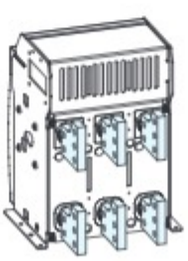


Spread connection (available for size A only)

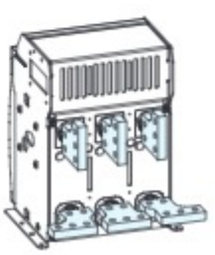
Horizontal



Vetical



Mixed



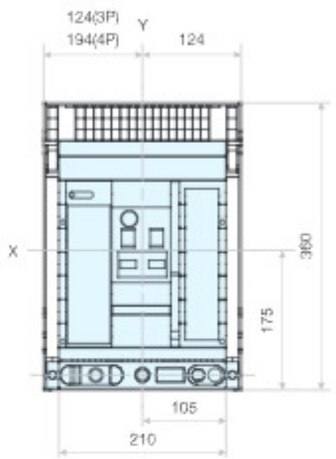
Dimensions

Size A (3SW68-1600) withdrawable circuit breaker, 3-pole/4-pole

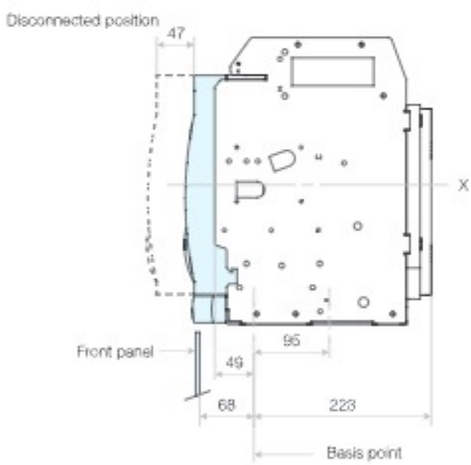
unit in mm

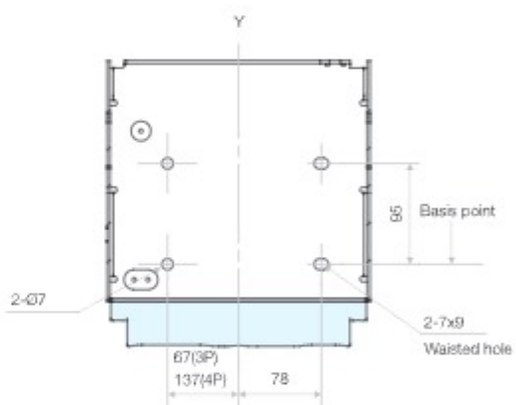
Dimension





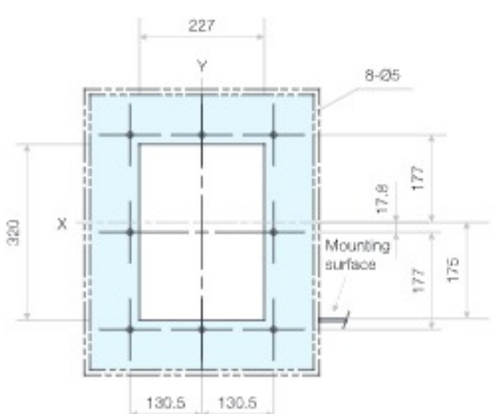
Mounting



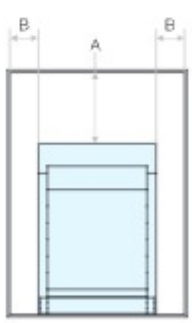


Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

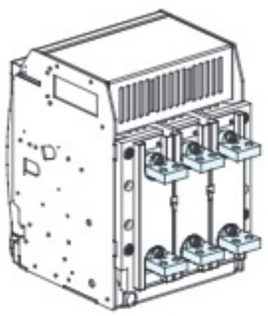
Dimensions

Size A (3SW68-1600) withdrawable circuit breaker, 3-pole/4-pole

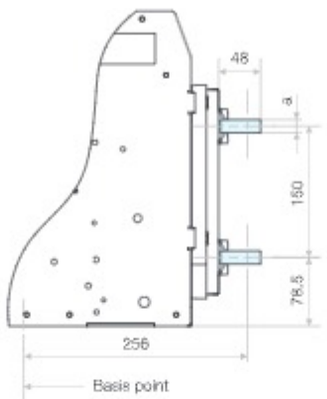
1

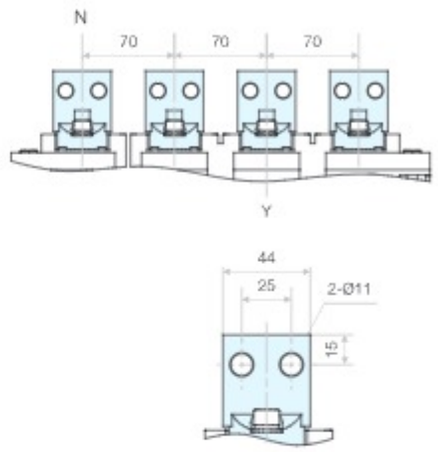
unit in mm

Horizontal rear connections (standard configuration)

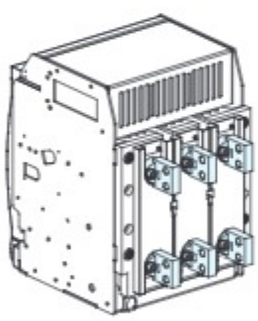


In	a
200 - 1000 A	8
1250 - 1600 A	15

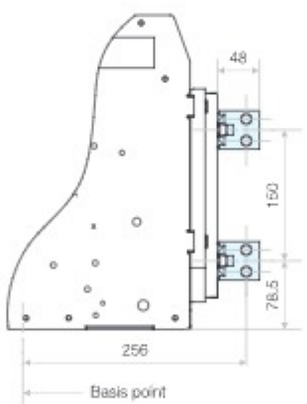


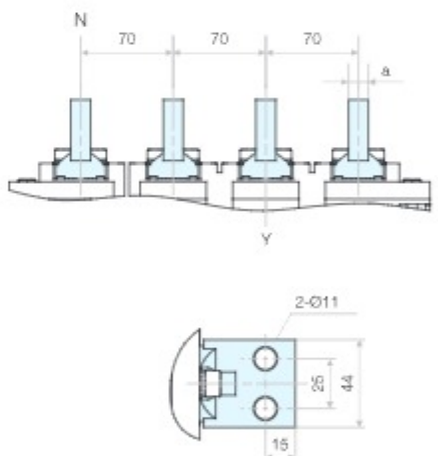


Vertical rear connections

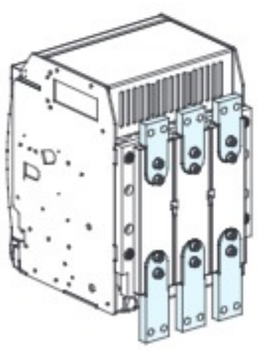


In	a
200 - 1000 A	8
1250 - 1600 A	15

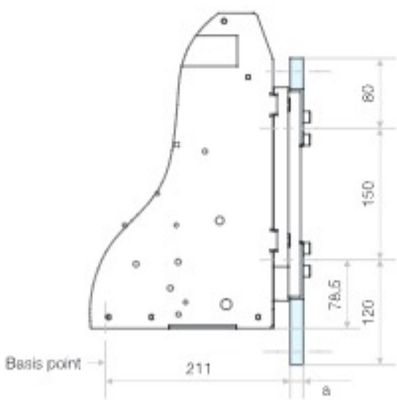


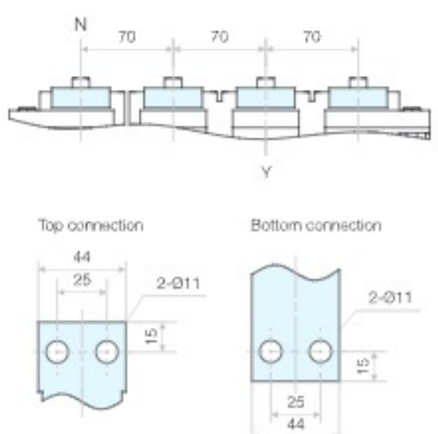


Front connections



In	a
200 - 1000 A	8
1250 - 1600 A	15





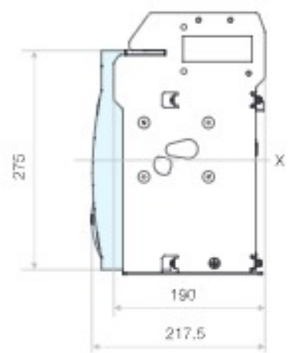
Note:
"Y" is the symmetry plane of circuit breaker cover.

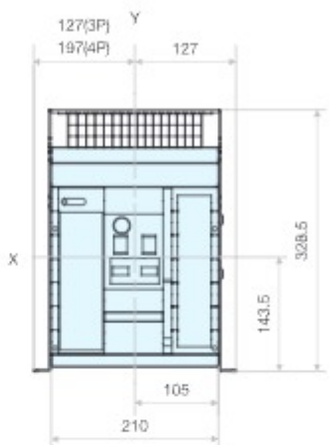
Dimensions

Size A (3SW68-1600) fixed circuit breaker, 3-pole/4-pole

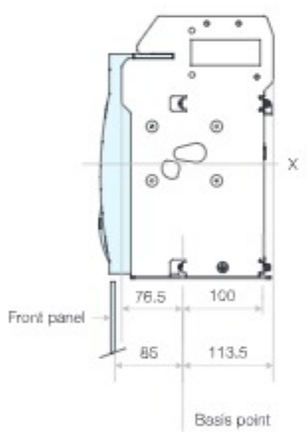
unit in mm

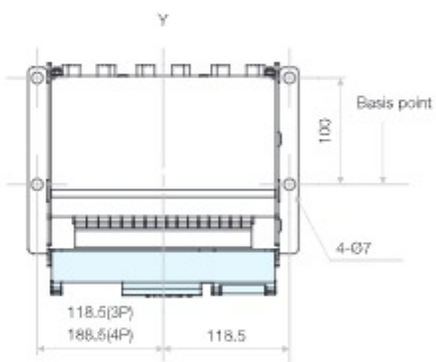
Dimension





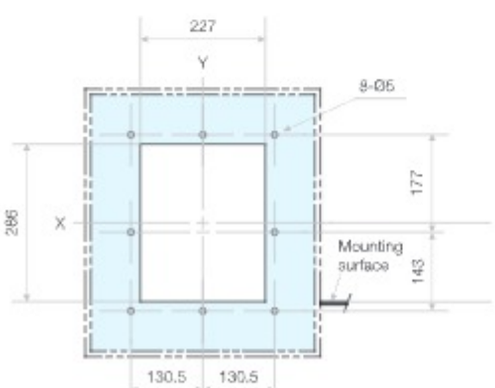
Mounting



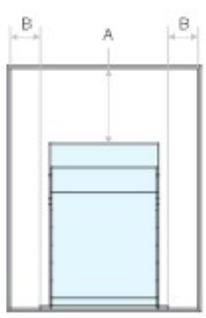


Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

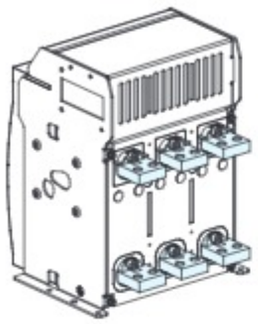
Dimensions

Size A (3SW68-1600) fixed circuit breaker, 3-pole/4-pole

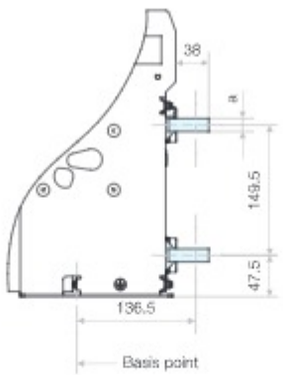
1

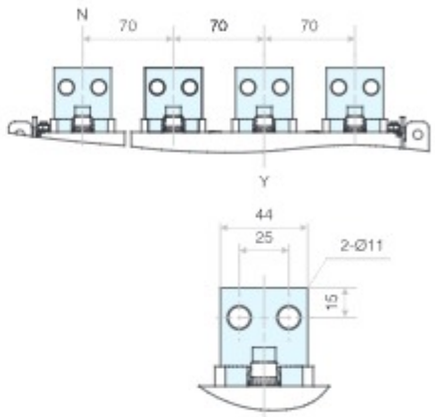
unit in mm

Horizontal rear connections (standard configuration)

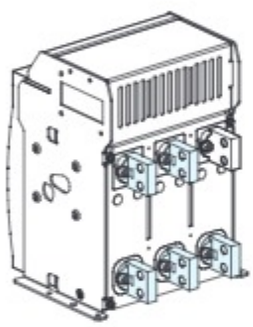


In	a
200 - 1000 A	8
1250 - 1600 A	15

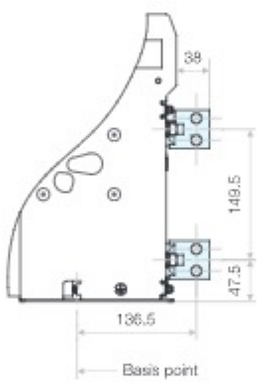


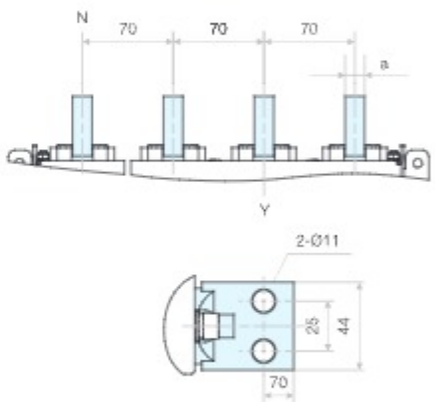


Vertical rear connections



In	a
200 - 1000 A	8
1250 - 1600 A	15

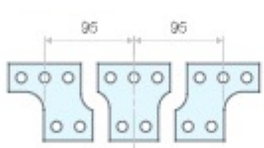




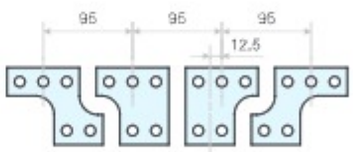
Spread busbar (available for withdrawable circuit breakers also)

In	a	b
200 - 1000 A	8	6
1250 - 1600 A	15	13

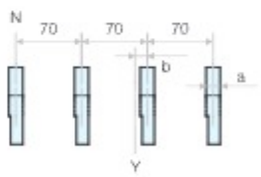
Note: Recommended connection screws: M10 class 8.8
Tightening torque: 50 Nm with contact washer



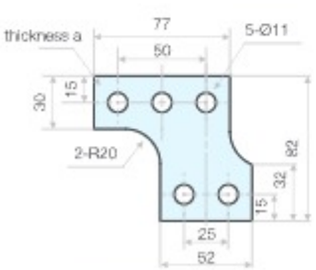
for 3-pole
(available for horizontal and front connections)



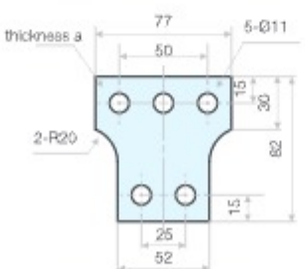
for 4-pole
(available for horizontal and front connections)



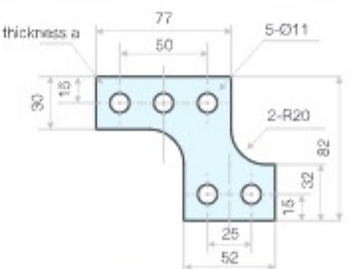
for 3-pole & 4-pole
(available for vertical connections)



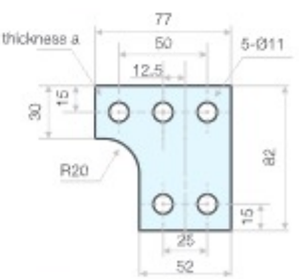
Left or right spread connection for 3-pole



Middle spread connection for 3-pole



Left or right spread connection for 4-pole



Middle spread connections for 4-pole
Vertical spread connection

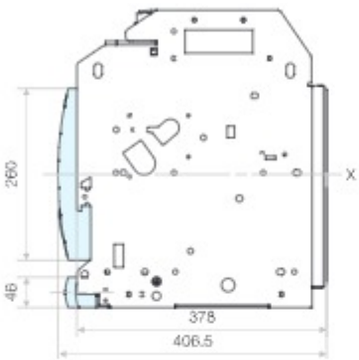
Note:
"Y" is the symmetry plane of circuit breaker cover.

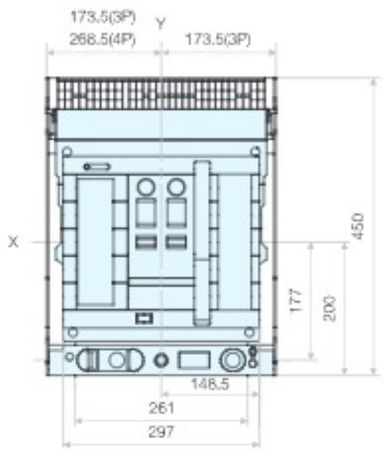
Dimensions

Size B (3SW68-2500) withdrawable circuit breaker, 3-pole/4-pole

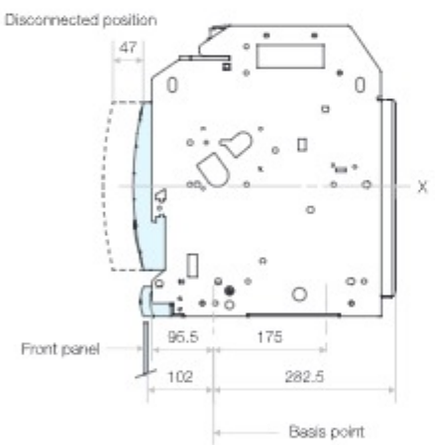
Dimension

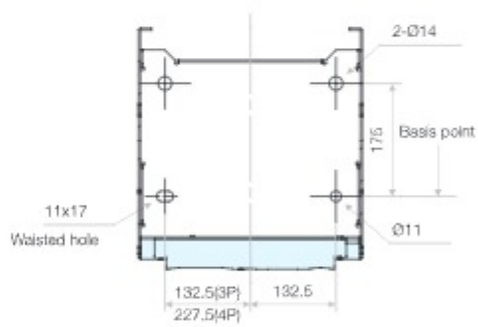
unit in mm





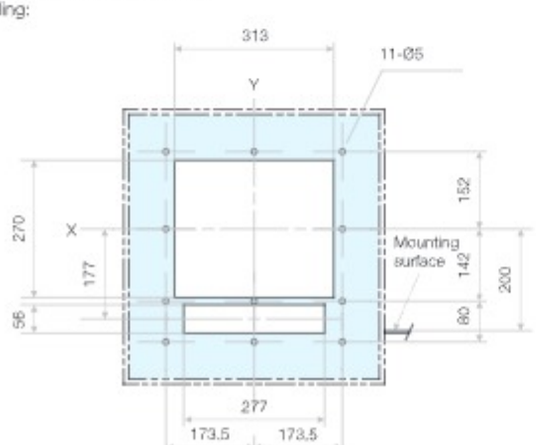
Mounting



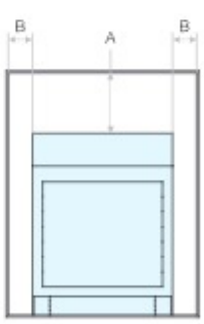


Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

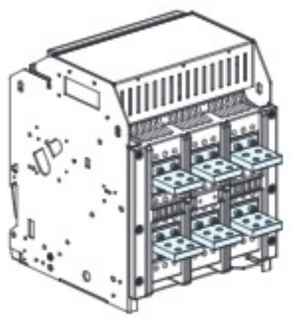
Dimensions

Size B (3SW68-2500) withdrawable circuit breaker, 3-pole/4-pole

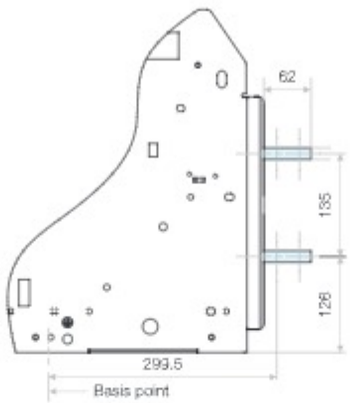
1

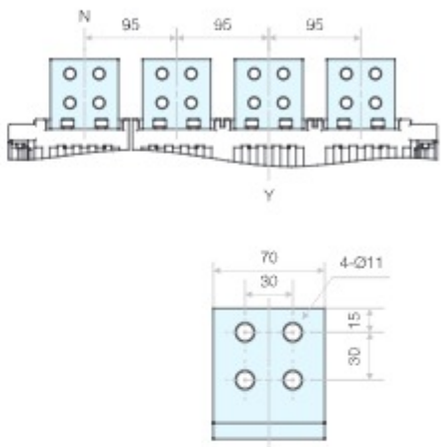
unit in mm

Horizontal rear connections (standard configuration)

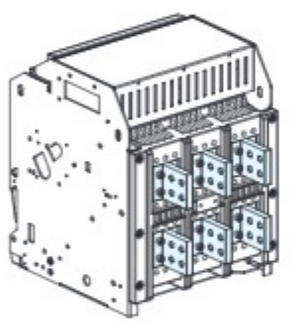


In	a
630 - 1000 A	10
1250 - 2500 A	15

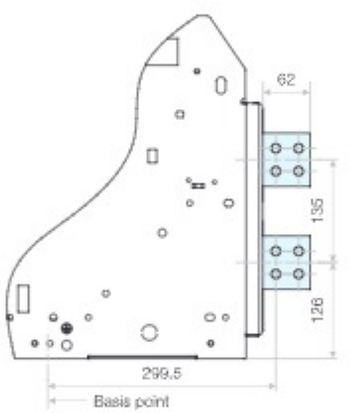


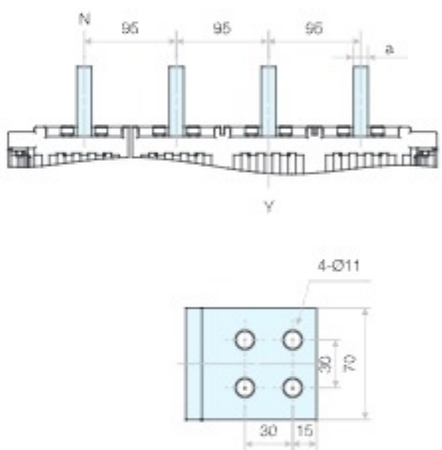


Vertical rear connections

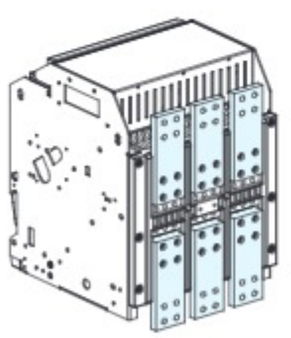


In	a
630 - 1000 A	10
1250 - 2500 A	15

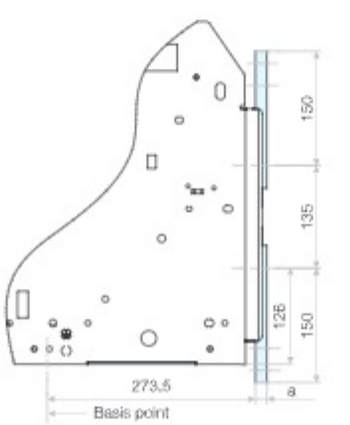


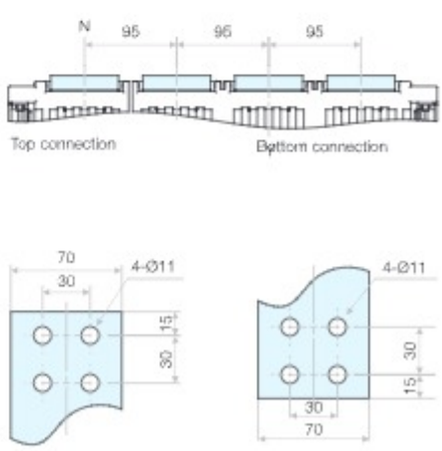


Front connection



In	a
630 - 1000 A	10
1250 - 2500 A	15





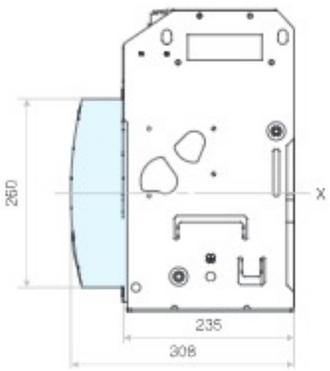
Note:
"Y" is the symmetry plane of circuit breaker cover.

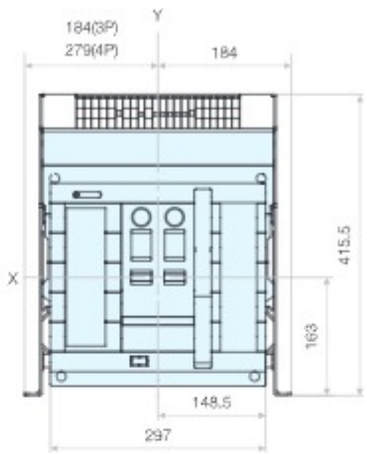
Dimensions

Size B (3SW68-2500) fixed circuit breaker, 3-pole/4-pole

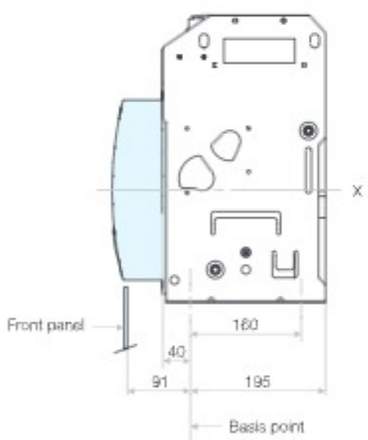
unit in mm

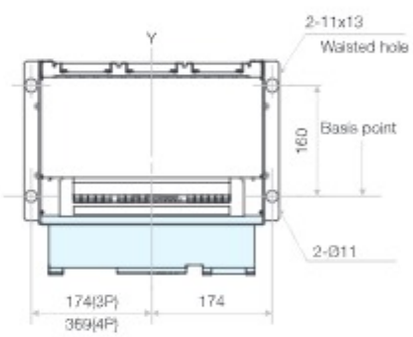
Dimension





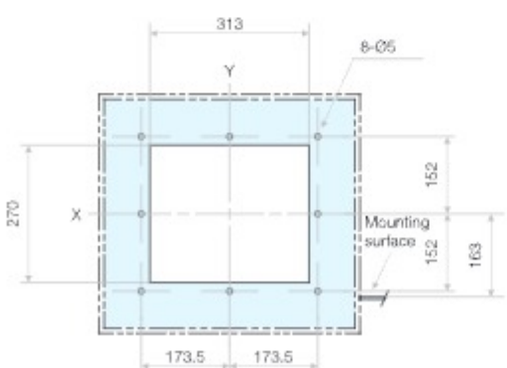
Mounting



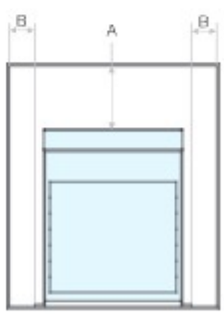


Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

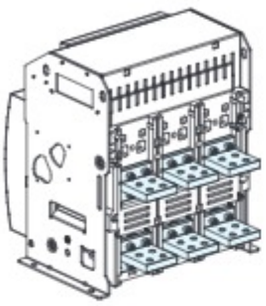
Dimensions

Size B (3SW68-2500) fixed circuit breaker, 3-pole/4-pole

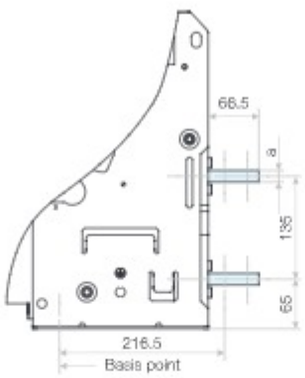
1

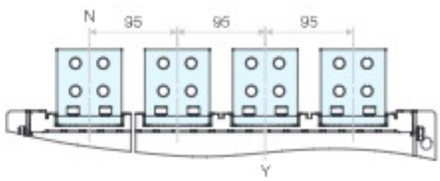
unit in mm

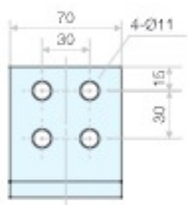
Horizontal rear connections (standard configuration)



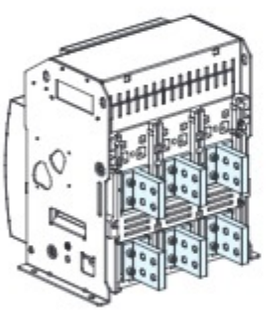
In	a
630 - 1000 A	10
1250 - 2500 A	15



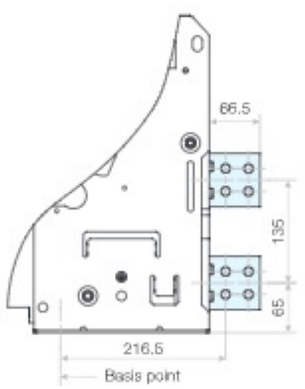


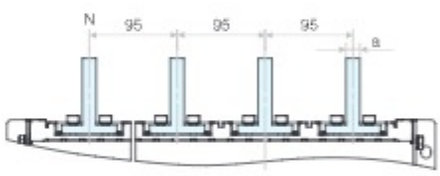


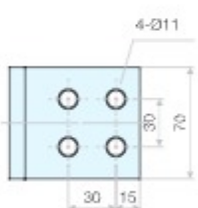
Vertical rear connections



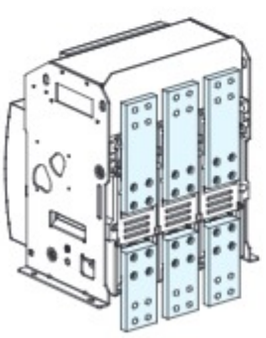
In	a
630 - 1000 A	10
1250 - 2500 A	15



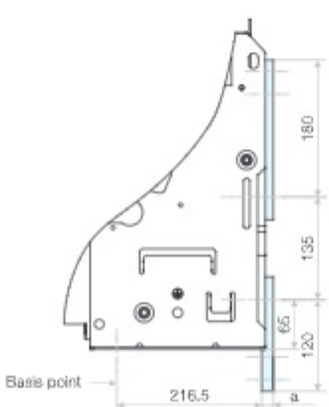


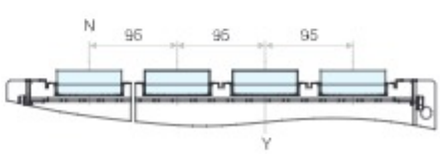


Front connection

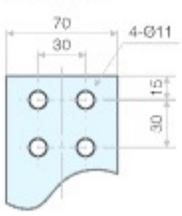


In	a
630 - 1000 A	10
1250 - 2500 A	15

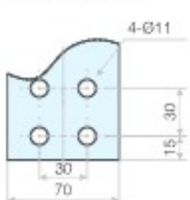




Top connection



Bottom connection



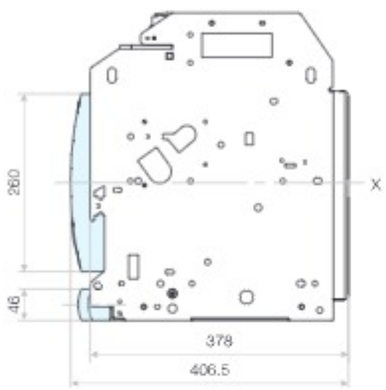
Note:
"Y" is the symmetry plane of circuit breaker cover.

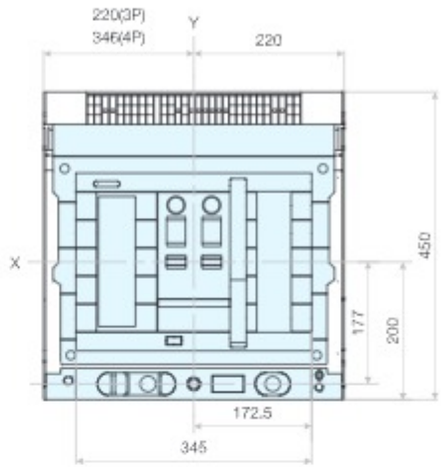
Dimensions

Size C (3SW68-4000) withdrawable circuit breaker, 3-pole/4-pole

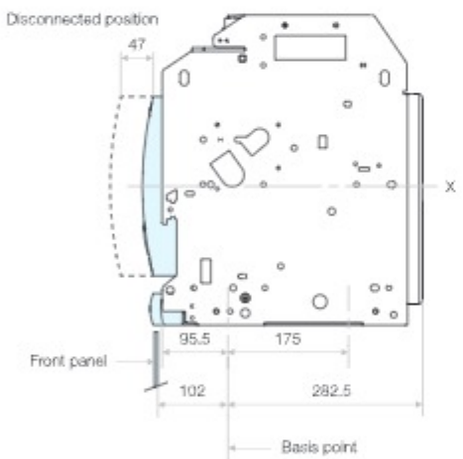
unit in mm

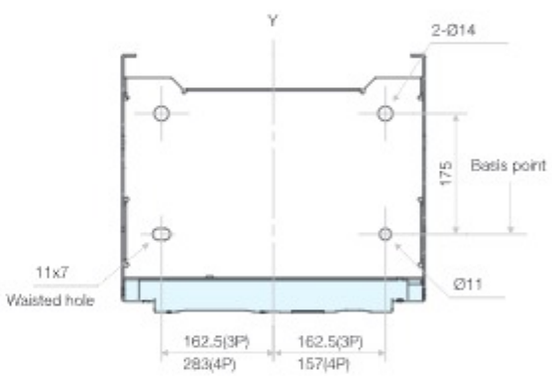
Dimension





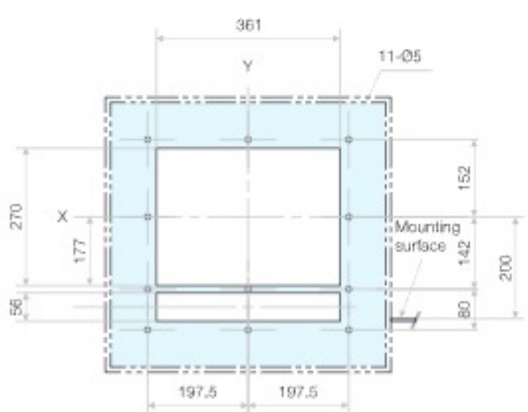
Mounting



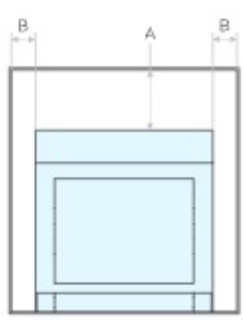


Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

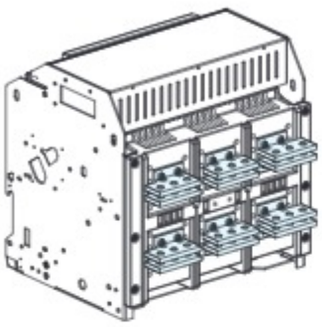
Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

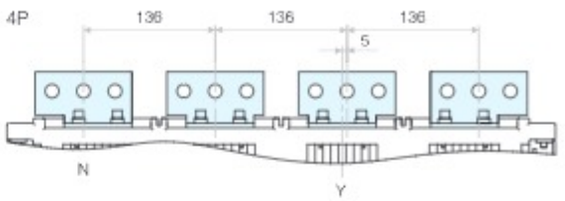
Dimensions

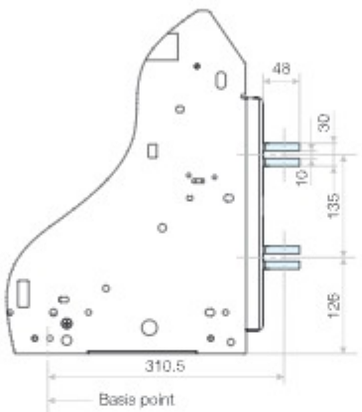
Size C (3SW68-4000) withdrawable circuit breaker, 3-pole/4-pole

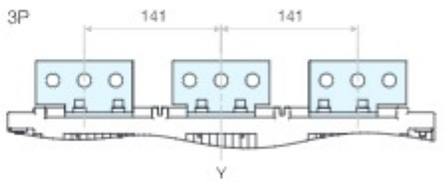
unit in mm

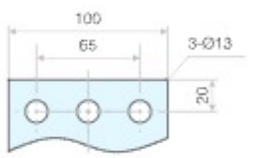
Horizontal rear connections for 2000 A to 3600 A (standard configuration)



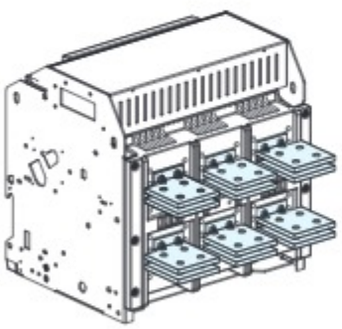


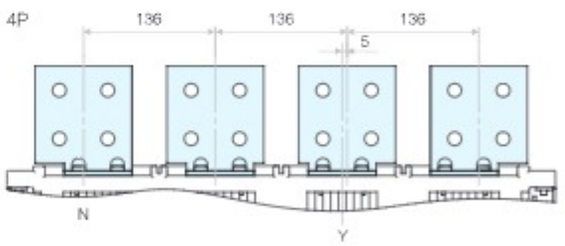


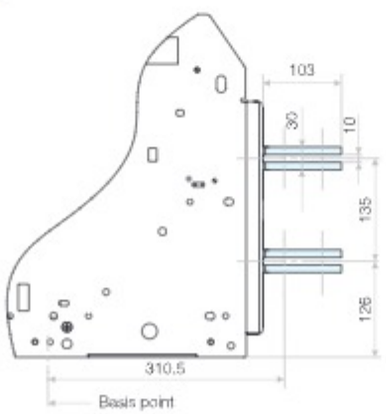


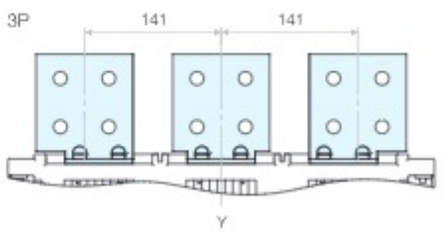


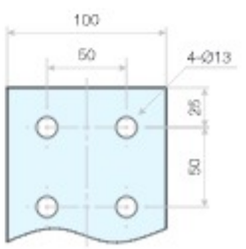
Horizontal rear connections for 4000 A (standard configuration)











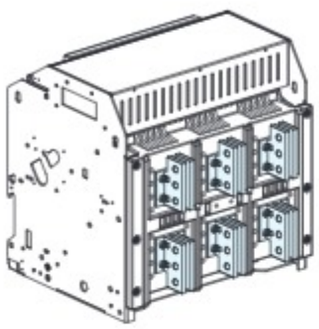
Note:
"Y" is the symmetry plane of circuit breaker cover.

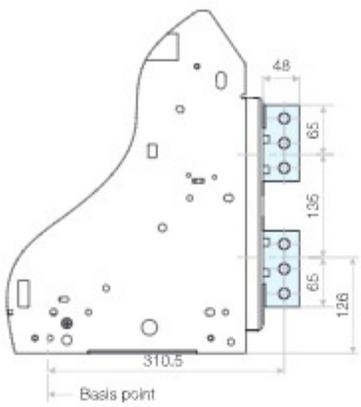
Dimensions

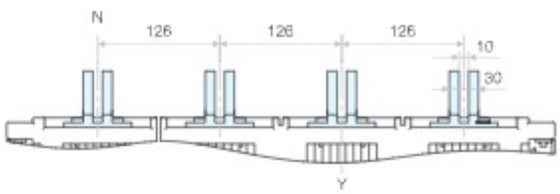
Size C (3SW68-4000) withdrawable circuit breaker, 3-pole/4-pole

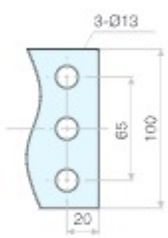
unit in mm

Vertical rear connections for 2000 A to 3600 A

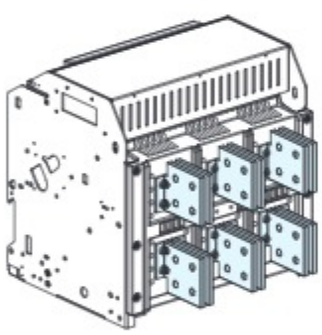


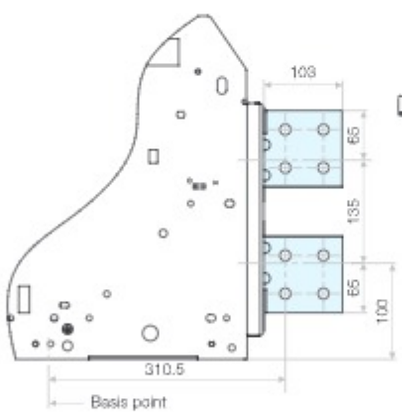


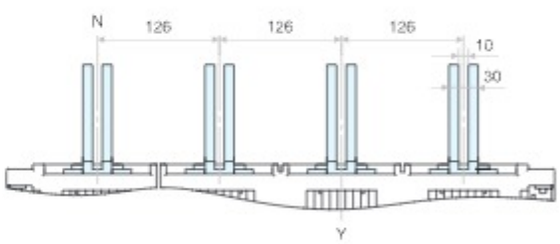


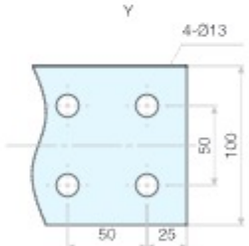


Vertical rear connections for 4000 A

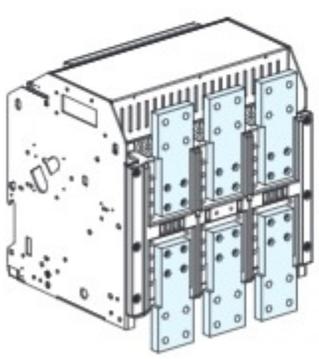




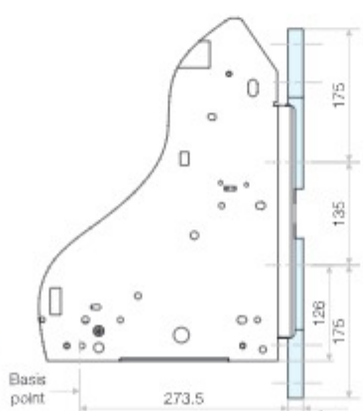


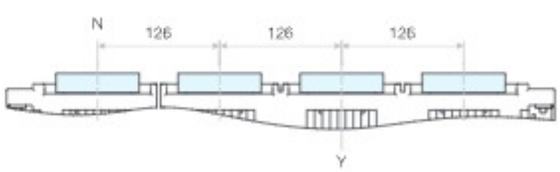


Front connection

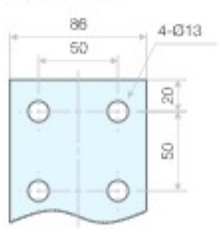


In	a
2000 - 3600 A	15
4000 A	20

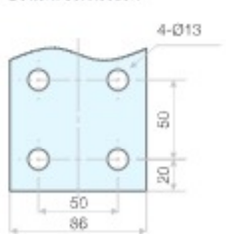




Top connection



Bottom connection



Note:
"Y" is the symmetry plane of circuit breaker cover.

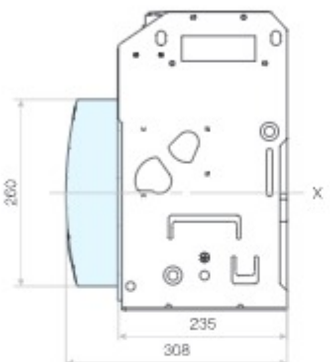
Dimensions

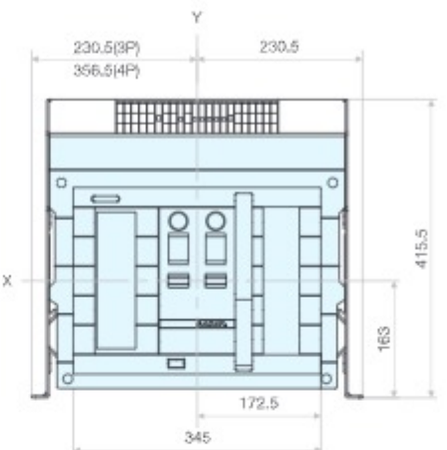
Size C (3SW68-4000) fixed circuit breaker, 3-pole/4-pole

1

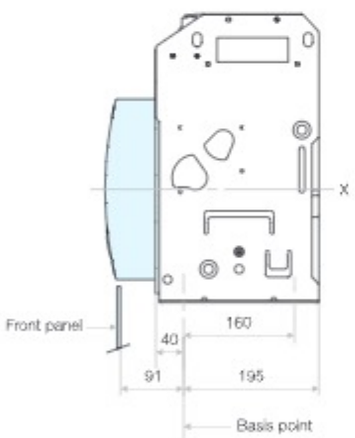
unit in mm

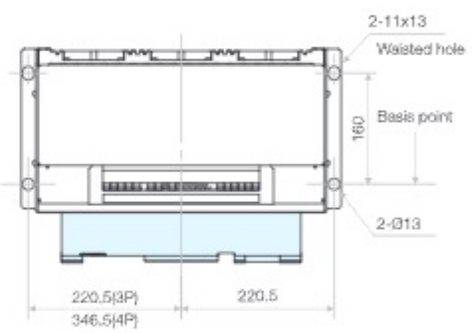
Dimension





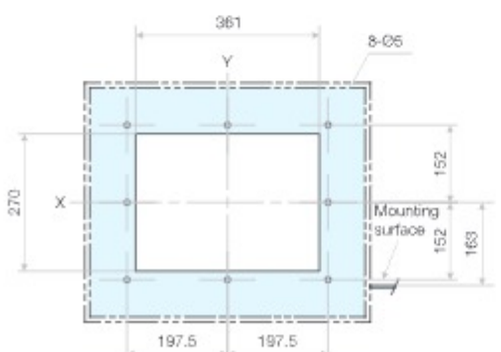
Mounting



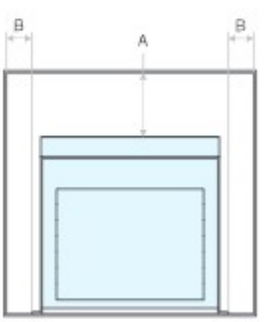


Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

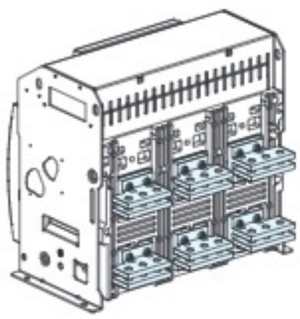
Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

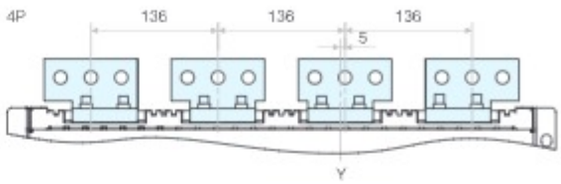
Dimensions

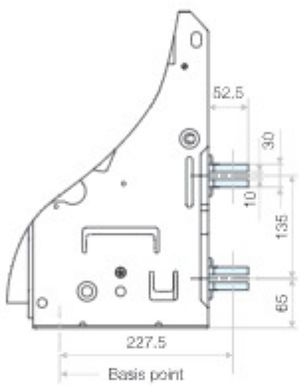
Size C (3SW68-4000) fixed circuit breaker, 3-pole/4-pole

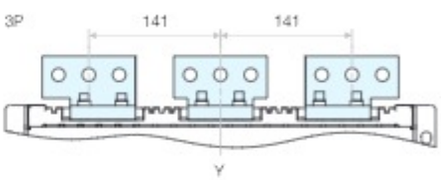
unit in mm

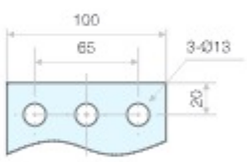
Horizontal rear connections for 2000 A to 3600 A (standard configuration)



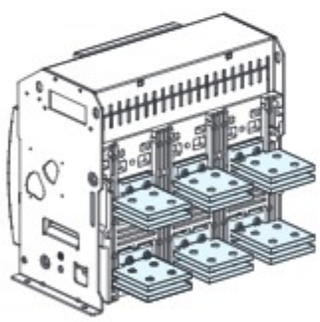


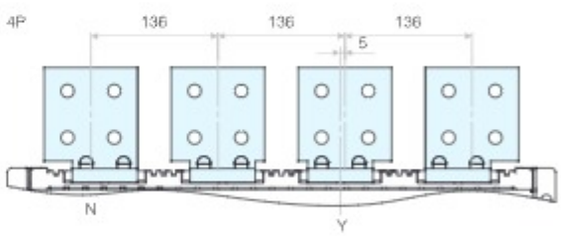


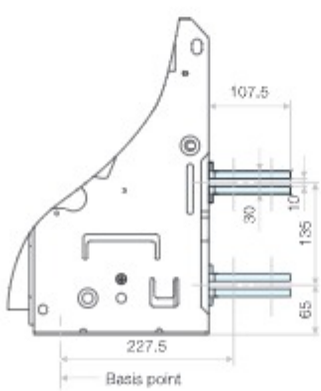


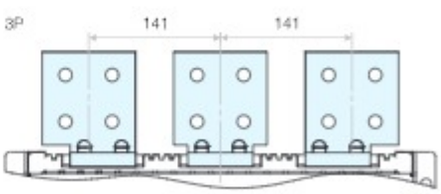


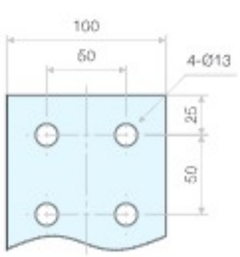
Horizontal rear connections for 4000 A (standard configuration)











Note:
"X" and "Y" are the symmetry planesof circuit breaker cover.

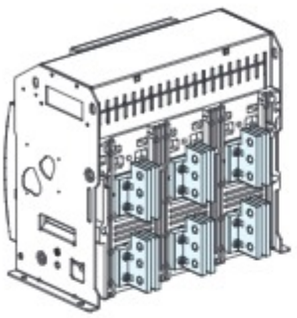
Dimensions

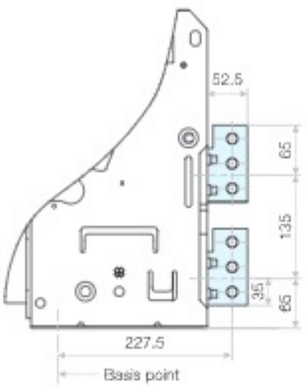
Size C (3SW68-4000) fixed circuit breaker, 3-pole/4-pole

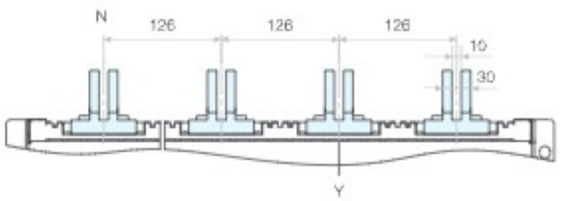
1

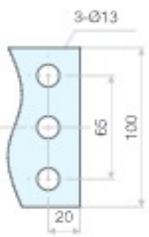
unit in mm

Vertical rear connections for 2000 A to 3600 A

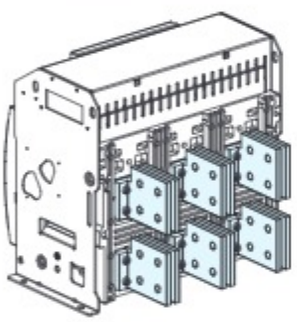


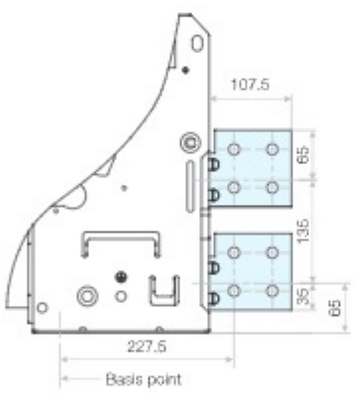


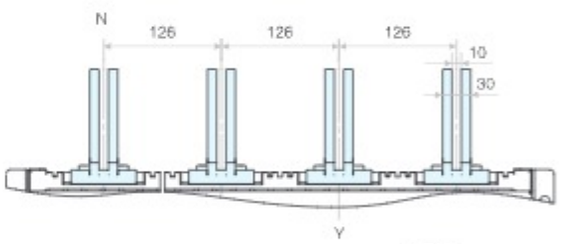


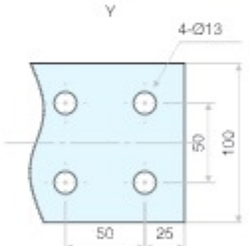


Vertical rear connections for 4000 A

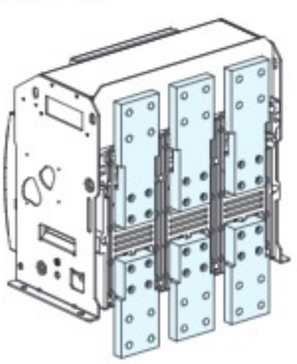




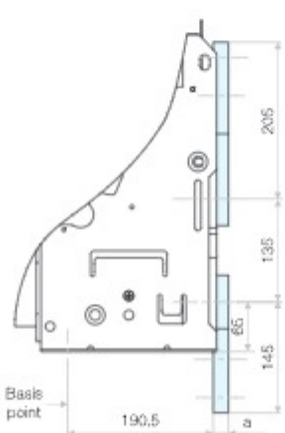


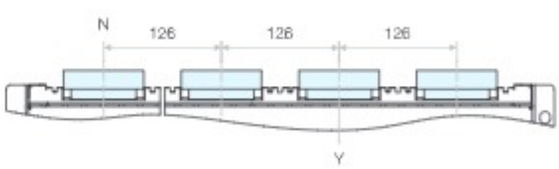


Front connection

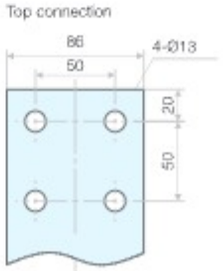


In	a
2000 - 3600 A	15
4000 A	20

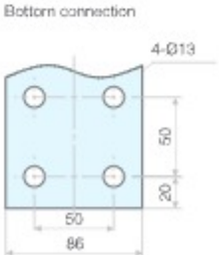




Top connection



Bottom connection



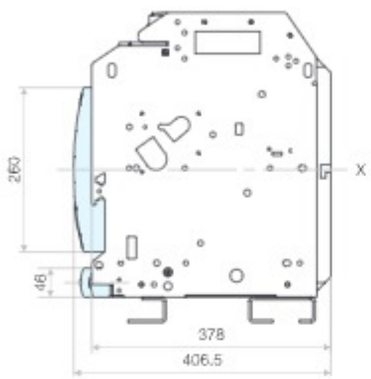
Note:
"Y" is the symmetry plane of circuit breaker cover.

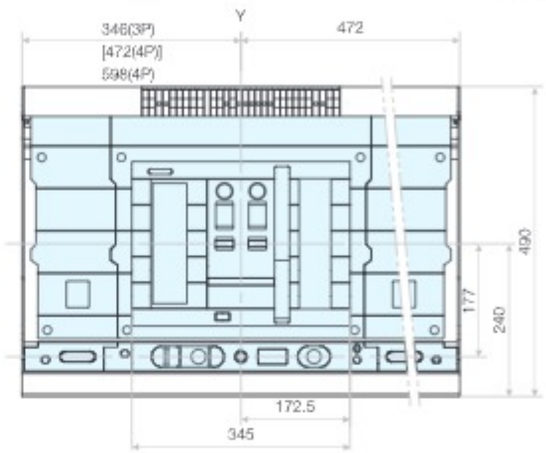
Dimensions

Size D (3SW68-6300) withdrawable circuit breaker, 3-pole/4-pole

unit in mm

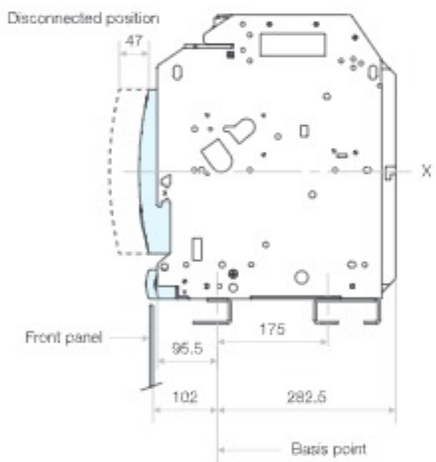
Dimension

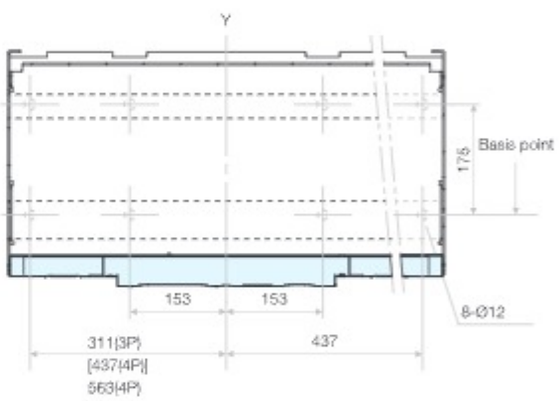




Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.

Mounting

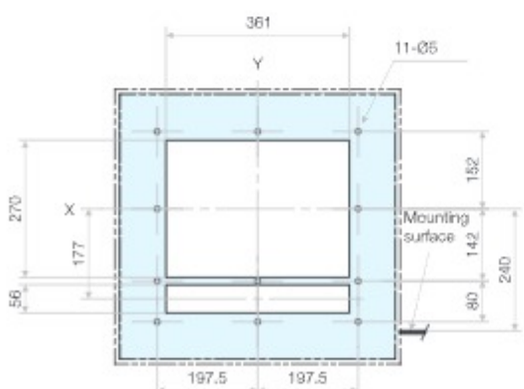




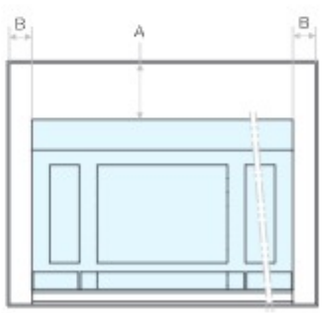
Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.

Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

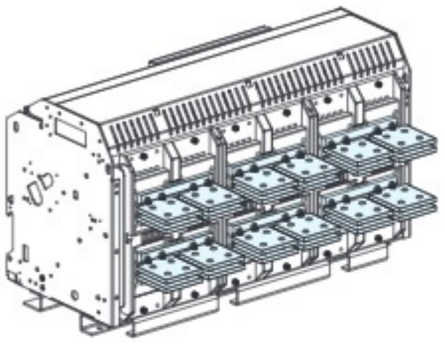
Dimensions

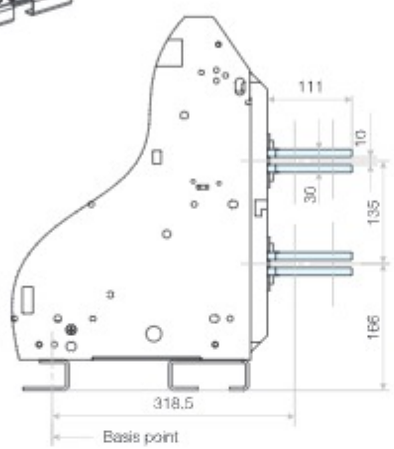
Size D (3SW68-6300) withdrawable circuit breaker, 3-pole/4-pole

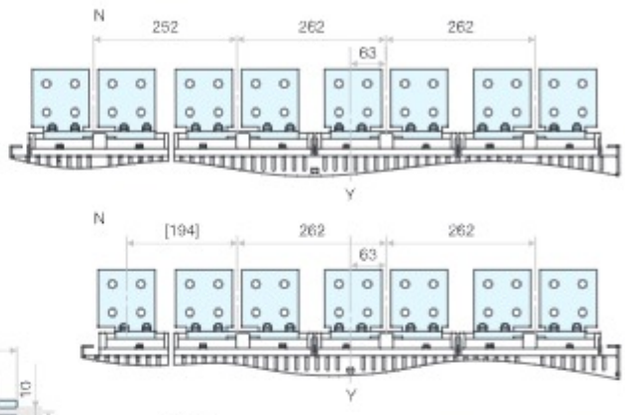
1

unit in mm

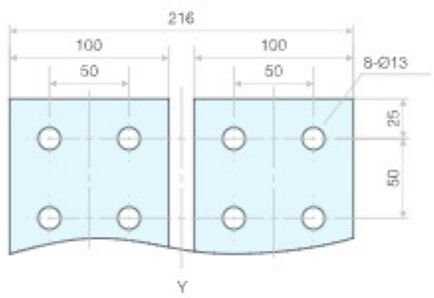
Horizontal rear connections for 4000 A and 5000 A (standard configuration)



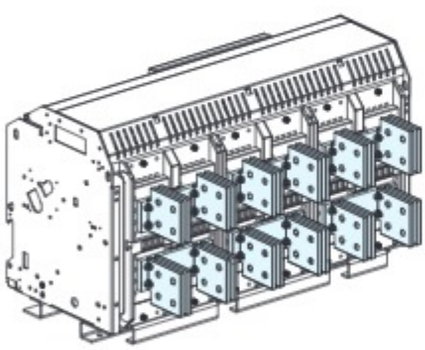


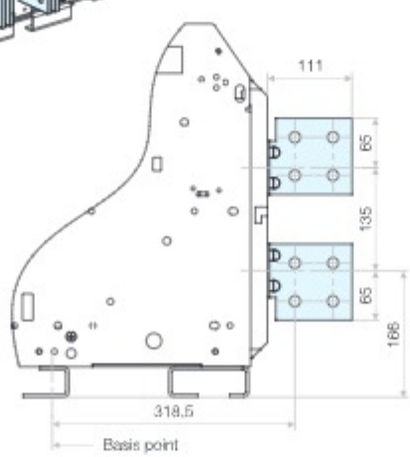


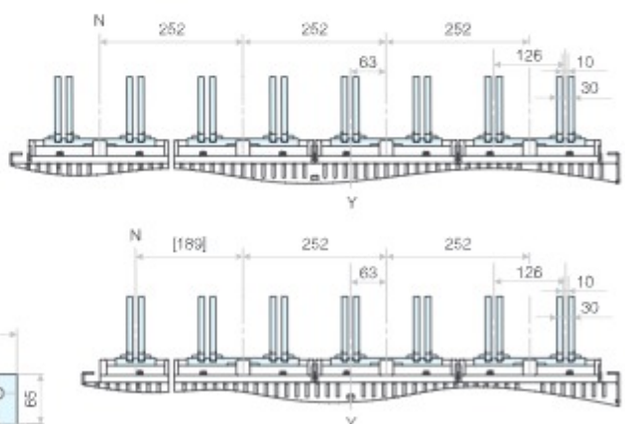
Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.



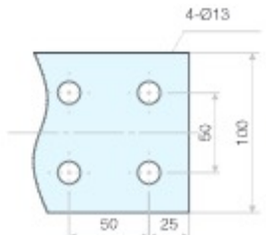
Vertical rear connections for 6300 A (standard configuration)







Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.



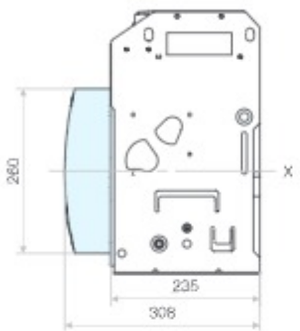
Note:
"Y" is the symmetry plane of circuit breaker cover.

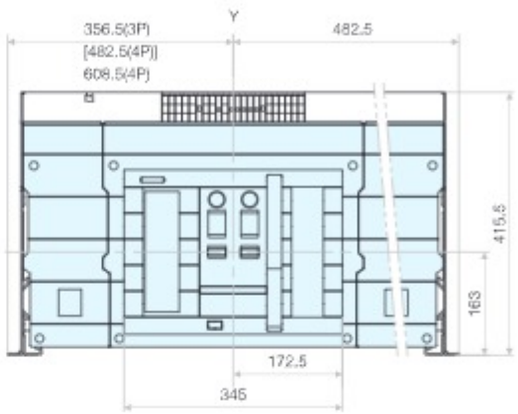
Dimensions

Size D (3SW68-6300) fixed circuit breaker, 3-pole/4-pole

unit in mm

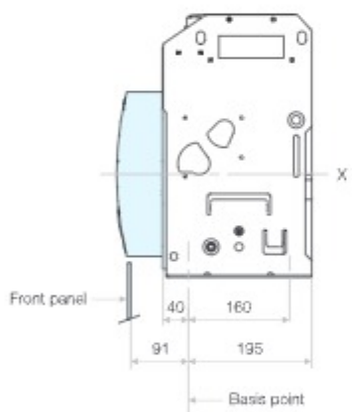
Dimension

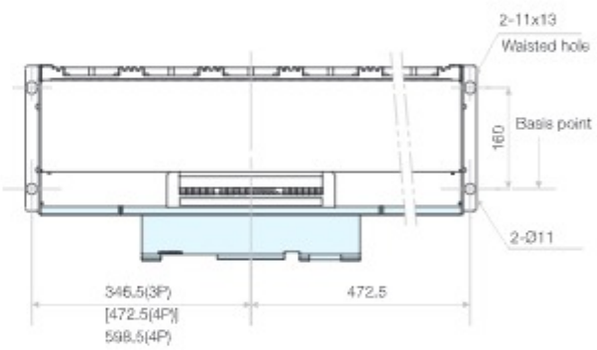




Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.

Mounting

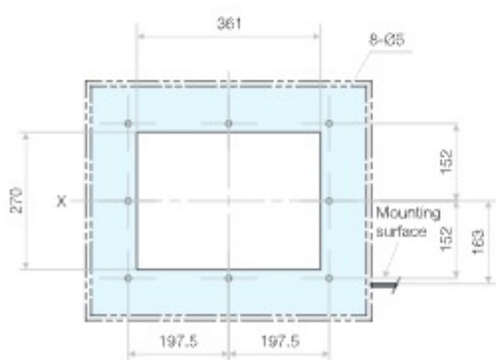




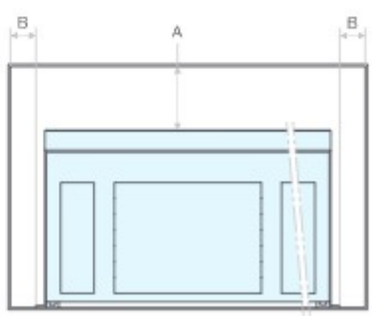
Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.

Door drilling and safety clearances

Door drilling:



Safety clearances:



	Insulated parts	Metal parts	Energized parts
A	0	0	100
B	0	0	60

Note:
"X" and "Y" are the symmetry planes of circuit breaker cover.

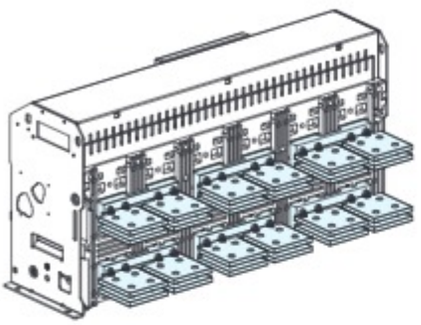
Dimensions

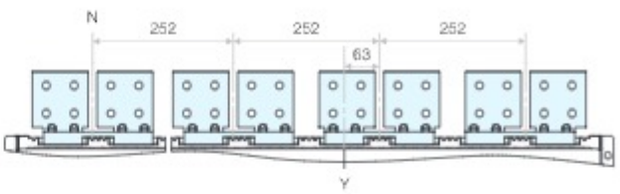
Size D (3SW68-6300) fixed circuit breaker, 3-pole/4-pole

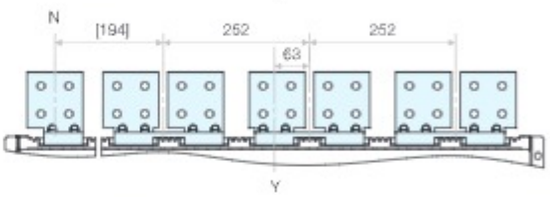
1

unit in mm

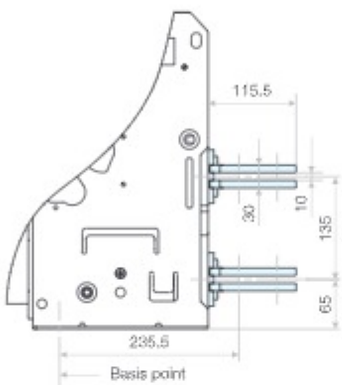
Horizontal rear connections for 4000 A and 5000 A (standard configuration)

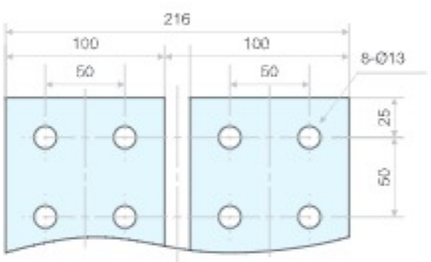




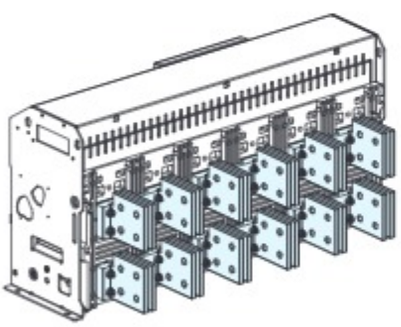


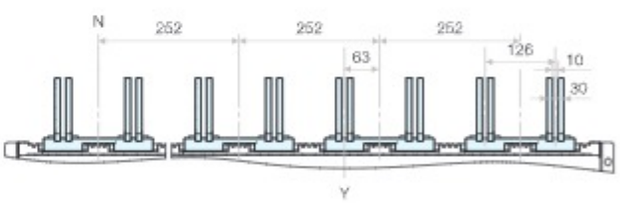
Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.





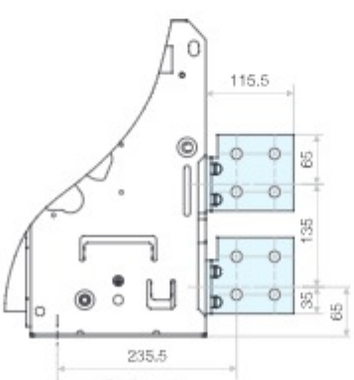
Vertical rear connections for 6300 A (standard configuration)

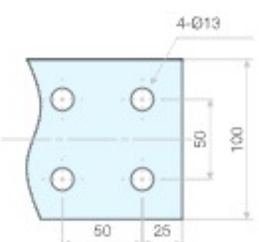






Note:
Value in [ ] is the dimension when the current of Neutral = 0.5 In.





Note:
"Y" is the symmetry plane of circuit breaker cover.

Electrical diagram

- Reading information

Versions

The electrical diagrams shown are for withdrawable circuit breakers, but they are also valid for fixed circuit breakers.

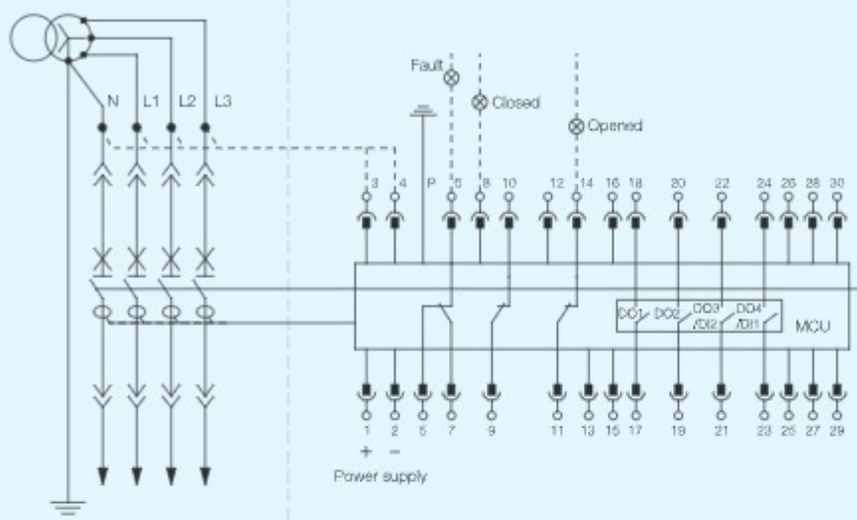
Key

AX	Auxiliary switch	
DT	Closing electromagnet	
DW	Circuit breaker	
ETU	Electronic trip unit	
F	Shunt release	
FU	Fuse	Equipped by user
J1	Relay for remote closing	Equipped by user
J2	Relay for remote opening	Equipped by user
M	Motorized operating mechanism	
Q	Under-voltage release	
Q1 ... Q8	Auxiliary contact 4 NO + 4 NC	
Q9 ... Q14	3-position indication for withdrawable circuit breakers	
Qa, Qb	Closing indication contact	
Qc, Qd	Open indication contact	
QY	Time-delay under-voltage release	
Res	Remote reset	
S1 ... S7	Indicators	Equipped by user
SA	Limit switch of motor	
SAL	Indicator contact for fault trip	
SB1	Closing button	Equipped by user
SB2	Shunt release button	Equipped by user
SB3	Under-voltage release button	Equipped by user
SB4	Remote reset button	Equipped by user
TA	Current transformer	
TN	Residual current transformer	Offered upon request
XT	Secondary wiring	

1

Electrical diagram

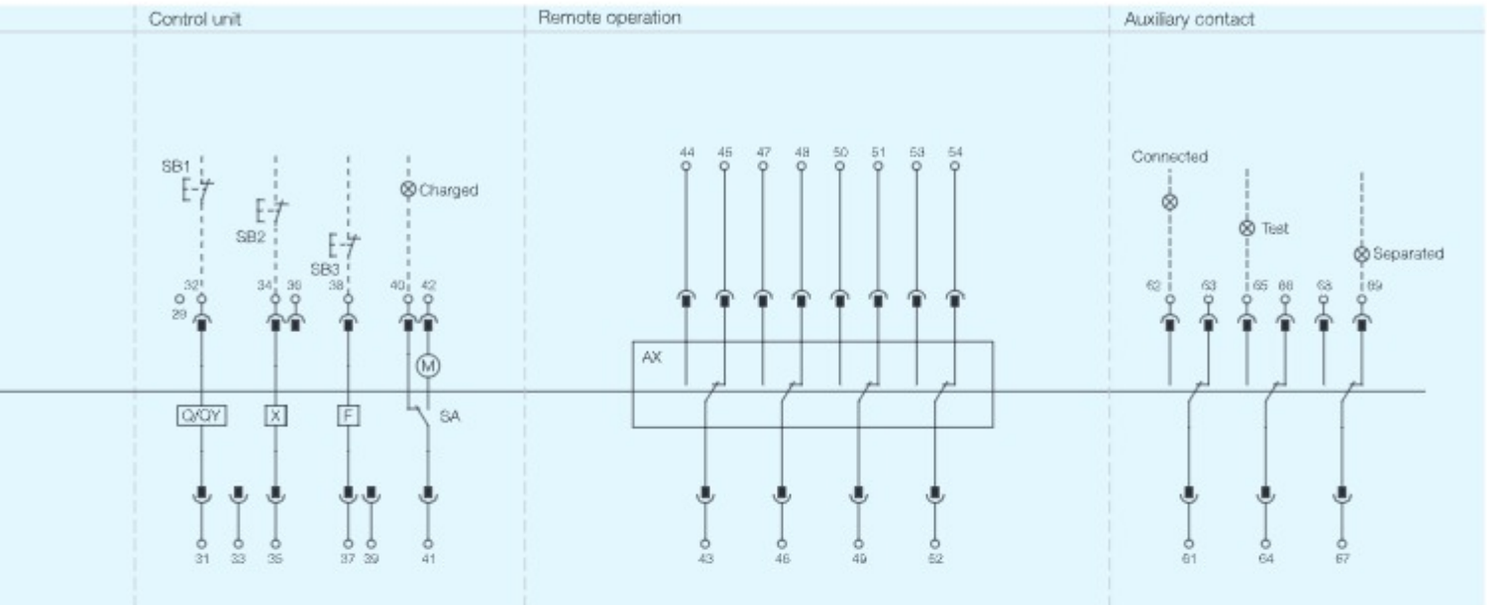
- Electrical diagram of secondary circuit for electronic trip unit 3SW68-AL, 3SW68-AM & 3SW68-AH



Power supply	Contact of position indication										
Terminal box	O—O 1 O—O 2	O—O 3 O—O 4 O—O P	O 5 O 6 O 7	O 8 O 9 O 10	O 11 O 12 O 13	O 14 O 15 O 16	O 17 O 18 O 19	O 20 O 21 O 22	O 23 O 24 O 25	O 26 O 27 O 28	O 29 O 30 O

1, 2: Auxiliary power supply for electronic trip unit
P: Protection for earth connection, connect to side board of circuit breaker
3, 4: Input of signal for external current transformer
Type T: connect to output terminal of external ZT100
Type W: connect to output terminal of external ZCT1
5, 6, 7: Signal output of fault trip indication
8, 9, 10: Signal output of closing indication
11, 12, 14: Signal output of opening indication
13: Shield grounding for communication
15, 16: Output of communication
17 … 24: Programmable I/O
DO: DC 110 V 0.5 A or AC 250 V 5A
DI: DC 110 … 130 V or AC 110 … 250 V
No signal unit: all terminals are blank
Type S1 signal unit: 4 DO mode
17, 18: Programmable output contact 1 (DO 1)
19, 20: Programmable output contact 2 (DO 2)
21, 22: Programmable output contact 3 (DO 3)
23, 24: Programmable output contact 4 (DO 4)
Type S2 signal unit: 3 DO + 1 DI mode
17, 18: Programmable output contact 1 (DO 1)
19, 20: Programmable output contact 2 (DO 2)
21, 22: Programmable output contact 3 (DO 3)
23, 24: Programmable switch input contact 1 (DI 1)
Type S3 signal unit: 2 DO + 2 DI mode
17, 18: Programmable output contact 1 (DO 1)
19, 20: Programmable output contact 2 (DO 2)
21, 22: Programmable switch input contact 2 (DI 2)
23, 24: Programmable switch input contact 1 (DI 1)
25 … 28: Input of voltage signal
Must be connected to incoming side of power supply.
Keep blank if no any optional function is selected.
29, 30: Input of signal for external N-pole CT under 3P+N type grounding protection

Electrical diagram

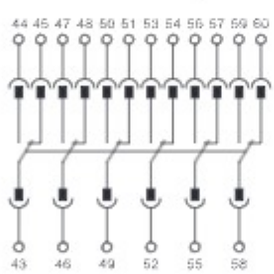


Control unit				Remote operation						Auxiliary contact			
O—O 31	O—O 33	O—O 37	O—O 40	O—O 43	O—O 46	O—O 49	O—O 52	O—O 55	O—O 58	O—O 61	O—O 64	O—O 67	
O—O 32	O—O 34	O—O 38	O—O 41	O—O 44	O—O 47	O—O 50	O—O 53	O—O 56	O—O 59	O—O 62	O—O 65	O—O 69	
			O—O 42	O—O 45	O—O 48	O—O 51	O—O 54	O—O 57	O—O 60				

31, 32: Power supply for under voltage (or with time delay) release
34, 35: Power supply for closing coil
37, 38: Power supply for shunt release
40, 41, 42: Power supply and signal output of charged

43, 46: Output terminals of auxiliary switch

6 convertible contact is optional:

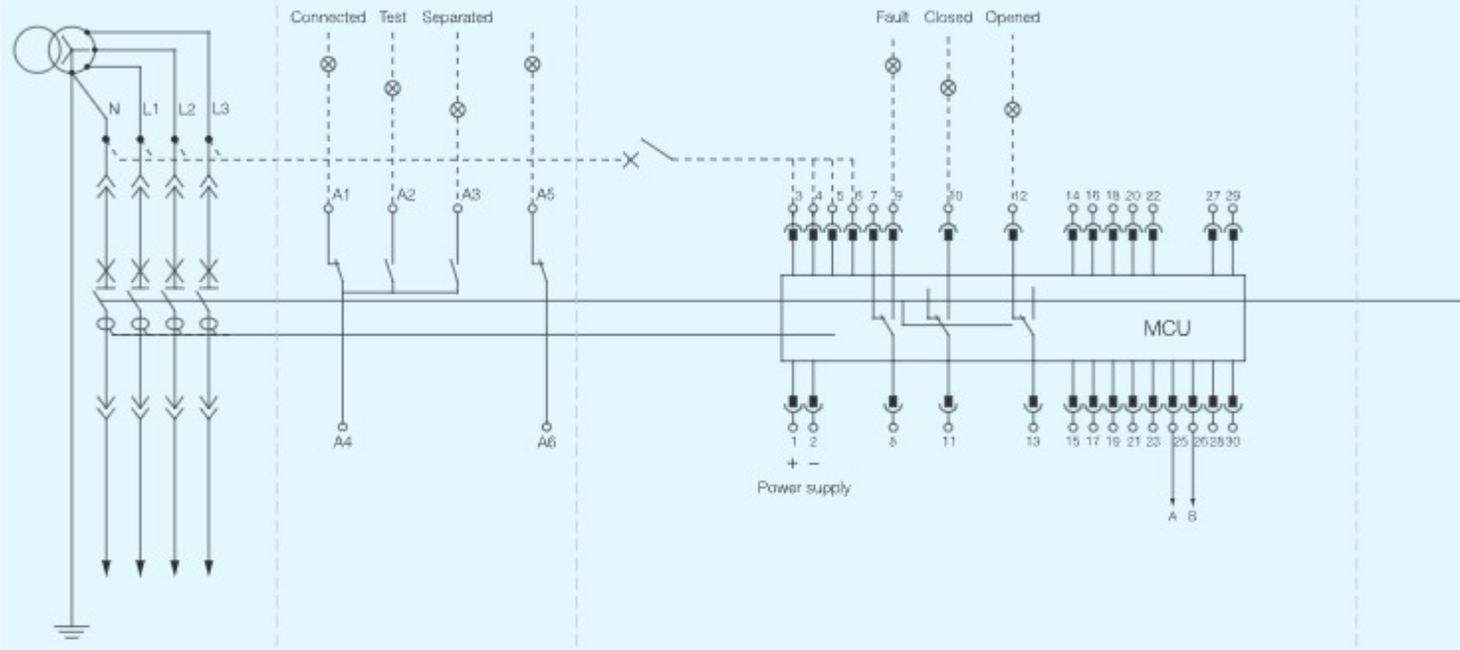


61, 62: Contact of "connected" position indication
64, 65: Contact of "test" position indication
67, 69: Contact of "separated" position indication

1

Electrical diagram

- Electrical diagram of secondary circuit for electronic trip unit 3SW68-BL, 3SW68-BM & 3SW68-BH



Power supply	Contact of position indication		Control unit									
Terminal box	O—O	O—O	O—O	O—O	O	O	O	O	O	O	O	O
	A1	A4	1	4	7	10	13	16	19	22	25	28
	O—O	O—O	O—O	O—O	O	O	O	O	O	O	O	O
	A2	A5	2	5	8	11	14	17	20	23	26	29
	O—O	O—O	O—O	O—O	O	O	O	O	O		O	O
	A3	A6	3	6	9	12	15	18	21		27	30

A1, A2: Connect to contact of position (optional)
A4, A2: Contact of "test" position indication (optional)
A4, A3: Contact of "separated" position indication (optional)
A6, A5: Contact of locked position indication (optional)

1, 2: Auxiliary power supply for electronic trip unit
3, 4, 5, 6: For voltage display, three-phase voltage input of A, B, C and N (optional)
7, 8, 9: Signal output of fault trip indication
10, 11: Signal output of closing indication
12, 13: Signal output of opening indication
14, 15: Relay input DI1 (optional, see below table 1), "Zone interlock" if default
16, 17: Relay input DO1 (optional, see below table 2), "Zone interlock" if default
18, 19: Relay input DO2 (optional, see below table 2), general use if default
20, 21: Relay input DO3 (optional, see below table 2), general use if default
22, 23: Relay input DO4 (optional, see below table 2), general use if default
25, 26: Communication output of electronic trip unit
27, 28: Input of signal for external current transformer (type W) (optional)
29, 30: Input of signal for external current transformer (type T) (optional)

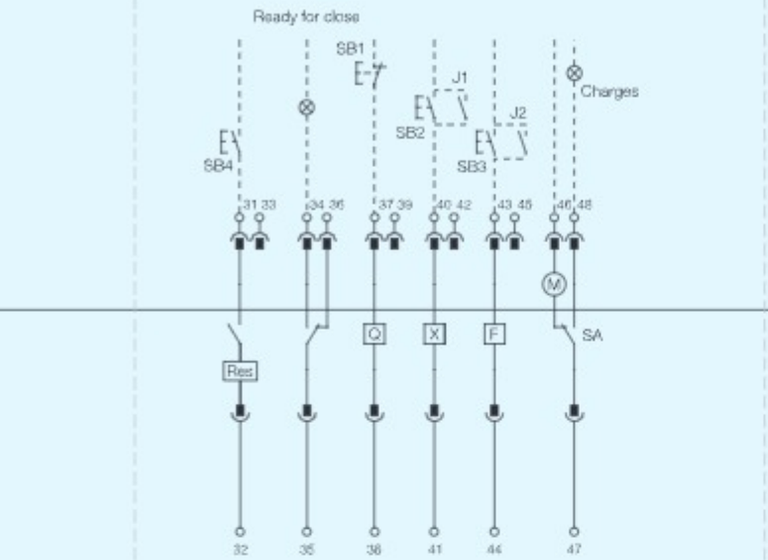
Table 1: function of relay output DI1

General	Alarm	Trip
Zone interlock	Earth interlock	Short-circuit interlock

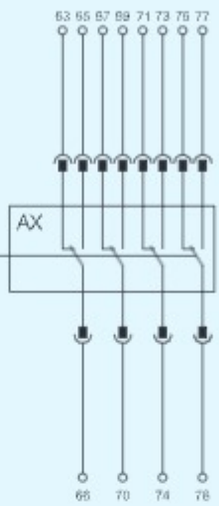
Table 2: function of relay output DO1 ... Do4

General	Alarm	Fault trip
Self-diagnosis alarm	Load monitor 1	Load monitor 2
Overload pre-alarm	Overload fault	Short-time delay fault
Instantaneous fault	Earth/residual current fault	Earth alarm
Current imbalance fault	Neutral fault	Under voltage fault
Over voltage fault	Voltage imbalance fault	Under frequency fault
Over frequency fault	Required value fault	Reverse power fault
Zone interlock	Closing	Opening
Phase sequence fault	MCR fault	Earth interlock
Short-circuit interlock	Required value fault of phase A	Required value fault of phase B
Required value fault of phase C	Required value fault of phase N	Required value over limit

Remote operation



Auxiliary contact



Remote operation

O—O	O—O	O—O	O—O	O—O	O—O
31	33	37	40	43	46
O—O	O—O	O—O	O—O	O—O	O—O
32	34	38	41	44	47
					O—O
					48

31, 32: Power supply for remote reset (optional)
34, 25: Signal output of ready for closing (optional)
37, 38: Power supply for under voltage (or with time delay) release
40, 41: Power supply for closing coil
43, 44: Power supply for shunt release
46, 47, 48: Power supply and signal output of charged

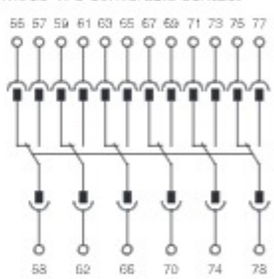
Auxiliary contact

O—O	O—O	O—O	O—O	O—O	O—O	O—O	O—O
55	58	61	64	67	70	73	76
O—O	O—O	O—O	O—O	O—O	O—O	O—O	O—O
56	59	62	65	68	71	74	77
O—O	O—O	O—O	O—O	O—O	O—O	O—O	O—O
57	60	63	66	69	72	75	78

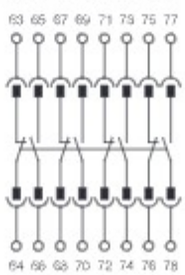
55 … 78: Terminal output connected to auxiliary switch

There are three optional modes:

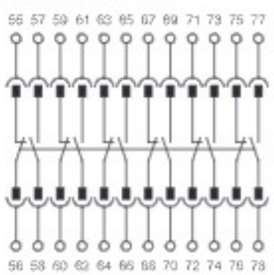
Mode 1: 6 convertible contact



Mode 2: 4 NO + 4 NC

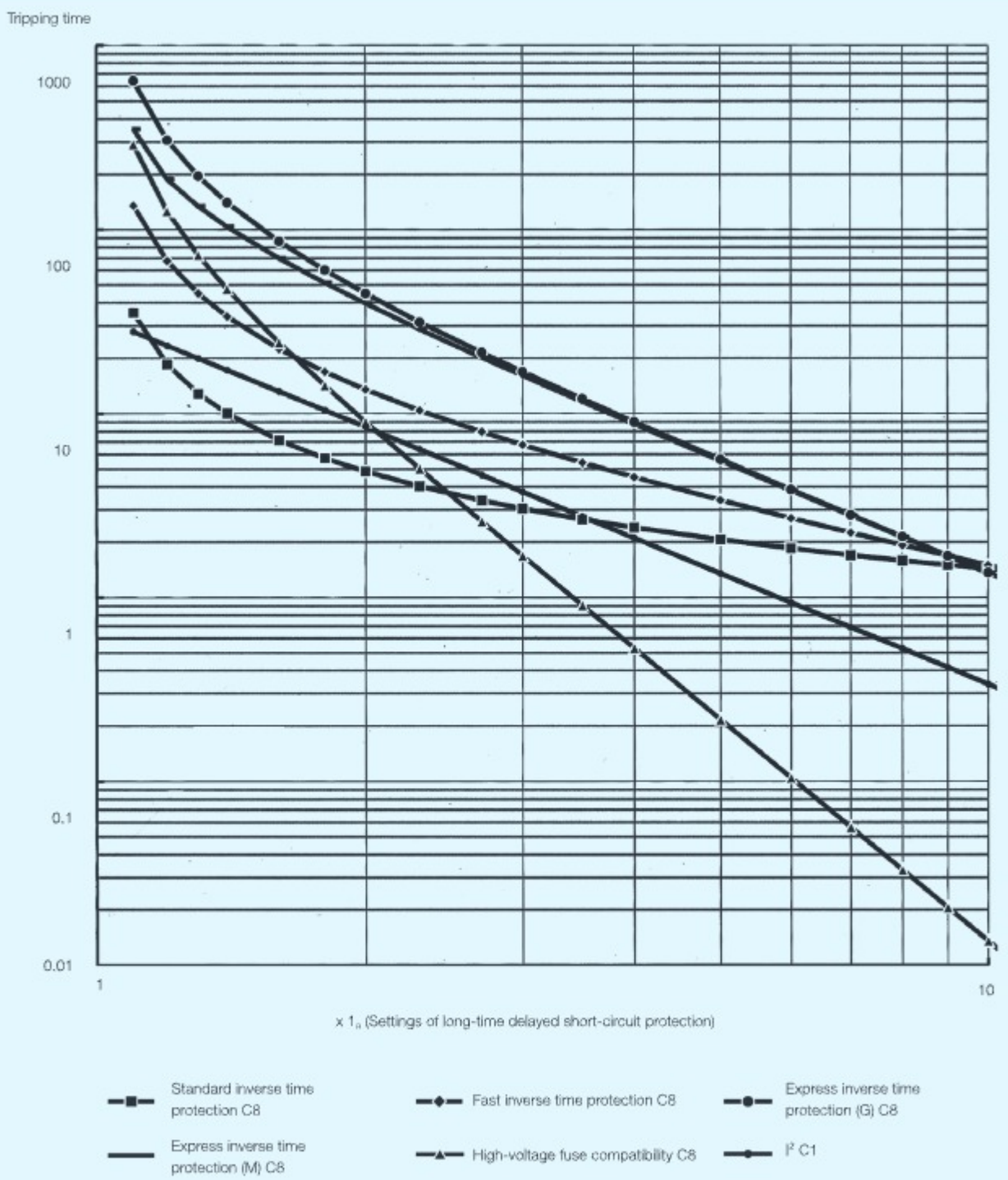


Mode 3: 6 NO + 6 NC



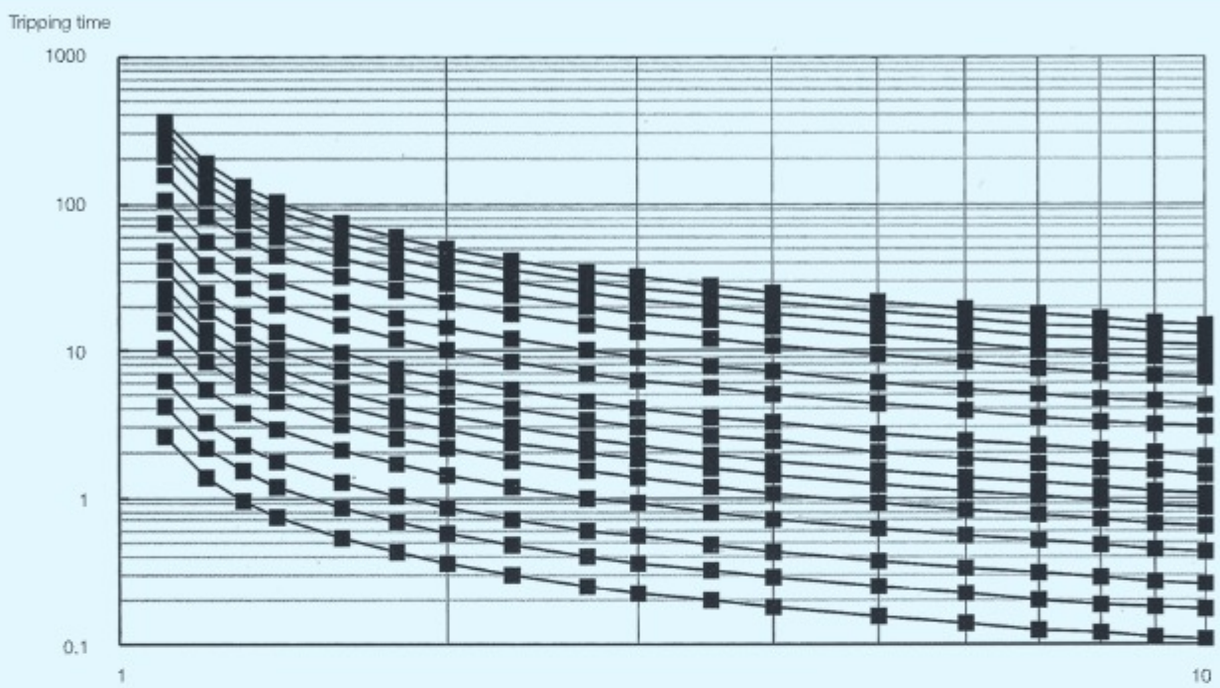
Characteristic curves for overload protection

- Comparison between different curves (curve rate: C8)

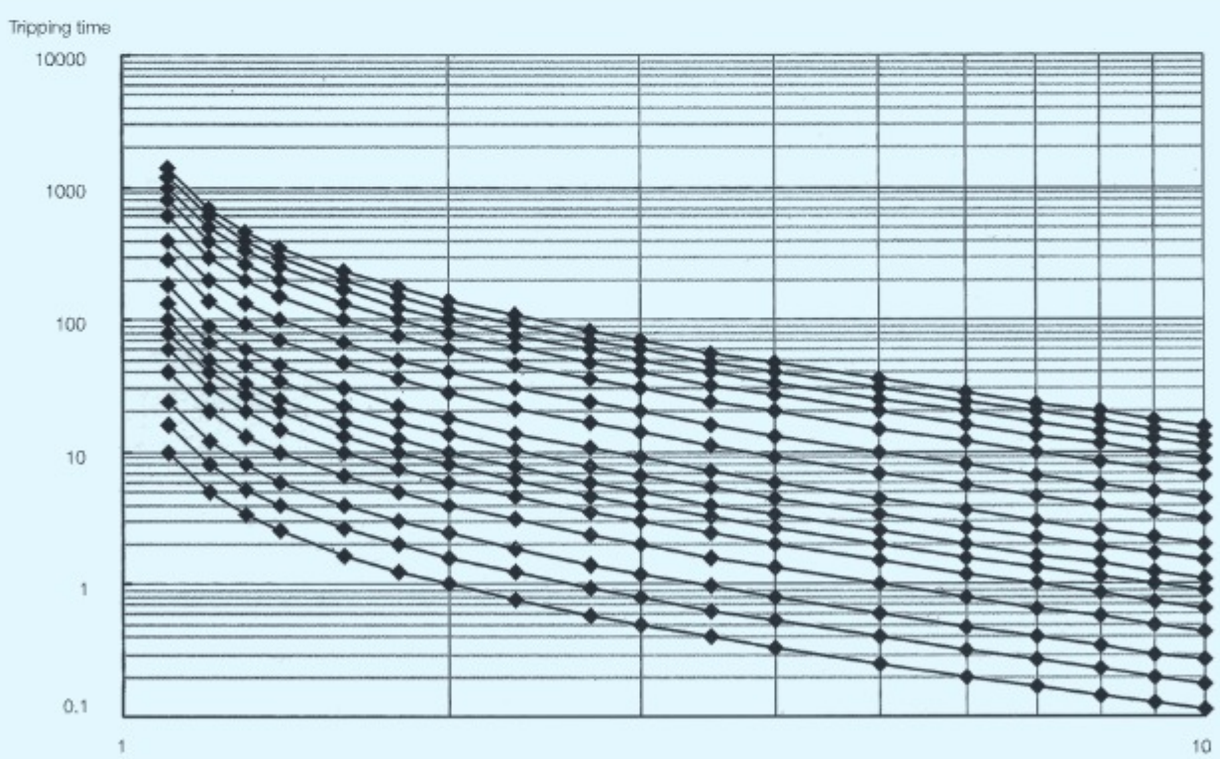


Characteristic curves for overload protection

- Standard inverse time protection C8



- Fast inverse time protection C8



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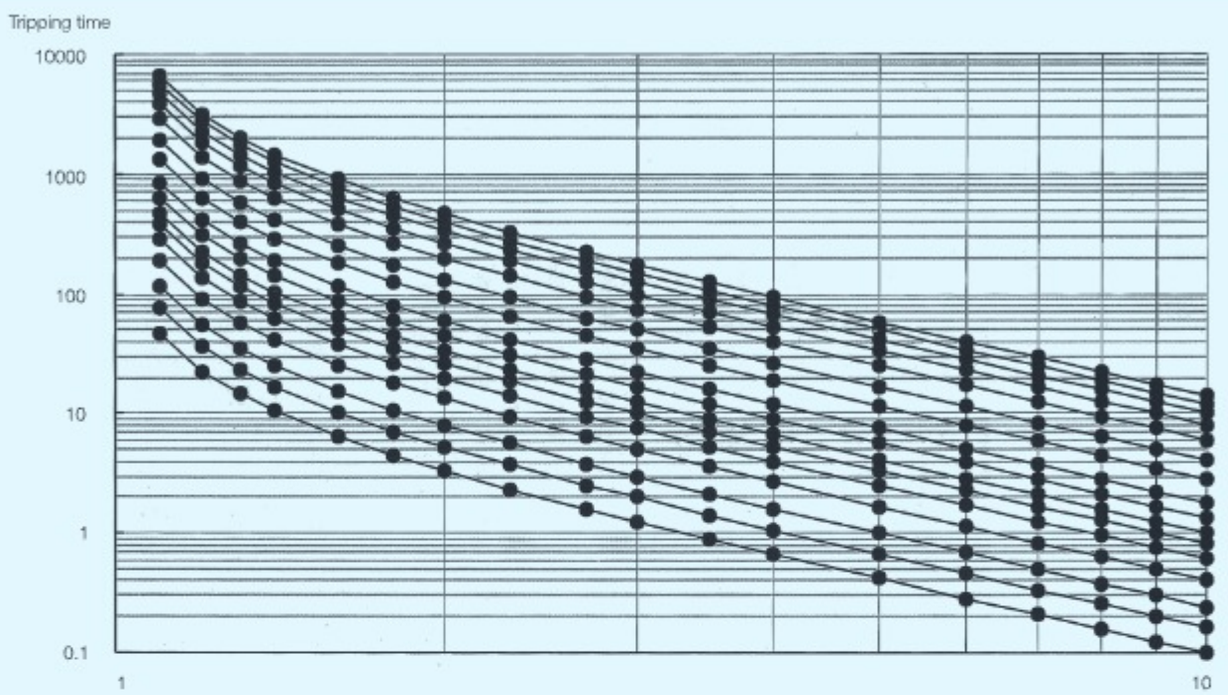
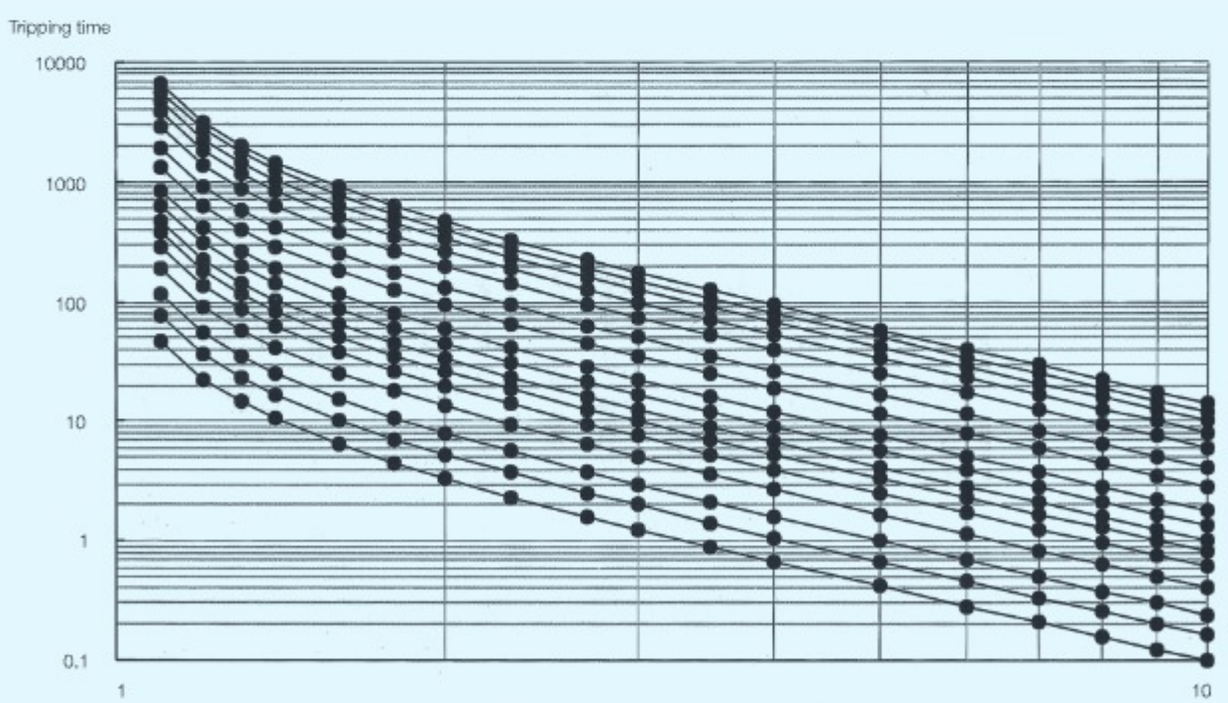
Characteristic curves for overload protection

- Express inverse time protection (for power distribution) C8

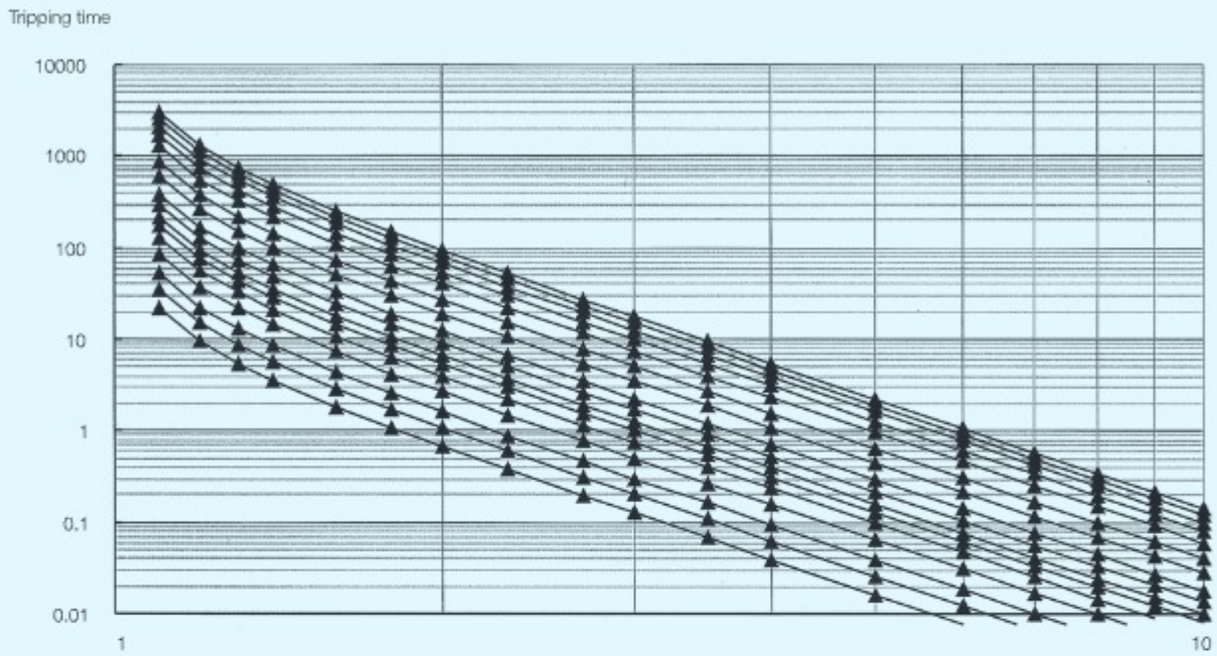


- Express inverse time protection (for motor protection) C8

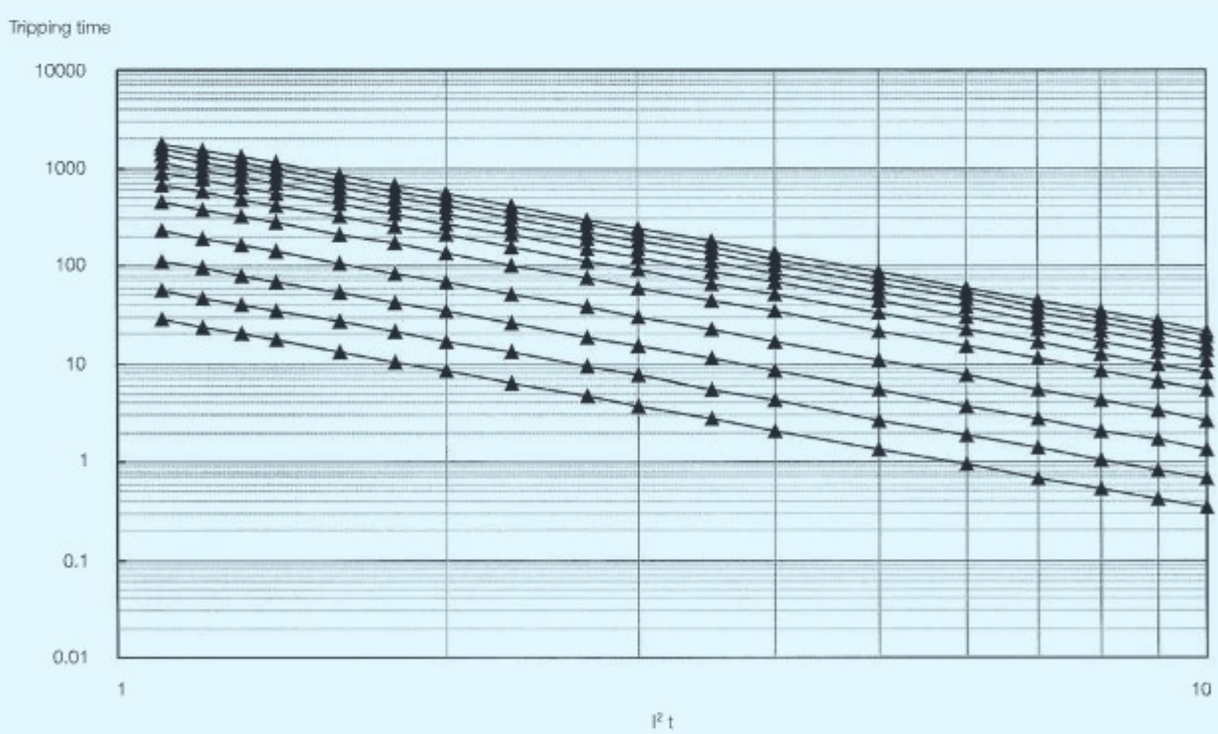


Characteristic curves for overload protection

- High-voltage fuse compatibility C8



- Express inverse time protection (for motor protection) C8



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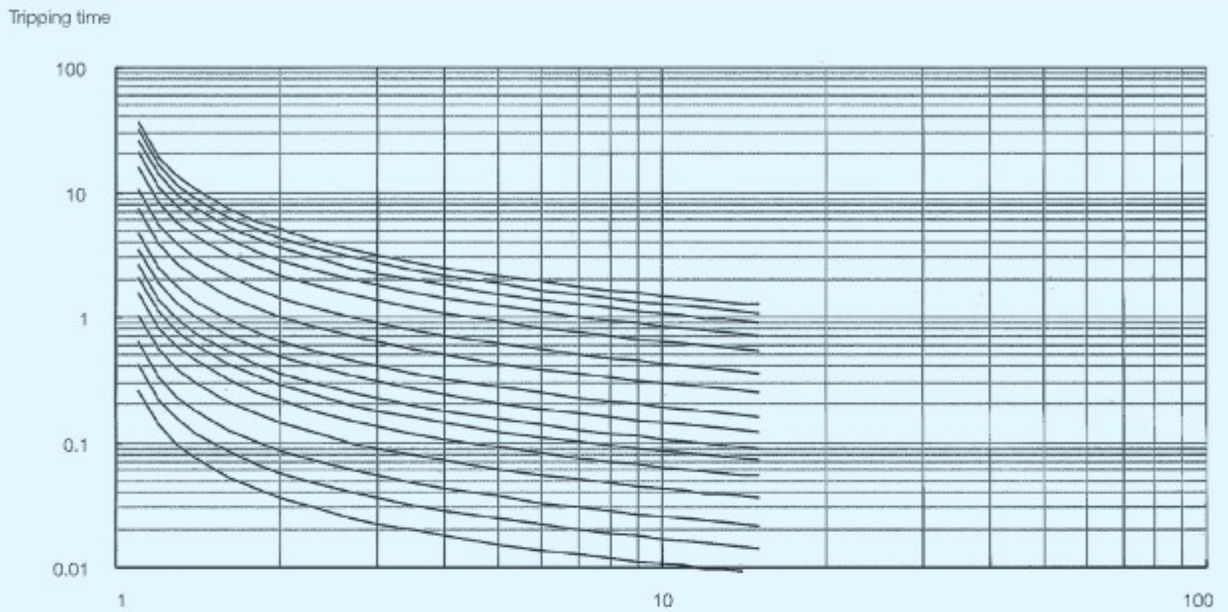
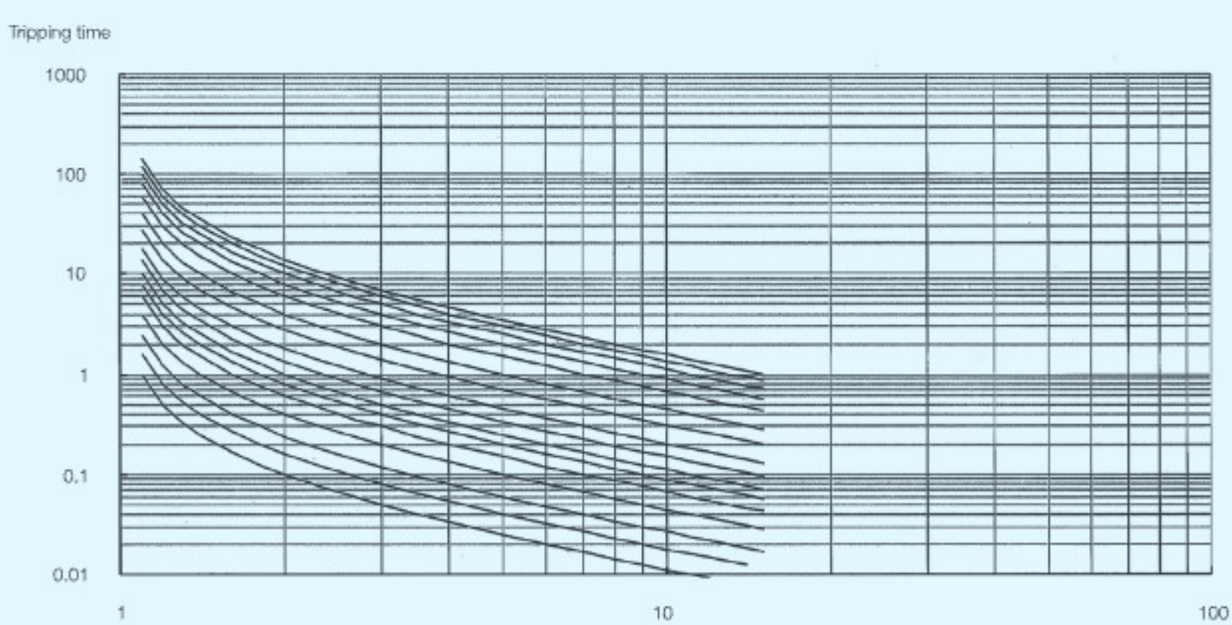
Characteristic curves for overload protection

- Short-time delayed inverse time protection - Standard inverse time

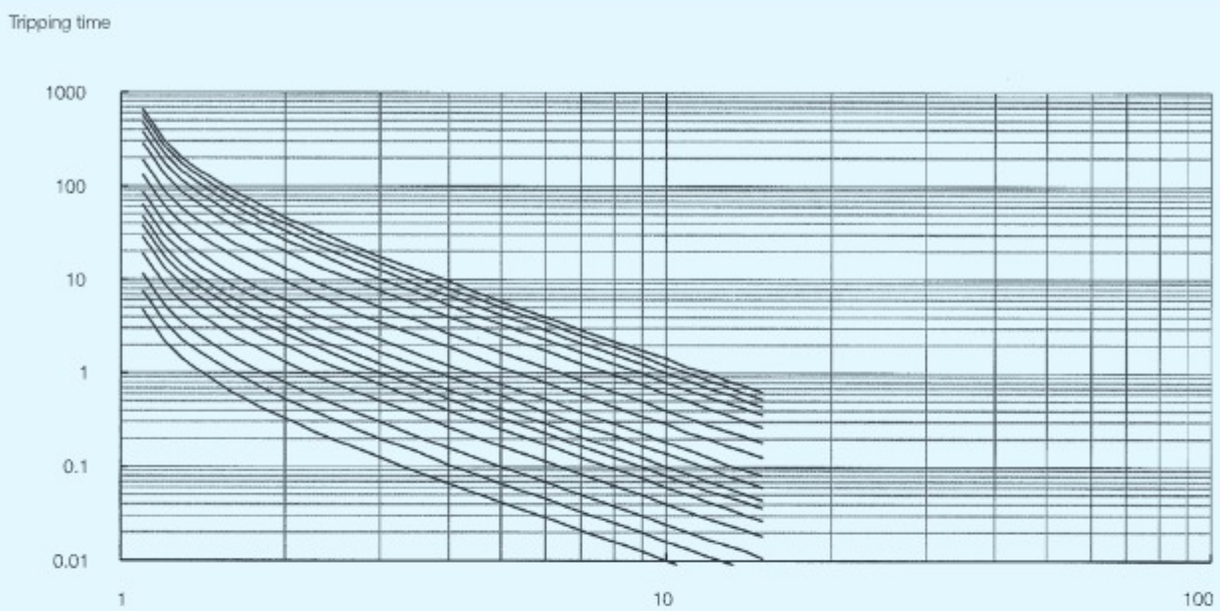


- Short-time delayed inverse time protection - Fast inverse time

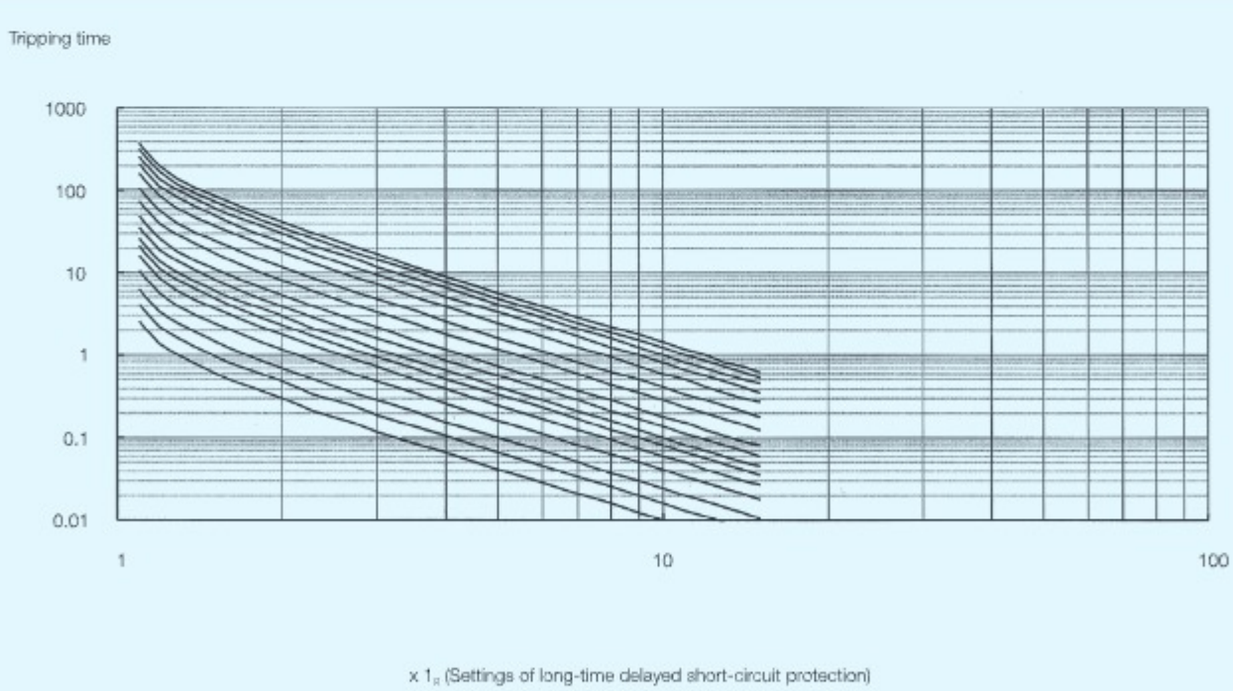


Characteristic curves for overload protection

- Short-time delayed inverse time protection - Express inverse time (for power distribution)



- Short-time delayed inverse time protection - Express inverse time (for power distribution)



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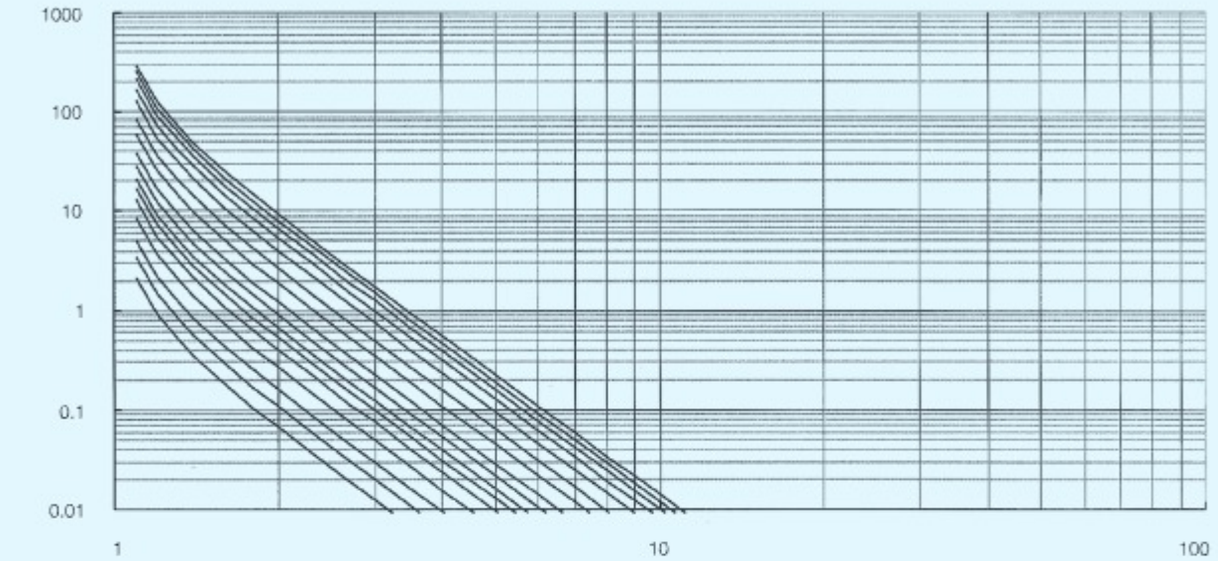
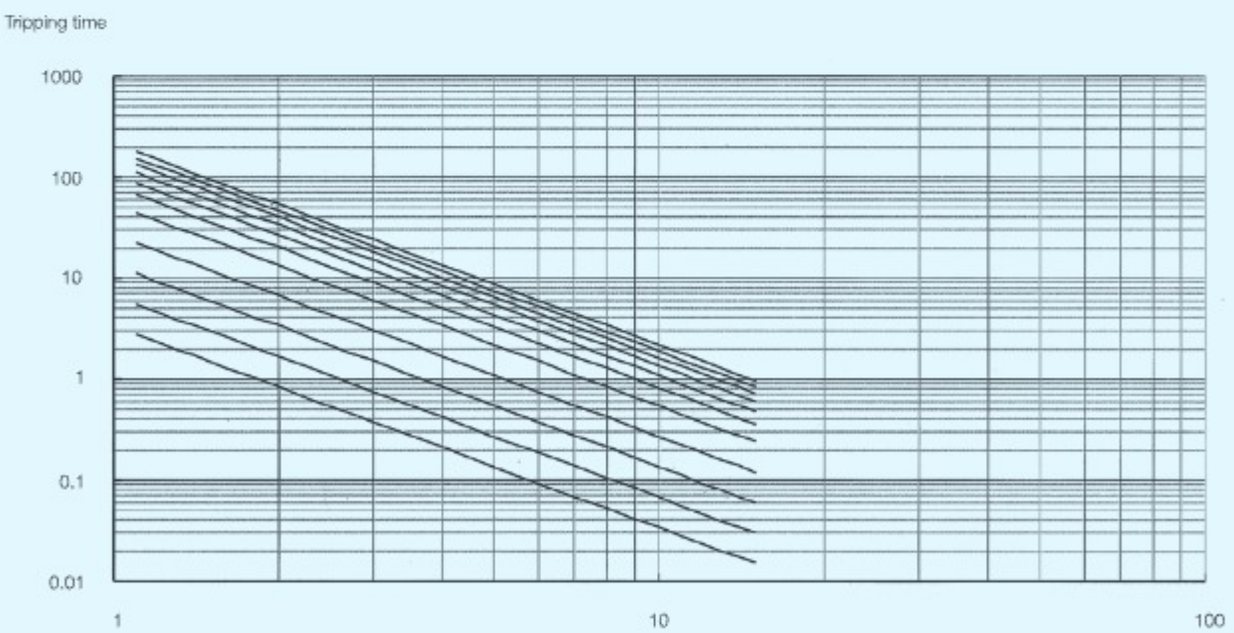
Characteristic curves for overload protection

- Short-time delayed inverse time protection - high voltage fuse compatibility



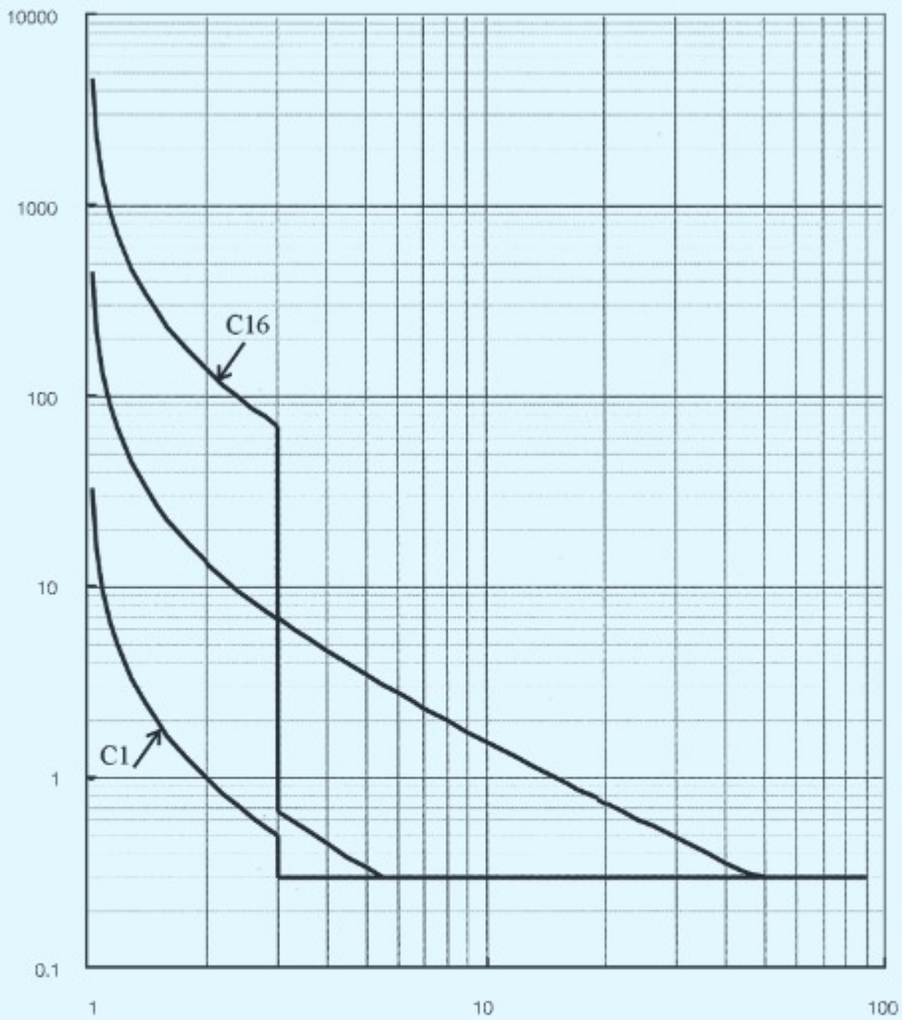
- Short-time delayed inverse time protection



Curve examples

- Example of inverse time protection

Tripping time



x I_n (Settings of long-time delayed short-circuit protection)

The curve example is based on below the settings:
Curve type: Fast inverse time protection
Curve rate: C1, C8 and C16
Action value setting of short-time delayed inverse time: 3 x Iset
Time setting of short-time delayed definite time: 0.3 s

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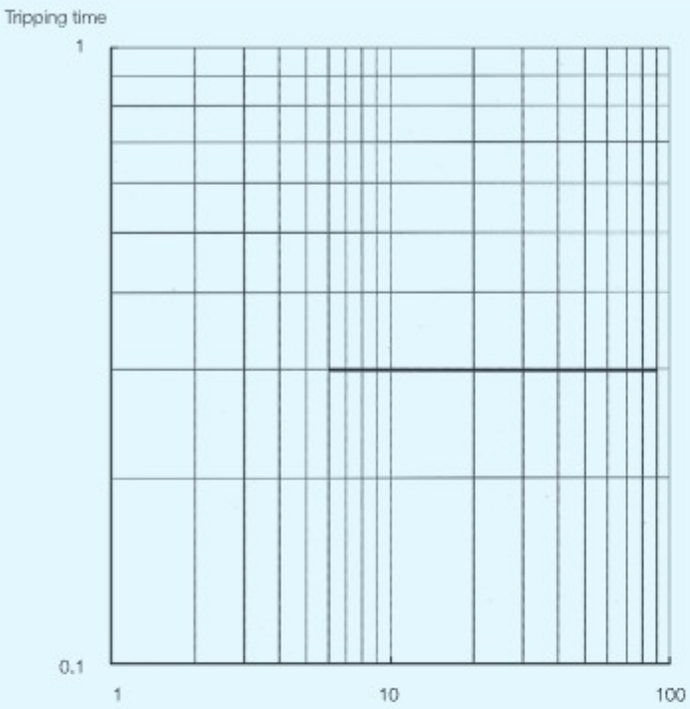
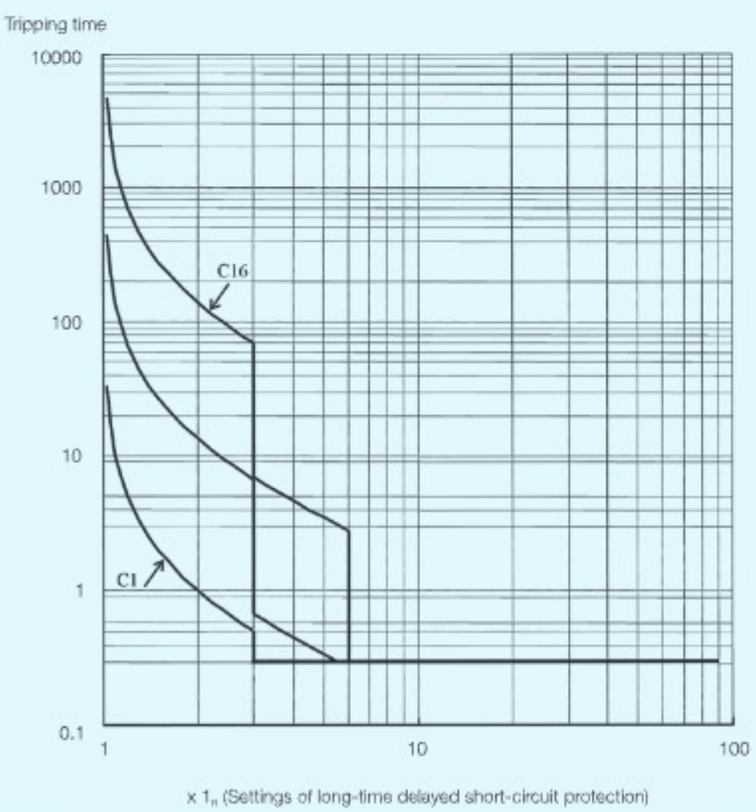
Curve examples

- Example of definite time protection



The curve example is based on below the settings:
Action value setting of short-time delayed definite time: 6 x I_n
Time setting of short-time delayed definite time: 0.3 s

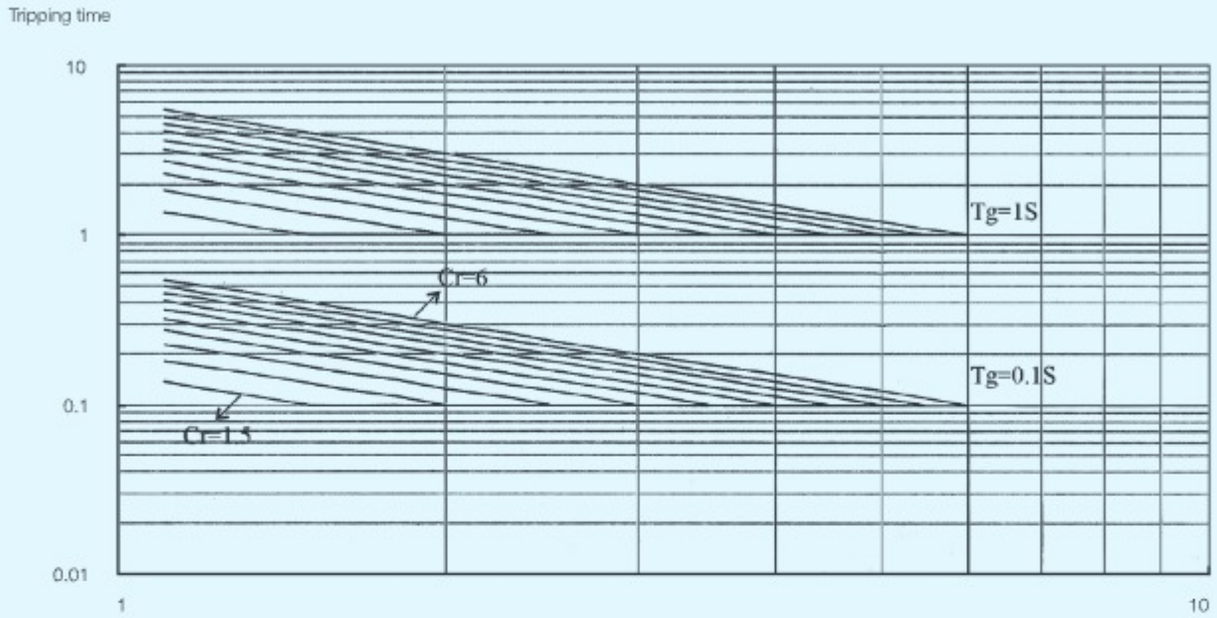
- Example of inverse time and definite time protection



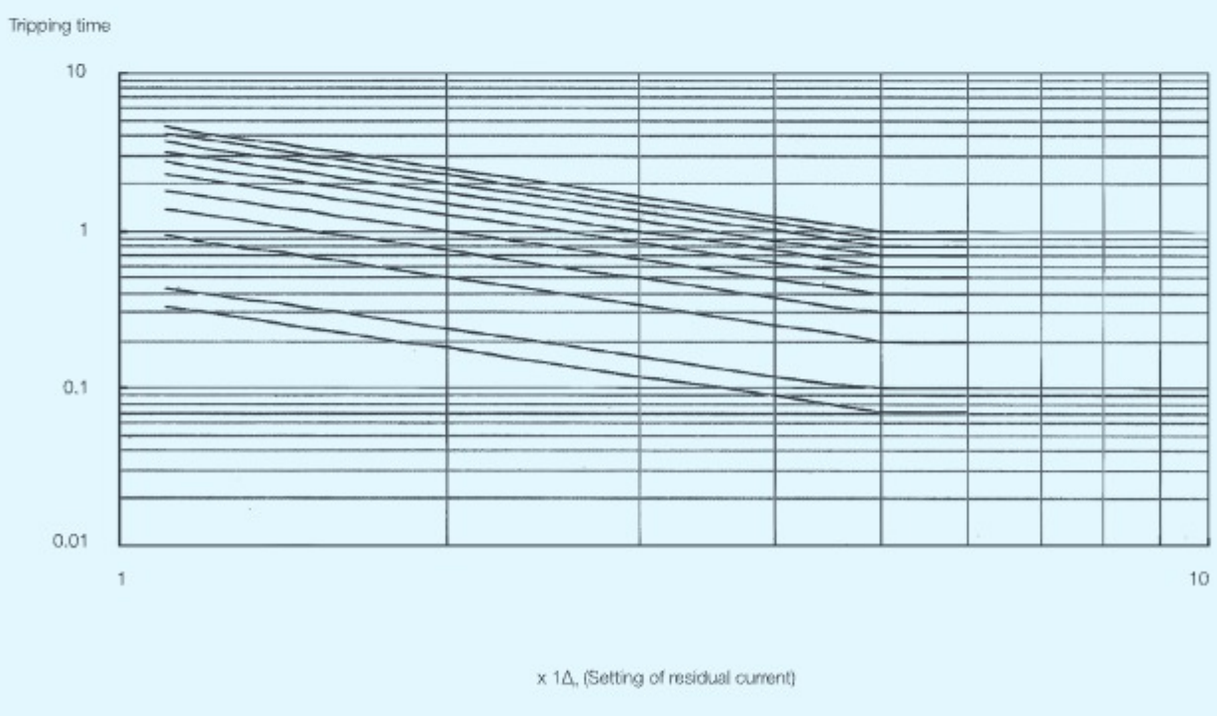
The curve example is based on below the settings:
Curve type: Fast inverse time protection
Curve rate: C1, C8 and C16
Action value setting of short-time delayed inverse time: 3 x I_{sr}
Action value setting of short-time delayed definite time: 6 x I_t
Time setting of short-time definite time: 0.3 s

Characteristic curve of earth/residual current protection

- Earth protection



- Residual current protection



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Selection and ordering data

Size A, fixed version, horizontal rear connection, Icu = 65 kA, Ics = 42 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with AL3 electronic trip unit				
200	W68AF 3N200AL3	28057	W68AF 4N200AL3	28127
400	W68AF 3N400AL3	28058	W68AF 4N400AL3	28128
630	W68AF 3N630AL3	28059	W68AF 4N630AL3	28129
800	W68AF 3N800AL3	28060	W68AF 4N800AL3	28130
1000	W68AF 3N1000AL3	28061	W68AF 4N1000AL3	28131
1250	W68AF 3N1250AL3	28062	W68AF 4N1250AL3	28132
1600	W68AF 3N1600AL3	28063	W68AF 4N1600AL3	28133
Equipped with AL4 electronic trip unit				
200	W68AF 3N200AL4	28064	W68AF 4N200AL4	28134
400	W68AF 3N400AL4	28065	W68AF 4N400AL4	28135
630	W68AF 3N630AL4	28066	W68AF 4N630AL4	28136
800	W68AF 3N800AL4	28067	W68AF 4N800AL4	28137
1000	W68AF 3N1000AL4	28068	W68AF 4N1000AL4	28138
1250	W68AF 3N1250AL4	28069	W68AF 4N1250AL4	28139
1600	W68AF 3N1600AL4	28070	W68AF 4N1600AL4	28140
Equipped with AM3 electronic trip unit				
200	W68AF 3N200AM3	28071	W68AF 4N200AM3	28141
400	W68AF 3N400AM3	28072	W68AF 4N400AM3	28142
630	W68AF 3N630AM3	28073	W68AF 4N630AM3	28143
800	W68AF 3N800AM3	28074	W68AF 4N800AM3	28144
1000	W68AF 3N1000AM3	28075	W68AF 4N1000AM3	28145
1250	W68AF 3N1250AM3	28076	W68AF 4N1250AM3	28146
1600	W68AF 3N1600AM3	28077	W68AF 4N1600AM3	28147
Equipped with AM4 electronic trip unit				
200	W68AF 3N200AM4	28078	W68AF 4N200AM4	28148
400	W68AF 3N400AM4	28079	W68AF 4N400AM4	28149
630	W68AF 3N630AM4	28080	W68AF 4N630AM4	28150
800	W68AF 3N800AM4	28081	W68AF 4N800AM4	28151
1000	W68AF 3N1000AM4	28082	W68AF 4N1000AM4	28152
1250	W68AF 3N1250AM4	28083	W68AF 4N1250AM4	28153
1600	W68AF 3N1600AM4	28084	W68AF 4N1600AM4	28154
Equipped with AH4 electronic trip unit				
200	W68AF 3N200AH	28085	W68AF 4N200AH	28155
400	W68AF 3N400AH	28086	W68AF 4N400AH	28156
630	W68AF 3N630AH	28087	W68AF 4N630AH	28157
800	W68AF 3N800AH	28088	W68AF 4N800AH	28158
1000	W68AF 3N1000AH	28089	W68AF 4N1000AH	28159
1250	W68AF 3N1250AH	28090	W68AF 4N1250AH	28160
1600	W68AF 3N1600AH	28091	W68AF 4N1600AH	28161

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Size A, fixed version, horizontal rear connection, Icu = 65 kA, Ics = 55 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with AL3 electronic trip unit				
200	W68AF 3H200AL3	28092	W68AF 4H200AL3	28162
400	W68AF 3H400AL3	28093	W68AF 4H400AL3	28163
630	W68AF 3H630AL3	28094	W68AF 4H630AL3	28164
800	W68AF 3H800AL3	28095	W68AF 4H800AL3	28165
1000	W68AF 3H1000AL3	28096	W68AF 4H1000AL3	28166
1250	W68AF 3H1250AL3	28097	W68AF 4H1250AL3	28167
1600	W68AF 3H1600AL3	28098	W68AF 4H1600AL3	28168
Equipped with AL4 electronic trip unit				
200	W68AF 3H200AL4	28099	W68AF 4H200AL4	28169
400	W68AF 3H400AL4	28100	W68AF 4H400AL4	28170
630	W68AF 3H630AL4	28101	W68AF 4H630AL4	28171
800	W68AF 3H800AL4	28102	W68AF 4H800AL4	28172
1000	W68AF 3H1000AL4	28103	W68AF 4H1000AL4	28173
1250	W68AF 3H1250AL4	28104	W68AF 4H1250AL4	28174
1600	W68AF 3H1600AL4	28105	W68AF 4H1600AL4	28175
Equipped with AM3 electronic trip unit				
200	W68AF 3H200AM3	28106	W68AF 4H200AM3	28176
400	W68AF 3H400AM3	28107	W68AF 4H400AM3	28177
630	W68AF 3H630AM3	28108	W68AF 4H630AM3	28178
800	W68AF 3H800AM3	28109	W68AF 4H800AM3	28179
1000	W68AF 3H1000AM3	28110	W68AF 4H1000AM3	28180
1250	W68AF 3H1250AM3	28111	W68AF 4H1250AM3	28181
1600	W68AF 3H1600AM3	28112	W68AF 4H1600AM3	28182
Equipped with AM4 electronic trip unit				
200	W68AF 3H200AM4	28113	W68AF 4H200AM4	28183
400	W68AF 3H400AM4	28114	W68AF 4H400AM4	28184
630	W68AF 3H630AM4	28115	W68AF 4H630AM4	28185
800	W68AF 3H800AM4	28116	W68AF 4H800AM4	28186
1000	W68AF 3H1000AM4	28117	W68AF 4H1000AM4	28187
1250	W68AF 3H1250AM4	28118	W68AF 4H1250AM4	28188
1600	W68AF 3H1600AM4	28119	W68AF 4H1600AM4	28189
Equipped with AH electronic trip unit				
200	W68AF 3H200AH	28120	W68AF 4H200AH	28190
400	W68AF 3H400AH	28121	W68AF 4H400AH	28191
630	W68AF 3H630AH	28122	W68AF 4H630AH	28192
800	W68AF 3H800AH	28123	W68AF 4H800AH	28193
1000	W68AF 3H1000AH	28124	W68AF 4H1000AH	28194
1250	W68AF 3H1250AH	28125	W68AF 4H1250AH	28195
1600	W68AF 3H1600AH	28126	W68AF 4H1600AH	28196

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

1

Selection and ordering data

Size A, withdrawable version, horizontal rear connection, Icu = 65 kA, Ics = 42 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with AL3 electronic trip unit				
200	W68AD 3N200AL3	28197	W68AD 4N200AL3	28267
400	W68AD 3N400AL3	28198	W68AD 4N400AL3	28268
630	W68AD 3N630AL3	28199	W68AD 4N630AL3	28269
800	W68AD 3N800AL3	28200	W68AD 4N800AL3	28270
1000	W68AD 3N1000AL3	28201	W68AD 4N1000AL3	28271
1250	W68AD 3N1250AL3	28202	W68AD 4N1250AL3	28272
1600	W68AD 3N1600AL3	28203	W68AD 4N1600AL3	28273
Equipped with AL4 electronic trip unit				
200	W68AD 3N200AL4	28204	W68AD 4N200AL4	28274
400	W68AD 3N400AL4	28205	W68AD 4N400AL4	28275
630	W68AD 3N630AL4	28206	W68AD 4N630AL4	28276
800	W68AD 3N800AL4	28207	W68AD 4N800AL4	28277
1000	W68AD 3N1000AL4	28208	W68AD 4N1000AL4	28278
1250	W68AD 3N1250AL4	28209	W68AD 4N1250AL4	28279
1600	W68AD 3N1600AL4	28210	W68AD 4N1600AL4	28280
Equipped with AM3 electronic trip unit				
200	W68AD 3N200AM3	28211	W68AD 4N200AM3	28281
400	W68AD 3N400AM3	28212	W68AD 4N400AM3	28282
630	W68AD 3N630AM3	28213	W68AD 4N630AM3	28283
800	W68AD 3N800AM3	28214	W68AD 4N800AM3	28284
1000	W68AD 3N1000AM3	28215	W68AD 4N1000AM3	28285
1250	W68AD 3N1250AM3	28216	W68AD 4N1250AM3	28286
1600	W68AD 3N1600AM3	28217	W68AD 4N1600AM3	28287
Equipped with AM4 electronic trip unit				
200	W68AD 3N200AM4	28218	W68AD 4N200AM4	28288
400	W68AD 3N400AM4	28219	W68AD 4N400AM4	28289
630	W68AD 3N630AM4	28220	W68AD 4N630AM4	28290
800	W68AD 3N800AM4	28221	W68AD 4N800AM4	28291
1000	W68AD 3N1000AM4	28222	W68AD 4N1000AM4	28292
1250	W68AD 3N1250AM4	28223	W68AD 4N1250AM4	28293
1600	W68AD 3N1600AM4	28224	W68AD 4N1600AM4	28294
Equipped with AH electronic trip unit				
200	W68AD 3N200AH	28225	W68AD 4N200AH	28295
400	W68AD 3N400AH	28226	W68AD 4N400AH	28296
630	W68AD 3N630AH	28227	W68AD 4N630AH	28297
800	W68AD 3N800AH	28228	W68AD 4N800AH	28298
1000	W68AD 3N1000AH	28229	W68AD 4N1000AH	28299
1250	W68AD 3N1250AH	28230	W68AD 4N1250AH	28300
1600	W68AD 3N1600AH	28231	W68AD 4N1600AH	28301

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Size A, withdrawable version, horizontal rear connection, Icu = 65 kA, Ics = 55 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with AL3 electronic trip unit				
200	W68AD 3H200AL3	28232	W68AD 4H200AL3	28302
400	W68AD 3H400AL3	28233	W68AD 4H400AL3	28303
630	W68AD 3H630AL3	28234	W68AD 4H630AL3	28304
800	W68AD 3H800AL3	28235	W68AD 4H800AL3	28305
1000	W68AD 3H1000AL3	28236	W68AD 4H1000AL3	28306
1250	W68AD 3H1250AL3	28237	W68AD 4H1250AL3	28307
1600	W68AD 3H1600AL3	28238	W68AD 4H1600AL3	28308
Equipped with AL4 electronic trip unit				
200	W68AD 3H200AL4	28239	W68AD 4H200AL4	28309
400	W68AD 3H400AL4	28240	W68AD 4H400AL4	28310
630	W68AD 3H630AL4	28241	W68AD 4H630AL4	28311
800	W68AD 3H800AL4	28242	W68AD 4H800AL4	28312
1000	W68AD 3H1000AL4	28243	W68AD 4H1000AL4	28313
1250	W68AD 3H1250AL4	28244	W68AD 4H1250AL4	28314
1600	W68AD 3H1600AL4	28245	W68AD 4H1600AL4	28315
Equipped with AM3 electronic trip unit				
200	W68AD 3H200AM3	28246	W68AD 4H200AM3	28316
400	W68AD 3H400AM3	28247	W68AD 4H400AM3	28317
630	W68AD 3H630AM3	28248	W68AD 4H630AM3	28318
800	W68AD 3H800AM3	28249	W68AD 4H800AM3	28319
1000	W68AD 3H1000AM3	28250	W68AD 4H1000AM3	28320
1250	W68AD 3H1250AM3	28251	W68AD 4H1250AM3	28321
1600	W68AD 3H1600AM3	28252	W68AD 4H1600AM3	28322
Equipped with AM4 electronic trip unit				
200	W68AD 3H200AM4	28253	W68AD 4H200AM4	28323
400	W68AD 3H400AM4	28254	W68AD 4H400AM4	28324
630	W68AD 3H630AM4	28255	W68AD 4H630AM4	28325
800	W68AD 3H800AM4	28256	W68AD 4H800AM4	28326
1000	W68AD 3H1000AM4	28257	W68AD 4H1000AM4	28327
1250	W68AD 3H1250AM4	28258	W68AD 4H1250AM4	28328
1600	W68AD 3H1600AM4	28259	W68AD 4H1600AM4	28329
Equipped with AH electronic trip unit				
200	W68AD 3H200AH	28260	W68AD 4H200AH	28330
400	W68AD 3H400AH	28261	W68AD 4H400AH	28331
630	W68AD 3H630AH	28262	W68AD 4H630AH	28332
800	W68AD 3H800AH	28263	W68AD 4H800AH	28333
1000	W68AD 3H1000AH	28264	W68AD 4H1000AH	28334
1250	W68AD 3H1250AH	28265	W68AD 4H1250AH	28335
1600	W68AD 3H1600AH	28266	W68AD 4H1600AH	28336

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

1

Selection and ordering data

Size B, fixed version, horizontal rear connection, Icu = Ics = 70 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
630	W68BF 3N630BL3	28337	W68BF 4N630BL3	28435
800	W68BF 3N800BL3	28338	W68BF 4N800BL3	28436
1000	W68BF 3N1000BL3	28339	W68BF 4N1000BL3	28437
1250	W68BF 3N1250BL3	28340	W68BF 4N1250BL3	28438
1600	W68BF 3N1600BL3	28341	W68BF 4N1600BL3	28439
2000	W68BF 3N2000BL3	28342	W68BF 4N2000BL3	28440
2500	W68BF 3N2500BL3	28343	W68BF 4N2500BL3	28441
Equipped with BL4 electronic trip unit				
630	W68BF 3N630BL4	28344	W68BF 4N630BL4	28442
800	W68BF 3N800BL4	28345	W68BF 4N800BL4	28443
1000	W68BF 3N1000BL4	28346	W68BF 4N1000BL4	28444
1250	W68BF 3N1250BL4	28347	W68BF 4N1250BL4	28445
1600	W68BF 3N1600BL4	28348	W68BF 4N1600BL4	28446
2000	W68BF 3N2000BL4	28349	W68BF 4N2000BL4	28447
2500	W68BF 3N2500BL4	28350	W68BF 4N2500BL4	28448
Equipped with BM3 electronic trip unit				
630	W68BF 3N630BM3	28351	W68BF 4N630BM3	28449
800	W68BF 3N800BM3	28352	W68BF 4N800BM3	28450
1000	W68BF 3N1000BM3	28353	W68BF 4N1000BM3	28451
1250	W68BF 3N1250BM3	28354	W68BF 4N1250BM3	28452
1600	W68BF 3N1600BM3	28355	W68BF 4N1600BM3	28453
2000	W68BF 3N2000BM3	28356	W68BF 4N2000BM3	28454
2500	W68BF 3N2500BM3	28357	W68BF 4N2500BM3	28455
Equipped with BM4 electronic trip unit				
630	W68BF 3N630BM4	28358	W68BF 4N630BM4	28456
800	W68BF 3N800BM4	28359	W68BF 4N800BM4	28457
1000	W68BF 3N1000BM4	28360	W68BF 4N1000BM4	28458
1250	W68BF 3N1250BM4	28361	W68BF 4N1250BM4	28459
1600	W68BF 3N1600BM4	28362	W68BF 4N1600BM4	28460
2000	W68BF 3N2000BM4	28363	W68BF 4N2000BM4	28461
2500	W68BF 3N2500BM4	28364	W68BF 4N2500BM4	28462
Equipped with BHP electronic trip unit				
630	W68BF 3N630BHP	28365	W68BF 4N630BHP	28463
800	W68BF 3N800BHP	28366	W68BF 4N800BHP	28464
1000	W68BF 3N1000BHP	28367	W68BF 4N1000BHP	28465
1250	W68BF 3N1250BHP	28368	W68BF 4N1250BHP	28466
1600	W68BF 3N1600BHP	28369	W68BF 4N1600BHP	28467
2000	W68BF 3N2000BHP	28370	W68BF 4N2000BHP	28468
2500	W68BF 3N2500BHP	28371	W68BF 4N2500BHP	28469
Equipped with BHQ electronic trip unit				
630	W68BF 3N630BHQ	28372	W68BF 4N630BHQ	28470
800	W68BF 3N800BHQ	28373	W68BF 4N800BHQ	28471
1000	W68BF 3N1000BHQ	28374	W68BF 4N1000BHQ	28472
1250	W68BF 3N1250BHQ	28375	W68BF 4N1250BHQ	28473
1600	W68BF 3N1600BHQ	28376	W68BF 4N1600BHQ	28474
2000	W68BF 3N2000BHQ	28377	W68BF 4N2000BHQ	28475
2500	W68BF 3N2500BHQ	28378	W68BF 4N2500BHQ	28476
Equipped with BHG electronic trip unit				
630	W68BF 3N630BHG	28379	W68BF 4N630BHG	28477
800	W68BF 3N800BHG	28380	W68BF 4N800BHG	28478
1000	W68BF 3N1000BHG	28381	W68BF 4N1000BHG	28479
1250	W68BF 3N1250BHG	28382	W68BF 4N1250BHG	28480
1600	W68BF 3N1600BHG	28383	W68BF 4N1600BHG	28481
2000	W68BF 3N2000BHG	28384	W68BF 4N2000BHG	28482
2500	W68BF 3N2500BHG	28385	W68BF 4N2500BHG	28483

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Size B, fixed version, horizontal rear connection, Icu = Ics = 85 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
630	W68BF 3H630BL3	28386	W68BF 4H630BL3	28484
800	W68BF 3H800BL3	28387	W68BF 4H800BL3	28485
1000	W68BF 3H1000BL3	28388	W68BF 4H1000BL3	28486
1250	W68BF 3H1250BL3	28389	W68BF 4H1250BL3	28487
1600	W68BF 3H1600BL3	28390	W68BF 4H1600BL3	28488
2000	W68BF 3H2000BL3	28391	W68BF 4H2000BL3	28489
2500	W68BF 3H2500BL3	28392	W68BF 4H2500BL3	28490
Equipped with BL4 electronic trip unit				
630	W68BF 3H630BL4	28393	W68BF 4H630BL4	28491
800	W68BF 3H800BL4	28394	W68BF 4H800BL4	28492
1000	W68BF 3H1000BL4	28395	W68BF 4H1000BL4	28493
1250	W68BF 3H1250BL4	28396	W68BF 4H1250BL4	28494
1600	W68BF 3H1600BL4	28397	W68BF 4H1600BL4	28495
2000	W68BF 3H2000BL4	28398	W68BF 4H2000BL4	28496
2500	W68BF 3H2500BL4	28399	W68BF 4H2500BL4	28497
Equipped with BM3 electronic trip unit				
630	W68BF 3H630BM3	28400	W68BF 4H630BM3	28498
800	W68BF 3H800BM3	28401	W68BF 4H800BM3	28499
1000	W68BF 3H1000BM3	28402	W68BF 4H1000BM3	28500
1250	W68BF 3H1250BM3	28403	W68BF 4H1250BM3	28501
1600	W68BF 3H1600BM3	28404	W68BF 4H1600BM3	28502
2000	W68BF 3H2000BM3	28405	W68BF 4H2000BM3	28503
2500	W68BF 3H2500BM3	28406	W68BF 4H2500BM3	28504
Equipped with BM4 electronic trip unit				
630	W68BF 3H630BM4	28407	W68BF 4H630BM4	28505
800	W68BF 3H800BM4	28408	W68BF 4H800BM4	28506
1000	W68BF 3H1000BM4	28409	W68BF 4H1000BM4	28507
1250	W68BF 3H1250BM4	28410	W68BF 4H1250BM4	28508
1600	W68BF 3H1600BM4	28411	W68BF 4H1600BM4	28509
2000	W68BF 3H2000BM4	28412	W68BF 4H2000BM4	28510
2500	W68BF 3H2500BM4	28413	W68BF 4H2500BM4	28511
Equipped with BHP electronic trip unit				
630	W68BF 3H630BHP	28414	W68BF 4H630BHP	28512
800	W68BF 3H800BHP	28415	W68BF 4H800BHP	28513
1000	W68BF 3H1000BHP	28416	W68BF 4H1000BHP	28514
1250	W68BF 3H1250BHP	28417	W68BF 4H1250BHP	28515
1600	W68BF 3H1600BHP	28418	W68BF 4H1600BHP	28516
2000	W68BF 3H2000BHP	28419	W68BF 4H2000BHP	28517
2500	W68BF 3H2500BHP	28420	W68BF 4H2500BHP	28518
Equipped with BHQ electronic trip unit				
630	W68BF 3H630BHQ	28421	W68BF 4H630BHQ	28519
800	W68BF 3H800BHQ	28422	W68BF 4H800BHQ	28520
1000	W68BF 3H1000BHQ	28423	W68BF 4H1000BHQ	28521
1250	W68BF 3H1250BHQ	28424	W68BF 4H1250BHQ	28522
1600	W68BF 3H1600BHQ	28425	W68BF 4H1600BHQ	28523
2000	W68BF 3H2000BHQ	28426	W68BF 4H2000BHQ	28524
2500	W68BF 3H2500BHQ	28427	W68BF 4H2500BHQ	28525
Equipped with BHG electronic trip unit				
630	W68BF 3H630BHG	28428	W68BF 4H630BHG	28526
800	W68BF 3H800BHG	28429	W68BF 4H800BHG	28527
1000	W68BF 3H1000BHG	28430	W68BF 4H1000BHG	28528
1250	W68BF 3H1250BHG	28431	W68BF 4H1250BHG	28529
1600	W68BF 3H1600BHG	28432	W68BF 4H1600BHG	28530
2000	W68BF 3H2000BHG	28433	W68BF 4H2000BHG	28531
2500	W68BF 3H2500BHG	28434	W68BF 4H2500BHG	28532

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

1

Selection and ordering data

Size B, withdrawable version, horizontal rear connection, Icu = Ics = 70 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
630	W68BD 3N630BL3	28533	W68BD 4N630BL3	18228
800	W68BD 3N800BL3	28534	W68BD 4N800BL3	18229
1000	W68BD 3N1000BL3	28535	W68BD 4N1000BL3	18230
1250	W68BD 3N1250BL3	28536	W68BD 4N1250BL3	18231
1600	W68BD 3N1600BL3	28537	W68BD 4N1600BL3	18232
2000	W68BD 3N2000BL3	28538	W68BD 4N2000BL3	18233
2500	W68BD 3N2500BL3	28539	W68BD 4N2500BL3	18234
Equipped with BL4 electronic trip unit				
630	W68BD 3N630BL4	28540	W68BD 4N630BL4	18235
800	W68BD 3N800BL4	28541	W68BD 4N800BL4	18236
1000	W68BD 3N1000BL4	28542	W68BD 4N1000BL4	18237
1250	W68BD 3N1250BL4	28543	W68BD 4N1250BL4	18238
1600	W68BD 3N1600BL4	28544	W68BD 4N1600BL4	18239
2000	W68BD 3N2000BL4	28545	W68BD 4N2000BL4	18240
2500	W68BD 3N2500BL4	28546	W68BD 4N2500BL4	18241
Equipped with BM3 electronic trip unit				
630	W68BD 3N630BM3	28547	W68BD 4N630BM3	18242
800	W68BD 3N800BM3	28548	W68BD 4N800BM3	18243
1000	W68BD 3N1000BM3	28549	W68BD 4N1000BM3	18244
1250	W68BD 3N1250BM3	28550	W68BD 4N1250BM3	18245
1600	W68BD 3N1600BM3	28551	W68BD 4N1600BM3	18246
2000	W68BD 3N2000BM3	28552	W68BD 4N2000BM3	18247
2500	W68BD 3N2500BM3	28553	W68BD 4N2500BM3	18248
Equipped with BM4 electronic trip unit				
630	W68BD 3N630BM4	28554	W68BD 4N630BM4	18249
800	W68BD 3N800BM4	28555	W68BD 4N800BM4	18250
1000	W68BD 3N1000BM4	28556	W68BD 4N1000BM4	18251
1250	W68BD 3N1250BM4	28557	W68BD 4N1250BM4	18252
1600	W68BD 3N1600BM4	28558	W68BD 4N1600BM4	18253
2000	W68BD 3N2000BM4	28559	W68BD 4N2000BM4	18254
2500	W68BD 3N2500BM4	28560	W68BD 4N2500BM4	18255
Equipped with BHP electronic trip unit				
630	W68BD 3N630BHP	28561	W68BD 4N630BHP	18256
800	W68BD 3N800BHP	28562	W68BD 4N800BHP	18257
1000	W68BD 3N1000BHP	28563	W68BD 4N1000BHP	18258
1250	W68BD 3N1250BHP	28564	W68BD 4N1250BHP	18259
1600	W68BD 3N1600BHP	28565	W68BD 4N1600BHP	18260
2000	W68BD 3N2000BHP	28566	W68BD 4N2000BHP	18261
2500	W68BD 3N2500BHP	28567	W68BD 4N2500BHP	18262
Equipped with BHQ electronic trip unit				
630	W68BD 3N630BHQ	28568	W68BD 4N630BHQ	18263
800	W68BD 3N800BHQ	28569	W68BD 4N800BHQ	18264
1000	W68BD 3N1000BHQ	28570	W68BD 4N1000BHQ	18265
1250	W68BD 3N1250BHQ	28571	W68BD 4N1250BHQ	18266
1600	W68BD 3N1600BHQ	28572	W68BD 4N1600BHQ	18267
2000	W68BD 3N2000BHQ	28573	W68BD 4N2000BHQ	18268
2500	W68BD 3N2500BHQ	28574	W68BD 4N2500BHQ	18269
Equipped with BHG electronic trip unit				
630	W68BD 3N630BHG	28575	W68BD 4N630BHG	18270
800	W68BD 3N800BHG	28576	W68BD 4N800BHG	18271
1000	W68BD 3N1000BHG	28577	W68BD 4N1000BHG	18272
1250	W68BD 3N1250BHG	28578	W68BD 4N1250BHG	18273
1600	W68BD 3N1600BHG	28579	W68BD 4N1600BHG	18274
2000	W68BD 3N2000BHG	28580	W68BD 4N2000BHG	18275
2500	W68BD 3N2500BHG	28581	W68BD 4N2500BHG	18276

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Size B, withdrawable version, horizontal rear connection, Icu = Ics = 85 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
630	W68BD 3H630BL3	28582	W68BD 4H630BL3	18277
800	W68BD 3H800BL3	28583	W68BD 4H800BL3	18278
1000	W68BD 3H1000BL3	28584	W68BD 4H1000BL3	18279
1250	W68BD 3H1250BL3	28585	W68BD 4H1250BL3	18280
1600	W68BD 3H1600BL3	28586	W68BD 4H1600BL3	18281
2000	W68BD 3H2000BL3	28587	W68BD 4H2000BL3	18282
2500	W68BD 3H2500BL3	28588	W68BD 4H2500BL3	18283
Equipped with BL4 electronic trip unit				
630	W68BD 3H630BL4	28589	W68BD 4H630BL4	18284
800	W68BD 3H800BL4	28590	W68BD 4H800BL4	18285
1000	W68BD 3H1000BL4	28591	W68BD 4H1000BL4	18286
1250	W68BD 3H1250BL4	28592	W68BD 4H1250BL4	18287
1600	W68BD 3H1600BL4	28593	W68BD 4H1600BL4	18288
2000	W68BD 3H2000BL4	28594	W68BD 4H2000BL4	18289
2500	W68BD 3H2500BL4	28595	W68BD 4H2500BL4	18290
Equipped with BM3 electronic trip unit				
630	W68BD 3H630BM3	28596	W68BD 4H630BM3	18291
800	W68BD 3H800BM3	28597	W68BD 4H800BM3	18292
1000	W68BD 3H1000BM3	28598	W68BD 4H1000BM3	18293
1250	W68BD 3H1250BM3	28599	W68BD 4H1250BM3	18294
1600	W68BD 3H1600BM3	28600	W68BD 4H1600BM3	18295
2000	W68BD 3H2000BM3	28601	W68BD 4H2000BM3	18296
2500	W68BD 3H2500BM3	28602	W68BD 4H2500BM3	18297
Equipped with BM4 electronic trip unit				
630	W68BD 3H630BM4	28603	W68BD 4H630BM4	18298
800	W68BD 3H800BM4	28604	W68BD 4H800BM4	18299
1000	W68BD 3H1000BM4	28605	W68BD 4H1000BM4	18300
1250	W68BD 3H1250BM4	28606	W68BD 4H1250BM4	18301
1600	W68BD 3H1600BM4	28607	W68BD 4H1600BM4	18302
2000	W68BD 3H2000BM4	28608	W68BD 4H2000BM4	18303
2500	W68BD 3H2500BM4	28609	W68BD 4H2500BM4	18304
Equipped with BHP electronic trip unit				
630	W68BD 3H630BHP	28610	W68BD 4H630BHP	18305
800	W68BD 3H800BHP	28611	W68BD 4H800BHP	18306
1000	W68BD 3H1000BHP	28612	W68BD 4H1000BHP	18307
1250	W68BD 3H1250BHP	28613	W68BD 4H1250BHP	18308
1600	W68BD 3H1600BHP	28614	W68BD 4H1600BHP	18309
2000	W68BD 3H2000BHP	28615	W68BD 4H2000BHP	18310
2500	W68BD 3H2500BHP	28616	W68BD 4H2500BHP	18311
Equipped with BHQ electronic trip unit				
630	W68BD 3H630BHQ	18214	W68BD 4H630BHQ	18312
800	W68BD 3H800BHQ	18215	W68BD 4H800BHQ	18313
1000	W68BD 3H1000BHQ	18216	W68BD 4H1000BHQ	18314
1250	W68BD 3H1250BHQ	18217	W68BD 4H1250BHQ	18315
1600	W68BD 3H1600BHQ	18218	W68BD 4H1600BHQ	18316
2000	W68BD 3H2000BHQ	18219	W68BD 4H2000BHQ	18317
2500	W68BD 3H2500BHQ	18220	W68BD 4H2500BHQ	18318
Equipped with BHG electronic trip unit				
630	W68BD 3H630BHG	18221	W68BD 4H630BHG	18319
800	W68BD 3H800BHG	18222	W68BD 4H800BHG	18320
1000	W68BD 3H1000BHG	18223	W68BD 4H1000BHG	18321
1250	W68BD 3H1250BHG	18224	W68BD 4H1250BHG	18322
1600	W68BD 3H1600BHG	18225	W68BD 4H1600BHG	18323
2000	W68BD 3H2000BHG	18226	W68BD 4H2000BHG	18324
2500	W68BD 3H2500BHG	18227	W68BD 4H2500BHG	18325

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

1

Selection and ordering data

Size C, fixed version, horizontal rear connection, Icu = Ics = 85 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
2000	W68CF 3N2000BL3	18326	W68CF 34N2000BL3	18410
2500	W68CF 3N2500BL3	18327	W68CF 34N2500BL3	18411
2900	W68CF 3N2900BL3	18328	W68CF 34N2900BL3	18412
3200	W68CF 3N3200BL3	18329	W68CF 34N3200BL3	18413
3600	W68CF 3N3600BL3	18330	W68CF 34N3600BL3	18414
4000	W68CF 3N4000BL3	18331	W68CF 34N4000BL3	18415
Equipped with BL4 electronic trip unit				
2000	W68CF 3N2000BL4	18332	W68CF 34N2000BL4	18416
2500	W68CF 3N2500BL4	18333	W68CF 34N2500BL4	18417
2900	W68CF 3N2900BL4	18334	W68CF 34N2900BL4	18418
3200	W68CF 3N3200BL4	18335	W68CF 34N3200BL4	18419
3600	W68CF 3N3600BL4	18336	W68CF 34N3600BL4	18420
4000	W68CF 3N4000BL4	18337	W68CF 34N4000BL4	18421
Equipped with BM3 electronic trip unit				
2000	W68CF 3N2000BM3	18338	W68CF 34N2000BM3	18422
2500	W68CF 3N2500BM3	18339	W68CF 34N2500BM3	18423
2900	W68CF 3N2900BM3	18340	W68CF 34N2900BM3	18424
3200	W68CF 3N3200BM3	18341	W68CF 34N3200BM3	18425
3600A	W68CF 3N3600BM3	18342	W68CF 34N3600BM3	18426
4000	W68CF 3N4000BM3	18343	W68CF 34N4000BM3	18427
Equipped with BM4 electronic trip unit				
2000	W68CF 3N2000BM4	18344	W68CF 34N2000BM4	18428
2500	W68CF 3N2500BM4	18345	W68CF 34N2500BM4	18429
2900	W68CF 3N2900BM4	18346	W68CF 34N2900BM4	18430
3200	W68CF 3N3200BM4	18347	W68CF 34N3200BM4	18431
3600	W68CF 3N3600BM4	18348	W68CF 34N3600BM4	18432
4000	W68CF 3N4000BM4	18349	W68CF 34N4000BM4	18433
Equipped with BHP electronic trip unit				
2000	W68CF 3N2000BHP	18350	W68CF 34N2000BH4P	18434
2500	W68CF 3N2500BHP	18351	W68CF 34N2500BH4P	18435
2900	W68CF 3N2900BHP	18352	W68CF 34N2900BH4P	18436
3200	W68CF 3N3200BHP	18353	W68CF 34N3200BH4P	18437
3600	W68CF 3N3600BHP	18354	W68CF 34N3600BH4P	18438
4000	W68CF 3N4000BHP	18355	W68CF 34N4000BH4P	18439
Equipped with BHQ electronic trip unit				
2000	W68CF 3N2000BHQ	18356	W68CF 34N2000BHQ	18440
2500	W68CF 3N2500BHQ	18357	W68CF 34N2500BHQ	18441
2900	W68CF 3N2900BHQ	18358	W68CF 34N2900BHQ	18442
3200	W68CF 3N3200BHQ	18359	W68CF 34N3200BHQ	18443
3600	W68CF 3N3600BHQ	18360	W68CF 34N3600BHQ	18444
4000	W68CF 3N4000BHQ	18361	W68CF 34N4000BHQ	18445
Equipped with BHG electronic trip unit				
2000	W68CF 3N2000BHG	18362	W68CF 34N2000BHG	18446
2500	W68CF 3N2500BHG	18363	W68CF 34N2500BHG	18447
2900	W68CF 3N2900BHG	18364	W68CF 34N2900BHG	18448
3200	W68CF 3N3200BHG	18365	W68CF 34N3200BHG	18449
3600	W68CF 3N3600BHG	18366	W68CF 34N3600BHG	18450
4000	W68CF 3N4000BHG	18367	W68CF 34N4000BHG	18451

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Size C, fixed version, horizontal rear connection, Icu 120 kA, Ics = 100 kA, with standard accessories[1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
2000	W68CF 3H2000BL3	18368	W68CF 34H2000BL3	18452
2500	W68CF 3H2500BL3	18369	W68CF 34H2500BL3	18453
2900	W68CF 3H2900BL3	18370	W68CF 34H2900BL3	18454
3200	W68CF 3H3200BL3	18371	W68CF 34H3200BL3	18455
3600	W68CF 3H3600BL3	18372	W68CF 34H3600BL3	18456
4000	W68CF 3H4000BL3	18373	W68CF 34H4000BL3	18457
Equipped with BL4 electronic trip unit				
2000	W68CF 3H2000BL4	18374	W68CF 34H2000BL4	18458
2500	W68CF 3H2500BL4	18375	W68CF 34H2500BL4	18459
2900	W68CF 3H2900BL4	18376	W68CF 34H2900BL4	18460
3200	W68CF 3H3200BL4	18377	W68CF 34H3200BL4	18461
3600	W68CF 3H3600BL4	18378	W68CF 34H3600BL4	18462
4000	W68CF 3H4000BL4	18379	W68CF 34H4000BL4	18463
Equipped with BM3 electronic trip unit				
2000	W68CF 3H2000BM3	18380	W68CF 34H2000BM3	18464
2500	W68CF 3H2500BM3	18381	W68CF 34H2500BM3	18465
2900	W68CF 3H2900BM3	18382	W68CF 34H2900BM3	18466
3200	W68CF 3H3200BM3	18383	W68CF 34H3200BM3	18467
3600A	W68CF 3H3600BM3	18384	W68CF 34H3600BM3	18468
4000	W68CF 3H4000BM3	18385	W68CF 34H4000BM3	18469
Equipped with BM4 electronic trip unit				
2000	W68CF 3H2000BM4	18386	W68CF 34H2000BM4	18470
2500	W68CF 3H2500BM4	18387	W68CF 34H2500BM4	18471
2900	W68CF 3H2900BM4	18388	W68CF 34H2900BM4	18472
3200	W68CF 3H3200BM4	18389	W68CF 34H3200BM4	18473
3600	W68CF 3H3600BM4	18390	W68CF 34H3600BM4	18474
4000	W68CF 3H4000BM4	18391	W68CF 34H4000BM4	18475
Equipped with BHP electronic trip unit				
2000	W68CF 3H2000BHP	18392	W68CF 34H2000BH4P	18476
2500	W68CF 3H2500BHP	18393	W68CF 34H2500BH4P	18477
2900	W68CF 3H2900BHP	18394	W68CF 34H2900BH4P	18478
3200	W68CF 3H3200BHP	18395	W68CF 34H3200BH4P	18479
3600	W68CF 3H3600BHP	18396	W68CF 34H3600BH4P	18480
4000	W68CF 3H4000BHP	18397	W68CF 34H4000BH4P	18481
Equipped with BHQ electronic trip unit				
2000	W68CF 3H2000BHQ	18398	W68CF 34H2000BHQ	18482
2500	W68CF 3H2500BHQ	18399	W68CF 34H2500BHQ	18483
2900	W68CF 3H2900BHQ	18400	W68CF 34H2900BHQ	18484
3200	W68CF 3H3200BHQ	18401	W68CF 34H3200BHQ	18485
3600	W68CF 3H3600BHQ	18402	W68CF 34H3600BHQ	18486
4000	W68CF 3H4000BHQ	18403	W68CF 34H4000BHQ	18487
Equipped with BHG electronic trip unit				
2000	W68CF 3H2000BHG	18404	W68CF 34H2000BHG	18488
2500	W68CF 3H2500BHG	18405	W68CF 34H2500BHG	18489
2900	W68CF 3H2900BHG	18406	W68CF 34H2900BHG	18490
3200	W68CF 3H3200BHG	18407	W68CF 34H3200BHG	18491
3600	W68CF 3H3600BHG	18408	W68CF 34H3600BHG	18492
4000	W68CF 3H4000BHG	18409	W68CF 34H4000BHG	18493

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

1

Selection and ordering data

Size C, withdrawable version, horizontal rear connection, Icu = Ics = 85 kA, with standard accessories [1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
2000	W68CD 3N2000BL3	18494	W68CD 34N2000BL3	32145
2500	W68CD 3N2500BL3	18495	W68CD 34N2500BL3	32146
2900	W68CD 3N2900BL3	18496	W68CD 34N2900BL3	32147
3200	W68CD 3N3200BL3	18497	W68CD 34N3200BL3	32148
3600	W68CD 3N3600BL3	18498	W68CD 34N3600BL3	32149
4000	W68CD 3N4000BL3	18499	W68CD 34N4000BL3	32150
Equipped with BL4 electronic trip unit				
2000	W68CD 3N2000BL4	18500	W68CD 34N2000BL4	32151
2500	W68CD 3N2500BL4	18501	W68CD 34N2500BL4	32152
2900	W68CD 3N2900BL4	32069	W68CD 34N2900BL4	32153
3200	W68CD 3N3200BL4	32070	W68CD 34N3200BL4	32154
3600	W68CD 3N3600BL4	32071	W68CD 34N3600BL4	32155
4000	W68CD 3N4000BL4	32072	W68CD 34N4000BL4	32156
Equipped with BM3 electronic trip unit				
2000	W68CD 3N2000BM3	32073	W68CD 34N2000BM3	32157
2500	W68CD 3N2500BM3	32074	W68CD 34N2500BM3	32158
2900	W68CD 3N2900BM3	32075	W68CD 34N2900BM3	32159
3200	W68CD 3N3200BM3	32076	W68CD 34N3200BM3	32160
3600A	W68CD 3N3600BM3	32077	W68CD 34N3600BM3	32161
4000	W68CD 3N4000BM3	32078	W68CD 34N4000BM3	32162
Equipped with BM4 electronic trip unit				
2000	W68CD 3N2000BM4	32079	W68CD 34N2000BM4	32163
2500	W68CD 3N2500BM4	32080	W68CD 34N2500BM4	32164
2900	W68CD 3N2900BM4	32081	W68CD 34N2900BM4	32165
3200	W68CD 3N3200BM4	32082	W68CD 34N3200BM4	32166
3600	W68CD 3N3600BM4	32083	W68CD 34N3600BM4	32167
4000	W68CD 3N4000BM4	32084	W68CD 34N4000BM4	32168
Equipped with BHP electronic trip unit				
2000	W68CD 3N2000BHP	32085	W68CD 34N2000BH4P	32169
2500	W68CD 3N2500BHP	32086	W68CD 34N2500BH4P	32170
2900	W68CD 3N2900BHP	32087	W68CD 34N2900BH4P	32171
3200	W68CD 3N3200BHP	32088	W68CD 34N3200BH4P	32172
3600	W68CD 3N3600BHP	32089	W68CD 34N3600BH4P	32173
4000	W68CD 3N4000BHP	32090	W68CD 34N4000BH4P	32174
Equipped with BHQ electronic trip unit				
2000	W68CD 3N2000BHQ	32091	W68CD 34N2000BHQ	32175
2500	W68CD 3N2500BHQ	32092	W68CD 34N2500BHQ	32176
2900	W68CD 3N2900BHQ	32093	W68CD 34N2900BHQ	32177
3200	W68CD 3N3200BHQ	32094	W68CD 34N3200BHQ	32178
3600	W68CD 3N3600BHQ	32095	W68CD 34N3600BHQ	32179
4000	W68CD 3N4000BHQ	32096	W68CD 34N4000BHQ	32180
Equipped with BHG electronic trip unit				
2000	W68CD 3N2000BHG	32097	W68CD 34N2000BHG	32181
2500	W68CD 3N2500BHG	32098	W68CD 34N2500BHG	32182
2900	W68CD 3N2900BHG	32099	W68CD 34N2900BHG	32183
3200	W68CD 3N3200BHG	32100	W68CD 34N3200BHG	32184
3600	W68CD 3N3600BHG	32101	W68CD 34N3600BHG	32185
4000	W68CD 3N4000BHG	32102	W68CD 34N4000BHG	32186

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Size C, withdrawable version, horizontal rear connection, Icu 120 kA, Ics = 100 kA, with standard accessories[1]



Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
2000	W68CD 3H2000BL3	32103	W68CD 34H2000BL3	32187
2500	W68CD 3H2500BL3	32104	W68CD 34H2500BL3	32188
2900	W68CD 3H2900BL3	32105	W68CD 34H2900BL3	32189
3200	W68CD 3H3200BL3	32106	W68CD 34H3200BL3	32190
3600	W68CD 3H3600BL3	32107	W68CD 34H3600BL3	32191
4000	W68CD 3H4000BL3	32108	W68CD 34H4000BL3	32192
Equipped with BL4 electronic trip unit				
2000	W68CD 3H2000BL4	32109	W68CD 34H2000BL4	32193
2500	W68CD 3H2500BL4	32110	W68CD 34H2500BL4	32194
2900	W68CD 3H2900BL4	32111	W68CD 34H2900BL4	32195
3200	W68CD 3H3200BL4	32112	W68CD 34H3200BL4	32196
3600	W68CD 3H3600BL4	32113	W68CD 34H3600BL4	32197
4000	W68CD 3H4000BL4	32114	W68CD 34H4000BL4	32198
Equipped with BM3 electronic trip unit				
2000	W68CD 3H2000BM3	32115	W68CD 34H2000BM3	32199
2500	W68CD 3H2500BM3	32116	W68CD 34H2500BM3	32200
2900	W68CD 3H2900BM3	32117	W68CD 34H2900BM3	32201
3200	W68CD 3H3200BM3	32118	W68CD 34H3200BM3	32202
3600A	W68CD 3H3600BM3	32119	W68CD 34H3600BM3	32203
4000	W68CD 3H4000BM3	32120	W68CD 34H4000BM3	32204
Equipped with BM4 electronic trip unit				
2000	W68CD 3H2000BM4	32121	W68CD 34H2000BM4	32205
2500	W68CD 3H2500BM4	32122	W68CD 34H2500BM4	32206
2900	W68CD 3H2900BM4	32123	W68CD 34H2900BM4	32207
3200	W68CD 3H3200BM4	32124	W68CD 34H3200BM4	32208
3600	W68CD 3H3600BM4	32125	W68CD 34H3600BM4	32209
4000	W68CD 3H4000BM4	32126	W68CD 34H4000BM4	32210
Equipped with BHP electronic trip unit				
2000	W68CD 3H2000BHP	32127	W68CD 34H2000BH4P	32211
2500	W68CD 3H2500BHP	32128	W68CD 34H2500BH4P	32212
2900	W68CD 3H2900BHP	32129	W68CD 34H2900BH4P	32213
3200	W68CD 3H3200BHP	32130	W68CD 34H3200BH4P	32214
3600	W68CD 3H3600BHP	32131	W68CD 34H3600BH4P	32215
4000	W68CD 3H4000BHP	32132	W68CD 34H4000BH4P	32216
Equipped with BHQ electronic trip unit				
2000	W68CD 3H2000BHQ	32133	W68CD 34H2000BHQ	32217
2500	W68CD 3H2500BHQ	32134	W68CD 34H2500BHQ	32218
2900	W68CD 3H2900BHQ	32135	W68CD 34H2900BHQ	32219
3200	W68CD 3H3200BHQ	32136	W68CD 34H3200BHQ	32220
3600	W68CD 3H3600BHQ	32137	W68CD 34H3600BHQ	32221
4000	W68CD 3H4000BHQ	32138	W68CD 34H4000BHQ	32222
Equipped with BHG electronic trip unit				
2000	W68CD 3H2000BHG	32139	W68CD 34H2000BHG	32223
2500	W68CD 3H2500BHG	32140	W68CD 34H2500BHG	32224
2900	W68CD 3H2900BHG	32141	W68CD 34H2900BHG	32225
3200	W68CD 3H3200BHG	32142	W68CD 34H3200BHG	32226
3600	W68CD 3H3600BHG	32143	W68CD 34H3600BHG	32227
4000	W68CD 3H4000BHG	32144	W68CD 34H4000BHG	32228

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

1

Selection and ordering data

Size D, fixed version, Icu = Ics = 100 kA, with standard accessories (1)
4000 A & 5000 A: Horizontal rear connection; 6300 A: Vertical rear connection

Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
4000	W68DF 3N4000BL3	32229	W68DF 4N4000BL3	32292
5000	W68DF 3N5000BL3	32230	W68DF 4N5000BL3	32293
6300	W68DF 3N6300BL3	32231	W68DF 4N6300BL3	32294
Equipped with BL4 electronic trip unit				
4000	W68DF 3N4000BL4	32232	W68DF 4N4000BL4	32295
5000	W68DF 3N5000BL4	32233	W68DF 4N5000BL4	32296
6300	W68DF 3N6300BL4	32234	W68DF 4N6300BL4	32297
Equipped with BM3 electronic trip unit				
4000	W68DF 3N4000BM3	32235	W68DF 4N4000BM3	32298
5000	W68DF 3N5000BM3	32236	W68DF 4N5000BM3	32299
6300	W68DF 3N6300BM3	32237	W68DF 4N6300BM3	32300
Equipped with BM4 electronic trip unit				
4000	W68DF 3N4000BM4	32238	W68DF 4N4000BM4	32301
5000	W68DF 3N5000BM4	32239	W68DF 4N5000BM4	32302
6300	W68DF 3N6300BM4	32240	W68DF 4N6300BM4	32303
Equipped with BHP electronic trip unit				
4000	W68DF 3N4000BHP	32241	W68DF 4N4000BHP	32304
5000	W68DF 3N5000BHP	32242	W68DF 4N5000BHP	32305
6300	W68DF 3N6300BHP	32243	W68DF 4N6300BHP	32306
Equipped with BHQ electronic trip unit				
4000	W68DF 3N4000BHQ	32244	W68DF 4N4000BHQ	32307
5000	W68DF 3N5000BHQ	32245	W68DF 4N5000BHQ	32308
6300	W68DF 3N6300BHQ	32246	W68DF 4N6300BHQ	32309
Equipped with BHG electronic trip unit				
4000	W68DF 3N4000BHG	32247	W68DF 4N4000BHG	32310
5000	W68DF 3N5000BHG	32248	W68DF 4N5000BHG	32311
6300	W68DF 3N6300BHG	32249	W68DF 4N6300BHG	32312

Size D, fixed version, Icu = Ics = 120 kA, with standard accessories (1)
4000 A & 5000 A: Horizontal rear connection; 6300 A: Vertical rear connection

Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
4000	W68DF 3H4000BL3	32250	W68DF 4H4000BL3	32313
5000	W68DF 3H5000BL3	32251	W68DF 4H5000BL3	32314
6300	W68DF 3H6300BL3	32252	W68DF 4H6300BL3	32315
Equipped with BL4 electronic trip unit				
4000	W68DF 3H4000BL4	32253	W68DF 4H4000BL4	32316
5000	W68DF 3H5000BL4	32254	W68DF 4H5000BL4	32317
6300	W68DF 3H6300BL4	32255	W68DF 4H6300BL4	32318
Equipped with BM3 electronic trip unit				
4000	W68DF 3H4000BM3	32256	W68DF 4H4000BM3	32319
5000	W68DF 3H5000BM3	32257	W68DF 4H5000BM3	32320
6300	W68DF 3H6300BM3	32258	W68DF 4H6300BM3	32321
Equipped with BM4 electronic trip unit				
4000	W68DF 3H4000BM4	32259	W68DF 4H4000BM4	32322
5000	W68DF 3H5000BM4	32260	W68DF 4H5000BM4	32323
6300	W68DF 3H6300BM4	32261	W68DF 4H6300BM4	32324
Equipped with BHP electronic trip unit				
4000	W68DF 3H4000BHP	32262	W68DF 4H4000BHP	32325
5000	W68DF 3H5000BHP	32263	W68DF 4H5000BHP	32326
6300	W68DF 3H6300BHP	32264	W68DF 4H6300BHP	32327
Equipped with BHQ electronic trip unit				
4000	W68DF 3H4000BHQ	32265	W68DF 4H4000BHQ	32328
5000	W68DF 3H5000BHQ	32266	W68DF 4H5000BHQ	32329
6300	W68DF 3H6300BHQ	32267	W68DF 4H6300BHQ	32330
Equipped with BHG electronic trip unit				
4000	W68DF 3H4000BHG	32268	W68DF 4H4000BHG	32331
5000	W68DF 3H5000BHG	32269	W68DF 4H5000BHG	32332
6300	W68DF 3H6300BHG	32270	W68DF 4H6300BHG	32333

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Size D, fixed version, Icu = Ics = 150 kA, with standard accessories [1]
4000 A & 5000 A: Horizontal rear connection; 6300 A: Vertical rear connection

Rated current In (A)	3-pole		4-pole	
	Type code	Order code	Type code	Order code
Equipped with BL3 electronic trip unit				
4000	W68DF 3S4000BL3	32271	W68DF 4S4000BL3	32334
5000	W68DF 3S5000BL3	32272	W68DF 4S5000BL3	32335
6300	W68DF 3S6300BL3	32273	W68DF 4S6300BL3	32336
Equipped with BL4 electronic trip unit				
4000	W68DF 3S4000BL4	32274	W68DF 4S4000BL4	32337
5000	W68DF 3S5000BL4	32275	W68DF 4S5000BL4	32338
6300	W68DF 3S6300BL4	32276	W68DF 4S6300BL4	32339
Equipped with BM3 electronic trip unit				
4000	W68DF 3S4000BM3	32277	W68DF 4S4000BM3	32340
5000	W68DF 3S5000BM3	32278	W68DF 4S5000BM3	32341
6300	W68DF 3S6300BM3	32279	W68DF 4S6300BM3	32342
Equipped with BM4 electronic trip unit				
4000	W68DF 3S4000BM4	32280	W68DF 4S4000BM4	32343
5000	W68DF 3S5000BM4	32281	W68DF 4S5000BM4	32344
6300	W68DF 3S6300BM4	32282	W68DF 4S6300BM4	32345
Equipped with BHP electronic trip unit				
4000	W68DF 3S4000BHP	32283	W68DF 4S4000BHP	32346
5000	W68DF 3S5000BHP	32284	W68DF 4S5000BHP	32347
6300	W68DF 3S6300BHP	32285	W68DF 4S6300BHP	32348
Equipped with BHQ electronic trip unit				
4000	W68DF 3S4000BHQ	32286	W68DF 4S4000BHQ	32349
5000	W68DF 3S5000BHQ	32287	W68DF 4S5000BHQ	32350
6300	W68DF 3S6300BHQ	32288	W68DF 4S6300BHQ	32351
Equipped with BHG electronic trip unit				
4000	W68DF 3S4000BHG	32289	W68DF 4S4000BHG	32352
5000	W68DF 3S5000BHG	32290	W68DF 4S5000BHG	32353
6300	W68DF 3S6300BHG	32291	W68DF 4S6300BHG	32354

Size D, withdrawable version, Icu = Ics = 100 kA, with standard accessories [1]
4000 A & 5000 A: Horizontal rear connection; 6300 A: Vertical rear connection

Rated current In (A)	3-pole		4-pole	
	Type code	Order code	Type code	Order code
Equipped with BL3 electronic trip unit				
4000	W68DD 3N4000BL3	32355	W68DD 4N4000BL3	32418
5000	W68DD 3N5000BL3	32356	W68DD 4N5000BL3	32419
6300	W68DD 3N6300BL3	32357	W68DD 4N6300BL3	32420
Equipped with BL4 electronic trip unit				
4000	W68DD 3N4000BL4	32358	W68DD 4N4000BL4	13898
5000	W68DD 3N5000BL4	32359	W68DD 4N5000BL4	13899
6300	W68DD 3N6300BL4	32360	W68DD 4N6300BL4	13900
Equipped with BM3 electronic trip unit				
4000	W68DD 3N4000BM3	32361	W68DD 4N4000BM3	13901
5000	W68DD 3N5000BM3	32362	W68DD 4N5000BM3	13902
6300	W68DD 3N6300BM3	32363	W68DD 4N6300BM3	13903
Equipped with BM4 electronic trip unit				
4000	W68DD 3N4000BM4	32364	W68DD 4N4000BM4	13904
5000	W68DD 3N5000BM4	32365	W68DD 4N5000BM4	13905
6300	W68DD 3N6300BM4	32366	W68DD 4N6300BM4	13906
Equipped with BHP electronic trip unit				
4000	W68DD 3N4000BHP	32367	W68DD 4N4000BHP	13907
5000	W68DD 3N5000BHP	32368	W68DD 4N5000BHP	13908
6300	W68DD 3N6300BHP	32369	W68DD 4N6300BHP	13909
Equipped with BHQ electronic trip unit				
4000	W68DD 3N4000BHQ	32370	W68DD 4N4000BHQ	13910
5000	W68DD 3N5000BHQ	32371	W68DD 4N5000BHQ	13911
6300	W68DD 3N6300BHQ	32372	W68DD 4N6300BHQ	13912
Equipped with BHG electronic trip unit				
4000	W68DD 3N4000BHG	32373	W68DD 4N4000BHG	13913
5000	W68DD 3N5000BHG	32374	W68DD 4N5000BHG	13914
6300	W68DD 3N6300BHG	32375	W68DD 4N6300BHG	13915

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

1

Selection and ordering data

Size D, withdrawable version, Icu = Ics = 120 kA, with standard accessories [1]
4000 A & 5000 A: Horizontal rear connection; 6300 A: Vertical rear connection

Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
4000	W68DD 3H4000BL3	32376	W68DD 4H4000BL3	13916
5000	W68DD 3H5000BL3	32377	W68DD 4H5000BL3	13917
6300	W68DD 3H6300BL3	32378	W68DD 4H6300BL3	13918
Equipped with BL4 electronic trip unit				
4000	W68DD 3H4000BL4	32379	W68DD 4H4000BL4	13919
5000	W68DD 3H5000BL4	32380	W68DD 4H5000BL4	13920
6300	W68DD 3H6300BL4	32381	W68DD 4H6300BL4	13921
Equipped with BM3 electronic trip unit				
4000	W68DD 3H4000BM3	32382	W68DD 4H4000BM3	13922
5000	W68DD 3H5000BM3	32383	W68DD 4H5000BM3	13923
6300	W68DD 3H6300BM3	32384	W68DD 4H6300BM3	13924
Equipped with BM4 electronic trip unit				
4000	W68DD 3H4000BM4	32385	W68DD 4H4000BM4	13925
5000	W68DD 3H5000BM4	32386	W68DD 4H5000BM4	13926
6300	W68DD 3H6300BM4	32387	W68DD 4H6300BM4	13927
Equipped with BHP electronic trip unit				
4000	W68DD 3H4000BHP	32388	W68DD 4H4000BHP	13928
5000	W68DD 3H5000BHP	32389	W68DD 4H5000BHP	13929
6300	W68DD 3H6300BHP	32390	W68DD 4H6300BHP	13930
Equipped with BHQ electronic trip unit				
4000	W68DD 3H4000BHQ	32391	W68DD 4H4000BHQ	13931
5000	W68DD 3H5000BHQ	32392	W68DD 4H5000BHQ	13932
6300	W68DD 3H6300BHQ	32393	W68DD 4H6300BHQ	13933
Equipped with BHG electronic trip unit				
4000	W68DD 3H4000BHG	32394	W68DD 4H4000BHG	13934
5000	W68DD 3H5000BHG	32395	W68DD 4H5000BHG	13935
6300	W68DD 3H6300BHG	32396	W68DD 4H6300BHG	13936

Size D, withdrawable version, Icu = Ics = 150 kA, with standard accessories [1]
4000 A & 5000 A: Horizontal rear connection; 6300 A: Vertical rear connection

Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
Equipped with BL3 electronic trip unit				
4000	W68DD 3S4000BL3	32397	W68DD 4S4000BL3	13937
5000	W68DD 3S5000BL3	32398	W68DD 4S5000BL3	13938
6300	W68DD 3S6300BL3	32399	W68DD 4S6300BL3	13939
Equipped with BL4 electronic trip unit				
4000	W68DD 3S4000BL4	32400	W68DD 4S4000BL4	13940
5000	W68DD 3S5000BL4	32401	W68DD 4S5000BL4	13941
6300	W68DD 3S6300BL4	32402	W68DD 4S6300BL4	13942
Equipped with BM3 electronic trip unit				
4000	W68DD 3S4000BM3	32403	W68DD 4S4000BM3	13943
5000	W68DD 3S5000BM3	32404	W68DD 4S5000BM3	13944
6300	W68DD 3S6300BM3	32405	W68DD 4S6300BM3	13945
Equipped with BM4 electronic trip unit				
4000	W68DD 3S4000BM4	32406	W68DD 4S4000BM4	13946
5000	W68DD 3S5000BM4	32407	W68DD 4S5000BM4	13947
6300	W68DD 3S6300BM4	32408	W68DD 4S6300BM4	13948
Equipped with BHP electronic trip unit				
4000	W68DD 3S4000BHP	32409	W68DD 4S4000BHP	13949
5000	W68DD 3S5000BHP	32410	W68DD 4S5000BHP	13950
6300	W68DD 3S6300BHP	32411	W68DD 4S6300BHP	13951
Equipped with BHQ electronic trip unit				
4000	W68DD 3S4000BHQ	32412	W68DD 4S4000BHQ	13952
5000	W68DD 3S5000BHQ	32413	W68DD 4S5000BHQ	13953
6300	W68DD 3S6300BHQ	32414	W68DD 4S6300BHQ	13954
Equipped with BHG electronic trip unit				
4000	W68DD 3S4000BHG	32415	W68DD 4S4000BHG	13955
5000	W68DD 3S5000BHG	32416	W68DD 4S5000BHG	13956
6300	W68DD 3S6300BHG	32417	W68DD 4S6300BHG	13957

Note:
(1) The standard accessories includes:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact (4 convertible contacts)
- Separators

Selection and ordering data

Electrical accessories for circuit breakers

Size	Rated Voltage Un	Description	Type code	Order code
Motorized operating mechanism - EM				
Size A	AC 230 V	EM AC 230 V for 3SW68-1600	W68A EM230A	**39684**
	AC 400 V	EM AC 400 V for 3SW68-1600	W68A EM400A	**39685**
	DC 110 V	EM DC 110 V for 3SW68-1600	W68A EM110D	**39686**
Size B/C/D	DC 220 V	EM DC 220 V for 3SW68-1600	W68A EM220D	**39687**
	AC 230 V	EM AC 230 V for 3SW68-2500...6300	W68B EM230A	**39688**
	AC 400 V	EM AC 400 V for 3SW68-2500...6300	W68B EM400A	**39689**
	DC 110 V	EM DC 110 V for 3SW68-2500...6300	W68B EM110D	**39690**
	DC 220 V	EM DC 220 V for 3SW68-2500...6300	W68B EM220D	**39691**
Closing coil - CM				
Size A/B/C/D	AC 230 V	CM AC 230 V for 3SW68	W68 CM230A	**39692**
	AC 400 V	CM AC 400 V for 3SW68	W68 CM400A	**39693**
	DC 110 V	CM DC 110 V for 3SW68	W68 CM110D	**39694**
	DC 220 V	CM DC 220 V for 3SW68	W68 CM220D	**39695**
Shunt release - SH				
Size A/B/C/D	AC 230 V	SH AC 230 V for 3SW68	W68 SH230A	**39696**
	AC 400 V	SH AC 400 V for 3SW68	W68 SH400A	**39697**
	DC 110 V	SH DC 110 V for 3SW68	W68 SH110D	**39698**
	DC 220 V	SH DC 220 V for 3SW68	W68 SH220D	**39699**
Under-voltage release - UV				
Size A/B/C/D	AC 230 V	UV AC 230 V for 3SW68	W68 UV230A	**39700**
	AC 400 V	UV AC 400 V for 3SW68	W68 UV400A	**39701**
Time-delay module for under-voltage release - UVD				
Size A/B/C/D	AC 230 V	UVD AC 230 V for 3SW68	W68 UVD230A	**39702**
	AC 400 V	UVD AC 400 V for 3SW68	W68 UVD400A	**39703**
Auxiliary contact - AU				
Size A	AC 230 V	AU 4 convertible contact AC 230 V for 3SW68-1600	W68A AU4X230A	**39704**
	AC 400 V	AU 4 convertible contact AC 400 V for 3SW68-1600	W68A AU4X400A	**39705**
	DC 110 V	AU 4 convertible contact DC 110 V for 3SW68-1600	W68A AU4X110D	**39706**
	DC 220 V	AU 4 convertible contact DC 220 V for 3SW68-1600	W68A AU4X220D	**39707**
	AC 230 V	AU 4 NO + 4 NC AC 230 V for 3SW68-1600	W68A AU44230A	**39708**
	AC 400 V	AU 4 NO + 4 NC AC 400 V for 3SW68-1600	W68A AU44400A	**39709**
	DC 110 V	AU 4 NO + 4 NC DC 110 V for 3SW68-1600	W68A AU44110D	**39710**
	DC 220 V	AU 4 NO + 4 NC DC 220 V for 3SW68-1600	W68A AU44220D	**39711**
	AC 230 V	AU 6 NO + 6 NC AC 230 V for 3SW68-1600	W68A AU66230A	**39712**
	AC 400 V	AU 6 NO + 6 NC AC 400 V for 3SW68-1600	W68A AU66400A	**39713**
	DC 110 V	AU 6 NO + 6 NC DC 110 V for 3SW68-1600	W68A AU66110D	**39714**
	DC 220 V	AU 6 NO + 6 NC DC 220 V for 3SW68-1600	W68A AU66220D	**39715**
Size B/C/D	AC 230 V	AU 4 convertible contact AC 230 V for 3SW68-2500...6300	W68B AU4X230A	**39716**
	AC 400 V	AU 4 convertible contact AC 400 V for 3SW68-2500...6300	W68B AU4X400A	**39717**
	AC 415 V	AU 4 convertible contact AC 415 V for 3SW68-2500...6300	W68B AU4X415A	**39718**
	DC 110 V	AU 4 convertible contact DC 110 V for 3SW68-2500...6300	W68B AU4X110D	**39719**
	DC 220 V	AU 4 convertible contact DC 220 V for 3SW68-2500...6300	W68B AU4X220D	**39720**
	DC 250 V	AU 4 convertible contact DC 250 V for 3SW68-2500...6300	W68B AU4X250D	**39721**
	AC 230 V	AU 4 NO + 4 NC AC 230 V for 3SW68-2500...6300	W68B AU44230A	**39722**
	AC 400 V	AU 4 NO + 4 NC AC 400 V for 3SW68-2500...6300	W68B AU44400A	**39723**
	AC 415 V	AU 4 NO + 4 NC AC 415 V for 3SW68-2500...6300	W68B AU44415A	**39724**
	DC 110 V	AU 4 NO + 4 NC DC 110 V for 3SW68-2500...6300	W68B AU44110D	**39725**
	DC 220 V	AU 4 NO + 4 NC DC 220 V for 3SW68-2500...6300	W68B AU44220D	**39726**
	DC 250 V	AU 4 NO + 4 NC DC 250 V for 3SW68-2500...6300	W68B AU44250D	**39727**
	AC 230 V	AU 6 NO + 6 NC AC 230 V for 3SW68-2500...6300	W68B AU66230A	**39728**
	AC 400 V	AU 6 NO + 6 NC AC 400 V for 3SW68-2500...6300	W68B AU66400A	**39729**
	AC 415 V	AU 6 NO + 6 NC AC 415 V for 3SW68-2500...6300	W68B AU66415A	**39730**
	DC 110 V	AU 6 NO + 6 NC DC 110 V for 3SW68-2500...6300	W68B AU66110D	**39731**
	DC 220 V	AU 6 NO + 6 NC DC 220 V for 3SW68-2500...6300	W68B AU66220D	**39732**
	DC 250 V	AU 6 NO + 6 NC DC 250 V for 3SW68-2500...6300	W68B AU66250D	**39733**
Auxiliary position contacts - AUP				
Size A		AUP for 3SW68-1600	W68A AUP	**39734**
Size B/C/D		AUP for 3SW68-2500...6300	W68B AUP	**39735**

Selection and ordering data

Mechanical accessories for circuit breakers

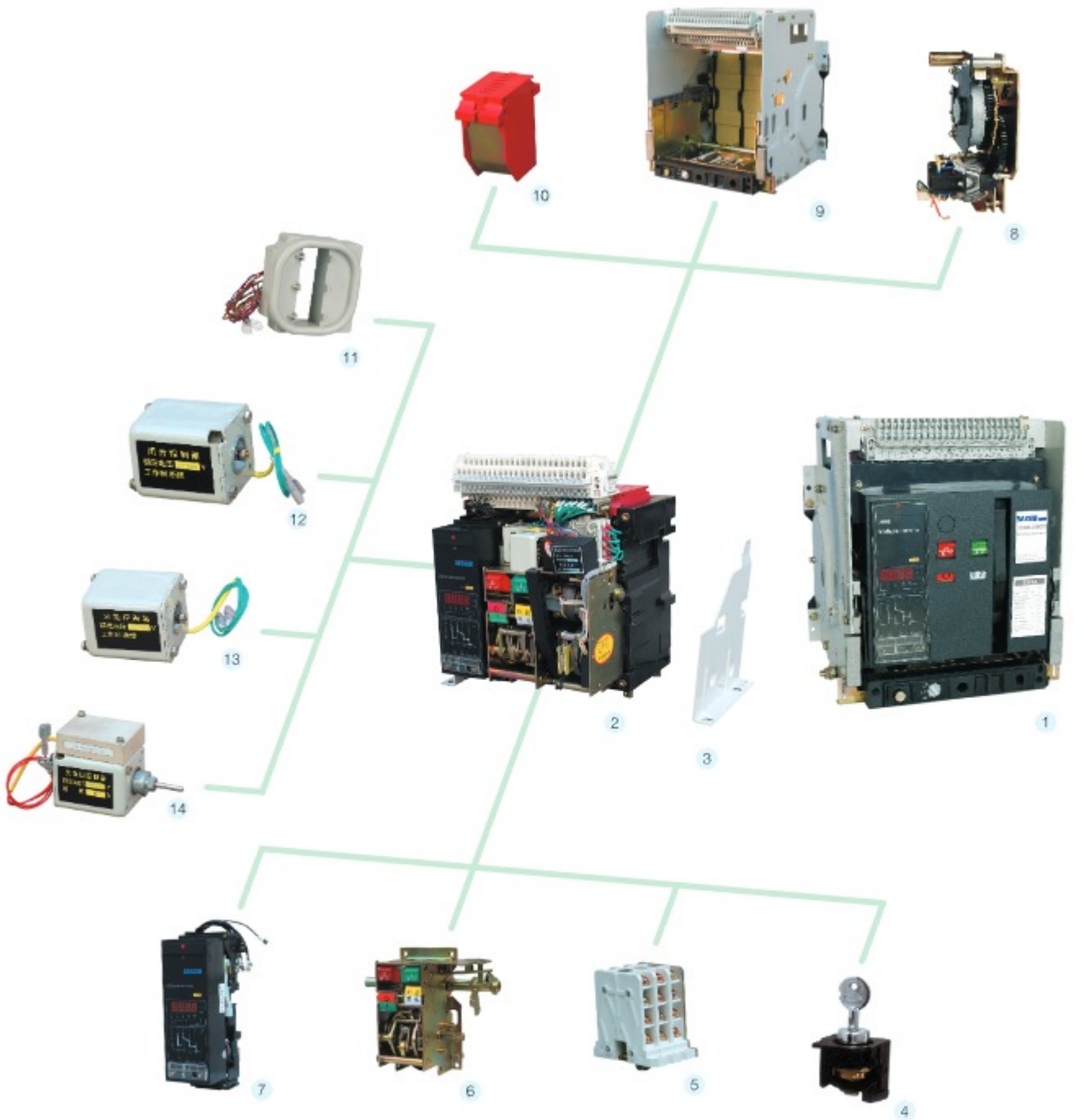
Size	Description	4-pole	
		Type code	Order code
Safety protection devices			
Size A/B/C/D	Opening protection for racking in / racking out for 3SW68 - OPC	W68 OPC	39737
Size A/B/C/D	Protection device for unexpected charging for 3SW68 - PUC	W68 PUC	39738
Size A	Protection cover for secondary terminal for 3SW68-1600 - CST	W68A CST	13959
Size B/C/D	Protection cover for secondary terminal for 3SW68-2500…6300 - CST	W68B CST	13960
Size A/B/C/D	Separate lock device for 3SW68 - SLD	W68 SLD	13961
Size A	3-position locking device for 3SW68-1600 - TPL	W68A TPL	13962
Size B	3-position locking device for 3SW68-2500…6300 - TPL	W68B TPL	13963
Size A/B/C/D	Position locking device for 3SW68 - PLD	W68 PLD	13964
Size A/B/C/D	Protection device for opening and closing buttons for 3SW68 - PDOC	W68 PDOC	13965
Size A/B/C/D	Key lock in open position for 3SW68 - KLO	W68 KLO	13966
Size A/B/C/D	Interlock for switchgear door for 3SW68 - ISD	W68 ISD	13967
Size A/B/C/D	Position key lock for 3SW68 - PKL	W68 PKL	13968
Size A/B/C/D	Blocking device for inserting in crank when the door is open for 3SW68 - BDI	W68 BDI	13969
Separators			
Size A	Separators 2 pieces for 3-pole 3SW68-1600 - PSB	W68A PSB3	39739
	Separators 3 pieces for 4-pole 3SW68-1600 - PSB	W68A PSB4	39740
Size B/C/D	Separators 2 pieces for 3-pole 3SW68-2500…6300 - PSB	W68B PSB3	39741
	Separators 3 pieces for 4-pole 3SW68-2500…6300 - PSB	W68B PSB4	39742
Door frame			
Size A	Door frame for withdrawable 3SW68-1600 - DF	W68A DFD	39744
Size B	Door frame for withdrawable 3SW68-2500 - DF	W68B DFD	39745
Size C	Door frame for withdrawable 3SW68-4000 - DF	W68C DFD	39746
Size D	Door frame for withdrawable 3SW68-6300 - DF	W68D DFD	39747
Size A	Door frame for fixed 3SW68-1600 - DF	W68A DFF	39748
Size B	Door frame for fixed 3SW68-2500 - DF	W68B DFF	32490
Size C	Door frame for fixed 3SW68-4000 - DF	W68C DFF	32491
Size D	Door frame for fixed 3SW68-6300 - DF	W68D DFF	13958
Connection terminals			
Size A	Front terminals for 3-pole 3SW68-1600 200…1000 A thickness 8 mm - BR	W68A BRF31	13970
	Front terminals for 3-pole 3SW68-1600 1250…1600 A thickness 15 mm - BR	W68A BRF32	13971
Size B	Front terminals for 3-pole 3SW68-2500 630…1000 A thickness 10 mm - BR	W68B BRF31	13972
	Front terminals for 3-pole 3SW68-2500 1250…2500 A thickness 10 mm - BR	W68B BRF32	13973
Size C	Front terminals for 3-pole 3SW68-4000 2000…3600 A thickness 15 mm - BR	W68C BRF31	13974
	Front terminals for 3-pole 3SW68-4000 4000 A thickness 20 mm - BR	W68C BRF32	13975
Size A	Front terminals for 4-pole 3SW68-1600 200…1000 A thickness 8 mm - BR	W68A BRF41	13976
	Front terminals for 4-pole 3SW68-1600 1250…1600 A thickness 15 mm - BR	W68A BRF42	13977
Size B	Front terminals for 4-pole 3SW68-2500 630…1000 A thickness 10 mm - BR	W68B BRF41	13978
	Front terminals for 4-pole 3SW68-2500 1250…2500 A thickness 10 mm - BR	W68B BRF42	13979
Size C	Front terminals for 4-pole 3SW68-4000 2000…3600 A thickness 15 mm - BR	W68C BRF41	13980
	Front terminals for 4-pole 3SW68-4000 4000 A thickness 20 mm - BR	W68C BRF42	13981
Size A	Spread terminals for 3-pole 3SW68-1600 200…1000 A thickness 8 mm - BR	W68A BRE31	13982
	Spread terminals for 3-pole 3SW68-1600 1250…1600 A thickness 15 mm - BR	W68A BRE32	13983
	Spread terminals for 4-pole 3SW68-1600 200…1000 A thickness 8 mm - BR	W68A BRE41	13984
	Spread terminals for 4-pole 3SW68-1600 1250…1600 A thickness 15 mm - BR	W68A BRE42	13985
Mechnical interlock			
Size A/B/C/D	Mechanical interlock cable type - LM	W68 LMC	13986
Size A/B/C/D	Mechanical interlock connecting rod type - LM	W68 LML	13987
Other accessories			
Size A/B/C/D	Crank for 3SW68 - CRK	W68 CRK	39736
Size A/B/C/D	Mechanical operation counter - MOC	MOC	39743

Selection and ordering data

Accessories for electronic trip unit

Size	Rated Voltage Un	Description	Type code	Order code
DC power supply – PSM				
Size A/B/C/D	DC 220 V	Power supply DC 220 V	W68 PSM220D	**13988**
	DC 110 V	Power supply DC 110 V	W68 PSM110D	**13989**
External current transformer for neutral conductor – CTN				
Size A		CTN for 3SW68-1600 200…1000 A	W68A CTN1	**13990**
		CTN for 3SW68-1600 1250…1600 A	W68A CTN2	**13991**
Size B		CTN for 3SW68-2500 630…1000 A	W68B CTN1	**13992**
		CTN for 3SW68-2500 1250…1600 A	W68B CTN2	**13993**
Size C		CTN for 3SW68-4000 2000…3600 A	W68C CTN1	**13994**
		CTN for 3SW68-4000 4000 A	W68C CTN2	**13995**
Size D		CTN for 3SW68-6300	W68D CTN	**13996**
External current transformer for earth-fault protection – CTE				
Size A		CTE for 3SW68-1600 200…1000 A	W68A CTE1	**13997**
		CTE for 3SW68-1600 1250…1600 A	W68A CTE2	**13998**
Size B		CTE for 3SW68-2500 630…1000 A	W68B CTE1	**13999**
		CTE for 3SW68-2500 1250…1600 A	W68B CTE2	**14000**
Size C		CTE for 3SW68-4000 2000…3600 A	W68C CTE1	**14001**
		CTE for 3SW68-4000 4000 A	W68C CTE2	**14002**
Size D		CTE for 3SW68-6300	W68D CTE	**14003**
External current transformer for differential protection – CTD				
Size A		CTD for 3SW68-1600 200…1000 A	W68A CTD1	**14004**
		CTD for 3SW68-1600 1250…1600 A	W68A CTD2	**14005**
Size B		CTD for 3SW68-2500 630…1000 A	W68B CTD1	**14006**
		CTD for 3SW68-2500 1250…1600 A	W68B CTD2	**14007**
Size C		CTD for 3SW68-4000 2000…3600 A	W68C CTD1	**14008**
		CTD for 3SW68-4000 4000 A	W68C CTD2	**14009**
Size D		CTD for 3SW68-6300	W68D CTD	**14010**

Overview

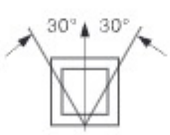
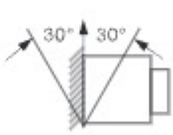


1	Body 1	5	Auxiliary contact	9	Drawer base	13	Shunt release
2	Body 2	6	Operating mechanism	10	Arcing chamber	14	Under-voltage release
3	Fixed plate	7	Electronic trip unit	11	Transformers		
4	Lock breaking device	8	Motorized operating mechanism	12	Closing electromagnet		

Applications and functions

- Incoming-feeder and outgoing-feeder function in distribution systems
- Switching and protecting large powers, motors, capacitors, generators, transformers, busbars and cables
- Overload protection
- Short-time delayed short-circuit protection
- Instantaneous short-circuit protection used in buildings, industries, energy and infrastructures

Technical specifications

Type		3SW8-2000	3SW8-3200		3SW8-6300	
Standard		IEC 60947-2	IEC 60947-2		IEC 60947-2	
Type of frame		A	B		C	
Rated frame current Inm	A	2000	3200		6300	
Number of poles	P	3, 4	3, 4 (not for 4000 A)		3, 4	
Rated current In	A	400, 630, 800, 1000 1250, 1600, 2000	2000, 2500, 2900, 3200	4000	4000	5000, 6300
Rated frequency	Hz	50/60	50/60		50/60	
Rated voltage, Ue	V	400, 690	400, 690		400, 690	
Rated insulating voltage Ui	V	1000	1000		1000	
Rated impulsed withstand voltage, Uimp	kV	12	12		12	
N-pole rated current		100% In	100% In		100% In	
Rated ultimate short-circuit breaking capacity, Icu						
(AC) 50-60 Hz 400V O-CO	kA	80	100		120	
(AC) 50-60 Hz 690V O-CO	kA	50	65		75	
Rated operating short-circuit breaking capacity, Ics						
(AC) 50-60 Hz 400V O-CO	kA	50	80		100	
(AC) 50-60 Hz 690V O-CO	kA	40	50		65	
Rated short-circuit making capacity (peak), Icm						
(AC) 50-60 Hz 400V	kA	176	220		264	
(AC) 50-60 Hz 690V	kA	105	143		165	
Rated short-time withstand current for 1s Icw						
(AC) 50-60 Hz 400V	kA/s	50	80		100	
(AC) 50-60 Hz 690V	kA/s	40	50		65	
Making time	ms	25-30	25-30		25-30	
Breaking time	ms	70	70		70	
Electrical life (times)						
in 400V	cycles	6000	3000		1000	
in 690V	cycles	3000	1500		800	
Mechanical life (times)						
without maintenance	cycles	15000	10000		4000	
with maintenance	cycles	30000	20000		8000	
Mounting position						
Type of installation		Fixed / Withdrawable	Fixed (not for 4000 A) / Withdrawable		Withdrawable	
Dismension (mm)		HxWxD	HxWxD	HxWxD	HxWxD	HxWxD
Fixed, 3P		402x362x322	402x422x322	-	-	-
Fixed, 4P		402x457x322	402x537x322	-	-	-
Drawer, 3P		433x375x420	433x435x420	433x550x420	-	450x930x492
Drawer, 4P		433x470x420	433x550x420	-	450x930x492	450x930x492
Type of electronic trip unit		Electronic type L, Standard type M, Communication type H				
Ambient temperature		-5 to +40°C , max. 95% humidity				
Storage temperature		-40 to +75°C				
Altitude (Max)		2000 m				

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Instruction of type code

W8 A F 3 L H 400

- 400: Rated current (A)
  - Frame A: 400, 630, 800, 1000, 1250, 1600, 2000
  - Frame B: 2000, 2500, 2900, 3200, 4000
  - Frame C: 4000, 5000, 6300
- H: Connection type
  - H: Horizontal terminal connection
  - V: Vertical terminal connection
- L: Model of electronic trip unit
  - L: L type
  - M: M type
  - H: H type
- 3: Poles: 3: 3P; 4: 4P
- F: Type of installation
  - F: Fix type
  - D: Withdrawable type
- A: Frame
  - A: 3SW8-2000
  - B: 3SW8-3200
  - C: 3SW8-6300
- W8: Series code



Product structure

3SW8 series ACB has fixed type and withdrawable type. Putting the fixed breaker into the drawer base becomes drawer type circuit breaker. The breaker consists of contact system, arc extinction system, operation mechanism, electronic trip unit, auxiliary switch, secondary circuit wiring terminal, under voltage release, shunt release, closing coil, etc.

Drawer type



1. Rocker hole
2. "Separation", "Test" and "Connection" three-position Indicator
3. Electronic trip unit
4. ON-OFF switch button
5. Switch off button
6. Trip indicator and reset button
7. "opening" lock mechanism
8. Secondary circuit terminals
9. Switch on button
10. Manual charging handle
11. Energy charging and discharging Indicator
12. Nameplate
13. Mask
14. Safety padlock mechanism on "Separation" indicator
15. Rocker operating hole

Note:
"Separation": indicates that main circuit and secondary circuit are both in isolation.
"Test": indicates that main circuit is in isolation and secondary circuit is in connection.
"Connection": indicates that main circuit and secondary circuit are both in connection.

Normal Operation and Installation Conditions

- Ambient temperature: -5°C ~ +40 °C, and the average temperature does not exceed +35 °C within 24 h.
- Altitude: Not higher than 2000 m. The capacity should be decreased if the altitude is above 2000 m.
- Humidity: When the ambient air temperature is +40 °C, the relative humidity of the air shall not be higher than 50%, a higher relative humidity is allowed at a lower temperature. For example, the relative humidity should be 90% when temperature is 20 °C. Special measures should be adopted for the condensation occasionally produced due to change of temperature.
- Pollution degree: 3.
- The circuit breaker can be used in electromagnetic environment A.
- Installing category: IV for main circuit; III for other auxiliary and control circuits.
- The vertical gradient: no more than 5°.
- Mounting Ambient: There must be no explosive medium, no gas which would corrode metal or any conducting dust which would destroy the insulation.
- The circuit breakers should be installed in the compartment of switchgear cabinet with doorframes fixed additionally. Protection grade is up to IP40.

Installation

- Check the following items before installation:
  - Check the label plate on the breaker panel to see if it fits the specifications of the ordered goods rated current;
  - Voltage and time delay of under voltage release;
  - Voltage of shunt release;
  - Voltage of closing coil;
  - Voltage of motorized operating mechanism.
- Before installation, operation, maintenance and inspection, you shall read this manual, and consult the manufacturer for questions if any.
- Preparations before installation:
  - Before the breaker is installed, check the insulation resistance of the breaker by using a 1000V megohmmeter according to regulations; when the surrounding media temperature is 25 °C ± 5 °C and the relative humidity is 5% ~ 70%, the insulation resistance shall not be less than 20 megohm.
  - The place with the insulation resistance to be tested includes: the place between various phases and between various phases and the frame when the breaker is closed; the place between in-and out-lines of various phases when the breaker is switched off.
- Installation of the fixed type breaker:
  - Place the breaker into the distribution cabinet, and fasten it by using 4 pieces of M6 (Inm=1600 A) or M10 (Inm=3200 A or above) bolts and washers; the breaker shall be installed stably with no d=additional mechanical stress to avoid damage of the breaker or bad contact of the main busbar and the secondary circuit. After the work is completed, mount the body into the draw-out socket.
- The specification of the wiring copper bars for the primary circuit of the breaker shall meet the copper bar specification used under the conditions of conventional heating in IEC 60947-2.
- The breaker shall be grounded substantially.

Power loss

Power loss is the total loss measured when the breaker is charged with the rated current

Breaker type	Rated current (A)	Withdrawable (w)	Fixed type (w)
3SW8-2000	630	24	15
	800	39	25
	1000	61	40
	1250	87	54
	1600	128	64
	2000	160	80
3SW8-3200	2000	150	80
	2500	180	100
	2900	230	120
	3200	250	130
3SW8-6300	4000	290	-
	5000	330	-
	6300	360	-

Note:
The data and parameters above result from tests and theoretical calculation, and can only be used as a general type selection guide.
They cannot replace industrial pratical experiences or proof tests.

1

Characteristics of intelligent controller

Function	Model	L	M	H
Basic protection	Overload protection	√	√	√
	Short circuit short delay protection	√	√	√
	Instantaneous short-circuit protection	√	√	√
	Ground fault protection or neutral pole protection G/N	√	√	√
Additional Function	MCR	○	○	○
	Thermal memory	√	√	√
	Contact loss indication	○	√	√
	Self-diagnosis	○	√	√
	Fault memory	√	√	√
	Test	√	√	√
	Operation times	○	√	√
Parameterization and display	Fault trip display	√	√	√
	Load monitor display	○	√	√
	Current display	√	√	√
	Time display	–	√	√
Measurement	Current measurement	–	√	√
	Voltage measurement	–	○	○
	Frequency measurement	–	○	○
	Power measurement	–	○	○
	Power factor measurement	–	○	○
	Phase sequence detection	–	○	○
	Voltage unbalance measurement	–	○	○
	Electric power measurement	–	○	○
	Harmonic measurement	–	○	○
	Overvoltage protection	–	○	○
	Undervoltage protection	–	○	○
	Voltage unbalance protection	–	○	○
	Over frequency protection	–	○	○
	Under-frequency protection	–	○	○
	Phase sequence protection	–	○	○
	Reverse power protection	–	○	○
Communication	Communication Interface	–	–	○
	Achieve communication through the Modbus	–	–	○
	Achieve communication through the Profibus-DP	–	–	○
	Achieve communication through the Device Net	–	–	○

Note: √ standard – unavailable ○ selectable

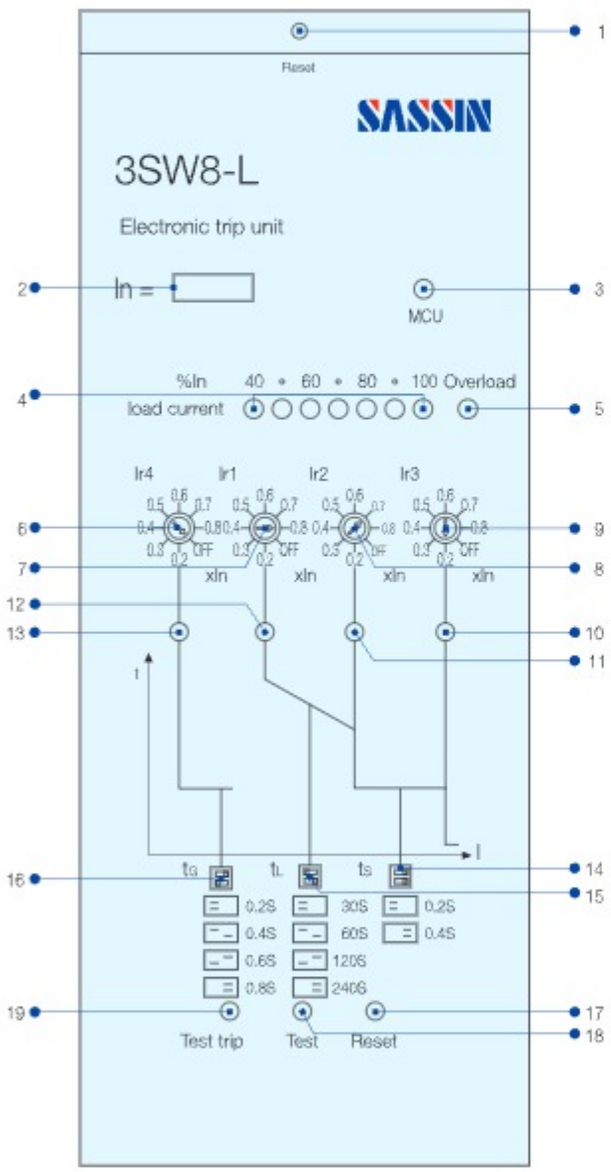
Types of electronic trip unit

There are three types available:

- L type-Basic type (histogram display current, dial for adjustment)
- M type-Standard type (figures display current, button for adjustment)
- H type-Communication type (figures display current, button for adjustment and for communication)

L type - panel structure instruction

L-type electronic trip unit adopts code switch and pull switch, simple and easy to handle.



1. Reset button
2. Rated current label
3. Operation indicator
4. 40% ~ 100% Ir1 current light beam indicator
5. Overload indicator
6. Code switch for ground fault protection
7. Code switch for long time delayed overload protection
8. Code switch for short time delayed overload protection
9. Code switch for instantaneous short-circuit protection
10. Fault indicator for instantaneous short-circuit protection
11. Fault indicator short time delayed short circuit protection
12. Fault indicator for long time delayed overload protection
13. Fault Indicator for ground protection
14. Pull switch for short time delayed short-circuit protection
15. Pull switch for long time delayed overload protection
16. Pull switch for time setting of ground protection
17. Reset key
18. Test trip button
19. Fault-checking button

Note:
(1) "OFF" function is available for every protection function, user can chose different protection functions as per actual requirements.
(2) MCU light: blink in normal operation, constantly light in self-diagnostic fault.
(3) 40% to 100% light: show the percentage of maximum phase current to Ir1, the grade is 10%.
(4) Overload light: when the current reaches 1.15 IR the overload light lighting; when IR = OFF, current reaches 1.15 IR the overload light lighting.
(5) Fault reason indicator: check the reason for malfunction. When fault tripping occurs, the light indicator relevant fault reason, press the reset button to exit; if the power supply lost, press the check button to display the last fault trip reason when the power is on again.
(6) Test trip button: check the status of release and circuit breakers.

Types of electronic trip unit (Power distribution protection)

M type-panel structure instruction

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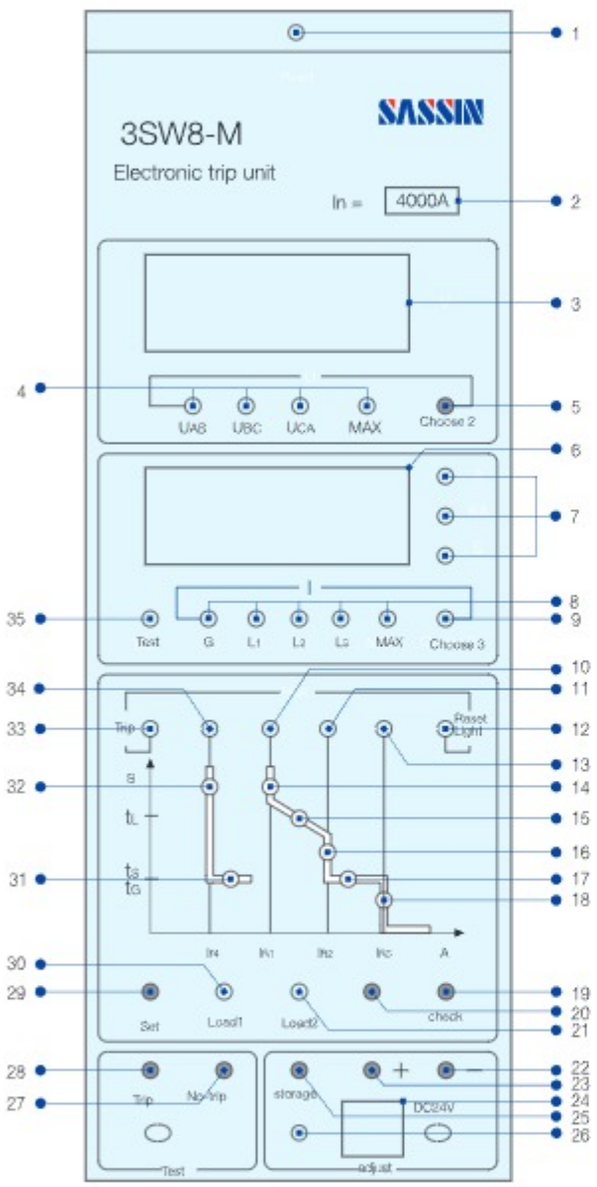
M-type electronic trip unit, adopt button setting, digit and lights display modes, featured in a large range of protection parameters which can be reorganize according to different application requirement, suitable for most industrial applications.



1. Reset button
2. Rated current label
3. Voltage display
4. Three-phase line voltage and maximum voltage indicator
5. Voltage- checking button
6. Three-phase current display
7. Current and time indicator
8. Four-phase, ground and the maximum phase current indicator
9. Current checking button
10. Long time delayed overload fault indicator
11. Short time delayed short circuit fault indicator
12. Light clear reset button
13. Instantaneous short-circuit fault indicator
14. Current setting for long time delayed overload protection and alarm indicator
15. Time setting indicator of long time delayed overload protection
16. Current setting for short time delayed short circuit protection and alarm indicator
17. Time setting indicator for short time delayed short circuit protection
18. Instantaneous short circuit current protection settings and alarm indicator
19. Fault checking button
20. Spare key
21. Load monitoring 1, current setting and alarm indicator
22. Decrease button
23. Increase button
24. Power supply socket
25. Save button
26. Extra Indicator
27. Non trip test button
28. Trip test button
29. Parameter setting button
30. Load monitoring 2, current setting and alarm indicator
31. Time setting indicator for ground protection
32. Ground protection current setting and alarm indicator
33. Fault trip indicator
34. Fault indicator for ground protection
35. Test status lights

Note:

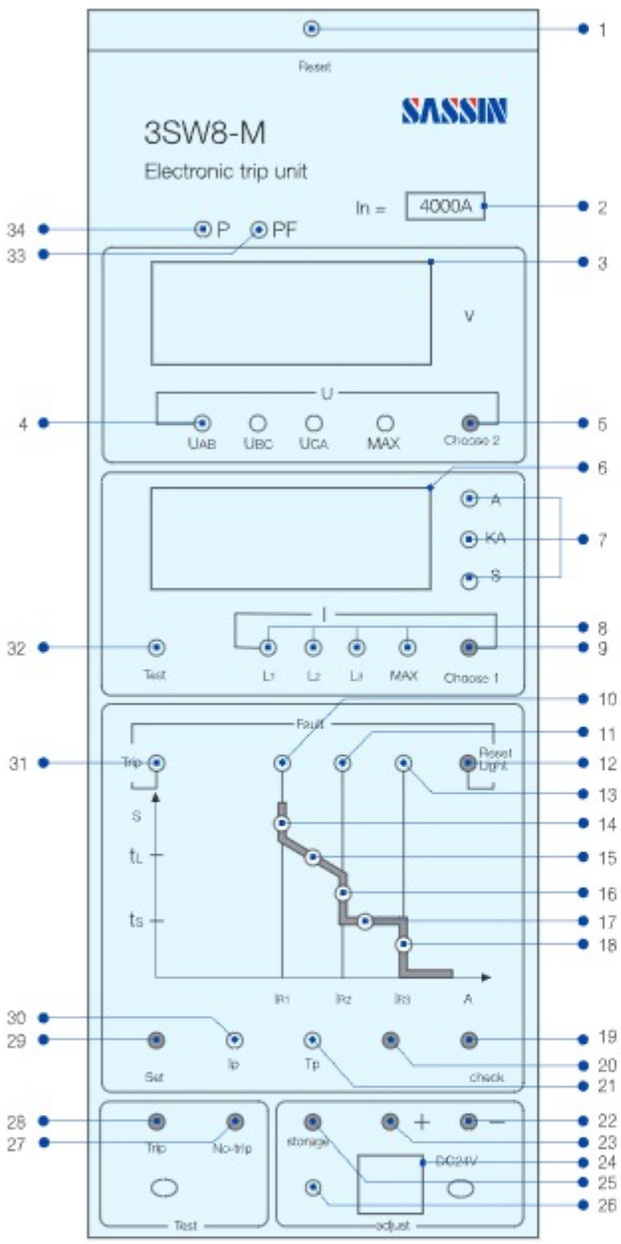
(1) Fault current signal appears when the M type controller in the process of parameter setting, testing, fault checking, all the functional setting will be automatically turn off and enter the fault handling;

(2) Cross-setting of protection parameters is forbidden and make sure Ir1 < Ir2 < Ir3

(3) "Voltage display" is an optional function, users should specify when place the order.

Types of electronic trip unit (motor protection)

M-type panel structure instruction



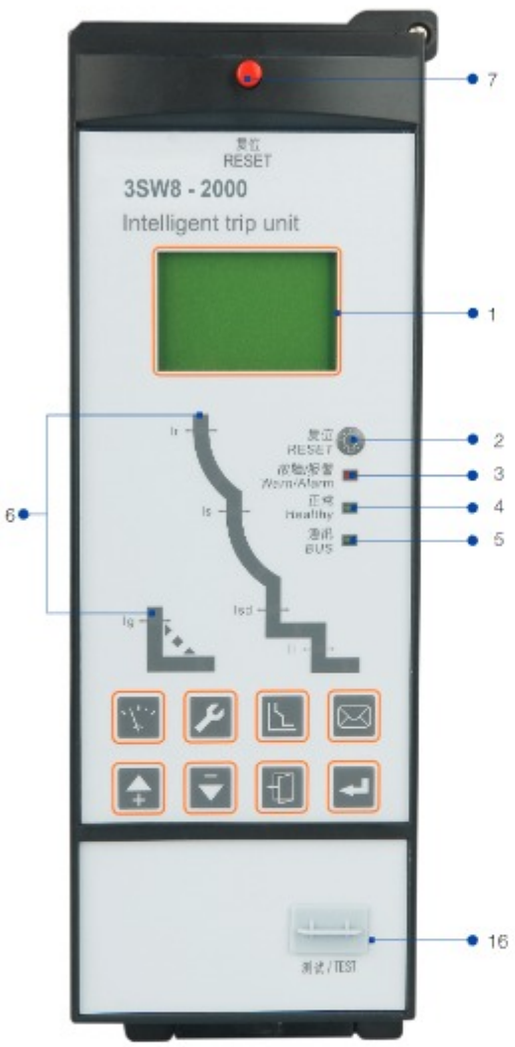
1. Reset button
2. Rated current label
3. Voltage display
4. Three-phase line voltage and maximum voltage indicator
5. Voltage- checking button
6. Three-phase current display
7. Current and time indicator
8. Four-phase, ground and the maximum phase current indicator
9. Current- checking button
10. Long time delayed overload fault indicator
11. Short time delayed short circuit fault indicator
12. Light clear reset button
13 .Instantaneous short-circuit fault indicator
14. Current setting for long time delayed overload protection and alarm indicator
15. Long time delayed overload protection time setting indicator
16. Current settings for short time delayed short circuit protection and alarm indicator
17. Short time delayed short circuit protection time setting indicator
18. Instantaneous short circuit current protection settings and alarm indicator
19. Fault checking button
20. Spare key
21. Pre-alarm overload time setting indicator
22. Decrease button
23. Increase button
24. Power supply socket
25. Save button
26. Extra Indicator
27. Non trip test button
28. Trip test button
29. Parameter setting button
30. Pre-alarm overload current setting and alarm indicator
31. Fault trip indicator
32. Test status light
33. Power factor measurement indicator
34. Active power measurement indicator

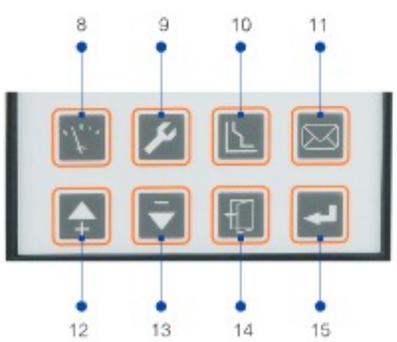
Note:
(1) No ground fault protection for motor protection type.
(2) "Voltage display" is an optional function, users should specify when place the order.

Types of electronic trip unit

H-type controller panel structure instruction

1





- Instruction
  1. LCD display
  2. Fault and alarm reset button
  3. "Fault and alarm" LED LED indicator will not lighten when normal operation; LED flash quickly when maintenance; LED turns red when alarm.
  4. LED blinking green color on normal working condition
  5. Communication indicator
     Communication status as follows:
     Light goes out when no communication, keeps lighting when in communication.
     Light goes out when no communication, keeps flashing when in communication.
     Flashing when no communication, keeps lighting when in communication.
  6. Curve LED
     The red LED hide inside curve. The corresponding LED flashes to indicate the type of fault when fault trip occurs.
     LED constantly lighten to indicate the current set projects when protection of parameter settings.
  7. Reset button:
     Reset button pops up when tripping or test tripping. The circuit-breaker can't switch on if the button hasn't pressed down; press down the button and the fault indications will recovery.

- Keyboard
  8. Measurement function key 1, can be switched to the default theme menu. (Measurement function key is the "left" key in the password input interface).
  9. Setting function key 2: can be switched to the parameter setting menu. (Setting function key is the "right" key in the password input screen).
  10. Protection function key 3: switch to the parameter setting protection menu.
  11. Information function 4: switch to history record and menu maintenance.
  12. Up-move up or change the parameters.
  13. Down-move down or change the parameter.
  14. Exit-exit and enter the previous menu or cancel the current selected parameters.
  15. Choice-enter into the next menu or select the parameters and save the amendment.
  16. Test port
      There is a 16-pin test plug at the bottom of the front panel, a portable power pack or detection unit can be inserted.

Protection characteristic of electronic trip unit type M and H

Overload thermal tripping L		NO/OFF selectable						
Setting current value adjustment range Ir1		(0.4–1.0) In stepless adjustment						
Inverse time characteristic		1.05 Ir1	2 h no action					
Set by the user		1.30 Ir1	≤ 2 h action					
1.5 Ir tL (s)		1.50 Ir1	15	30	60	120	240	480
± 10% accuracy		2.00 Ir1	8.4	16.9	33.8	67.5	135	270
		6.00 Ir1	0.94	1.88	3.75	7.50	15.0	30.0
		7.20 Ir1	0.65	1.30	2.60	5.20	10.0	21.0
Thermal memory (min)		≤ 30 + Off						
Short-circuit short delay (s)		NO/OFF Selectable						
Setting current value adjustment range Ir 2 ± 10% accuracy		(1.0 ~ 15) Ir1 stepless adjustment						
Setting delay time ts (s)		I > 8 Ir1	0.1	0.2	0.3	0.4		
± 15% accuracy		Time to return	0.06	0.14	0.23	0.35		
		I ≤ 8 Ir1	With inverse time characteristic					
Thermal memory(min)		≤ 15						
Instantaneous short-circuit (I)		NO/OFF Selectable						
Short-circuit current value adjustment range Ir 3 ±15 % accuracy		(1.0-20) In						
Ground fault		NO/OFF Selectable						
Setting current value adjustment range Ir4 ± 10 % accuracy		(0.2 ~ 1.0) Ir stepless adjustment						
Ground fault delay time tG (s)	s		0.1	0.2	0.3	0.4		
Time to return	ms		60	160	225	340		
Maximum breaking time	ms		140	240	345	460		
Load monitoring								
Two load limit	A	Ic1 = In x ...	0.2–1 (≤ 2% differential, min 160 A)					
		tr1 =	0.5 t1, when 1.5 Ic1, T = 1.5 Ir1 x tr $1/I^2$					
	A	Ic2 =In x ...	0.2~1 (≤ 2% differential, min 160 A)					
One load limit and one reclose	A	tr2 =	0.25 t1, when 1.5 Ic1, T = 1.5 Ir1 xtr1/I^2					
		Ic1 = In x ...	0.2–1 (≤ 2% differential, min 160 A)					
		tr1 =	0.25 t1, when 1.5 Ic1, T = 1.5 Ir1 xtr1/I^2					
	A	Ic2 = In x ...	0.2~1 (≤ 2% differential, min 160 A)					
		tr2 =	Fixed 60 s					
Accuracy		± 10%						
Thermal memory (30 min. clear power)		Standard+off						
Fault trip								
Fault trip indication		Machinery	Mechanical reset button (red)					
		Electrical installations	Remote indication contact					
Overcurrent fault alarm		Fault trip display	Flash after fault trip					
Fault type display		Fault trip display	Long-time delayed overload protection, short-time delayed short-circuit protection,					
			Instantaneous short-circuit protection, Earth fault protection					
Time display of fault current		Digital display, LCD display	Current and action time of overload, short-circuit, earth fault etc.					
Display of main contacts losses		Digital display, LCD display	Display the equivalent value					
Test		Trip button	Test the current-time characteristic of electronic trip unit and mechanical execution					
		Non trip button	of circuit-breaker					
			Test the current-time characteristic of electronic trip unit					

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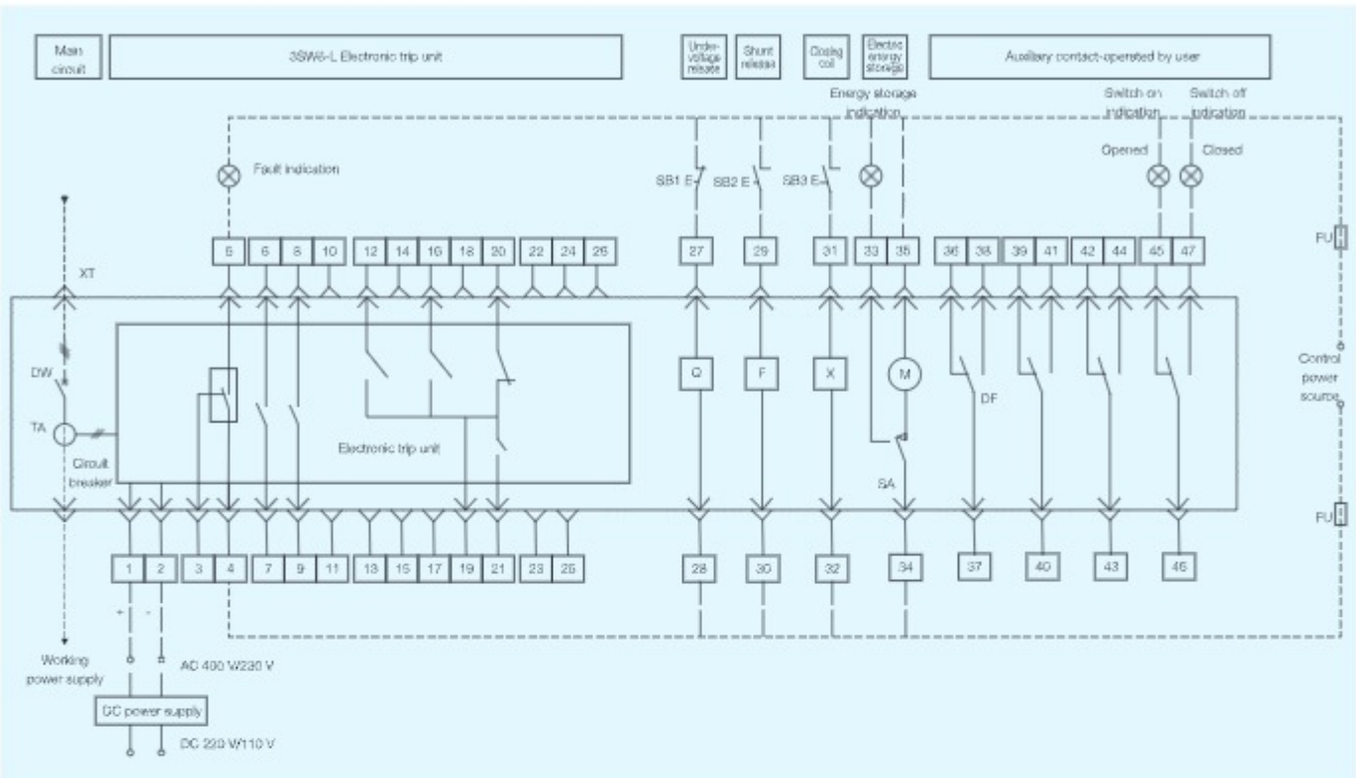
Secondary circuit wiring diagram

- Secondary circuit wiring equipped with L type electronic trip unit



Note:

1) If the control voltage of F, X, M are different, they should connect different power sources .
2) Terminal 35# can connect the power source directly (automatic pre-energy storage), after series connecting with normally open button, it can connect the power source (manual pre-storage).
3) The #6 - #7 are normally closed terminal if user requires.
4) Additional accessories should be provided by user.

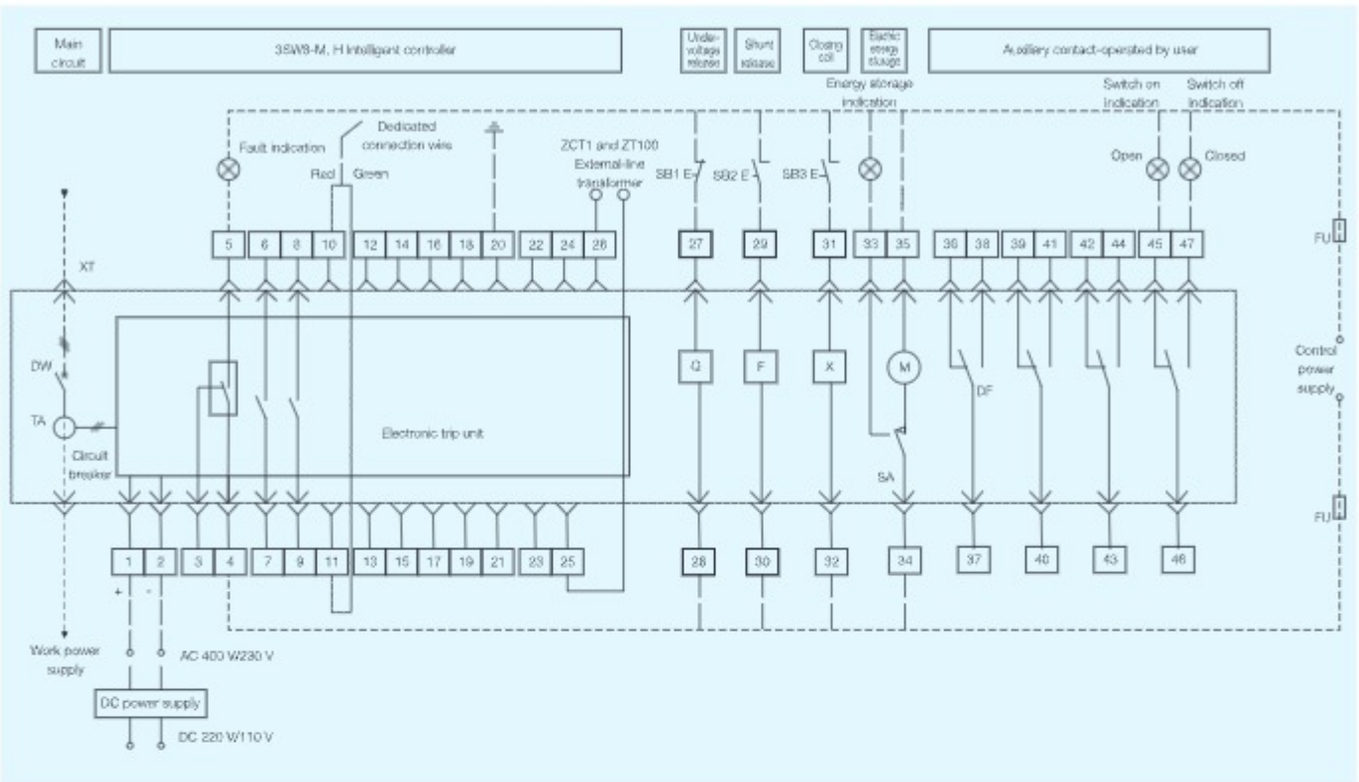
Abbreviation	Meaning	Abbreviation	Meaning
SB1	Under-voltage button (provided by user)	DF	Auxiliary contact
SB2	Shunt button (provided by user)	F	Shunt release
SB3	Switching on button	SA	Motor micro operation switch
X	Closing electromagnet	Q	Under-voltage release or under voltage time delay release
M	Motorized operating mechanism	⊗	Signal light (provided by user)
XT	Terminal		

Pin function

1#, 2#: Auxiliary power source input terminal 1# is "+" if it is direct current
3#, 4#, 5#: Fault trip contact output (#4 is common terminal), contact capacity: AC 250 V/16 A
6#, 7# & 8#, 9#: Two groups breaker status auxiliary contacts, contact capacity: AC 250 V/16 A
12#, 19#: DO signal alarm output, function: normally open, overload pre-alarm, contact capacity AC 250 V/5 A
16#, 19#: DO signal alarm output, function: normally open, ground trip or alarm, contact capacity AC 250 V/5 A
20#, 19#: DO signal alarm output, function: normally open, self-diagnosis alarm, contact capacity AC 250 V/5 A
21#, 19#: DO signal alarm output, function: normally open, OCR fault trip, contact capacity AC 250 V/5 A
25#, 26#: External current transformer input terminal (only 3P+N is available)

Secondary circuit wiring diagram

- Secondary circuit wiring equipped with M, electronic trip unit



Note:

1) If the control voltage of F, X, M are different, they should connect different power source
2) Terminal 35# can connect the power source directly (automatic pre-energy storage), After series connecting with normally open button, it can connect the power source (manual pre-storage)
3) The #6 - #7 are normally closed terminal if the client requires
4) Additional accessory should be self-provided by user

Abbreviation	Meaning	Abbreviation	Meaning
SB1	Under-voltage button (self-provided by user)	DF	Auxiliary contact
SB2	Shunt button (self-provided by user)	F	Shunt release
SB3	Switching on button	SA	Motor micro operation switch
X	Closing electromagnet	Q	Under-voltage release or under-voltage time delay release
M	Motorized operating mechanism	⊗	Signal light (User prepares)
XT	Terminal		

Pin function

1#, 2#: Auxiliary power source input terminal 1# is "+" if it is direct current. Because the controller has several optional types of power source, please note the input power source is same with the working power source of the controller; otherwise the controller will be broken.
3#, 4#, 5#: Fault trip contact output (#4 is common terminal), contact capacity: AC 250 V/16 A
6#, 7# & 8#, 9#: Two groups of breaker status auxiliary contacts, contact capacity: AC 250 V/16 A
10#, 11#: Communication interface output, the three Communication protocol outputs are the same. 10#, 11# are empty if there is no communication (communication output).
12#,19#: (DO: DC 11 V 0.5 A, AC 250 V, 5 A,DI: DC 110 V ~ 13 V or AC110 V ~ AC 250 V)
When the signal unit type is S1: (4DO mode)
12#, 13#: Programmable output contact 1 (DO1)
14#, 15#: Programmable output contact 2 (DO2)
16#, 17#: Programmable output contact 3 (DO3)
18#, 19#: Programmable output contact 4 (DO4)
When the signal unit type is S2: (3DO+1DI mode)
12#, 13#: Programmable output contact 1 (DO1)
14#, 15#: Programmable output contact 2 (DO2)
16#, 17#: Programmable Discrete Output (DO3)
18#, 19#: Programmable Discrete Output (DI1)
When the signal unit type is S3: (2DO+2DI mode)
12#, 13#: Programmable output contact 1 (DO1)
14#, 15#: Programmable output contact 2 (DO2)
16#, 17#: Programmable Discrete Output 2 (DI3)
18#, 19#: Programmable Discrete Output 1 (DI1)
20# is the earth protection line of the controller
21#-24# pins are voltage signal input terminal, connecting with the input side of the power by correct order. The pin is empty if there is no added function
25#, 26# pins are used for input of external transformer
The pin is connected with the output terminal of external transformer ZT100 if the earth protection way is current returned type (T)
The pin is connected with the output terminal of external ZCT rectangle transformer if the ground mode is current leakage type.
The pin is connected with external added N phase transformer is when the ground protection mode is 3P+N value difference type.

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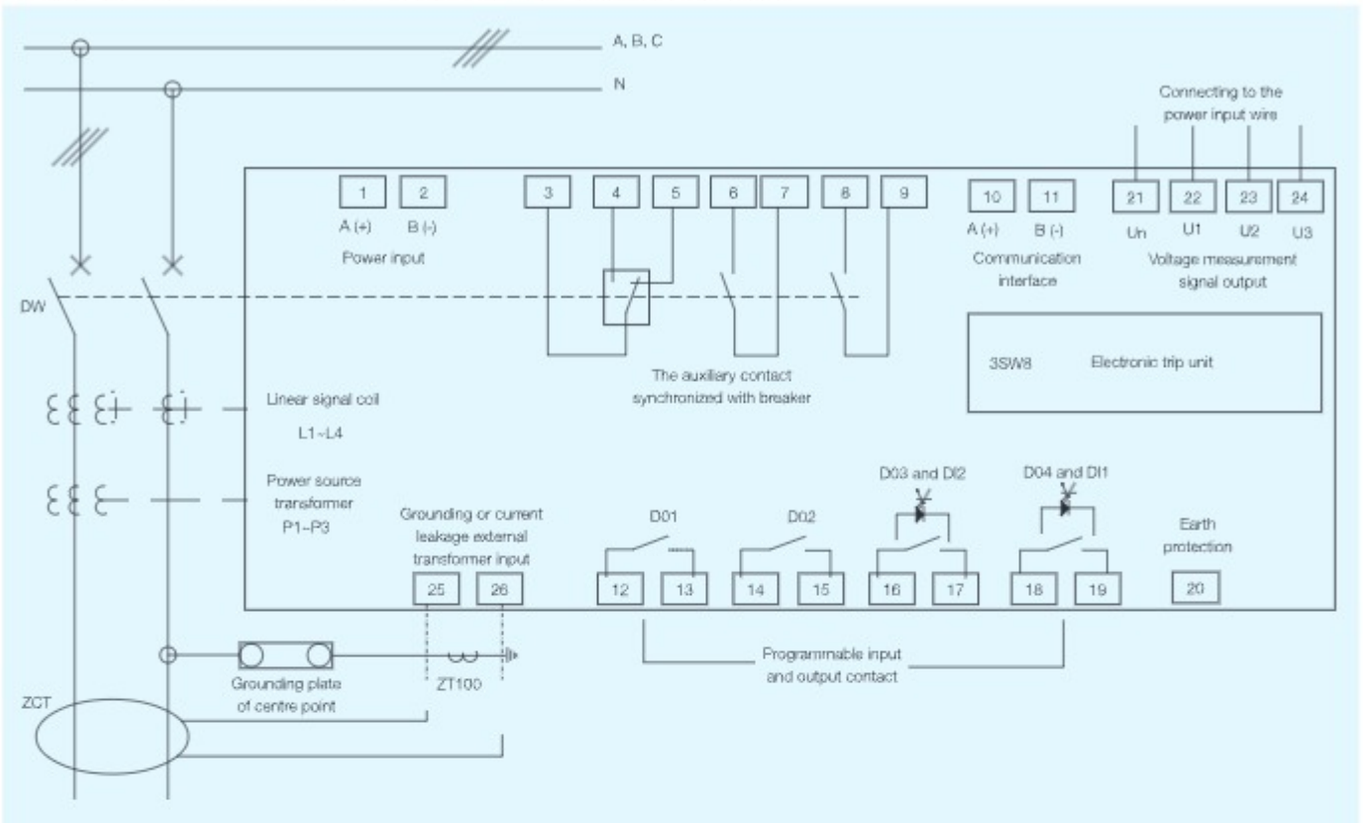
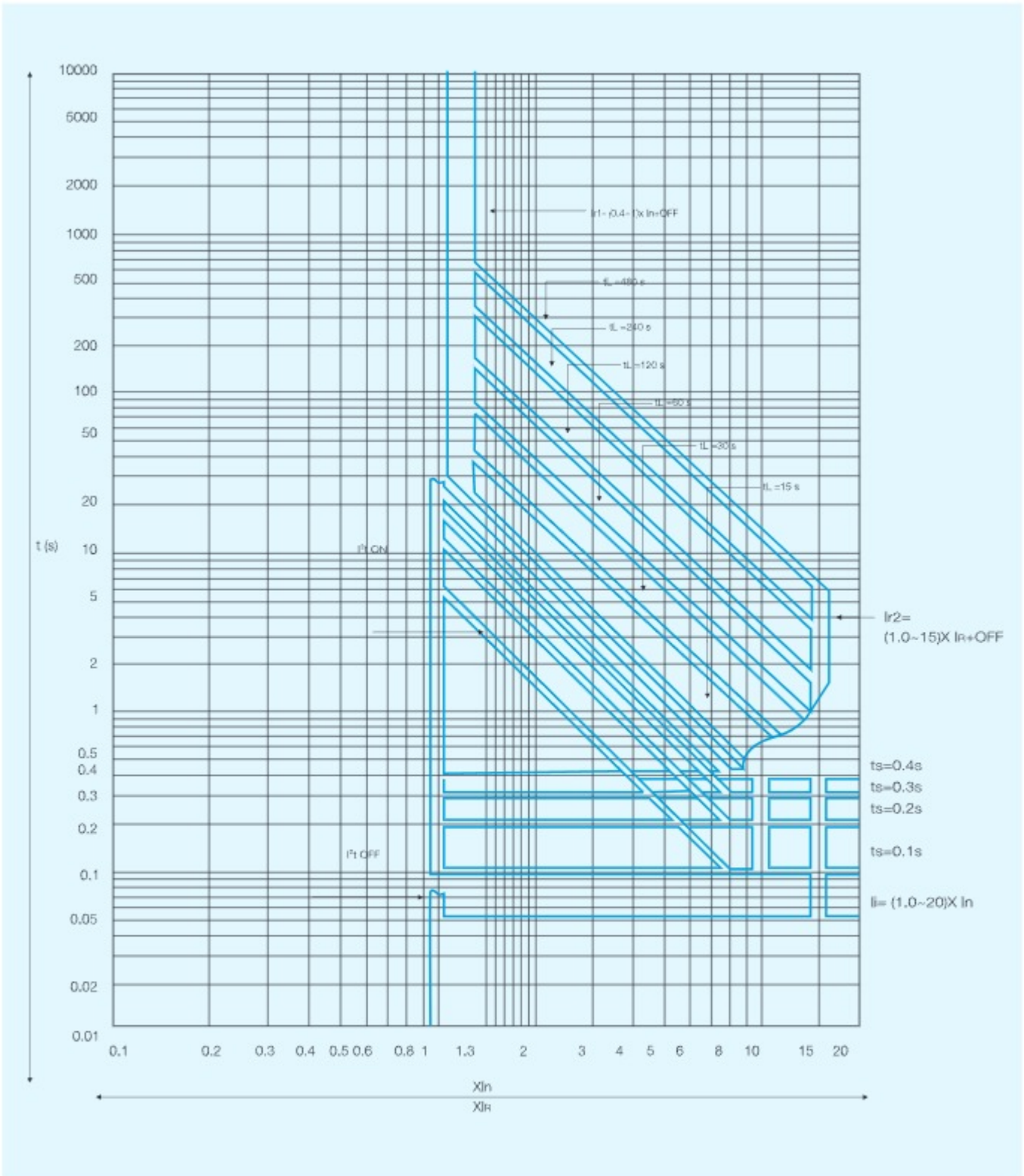
Secondary circuit wiring diagram

- Wiring diagram for circuit breaker equipped with type M/H electronic trip unit



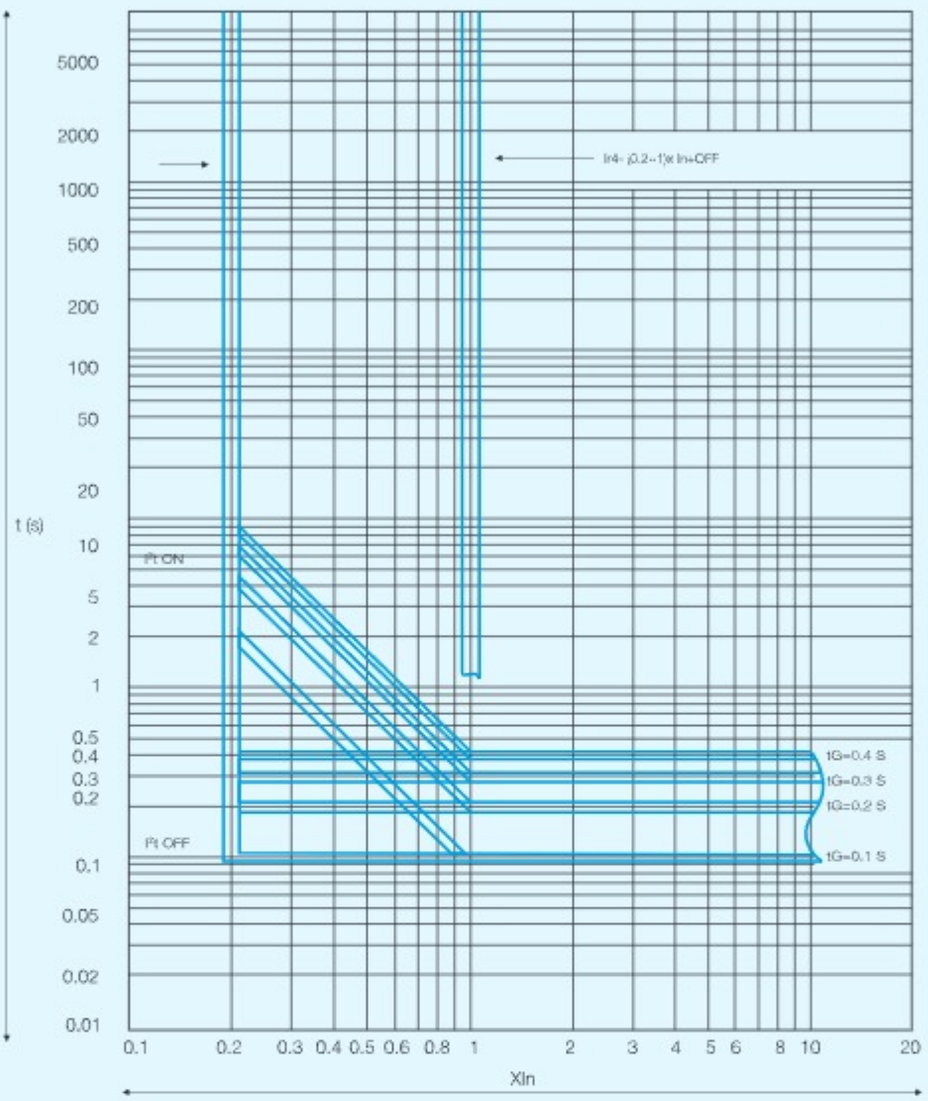
Characteristic curves for overload protection



In Rated current
Ir1 Current setting of long-time delayed overload protection
Ir2 Current setting of short-time delayed short-circuit protection
Ii Current setting of instantaneous short-circuit protection

tL Time setting of long-time delayed overload protection
ts Time setting of short-time delayed short-circuit protection
I2t ON Inverse time characteristic
I2t OFF Definite time characteristic

Characteristic curves for overload protection



Ir4 Current setting of earth fault protection

tG Time setting of earth fault protection

Selection and ordering data

Frame A	Number of poles	Rated current In (A)	Fixed type Type code	Fixed type Order code	Withdrawable type Type code	Withdrawable type Order code
3SW8-2000	**L type electronic trip unit**					
	Horizontal terminal connection					
	3P	400	W8F 3LH400	**27997**	W8D 3LH400	**27977**
		630	W8F 3LH630	**32508**	W8D 3LH630	**27981**
		800	W8F 3LH800	**32510**	W8D 3LH800	**27985**
		1000	W8F 3LH1000	**32512**	W8D 3LH1000	**27987**
		1250	W8F 3LH1250	**32516**	W8D 3LH1250	**27989**
		1600	W8F 3LH1600	**32426**	W8D 3LH1600	**27991**
		2000	W8F 3LH2000	**32428**	W8D 3LH2000	**27993**
	4P	400	W8F 4LH400	**32444**	W8D 4LH400	**32430**
		630	W8F 4LH630	**32446**	W8D 4LH630	**32432**
		800	W8F 4LH800	**32448**	W8D 4LH800	**32434**
		1000	W8F 4LH1000	**32450**	W8D 4LH1000	**32436**
		1250	W8F 4LH1250	**32452**	W8D 4LH1250	**32438**
		1600	W8F 4LH1600	**32454**	W8D 4LH1600	**32440**
		2000	W8F 4LH2000	**32456**	W8D 4LH2000	**32442**
	Vertical terminal connection					
	3P	400	W8F 3LV400	**27998**	W8D 3LV400	**27978**
		630	W8F 3LV630	**32509**	W8D 3LV630	**27982**
		800	W8F 3LV800	**32511**	W8D 3LV800	**27986**
		1000	W8F 3LV1000	**32513**	W8D 3LV1000	**27988**
		1250	W8F 3LV1250	**32517**	W8D 3LV1250	**27990**
		1600	W8F 3LV1600	**32427**	W8D 3LV1600	**27992**
		2000	W8F 3LV2000	**32429**	W8D 3LV2000	**27994**
	4P	400	W8F 4LV400	**32445**	W8D 4LV400	**32431**
		630	W8F 4LV630	**32447**	W8D 4LV630	**32433**
		800	W8F 4LV800	**32449**	W8D 4LV800	**32435**
		1000	W8F 4LV1000	**32451**	W8D 4LV1000	**32437**
		1250	W8F 4LV1250	**32453**	W8D 4LV1250	**32439**
		1600	W8F 4LV1600	**32455**	W8D 4LV1600	**32441**
		2000	W8F 4LV2000	**32457**	W8D 4LV2000	**32443**
	M type electronic trip unit					
	Horizontal terminal connection					
	3P	400	W8F 3MH400	**27815**	W8D 3MH400	**27801**
		630	W8F 3MH630	**27817**	W8D 3MH630	**27803**
		800	W8F 3MH800	**27819**	W8D 3MH800	**27805**
		1000	W8F 3MH1000	**27821**	W8D 3MH1000	**27807**
		1250	W8F 3MH1250	**27823**	W8D 3MH1250	**27809**
		1600	W8F 3MH1600	**27825**	W8D 3MH1600	**27811**
		2000	W8F 3MH2000	**27827**	W8D 3MH2000	**27813**
	4P	400	W8F 4MH400	**27843**	W8D 4MH400	**27829**
		630	W8F 4MH630	**27845**	W8D 4MH630	**27831**
		800	W8F 4MH800	**27847**	W8D 4MH800	**27833**
		1000	W8F 4MH1000	**27849**	W8D 4MH1000	**27835**
		1250	W8F 4MH1250	**27851**	W8D 4MH1250	**27837**
		1600	W8F 4MH1600	**27853**	W8D 4MH1600	**27839**
		2000	W8F 4MH2000	**27855**	W8D 4MH2000	**27841**



Note:
(1) The standard accessories include:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact
- Separators

1

Selection and ordering data

Frame A	Number of poles	Rated current In (A)	Fixed type		Withdrawable type	
			Type code	Order code	Type code	Order code
3SW8-2000	M type electronic trip unit					
	Vertical terminal connection					
	3P	400	W8F 3MV400	**27816**	W8D 3MV400	**27802**
		630	W8F 3MV630	**27818**	W8D 3MV630	**27804**
		800	W8F 3MV800	**27820**	W8D 3MV800	**27806**
		1000	W8F 3MV1000	**27822**	W8D 3MV1000	**27808**
		1250	W8F 3MV1250	**27824**	W8D 3MV1250	**27810**
		1600	W8F 3MV1600	**27826**	W8D 3MV1600	**27812**
		2000	W8F 3MV2000	**27828**	W8D 3MV2000	**27814**
	4P	400	W8F 4MV400	**27844**	W8D 4MV400	**27830**
		630	W8F 4MV630	**27846**	W8D 4MV630	**27832**
		800	W8F 4MV800	**27848**	W8D 4MV800	**27834**
		1000	W8F 4MV1000	**27850**	W8D 4MV1000	**27836**
		1250	W8F 4MV1250	**27852**	W8D 4MV1250	**27838**
		1600	W8F 4MV1600	**27854**	W8D 4MV1600	**27840**
		2000	W8F 4MV2000	**27856**	W8D 4MV2000	**27842**
	H type electronic trip unit					
	Horizontal terminal connection					
	3P	400	W8F 3HH400	**27871**	W8D 3HH400	**27857**
		630	W8F 3HH630	**27873**	W8D 3HH630	**27859**
		800	W8F 3HH800	**27875**	W8D 3HH800	**27861**
		1000	W8F 3HH1000	**27877**	W8D 3HH1000	**27863**
		1250	W8F 3HH1250	**27879**	W8D 3HH1250	**27865**
		1600	W8F 3HH1600	**27881**	W8D 3HH1600	**27867**
		2000	W8F 3HH2000	**27883**	W8D 3HH2000	**27869**
	4P	400	W8F 4HH400	**27899**	W8D 4HH400	**27885**
		630	W8F 4HH630	**27901**	W8D 4HH630	**27887**
		800	W8F 4HH800	**27903**	W8D 4HH800	**27889**
		1000	W8F 4HH1000	**27905**	W8D 4HH1000	**27891**
		1250	W8F 4HH1250	**27907**	W8D 4HH1250	**27893**
		1600	W8F 4HH1600	**27909**	W8D 4HH1600	**27895**
		2000	W8F 4HH2000	**27911**	W8D 4HH2000	**27897**
	Vertical terminal connection					
	3P	400	W8F 3HV400	**27872**	W8D 3HV400	**27858**
		630	W8F 3HV630	**27874**	W8D 3HV630	**27860**
		800	W8F 3HV800	**27876**	W8D 3HV800	**27862**
		1000	W8F 3HV1000	**27878**	W8D 3HV1000	**27864**
		1250	W8F 3HV1250	**27880**	W8D 3HV1250	**27866**
		1600	W8F 3HV1600	**27882**	W8D 3HV1600	**27868**
		2000	W8F 3HV2000	**27884**	W8D 3HV2000	**27870**
	4P	400	W8F 4HV400	**27900**	W8D 4HV400	**27886**
		630	W8F 4HV630	**27902**	W8D 4HV630	**27888**
		800	W8F 4HV800	**27904**	W8D 4HV800	**27890**
		1000	W8F 4HV1000	**27906**	W8D 4HV1000	**27892**
		1250	W8F 4HV1250	**27908**	W8D 4HV1250	**27894**
		1600	W8F 4HV1600	**27910**	W8D 4HV1600	**27896**
		2000	W8F 4HV2000	**27912**	W8D 4HV2000	**27898**

Note:
(1) The standard accessories include:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact
- Separators

Selection and ordering data

Frame B	Number of poles	Rated current In (A)	Fixed type Type code	Fixed type Order code	Withdrawable type Type code	Withdrawable type Order code
3SW8-3200	L type electronic trip unit					
	Horizontal terminal connection					
	3P	2000	W8BF 3LH2000	**32466**	W8BD 3LH2000	**32458**
		2500	W8BF 3LH2500	**32468**	W8BD 3LH2500	**32460**
		2900	W8BF 3LH2900	**32470**	W8BD 3LH2900	**32462**
		3200	W8BF 3LH3200	**32472**	W8BD 3LH3200	**32464**
	4P	2000	W8BF 4LH2000	**32482**	W8BD 4LH2000	**32474**
		2500	W8BF 4LH2500	**32484**	W8BD 4LH2500	**32476**
		2900	W8BF 4LH2900	**32486**	W8BD 4LH2900	**32478**
		3200	W8BF 4LH3200	**32488**	W8BD 4LH3200	**32480**
	Vertical terminal connection					
	3P	2000	W8BF 3LV2000	**32467**	W8BD 3LV2000	**32459**
		2500	W8BF 3LV2500	**32469**	W8BD 3LV2500	**32461**
		2900	W8BF 3LV2900	**32471**	W8BD 3LV2900	**32463**
		3200	W8BF 3LV3200	**32473**	W8BD 3LV3200	**32465**
	4P	2000	W8BF 4LV2000	**32483**	W8BD 4LV2000	**32475**
		2500	W8BF 4LV2500	**32485**	W8BD 4LV2500	**32477**
		2900	W8BF 4LV2900	**32487**	W8BD 4LV2900	**32479**
		3200	W8BF 4LV3200	**32489**	W8BD 4LV3200	**32481**
	M type electronic trip unit					
	Horizontal terminal connection					
	3P	2000	W8BF 3MH2000	**27921**	W8BD 3MH2000	**27913**
		2500	W8BF 3MH2500	**27923**	W8BD 3MH2500	**27915**
		2900	W8BF 3MH2900	**27925**	W8BD 3MH2900	**27917**
		3200	W8BF 3MH3200	**27927**	W8BD 3MH3200	**27919**
	4P	2000	W8BF 4MH2000	**27937**	W8BD 4MH2000	**27929**
		2500	W8BF 4MH2500	**27939**	W8BD 4MH2500	**27931**
		2900	W8BF 4MH2900	**27941**	W8BD 4MH2900	**27933**
		3200	W8BF 4MH3200	**27943**	W8BD 4MH3200	**27935**
	Vertical terminal connection					
	3P	2000	W8BF 3MV2000	**27922**	W8BD 3MV2000	**27914**
		2500	W8BF 3MV2500	**27924**	W8BD 3MV2500	**27916**
		2900	W8BF 3MV2900	**27926**	W8BD 3MV2900	**27918**
		3200	W8BF 3MV3200	**27928**	W8BD 3MV3200	**27980**
	4P	2000	W8BF 4MV2000	**27938**	W8BD 4MV2000	**27930**
		2500	W8BF 4MV2500	**27940**	W8BD 4MV2500	**27932**
		2900	W8BF 4MV2900	**27942**	W8BD 4MV2900	**27934**
		3200	W8BF 4MV3200	**27944**	W8BD 4MV3200	**27936**
	H type electronic trip unit					
	Horizontal terminal connection					
	3P	2000	W8BF 3HH2000	**27953**	W8BD 3HH2000	**27945**
		2500	W8BF 3HH2500	**27955**	W8BD 3HH2500	**27947**
		2900	W8BF 3HH2900	**27957**	W8BD 3HH2900	**27949**
		3200	W8BF 3HH3200	**27959**	W8BD 3HH3200	**27951**
	4P	2000	W8BF 4HH2000	**27969**	W8BD 4HH2000	**27961**
		2500	W8BF 4HH2500	**27971**	W8BD 4HH2500	**27963**
		2900	W8BF 4HH2900	**27973**	W8BD 4HH2900	**27965**
		3200	W8BF 4HH3200	**27975**	W8BD 4HH3200	**27967**
	Vertical terminal connection					
	3P	2000	W8BF 3HV2000	**27954**	W8BD 3HV2000	**27946**
		2500	W8BF 3HV2500	**27956**	W8BD 3HV2500	**27948**
		2900	W8BF 3HV2900	**27958**	W8BD 3HV2900	**27950**
		3200	W8BF 3HV3200	**27960**	W8BD 3HV3200	**27952**
	4P	2000	W8BF 4HV2000	**27970**	W8BD 4HV2000	**27962**
		2500	W8BF 4HV2500	**27972**	W8BD 4HV2500	**27964**
		2900	W8BF 4HV2900	**27974**	W8BD 4HV2900	**27966**
		3200	W8BF 4HV3200	**27976**	W8BD 4HV3200	**27968**

Note:
(1) The standard accessories include:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact
- Separators

1

Selection and ordering data

Frame C	Number of poles	Rated current In (A)	Fixed type		Withdrawable type	
			Type code	Order code	Type code	Order code
3SW8-6300	**L type electronic trip unit**					
	Horizontal terminal connection					
	3P	4000	W8CF 3LH4000	**15295**	W8CD 3LH5000	**32492**
		5000	W8CF 3LH5000	**15311**	W8CD 3LH6300	**32494**
		6300	W8CF 3LH6300	**15553**	W8CD 3LH4000	**15289**
	4P	4000	W8CF 4LH4000	**15301**	W8CD 4LH4000	**32502**
		5000	W8CF 4LH5000	**15313**	W8CD 4LH5000	**32504**
		6300	W8CF 4LH6300	**15555**	W8CD 4LH6300	**32506**
	Vertical terminal connection					
	3P	4000	W8CF 3LV4000	**15296**	W8CD 3LV5000	**32493**
		5000	W8CF 3LV5000	**15312**	W8CD 3LV6300	**32495**
		6300	W8CF 3LV6300	**15554**	W8CD 3LV4000	**15290**
	4P	4000	W8CF 4LV4000	**15302**	W8CD 4LV4000	**32503**
		5000	W8CF 4LV5000	**15314**	W8CD 4LV5000	**32505**
		6300	W8CF 4LV6300	**15556**	W8CD 4LV6300	**32507**
	M type electronic trip unit					
	Horizontal terminal connection					
	3P	4000	W8CF 3MH4000	**15291**	W8CD 3MH5000	**28011**
		5000	W8CF 3MH5000	**15303**	W8CD 3MH6300	**28013**
		6300	W8CF 3MH6300	**15315**	W8CD 3MH4000	**15285**
	4P	4000	W8CF 4MH4000	**15297**	W8CD 4MH4000	**28021**
		5000	W8CF 4MH5000	**15305**	W8CD 4MH5000	**28023**
		6300	W8CF 4MH6300	**15547**	W8CD 4MH6300	**28025**
	Vertical terminal connection					
	3P	4000	W8CF 3MV4000	**15292**	W8CD 3MV5000	**28012**
		5000	W8CF 3MV5000	**15304**	W8CD 3MV6300	**28014**
		6300	W8CF 3MV6300	**15316**	W8CD 3MV4000	**15286**
	4P	4000	W8CF 4MV4000	**15298**	W8CD 4MV4000	**28022**
		5000	W8CF 4MV5000	**15306**	W8CD 4MV5000	**28024**
		6300	W8CF 4MV6300	**15548**	W8CD 4MV6300	**28026**
	H type electronic trip unit					
	Horizontal terminal connection					
	3P	4000	W8CF 3HH4000	**15293**	W8CD 3HH5000	**28035**
		5000	W8CF 3HH5000	**15307**	W8CD 3HH6300	**28037**
		6300	W8CF 3HH6300	**15549**	W8CD 3HH4000	**15287**
	4P	4000	W8CF 4HH4000	**15299**	W8CD 4HH4000	**28045**
		5000	W8CF 4HH5000	**15309**	W8CD 4HH5000	**28047**
		6300	W8CF 4HH6300	**15551**	W8CD 4HH6300	**28049**
	Vertical terminal connection					
	3P	4000	W8CF 3HV4000	**15294**	W8CD 3HV5000	**28036**
		5000	W8CF 3HV5000	**15308**	W8CD 3HV6300	**28038**
		6300	W8CF 3HV6300	**15550**	W8CD 3HV4000	**15288**
	4P	4000	W8CF 4HV4000	**15300**	W8CD 4HV4000	**28046**
		5000	W8CF 4HV5000	**15310**	W8CD 4HV5000	**28048**
		6300	W8CF 4HV6300	**15552**	W8CD 4HV6300	**28050**

Note:
(1) The standard accessories include:
- Shunt release
- Closing coil
- Motorized operating mechanism
- Auxiliary contact
- Separators

Accessory



- Under-voltage release

When circuit breaker is power off, it requires automatic break, user should adopt under-voltage instantaneous release; when breaker is instantaneous power failure or under voltage, it does not require break, user adopt under-voltage delay release. Thus, it is not a necessary accessory, it is optional. It should always connect the power source if circuit breaker is equipped with such release.

Note:

In the thunderstorm-prone areas or in unstable voltage grids, it is recommended to use under voltage time-delayed release. It can prevent the breaker tripping caused by instantaneous voltage decrease. The delayed time are normally 0.5 s, 1 s, 2 s, 3 s, for users to choose.

Characteristics:

Rated working voltage Ue (V)	AC 400, AC 230
Tripping voltage (V)	(0.35~0.7) Ue
Reliable closing voltage (V)	(0.85~1.1) Ue
Reliable open voltage (V)	≤ 0.35 Ue
Power consumption	12 VA



- Shunt release

Shunt release can break circuit breaker through remote operation instead of on the spot, which can avoid contacting with circuit breaker during circuit operation and make worker safer. Shunt release can't always be connected to power source, otherwise coil will be burned.

Characteristics:

Rated control power source voltage Us (V)	AC 400, AC 230, DC 220, DC 110
Tripping voltage (V)	(0.7~1.1) Us
Limit current	0.7, 1.3, 1.3, 2.4
Breaking time (ms)	≤ 30



- Closing electromagnet

Closing electromagnet can switch on circuit breaker through remote operation instead of on the spot, which can avoid contact with circuit breaker during circuit operation and make worker safer. Such release can't always be connected to power source, otherwise coil will be burned. After energy storage is finished, the closing electromagnet will make the energy storage spring of operation mechanism to release its energy instantly so that the circuit breaker is closed rapidly.

Characteristics:

Rated control power source voltage Ue (V)	AC 400, AC 230, DC 220, DC 110
Tripping voltage (V)	(0.8~1.1) Us
Limit current (A)	0.7, 1.3, 1.3, 2.4
Closing time (ms)	≤ 70

Accessories



- Electric operation mechanism

The breaker consists of operation mechanism energy storage and re-storage function. The breaker can store energy manually.

Characteristics:

Rated control power source voltage Us (V)	AC 400, AC 230, DC 220, DC 110
Tripping voltage (V)	(0.85~1.1) Us
Power consumption	192 VA, 192 W
Storage time (s)	≤ 5



- Disconnecting lock device
  - Disconnecting lock device can lock the switch off button at the off location, thus breaker can not be closed;
  - The factory will provide the key and lock;
  - One circuit breaker is equipped with one independent lock and key;
  - Two circuit breakers are equipped with two same locks and one key;
  - Three circuit breakers are equipped with three same locks and two keys.



- Partition plate of the withdrawable type circuit breaker;

The partition strengthens the busbar insulation. It is optional.

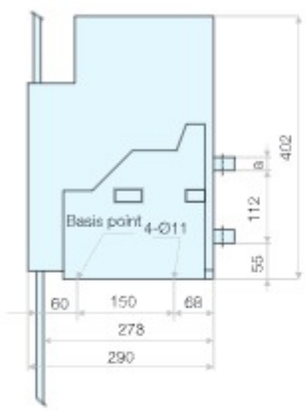


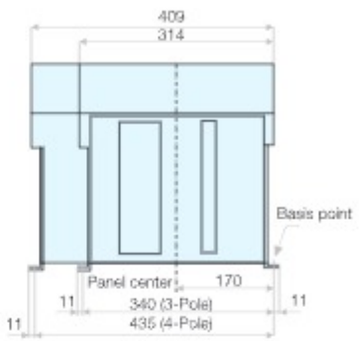
- Door frame
  - It is fixed on the door cabinet and used as seal. Protection grade is up to IP40;
  - Beautiful and practical;
  - The door frame has withdrawable type and fixed type.

Outline and installation dimensions

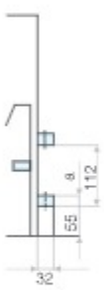
3SW8-2000

Fixed type 3-pole/4-pole

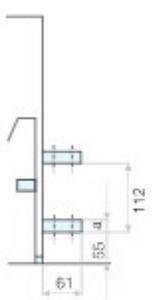


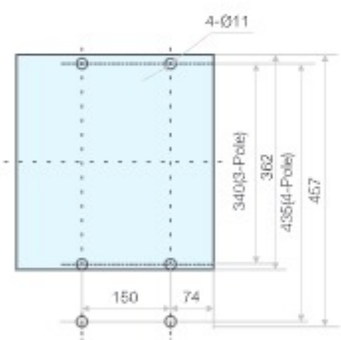


Horizontal connection



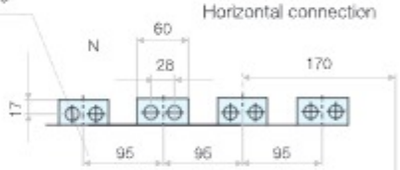
Extended horizontal connection





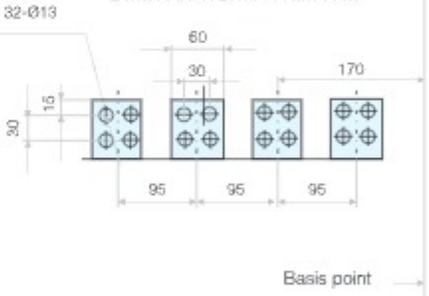
3-Pole 12-Ø15
4-Pole 16-Ø15

Horizontal connection



3-Pole 24-Ø13
4-Pole 32-Ø13

Extended horizontal connection



Basis point

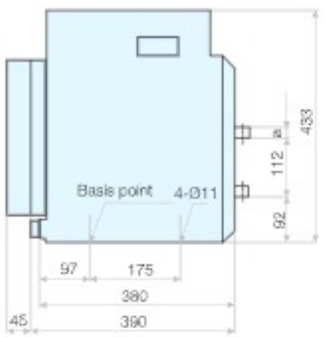
Withdrawable 3-pole 4-pole	
In A	a mm
400–800	10
1000–1600	15
2000	20

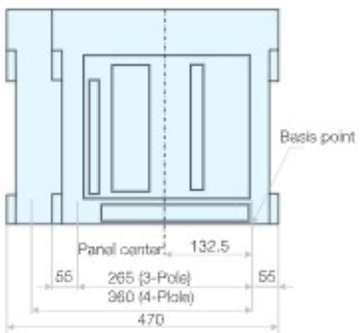
Outline and installation dimensions

3SW8-2000

1

Withdrawable type 3-pole/4-pole





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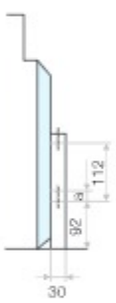
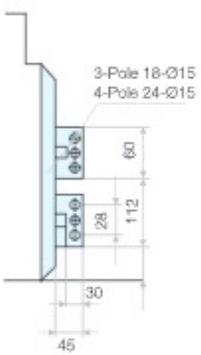
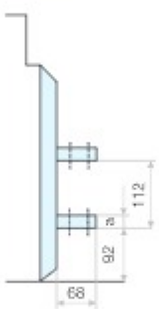
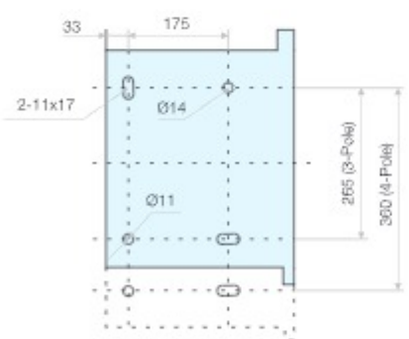


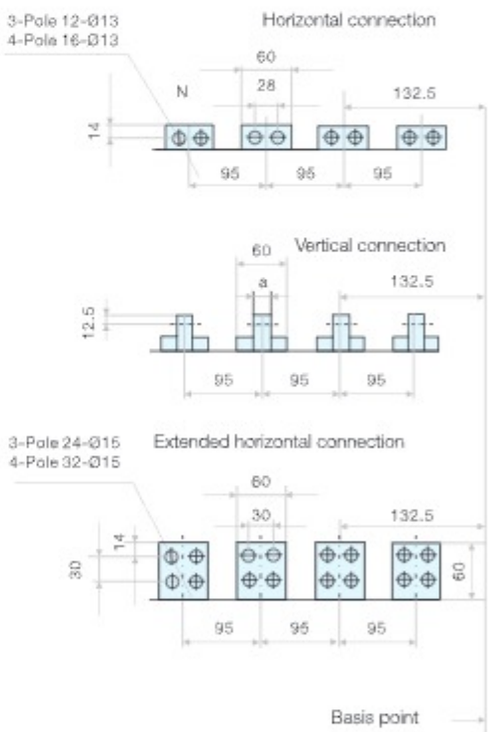
Vertical connection



Extended horizontal connection





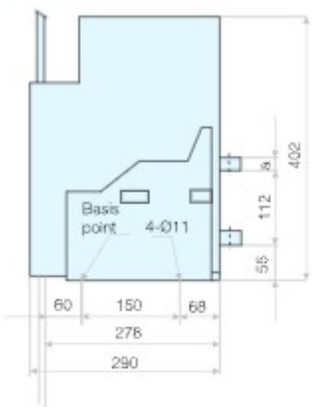


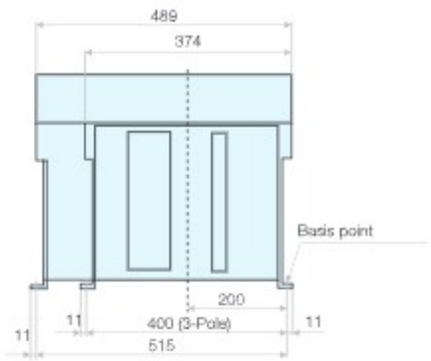
Withdrawable 3-pole 4-pole	
In A	a mm
400–800	10
1000–1600	15
2000	20

Outline and installation dimensions

3SW8-3200

Fixed type 3-pole/4-pole

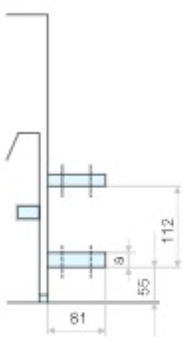


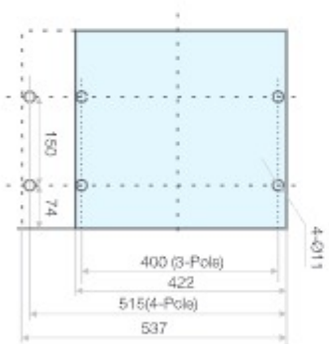


Horizontal connection



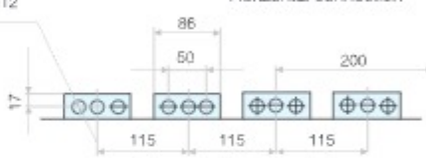
Extended horizontal connection





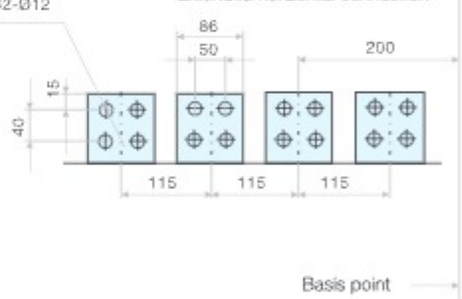
3-Pole 18-Ø12
4-Pole 24-Ø12

Horizontal connection



3-Pole 24-Ø12
4-Pole 32-Ø12

Extended horizontal connection



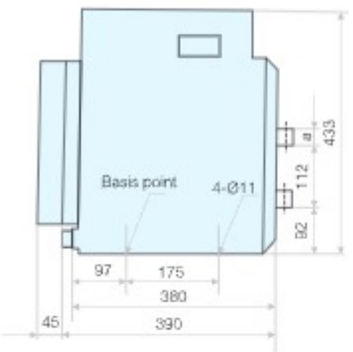
Withdrawable 3-pole 4-pole	
In A	a mm
2000~2500	20
2900~3200	30

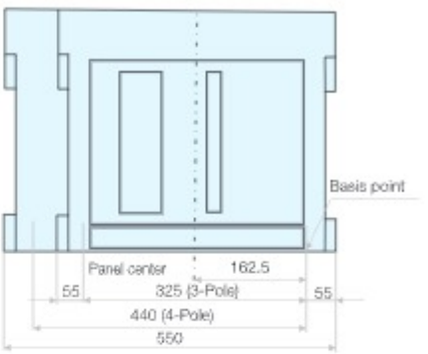
1

Outline and installation dimensions

3SW8-3200

Withdrawable type 3-pole/4-pole





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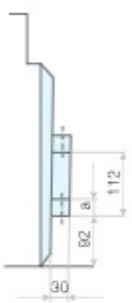

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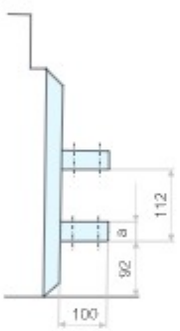

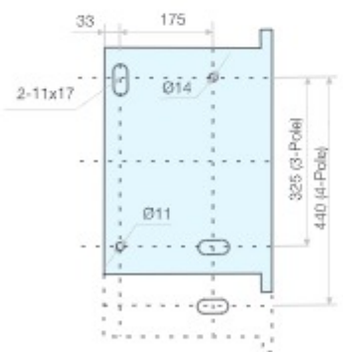

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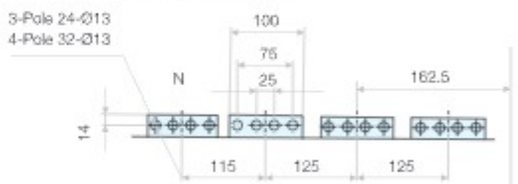
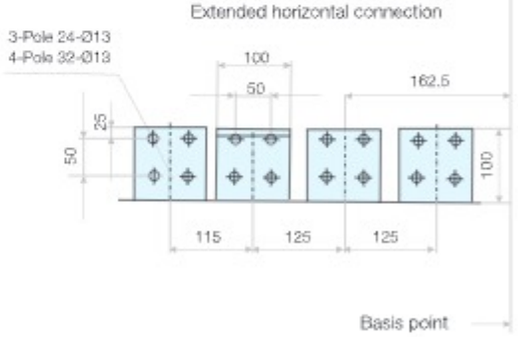


Extended horizontal connection

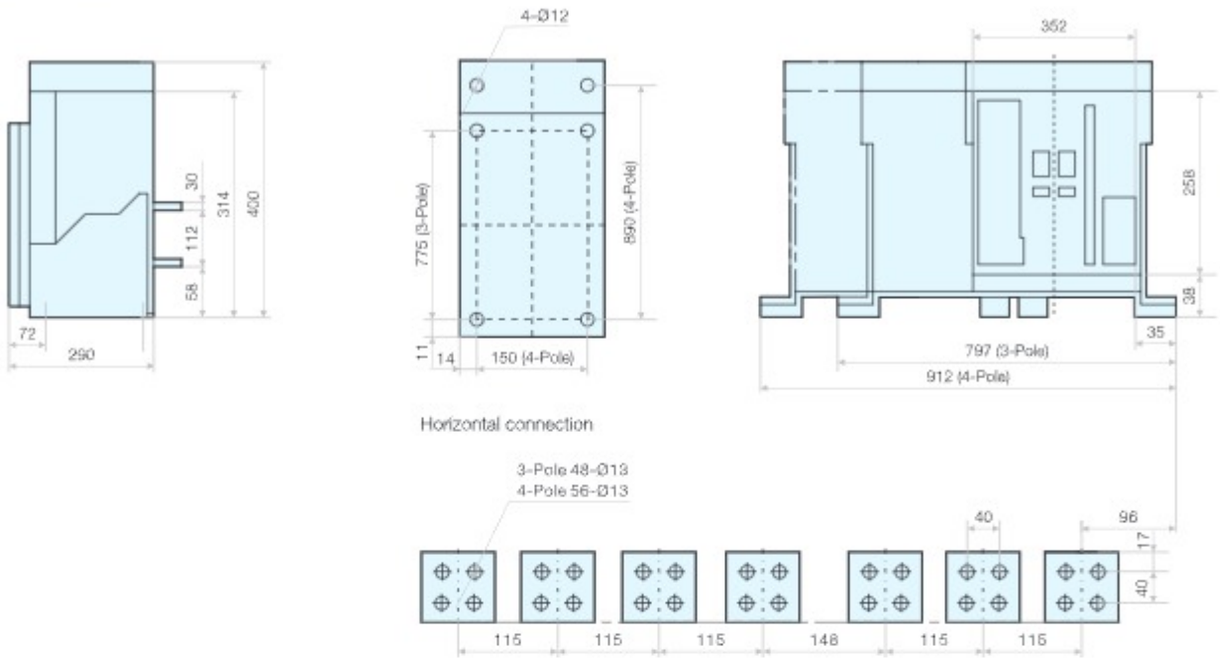


Withdrawable 3-pole 4-pole	
In A	a mm
2000–2500	20
2900–3200	30

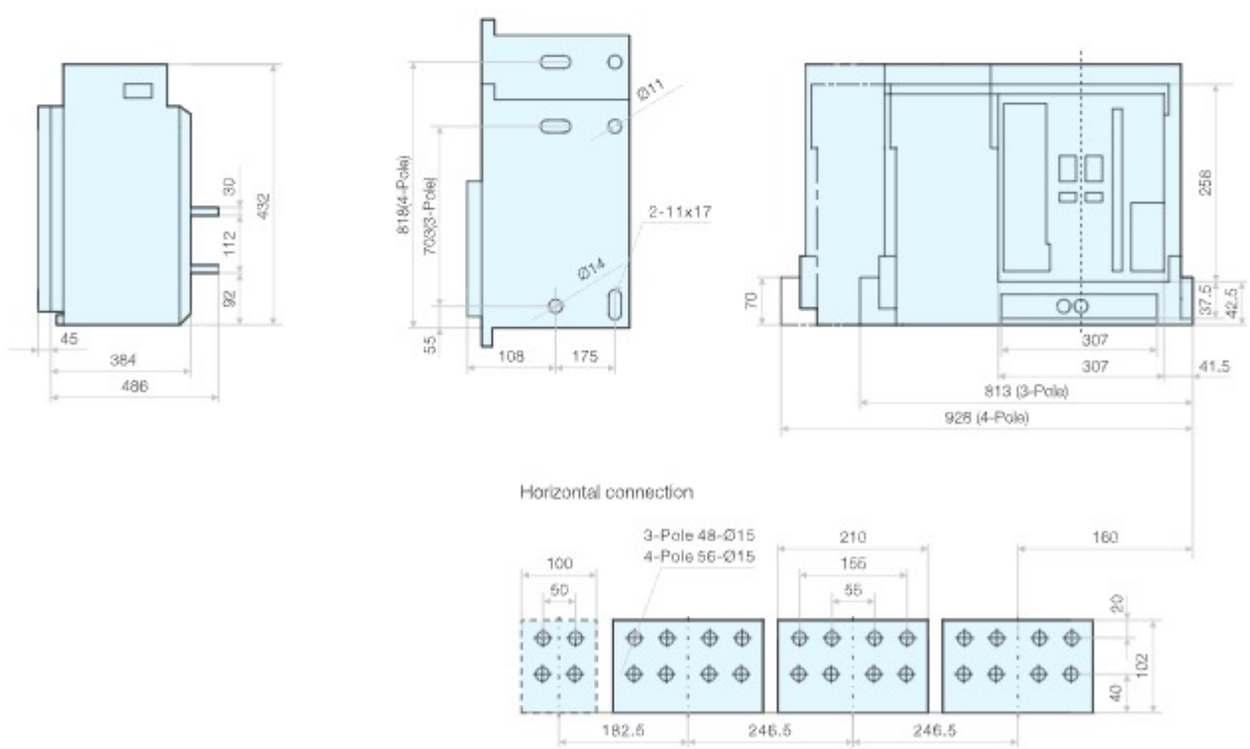
Outline and installation dimensions

3SW8-6300/4000-5000 A

Fixed type 3-pole/4-pole



Withdrawable type 3-pole/4-pole



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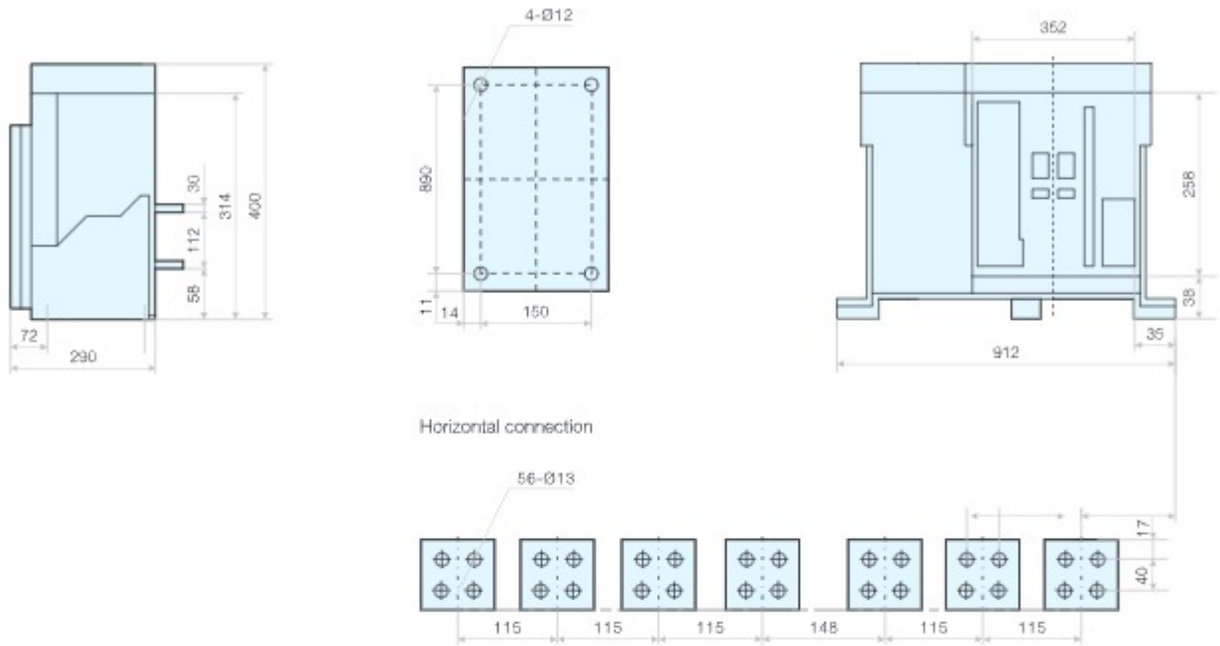
Outline and installation dimensions

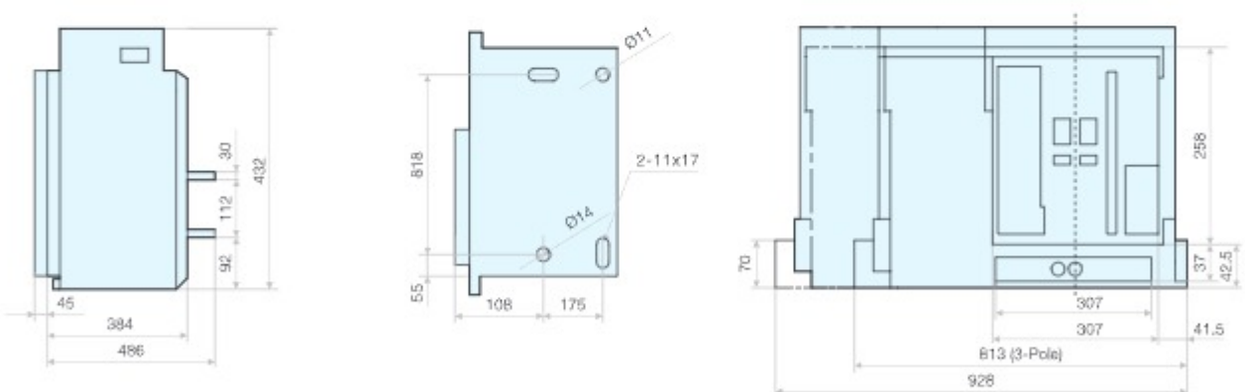
3SW8-6300/6300 A

Fixed type 3-pole/4-pole

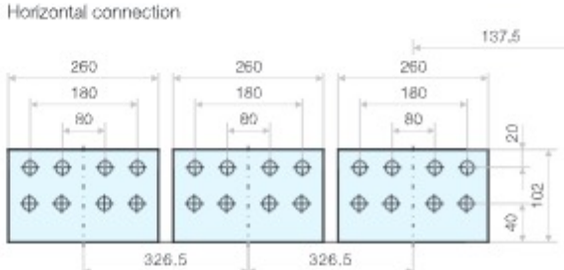


Horizontal connection

Withdrawable type 3-pole



Horizontal connection



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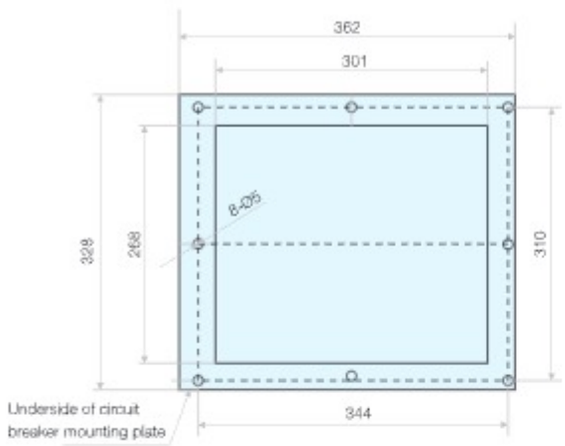
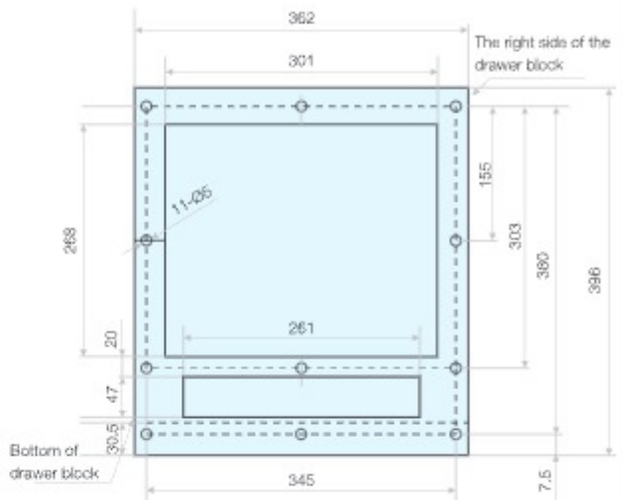
Outline and installation dimensions

3SW8-2000 (3-pole, 4-pole)

Fixed type

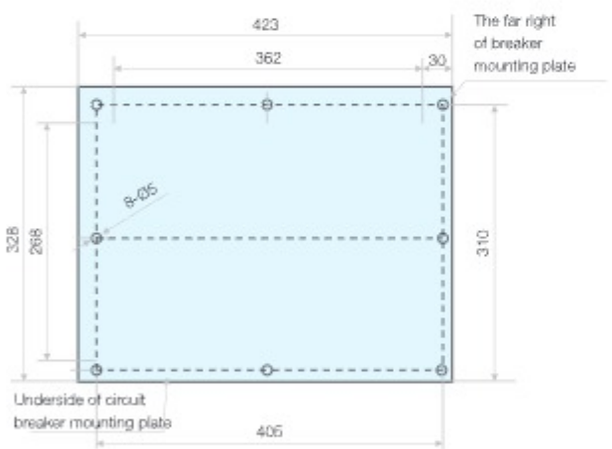


Withdrawable type



3SW8-3200 (3-pole,4-pole)

Fixed type



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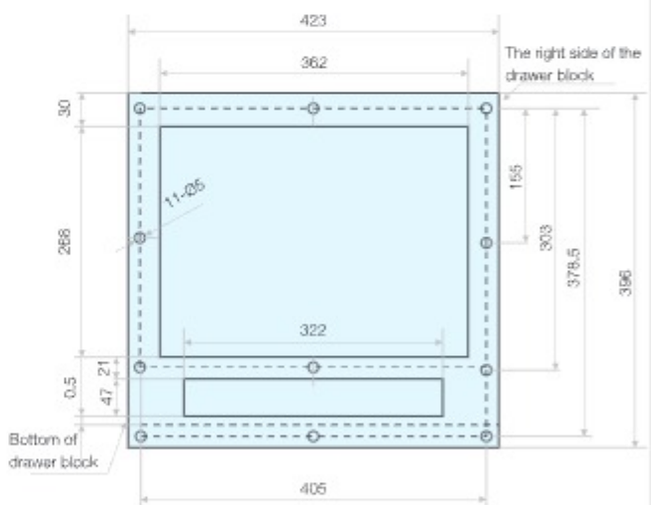

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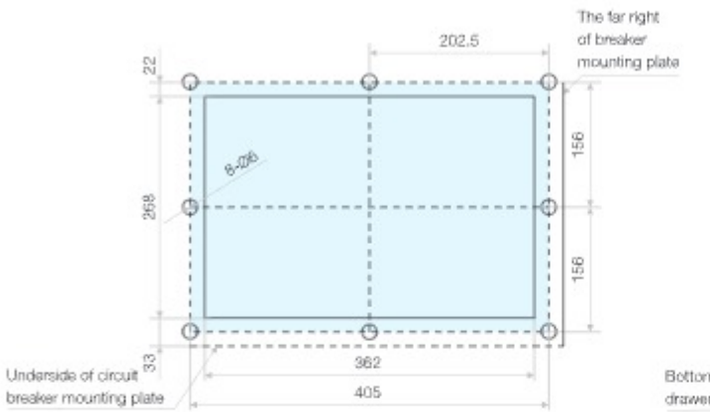
Outline and installation dimensions

3SW8-6300/4000-5000 A (3-pole, 4-pole)

Fixed type



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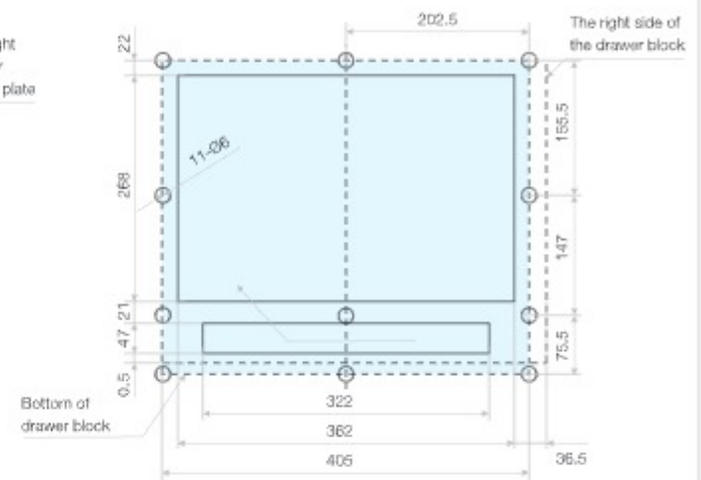
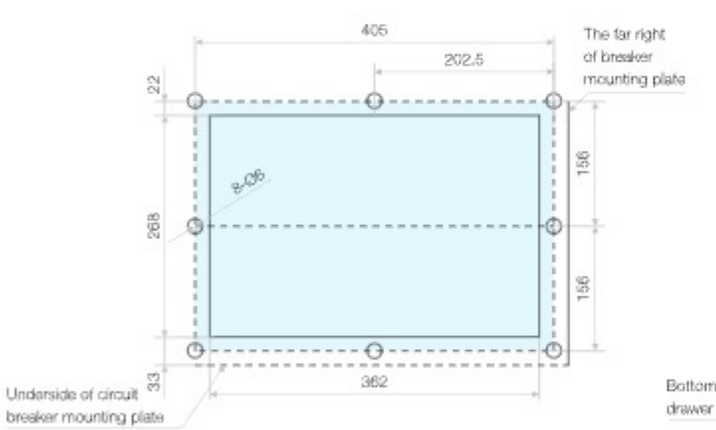
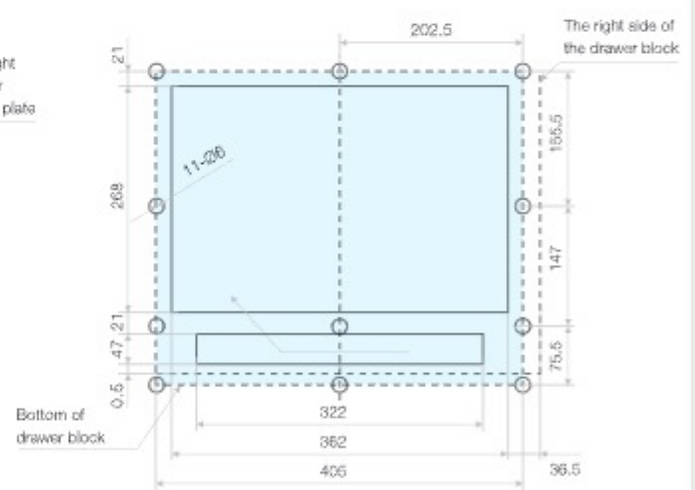


3SW8-6300/6300 A (3-pole)

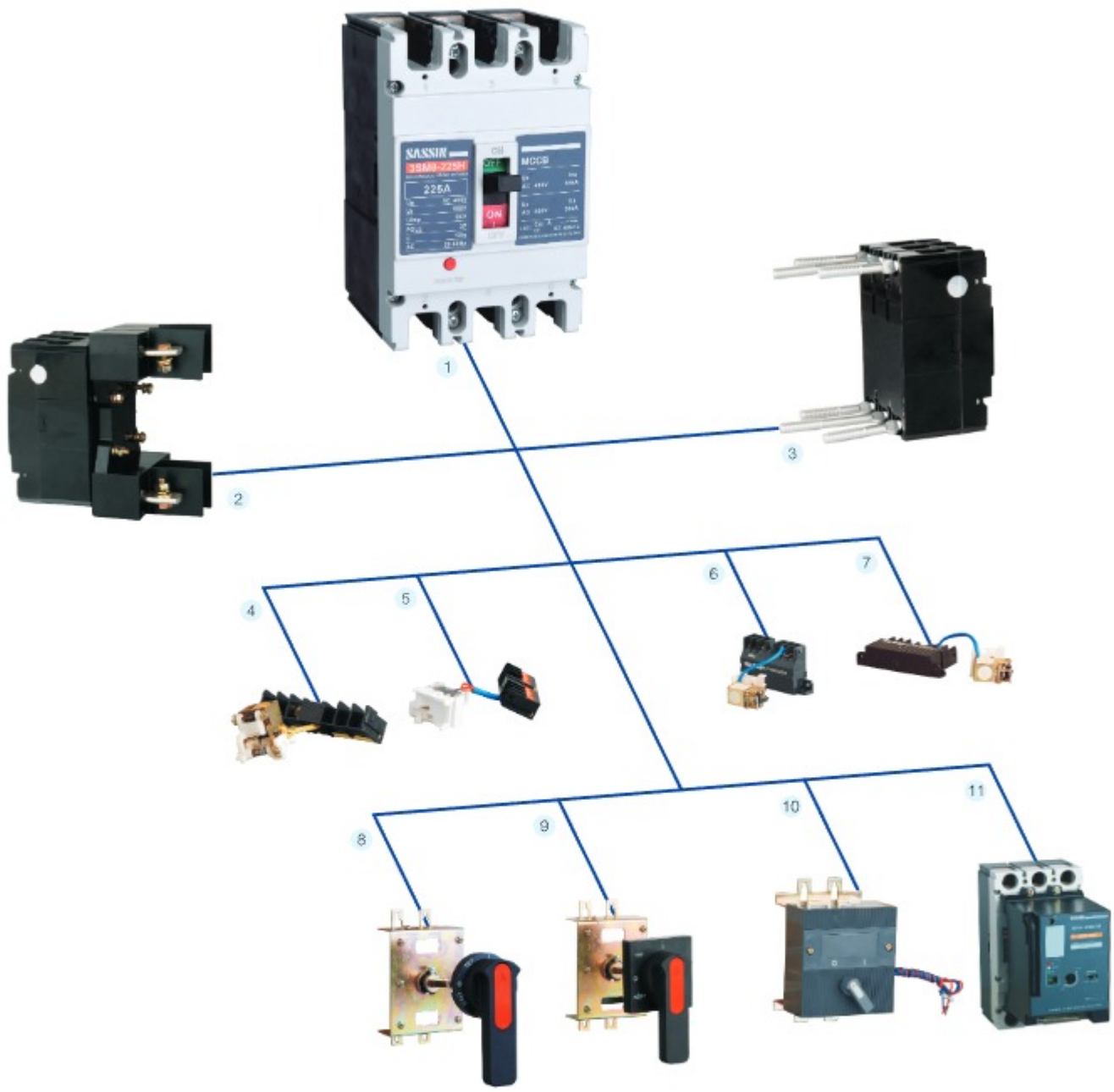
Fixed type



Withdrawable type



Overview



3SM8 series product overview

1	Body	5	Alarm contact	9	Rotary handle operating mechanism
2	Plug-in connection	6	Shunt release	10	Electromagnetic operating mechanism
3	Rear panel connection	7	Under-voltage release	11	Electric motor operating mechanism
4	Auxiliary contact	8	Rotary handle operating mechanism		

Series 3SM8 with thermal-magnetic trip unit

Applications and functions

- Incoming and outgoing function in distribution systems
- Switching and protection devices for motors, transformers and capacitors
- Disconnect or units with features for stopping and switching off in emergency mechanisms and terminal covers in conjunction with likeable rotary operating
- Available in the following versions
  - Power protection: the overload and short-circuit releases are designed for the protection of cables, leads and non-motor loads
  - Motor protection: the overload and short-circuit releases are designed for optimized protection and direct-on-line starting of induction squirrel-cage motors. The circuit breakers for motor protection are susceptible to phase failure and feature an adjustable trip class



Instruction of type code

M8 A 3 P 400 L

- L: Breaking capacity
  - L: Standard breaking capacity
  - M: Middle breaking capacity
  - H: High breaking capacity
- 400: Rated current (A)
  - 10, 16, 20, 25, 32, 40, 50, 63 (Frame A)
  - 16, 20, 25, 32, 40, 50, 63, 80, 100, 125 (Frame B)
  - 100, 125, 160, 180, 200, 225, 250 (Frame C)
  - 225, 250, 315, 350, 400 (Frame D)
  - 400, 500, 630 (Frame E)
  - 630, 700, 800 (Frame F)
- P: Protection type
  - P: Power protection
  - M: Motor protection
- 3: Poles (P): 1: 1P; 2: 2P; 3: 3P; 4: 4P
- A: Frame
  - A: 3SM8-63; B: 3SM8-100; C: 3SM8-225
  - D: 3SM8-400; E: 3SM8-630; F: 3SM8-800
- M8: Series code

- There is no frame E and F for motor protection.
- Only M type (medium breaking capacity type) has 4 poles:
  - 4A: N-pole fixed without over-current release unit, it has been connected all along, and does not act with other three poles to turn on or off.
  - 4B: N-pole fixed without over-current release unit, it acts with other three poles.
  - 4C: N-pole fixed with over-current release unit, it acts with other three poles.
  - 4D: N-pole fixed with over-current release unit, it has been all along, and does not act with other three poles to turn on or off.

Technical Specifications

Type	3SM8-63		3SM8-100			3SM8-225			3SM8-400			3SM8-630			3SM8-800	
Standards	IEC 60947-2		IEC 60947-2			IEC 60947-2			IEC 60947-2			IEC 60947-2			IEC 60947-2	
Frame type	A		B			C			D			E			F	
Class of breaking capacity	L	M	L	M	H	L	M	H	L	M	H	L	M	H	M	H
Number of poles (P)	3	3, 4	1, 2, 3	2, 3, 4	3	1, 2, 3	2, 3, 4	3	3	3, 4	3	3	3, 4	3	3, 4	3
Frame current Inm (A)	63		100			225			400			630			800	
Rated current In (A)	10, 16, 20, 25, 32, 40, 50, 63		16, 20, 25, 32, 40, 50, 63, 80,100, 125			100, 125, 160, 180, 200, 225, 250			225, 250, 315, 350, 400			400, 500, 630			630, 700, 800	
Rated insulating voltage Ui (V)	500		800			800			800			800			800	
Rated operating voltage, Ue (V)	400		400	690	400	400	690	400	400	690	400	400	690	400	690	400
Rated frequency (Hz)	50/60		50/60			50/60			50/60			50/60			50/60	
Rated impulsed withstand voltage, Uimp (kV)	6		8			8			8			8			8	
Rated ultimate short-circuit breaking capacity, Icu																
(AC) 50-60 Hz 230 V O-CO (kA) (1P)	-	-	35	50	-	35	50	-	-	-	-	-	-	-	-	-
(AC) 50-60 Hz 400 V O-CO (kA)	25	50	35	50	85	35	50	85	50	65	100	50	65	100	65	100
(AC) 50-60 Hz 690 V O-CO (kA)	-	-	-	20	-	-	20	-	-	20	-	-	20	-	20	-
Rated operating short-circuit breaking capacity, Ics																
(AC) 50-60 Hz 230 V O-CO-CO (kA) (1P)	-	-	22	35	-	22	35	-	-	-	-	-	-	-	-	-
(AC) 50-60 Hz 400 V O-CO-CO (kA)	18	35	22	35	50	22	35	50	35	42	65	35	42	65	42	65
(AC) 50-60 Hz 690 V O-CO-CO (kA)	-	-	-	10	-	-	10	-	-	10	-	-	10	-	15	-
Mechanical life (times)	20000		20000			20000			10000			10000			8000	
Electrical life (times)	10000		10000			10000			8000			8000			5000	
Flashover distance (mm)	≤ 50		≤ 50			≤ 50			≤ 50			≤ 100			≤ 100	
Thermal magnetic release	■		■			■			■			■			■	
Electronic release	-		-			-			-			-			-	
Utilization category (IEC 60947-2)	A		A			A			A			A			A	
Under-voltage release	■		■			■			■			■			■	
Shunt-release	■		■			■			■			■			■	
Auxiliary contact	■		■			■			■			■			■	
Alarm Contact	■		■			■			■			■			■	
Weight	-		-			-			-			-			-	
Ambient temperature	-5 to +40 °C, max. 95% humidity															
Storage temperature	-40 to +75 °C															
Altitude (Max)	2000 m															

Series 3SM8 with thermal-magnetic trip unit

Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution Type code	Power distribution Order code	Motor protection Type code	Motor protection Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame A 3SM8-63	L 25 kA	3	10	M8A 3P10L	35290	M8A 3M10L	35291
			16	M8A 3P16L	25016	M8A 3M16L	10139
			20	M8A 3P20L	25017	M8A 3M20L	10140
			25	M8A 3P25L	25018	M8A 3M25L	10141
			32	M8A 3P32L	25019	M8A 3M32L	10142
			40	M8A 3P40L	25020	M8A 3M40L	10143
			50	M8A 3P50L	25021	M8A 3M50L	10144
			63	M8A 3P63L	25022	M8A 3M63L	10145
	M 50 kA	3	10	M8A 3P10M	35292	M8A 3M10M	35293
			16	M8A 3P16M	25025	M8A 3M16M	10148
			20	M8A 3P20M	25026	M8A 3M20M	10149
			25	M8A 3P25M	25027	M8A 3M25M	10150
			32	M8A 3P32M	25028	M8A 3M32M	10151
			40	M8A 3P40M	25029	M8A 3M40M	10152
			50	M8A 3P50M	25030	M8A 3M50M	10153
			63	M8A 3P63M	25031	M8A 3M63M	10154
		4	10	M8A 4*P10M	35294	M8A 4*M10M	35295
			16	M8A 4*P16M	25034*	M8A 4*M16M	10157*
			20	M8A 4*P20M	25035*	M8A 4*M20M	10158*
			25	M8A 4*P25M	25036*	M8A 4*M25M	10159*
			32	M8A 4*P32M	25037*	M8A 4*M32M	10160*
			40	M8A 4*P40M	25038*	M8A 4*M40M	10161*
			50	M8A 4*P50M	25039*	M8A 4*M50M	10162*
			63	M8A 4*P63M	25040*	M8A 4*M63M	10163*
Frame B 3SM8-100	L 35 kA	1	16	M8B 1P16L	13579	M8B 1M16L	38227
			20	M8B 1P20L	13580	M8B 1M20L	38228
			25	M8B 1P25L	13581	M8B 1M25L	38229
			32	M8B 1P32L	13582	M8B 1M32L	38230
			40	M8B 1P40L	13583	M8B 1M40L	38231
			50	M8B 1P50L	13584	M8B 1M50L	38232
			63	M8B 1P63L	13585	M8B 1M63L	38233
			80	M8B 1P80L	13586	M8B 1M80L	38234
			100	M8B 1P100L	13587	M8B 1M100L	38235
			125	M8B 1P125L	13588	M8B 1M125L	38236
		2	16	M8B 2P16L	13596	M8B 2M16L	38237
			20	M8B 2P20L	13597	M8B 2M20L	38238
			25	M8B 2P25L	13598	M8B 2M25L	38239
			32	M8B 2P32L	13599	M8B 2M32L	38240
			40	M8B 2P40L	13600	M8B 2M40L	38241
			50	M8B 2P50L	13601	M8B 2M50L	38242
			63	M8B 2P63L	13602	M8B 2M63L	38243
			80	M8B 2P80L	13603	M8B 2M80L	38244
			100	M8B 2P100L	13604	M8B 2M100L	38245
			125	M8B 2P125L	13605	M8B 2M125L	38246
		3	16	M8B 3P016L	25041	M8B 3M016L	10164
			20	M8B 3P020L	25042	M8B 3M020L	10165
			25	M8B 3P025L	25043	M8B 3M025L	10166
			32	M8B 3P032L	25044	M8B 3M032L	10167
			40	M8B 3P040L	25045	M8B 3M040L	10168
			50	M8B 3P050L	25046	M8B 3M050L	10169
			63	M8B 3P063L	25047	M8B 3M063L	10170
			80	M8B 3P080L	25048	M8B 3M080L	10171
			100	M8B 3P100L	25049	M8B 3M100L	10172
			125	M8B 3P125L	38247	M8B 3M125L	38248

Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution		Motor protection	
				Type code	Order code	Type code	Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame B	M	2	16	M8B 2P16M	35280	M8B 2M16M	35281
3SM8-100	50 kA		20	M8B 2P20M	38249	M8B 2M20M	38260
			25	M8B 2P25M	38250	M8B 2M25M	38261
			32	M8B 2P32M	38251	M8B 2M32M	38262
			40	M8B 2P40M	38252	M8B 2M40M	38263
			50	M8B 2P50M	38253	M8B 2M50M	38264
			63	M8B 2P63M	38254	M8B 2M63M	38265
			80	M8B 2P80M	38255	M8B 2M80M	38266
			100	M8B 2P100M	38256	M8B 2M100M	38267
			125	M8B 2P125M	38257	M8B 2M125M	38268
		3	16	M8B 3P16M	25050	M8B 3M16M	10173
			20	M8B 3P20M	25051	M8B 3M20M	10174
			25	M8B 3P25M	25052	M8B 3M25M	10175
			32	M8B 3P32M	25053	M8B 3M32M	10176
			40	M8B 3P40M	25054	M8B 3M40M	10177
			50	M8B 3P50M	25055	M8B 3M50M	10178
			63	M8B 3P63M	25056	M8B 3M63M	10179
			80	M8B 3P80M	25057	M8B 3M80M	10180
			100	M8B 3P100M	25058	M8B 3M100M	10181
			125	M8B 3P125M	38258	M8B 3M125M	38269
		4	16	M8B 4•P16M	25059*	M8B 4•M16M	10182*
			20	M8B 4•P20M	25060*	M8B 4•M20M	10183*
			25	M8B 4•P25M	25061*	M8B 4•M25M	10184*
			32	M8B 4•P32M	25062*	M8B 4•M32M	10185*
			40	M8B 4•P40M	25063*	M8B 4•M40M	10186*
			50	M8B 4•P50M	25064*	M8B 4•M50M	10187*
			63	M8B 4•P63M	25065*	M8B 4•M63M	10188*
			80	M8B 4•P80M	25066*	M8B 4•M80M	10189*
			100	M8B 4•P100M	25067*	M8B 4•M100M	10190*
			125	M8B 4P125M	38259	M8B 4M125M	38270
	H	3	16	M8B 3P020H	25068	M8B 3M016H	10191
	85 kA		20	M8B 3P016H	25069	M8B 3M020H	10192
			25	M8B 3P025H	25070	M8B 3M025H	10193
			32	M8B 3P032H	25071	M8B 3M032H	10194
			40	M8B 3P040H	25072	M8B 3M040H	10195
			50	M8B 3P050H	25073	M8B 3M050H	10196
			63	M8B 3P063H	25074	M8B 3M063H	10197
			80	M8B 3P080H	25075	M8B 3M080H	10198
			100	M8B 3P100H	25076	M8B 3M100H	10199
			125	M8B 3P125H	38271	M8B 3M125H	38272



Series 3SM8 with thermal-magnetic trip unit

Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution		Motor protection	
				Type code	Order code	Type code	Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame C 3SM8-225	L 35 kA	1	100	M8C 1P100L	35282	M8C 1M100L	35283
			125	M8C 1P125L	13589	M8C 1M125L	38273
			140	M8C 1P140L	13590	M8C 1M140L	38274
			160	M8C 1P160L	13591	M8C 1M160L	38275
			180	M8C 1P180L	13592	M8C 1M180L	38276
			200	M8C 1P200L	13593	M8C 1M200L	38277
			225	M8C 1P225L	13594	M8C 1M225L	38278
			250	M8C 1P250L	13595	M8C 1M250L	38279
		2	100	M8C 2P100L	35284	M8C 2M100L	35285
			125	M8C 2P125L	13606	M8C 2M125L	38280
			140	M8C 2P140L	13607	M8C 2M140L	38281
			160	M8C 2P160L	13608	M8C 2M160L	38282
			180	M8C 2P180L	13609	M8C 2M180L	38283
			200	M8C 2P200L	13610	M8C 2M200L	38284
			225	M8C 2P225L	13611	M8C 2M225L	38285
			250	M8C 2P250L	13612	M8C 2M250L	38286
		3	100	M8C 3P100L	25077	M8C 3M100L	10200
			125	M8C 3P125L	25078	M8C 3M125L	10201
			160	M8C 3P160L	25079	M8C 3M160L	10202
			180	M8C 3P180L	25080	M8C 3M180L	10203
			200	M8C 3P200L	25081	M8C 3M200L	10204
			225	M8C 3P225L	25082	M8C 3M225L	10205
			250	M8C 3P250L	38287	M8C 3M250L	38288
	M 50 kA	2	100	M8C 2P100M	35286	M8C 2M100M	35287
			125	M8C 2P125M	38289	M8C 2M125M	38298
			140	M8C 2P140M	38290	M8C 2M140M	38299
			160	M8C 2P160M	38291	M8C 2M160M	38300
			180	M8C 2P180M	38292	M8C 2M180M	38301
			200	M8C 2P200M	38293	M8C 2M200M	38302
			225	M8C 2P225M	38294	M8C 2M225M	38303
			250	M8C 2P250M	38295	M8C 2M250M	38304
		3	100	M8C 3P100M	25083	M8C 3M100M	10206
			125	M8C 3P125M	25084	M8C 3M125M	10207
			160	M8C 3P160M	25085	M8C 3M160M	10208
			180	M8C 3P180M	25086	M8C 3M180M	10209
			200	M8C 3P200M	25087	M8C 3M200M	10210
			225	M8C 3P225M	25088	M8C 3M225M	10211
			250	M8C 3P250M	38297	M8C 3M250M	38305
		4	100	M8C 4*P100M	25089*	M8C 4*M100M	10212*
			125	M8C 4*P125M	25090*	M8C 4*M125M	10213*
			160	M8C 4*P160M	25091*	M8C 4*M160M	10214*
			180	M8C 4*P180M	25092*	M8C 4*M180M	10215*
			200	M8C 4*P200M	25093*	M8C 4*M200M	10216*
			225	M8C 4*P225M	25094*	M8C 4*M225M	10217*
			250	M8C 4*P250M	38297	M8C 4*M250M	38306
	H 85 kA	3	100	M8C 3P100H	25095	M8C 3M100H	10218
			125	M8C 3P125H	25096	M8C 3M125H	10219
			160	M8C 3P160H	25097	M8C 3M160H	10220
			180	M8C 3P180H	25098	M8C 3M180H	10221
			200	M8C 3P200H	25099	M8C 3M200H	10222
			225	M8C 3P225H	25100	M8C 3M225H	10223
			250	M8C 3P250H	38307	M8C 3M250H	38308



Selection and ordering data

	Breaking capacity at 400 V AC	Number of poles (P)	Rated current In (A)	Power distribution		Motor protection	
				Type code	Order code	Type code	Order code
	For 4 poles, please complete the code by adding N-pole code.						
Frame D 3SM8-400	L 50 kA	3	225	M8D 3P225L	**25101**	M8D 3M225L	**10224**
			250	M8D 3P250L	**25102**	M8D 3M250L	**10225**
			315	M8D 3P315L	**25103**	M8D 3M315L	**10226**
			350	M8D 3P350L	**25104**	M8D 3M350L	**10227**
			400	M8D 3P400L	**25105**	M8D 3M400L	**10228**
	M 65 kA	3	225	M8D 3P225M	**25106**	M8D 3M225M	**10229**
			250	M8D 3P250M	**25107**	M8D 3M250M	**10230**
			315	M8D 3P315M	**25108**	M8D 3M315M	**10231**
			350	M8D 3P350M	**25109**	M8D 3M350M	**10232**
			400	M8D 3P400M	**25110**	M8D 3M400M	**10233**
		4	225	M8D 4*P225M	**25111***	M8D 4*M225M	**10234***
			250	M8D 4*P250M	**25112***	M8D 4*M250M	**10235***
			315	M8D 4*P315M	**25113***	M8D 4*M315M	**10236***
			350	M8D 4*P350M	**25114***	M8D 4*M350M	**10237***
			400	M8D 4*P400M	**25115***	M8D 4*M400M	**10238***
	H 100 kA	3	225	M8D 3P225H	**25116**	M8D 3M225H	**10239**
			250	M8D 3P250H	**25117**	M8D 3M250H	**10240**
			315	M8D 3P315H	**25118**	M8D 3M315H	**10241**
			350	M8D 3P350H	**25119**	M8D 3M350H	**10242**
			400	M8D 3P400H	**25120**	M8D 3M400H	**10243**
Frame E 3SM8-630	L 50 kA	3	400	M8E 3P400L	**25121**	-	-
			500	M8E 3P500L	**25122**	-	-
			630	M8E 3P630L	**25123**	-	-
	M 65 kA	3	400	M8E 3P400M	**25124**	-	-
			500	M8E 3P500M	**25125**	-	-
			630	M8E 3P630M	**25126**	-	-
		4	400	M8E 4*P400M	**25127***	-	-
			500	M8E 4*P500M	**25128***	-	-
			630	M8E 4*P630M	**25129***	-	-
	H 100 kA	3	400	M8E 3P400H	**25130**	-	-
			500	M8E 3P500H	**25131**	-	-
			630	M8E 3P630H	**25132**	-	-
Frame F 3SM8-800	M 65 kA	3	630	M8F 3P630M	**25133**	-	-
			700	M8F 3P700M	**25134**	-	-
			800	M8F 3P800M	**25135**	-	-
		4	630	M8F 4*P630M	**25136***	-	-
			700	M8F 4*P700M	**25137***	-	-
			800	M8F 4*P800M	**25138***	-	-
	H 100 kA	3	630	M8F 3P630H	**25139**	-	-
			700	M8F 3P700H	**25140**	-	-
			800	M8F 3P800H	**25141**	-	-

Motor driven mechanism

Function

- Used for opening and closing the circuit breaker remotely

Technical specifications

Model type	CD2	
Application	3SM8-63, 3SM8-100, 3SM8-225	3SM8-400, 3SM8-630, 3SM8-800
Rated control voltage	230 V AC, 400 V AC	230 V AC, 400 V AC
Operating current (A)	≤ 0.5	≤ 2
Mechanical life (times)	14000	5000
Moter power (W)	14	35

Selection and ordering data

Model	Aplication		Rated control voltage (V AC)	Type code	Order code
MD2	Frame A	3SM8-63	230 V AC	M8A EM230A	**25184**
			400 V AC	M8A EM400A	**25196**
	Frame B	3SM8-100	230 V AC	M8B EM230A	**25185**
			400 V AC	M8B EM400A	**25197**
	Frame C	3SM8-225	230 V AC	M8C EM230A	**25186**
			400 V AC	M8C EM400A	**25198**
	Frame D	3SM8-400	230 V AC	M8D EM230A	**25187**
			400 V AC	M8D EM400A	**25199**
	Frame E	3SM8-630	230 V AC	M8E EM230A	**25188**
			400 V AC	M8E EM400A	**25200**
	Frame F	3SM8-800	230 V AC	M8F EM230A	**25189**
			400 V AC	M8F EM400A	**25201**



Rotary handle operation mechanism

Function

- Used for opening and closing the circuit breaker
- Used for rotating the circuit breaker, not pushing-pulling it upwards-downwards

Selection and ordering data

Installation	Operation device	Rotary handle	Suitable frame		Without interlock	
					Type code	Order code
In breaker	RM1F	Round type	Frame A	3SM8-63	M8A RM1F	25202
			Frame B	3SM8-100	M8B RM1F	25203
			Frame C	3SM8-225	M8C RM1F	25204
			Frame D	3SM8-400	M8D RM1F	25205
			Frame E	3SM8-630	M8E RM1F	25206
			Frame F	3SM8-800	M8F RM1F	25207
		Square type	Frame A	3SM8-63	M8A RM1A	25208
			Frame B	3SM8-100	M8B RM1A	25209
			Frame C	3SM8-225	M8C RM1A	25210
			Frame D	3SM8-400	M8D RM1A	25211
			Frame E	3SM8-630	M8E RM1A	25212
			Frame F	3SM8-800	M8F RM1A	25213

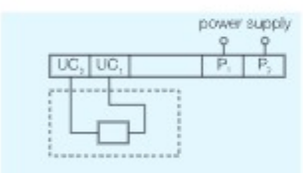


Accessories



- Under-voltage release

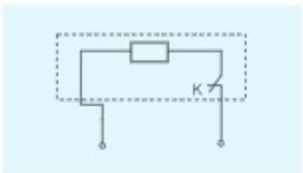
When voltage is 35 ~ 70 % of rated voltage, the under voltage release should make the breaker reliable operation.
When the voltage is more than 85 ~ 110 % of rated voltage, the under voltage release should make the breaker reliable operation.
When voltage is less than 35 % of rated voltage, the under voltage release should prevent breaker from making.



Frame		Rated voltage		
			Type code	Order code
A	3SM8-63	230V AC	M8A UR230A	25154
		400V AC	M8A UR400A	25160
B	3SM8-100	230V AC	M8B UR230A	25155
		400V AC	M8B UR400A	25161
C	3SM8-225	230V AC	M8C UR230A	25156
		400V AC	M8C UR400A	25162
D	3SM8-400	230V AC	M8D UR230A	25157
		400V AC	M8D UR400A	25163
E	3SM8-630	230V AC	M8E UR230A	25158
		400V AC	M8E UR400A	25164
F	3SM8-800	230V AC	M8F UR230A	25159
		400V AC	M8F UR400A	25165

Accessories





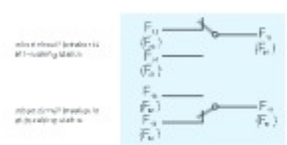
Shunt release

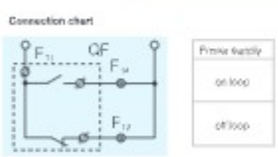
In 70% ~ 110% of the rated voltage, the breaker can reliably operate.

Frame		Rated voltage	Type code	Order code
A	3SM8-63	230 V AC	M8A SR230A	**25142**
		400 V AC	M8A SR400A	**25148**
		110 V DC	M8A SR110D	**10244**
		220 V DC	M8A SR220D	**10250**
B	3SM8-100	230 V AC	M8B SR230A	**25143**
		400 V AC	M8B SR400A	**25149**
		110 V DC	M8B SR110D	**10245**
		220 V DC	M8B SR220D	**10251**
C	3SM8-225	230 V AC	M8C SR230A	**25144**
		400 V AC	M8C SR400A	**25150**
		110 V DC	M8C SR110D	**10246**
		220 V DC	M8C SR220D	**10252**
D	3SM8-400	230 V AC	M8D SR230A	**25145**
		400 V AC	M8D SR400A	**25151**
		110 V DC	M8D SR110D	**10247**
		220 V DC	M8D SR220D	**10253**
E	3SM8-630	230 V AC	M8E SR230A	**25146**
		400 V AC	M8E SR400A	**25152**
		110 V DC	M8E SR110D	**10248**
		220 V DC	M8E SR220D	**10254**
F	3SM8-800	230 V AC	M8F SR230A	**25147**
		400 V AC	M8F SR400A	**25153**
		110 V DC	M8F SR110D	**10249**
		220 V DC	M8F SR220D	**10255**

Auxiliary contact





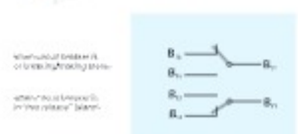


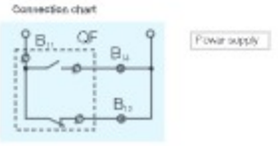
Indication of contacting status.

Frame			Type code	Order code
A	3SM8-63	Left	M8A ACL	**25166**
		Right	M8A ACR	**10256**
B	3SM8-100	Left	M8B ACL	**25167**
		Right	M8B ACR	**10257**
C	3SM8-225	Left	M8C ACL	**25168**
		Right	M8C ACR	**10258**
D	3SM8-400	Left	M8D ACL	**25169**
		Right	M8D ACR	**10259**
E	3SM8-630	Left	M8E ACL	**25170**
		Right	M8E ACR	**10260**
F	3SM8-800	Left	M8F ACL	**25171**
		Right	M8F ACR	**10261**

Alarm contact







Indication of contacting status.

Frame		Type code	Order code
A	3SM8-63	M8A AMC	**25172**
B	3SM8-100	M8B AMC	**25173**
C	3SM8-225	M8C AMC	**25174**
D	3SM8-400	M8D AMC	**25175**
E	3SM8-630	M8E AMC	**25176**
F	3SM8-800	M8F AMC	**25177**

Tripping Characteristic

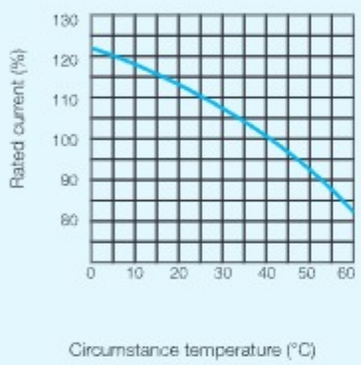
For power distribution

No.	Test current	I/In	Conventional time	Start status
1	Conventional non-trip current	1.05	2h (In > 63 A), 1h (In ≤ 63 A)	Cold status
2	Conventional trip current	1.3	2h (In > 63 A), 1h (In ≤ 63 A)	Right after test No.1

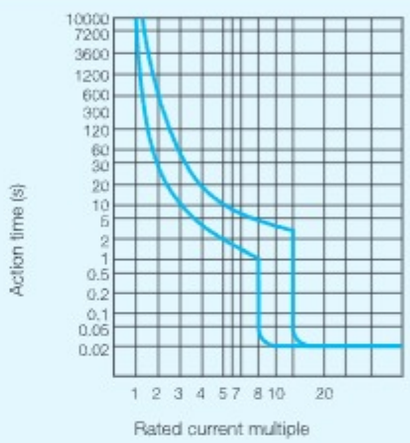
For motor protection

No.	Operational current	Conventional time	Start status	Remark
1	1.0 In	2 h	Cold status	-
2	1.2 In	≤ 2 h	Right after test No.1	-
3	1.5 In	≤ 4 min	Cold status	10 ≤ In ≤ 225
		≤ 8 min	Cold status	225 < In ≤ 630
4	7.2 In	4 s ≤ T ≤ 10 s	Cold status	10 ≤ In ≤ 225
		6 s ≤ T ≤ 20 s	Cold status	225 < In ≤ 630

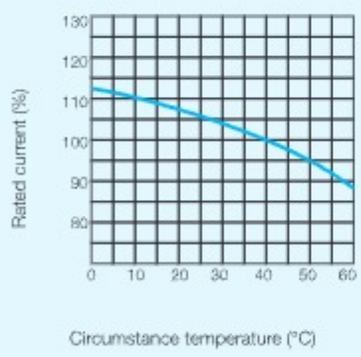
3SM8-63, 100 (10~32 A) Temperature emendation curve



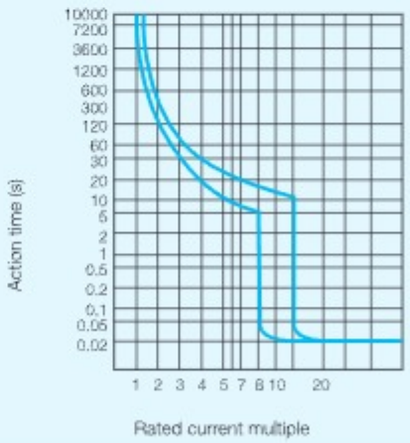
3SM8-63, 100 (10~32 A) Characteristic curve



3SM8-63, 100 (40~100 A) Temperature emendation curve



3SM8-63, 100 (40~100 A) Characteristic curve



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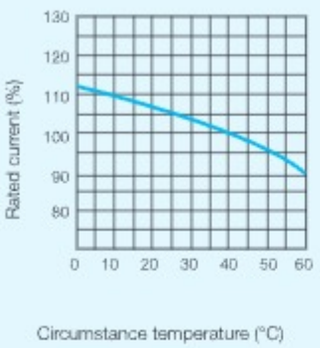
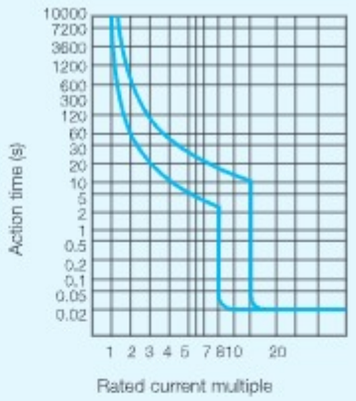
Temperature performance curve

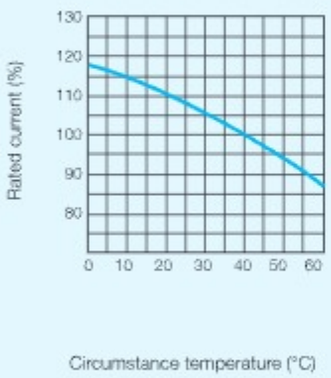
3SM8-225 Temperature emendation curve



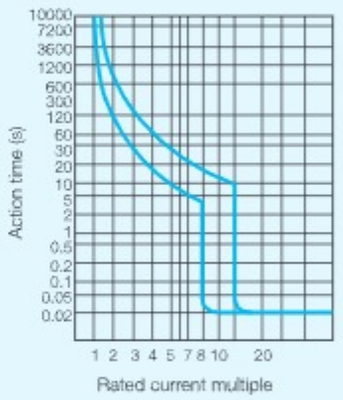
3SM8-225 Characteristic curve



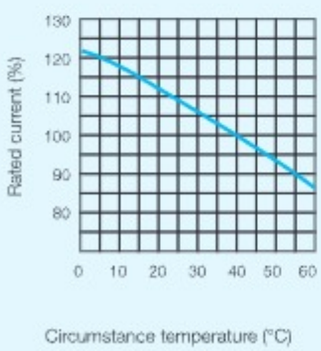
3SM8-400 Temperature emendation curve



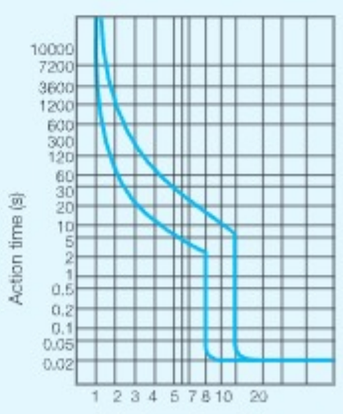
3SM8-400 Characteristic curve



3SM8-630, 800 Temperature emendation curve

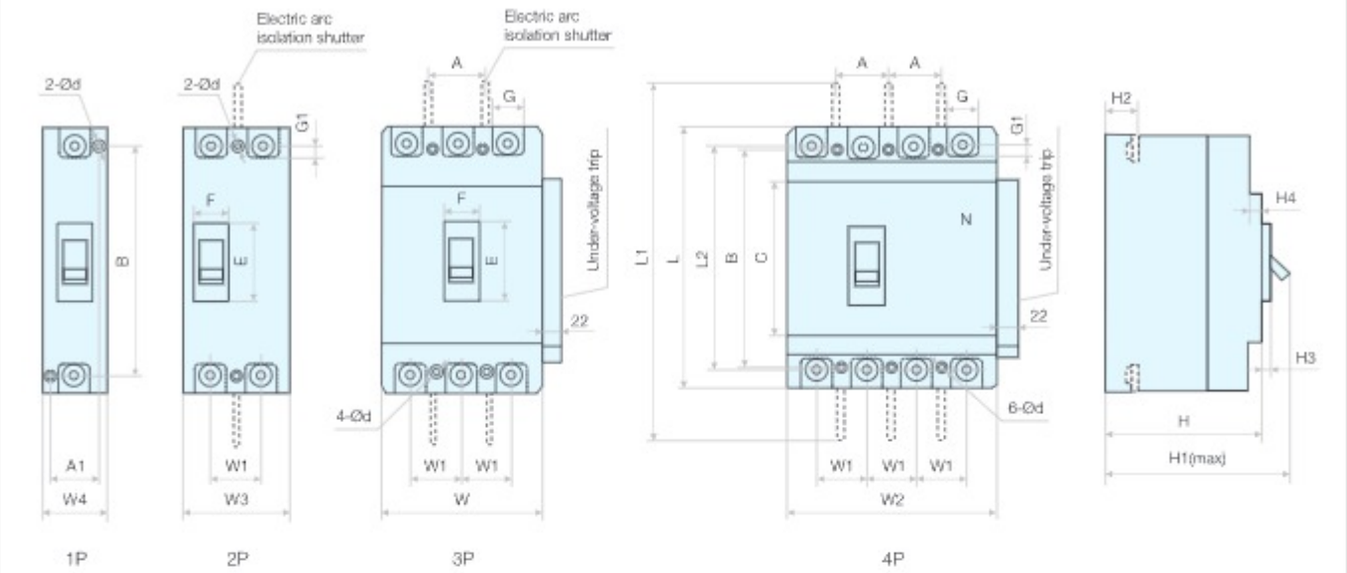


3SM8-630, 800 Characteristic curve



Outline and installation dimensions

3SM8-63, 100, 225 (front connection)



		Model					
		3SM8-63L	3SM8-63M	3SM8-100L 3SM8-100H	3SM8-100M	3SM8-225L 3SM8-225H	3SM8-225M
Dimensions	C	85	85	88.5	88.5	102	102
	E	50	50	50	50	55	55
	F	26	26	26	26	29	29
	G	14	14	17	17	22	22
	G1	6	6	7.5	7.5	16	10
	H	73.5	82.5	68	86	86.5	103
	H1	92	98.5	86	103	110	127
	H2	20	28	24	24	24	24
	H3	4.8	4.8	4.8	4	4	4
	H4	6.5	6.5	6.5	6.5	5	5
	L	135	135	150	150	165	165
	L1	172	172	255	255	360	360
	L2	114	114	132	132	144	144
	W	78	78	90	90	107	107
	W1	25	25	30	30	35	35
	W2	-	103	-	122	-	142
	W3	-	-	64.5	64.5	74.5	74.5
	W4	-	-	38	-	43	-
Installation dimensions	A1	-	-	29	-	32	-
	A	25	25	30	30	35	35
	B	117	117	129	130	126	126
	Ød	4.2	4.2	4.5	4.5	4.5	4.5

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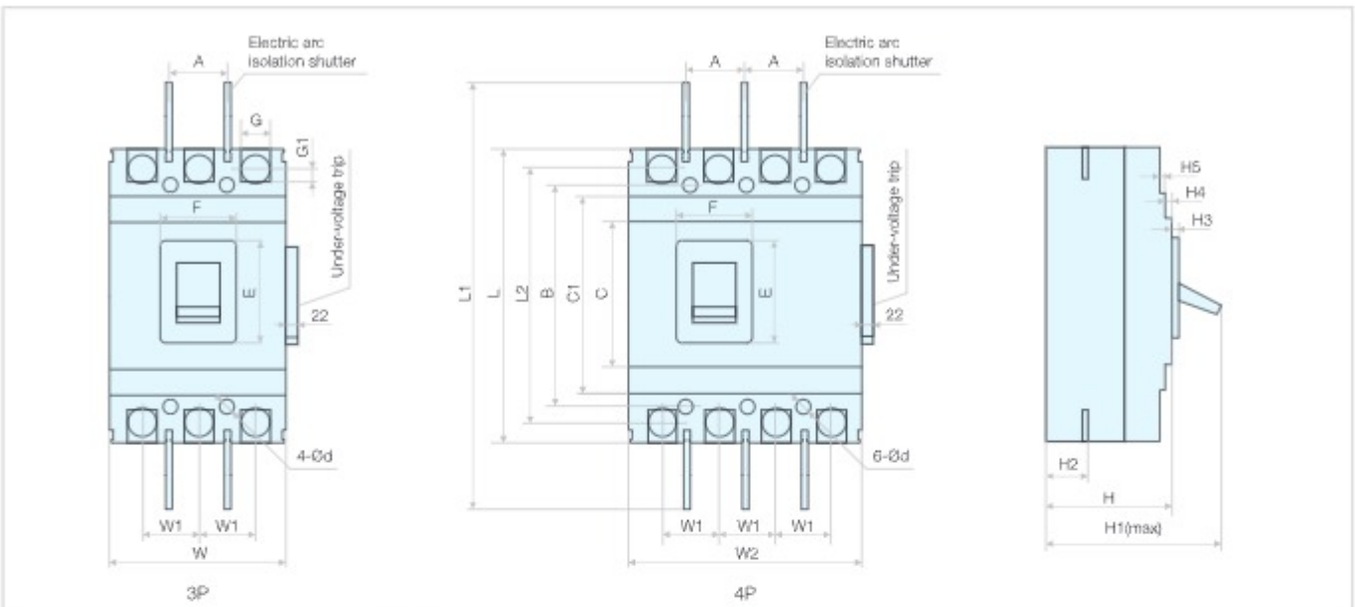
Outline and installation dimensions

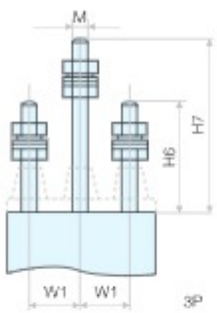
3SM8-400, 630, 800 (front connection)

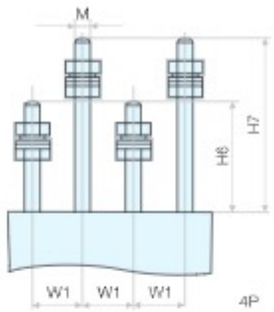


		Model				
		3SM8-400L	3SM8-400M	3SM8-630L 3SM8-630H	3SM8-630M	3SM8-800M 3SM8-800H
Dimensions	C	120	120	134	134	154
	C1	174	174	184	184	204
	E	89	89	89	89	81
	F	65	65	65	65	66
	G	32	32	44	44	46
	G1	11	11	14	14	14
	H	107	107	112.5	112.5	111.5
	H1	146.5	146.5	160	160	155
	H2	38	38	43	43	44
	H3	9	9	10	10	10
	H4	7.5	7.5	10	10	10.5
	H5	4.5	4.5	4.5	4.5	4.5
	L	257	257	270	270	280
	L1	457	457	470	470	470
	L2	224	224	234	234	243
	W	150	150	182	182	210
	W1	44	44	58	58	70
	W2	-	198	-	240	280
Installation dimensions	A	44	44	58	58	70
	B	194	194	200	200	243
	Ød	7	7	7	7	7

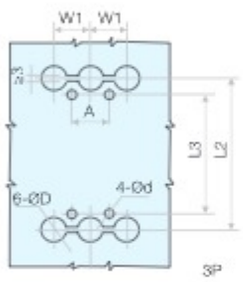
Outline and installation dimensions

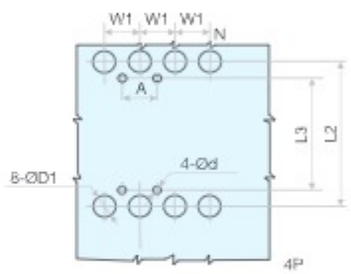
3SM8-63, 100, 225 (Rear connection)



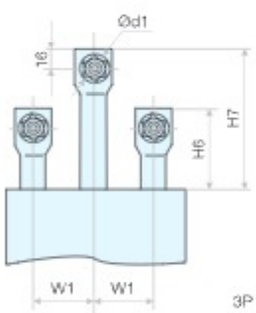


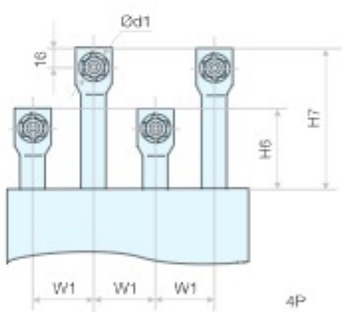
Rear connection stiletto chart





3SM8-400, 630, 800 (Rear connection)





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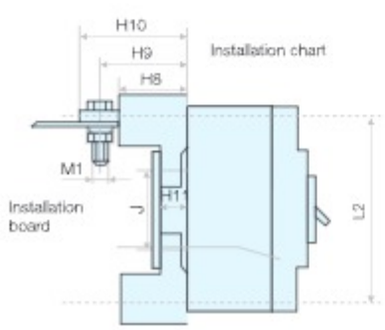
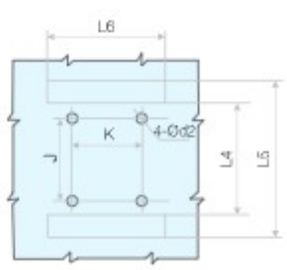


Installation board stiletto chart

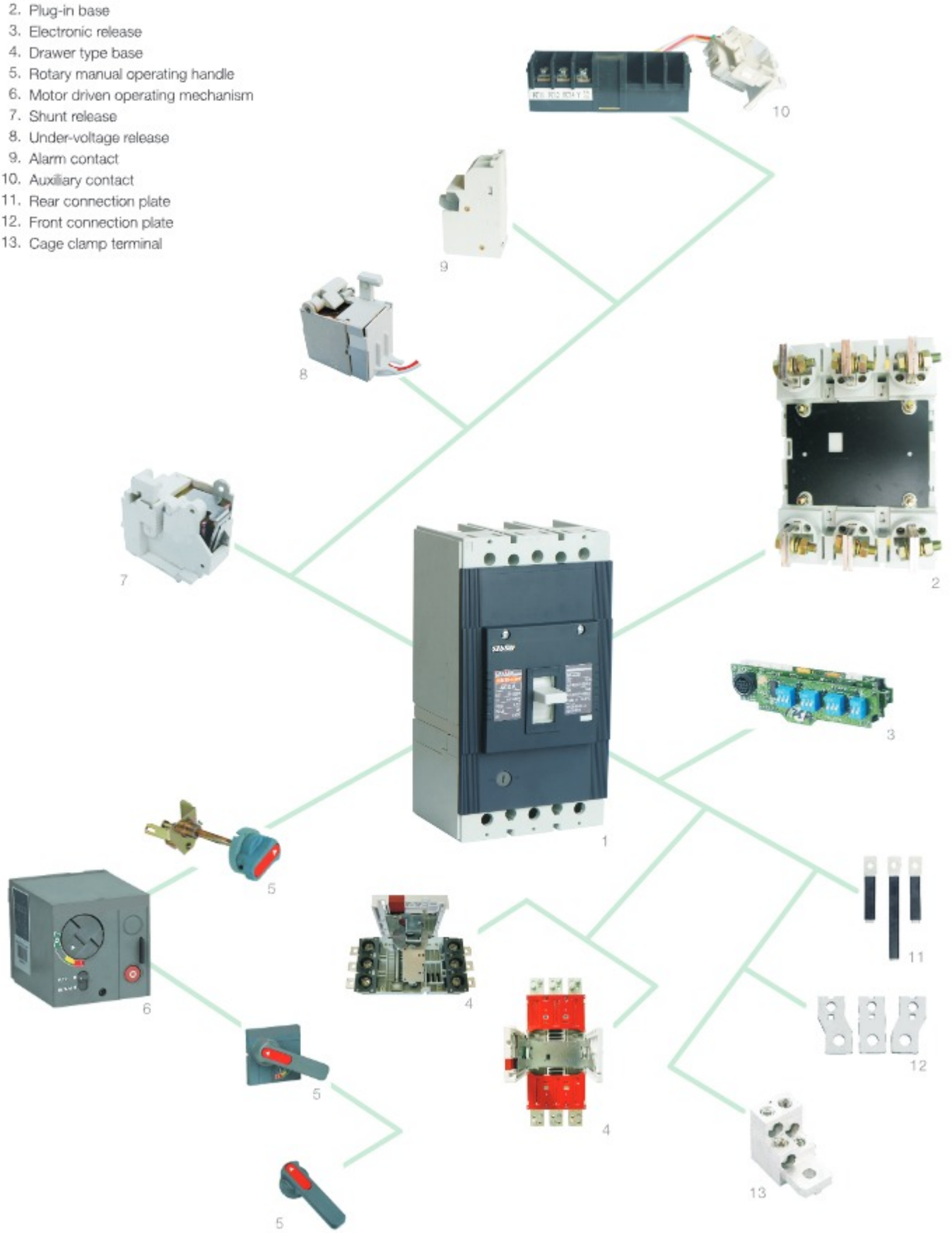


Outline and installation dimensions

	3SM8-63L 3SM8-63M	3SM8-100L 3SM8-100M 3SM8-100H	3SM8-225L 3SM8-225M 3SM8-225H	3SM8-400L 3SM8-400M 3SM8-400H	3SM8-630L 3SM8-630M 3SM8-630H	3SM8-800M 3SM8-800H
A	25	30	35	44	58	70
Ød	Ø4.2	Ø4.5	Ø4.5	Ø6.5	Ø6.5	Ø7
Ød1	-	-	-	Ø12.5	Ø16.5	Ø16.5
Ød2	Ø5.5	Ø6.5	Ø6.5	Ø8.5	Ø8.5	Ø11.5
ØD	Ø14	Ø25	Ø25	Ø32	Ø40	Ø48
ØD1	Ø14	Ø25	Ø25	Ø32	Ø40	Ø48
H6	30	53	68	63.2	63.5	84
H7	50	88	89	104.5	104.5	84
H8	28	50	58	63.5	60	74
H9	36	64	65	80	92	-
H10	43	80	80	102	110	104
H11	10	15	17.5	20	21	30
L2	117	132	144	224	234	243
L3	117	107	126	194	200	243
L4	90	90	88	166	167	175
L5	146	172	190	282	303	305
L6	79	94	110	152	185	213
M	M5	M8	M8	-	-	-
K	50	60	70	60	100	90
J	60	56	54	129	123	123
M1	M5	M8	M8	M12	M12	M14
W1	25	30	35	48	58	70

Overview

1. Body
2. Plug-in base
3. Electronic release
4. Drawer type base
5. Rotary manual operating handle
6. Motor driven operating mechanism
7. Shunt release
8. Under-voltage release
9. Alarm contact
10. Auxiliary contact
11. Rear connection plate
12. Front connection plate
13. Cage clamp terminal



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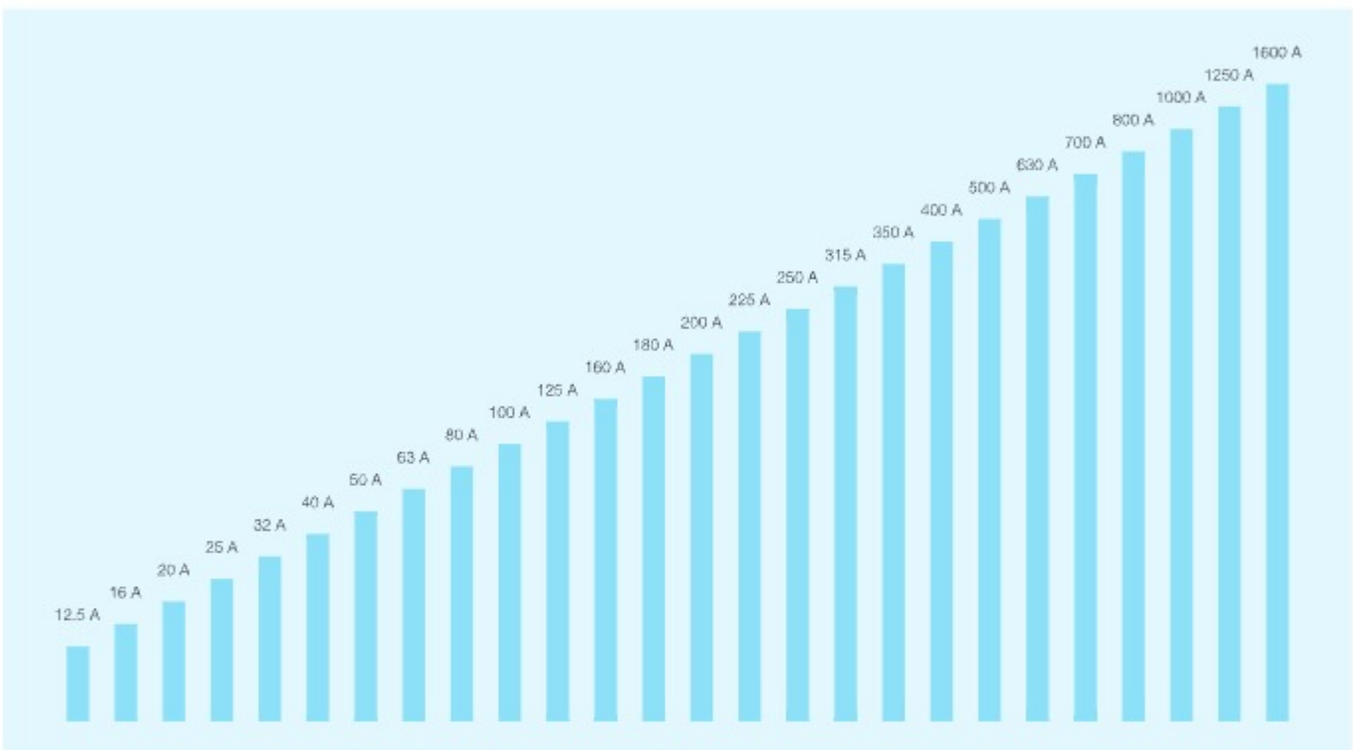
Applications and functions

- Incoming and outgoing function in distribution systems
- Switching and protection of short circuit and overload for motors, transformers and capacitors
- Stopping and switching off in an emergency in conjunction with lockable rotary operating mechanisms and terminal covers
- Available in the following versions:
  - System protection: the overload and short-circuit releases are designed for the protection of cables, leads and non-motor loads.
  - Motor protection: the overload and short-circuit releases are designed for optimized protection and direct-on-line starting of induction squirrel-cage motors.

Features

- Complete current range



- High-breaking capacity
  (1) B: Basic breaking capacity type
  (2) N: Normal breaking capacity type
  (3) S: Standard breaking capacity type
  (4) H: High-breaking capacity type
  (5) G: Ultrahigh breaking capacity type

Frame rated current	Rated ultimate short circuit breaking capacity Icu				
	20 kA	35 kA	50 kA	65 kA	85 kA
A: 125 A		N			
B: 160 A	B	N	S		
C: 250 A	B	N	S	H	
D: 400 A		N	S	H	
E: 630 A		N	S	H	
F: 800 A		N	S	H	
G: 1250 A			S	H	G
H: 1600 A			S	H	G

- Microprocess controlled
  3SM29 series circuit breaker (Inm ≥ 250) adopt advanced microprocess electronic release that can intelligentize the protection.

- Convenient installation
  3SM29 series circuit breaker provides three installation types as follow:
  - Fixed installation with front connection and rear connection
  - Plug-in installation with front connection and rear connection
  - Drawer installation

Instruction of type code

M29 A T F 3 B 125

- 125: Rated current
- B: Breaking capacity: B, N, S, H, G
- 3: Poles (P): 3, 4
- F: Installation type: F: Fixed type; P: Plug in type; D: Drawer type
- T: Thermal magnetic type; E: Electronic type
- A: Frame: A: 3SM29-125; B: 3SM29-160; C: 3SM29-250; D: 3SM29-400; E: 3SM29-630; F: 3SM29-800; G: 3SM29-1250; H: 3SM29-1600
- M29: Series code



1

Technical specifications

Type			3SM29-125		3SM29-160			3SM29-250			3SM29-400			3SM29-630, 3SM29-800			3SM29-1250, 3SM29-1600		
Standards			IEC 60947-2		IEC 60947-2			IEC 60947-2			IEC 60947-2			IEC 60947-2			IEC 60947-2		
Frame type			A		B			C			D			E, F			G, H		
Poles (No)			3, 4		3, 4			3, 4			3, 4			3, 4			3		
N-pole rated current			= In		= In			= In			= In			= In			= In		
Frame Current Inm (A)			125		160			250			400			630, 800			1250, 1600		
Rated current In (A)			12.5, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125		32, 40, 50, 63, 80, 100, 125, 160			125, 160, 180, 200, 225, 250			250, 315, 350, 400			400, 500, 630, 700, 800			800, 1000, 1250, 1600		
Rated insulating voltage Ui (V)			500		690			690			690			690			690		
Rated service voltage Ue (V)			400		400			400			400			400			400		
Rated frequency in AC (Hz)			50/60		50/60			50/60			50/60			50/60			50/60		
Rated impulsed withstand voltage Uimp (Kv)			6		6			8			8			8			8		
Class of breaking capacity			B	N	B	N	S	N	S	H	N	S	H	N	S	H	S	H	G
Rated ultimate short-circuit breaking capacity, Icu (kA)																			
(AC) 50-60 Hz 400V O-CO (kA)			20	35	20	35	50	35	50	65	35	50	65	35	50	65	50	65	85
(AC) 50-60 Hz 690V O-CO-CO			15	20	16	25	35	20	30	35	20	30	35	20	30	35	30	35	50
Rated operating short-circuit breaking capacity, Ics																			
(AC) 50-60 Hz 400V O-CO-CO (kA)			10	17.5	10	17.5	25	35	37.5	48.8	35	37.5	48.8	35	37.5	48.8	50	48.75	50
(AC) 50-60 Hz 690V O-CO-CO (kA)			-	-	5	10	15	20	30	35	20	30	35	20	35	30	35	35	35
Rated short-time withstand current for 1s (kA)			-		-			-			5			10			20		
Mechanical life (times)			8500		7000			7000			4000			4000			2500		
Electrical life (times)			1500		1000			1000			1000			1000			500		
Flashover distance (mm)			≤ 30		≤ 30			≤ 50			≤ 50			≤ 80			≤ 80		
Thermal magnetic release			■		■			■			■			■					
Electronic release			-		-			■			■			■			■		
Utilization category (IEC 60947-2)			A		A			A			A, B			A, B			A, B		
Motor control mechanism			■		■			■			■			■					
Rotary handle operation mechanism			■		■			■			■			■			■		
Shunt and under voltage release			■		■			■			■			■					
Auxiliary contact and alarm contact			■		■			■			■			■			■		
Dismension	W (mm)	3P	76		90			105			140			210			210		
		4P	101		120			140			184			280			280		
	L (mm)	3P	120		120			170			254			268			406		
		4P	120		120			170			254			268			406		
	H (mm)	3P	70		70			103.5			103.5			103.5			138.5		
		4P	70		70			103.5			103.5			103.5			138.5		
Weight	Fixed	3P/4P	0.92/1.3		1.2/1.6			2.7/3.5			5.1/7			9.6/12.2			17.2/22.2		
	Plug in	3P/4P	1.2/1.5		1.4/1.8			3.2/4.2			6.2/8.5			-			-		
	Withdrawable	3P/4P	-		-			3.6/4.6			6.5/8.7			12.2/15.3			22/30.1		
Ambient temperature			-5 ~ 40 °C, max. 95 % humidity																
Storage temperature			-40 ~ +75 °C																
Altitude (Max)			2,000																

Selection and ordering data

Thermal Magnetic Type

	Breaking capacity	Poles	Rated current (A)	Fixed type		Plug in type		Withdrawable type	
				Type code	Order code	Type code	Order code	Type code	Order code
3SM29-125	20 kA (B)	3	12.5	M29ATF 3B12.5	10484	M29ATP 3B12.5	10506	-	-
			16	M29ATF 3B16	10485	M29ATP 3B16	10507	-	-
			20	M29ATF 3B20	10486	M29ATP 3B20	10508	-	-
			25	M29ATF 3B25	10487	M29ATP 3B25	10509	-	-
			32	M29ATF 3B32	10488	M29ATP 3B32	10510	-	-
			40	M29ATF 3B40	10489	M29ATP 3B40	10511	-	-
			50	M29ATF 3B50	10490	M29ATP 3B50	10512	-	-
			63	M29ATF 3B63	10491	M29ATP 3B63	10513	-	-
			80	M29ATF 3B80	10492	M29ATP 3B80	10514	-	-
			100	M29ATF 3B100	10493	M29ATP 3B100	10515	-	-
			125	M29ATF 3B125	10494	M29ATP 3B125	10516	-	-
		4	12.5	M29ATF 4B12.5	10528	M29ATP 4B12.5	10550	-	-
			16	M29ATF 4B16	10529	M29ATP 4B16	10551	-	-
			20	M29ATF 4B20	10530	M29ATP 4B20	10552	-	-
			25	M29ATF 4B25	10531	M29ATP 4B25	10553	-	-
			32	M29ATF 4B32	10532	M29ATP 4B32	10554	-	-
			40	M29ATF 4B40	10533	M29ATP 4B40	10555	-	-
			50	M29ATF 4B50	10534	M29ATP 4B50	10556	-	-
			63	M29ATF 4B63	10535	M29ATP 4B63	10557	-	-
			80	M29ATF 4B80	10536	M29ATP 4B80	10558	-	-
			100	M29ATF 4B100	10537	M29ATP 4B100	10559	-	-
			125	M29ATF 4B125	10538	M29ATP 4B125	10560	-	-
	35 kA (N)	3	12.5	M29ATF 3N12.5	10495	M29ATP 3N12.5	10517	-	-
			16	M29ATF 3N16	10496	M29ATP 3N16	10518	-	-
			20	M29ATF 3N20	10497	M29ATP 3N20	10519	-	-
			25	M29ATF 3N25	10498	M29ATP 3N25	10520	-	-
			32	M29ATF 3N32	10499	M29ATP 3N32	10521	-	-
			40	M29ATF 3N40	10500	M29ATP 3N40	10522	-	-
			50	M29ATF 3N50	10501	M29ATP 3N50	10523	-	-
			63	M29ATF 3N63	10502	M29ATP 3N63	10524	-	-
			80	M29ATF 3N80	10503	M29ATP 3N80	10525	-	-
			100	M29ATF 3N100	10504	M29ATP 3N100	10526	-	-
			125	M29ATF 3N125	10505	M29ATP 3N125	10527	-	-
		4	12.5	M29ATF 4N12.5	10539	M29ATP 4N12.5	10561	-	-
			16	M29ATF 4N16	10540	M29ATP 4N16	10562	-	-
			20	M29ATF 4N20	10541	M29ATP 4N20	10563	-	-
			25	M29ATF 4N25	10542	M29ATP 4N25	10564	-	-
			32	M29ATF 4N32	10543	M29ATP 4N32	10565	-	-
			40	M29ATF 4N40	10544	M29ATP 4N40	10566	-	-
			50	M29ATF 4N50	10545	M29ATP 4N50	10567	-	-
			63	M29ATF 4N63	10546	M29ATP 4N63	10568	-	-
			80	M29ATF 4N80	10547	M29ATP 4N80	10569	-	-
			100	M29ATF 4N100	10548	M29ATP 4N100	10570	-	-
			125	M29ATF 4N125	10549	M29ATP 4N125	10571	-	-
3SM29-160	20 kA (B)	3	32	M29BTF 3B32	10572	M29BTP 3B32	34331	-	-
			40	M29BTF 3B40	10573	M29BTP 3B40	34332	-	-
			50	M29BTF 3B50	10574	M29BTP 3B50	34333	-	-
			63	M29BTF 3B63	10575	M29BTP 3B63	34334	-	-
			80	M29BTF 3B80	10576	M29BTP 3B80	34335	-	-
			100	M29BTF 3B100	10577	M29BTP 3B100	34336	-	-
			125	M29BTF 3B125	10578	M29BTP 3B125	34337	-	-
			160	M29BTF 3B160	10579	M29BTP 3B160	34338	-	-
		4	32	M29BTF 4B32	34339	M29BTP 4B32	34347	-	-
			40	M29BTF 4B40	34340	M29BTP 4B40	34348	-	-
			50	M29BTF 4B50	34341	M29BTP 4B50	34349	-	-
			63	M29BTF 4B63	34342	M29BTP 4B63	34350	-	-
			80	M29BTF 4B80	34343	M29BTP 4B80	34351	-	-
			100	M29BTF 4B100	34344	M29BTP 4B100	34352	-	-
			125	M29BTF 4B125	34345	M29BTP 4B125	34353	-	-
			160	M29BTF 4B160	34346	M29BTP 4B160	34354	-	-





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Selection and ordering data

Thermal Magnetic Type

	Breaking capacity	Poles	Rated current (A)	Fixed type		Plug in type		Withdrawable type	
				Type code	Order code	Type code	Order code	Type code	Order code
3SM29-160	35 kA (N)	3	32	M29BTF 3N32	**10580**	M29BTP 3N32	**39925**	-	-
			40	M29BTF 3N40	**10581**	M29BTP 3N40	**39926**	-	-
			50	M29BTF 3N50	**10582**	M29BTP 3N50	**39927**	-	-
			63	M29BTF 3N63	**10583**	M29BTP 3N63	**39928**	-	-
			80	M29BTF 3N80	**10584**	M29BTP 3N80	**39929**	-	-
			100	M29BTF 3N100	**10585**	M29BTP 3N100	**39930**	-	-
			125	M29BTF 3N125	**10586**	M29BTP 3N125	**39931**	-	-
			160	M29BTF 3N160	**10587**	M29BTP 3N160	**39932**	-	-
		4	32	M29BTF 4N32	**10604**	M29BTP 4N32	**10612**	-	-
			40	M29BTF 4N40	**10605**	M29BTP 4N40	**10613**	-	-
			50	M29BTF 4N50	**10606**	M29BTP 4N50	**10614**	-	-
			63	M29BTF 4N63	**10607**	M29BTP 4N63	**10615**	-	-
			80	M29BTF 4N80	**10608**	M29BTP 4N80	**10616**	-	-
			100	M29BTF 4N100	**10609**	M29BTP 4N100	**10617**	-	-
			125	M29BTF 4N125	**10610**	M29BTP 4N125	**10618**	-	-
			160	M29BTF 4N160	**10611**	M29BTP 4N160	**10619**	-	-
	50 kA (S)	3	32	M29BTF 3S32	**10588**	M29BTP 3S32	**10596**	-	-
			40	M29BTF 3S40	**10589**	M29BTP 3S40	**10597**	-	-
			50	M29BTF 3S50	**10590**	M29BTP 3S50	**10598**	-	-
			63	M29BTF 3S63	**10591**	M29BTP 3S63	**10599**	-	-
			80	M29BTF 3S80	**10592**	M29BTP 3S80	**10600**	-	-
			100	M29BTF 3S100	**10593**	M29BTP 3S100	**10601**	-	-
			125	M29BTF 3S125	**10594**	M29BTP 3S125	**10602**	-	-
			160	M29BTF 3S160	**10595**	M29BTP 3S160	**10603**	-	-
		4	32	M29BTF 4S32	**39933**	M29BTP 4S32	**10620**	-	-
			40	M29BTF 4S40	**39934**	M29BTP 4S40	**10621**	-	-
			50	M29BTF 4S50	**39935**	M29BTP 4S50	**10622**	-	-
			63	M29BTF 4S63	**39936**	M29BTP 4S63	**10623**	-	-
			80	M29BTF 4S80	**39937**	M29BTP 4S80	**10624**	-	-
			100	M29BTF 4S100	**39938**	M29BTP 4S100	**10625**	-	-
			125	M29BTF 4S125	**39939**	M29BTP 4S125	**10626**	-	-
			160	M29BTF 4S160	**39940**	M29BTP 4S160	**10627**	-	-
3SM29-250	35 kA (N)	3	125	M29CTF 3N125	**39941**	M29CTP 3N125	**10638**	M29CTD 3N125	**10656**
			160	M29CTF 3N160	**39942**	M29CTP 3N160	**10639**	M29CTD 3N160	**10657**
			180	M29CTF 3N180	**39943**	M29CTP 3N180	**10640**	M29CTD 3N180	**10658**
			200	M29CTF 3N200	**39944**	M29CTP 3N200	**10641**	M29CTD 3N200	**10659**
			225	M29CTF 3N225	**39945**	M29CTP 3N225	**10642**	M29CTD 3N225	**10660**
			250	M29CTF 3N250	**39946**	M29CTP 3N250	**10643**	M29CTD 3N250	**10661**
		4	125	M29CTF 4N125	**10674**	M29CTP 4N125	**10692**	M29CTD 4N125	**16011**
			160	M29CTF 4N160	**10675**	M29CTP 4N160	**10693**	M29CTD 4N160	**16012**
			180	M29CTF 4N180	**10676**	M29CTP 4N180	**10694**	M29CTD 4N180	**16013**
			200	M29CTF 4N200	**10677**	M29CTP 4N200	**10695**	M29CTD 4N200	**16014**
			225	M29CTF 4N225	**10678**	M29CTP 4N225	**10696**	M29CTD 4N225	**16015**
			250	M29CTF 4N250	**10679**	M29CTP 4N250	**10697**	M29CTD 4N250	**16016**
	50 kA (S)	3	125	M29CTF 3S125	**39947**	M29CTP 3S125	**10644**	M29CTD 3S125	**10662**
			160	M29CTF 3S160	**39948**	M29CTP 3S160	**10645**	M29CTD 3S160	**10663**
			180	M29CTF 3S180	**10628**	M29CTP 3S180	**10646**	M29CTD 3S180	**10664**
			200	M29CTF 3S200	**10629**	M29CTP 3S200	**10647**	M29CTD 3S200	**10665**
			225	M29CTF 3S225	**10630**	M29CTP 3S225	**10648**	M29CTD 3S225	**10666**
			250	M29CTF 3S250	**10631**	M29CTP 3S250	**10649**	M29CTD 3S250	**10667**
		4	125	M29CTF 4S125	**10680**	M29CTP 4S125	**10698**	M29CTD 4S125	**16017**
			160	M29CTF 4S160	**10681**	M29CTP 4S160	**10699**	M29CTD 4S160	**16018**
			180	M29CTF 4S180	**10682**	M29CTP 4S180	**10700**	M29CTD 4S180	**16019**
			200	M29CTF 4S200	**10683**	M29CTP 4S200	**16002**	M29CTD 4S200	**16020**
			225	M29CTF 4S225	**10684**	M29CTP 4S225	**16003**	M29CTD 4S225	**16021**
			250	M29CTF 4S250	**10685**	M29CTP 4S250	**16004**	M29CTD 4S250	**16022**



Selection and ordering data

Thermal Magnetic Type

	Breaking capacity	Poles	Rated current (A)	Fixed type		Plug in type		Withdrawable type	
				Type code	Order code	Type code	Order code	Type code	Order code
3SM29-250	65 kA (H)	3	125	M29CTF 3H125	**10632**	M29CTP 3H125	**10650**	M29CTD 3H125	**10668**
			160	M29CTF 3H160	**10633**	M29CTP 3H160	**10651**	M29CTD 3H160	**10669**
			180	M29CTF 3H180	**10634**	M29CTP 3H180	**10652**	M29CTD 3H180	**10670**
			200	M29CTF 3H200	**10635**	M29CTP 3H200	**10653**	M29CTD 3H200	**10671**
			225	M29CTF 3H225	**10636**	M29CTP 3H225	**10654**	M29CTD 3H225	**10672**
			250	M29CTF 3H250	**10637**	M29CTP 3H250	**10655**	M29CTD 3H250	**10673**
		4	125	M29CTF 4H125	**10686**	M29CTP 4H125	**16005**	M29CTD 4H125	**16023**
			160	M29CTF 4H160	**10687**	M29CTP 4H160	**16006**	M29CTD 4H160	**16024**
			180	M29CTF 4H180	**10688**	M29CTP 4H180	**16007**	M29CTD 4H180	**16025**
			200	M29CTF 4H200	**10689**	M29CTP 4H200	**16008**	M29CTD 4H200	**16026**
			225	M29CTF 4H225	**10690**	M29CTP 4H225	**16009**	M29CTD 4H225	**16027**
			250	M29CTF 4H250	**10691**	M29CTP 4H250	**16010**	M29CTD 4H250	**16028**
3SM29-400	35 kA (N)	3	250	M29DTF 3N250	**16029**	M29DTP 3N250	**16041**	M29DTD 3N250	**16053**
			315	M29DTF 3N315	**16030**	M29DTP 3N315	**16042**	M29DTD 3N315	**16054**
			350	M29DTF 3N350	**16031**	M29DTP 3N350	**16043**	M29DTD 3N350	**16055**
			400	M29DTF 3N400	**16032**	M29DTP 3N400	**16044**	M29DTD 3N400	**16056**
		4	250	M29DTF 4N250	**16065**	M29DTP 4N250	**34097**	M29DTD 4N250	**34109**
			315	M29DTF 4N315	**16066**	M29DTP 4N315	**34098**	M29DTD 4N315	**34110**
			350	M29DTF 4N350	**34087**	M29DTP 4N350	**34099**	M29DTD 4N350	**34111**
			400	M29DTF 4N400	**34088**	M29DTP 4N400	**34100**	M29DTD 4N400	**34112**
	50 kA (S)	3	250	M29DTF 3S250	**16033**	M29DTP 3S250	**16045**	M29DTD 3S250	**16057**
			315	M29DTF 3S315	**16034**	M29DTP 3S315	**16046**	M29DTD 3S315	**16058**
			350	M29DTF 3S350	**16035**	M29DTP 3S350	**16047**	M29DTD 3S350	**16059**
			400	M29DTF 3S400	**16036**	M29DTP 3S400	**16048**	M29DTD 3S400	**16060**
		4	250	M29DTF 4S250	**34089**	M29DTP 4S250	**34101**	M29DTD 4S250	**34113**
			315	M29DTF 4S315	**34090**	M29DTP 4S315	**34102**	M29DTD 4S315	**34114**
			350	M29DTF 4S350	**34091**	M29DTP 4S350	**34103**	M29DTD 4S350	**34115**
			400	M29DTF 4S400	**34092**	M29DTP 4S400	**34104**	M29DTD 4S400	**34116**
	65 kA (H)	3	250	M29DTF 3H250	**16037**	M29DTP 3H250	**16049**	M29DTD 3H250	**16061**
			315	M29DTF 3H315	**16038**	M29DTP 3H315	**16050**	M29DTD 3H315	**16062**
			350	M29DTF 3H350	**16039**	M29DTP 3H350	**16051**	M29DTD 3H350	**16063**
			400	M29DTF 3H400	**16040**	M29DTP 3H400	**16052**	M29DTD 3H400	**16064**
		4	250	M29DTF 4H250	**34093**	M29DTP 4H250	**34105**	M29DTD 4H250	**34117**
			315	M29DTF 4H315	**34094**	M29DTP 4H315	**34106**	M29DTD 4H315	**34118**
			350	M29DTF 4H350	**34095**	M29DTP 4H350	**34107**	M29DTD 4H350	**34119**
			400	M29DTF 4H400	**34096**	M29DTP 4H400	**34108**	M29DTD 4H400	**34120**
3SM29-630	35 kA (N)	3	400	M29ETF 3N400	**34124**	-	-	M29ETD 3N400	**34160**
			500	M29ETF 3N500	**34125**	-	-	M29ETD 3N500	**34161**
			630	M29ETF 3N630	**34126**	-	-	M29ETD 3N630	**34162**
		4	400	M29ETF 4N400	**34178**	-	-	M29ETD 4N400	**34214**
			500	M29ETF 4N500	**34179**	-	-	M29ETD 4N500	**34215**
			630	M29ETF 4N630	**34180**	-	-	M29ETD 4N630	**34216**
	50 kA (S)	3	400	M29ETF 3S400	**34130**	-	-	M29ETD 3S400	**34166**
			500	M29ETF 3S500	**34131**	-	-	M29ETD 3S500	**34167**
			630	M29ETF 3S630	**34132**	-	-	M29ETD 3S630	**34168**
		4	400	M29ETF 4S400	**34184**	-	-	M29ETD 4S400	**34220**
			500	M29ETF 4S500	**34185**	-	-	M29ETD 4S500	**34221**
			630	M29ETF 4S630	**34186**	-	-	M29ETD 4S630	**34222**
	65 kA (H)	3	400	M29ETF 3H400	**34136**	-	-	M29ETD 3H400	**34172**
			500	M29ETF 3H500	**34137**	-	-	M29ETD 3H500	**34173**
			630	M29ETF 3H630	**34138**	-	-	M29ETD 3H630	**34174**
		4	400	M29ETF 4H400	**34190**	-	-	M29ETD 4H400	**34226**
			500	M29ETF 4H500	**34191**	-	-	M29ETD 4H500	**34227**
			630	M29ETF 4H630	**34192**	-	-	M29ETD 4H630	**34228**





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Selection and ordering data

Thermal Magnetic Type

	Breaking capacity	Poles	Rated current (A)	Fixed type		Plug in type		Withdrawable type	
				Type code	Order code	Type code	Order code	Type code	Order code
3SM29-800	35 kA (N)	3	400	M29FTF 3N400	**34229**	-	-	M29FTD 3N400	**34244**
			500	M29FTF 3N500	**34230**	-	-	M29FTD 3N500	**34245**
			630	M29FTF 3N630	**34231**	-	-	M29FTD 3N630	**34246**
			700	M29FTF 3N700	**34232**	-	-	M29FTD 3N700	**34247**
			800	M29FTF 3N800	**34233**	-	-	M29FTD 3N800	**34248**
		4	400	M29FTF 4N400	**34259**	-	-	M29FTD 4N400	**34274**
			500	M29FTF 4N500	**34260**	-	-	M29FTD 4N500	**34275**
			630	M29FTF 4N630	**34261**	-	-	M29FTD 4N630	**34276**
			700	M29FTF 4N700	**34262**	-	-	M29FTD 4N700	**34277**
			800	M29FTF 4N800	**34263**	-	-	M29FTD 4N800	**34278**
	50 kA (S)	3	400	M29FTF 3S400	**34234**	-	-	M29FTD 3S400	**34249**
			500	M29FTF 3S500	**34235**	-	-	M29FTD 3S500	**34250**
			630	M29FTF 3S630	**34236**	-	-	M29FTD 3S630	**34251**
			700	M29FTF 3S700	**34237**	-	-	M29FTD 3S700	**34252**
			800	M29FTF 3S800	**34238**	-	-	M29FTD 3S800	**34253**
		4	400	M29FTF 4S400	**34264**	-	-	M29FTD 4S400	**34279**
			500	M29FTF 4S500	**34265**	-	-	M29FTD 4S500	**34280**
			630	M29FTF 4S630	**34266**	-	-	M29FTD 4S630	**34281**
			700	M29FTF 4S700	**34267**	-	-	M29FTD 4S700	**34282**
			800	M29FTF 4S800	**34268**	-	-	M29FTD 4S800	**34283**
	65 kA (H)	3	400	M29FTF 3H400	**34239**	-	-	M29FTD 3H400	**34254**
			500	M29FTF 3H500	**34240**	-	-	M29FTD 3H500	**34255**
			630	M29FTF 3H630	**34241**	-	-	M29FTD 3H630	**34256**
			700	M29FTF 3H700	**34242**	-	-	M29FTD 3H700	**34257**
			800	M29FTF 3H800	**34243**	-	-	M29FTD 3H800	**34258**
		4	400	M29FTF 4H400	**34269**	-	-	M29FTD 4H400	**34284**
			500	M29FTF 4H500	**34270**	-	-	M29FTD 4H500	**34285**
			630	M29FTF 4H630	**34271**	-	-	M29FTD 4H630	**34286**
			700	M29FTF 4H700	**34272**	-	-	M29FTD 4H700	**34287**
			800	M29FTF 4H800	**34273**	-	-	M29FTD 4H800	**34288**



Selection and ordering data

Electronic Type

	Breaking capacity	Poles	Rated current (A)	Fixed type		Plug in type		Withdrawable type	
				Type code	Order code	Type code	Order code	Type code	Order code
3SM29-250	35 kA (N)	3	125	M29CEF 3N125	34139	M29CEP 3N125	34145	M29CED 3N125	34151
			160	M29CEF 3N160	34140	M29CEP 3N160	34146	M29CED 3N160	34152
			180	M29CEF 3N180	34141	M29CEP 3N180	34147	M29CED 3N180	34153
			200	M29CEF 3N200	34142	M29CEP 3N200	34148	M29CED 3N200	34154
			225	M29CEF 3N225	34143	M29CEP 3N225	34149	M29CED 3N225	34155
			250	M29CEF 3N250	34144	M29CEP 3N250	34150	M29CED 3N250	34156
		4	125	M29CEF 4N125	34193	-	-	-	-
			160	M29CEF 4N160	34194	-	-	-	-
			180	M29CEF 4N180	34195	-	-	-	-
			200	M29CEF 4N200	34196	-	-	-	-
			225	M29CEF 4N225	34197	-	-	-	-
			250	M29CEF 4N250	34198	-	-	-	-
	50 kA (S)	3	125	M29CEF 3S125	34199	M29CEP 3S125	34205	M29CED 3S125	36229
			160	M29CEF 3S160	34200	M29CEP 3S160	34206	M29CED 3S160	36230
			180	M29CEF 3S180	34201	M29CEP 3S180	34207	M29CED 3S180	36231
			200	M29CEF 3S200	34202	M29CEP 3S200	34208	M29CED 3S200	36232
			225	M29CEF 3S225	34203	M29CEP 3S225	34209	M29CED 3S225	36233
			250	M29CEF 3S250	34204	M29CEP 3S250	34210	M29CED 3S250	36234
		4	125	M29CEF 4S125	36235	-	-	-	-
			160	M29CEF 4S160	36236	-	-	-	-
			180	M29CEF 4S180	36237	-	-	-	-
			200	M29CEF 4S200	36238	-	-	-	-
			225	M29CEF 4S225	36239	-	-	-	-
			250	M29CEF 4S250	36240	-	-	-	-
	65 kA (H)	3	125	M29CEF 3H125	36241	M29CEP 3H125	36247	M29CED 3H125	36253
			160	M29CEF 3H160	36242	M29CEP 3H160	36248	M29CED 3H160	36254
			180	M29CEF 3H180	36243	M29CEP 3H180	36249	M29CED 3H180	36255
			200	M29CEF 3H200	36244	M29CEP 3H200	36250	M29CED 3H200	36256
			225	M29CEF 3H225	36245	M29CEP 3H225	36251	M29CED 3H225	36257
			250	M29CEF 3H250	36246	M29CEP 3H250	36252	M29CED 3H250	36258
		4	125	M29CEF 4H125	36259	-	-	-	-
			160	M29CEF 4H160	36260	-	-	-	-
			180	M29CEF 4H180	36261	-	-	-	-
			200	M29CEF 4H200	36262	-	-	-	-
			225	M29CEF 4H225	36263	-	-	-	-
			250	M29CEF 4H250	36264	-	-	-	-
3SM29-400	35 kA (N)	3	250	M29DEF 3N250	36289	M29DEP 3N250	36293	M29DED 3N250	36297
			315	M29DEF 3N315	36290	M29DEP 3N315	36294	M29DED 3N315	36298
			350	M29DEF 3N350	36291	M29DEP 3N350	36295	M29DED 3N350	36299
			400	M29DEF 3N400	36292	M29DEP 3N400	36296	M29DED 3N400	36300
		4	250	M29DEF 4N250	36301	-	-	-	-
			315	M29DEF 4N315	36302	-	-	-	-
			350	M29DEF 4N350	36303	-	-	-	-
			400	M29DEF 4N400	36304	-	-	-	-
	50 kA (S)	3	250	M29DEF 3S250	36305	M29DEP 3S250	36309	M29DED 3S250	36313
			315	M29DEF 3S315	36306	M29DEP 3S315	36310	M29DED 3S315	36314
			350	M29DEF 3S350	36307	M29DEP 3S350	36311	M29DED 3S350	36315
			400	M29DEF 3S400	36308	M29DEP 3S400	36312	M29DED 3S400	36316
		4	250	M29DEF 4S250	36317	-	-	-	-
			315	M29DEF 4S315	36318	-	-	-	-
			350	M29DEF 4S350	36319	-	-	-	-
			400	M29DEF 4S400	36320	-	-	-	-
	65 kA (H)	3	250	M29DEF 3H250	36321	M29DEP 3H250	36325	M29DED 3H250	36329
			315	M29DEF 3H315	36322	M29DEP 3H315	36326	M29DED 3H315	36330
			350	M29DEF 3H350	36323	M29DEP 3H350	36327	M29DED 3H350	36331
			400	M29DEF 3H400	36324	M29DEP 3H400	36328	M29DED 3H400	36332
		4	250	M29DEF 4H250	36333	-	-	-	-
			315	M29DEF 4H315	36334	-	-	-	-
			350	M29DEF 4H350	36335	-	-	-	-
			400	M29DEF 4H400	36336	-	-	-	-

1

Selection and ordering data

Electronic Type

	Breaking capacity	Poles	Rated current (A)	Fixed type		Plug in type		Withdrawable type	
				Type code	Order code	Type code	Order code	Type code	Order code
3SM29-630	35 kA (N)	3	400	M29EEF 3N400	**36340**	-	-	M29EED 3N400	**36346**
			500	M29EEF 3N500	**36341**	-	-	M29EED 3N500	**36347**
			630	M29EEF 3N630	**36342**	-	-	M29EED 3N630	**36348**
		4	400	M29EEF 4N400	**36352**	-	-	-	-
			500	M29EEF 4N500	**36353**	-	-	-	-
			630	M29EEF 4N630	**36354**	-	-	-	-
	50 kA (S)	3	400	M29EEF 3S400	**36358**	-	-	M29EED 3S400	**36364**
			500	M29EEF 3S500	**36359**	-	-	M29EED 3S500	**36365**
			630	M29EEF 3S630	**36360**	-	-	M29EED 3S630	**36366**
		4	400	M29EEF 4S400	**36370**	-	-	-	-
			500	M29EEF 4S500	**36371**	-	-	-	-
			630	M29EEF 4S630	**36372**	-	-	-	-
	65 kA (H)	3	400	M29EEF 3H400	**36376**	-	-	M29EED 3H400	**36382**
			500	M29EEF 3H500	**36377**	-	-	M29EED 3H500	**36383**
			630	M29EEF 3H630	**36378**	-	-	M29EED 3H630	**36384**
		4	400	M29EEF 4H400	**36388**	-	-	-	-
			500	M29EEF 4H500	**36389**	-	-	-	-
			630	M29EEF 4H630	**36390**	-	-	-	-
3SM29-800	35 kA (N)	3	400	M29FEF 3N400	**36433**	-	-	M29FED 3N400	**36438**
			500	M29FEF 3N500	**36434**	-	-	M29FED 3N500	**36439**
			630	M29FEF 3N630	**36435**	-	-	M29FED 3N630	**36440**
			700	M29FEF 3N700	**36436**	-	-	M29FED 3N700	**36441**
			800	M29FEF 3N800	**36437**	-	-	M29FED 3N800	**36442**
		4	400	M29FEF 4N400	**36443**	-	-	-	-
			500	M29FEF 4N500	**36444**	-	-	-	-
			630	M29FEF 4N630	**36445**	-	-	-	-
			700	M29FEF 4N700	**36446**	-	-	-	-
			800	M29FEF 4N800	**36447**	-	-	-	-
	50 kA (S)	3	400	M29FEF 3S400	**36448**	-	-	M29FED 3S400	**36453**
			500	M29FEF 3S500	**36449**	-	-	M29FED 3S500	**36454**
			630	M29FEF 3S630	**36450**	-	-	M29FED 3S630	**36455**
			700	M29FEF 3S700	**36451**	-	-	M29FED 3S700	**36456**
			800	M29FEF 3S800	**36452**	-	-	M29FED 3S800	**36457**
		4	400	M29FEF 4S400	**36458**	-	-	-	-
			500	M29FEF 4S500	**36459**	-	-	-	-
			630	M29FEF 4S630	**36460**	-	-	-	-
			700	M29FEF 4S700	**36461**	-	-	-	-
			800	M29FEF 4S800	**36462**	-	-	-	-
	65 kA (H)	3	400	M29FEF 3H400	**36463**	-	-	M29FED 3H400	**36468**
			500	M29FEF 3H500	**36464**	-	-	M29FED 3H500	**36469**
			630	M29FEF 3H630	**36465**	-	-	M29FED 3H630	**36470**
			700	M29FEF 3H700	**36466**	-	-	M29FED 3H700	**36471**
			800	M29FEF 3H800	**36467**	-	-	M29FED 3H800	**36472**
		4	400	M29FEF 4H400	**36473**	-	-	-	-
			500	M29FEF 4H500	**36474**	-	-	-	-
			630	M29FEF 4H630	**36475**	-	-	-	-
			700	M29FEF 4H700	**36476**	-	-	-	-
			800	M29FEF 4H800	**36477**	-	-	-	-

Selection and ordering data

Electronic Type

	Breaking capacity	Poles	Rated current (A)	Fixed type		Plug in type		Withdrawable type	
				Type code	Order code	Type code	Order code	Type code	Order code
3SM29-1250	50 kA (S)	3	800	M29GEF 3S800	**34289**	-	-	M29GED 3S800	**34298**
			1000	M29GEF 3S1000	**34290**	-	-	M29GED 3S1000	**34299**
			1250	M29GEF 3S1250	**34291**	-	-	M29GED 3S1250	**34300**
		4	800	M29GEF 4S800	**23073**	-	-	M29GED 4S800	**23076**
			1000	M29GEF 4S1000	**23074**	-	-	M29GED 4S1000	**23077**
			1250	M29GEF 4S1250	**23075**	-	-	M29GED 4S1250	**23078**
	65 kA (H)	3	800	M29GEF 3H800	**34292**	-	-	M29GED 3H800	**34301**
			1000	M29GEF 3H1000	**34293**	-	-	M29GED 3H1000	**34302**
			1250	M29GEF 3H1250	**34294**	-	-	M29GED 3H1250	**34303**
		4	800	M29GEF 4H800	**23079**	-	-	M29GED 4H800	**23082**
			1000	M29GEF 4H1000	**23080**	-	-	M29GED 4H1000	**23083**
			1250	M29GEF 4H1250	**23081**	-	-	M29GED 4H1250	**23084**
	85 kA (G)	3	800	M29GEF 3G800	**34295**	-	-	M29GED 3G800	**34304**
			1000	M29GEF 3G1000	**34296**	-	-	M29GED 3G1000	**34305**
			1250	M29GEF 3G1250	**34297**	-	-	M29GED 3G1250	**34306**
		4	800	M29GEF 4G800	**23085**	-	-	M29GED 4G800	**23088**
			1000	M29GEF 4G1000	**23086**	-	-	M29GED 4G1000	**23089**
			1250	M29GEF 4G1250	**23087**	-	-	M29GED 4G1250	**23090**
3SM29-1600	50 kA (S)	3	800	M29HEF 3S800	**34307**	-	-	M29HED 3S800	**34319**
			1000	M29HEF 3S1000	**34308**	-	-	M29HED 3S1000	**34320**
			1250	M29HEF 3S1250	**34309**	-	-	M29HED 3S1250	**34321**
			1600	M29HEF 3S1600	**34310**	-	-	M29HED 3S1600	**34322**
		4	800	M29HEF 4S800	**23091**	-	-	M29HED 4S800	**23095**
			1000	M29HEF 4S1000	**23092**	-	-	M29HED 4S1000	**23096**
			1250	M29HEF 4S1250	**23093**	-	-	M29HED 4S1250	**23097**
			1600	M29HEF 4S1600	**23094**	-	-	M29HED 4S1600	**23098**
	65 kA (H)	3	800	M29HEF 3H800	**34311**	-	-	M29HED 3H800	**34323**
			1000	M29HEF 3H1000	**34312**	-	-	M29HED 3H1000	**34324**
			1250	M29HEF 3H1250	**34313**	-	-	M29HED 3H1250	**34325**
			1600	M29HEF 3H1600	**34314**	-	-	M29HED 3H1600	**34326**
		4	800	M29HEF 4H800	**23099**	-	-	M29HED 4H800	**23103**
			1000	M29HEF 4H1000	**23100**	-	-	M29HED 4H1000	**23104**
			1250	M29HEF 4H1250	**23101**	-	-	M29HED 4H1250	**23105**
			1600	M29HEF 4H1600	**23102**	-	-	M29HED 4H1600	**23106**
	85 kA (G)	3	800	M29HEF 3G800	**34315**	-	-	M29HED 3G800	**34327**
			1000	M29HEF 3G1000	**34316**	-	-	M29HED 3G1000	**34328**
			1250	M29HEF 3G1250	**34317**	-	-	M29HED 3G1250	**34329**
			1600	M29HEF 3G1600	**34318**	-	-	M29HED 3G1600	**34330**
		4	800	M29HEF 4G800	**23107**	-	-	M29HED 4G800	**23111**
			1000	M29HEF 4G1000	**23108**	-	-	M29HED 4G1000	**23112**
			1250	M29HEF 4G1250	**23109**	-	-	M29HED 4G1250	**23113**
			1600	M29HEF 4G1600	**23110**	-	-	M29HED 4G1600	**23114**

Motor driven mechanism

Function

1

- Used for opening and closing the circuit breaker remotely

Technical specifications

Model type	MD1	MD2	MD3
Application	3SM29-250, 3SM29-400	3SM29-125, 3SM29-160	3SM29-630, 3SM29-800 3SM29-1600
Operating voltage range	(85 % - 110 %) Un		
Rated control voltage	220 V AC, 380 V AC, 220 V DC, 110 V DC	220 V AC, 380 V AC, 220 V DC, 110 V DC	220 V AC, 380 V AC, 220 V DC, 110 V DC
Operating current (A)	≤ 2	≤ 0.5	≤ 7.5
Start power consumption in 220/380 V AC (VA)	510	220	660
Continuance power consumption in 220/380 V AC (VA)	360	110	110 (180)
Start power consumption in 110/220 V DC (W)	510	220	600
Continuance power consumption in 110/220 V DC (W)	360	110	180
Opening time (s)	0.1	0.1	0.1
Closing time (s)	0.1	0.1	0.3
Eletrical life (times)	4000	8000	3000
Protection degree	IP40		

Selection and ordering data

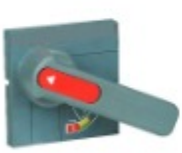
Model	Aplication		Rated control voltage (V AC)	Type code	Order code
MD2	Frame A	3SM29-125	220...240 V AC	M29A MM240A	**10709**
			380...415 V AC	M29A MM415A	**32727**
	Frame B	3SM29-160	220...240 V AC	M29B MM240A	**10719**
			380...415 V AC	M29B MM415A	**32728**
MD1	Frame C	3M29-250	220...240 V AC	M29C MM240A	**10729**
			380...415 V AC	M29C MM415A	**32729**
	Frame D	3SM29-400	220...240 V AC	M29DMM240A	**10739**
			380...415 V AC	M29D MM415A	**32730**
MD3	Frame E/F	3SM29-630...800	220...240 V AC	M29EF MM240A	**10749**
			380...415 V AC	M29EF MM415A	**32731**
	Frame G/H	3SM29-1250...1600	220...240 V AC	M29GH MM240A	**10759**
			380...415 V AC	M29GH MM415A	**32732**

Rotary handle operation mechanism

Function

- Used for opening and closing the circuit breaker
- Used for rotating the circuit breaker, not pushing-pulling it upwards-downwards

Selection and ordering data

Installation	Operation device	Rotary handle	Suitable frame		Without interlock		With interlock	
					Type code	Order code	Type code	Order code
In breaker	RM2		Frame A	3SM29-125	-	-	-	-
			Frame B	3SM29-160	-	-	-	-
			Frame C	3SM29-250	M29C RM1	**10750**	M29C RM1L	**10711**
			Frame D	3SM29-400	M29D RM1	**10755**	M29D RM1L	**10712**
			Frame E/F	3SM29-630…800	M29EF RM1	**10756**	M29EF RM1L	**10713**
			Frame G/H	3SM29-1250…1600	M29GH Rm1	**10760**	M29GH RM1L	**10714**
On door of switchboard	RM2 central type	Round type Short handle	Frame A	3SM29-125	-	-	-	-
			Frame B	3SM29-160	-	-	-	-
			Frame C	3SM29-250	M29C RM2AS	**10731**	M29C RM2ASL	**10751**
			Frame D	3SM29-400	M29D RM2AS	**10732**	M29D RM2ASL	**10752**
		Round type Long handle	Frame E/F	3SM29-630…800	M29EF RM2AL	**10733**	M29EF RM2ALL	**10753**
			Frame G/H	3SM29-1250…1600	M29GH RM2AL	**10734**	M29GH RM2ALL	**10754**
		Square type Short handle	Frame A	3SM29-125	-	-	-	-
			Frame B	3SM29-160	-	-	-	-
			Frame C	3SM29-250	M29C RM2BS	**32745**	M29C RM2BSL	**32749**
			Frame D	3SM29-400	M29D RM2BS	**32746**	M29D RM2BSL	**32750**
		Square type Long handle	Frame E/F	3SM29-630…800	M29EF RM2BL	**32747**	M29EF RM2BLL	**32751**
			Frame G/H	3SM29-1250…1600	M29GH RM2BL	**32748**	M29GH RM2BLL	**32752**
	RM3 eccentricity	Round type Short handle	Frame A	3SM29-125	M29A RM3AS	**32753**	M29A RM3ASL	**10730**
			Frame B	3SM29-160	M29B RM3AS	**32754**	M29B RM3ASL	**10736**
			Frame C	3SM29-250	M29C RM3AS	**32755**	M29C RM3ASL	**33040**
			Frame D	3SM29-400	M29D RM3AS	**32756**	M29D RM3ASL	**33041**
		Round type Long handle	Frame E/F	3SM29-630…800	M29EF RM3AL	**10710**	M29EF RM3ALL	**33042**
			Frame G/H	3SM29-1250…1600	M29GH RM3AL	**10720**	M29GH RM3ALL	**33043**
		Square type Short handle	Frame A	3SM29-125	M29A RM3BS	**33044**	M29A RM3BSL	**33050**
			Frame B	3SM29-160	M29B RM3BS	**33045**	M29B RM3BSL	**33051**
			Frame C	3SM29-250	M29C RM3BS	**33046**	M29C RM3BSL	**33052**
			Frame D	3SM29-400	M29D RM3BS	**33047**	M29D RM3BSL	**33053**
		Square type Long handle	Frame E/F	3SM29-630…800	M29EF RM3BL	**33048**	M29EF RM3BLL	**33054**
			Frame G/H	3SM29-1250…1600	M29GH RM3BL	**33049**	M29GH RM3BLL	**33055**

Shunt release

Function

1

- Used for opening the circuit breaker remotely

Technical specifications

Model type	SR91	SR92	SR93
Application	3SM29-125 3SM29-160	3SM29-250 3SM29-400	3SM29-630, 3SM29-800 3SM29-1600
Operating voltage range	(70 % - 110 %) Un		
Rated control voltage	220 V AC, 380 V AC, 220 V DC, 110 V DC	220 V AC, 380 V AC, 220 V DC, 110 V DC	220 V AC, 380 V AC, 220 V DC, 110 V DC
Response time (ms)	≥ 20, ≤ 60		
Power consumption in 220/380 V AC (VA)	150	150	150
Power consumption in 110/220 V DC (W)	150	150	150

Selection and ordering data

Model	Aplication		Rated control voltage (V AC)	Type code	Order code
SR91 	Frame A/B	3SM29-125...160	220...240 V AC	M29AB SH240A	**10701**
			380...415 V AC	M29AB SH415A	**10702**
			110 V DC	M29AB SH110D	**32733**
			220 V DC	M29AB SH220D	**32734**
SR92 	Frame C/D	3M29-250...400	220...240 V AC	M29CD SH240A	**10721**
			380...415 V AC	M29CD SH415A	**10722**
			110 V DC	M29CD SH110D	**32735**
			220 V DC	M29CD SH220D	**32736**
SR93 	Frame E/F/G/H	3SM29-630...1600	220...240 V AC	M29FEGH SH240A	**10741**
			380...415 V AC	M29FEGH SH415A	**10742**
			110 V DC	M29FEGH SH110D	**32737**
			220 V DC	M29FEGH SH220D	**32738**

Under-voltage release

Function

- Used for opening the circuit breaker when energy cuts off or voltage goes below 70 % of the operating voltage

Technical specifications

Model type	UR91	UR92	UR93
Application	3SM29-125, 3SM29-160	3SM29-250, 3SM29-400	3SM29-630, 3SM29-800, 3SM29-1600
Action voltage range	(35 % - 70 %) Ue		
Guarantee close voltage range	(85 % - 110 %) Ue		
Guarantee no-close voltage range	≤ 35 % Ue		
Rated control voltage (V)	220 V AC, 380 V AC, 220 V DC, 110 V DC	220 V AC, 380 V AC, 220 V DC, 110 V DC	220 V AC, 380 V AC, 220 V DC, 110 V DC
Response time (ms)	≥ 20, ≤ 60		
Power consumption in 220/380 V AC (VA)	10	10	10
Power consumption in 110/220 V DC (W)	4	4	4

Selection and ordering data

Model	Aplication		Rated control voltage (V AC)	Type code	Order code
UR91 	Frame A/B	3SM29-125...160	220...240 V AC	M29AB UV240A	**10703**
			380...415 V AC	M29AB UV415A	**10704**
			110 V DC	M29AB UV110D	**32739**
			220 V DC	M29AB UV220D	**32740**
UR92 	Frame C/D	3M29-250...400	220...240 V AC	M29CDUV240A	**10723**
			380...415 V AC	M29CD UV415A	**10724**
			110 V DC	M29CD UV110D	**32741**
			220 V DC	M29CD UV220D	**32742**
UR93 	Frame E/F/G/H	3SM29-630...1600	220...240 V AC	M29EFGH UV240A	**10743**
			380...415 V AC	M29EFGH UV415A	**10744**
			110 V DC	M29EFGH UV110D	**32743**
			220 V DC	M29EFGH UV220D	**32744**

Auxiliary contact and alarm contact

Function

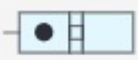
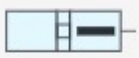
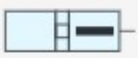
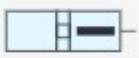
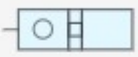
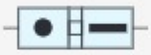
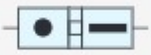
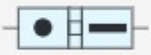
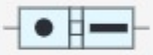
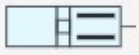
1

- Indication of contacting status
- Used for supplying electrical signal of the circuit breaker according to the operating position

Selection and ordering data

Model	Aplication		Function	Contact position	Type code	Order code
	Frame A/B	3SM29-125...160	Auxiliary contact	1NO+1NC	M29AB AC11	**10705**
			Auxiliary contact + alarm contact	1NO+1NC+1W	M29AB CW11	**10726**
	Frame C/D	3M29-250...400	Auxiliary contact	1NO+1NC	M29CD AC11	**10706**
				2NO+2NC	M29CD AC22	**10715**
			Auxiliary contact + alarm contact	1NO+1NC+1W	M29CD CW11	**10735**
	Frame E/F/G/H	3SM29-630...1600	Auxiliary contact	1NO+1NC	M29EFGH AC11	**10716**
				2NO+2NC	M29EFGH AC22	**10725**
			Auxiliary contact + alarm contact	1NO+1NC+1W	M29EFGH CW11	**10745**

Accessaries introduction

Name of accessories	Accessory code		Accessory installation and lead cable method			
	Thermal magnetic release	Duplex release	3SM29-125, 3SM29-160 3P, 4P	3SM29-250, 3SM29-400 3P, 4P	3SM29-630, 3SM29-800 3P, 4P	3SM29-1250, 3SM29-1600 3P, 4P
Alarm Contact	208	308				
Shunt release	210	310				
Shunt Release Alarm Contact	218	318				
Auxiliary Contact	220	320				
Auxiliary Contact Alarm Contact	228	328				
Under voltage release	230	330				
Under voltage release Alarm Contact	238	338				
Shunt release Auxiliary Contact	240	340				
Shunt Release Under voltage release Two-sets Auxiliary Contact	248	348				
Two-sets Auxiliary Contact	260	360				
Two-sets Auxiliary Contact Alarm Contact	268	368				
Under voltage release Auxiliary Contact	270	370				
Under voltage release Auxiliary Contact Alarm Contact	278	378				

Attention:

1

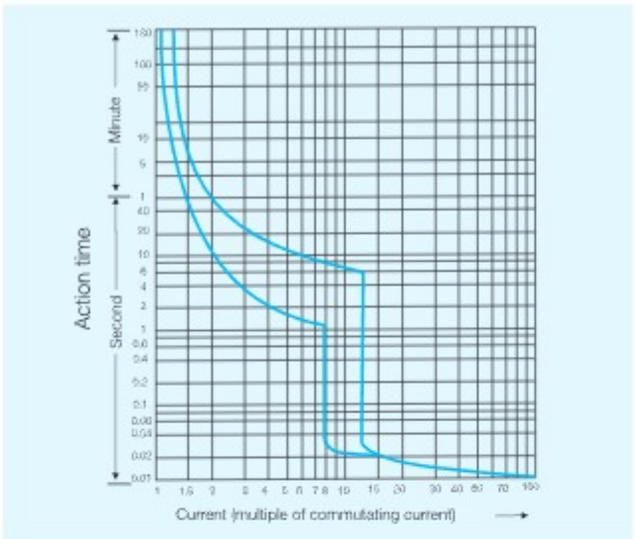
Protection characteristic

- Variable parameters of thermal overload protection current setting
- Characteristics of thermal magnetic over-current release
- Characteristics of inverse time delay thermal releasing-ranges of current settings of thermal inverse time delay

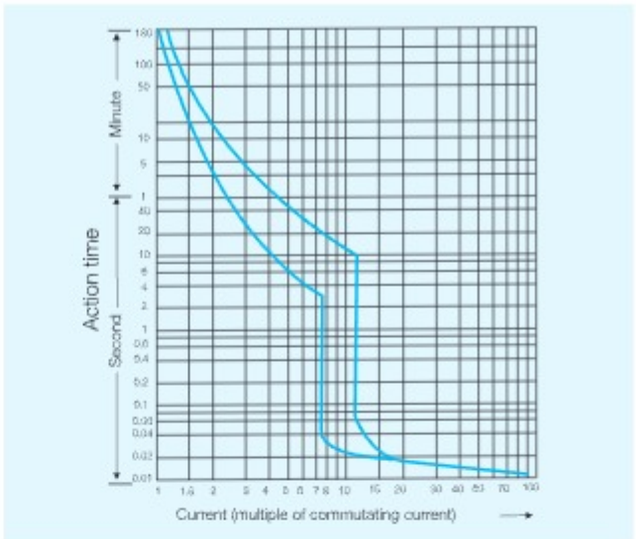
Frame rated current size Im (A)	Circumstance temperature +10 °C	+20 °C	+30 °C	+40 °C	+50 °C	+60 °C	Rated current	Current settings of inverse time delay 40 °C A/B/C phase	Setting IRI N pole	Adjustable instantaneous current 5 In (A)	7.5 In	10 In	Instantaneous releasing current	In
125	1.19	1.03	1.06	1.0 In	0.93	0.87	12.5 A	12.5 A	12.5A	-	-	-	500 A	-
							16 A	16 A	16 A	-	-	-	500 A	10
							20 A	20 A	20 A	-	-	-	500 A	10
							25 A	25 A	25 A	-	-	-	500 A	10
							32 A	32 A	32 A	-	-	-	500 A	10
							40 A	40 A	40 A	-	-	-	500 A	10
							50 A	50 A	50 A	-	-	-	500 A	10
							63 A	63 A	63 A	-	-	-	630 A	12
							80 A	80 A	80 A	-	-	-	800 A	12
							100 A	100 A	100 A	-	-	-	1000 A	12
							125 A	125 A	125 A	-	-	-	1250 A	12
160	1.15	1.10	1.05	1.0 In	0.94	0.88	32 A	22.4 ~ 32 A	22.4 ~ 32 A	-	-	-	500 A	10
							40 A	28 ~ 40 A	28 ~ 40 A	-	-	-	500 A	10
							50 A	35 ~ 50 A	35 ~ 50 A	-	-	-	500 A	10
							63 A	44.1 ~ 63 A	44.1 ~ 63 A	-	-	-	630 A	12
							80 A	56 ~ 80 A	56 ~ 80 A	-	-	-	800 A	12
							100 A	70 ~100 A	70 ~ 100 A	-	-	-	1000 A	12
							125 A	87.5 ~ 125 A	87.5 ~ 125 A	-	-	-	1250 A	12
							160 A	112 ~ 160 A	112 ~ 160 A	-	-	-	1600 A	12
250	1.14	1.10	1.05	1.0 In	0.95	0.87	125 A	87.5 ~ 125 A	87.5 ~ 125 A	-	-	-	1250 A	12
							160 A	112 ~ 160 A	112 ~ 160 A	-	-	-	1600 A	12
							180 A	126 ~ 180 A	126 ~ 180 A	-	-	-	1800 A	12
							200 A	140 ~ 200 A	140 ~ 200 A	-	-	-	2000 A	12
							225 A	157.5 ~ 225 A	157.5 ~ 225 A	-	-	-	2250 A	12
							250 A	175 ~ 225 A	175 ~ 225 A	-	-	-	2500 A	12
400	1.13	1.11	1.04	1.0 In	0.92	0.85	250 A	175 ~ 250 A	175 ~ 250 A	1250	1875	2500	2500 A	12
							315 A	220.5 ~ 315 A	220.5 ~ 315 A	1575	2363	3150	3150 A	12
							350 A	245 ~ 350 A	245 ~ 350 A	1750	2625	3500	3500 A	12
							400 A	280 ~ 400 A	280 ~ 400 A	1750	2625	4000	4000 A	12
630 800	1.10	1.08	1.03	1.0 In	0.84	0.77	400 A	400 A	400 A	-	-	-	4000 A	-
							500 A	500 A	500 A	-	-	-	5000 A	-
							630 A	630 A	630 A	-	-	-	6300 A	-
							700 A	700 A	700 A	-	-	-	7000 A	-
							800 A	800 A	800 A	-	-	-	8000 A	-
1600 1250	1.08	1.06	1.02	1.0 In	0.8	0.73	800 A	800 A	800 A	-	-	-	-	-
							1000 A	1000 A	1000 A	-	-	-	-	-
							1250 A	1250 A	1250 A	-	-	-	-	-
							1600 A	1600 A	1600 A	-	-	-	-	-

Tripping curve

3SM29-125



3SM29-160



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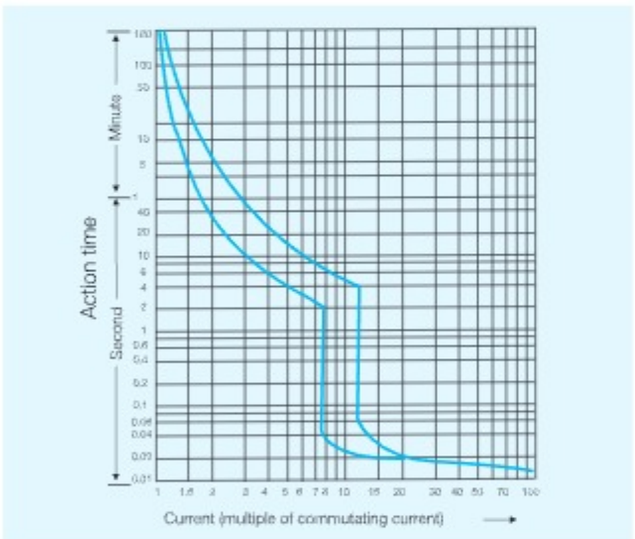

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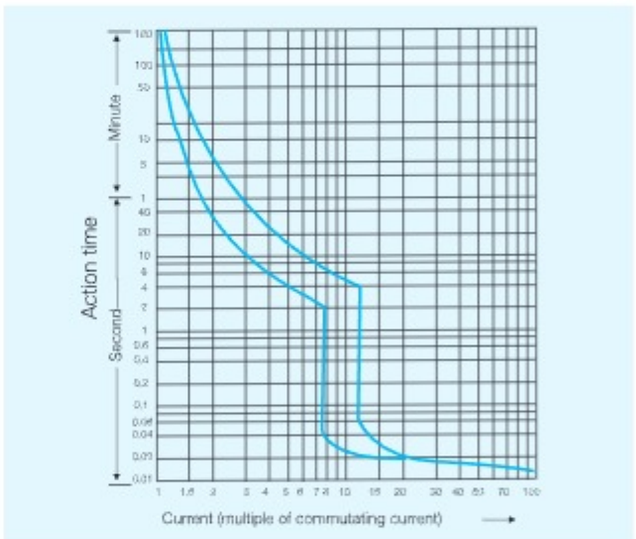
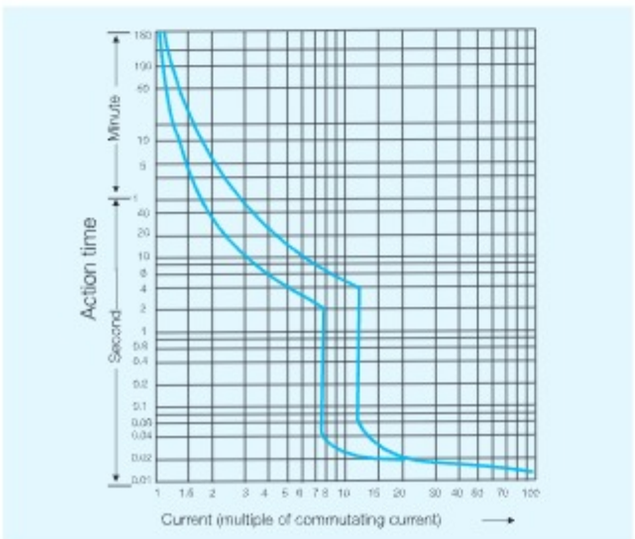
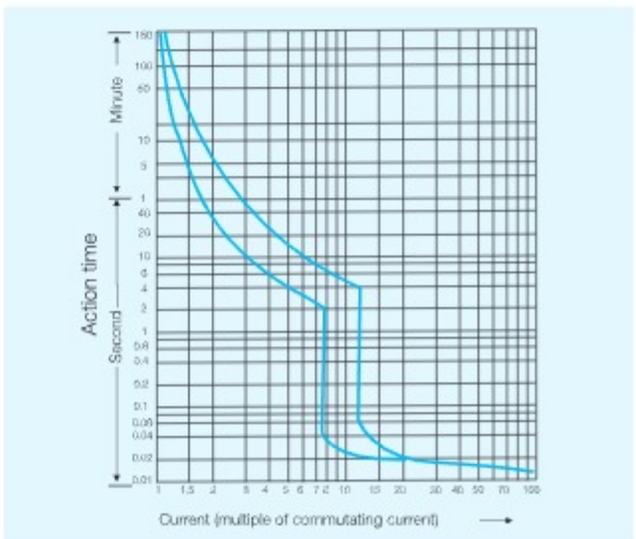


3SM29-630



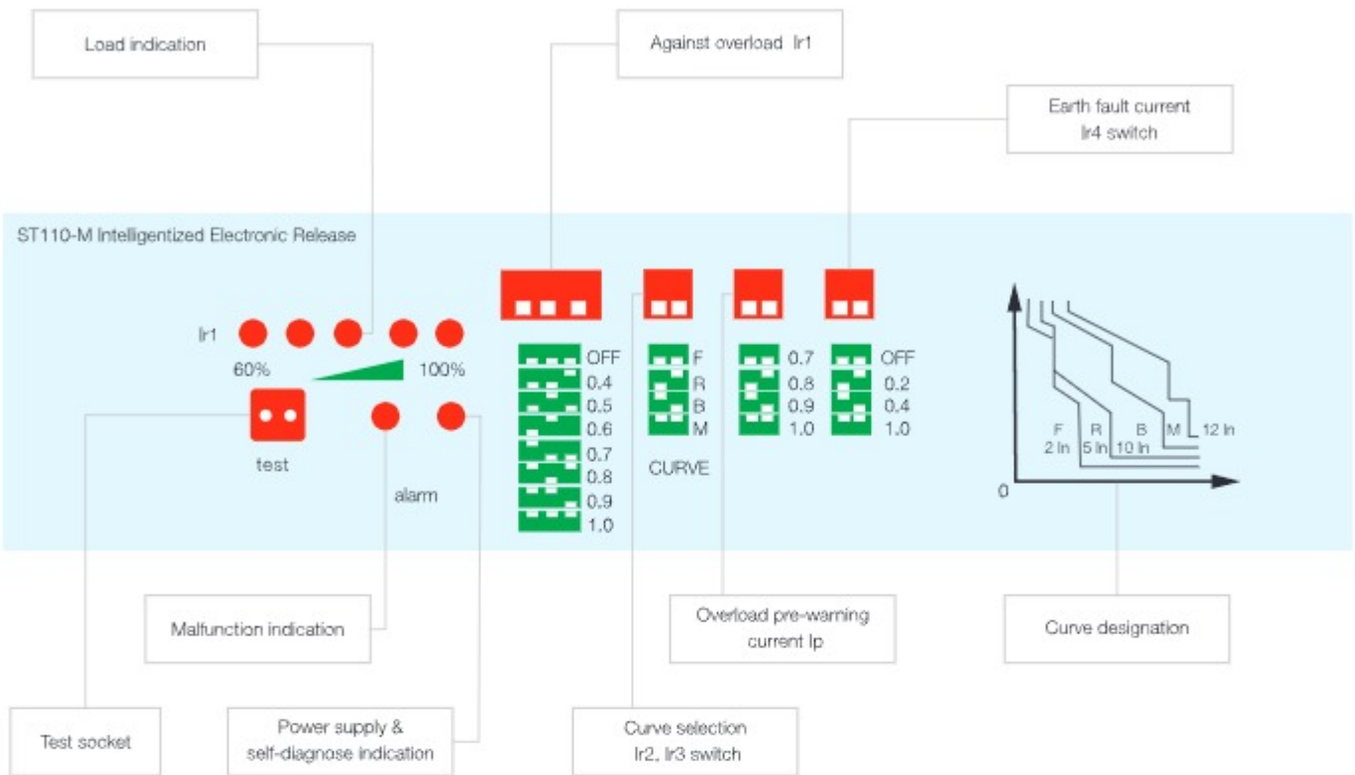
3SM29-800



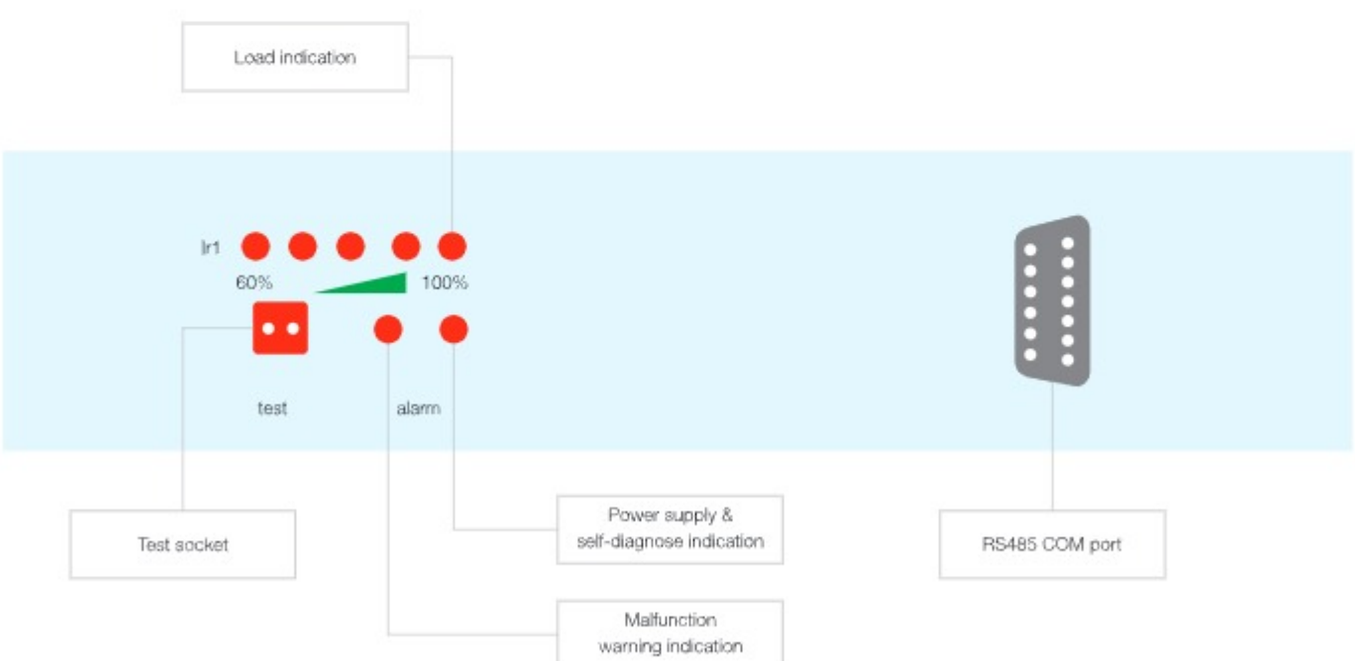
1

Microprocessor control panel

ST110-M (ST110-M/F) Microprocessor electronic release panel



ST110-H (ST110-H/F) Microprocessor electronic release's panel

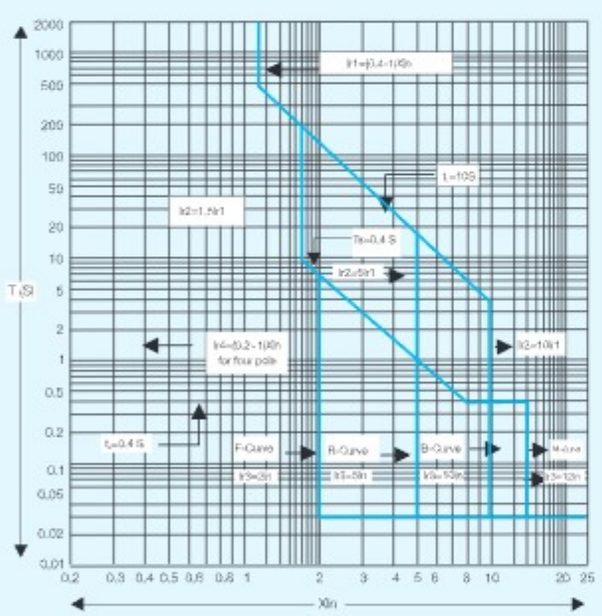


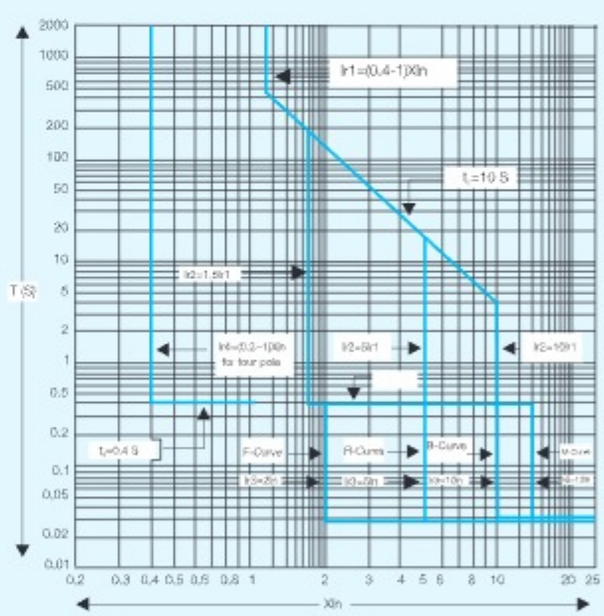
Releasing curve

Microprocessor electronic release main function

Main function of microprocessor electronic release	
Main circuit load indication	The LED in panel indicates 60 %, 80 %, 90 %, 100 %.
Power supply indication	The LED in panel indicates
Self-diagnose indication	The LED in panel indicates
Overload pre-warning indication	The LED in panel indicates
Earth fault indication	The LED in panel indicates
Thermal memory	Record over-load cumulate caloric effect
Fast set protection character curve	Basis on different purpose ,user can choose short-circuit release's character (curve F, R, B, M)
Signal output of the transition ray contact between breaker and ST-200 Intelligentized control module	Overload pre-warning releasing alarm Earth fault alarm Signal of breaker's ON / OFF
Releasing test	Test socket
Setting panel parameter	Switch commutating
User can reset the protection character when the main circuit with or without power running	Switch commutating Switch commutating Switch commutating Switch commutating

Electronic release protection character curve





Protection performance of residual current release

Protective performance of circuit breaker's residual current release for power distribution:

No.	Test current type	I/In	Engaged time endurance	Start state
1	Engaged non-release current	1.05	2 h (In > 63 A) 1 h (In ≤ 63 A)	Cold
2	Engaged release current	1.30	2 h (In > 63 A) 1 h (In ≤ 63 A)	Hot

Protective performance of circuit breaker's residual current release for motor protection:

No.	Test current type	I/In	Engaged time endurance	Start state
1	Engaged non-release current	1.0	> 2 h	Cold state
2	Engaged release current	1.2	≤ 2 h	Hot
		1.5	≤ 2 min (In ≤ 200 A) ≤ 4 min (200 A < In ≤ 400 A)	
		7.2	2 s < Tp ≤ 10 s (In ≤ 200 A) 4 s < Tp ≤ 10 s (200 A < In ≤ 400 A)	Cold

1

Outline and installation dimensions

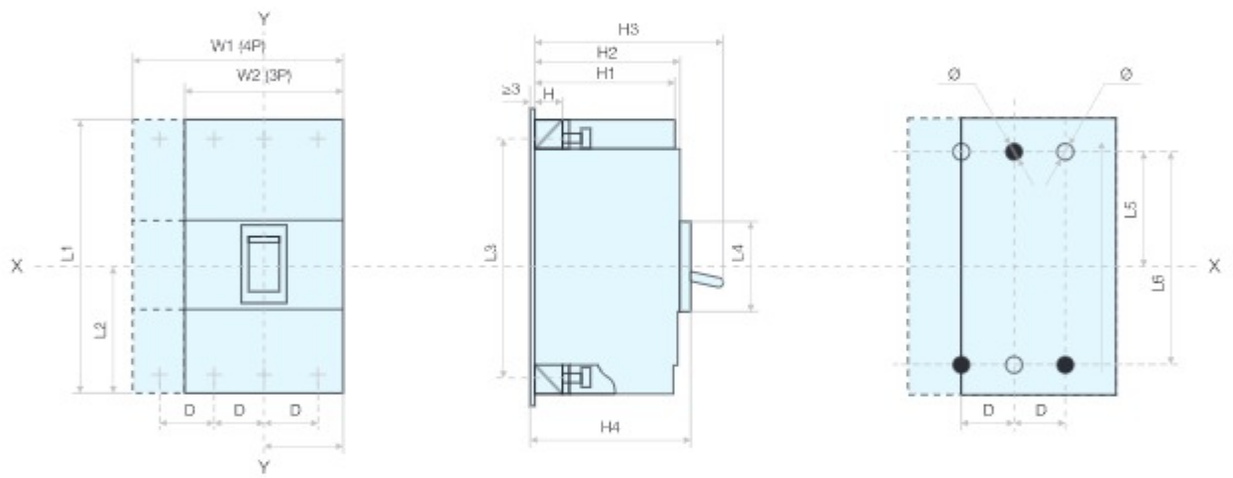
Installation type: Fixed, Plug-in, Withdrawable type

Frame rated current	Installation					
	Fixed		Plug in		Withdrawable	
	3P	4P	3P	4P	3P	4P
125 A	■	■	■	■		
160 A	■	■	■	■		
250 A	■	■	■	■	■	■
400 A	■	■	■	■	■	■
630 A	■	■			■	■
800 A	■	■			■	■
1250 A	■				■	
1600 A	■				■	

Breaker's installation dimensions

Fixed type 3SM29-125~160
Connect wire in front of board

unit in mm

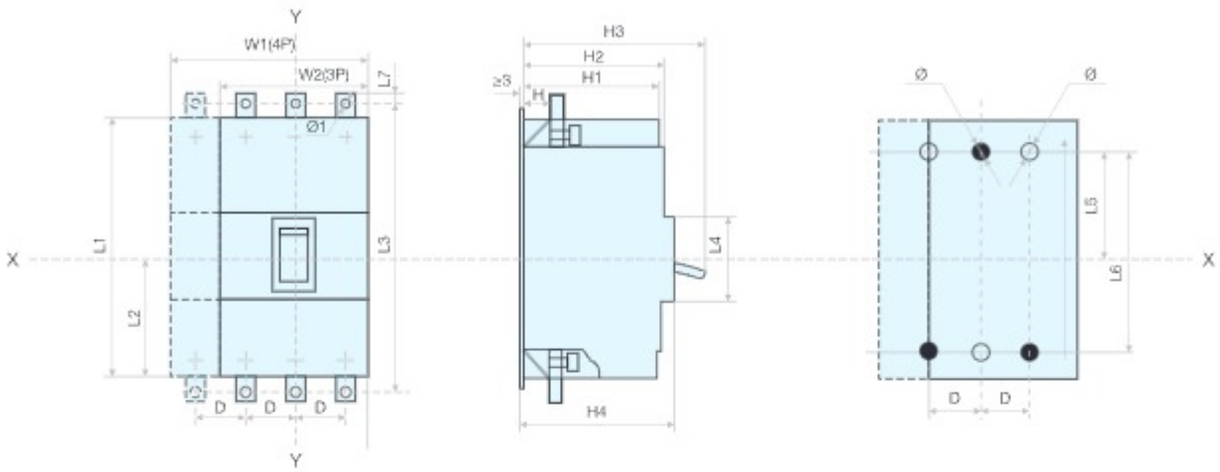


Type	D	L1	L2	L3	L4	L5	L6	W1	W2	H	H1	H2	H3	H4	Ø
3SM29-125	25	120	48	102	45	62	100	101	76	25.5	67.5	70	91	75.5	4.5
3SM29-160	30	120	48	102	45	62	100	120	90	27.5	68.5	71	93	76.5	4.5

Outline and installation dimensions

Fixed type 3SM29-250~1600
Connect wire in front of board

unit in mm



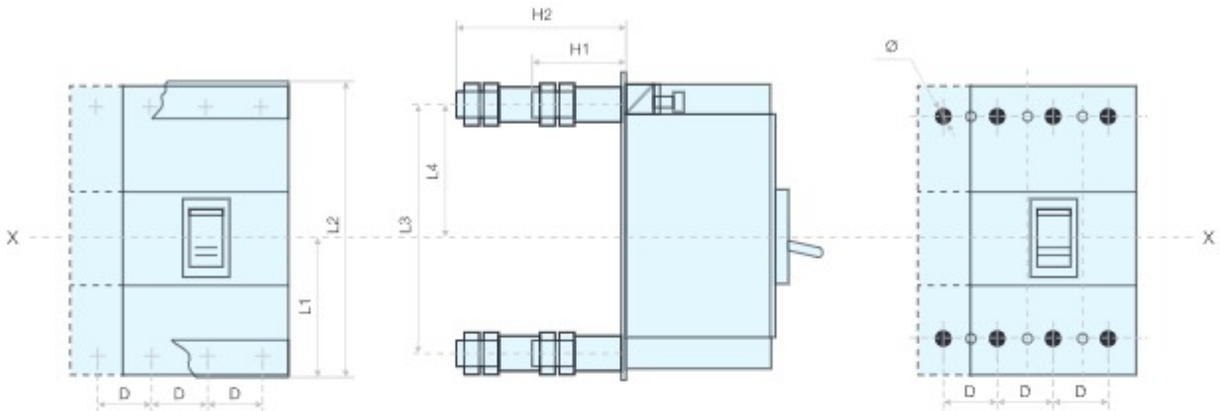
Type	D	L1	L2	L3	L4	L5	L6	W1	W2	H	H1	H2	H3	H4	Ø	L7	Ø1
3SM29-250	35	170	87.25	206	105	73.75	139	140	105	25	101.5	103.5	135	113	5.5	10.8	8.5
3SM29-400	43.75	254	125.25	281	105	107.25	214	183.75	140	25	101.5	103.5	135	113	5.5	12	14
3SM29-630	70	268	142.75	241	105	109.25	375	280	210	23	101.5	103.5	167.5	115	5.5	10.0	11
3SM29-800	70	268	142.75	241	105	109.25	237	280	210	23	101.5	103.5	167.5	115	5.5	10.0	11
3SM29-1600	70	406	189	513	105	203	378	–	210	39	137	138.5	204.5	152	5.5	13.5	11

1

Outline and installation dimensions

Fixed type 3SM29-125~800
Connect wire behind board

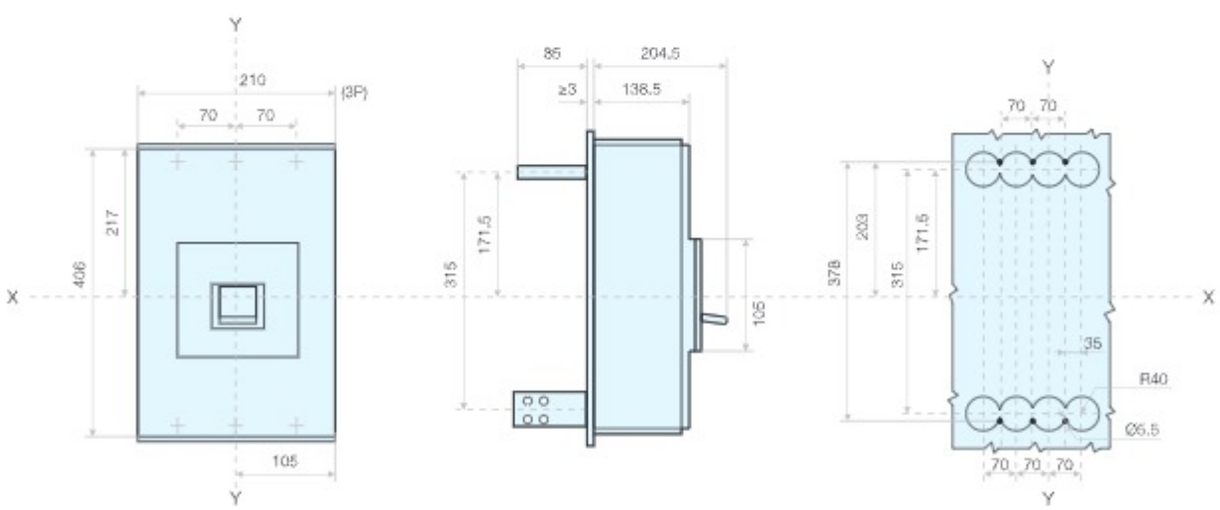
unit in mm



Type	D	L1	L2	L3	L4	H1	H2	Ø
3SM29-125	25	50	124	102	39	43	76	18
3SM29-160	30	50	124	102	39	43	76	18
3SM29-250	35	85.25	175	145	73.75	55	105	24
3SM29-400	43.75	131.25	259	218	107.25	55	105	30
3SM29-630	70	145.25	273	241	117.25	55	74.5	50
3SM29-800	70	145.25	273	241	117.25	55	74.5	50

Fixed type 3SM29-1600
Connect wire in front of board

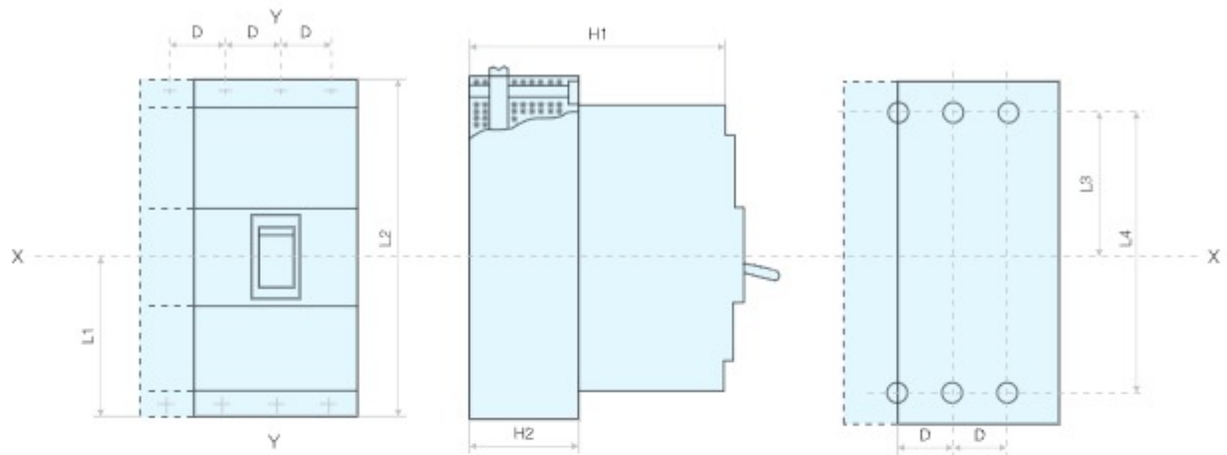
unit in mm



Outline and installation dimensions

Plug-in version 3SM29-125~160
Connect wire in front of board

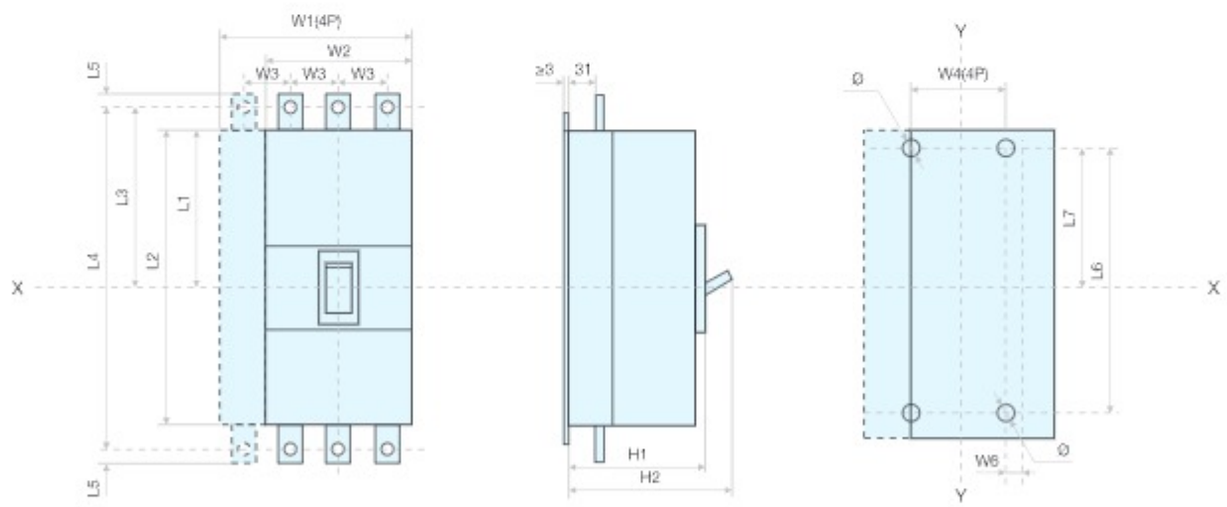
unit in mm



Type	D	L1	L2	L3	L4	H1	H2
3SM29-125	25	70	163	84	144	123	52
3SM29-160	30	70	163	84	144	123	52

Plug-in version 3SM29-250~400
Connect wire in front of board

unit in mm



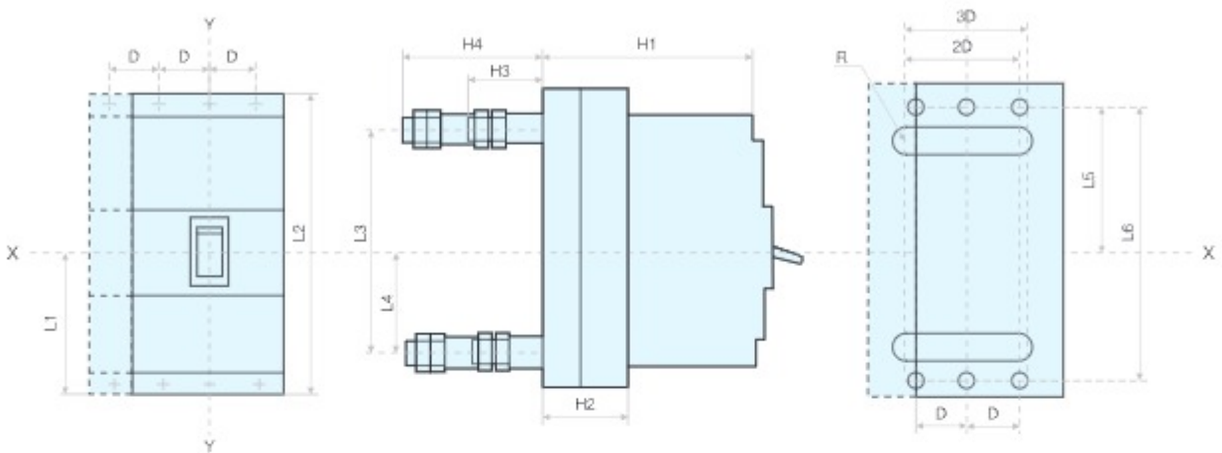
Type	L1	L2	L3	L4	L5	L6	L7	W1	W2	W3	W4	W6	H1	H2	Ø
3SM29-250	89.7	175	107.25	210	10	52.25	100	140	105	35	105	25	153	184.5	5
3SM29-400	127.75	259	150.75	305	14	65.75	135	183.75	140	43.75	160	58	153	184.5	6

1

Outline and installation dimensions

Plug-in version 3SM29-125~400
Connect wire in front of board

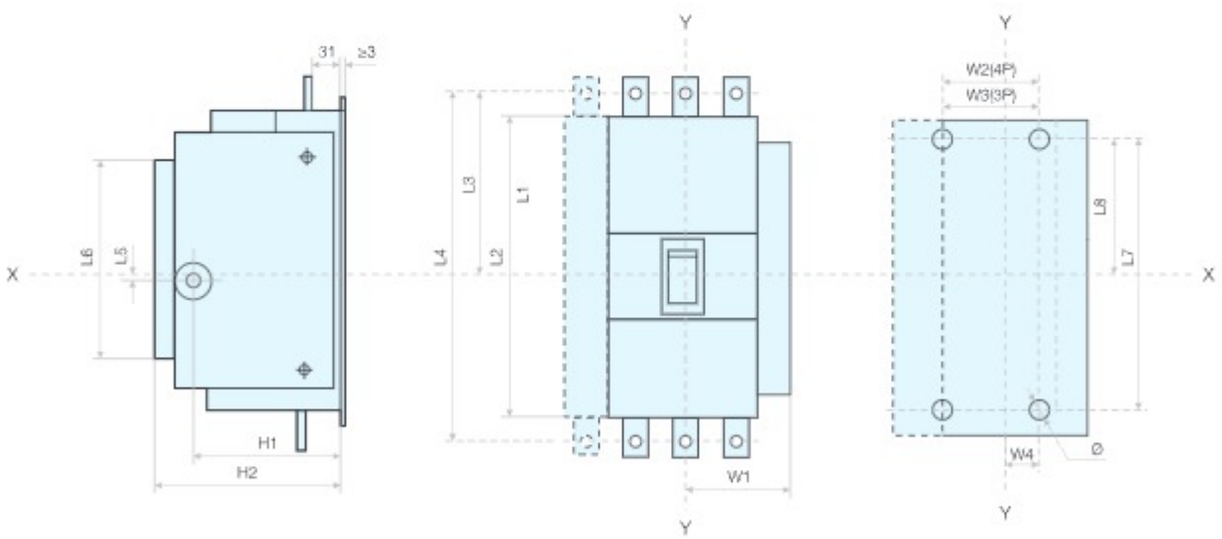
unit in mm



Type	D	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4
3SM29-125	25	70	163	102	39	84	144	123	52	50	80
3SM29-160	30	70	163	102	39	84	144	123	52	50	80
3SM29-250	35	85.25	175	143	69.2	52.5	100	184.5	83	52	96
3SM29-400	43.75	131.25	259	218	110.75	107.25	218	184.5	83	55	100

Draw-out version 3SM29-250~400
Connect wire in front of board

unit in mm

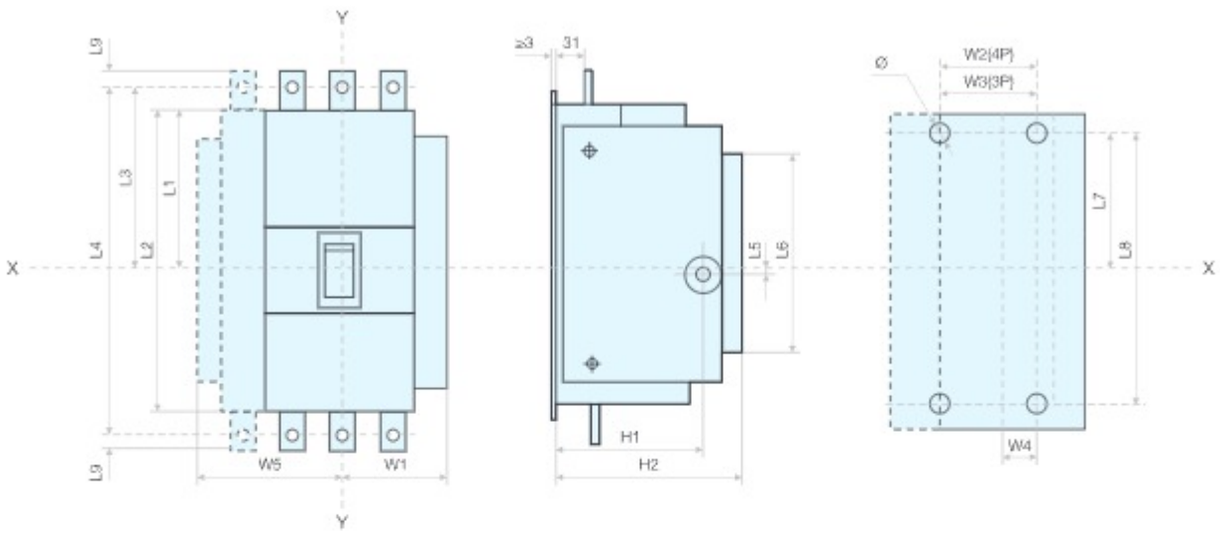


Type	L1	L2	L3	L4	L5	L6	L7	L8	W1	W2	W3	W4	H1	H2	Ø
3SM29-250	89.75	175	107.25	210	1.75	105	52.25	100	84	105	70	25	167	190	5
3SM29-400	127.75	259	150.75	305	1.75	105	65.75	135	101.5	160	115	58	167	190	6

Outline and installation dimensions

Draw-out version 3SM29-630~1600
Connect wire in front of board

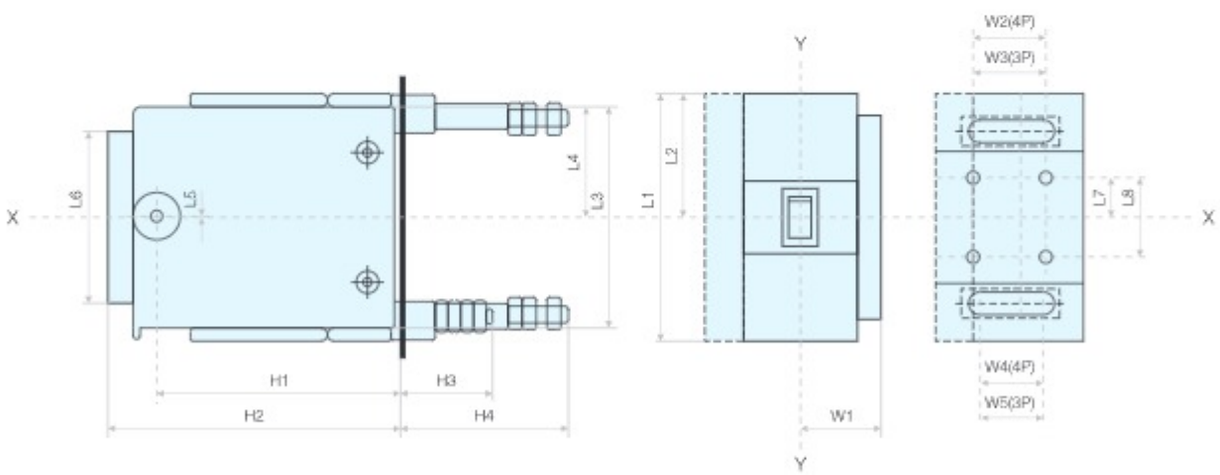
unit in mm



Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	W1	W2	W3	W4	W5	H1	H2	Ø
3SM29-630	133	295	158	345	14.5	140	45.5	120	20	136.5	210	210	140	193.5	167	190	8.5
3SM29-800	133	295	158	345	14.5	140	45.5	120	20	136.5	210	210	140	193.5	167	190	8.5
3SM29-1600	211.25	406	268.25	520	8.25	140	68.25	120	-	136.5	-	210	140	-	218.5	241.5	8.5

Draw-out version
Connect wire behind board

unit in mm



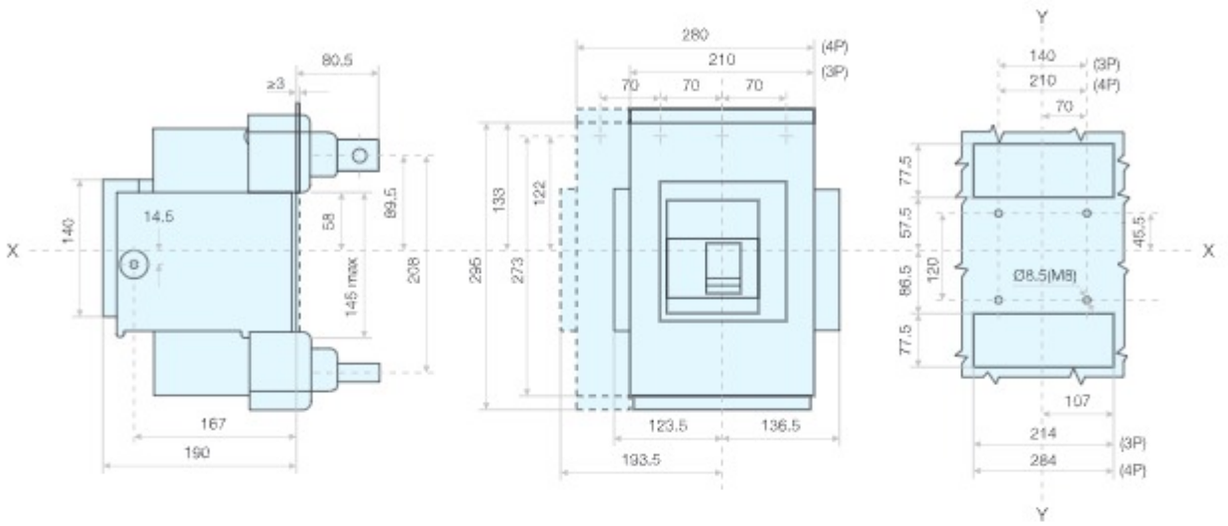
Type	L1	L2	L3	L4	L5	L6	L7	L8	W1	W2	W3	W4	W5	H1	H2	H3	H4	Ø
3SM29-250	175	87.75	143	73.75	1.75	105	52.25	100	84	105	70	70	105	167	190	52	96	5
3SM29-400	259	127.75	218	107.25	1.75	105	65.75	135	101.5	160	115	87.5	131.25	167	190	55	100	6

1

Outline and installation dimensions

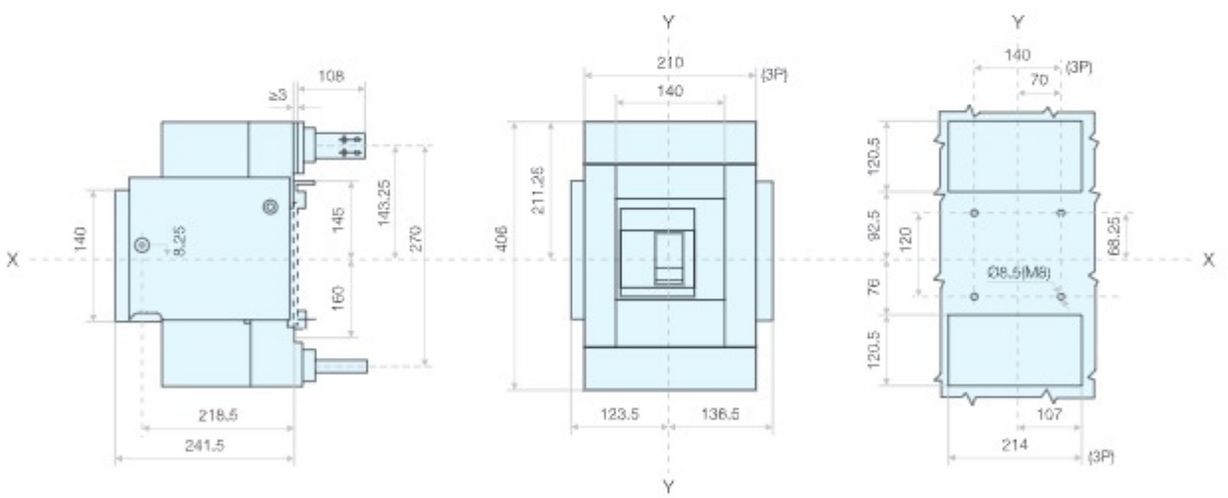
Draw-out version 3SM29-630/800
Connect wire behind board

unit in mm



Draw-out version 3SM29-1600
Connect wire behind board

unit in mm



Product profile



- PM61 series moulded case circuit breaker is our new circuit breaker with international design and advanced manufacturing technology. It is applicable to infrequent conversions and motor protections under working condiction: rated insulation voltage - 800 V (for size PM6100 - 500 V), rated impulse withstand voltage Uimp - 8 kV (for size PM6100 - 6 kV), AC 50/60 Hz, rated working voltage - 690 V and below (for type PM6100 - 400 V), rated working Current- up to 800 A. The circuit breaker has overload, short circuit and under voltage protection functions, which could protect circuits and power equipments from damage.
- The circuit breaker has the characteristics of small volume, high breaking, short arcing (for some models - zero arcing), and vibration resistance.
- The circuit breaker can be installed vertically or horizontally
- The circuit breaker has an isolation function and the corresponding symbol is: —/|✕— .
- The circuit breaker complies with the IEC 60947-2 standard.

Breaking capacity

Frame size	Rated frame current	Rated ultimate short-circuit breaking capacity Icu				
		35 kA	50 kA	65 kA	70 kA	75 kA
PM6100	63 A	D	G			
PM6101	100 A	D	G		L	
PM6102	250 A	D	G		L	
PM6104	400 A	D	G		L	
PM6106	630 A	D	G		L	
PM6108	800 A			H		M

Conditions of normal use and the installation

- Ambient temperature : -5 °C ~ +40 °C.
- The altitude of the installation site does not exceed 2000 m.
- Air conditions: Relative humidity does not exceed 50 % at the max temperature of +40 °C, higher relative humidity is allowable under a lower temperature. For example, RH could be 90 % at +20 °C. Special measures should be taken due to the occurrence of dews.
- Pollution grade: 3.
- Installation category of main circuit: III;
  Installation category of auxiliary circuit and control circuit: II.
- The circuit breaker is available for electromagnetic environment A.
- Installed in an environment which is not enough to erode the metal or destroy the insulating gas and without explosive danger.
- Installed in an environment without attack from rain and snow.
- Storage conditions: -40 °C ~ +70 °C.

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Main technical specifications

Type		PM6100		PM6101			PM6102			PM6104			PM6106			PM6108	
Standard		IEC 60947-2															
Breaking capacity		D	G	D	G	L	D	G	L	D	G	L	D	G	L	H	M
Poles (P)		3, 4	3	3	3, 4	3	3	3, 4	3	3	3, 4	3	3	3, 4	3	3, 4	3
Frame current Inm (A)		63		100			250			400			630			800	
Rated current In (A)		10, 16, 20, 25, 32, 40, 50, 63		10, 16, 20, 25, 32, 40, 50, 63, 80, 100			100, 125, 140, 160, 180, 200, 225, 250			225, 250, 315, 350, 400			400, 500, 630			400, 500, 630, 700, 800	
Rated insulation voltage Ui (V)		AC 800		AC 800			AC 800			AC 800			AC 800			AC 800	
Rated impulse withstand voltage Uimp (V)		8000		8000			8000			8000			8000			8000	
Rated operating voltage Ue (V) AC 50/60 Hz		400		400	400, 690		400	400, 690		400	400, 690		400	400, 690		400	400, 690
Arcing distance (mm)		≤ 50		≤ 50			≤ 50			≤ 100			≤ 100			≤ 100	
Rated limit short-circuit breaking capacity Icu (kA)	AC 400 V	35	50	35	50	70	35	50	70	35	50	70	35	50	70	65	75
	AC 690 V	-	-	-	-	20	-	-	20	-	-	20	-	-	20	-	30
Rated short-circuit breaking capacity Ics (kA)	AC 400 V	22	35	22	35	50	22	35	50	22	50	50	35	50	50	65	65
	AC 690 V	-	-	-	-	10	-	-	10	-	-	15	-	-	15	-	20
Utilization category		A		A			A			A			A			A	
Electrical life (times)	AC 400 V	8000		8000			8000			7500			7500			7500	
	AC 690 V	-		1500			1000			1000			1000			500	
Mechanical life (times)	Maintenance free	20000		20000			20000			10000			10000			10000	
	Maintenance	40000		40000			40000			20000			20000			20000	
Outline dimension (mm)	Width (3P/4P)	75/100	75	75	92/122	92	105	107/142	107	150	150/198	150	182	182/240	182	210/280	210
	Length	130		130	150		165	165		257			270			280	
	Height	60		60	83		60	103		106.5			110			115.5	

Notes: The term "lifetime" according to IEC 60947-1 indicates the probability of the number of operating cycles that an appliance completes before repairing or replacing a component.

Tripping Characteristics

Protection characteristics for power distribution

Protective function	Type	Rated Current In (A)	Tripping characteristics
Overload protection	All type	10 ~ 800	I^2t Action 1.05 In (cold status), non-action within 1h (In ≤ 63 A) 1.3 In (Right after test No.1), ≤ 1 h action (In ≤ 63 A) 1.05 In (cold status), no action within 2 h (In > 63 A) 1.3 In (Right after test No.1), ≤ 2 h action (In > 63 A)
Overload alarm (non-tripping)	PM6101 ... PM6108	10 ~ 800	Non-tripping (alarm)

Protective function	Type	Rated Current In (A)	Current setting of Short circuit protection Ir (A)		Action time
Short circuit protection	PM6100	10~25	300		Instantaneous action
		32~63	10 In		
	PM6101D	10~25	300		
		32~100	10 In		
	PM6101G, PM6101L	10~100	10 In		
	PM6102	100~140	10 In		
		160~250	10 In	(5 In is available)	
	PM6104	225~400	10 In		
	PM6106	400~630	10 In		
	PM6108	400~800	10 In		
Action tolerance			±20 %		

Tripping Characteristics

Protection characteristics for power distribution

Protective function		Type	Rated Current In (A)	Neutral pole overload protection current setting value, neutral pole short circuit protection current setting value (A)	
Neutral pole protection (four-pole circuit breaker)	N-pole protected	PM6100	10~63	In, Ir	
		PM6101	10~63	In, Ir	
			80/100	63, 630	In (Neutral pole overload protection current setting value), Ir (neutral pole short circuit protection current setting value)
		PM6102	100~200	100, 1000	
			225/250	125, 1250	
		PM6104	225~315	225, 2250	
			350/400	250, 2500	
		PM6106	400~630	400, 4000	
		PM6108	400/500	400, 4000	
			630~800	500, 5000	
	N-pole unprotected	All types	10~800	No protection	

Protection characteristics for motor protection

Protective function	Type	Rated Current In (A)	Tripping characteristics
Overload protection	All types	10 ~ 630	I^2t Action 1.0 In (cold status), non-action within 2 h 1.0 In (Right after test NO.1), action within 2 h 1.5 In (Right after test NO.1), ≤ 2 min (PM6100L, PM6100M, PM6101C) ≤ 4 min (PM6101C, PM6101L, PM6101M) ≤ 8 min (In ≤ 630 A in PM6102, PM6104, PM6106 and PM6108) 7.2 In (cold status), 0.5 < Tp ≤ 5 s (PM6100L, PM6100M, PM6101C) 4 < Tp ≤10 s (PM6101C, PM6101L, PM6101M) 6 < Tp ≤ 20 s (In ≤ 630 A in PM6102, PM6104, PM6106 and PM6108) Tripping level, 5 (PM6100C, PM6100M, PM6101C) 10 (PM6101C, PM6101L, PM6101M) 20 (In ≤ 630 A in PM6102, PM6104, PM6106 and PM6108)
Overload alarm (non-tripping)	PM6101 ... PM6108	10 – 630	Non-tripping (alarm)

Protective function	Type	Rated Current In (A)	Current setting of Short circuit protection Ir (A)	Action time
Short circuit protection	PM6100	10~25	300	Instantaneous action
		32~63	12 In	
	PM6101D	10~25	300	
		32~100	12 In	
	PM6101G, PM6101L	10~100	12 In	
	PM6102	100~250	12 In	
	PM6104	225~400	12 In	
	PM6106	400~630	12 In	
	PM6108	400~630	12 In	
Action tolerance			±20 %	

Protective function		Type	Rated Current In (A)	Neutral pole overload protection current setting value, neutral pole short circuit protection current setting value (A)	
Neutral pole protection (four-pole circuit breaker)	N-pole protected	PM6100	10~63	In, Ir	
		PM6101	10~63	In, Ir	
			80/100	63, 756	In (Neutral pole overload protection current setting value), Ir (neutral pole short circuit protection current setting value)
		PM6102	100~200	100, 1200	
			225/250	125, 1500	
		PM6104	225~315	225, 2700	
			350/400	250, 3000	
		PM6106	400~630	400, 4800	
		PM6108	400/500	400, 4800	
			630	500, 6000	
	N-pole unprotected	All types	10~630	No protection	

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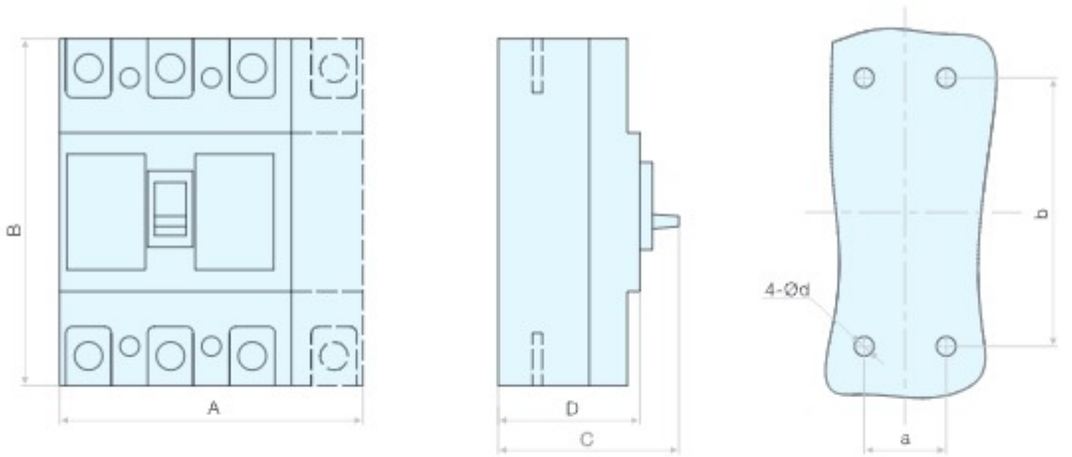
Outline and installation dimensions

unit in mm



Type	Poles	Outline dimensions				Installation dimensions		
		A	B	C	D	a	b	Ød
	(P)	(mm)				(mm)		
PM6100D/G	3	75	130	81	60	25	111	3.5
	4	100				50		
PM6101D	3	75	130	81	60	25	111	3.5
	4	100				50		
PM6101G/L	3	92	150	104	83	30	129	4.5
	4	122				60		
PM6102D	3	105	165	88	60	35	126	4.5
PM6102G/L	3	107	165	127	105.5	35	126	4.5
	4	142				70		
PM6104D	3	150	257	146.5	106.5	44	194	7
PM6104G/L	3	150	257	146.5	106.5	44	194	7
	4	198				94		
PM6106D	3	182	270	150	110	58	200	7
PM6106G/L	3	182	270	150	110	58	200	7
	4	240				116		
PM6108H/M	3	210	280	155	115.5	70	243	7
	4	280				140		

Selection and ordering data

3-pole

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
D	10	PM6100D-3P-10	PM6100D-3M-10
35 kA	16	PM6100D-3P-16	PM6100D-3M-16
	20	PM6100D-3P-20	PM6100D-3M-20
	25	PM6100D-3P-25	PM6100D-3M-25
	32	PM6100D-3P-32	PM6100D-3M-32
	40	PM6100D-3P-40	PM6100D-3M-40
	50	PM6100D-3P-50	PM6100D-3M-50
	63	PM6100D-3P-63	PM6100D-3M-63
G	10	PM6100G-3P-10	PM6100G-3M-10
50 kA	16	PM6100G-3P-16	PM6100G-3M-16
	20	PM6100G-3P-20	PM6100G-3M-20
	25	PM6100G-3P-25	PM6100G-3M-25
	32	PM6100G-3P-32	PM6100G-3M-32
	40	PM6100G-3P-40	PM6100G-3M-40
	50	PM6100G-3P-50	PM6100G-3M-50
	63	PM6100G-3P-63	PM6100G-3M-63

4 pole - 4 trips

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
Neutral unprotected			
G	10	PM6100G-4BP-10	PM6100G-4BM-10
50 kA	16	PM6100G-4BP-16	PM6100G-4BM-16
	20	PM6100G-4BP-20	PM6100G-4BM-20
	25	PM6100G-4BP-25	PM6100G-4BM-25
	32	PM6100G-4BP-32	PM6100G-4BM-32
	40	PM6100G-4BP-40	PM6100G-4BM-40
	50	PM6100G-4BP-50	PM6100G-4BM-50
	63	PM6100G-4BP-63	PM6100G-4BM-63
Neutral protected			
G	10	PM6100G-4CP-10	PM6100G-4CM-10
50 kA	16	PM6100G-4CP-16	PM6100G-4CM-16
	20	PM6100G-4CP-20	PM6100G-4CM-20
	25	PM6100G-4CP-25	PM6100G-4CM-25
	32	PM6100G-4CP-32	PM6100G-4CM-32
	40	PM6100G-4CP-40	PM6100G-4CM-40
	50	PM6100G-4CP-50	PM6100G-4CM-50
	63	PM6100G-4CP-63	PM6100G-4CM-63

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Selection and ordering data

3-pole

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
D	10	PM6101D-3P-10	PM6101D-3M-10
35 kA	16	PM6101D-3P-16	PM6101D-3M-16
	20	PM6101D-3P-20	PM6101D-3M-20
	25	PM6101D-3P-25	PM6101D-3M-25
	32	PM6101D-3P-32	PM6101D-3M-32
	40	PM6101D-3P-40	PM6101D-3M-40
	50	PM6101D-3P-50	PM6101D-3M-50
	63	PM6101D-3P-63	PM6101D-3M-63
	80	PM6101D-3P-80	PM6101D-3M-80
	100	PM6101D-3P-100	PM6101D-3M-100
G	10	PM6101G-3P-10	PM6101G-3M-10
50 kA	16	PM6101G-3P-16	PM6101G-3M-16
	20	PM6101G-3P-20	PM6101G-3M-20
	25	PM6101G-3P-25	PM6101G-3M-25
	32	PM6101G-3P-32	PM6101G-3M-32
	40	PM6101G-3P-40	PM6101G-3M-40
	50	PM6101G-3P-50	PM6101G-3M-50
	63	PM6101G-3P-63	PM6101G-3M-63
	80	PM6101G-3P-80	PM6101G-3M-80
	100	PM6101G-3P-100	PM6101G-3M-100
L	10	PM6101L-3P-10	PM6101L-3M-10
70 kA	16	PM6101L-3P-16	PM6101L-3M-16
	20	PM6101L-3P-20	PM6101L-3M-20
	25	PM6101L-3P-25	PM6101L-3M-25
	32	PM6101L-3P-32	PM6101L-3M-32
	40	PM6101L-3P-40	PM6101L-3M-40
	50	PM6101L-3P-50	PM6101L-3M-50
	63	PM6101L-3P-63	PM6101L-3M-63
	80	PM6101L-3P-80	PM6101L-3M-80
	100	PM6101L-3P-100	PM6101L-3M-100

4 pole - 4 trips

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
Neutral unprotected			
G	10	PM6101G-4BP-10	PM6101G-4BM-10
50 kA	16	PM6101G-4BP-16	PM6101G-4BM-16
	20	PM6101G-4BP-20	PM6101G-4BM-20
	25	PM6101G-4BP-25	PM6101G-4BM-25
	32	PM6101G-4BP-32	PM6101G-4BM-32
	40	PM6101G-4BP-40	PM6101G-4BM-40
	50	PM6101G-4BP-50	PM6101G-4BM-50
	63	PM6101G-4BP-63	PM6101G-4BM-63
	80	PM6101G-4BP-80	PM6101G-4BM-80
	100	PM6101G-4BP-100	PM6101G-4BM-100
Neutral protected			
G	10	PM6101G-4CP-10	PM6101G-4CM-10
50kA	16	PM6101G-4CP-16	PM6101G-4CM-16
	20	PM6101G-4CP-20	PM6101G-4CM-20
	25	PM6101G-4CP-25	PM6101G-4CM-25
	32	PM6101G-4CP-32	PM6101G-4CM-32
	40	PM6101G-4CP-40	PM6101G-4CM-40
	50	PM6101G-4CP-50	PM6101G-4CM-50
	63	PM6101G-4CP-63	PM6101G-4CM-63
	80	PM6101G-4CP-80	PM6101G-4CM-80
	100	PM6101G-4CP-100	PM6101G-4CM-100

Selection and ordering data

3-pole

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
D	100	PM6102D-3P-100	PM6102D-3M-100
35 kA	125	PM6102D-3P-125	PM6102D-3M-125
	140	PM6102D-3P-140	PM6102D-3M-140
	160	PM6102D-3P-160	PM6102D-3M-160
	180	PM6102D-3P-180	PM6102D-3M-180
	200	PM6102D-3P-200	PM6102D-3M-200
	225	PM6102D-3P-225	PM6102D-3M-225
	250	PM6102D-3P-250	PM6102D-3M-250
G	100	PM6102G-3P-100	PM6102G-3M-100
50 kA	125	PM6102G-3P-125	PM6102G-3M-125
	140	PM6102G-3P-140	PM6102G-3M-140
	160	PM6102G-3P-160	PM6102G-3M-160
	180	PM6102G-3P-180	PM6102G-3M-180
	200	PM6102G-3P-200	PM6102G-3M-200
	225	PM6102G-3P-225	PM6102G-3M-225
	250	PM6102G-3P-250	PM6102G-3M-250
L	100	PM6102L-3P-100	PM6102L-3M-100
70 kA	125	PM6102L-3P-125	PM6102L-3M-125
	140	PM6102L-3P-140	PM6102L-3M-140
	160	PM6102L-3P-160	PM6102L-3M-160
	180	PM6102L-3P-180	PM6102L-3M-180
	200	PM6102L-3P-200	PM6102L-3M-200
	225	PM6102L-3P-225	PM6102L-3M-225
	250	PM6102L-3P-250	PM6102L-3M-250

4 pole - 4 trips

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
Neutral unprotected			
G	100	PM6102G-4BP-100	PM6102G-4BM-100
50 kA	125	PM6102G-4BP-125	PM6102G-4BM-125
	140	PM6102G-4BP-140	PM6102G-4BM-140
	160	PM6102G-4BP-160	PM6102G-4BM-160
	180	PM6102G-4BP-180	PM6102G-4BM-180
	200	PM6102G-4BP-200	PM6102G-4BM-200
	225	PM6102G-4BP-225	PM6102G-4BM-225
	250	PM6102G-4BP-250	PM6102G-4BM-250
Neutral protected			
G	100	PM6102G-4CP-100	PM6102G-4CM-100
50 kA	125	PM6102G-4CP-125	PM6102G-4CM-125
	140	PM6102G-4CP-140	PM6102G-4CM-140
	160	PM6102G-4CP-160	PM6102G-4CM-160
	180	PM6102G-4CP-180	PM6102G-4CM-180
	200	PM6102G-4CP-200	PM6102G-4CM-200
	225	PM6102G-4CP-225	PM6102G-4CM-225
	250	PM6102G-4CP-250	PM6102G-4CM-250

Selection and ordering data

3-pole

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
D	225	PM6104D-3P-225	PM6104D-3M-225
35 kA	250	PM6104D-3P-250	PM6104D-3M-250
	315	PM6104D-3P-315	PM6104D-3M-315
	350	PM6104D-3P-350	PM6104D-3M-350
	400	PM6104D-3P-400	PM6104D-3M-400
G	225	PM6104G-3P-225	PM6104G-3M-225
50 kA	250	PM6104G-3P-250	PM6104G-3M-250
	315	PM6104G-3P-315	PM6104G-3M-315
	350	PM6104G-3P-350	PM6104G-3M-350
	400	PM6104G-3P-400	PM6104G-3M-400
L	225	PM6104L-3P-225	PM6104L-3M-225
70 kA	250	PM6104L-3P-250	PM6104L-3M-250
	315	PM6104L-3P-315	PM6104L-3M-315
	350	PM6104L-3P-350	PM6104L-3M-350
	400	PM6104L-3P-400	PM6104L-3M-400

4 pole - 4 trips

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
Neutral unprotected			
G	225	PM6104G-4BP-225	PM6104G-4BM-225
50 kA	250	PM6104G-4BP-250	PM6104G-4BM-250
	315	PM6104G-4BP-315	PM6104G-4BM-315
	350	PM6104G-4BP-350	PM6104G-4BM-350
	400	PM6104G-4BP-400	PM6104G-4BM-400
Neutral protected			
G	225	PM6104G-4CP-225	PM6104G-4CM-225
50 kA	250	PM6104G-4CP-250	PM6104G-4CM-250
	315	PM6104G-4CP-315	PM6104G-4CM-315
	350	PM6104G-4CP-350	PM6104G-4CM-350
	400	PM6104G-4CP-400	PM6104G-4CM-400

Selection and ordering data

PM6106, 3-pole

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
D	400	PM6106D-3P-400	PM6106D-3M-400
35 kA	500	PM6106D-3P-500	PM6106D-3M-500
	630	PM6106D-3P-630	PM6106D-3M-630
G	400	PM6106G-3P-400	PM6106G-3M-400
50 kA	500	PM6106G-3P-500	PM6106G-3M-500
	630	PM6106G-3P-630	PM6106G-3M-630
L	400	PM6106L-3P-400	PM6106L-3M-400
70 kA	500	PM6106L-3P-500	PM6106L-3M-500
	630	PM6106L-3P-630	PM6106L-3M-630

PM6106, 4 pole - 4 trips

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
Neutral unprotected			
G	400	PM6106G-4BP-400	PM6106G-4BM-400
50 kA	500	PM6106G-4BP-500	PM6106G-4BM-500
	630	PM6106G-4BP-630	PM6106G-4BM-630
Neutral protected			
G	400	PM6106G-4CP-400	PM6106G-4CM-400
50 kA	500	PM6106G-4CP-500	PM6106G-4CM-500
	630	PM6106G-4CP-630	PM6106G-4CM-630

PM6108, 3-pole

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
H	400	PM6108H-3P-400	PM6108H-3M-400
65 kA	500	PM6108H-3P-500	PM6108H-3M-500
	630	PM6108H-3P-630	PM6108H-3M-630
	700	PM6108H-3P-700	PM6108H-3M-700
	800	PM6108H-3P-800	PM6108H-3M-800
M	400	PM6108M-3P-400	PM6108M-3M-400
75 kA	500	PM6108M-3P-500	PM6108M-3M-500
	630	PM6108M-3P-630	PM6108M-3M-630
	700	PM6108M-3P-700	PM6108M-3M-700
	800	PM6108M-3P-800	PM6108M-3M-800

PM6108, 4 pole - 4 trips

Breaking capacity at 400 V AC	Rated current (A)	For power distribution Type code	For motor protection Type code
Neutral unprotected			
H	400	PM6108H-4BP-400	PM6108H-4BM-400
65 kA	500	PM6108H-4BP-500	PM6108H-4BM-500
	630	PM6108H-4BP-630	PM6108H-4BM-630
	700	PM6108H-4BP-700	PM6108H-4BM-700
	800	PM6108H-4BP-800	PM6108H-4BM-800
Neutral protected			
H	400	PM6108H-4CP-400	PM6108H-4CM-400
65 kA	500	PM6108H-4CP-500	PM6108H-4CM-500
	630	PM6108H-4CP-630	PM6108H-4CM-630
	700	PM6108H-4CP-700	PM6108H-4CM-700
	800	PM6108H-4CP-800	PM6108H-4CM-800

Series 3SM8E with electronic trip unit

Applications and functions

- Incoming and outgoing function in distribution systems
- Switching and protection devices for motors, transformers and capacitors
- Protect circuits and power supply devices against overload, short-circuit, under-voltage etc.
- Used in new energy, power, industry control, buildings,
- Available in the following versions
  - Power protection
    The overload and short-circuit releases are designed for the protection of cables, leads and non-motor loads
  - Motor protection
    The overload and short-circuit releases are designed for optimized protection and direct-on-line starting of induction squirrel-cage motors.



Instruction of type code

M8E A 3 P 400 M

- M8E — Series code
- A — Code of size
  - A: 3SM8E-125
  - B: 3SM8E-250
  - C: 3SM8E-400
  - D: 3SM8E-630
  - E: 3SM8E-800
  - F: 3SM8E-1600
- 3 — Number of poles
  - 3: 3-pole
  - 4: 4-pole
- P — Versions
  - P: Power distribution
  - M: Motor protection
- 400 — Rated current
  - 32: 16...32 A
  - 63: 32...63 A
  - 125: 63...125 A
  - 250: 100...250 A
  - 400: 200...400 A
  - 630: 400...630 A
  - 800: 630...800 A
  - 1600: 640...1600 A
- M — Breaking capacity
  - M: Medium
  - H: High

Technical specifications

Size		A		B		C		D		E		F
Type		3SM8E-125		3SM8E-250		3SM8E-400		3SM8E-630		3SM8E-800		3SM8E-1600
Standard		IEC 60947-2 IEC 60947-4-1										
Rated current I_n adjustable	A	16-20-25-32, 32-36-40-45- 50-55-60-63, 63-65-70-75- 80-85-90-95- 100-125		100-125-140- 160-180-200- 225-250		200-225-250- 280-315-350- 400		400-429-440- 460-480-500- 530-560-600- 630		630-640-660- 680-700-720- 740-760-780- 800		640-800-960- 1120-1280- 1440-1600
Breaking capacity		M	H	M	H	M	H	M	H	M	H	H
Number of poles	pole	3 4	3	3 4	3	3 4	3	3 4	3	3 4	3	3 4
Rated operating voltage U_e	V	AC 400										
Rated insulating voltage U_i	V	AC 800										
Rated impulsed withstand voltage U_{imp}	kV	8										
Rated frequency	Hz	50/60										
Rated ultimate short-circuit breaking capacity at AC 400 V 50/60 Hz I_{cu}	kA	50	85	50	85	65	100	65	100	65	100	80
Rated operating short-circuit breaking capacity at AC 400 V 50/60 Hz I_{cs}	kA	35	50	35	50	42	65	42	65	42	65	40
Rated short-time withstand current for 1 s at AC 400 V 50/60 Hz I_{cw}	kA					5		8		10		20
Category		A		A		B		B		B		B
Mechanical life	cycles	7000		7000		4000		3000		3000		2500
Electrical life	cycles	3000		3000		2000		1500		1500		1000
Flashover distance	mm	≤ 50		≤ 50		≤ 100		≤ 100		≤ 100		≤ 120

Normal working environment

Altitude
The rated performance of the circuit breaker does not change up to 2000 meters.
Beyond this altitude, the performance of the circuit breaker is subjest to derating, see the derating coefficients table on Electonic trip unit.

Temperature
Storage: -40 °C to + 70 °C
Operating: -5 °C to + 40 °C
In case the circuit breaker operates at higher temperatures than +40 °C, the current-carrying capacity of the circuit breaker may be lower than the rated current-carry capacity at the reference temperature, therefore the derating coefficients must be applied. see the derating coefficients table on Electonic trip unit.

Relative humidity
When maximum temperature is 40 °C, relative humidity shall be less than 50%.
When the temperature is relative low, the relative humidity is allowed to be higher.
Condensation caused by change of temperature shall be taken special measures.

Pollution level
3

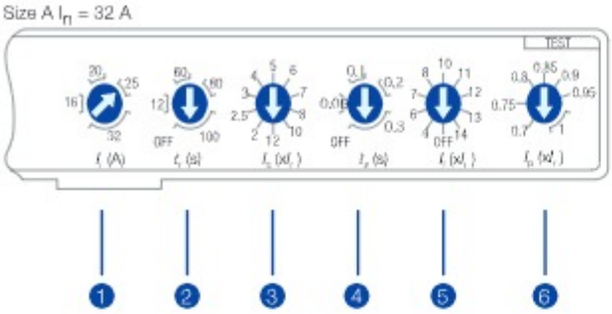
Installation category
Main circuit: III
Auxiliary circuit and control circuit: II

Installation environment
Horizontal or vertical, maximum inclination: 22.5 °.
Resistance to moist air, salt mist and oil mist.
Installed in an environment which is not enough to erode the metal or to destroy the insulating gas and without explosive danger.
Installed in an environment without attack from rain and snow.

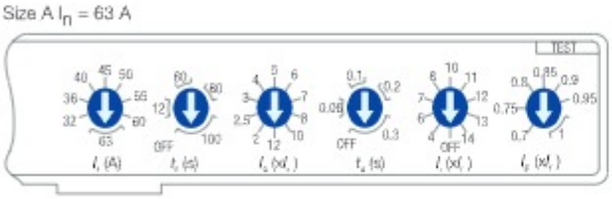
1

Electonic trip unit

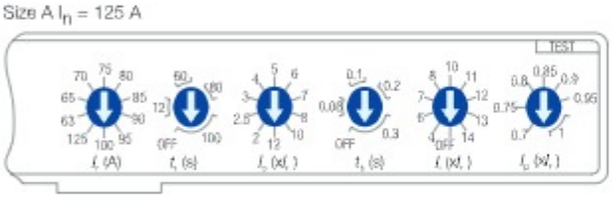
Size A I_n = 32 A



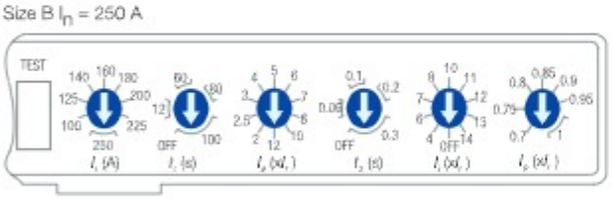
Size A I_n = 63 A



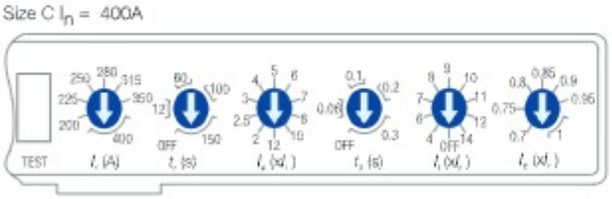
Size A I_n = 125 A



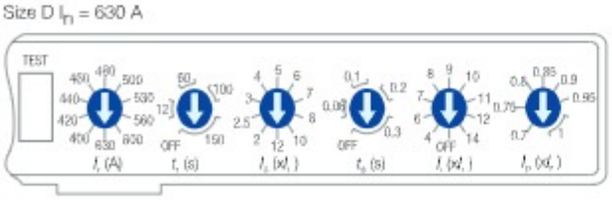
Size B I_n = 250 A



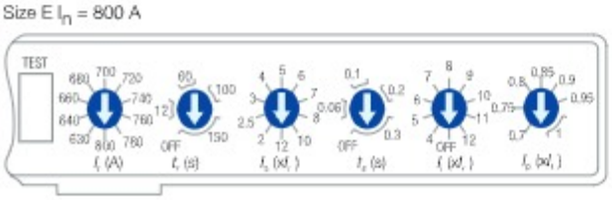
Size C I_n = 400A



Size D I_n = 630 A



Size E I_n = 800 A



Due to the configurated electronic trip units, 3SM8E moulded case circuit breaker is enable to supply following the reliable protection and act correctly:

- Overload protection (L)
- Short-time delayed short-circuit protection (S)
- Instantaneous short-circuit protection (I)

1 I_r

Current setting range of long-time delayed overload protection

Size A	up to 32 A	16-20-25-32 A
	up to 63 A	32-36-40-45-50-55-60-63 A
	up to 100 A	63-65-70-75-80-85-90-95-100-125 A
Size B	up to 225 A	100-125-140-160-180-200-225-250 A
Size C	up to 400 A	200-225-250-280-315-350-400 A
Size D	up to 630 A	400-420-440-460-480-500-530-560-600-630 A
Size E	up to 800 A	630-640-660-680-700-720-740-760-780-800 A

2 t_r

Setting range of time-lag class for overload protection

Size A/B	up to 225 A	OFF, 12-60-80-100 s
Size C/D/E	up to 800 A	OFF, 12-60-100-150 s

3 $I_s = I_r \times ...$

Current setting range of short-time delayed short-circuit protection

Size A/B/C/D/E	up to 800 A	2-2.5-3-4-5-6-7-8-10-12

4 t_s

Setting range of time-lag class for short-circuit protection

Size A/B/C/D/E	up to 800 A	OFF, 0.06-0.1-0.2-0.3 s

5 $I_i = I_r \times ...$

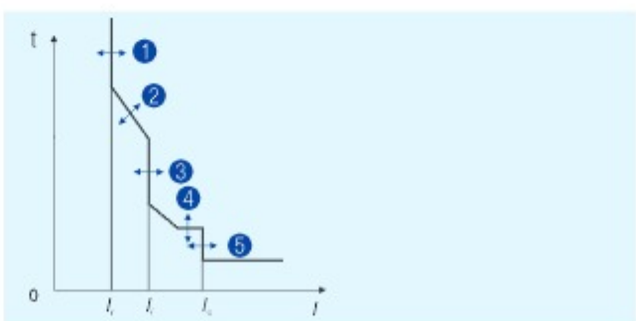
Current setting range of instantaneous short-circuit protection

Size A/B	up to 225 A	OFF, 4-6-7-8-10-11-12-13-14
Size C/D	up to 630 A	OFF, 4-6-7-8-9-10-11-12-14
Size E	up to 800 A	OFF, 4-5-6-7-8-9-10-11-12

6 $I_p = I_r \times ...$

Current setting range of pre-alarm function

Size A/B/C/D/E	up to 800 A	0.7-0.75-0.8-0.85-0.9-0.95-1

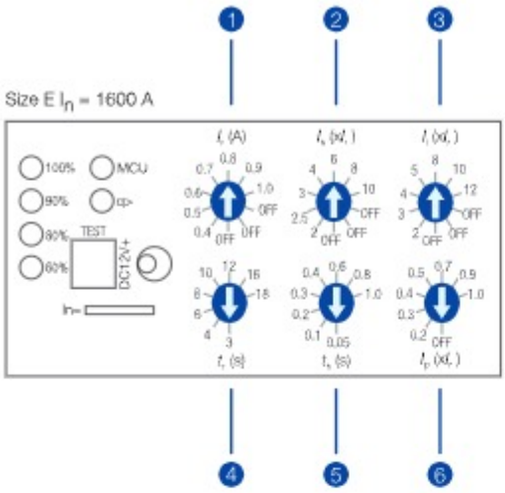


Note

"TEST" is used to test the trip performance.

Electonic trip unit

Size E I_n = 1600 A



Due to the configurated electronic trip units, 3SM8E molded case circuit breaker is enable to supply following the reliable protection and act correctly:

- Overload protection (L)
- Short-time delayed short-circuit protection (S)
- Instantaneous short-circuit protection (I)

1 I_r

Current setting range of long-time delayed overload protection

Size F	up to 1600 A	640-800-960-1120-1280-1440-1600 A

2 $I_s = I_r$ x ...

Current setting range of short-time delayed short-circuit protection

Size F	up to 1600 A	2-2.5-3-4-6-8-10

3 $I_i = I_r$ x ...

Current setting range of instantaneous short-circuit protection

Size F	up to 1600 A	OFF, 2-3-4-5-8-10-12

4 t_r

Setting range of time-lag class for overload protection

Size F	up to 1600 A	OFF, 3-4-6-8-10-12-16-18 s

5 t_s

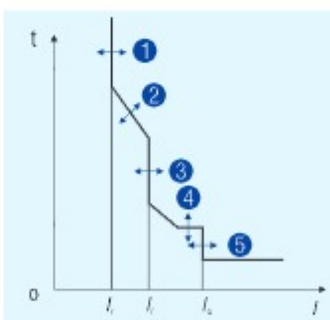
Setting range of time-lag class for short-circuit protection

Size F	up to 1600 A	OFF, 0.05-0.1-0.2-0.3-0.4-0.5-0.6-0.8-1.0 s

6 $I_p = I_r$ x ...

Current setting range of pre-alarm function

Size F	up to 1600 A	0.7-0.75-0.8-0.85-0.9-0.95-1

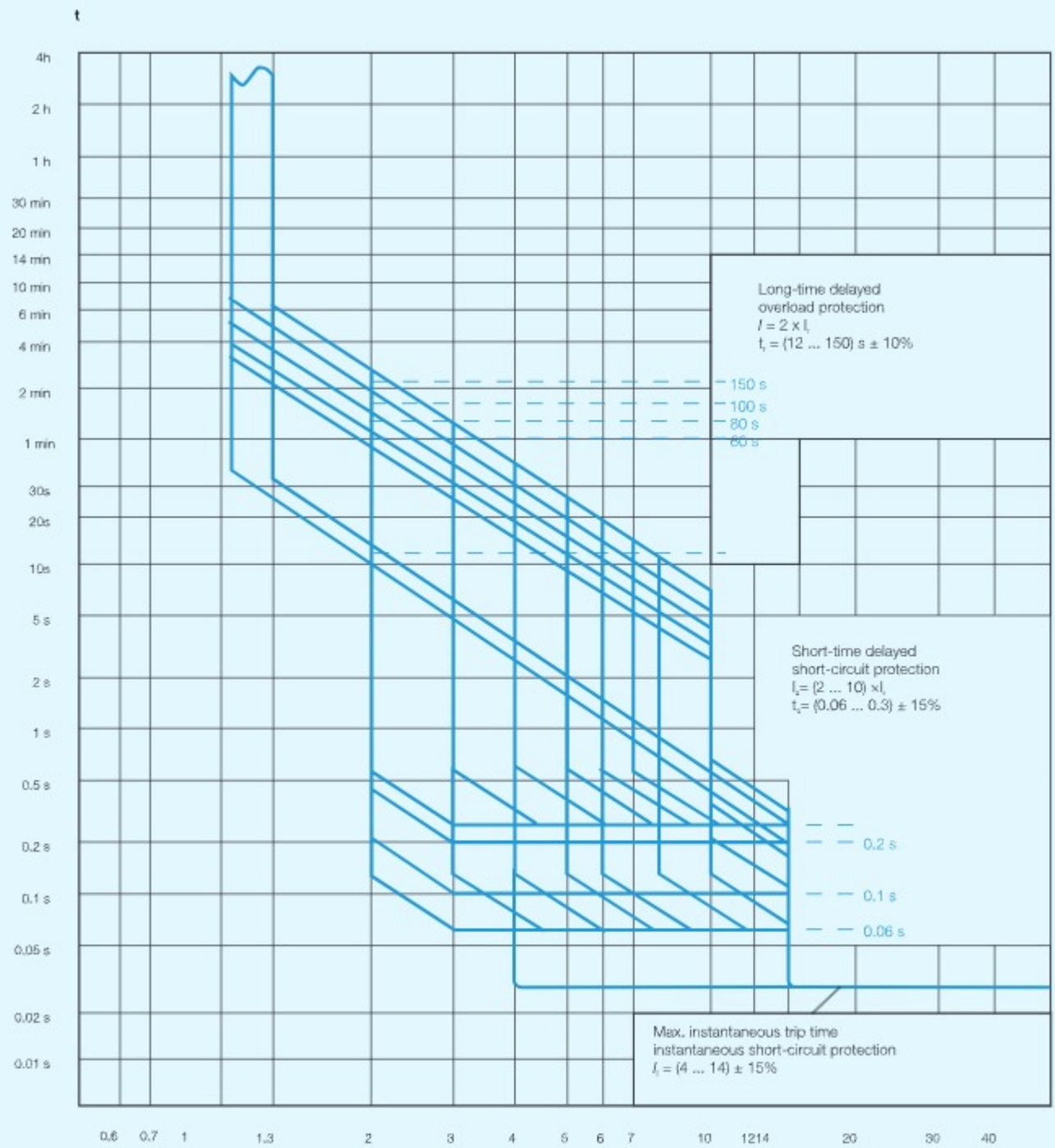


Note

"TEST" is used to test the trip performance.

1

Characteristic curve



Selection and ordering data

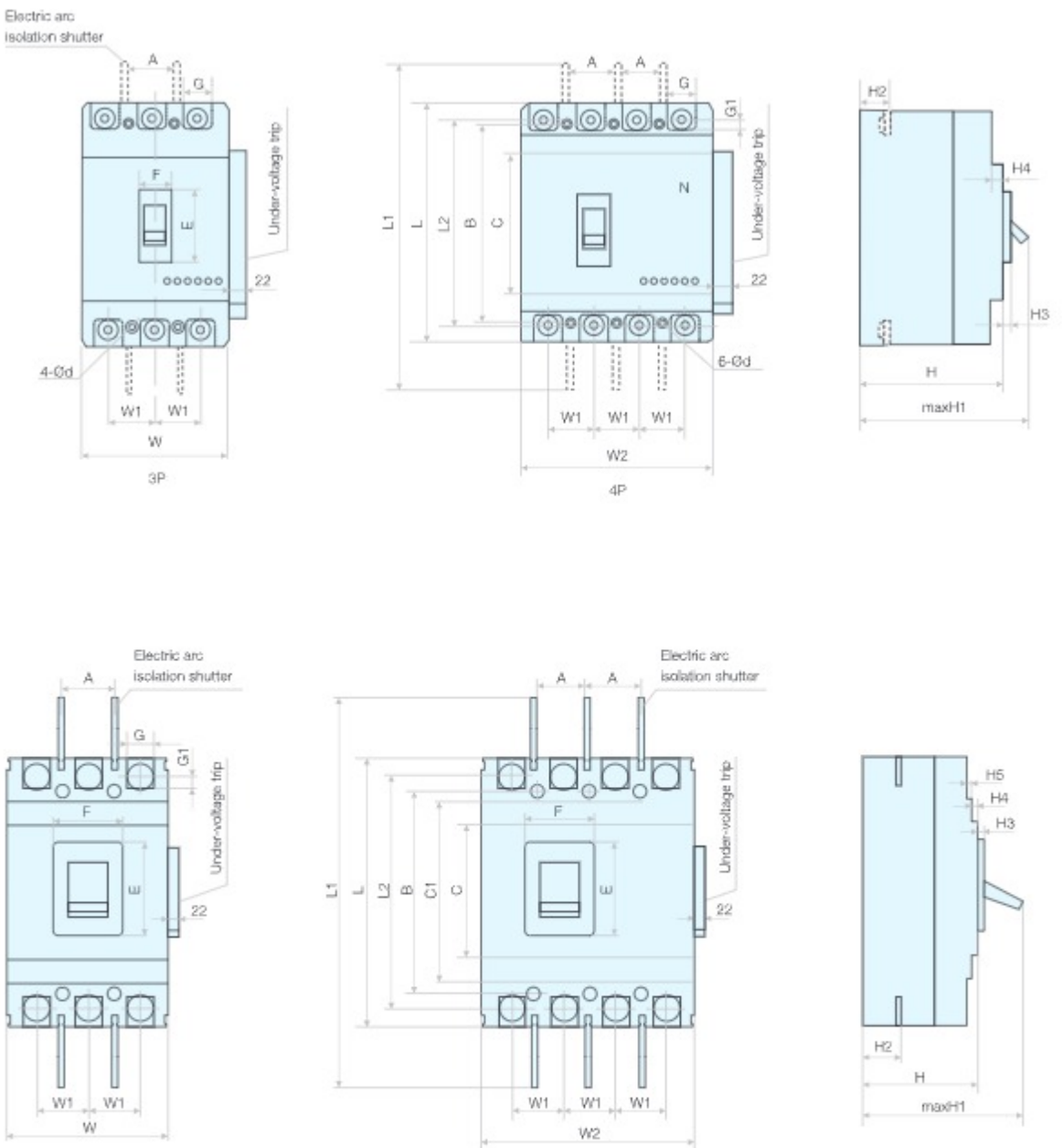


Rated current I_n (A)	Power distribution		Motor protection	
	Type code	Order code	Type code	Order code
3-pole				
Size A				
I_{cu} = 50 kA, I_{cs} = 35 kA				
16 ... 32	M8EA 3P32M	39835	M8EA 3M32M	39844
32 ... 63	M8EA 3P63M	39836	M8EA 3M63M	39845
63 ... 125	M8EA 3P125M	39837	M8EA 3M125M	39846
I_{cu} = 85 kA, I_{cs} = 50 kA				
16 ... 32	M8EA 3P32H	39838	M8EA 3M32H	39847
32 ... 63	M8EA 3P63H	39839	M8EA 3M63H	39848
63 ... 125	M8EA 3P125H	39840	M8EA 3M125H	39849
Size B				
I_{cu} = 50 kA, I_{cs} = 35 kA				
100 ... 250	M8EB 3P250M	39853	M8EB 3M250M	39856
I_{cu} = 85 kA, I_{cs} = 50 kA				
100 ... 250	M8EB 3P250H	39854	M8EB 3M250H	39857
Size C				
I_{cu} = 65 kA, I_{cs} = 42 kA				
200 ... 400	M8EC 3P400M	39859	M8EC 3M400M	39862
I_{cu} = 100 kA, I_{cs} = 65 kA				
200 ... 400	M8EC 3P400H	39860	M8EC 3M400H	39863
Size D				
I_{cu} = 65 kA, I_{cs} = 42 kA				
400 ... 630	M8ED 3P630M	39865	M8ED 3M630M	39868
I_{cu} = 100 kA, I_{cs} = 65 kA				
400 ... 630	M8ED 3P630H	39866	M8ED 3M630H	39869
Size E				
I_{cu} = 65 kA, I_{cs} = 42 kA				
630 ... 800	M8EE 3P800M	39871	M8EE 3M800M	39874
I_{cu} = 100 kA, I_{cs} = 65 kA				
630 ... 800	M8EE 3P800H	39872	M8EE 3M800H	39875
Size F				
I_{cu} = 80 kA, I_{cs} = 40 kA				
640 ... 1600	M8EF 3P1600H	39131		
4-pole				
Size A				
I_{cu} = 50 kA, I_{cs} = 35 kA				
16 ... 32	M8EA 4P32M	39841	M8EA 4M32M	39850
32 ... 63	M8EA 4P63M	39842	M8EA 4M63M	39851
63 ... 125	M8EA 4P125M	39843	M8EA 4M125M	39852
Size B				
I_{cu} = 50 kA, I_{cs} = 35 kA				
100 ... 225	M8EB 4P250M	39855	M8EB 4M250M	39858
Size C				
I_{cu} = 65 kA, I_{cs} = 42 kA				
200 ... 400	M8EC 4P400M	39861	M8EC 4M400M	39864
Size D				
I_{cu} = 65 kA, I_{cs} = 42 kA				
400 ... 630	M8ED 4P630M	39867	M8ED 4M630M	39870
Size E				
I_{cu} = 65 kA, I_{cs} = 42 kA				
630 ... 800	M8EE 4P800M	39873	M8EE 4M800M	39876
Size F				
I_{cu} = 80 kA, I_{cs} = 40 kA				
640 ... 1600	M8EF 4P1600H	39132		

1

Outline and installation dimensions

3SM8E-125, 250, 400, 630, 800, 1600 (front connection)



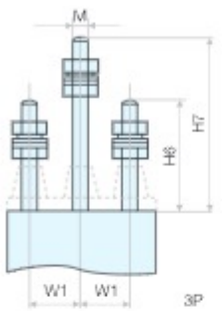
Outline and installation dimensions

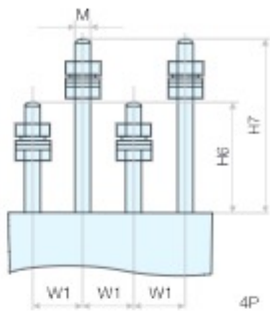
		Model					
		3SM8E-125	3SM8E-250	3SM8E-400	3SM8E-630	3SM8E-800	3SM8E-1600
Dimensions	C	88	102	126	128.5	128.5	
	C1			174	204	204	
	E	50	57.5	90.5	81	81	
	F	22	24	60	66	66	
	G	19.2	22	32	46	46	
	G1	7.5	10	11	14	14	
	H	91.7	91.2	107.5	112	112	137
	H1	109.4	106.7	149	155	155	191
	H2	28	22.8	38	37.5	37.5	41
	H3	4	4	9	10	10	15
	H4	10	5.5	4	10.5	10.5	
	H5			5.6	8.5	8.5	
	L	150	165	258	280	280	330
	L1	255	360	457	470	470	506
	L2	132	145	225	243	243	
	W	92	127	150	210	210	210
	W1	30	35	48	70	70	70
	W2	122	162	198	280	280	280
Installation Dimensions	A	35	35	48	70	70	70
	B	129	126	195	244	244	299
	Ød	4.5	4.5	7	7	7	9

Outline and installation dimensions

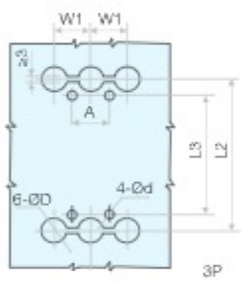
1

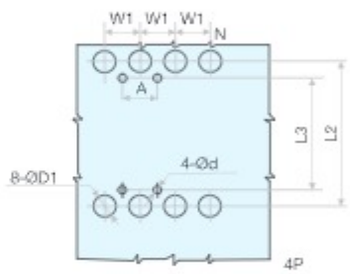
3SM8E-125, 250 (Rear connection)



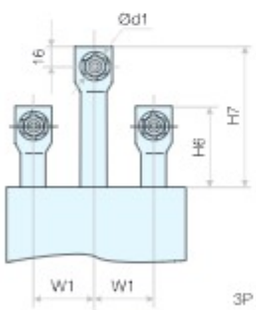


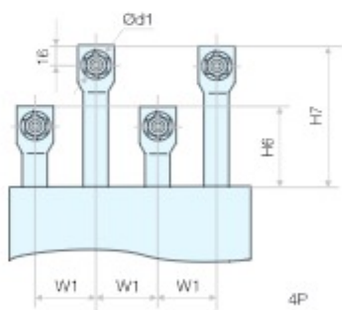
Rear connection stiletto chart





3SM8E-400, 630, 800 (Rear connection)





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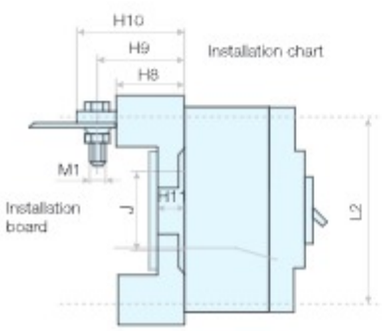
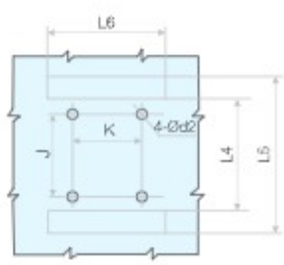


Installation board stiletto chart



Outline and installation dimensions

	3SM8E-125	3SM8E-250	3SM8E-400	3SM8E-630	3SM8E-800
A	30	35	44	70	70
Ød	Ø4.5	Ø4.5	Ø6.5	Ø7	Ø7
Ød1	-	-	Ø12.5	Ø16.5	Ø16.5
Ød2	Ø6.5	Ø6.5	Ø8.5	Ø11.5	Ø11.5
ØD	Ø25	Ø25	Ø32	Ø48	Ø48
ØD1	Ø25	Ø25	Ø32	Ø48	Ø48
H6	53	58	63.5	84	84
H7	88	89	104.5	84	84
H8	50	50	60	88	88
H9	64	65.5	80	-	-
H10	82	85	102	105	105
H11	17.5	16	21	30	30
L2	132	144	224	243	243
L3	107	126	194	243	243
L4	90	88	166	175	175
L5	172	190	282	305	305
L6	94	110	152	213	213
M	M8	M8	-	-	-
K	60	70	60	90	90
J	56	54	129	123	123
M1	M8	M8	M12	M14	M14
W1	30	35	48	70	70

Series 3SM8L

Applications and functions

- Protection of plant and equipment against overload or damage by ground faults (ground-fault protection)
- Protection against fire hazard caused by insulation faults
- Switching and protection devices for motors, transformers and capacitors
- Disconnector units with features for stopping and switching off in an emergency in conjunction with lockable rotary operating mechanisms and terminal covers.



Instruction of type code

M8L A 3 P 016 1

- 1: Rated residual current (mA)
  1: 100; 3: 300
  5: 500; 10: 1000
- 016: Rated current (A)
  16, 20, 25, 32, 40, 50, 63, 80, 100 (Frame A)
  100, 125, 140, 160, 180, 200, 225 (Frame B)
  225, 250, 315, 350, 400 (Frame C)
  400, 500, 630 (Frame D)
- P: Protection type
  P: Power protection; M: Motor protection
- 3: Poles (P): 3: 3P; 4: 4P
- A: Frame
  A: 3SM8L-100; B: 3SM8L-225;
  C: 3SM8L-400; D: 3SM8L-630
- M8L: Series code

- Here is code of N-pole type for 4 pole circuit breaker:
  A: N-pole fixed without over-current release unit, it has been connected all along, and does not act with other three poles to turn on or off.
  B: N-pole fixed without over-current release unit, it acts with other three poles.

Technical specifications

Frame type		A	B	C	D
Standards		IEC 60947-2	IEC 60947-2	IEC 60947-2	IEC 60947-2
Number of poles	P	3, 4	3, 4	3, 4	3, 4
Frame current Inm	A	100	225	400	630
Rated current In	A	16, 20, 25, 32, 40 50, 63, 80, 100	100, 125, 140, 160 180, 200, 225	225, 250, 315 350, 400	400, 500, 630
Rated residual currents IΔn	mA	100, 300, 500, 1000	100, 300, 500, 1000	100, 300, 500	100, 300, 500, 1000
Rated insulating voltage Ui	V	800	800	800	800
Rated operating voltage, Ue	V	400	400	400	400
Rated frequency	Hz	50/60	50/60	50/60	50/60
Rated impulsed withstand voltage, Uimp	kV	8	8	8	8
Rated ultimate short-circuit breaking capacity, Icu (AC) 50-60 Hz 400 V O-CO	kA	50	50	65	65
Rated operating short-circuit breaking capacity, Ics (AC) 50-60 Hz 400 V O-CO-CO	kA	35	35	42	42
Mechanical life	times	8500	7000	4000	4000
Electrical life	times	1500	1000	1000	1000
Flashover distance	mm	≤50	≤50	≤100	≤100
Utilization category (IEC60947-2)		A	A	A	A
Ambient temperature		-5 to +40 °C, max. 95% humidity			
Storage temperature		-40 to +75 °C			
Altitude	Max	2000 m			

Tripping characteristic

- For power distribution

Test No.	Test current	I/In	Conventional time	Start status	Ambient temperature
1	Conventional non-action time	1.05	1 h (In ≤ 63 A) 2 h (In > 63 A)	Cold status	+ 40 °C
2	Conventional action time	1.30	1 h (In ≤ 63 A) 2 h (In > 63 A)	Right after test No.1	+ 40 °C

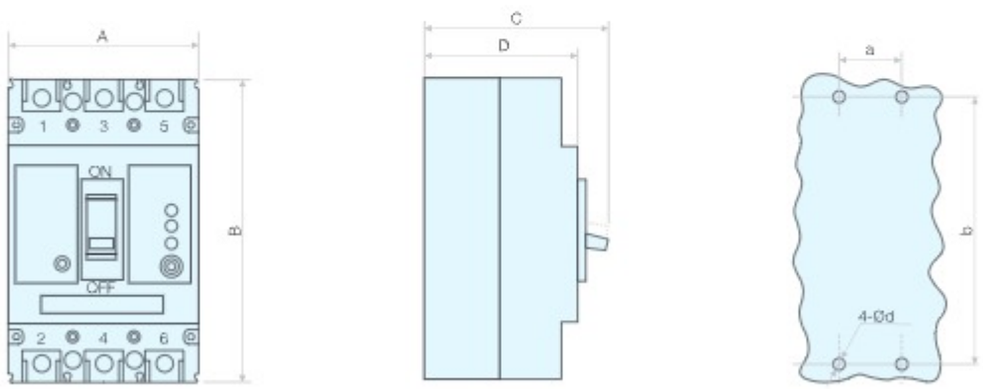
- For motor protection

Test No.	Setting current	Conventional time		Start status	Ambient temperature
1	1.05 In	Inm = 100 A	> 2 h no action	Cold status	+40 °C
		Inm = 225 A/400 A	> 2 h no action		
		Inm = 630 A	> 2 h no action		
2	1.2 In	Inm = 100 A	≤ 2 h action	Right after test No.1	+40 °C
		Inm = 225 A/400 A	≤ 2 h action		
		Inm = 630 A	≤ 2 h action		
3	1.5 In	Inm = 100 A	≤ 4 min action	Heat status	+40 °C
		Inm = 225 A	≤ 4 min action		
		Inm = 400/630 A	≤ 8 min action		
4	7.2 In	Inm = 100 A	≥ 1 s action	Cold status	+40 °C
		Inm = 225 A	4 s < T ≤ 10 s action		
		Inm = 400/630 A	6 s < T ≤ 20 s action		

Action time of residual current protection

Residual current		1 IΔn	2 IΔn	5 IΔn	10 IΔn
Non time-delay type	Max. breaking time (s)	0.2	0.1	0.04	0.04
Time-delay type	Max. breaking time (s)	0.5/1.15/2.15	0.35/1/2	0.25/0.9/1.9	0.25/0.9/1.9
	Ultimate non-driven time Δt (s)	-	0.1/0.5/1	-	-

Outline and installation dimension



Type	Number of poles	Outline dimensions (mm)				Installation dimensions (mm)		
		A	B	C	D	a	b	d
Frame A	3	92	150	110	92	30	129	4.5
3SM8L-100	4	122	150	110	92	60	129	4.5
Frame B	3	107	165	110	90	35	126	4.5
3SM8L-225	4	142	165	110	90	70	126	4.5
Frame C	3	150	257	146.5	106.5	44	194	7
3SM8L-400	4	198	257	146.5	106.5	88	194	7
Frame D	3	210	280	155	115.5	70	243	7
3SM8L-630	4	280	280	155	115.5	70	243	7

1

For power distribution

	Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
3SM8L-100	**30 - 100 - 300 mA adjustable**				
	16A	M8LA 3P016/1	**25214**	M8LA 4BP016/1	**10412**
	20A	M8LA 3P020/1	**25215**	M8LA 4BP020/1	**10413**
	25A	M8LA 3P025/1	**25216**	M8LA 4BP025/1	**10414**
	32A	M8LA 3P032/1	**25217**	M8LA 4BP032/1	**10415**
	40A	M8LA 3P040/1	**25218**	M8LA 4BP040/1	**10416**
	50A	M8LA 3P050/1	**25219**	M8LA 4BP050/1	**10417**
	63A	M8LA 3P063/1	**25220**	M8LA 4BP063/1	**10418**
	80A	M8LA 3P080/1	**25221**	M8LA 4BP080/1	**10419**
	100A	M8LA 3P100/1	**25222**	M8LA 4BP100/1	**10420**
	100 - 300 - 500 mA adjustable				
	16A	M8LA 3P016/3	**25223**	M8LA 4BP016/3	**10421**
	20A	M8LA 3P020/3	**25224**	M8LA 4BP020/3	**10422**
	25A	M8LA 3P025/3	**25225**	M8LA 4BP025/3	**10423**
	32A	M8LA 3P032/3	**25226**	M8LA 4BP032/3	**10424**
	40A	M8LA 3P040/3	**25227**	M8LA 4BP040/3	**10425**
	50A	M8LA 3P050/3	**25228**	M8LA 4BP050/3	**10426**
	63A	M8LA 3P063/3	**25229**	M8LA 4BP063/3	**10427**
	80A	M8LA 3P080/3	**25230**	M8LA 4BP080/3	**10428**
	100A	M8LA 3P100/3	**25231**	M8LA 4BP100/3	**10429**
3SM8L-225	**30 - 100 - 300 mA adjustable**				
	100A	M8LB 3P100/1	**25232**	M8LB 4BP100/1	**10430**
	125A	M8LB 3P125/1	**25233**	M8LB 4BP125/1	**10431**
	140A	M8LB 3P140/1	**25234**	M8LB 4BP140/1	**10432**
	160A	M8LB 3P160/1	**25235**	M8LB 4BP160/1	**10433**
	180A	M8LB 3P180/1	**25236**	M8LB 4BP180/1	**10434**
	200A	M8LB 3P200/1	**25237**	M8LB 4BP200/1	**10435**
	225A	M8LB 3P225/1	**25238**	M8LB 4BP225/1	**10436**
	100 - 300 - 500 mA adjustable				
	100A	M8LB 3P100/3	**25239**	M8LB 4BP100/3	**10437**
	125A	M8LB 3P125/3	**25240**	M8LB 4BP125/3	**10438**
	140A	M8LB 3P140/3	**25241**	M8LB 4BP140/3	**10439**
	160A	M8LB 3P160/3	**25242**	M8LB 4BP160/3	**10440**
	180A	M8LB 3P180/3	**25243**	M8LB 4BP180/3	**10441**
	200A	M8LB 3P200/3	**25244**	M8LB 4BP200/3	**10442**
	225A	M8LB 3P225/3	**25245**	M8LB 4BP225/3	**10443**
3SM8L-400	**100 - 300 - 500 mA adjustable**				
	200A	M8LC 3P200/3	**25246**	M8LC 4BP200/3	**10444**
	225A	M8LC 3P225/3	**25247**	M8LC 4BP225/3	**10445**
	250A	M8LC 3P250/3	**25248**	M8LC 4BP250/3	**10446**
	315A	M8LC 3P315/3	**25249**	M8LC 4BP315/3	**10447**
	350A	M8LC 3P350/3	**25250**	M8LC 4BP350/3	**10448**
	400A	M8LC 3P400/3	**25251**	M8LC 4BP400/3	**10449**
	300 - 500 - 1000 mA adjustable				
	200A	M8LC 3P200/5	**25252**	M8LC 4BP200/5	**10450**
	225A	M8LC 3P225/5	**25253**	M8LC 4BP225/5	**10451**
	250A	M8LC 3P250/5	**25254**	M8LC 4BP250/5	**10452**
	315A	M8LC 3P315/5	**25255**	M8LC 4BP315/5	**10453**
	350A	M8LC 3P350/5	**25256**	M8LC 4BP350/5	**10454**
	400A	M8LC 3P400/5	**25257**	M8LC 4BP400/5	**10455**
3SM8L-630	**100 - 300 - 500 mA adjustable**				
	400A	M8LD 3P400/3	**25258**	M8LD 4BP400/3	**10456**
	500A	M8LD 3P500/3	**25259**	M8LD 4BP500/3	**10457**
	630A	M8LD 3P630/3	**25260**	M8LD 4BP630/3	**10458**
	300 - 500 - 1000 mA adjustable				
	400A	M8LD 3P400/5	**25261**	M8LD 4BP400/5	**10459**
	500A	M8LD 3P500/5	**25262**	M8LD 4BP500/5	**10460**
	630A	M8LD 3P630/5	**25263**	M8LD 4BP630/5	**10461**

For motor protection

	Rated current In (A)	3-pole Type code	3-pole Order code	4-pole Type code	4-pole Order code
3SM8L-100	30 - 100 - 300 mA adjustable				
	16A	M8LA 3M016/1	25264	M8LA 4BM016/1	10462
	20A	M8LA 3M020/1	25265	M8LA 4BM020/1	10463
	25A	M8LA 3M025/1	25266	M8LA 4BM025/1	10464
	32A	M8LA 3M032/1	25267	M8LA 4BM032/1	10465
	40A	M8LA 3M040/1	25268	M8LA 4BM040/1	31386
	50A	M8LA 3M050/1	25269	M8LA 4BM050/1	31387
	63A	M8LA 3M063/1	25270	M8LA 4BM063/1	31388
	80A	M8LA 3M080/1	25271	M8LA 4BM080/1	31389
	100A	M8LA 3M100/1	25272	M8LA 4BM100/1	31390
	100 - 300 - 500 mA adjustable				
	16A	M8LA 3M016/3	25273	M8LA 4BM016/3	31391
	20A	M8LA 3M020/3	25274	M8LA 4BM020/3	31392
	25A	M8LA 3M025/3	25275	M8LA 4BM025/3	31393
	32A	M8LA 3M032/3	25276	M8LA 4BM032/3	31394
	40A	M8LA 3M040/3	25277	M8LA 4BM040/3	31395
	50A	M8LA 3M050/3	25278	M8LA 4BM050/3	31396
	63A	M8LA 3M063/3	25279	M8LA 4BM063/3	31397
	80A	M8LA 3M080/3	25280	M8LA 4BM080/3	31398
	100A	M8LA 3M100/3	25281	M8LA 4BM100/3	31399
3SM8L-225	30 - 100 - 300 mA adjustable				
	100A	M8LB 3M100/1	25282	M8LB 4BM100/1	31400
	125A	M8LB 3M125/1	25283	M8LB 4BM125/1	31401
	140A	M8LB 3M140/1	25284	M8LB 4BM140/1	31402
	160A	M8LB 3M160/1	25285	M8LB 4BM160/1	31403
	180A	M8LB 3M180/1	21538	M8LB 4BM180/1	31404
	200A	M8LB 3M200/1	21539	M8LB 4BM200/1	31405
	225A	M8LB 3M225/1	21540	M8LB 4BM225/1	31406
	100 - 300 - 500 mA adjustable				
	100A	M8LB 3M100/3	21541	M8LB 4BM100/3	31407
	125A	M8LB 3M125/3	21542	M8LB 4BM125/3	31408
	140A	M8LB 3M140/3	21543	M8LB 4BM140/3	31409
	160A	M8LB 3M160/3	21544	M8LB 4BM160/3	31410
	180A	M8LB 3M180/3	21545	M8LB 4BM180/3	31411
	200A	M8LB 3M200/3	21546	M8LB 4BM200/3	31412
	225A	M8LB 3M225/3	21547	M8LB 4BM225/3	31413
3SM8L-400	100 - 300 - 500 mA adjustable				
	200A	M8LC 3M200/3	21548	M8LC 4BM200/3	31414
	225A	M8LC 3M225/3	21549	M8LC 4BM225/3	31415
	250A	M8LC 3M250/3	10396	M8LC 4BM250/3	31416
	315A	M8LC 3M315/3	10397	M8LC 4BM315/3	31417
	350A	M8LC 3M350/3	10398	M8LC 4BM350/3	31418
	400A	M8LC 3M400/3	10399	M8LC 4BM400/3	31419
	300 - 500 - 1000 mA adjustable				
	200A	M8LC 3M200/5	10400	M8LC 4BM200/5	31420
	225A	M8LC 3M225/5	10401	M8LC 4BM225/5	31421
	250A	M8LC 3M250/5	10402	M8LC 4BM250/5	31422
	315A	M8LC 3M315/5	10403	M8LC 4BM315/5	10387
	350A	M8LC 3M350/5	10404	M8LC 4BM350/5	10388
	400A	M8LC 3M400/5	10405	M8LC 4BM400/5	10389
3SM8L-630	100 - 300 - 500 mA adjustable				
	400A	M8LD 3M400/3	10406	M8LD 4BM400/3	10390
	500A	M8LD 3M500/3	10407	M8LD 4BM500/3	10391
	630A	M8LD 3M630/3	10408	M8LD 4BM630/3	10392
	300 - 500 - 1000 mA adjustable				
	400A	M8LD 3M400/5	10409	M8LD 4BM400/5	10393
	500A	M8LD 3M500/5	10410	M8LD 4BM500/5	10394
	630A	M8LD 3M630/5	10411	M8LD 4BM630/5	10395

General introduction

Continuous and reliable power distribution

- With the diversification of industrial process and IT applications, a secure and reliable electricity supply has become an important asset which is playing an important role in reducing production and maintenance costs. In emergency situations, it can become complex with mechanical devices looking after connecting, breaking, conducting and isolating power. In addition, when electricity use is restricted or the power supply is overloaded, the load may need to be transferred from one supply to another. With superior performance, SASSIN dual power automatic transfer switches meet all the above requirements to ensure continuity and security of power supply.

Reliability assurance of the device

- Automatic transfer switching equipment controller can maximize the affordability of various types of electromagnetic interference in industrial environments, and can as well as ensure the operation reliability of automatic switch by the motor drive conversion mechanism via reliability test.

Reliability assurance of electricity supply system

- When the major power supply encounters power failure, phase failure and undervoltage fault, the automatic switching equipment under the control of the controllerwill automatically switch to the backup power supply to ensure power system reliability.

Security assurance of electricity supply system

- Specially designed automatic transfer switch controller can automatically identify the over-current faults , the implementation original welding and mechanical failure in power supply system and place the implementation original in a safe location to ensure the security of power supply system.

Communication and signal system

- Power conversion under the conditions of non-fire special hazard should be considered in the design;
- Public power grid can be used as backup power;
- Need to use CB automatic switch device with over-current protection;
- C curve protection products in line with IEC 60896 are suggested to be used as the end conversion electrical appliances;
- Power conversion time should be less than 5 s. For critical load, please install uninterrupted power supply equipment like UPS.

Air condition and temperature control device

- Power control under the conditions of non-fire special hazard should be considered in design;
- Public power grid can be used as backup power;
- Need to use CB automatic switch device with over-current protection;
- D curve protection products in line with IEC 60898 are suggested to be used as the end lighting electrical appliances;
- Power conversion time should be less than 5 s.

Fire fighting system

- Fire design includes power supply protection for terminal
- conditions like fire pumps, exhaust fans and fire elevators in particular disaster conditions;
- Need to use special power source like generators as backup power;
- Need to use products with neutral line of 2-pole or 4-poles in volved in the transformation Need to use PC automatic switch device without over-current protection whose rated current should be 125 % greater than its load current;
- Need to use the switch products with the fire control function
- Power conversion delay time should be set to 0.

Emergency lighting in general location

- Emergency lighting under the conditions of non-fire special hazard should be considered in the distribution design;
- Another branch of public power grid can be used as backup power supply if the backup power is from same power transformer, neutral line will not participate in conversion;
- Need to use CB automatic switch device with over-current protection;
- C curve protection products in line with IEC 60898 are suggested to be used as the end lighting electrical appliances; Power conversion time should be less than 5 s.

Features

- Small size with simple structure
- Easy operation, long service life
- 2P, 3P, 4P are available
- Single electric drive, smooth and noise-free, small impact
- With mechanical interlock and electrical interlock, reliable switching, both manual and automatic switching are available
- Switch is wired with connection terminal in the internal for users, reflecting the circuit breaker status (open or closed)
- There are a variety of indicators listed on panel



Structure and performance

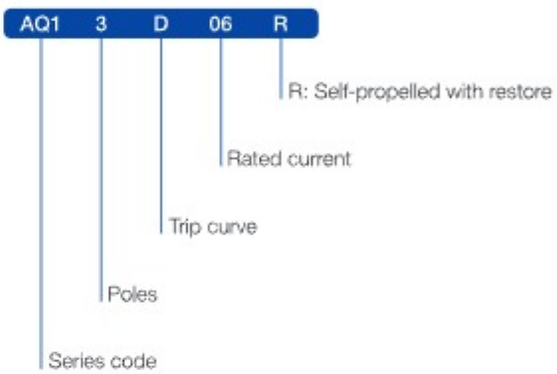
Structure

The automatic transfer switch consists of MCB, a single electric motor operating mechanism, mechanical interlocking, auxiliary systems, control circuit and other components and are closed with plastic shell. All components are installed on the same floor. There is a status indicator on the panel that accurately indicates the state of the MCB and the whole set of instructions.

Performance

- Automatic controllers (only R-type: automatic transfer with automatic restore) detect the voltage of two-way power (commonly used power and backup power) at the same time. Common power will work under the normal state. When the common power supply failure occurs, namely loss of pressure or A phase-off, the controller will automatically make the command switch switch to the backup power supply;
- When common power is restored to normal, the controller will automatically make the command switch switch to the backup power supply, and no delay;
- Simultaneous two-way power anomalies are not allowed;
- When tripping occurs due to a small circuit breaker failure, the device will remain in the trip state and let out a warning signal. Wait for maintenance, and the handle should be reset and re-closed manually after troubleshooting;
- In automatic mode, when there inputs DC 24 V fire signal, the controller will command all the disconnect switch, and then if undo the fire signal, restore the original state.

Instruction of type code



- There is only R type for 3SAQ1 series ATS at present.
- Automatic transfer with automatic restore:
  If deviation of common power is monitored, ATS will automatically switch the load from the common power to backup power; if the power returns to normal, it will automatically return to common power supply.

Technical Specifications

Type	3SAQ1-63
Standard	IEC 60947-6-1
Number of poles (P)	2, 3, 4
Rated operating current (A)	6, 10, 16, 20, 25, 32, 40, 50, 63
Rated operating voltage (V AC)	230/400
Rated control voltage (V AC)	230
Rated insulation voltage (V AC)	500
Rated ultimate short circuit breaking capacity at 400V AC (kA)	6
Rated short circuit making capacity (kA)	9.18
Use category	AC-33B
Mechanical life (times)	10,000
Electrical life (times)	4,000
Ambient temperature	-5 ~ 40 °C, max. 95% humidity
Storage temperature	-40 ~ +75 °C
Altitude (Max.)	2,000

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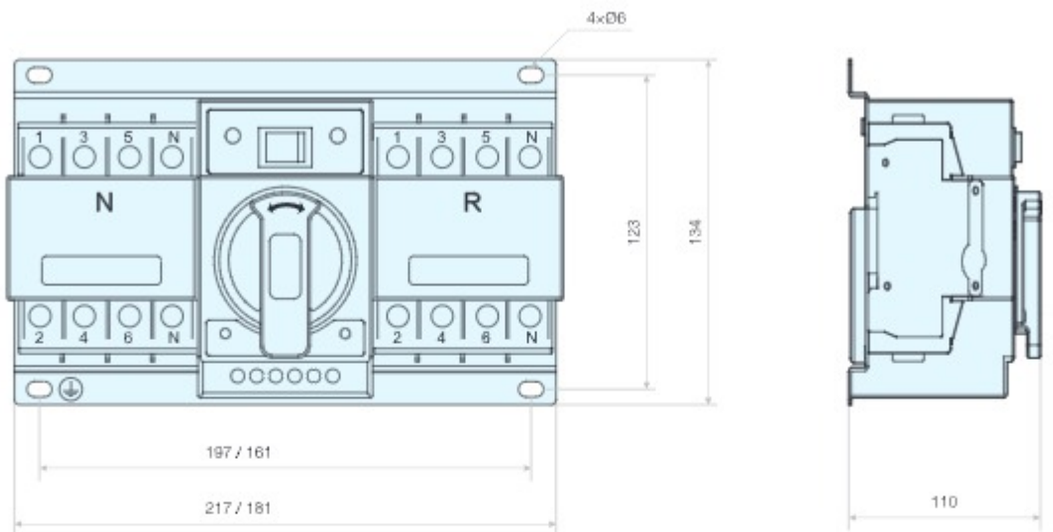
Outline and installation dimensions

unit in mm



Selection and ordering data

Rated breaking capacity (kA)	Poles (P)	Rated current (A)	Curve C		Curve D	
			Type code	Order code	Type code	Order code
6	2	6	AQ1 2C06NR	**19810**	AQ1 2D06NR	**19836**
		10	AQ1 2C10NR	**19811**	AQ1 2D10NR	**19837**
		16	AQ1 2C16NR	**19812**	AQ1 2D16NR	**19838**
		20	AQ1 2C20NR	**19813**	AQ1 2D20NR	**19839**
		25	AQ1 2C25NR	**19814**	AQ1 2D25NR	**19840**
		32	AQ1 2C32NR	**19815**	AQ1 2D32NR	**19841**
		40	AQ1 2C40NR	**19816**	AQ1 2D40NR	**19842**
		50	AQ1 2C50NR	**19817**	AQ1 2D50NR	**19843**
		63	AQ1 2C63NR	**38637**	AQ1 2D63NR	**19844**
	3	6	AQ1 3C06NR	**19818**	AQ1 3D06NR	**19827**
		10	AQ1 3C10NR	**19819**	AQ1 3D10NR	**19828**
		16	AQ1 3C16NR	**19820**	AQ1 3D16NR	**19829**
		20	AQ1 3C20NR	**19821**	AQ1 3D20NR	**19830**
		25	AQ1 3C25NR	**19822**	AQ1 3D25NR	**19831**
		32	AQ1 3C32NR	**19823**	AQ1 3D32NR	**19832**
		40	AQ1 3C40NR	**19824**	AQ1 3D40NR	**19833**
		50	AQ1 3C50NR	**19825**	AQ1 3D50NR	**19834**
		63	AQ1 3C63NR	**19826**	AQ1 3D63NR	**19835**
	4	6	AQ1 4C06NR	**19845**	AQ1 4D06NR	**19854**
		10	AQ1 4C10NR	**19846**	AQ1 4D10NR	**19855**
		16	AQ1 4C16NR	**19847**	AQ1 4D16NR	**19856**
		20	AQ1 4C20NR	**19848**	AQ1 4D20NR	**19857**
		25	AQ1 4C25NR	**19849**	AQ1 4D25NR	**19858**
		32	AQ1 4C32NR	**19850**	AQ1 4D32NR	**19859**
		40	AQ1 4C40NR	**19851**	AQ1 4D40NR	**19860**
		50	AQ1 4C50NR	**19852**	AQ1 4D50NR	**19861**
		63	AQ1 4C63NR	**19853**	AQ1 4D63NR	**19862**



Utilization categories

- AC-33iB: for system loads including cage motor and resistive loads.
- AC-33B: for motor load or mixture load including motors, resistive load and 30% incandescent load.
- Standard: IEC 60947-6-1

Application

3SAQ2 series automatic transfer switches are made up of two pieces of 3-pole or 4-pole MCCB and accessories (including auxiliary and alarm contacts), mechanical interlocking and electronic trip unit etc. As the terminal automatic switching devices, they are applied for the grid with double power supply of AC 50 Hz or 60 Hz, the rated current up to 800 A of three phase four line (available for one phase one line also). When one power supply fails due to faults of over-voltage, under-voltage or phase loss, one or more circuits will be automatically switched from one power supply to another one, to ensure normal power supply for the circuit.



3SAQ2 series automatic transfer switches are widely used in hospitals, shopping malls, banks, chemical industry, metallurgy, high-rise buildings, military facilities and any other important places that do not allow power off. They are important electric devices to ensure continuous power supply.

There are two structures available:
Integral type: the controller and the actuator are mounted on the same base. Split type: the controller is mounted on the cabinet panel, the executive mechanism is mounted on the base and installed inside of the cabinet by user. The controller and the executive mechanism are connected by a cable with length about 2 meters.

Instruction of type code

AQ2 0 3 U NB R 6 L

- L — Breaking capacity
- 6 — Rated current (A)
  10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 140, 160, 180, 200, 225, 250, 315, 350, 400, 500, 630, 700, 800
- R — Control mode
  R: Automatic transfer and restoration
- NB — Type of installation
  NB: Grid-grid
  NG: Grid-generator
- U — Type of structure
  U: Integral type
  S: Split type
- 3 — Number of pole
  3: 3-pole
  4: 4-pole
- 0 — Size
  1: Size 1, 3SAQ2-100
  2: Size 2, 3SAQ2-225
  4: Size 4, 3SAQ2-400
  6: Size 6, 3SAQ2-630
  8: Size 8, 3SAQ2-800
- AQ2 — Series

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Technical parameter

Size		1				2				4				6				8		
Type		3SAQ2-100				3SAQ2-225				3SAQ2-400				3SAQ2-630				3SAQ2-800		
Standard		IEC 60947-6-1				IEC 60947-6-1				IEC 60947-6-1				IEC 60947-6-1				IEC 60947-6-1		
Execution circuit-breaker		3SM8-100				3SM8-225				3SM8-400				3SM8-630				3SM8-800		
Rated current I_n	A	16, 25, 32, 40, 50, 63, 80, 100				100, 125, 160, 180, 200, 225				225, 250, 315, 350, 400				400, 500, 360				630, 700, 800		
Rated operating voltage U_e	V AC	400				400				400				400				400		
Rated operating frequency	Hz	50/60				50/60				50/60				50/60				50/60		
Rated insulation voltage	V AC	800				800				800				800				800		
Rated impulse withstand voltage U_{imp}	kV	8				8				8				8				8		
Poles	P	3			4	3			4	3			4	3			4	3		4
Breaking capacity		L	M	H	M	L	M	H	M	L	M	H	M	L	M	H	M	M	H	M
Rated short-circuit breaking capacity I_{cs}	kA	35	50	85	50	35	50	85	50	50	65	100	65	50	65	100	65	75	100	75
Rated short-circuit making capacity I_{cm}	kA	73.5	105	187	105	73.5	105	187	105	105	143	220	143	105	143	220	143	165	220	165
Mechanical life	cycle	6000				6000				4000				3000				3000		
Use category		AC-33B																		
Product type		CB class																		
Protection level		IP30 (except terminals of main circuit)																		
Protection																				
Overload protection		√				√				√				√				√		
Short-circuit protection		√				√				√				√				√		

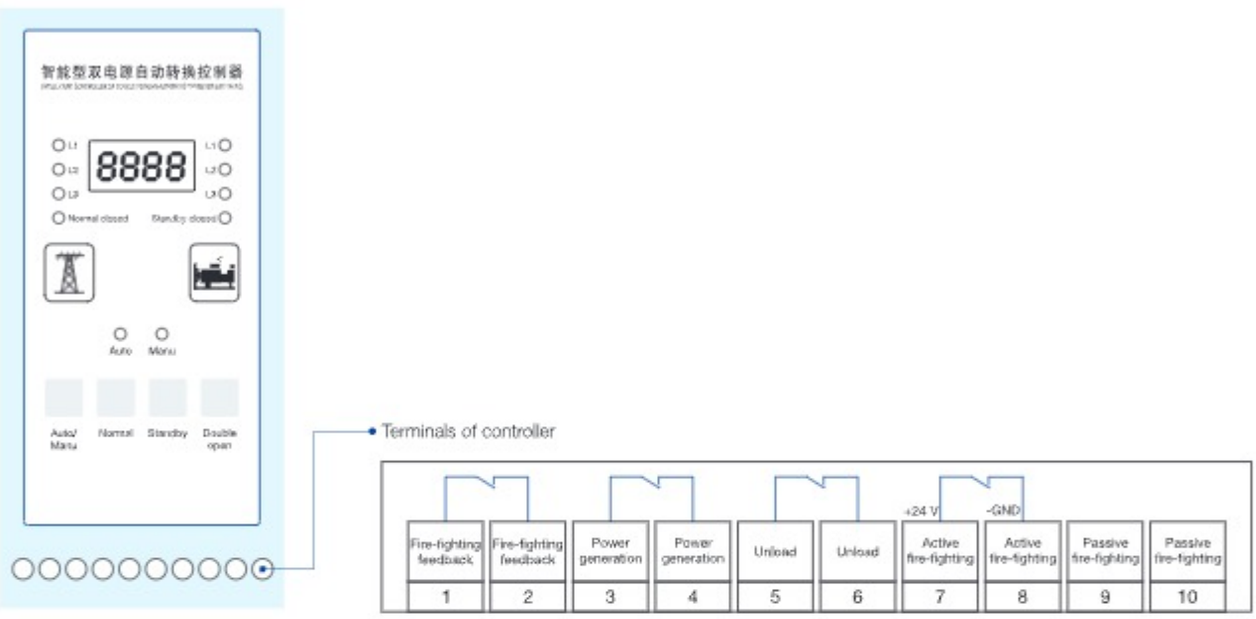
Controller

Function

Manual and automatic transfer mode	√
Working position of main contact (execute circuit breaker)	
Normal power supply closed	√
Standby power supply closed	√
Double open	√
Automatic control	
Monitoring of normal power supply (three phase detection)	√
Monitoring of standby power supply (three phase detection)	√
Automatic transfer and restoration	√
Automatic transfer without restoration	√
Grid-grid	√
Grid-generator	√
Short phase or voltage loss transfer	√
Under voltage transfer	√
Over voltage transfer	√
Adjustable time-delay	√
Time-delayed transfer	0.5-30 s continuous adjustment
Return delay	0.5-30 s continuous adjustment
Generator control	√
Fire linkage	√
Indication	
Indication of closed, open and double open	√
Indication of normal power supply	√
Indication of standby power supply	√
Indication of fault trip	√
External signal terminal of indication	√
Indication of parameter setting	√
Interlock protection	
Electrical interlock	√

Controller (integral type)

- Controller is installed together with the switch body, and is controlled by intelligent single-chip program; easy to operate and powerful
- Determine whether to perform power conversion based on whether the working power supply voltage is within the set range and the working mode of the automatic transfer switch.
- Control the start and stop of the standby generator set.
- Convenient push-button manual forced conversion action.
- Fire linkage function.



Controller (split type)

Synchronize main controller dislay each parameter, controller switch changeover amend switch paramater data funtion.





1 Main ON indication
2 LED button
3 LCD display area
4 Auto/Manual button
5 Main power ON button
6 OFF button
7 Emergency ON button
8 Emergency ON indication

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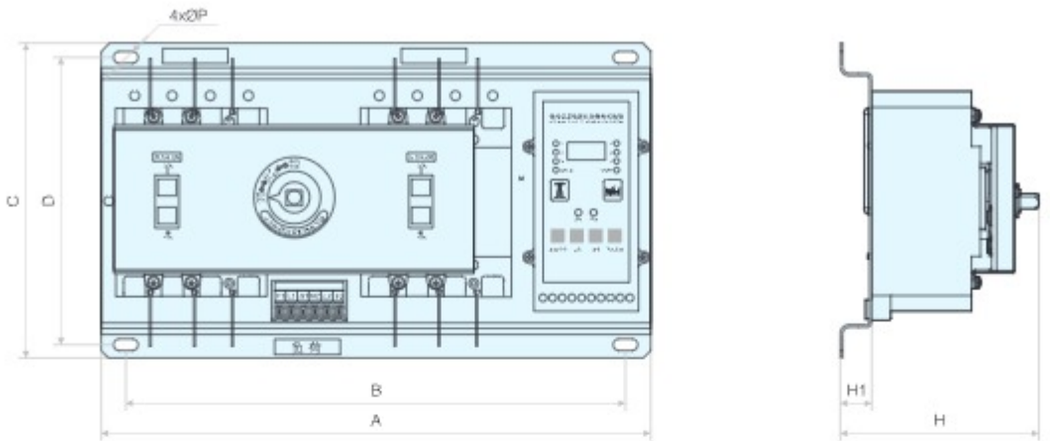
Outline and installation dimension diagram

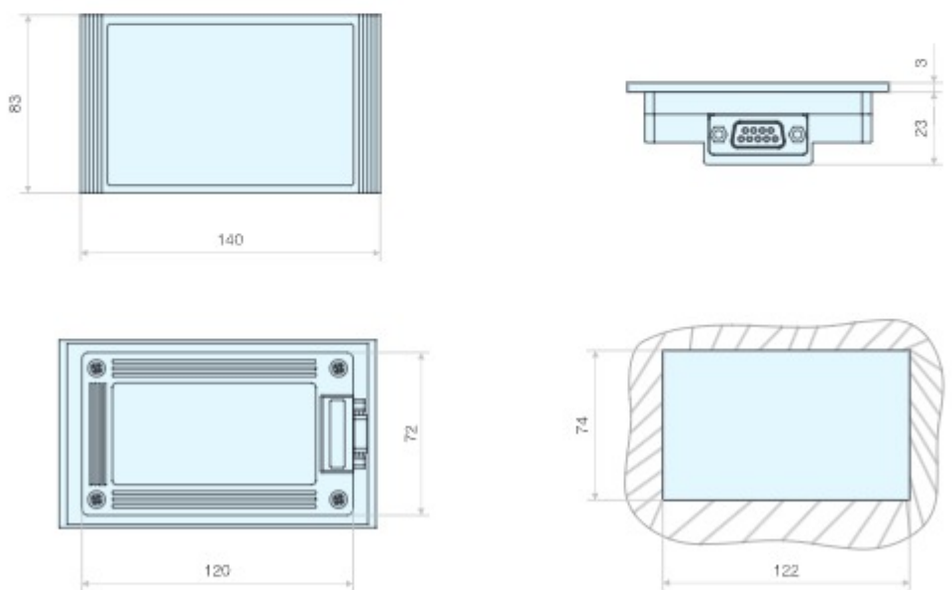
unit in mm



	A		B		C	D	H	H1	P
	3-pole	4-pole	3-pole	4-pole					
3SAQ2-100	405	435	365	395	250	230	< 170	25	⌀9
3SAQ2-225	150	480	410	440	250	230	< 190	25	⌀9
3SAQ2-400	570	620	510	560	330	300	< 200	25	⌀11
3SAQ2-630	680	740	520	680	330	300	< 250	25	⌀11
3SAQ2-800	750	820	590	760	330	300	< 250	25	⌀11

Dimensions of controller

unit in mm



Selection and ordering data

3SAQ2-100

Automatic transfer and restoration between normal and standby power supply (NBR)



Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
			Type code	Order code	Type code	Order code
3-pole						
10A	3SM8-100L	35 kA	AQ21 3UNBR10L	13353	AQ21 3SNBR10L	13357
16A			AQ21 3UNBR16L	13361	AQ21 3SNBR16L	13365
20A			AQ21 3UNBR20L	13369	AQ21 3SNBR20L	13373
25A			AQ21 3UNBR25L	13377	AQ21 3SNBR25L	13381
32A			AQ21 3UNBR32L	13385	AQ21 3SNBR32L	13389
40A			AQ21 3UNBR40L	13393	AQ21 3SNBR40L	13397
50A			AQ21 3UNBR50L	13401	AQ21 3SNBR50L	13405
63A			AQ21 3UNBR63L	13409	AQ21 3SNBR63L	13413
80A			AQ21 3UNBR80L	13417	AQ21 3SNBR80L	13421
100A			AQ21 3UNBR100L	13425	AQ21 3SNBR100L	13429
4-pole						
10A	3SM8-100	50 kA	AQ21 4UNBR10	13354	AQ21 4SNBR10	13358
16A			AQ21 4UNBR16	13362	AQ21 4SNBR16	13366
20A			AQ21 4UNBR20	13370	AQ21 4SNBR20	13374
25A			AQ21 4UNBR25	13378	AQ21 4SNBR25	13382
32A			AQ21 4UNBR32	13386	AQ21 4SNBR32	13390
40A			AQ21 4UNBR40	13394	AQ21 4SNBR40	13398
50A			AQ21 4UNBR50	13402	AQ21 4SNBR50	13406
63A			AQ21 4UNBR63	13410	AQ21 4SNBR63	13414
80A			AQ21 4UNBR80	13418	AQ21 4SNBR80	13422
100A			AQ21 4UNBR100	13426	AQ21 4SNBR100	13430

Automatic transfer and restoration between normal and generating power supply (NGR)

Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
			Type code	Order code	Type code	Order code
3-pole						
10A	3SM8-100L	35 kA	AQ21 3UNGR10L	13355	AQ21 3SNGR10L	13359
16A			AQ21 3UNGR16L	13363	AQ21 3SNGR16L	13367
20A			AQ21 3UNGR20L	13371	AQ21 3SNGR20L	13375
25A			AQ21 3UNGR25L	13379	AQ21 3SNGR25L	13383
32A			AQ21 3UNGR32L	13387	AQ21 3SNGR32L	13391
40A			AQ21 3UNGR40L	13395	AQ21 3SNGR40L	13399
50A			AQ21 3UNGR50L	13403	AQ21 3SNGR50L	13407
63A			AQ21 3UNGR63L	13411	AQ21 3SNGR63L	13415
80A			AQ21 3UNGR80L	13419	AQ21 3SNGR80L	13423
100A			AQ21 3UNGR100L	13427	AQ21 3SNGR100L	13431
4-pole						
10A	3SM8-100	50 kA	AQ21 4UNGR10	13356	AQ21 4SNGR10	13360
16A			AQ21 4UNGR16	13364	AQ21 4SNGR16	13368
20A			AQ21 4UNGR20	13372	AQ21 4SNGR20	13376
25A			AQ21 4UNGR25	13380	AQ21 4SNGR25	13384
32A			AQ21 4UNGR32	13388	AQ21 4SNGR32	13392
40A			AQ21 4UNGR40	13396	AQ21 4SNGR40	13400
50A			AQ21 4UNGR50	13404	AQ21 4SNGR50	13408
63A			AQ21 4UNGR63	13412	AQ21 4SNGR63	13416
80A			AQ21 4UNGR80	13420	AQ21 4SNGR80	13424
100A			AQ21 4UNGR100	13428	AQ21 4SNGR100	13432

Selection and ordering data

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3SAQ2-225

Automatic transfer and restoration between normal and standby power supply (NBR)

Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
			Type code	Order code	Type code	Order code
3-pole						
100A	3SM8-225L	35 kA	AQ22 3UNBR100L	**13433**	AQ22 3SNBR100L	**13437**
125A			AQ22 3UNBR125L	**13441**	AQ22 3SNBR125L	**13445**
140A			AQ22 3UNBR140L	**13449**	AQ22 3SNBR140L	**13453**
160A			AQ22 3UNBR160L	**13457**	AQ22 3SNBR160L	**13461**
180A			AQ22 3UNBR180L	**13465**	AQ22 3SNBR180L	**13469**
200A			AQ22 3UNBR200L	**13473**	AQ22 3SNBR200L	**13477**
225A			AQ22 3UNBR225L	**13481**	AQ22 3SNBR225L	**13485**
4-pole						
100A	3SM8-225	50 kA	AQ22 4UNBR100	**13434**	AQ22 4SNBR100	**13438**
125A			AQ22 4UNBR125	**13442**	AQ22 4SNBR125	**13446**
140A			AQ22 4UNBR140	**13450**	AQ22 4SNBR140	**13454**
160A			AQ22 4UNBR160	**13458**	AQ22 4SNBR160	**13462**
180A			AQ22 4UNBR180	**13466**	AQ22 4SNBR180	**13470**
200A			AQ22 4UNBR200	**13474**	AQ22 4SNBR200	**13478**
225A			AQ22 4UNBR225	**13482**	AQ22 4SNBR225	**13486**

Automatic transfer and restoration between normal and generating power supply (NGR)

Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
			Type code	Order code	Type code	Order code
3-pole						
100A	3SM8-225L	35 kA	AQ22 3UNGR100L	**13435**	AQ22 3SNGR100L	**13439**
125A			AQ22 3UNGR125L	**13443**	AQ22 3SNGR125L	**13447**
140A			AQ22 3UNGR140L	**13451**	AQ22 3SNGR140L	**13455**
160A			AQ22 3UNGR160L	**13459**	AQ22 3SNGR160L	**13463**
180A			AQ22 3UNGR180L	**13467**	AQ22 3SNGR180L	**13471**
200A			AQ22 3UNGR200L	**13475**	AQ22 3SNGR200L	**13479**
225A			AQ22 3UNGR225L	**13483**	AQ22 3SNGR225L	**13487**
4-pole						
100A	3SM8-225	50 kA	AQ22 4UNGR100	**13436**	AQ22 4SNGR100	**13440**
125A			AQ22 4UNGR125	**13444**	AQ22 4SNGR125	**13448**
140A			AQ22 4UNGR140	**13452**	AQ22 4SNGR140	**13456**
160A			AQ22 4UNGR160	**13460**	AQ22 4SNGR160	**13464**
180A			AQ22 4UNGR180	**13468**	AQ22 4SNGR180	**13472**
200A			AQ22 4UNGR200	**13476**	AQ22 4SNGR200	**13480**
225A			AQ22 4UNGR225	**13484**	AQ22 4SNGR225	**13488**

Selection and ordering data

3SAQ2-400

Automatic transfer and restoration between normal and standby power supply (NBR)

Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
			Type code	Order code	Type code	Order code
3-pole						
225A	3SM8-400L	50 kA	AQ24 3UNBR225L	**13489**	AQ24 3SNBR225L	**13493**
250A			AQ24 3UNBR250L	**13497**	AQ24 3SNBR250L	**13501**
315A			AQ24 3UNBR315L	**13505**	AQ24 3SNBR315L	**13509**
350A			AQ24 3UNBR350L	**13513**	AQ24 3SNBR350L	**13517**
400A			AQ24 3UNBR400L	**13521**	AQ24 3SNBR400L	**13525**
4-pole						
225A	3SM8-400	65 kA	AQ24 4UNBR225	**13490**	AQ24 4SNBR225	**13494**
250A			AQ24 4UNBR250	**13498**	AQ24 4SNBR250	**13502**
315A			AQ24 4UNBR315	**13506**	AQ24 4SNBR315	**13510**
350A			AQ24 4UNBR350	**13514**	AQ24 4SNBR350	**13518**
400A			AQ24 4UNBR400	**13522**	AQ24 4SNBR400	**13526**

Automatic transfer and restoration between normal and generating power supply (NGR)

Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
			Type code	Order code	Type code	Order code
3-pole						
225A	3SM8-400L	50 kA	AQ24 3UNGR225L	**13491**	AQ24 3SNGR225L	**13495**
250A			AQ24 3UNGR250L	**13499**	AQ24 3SNGR250L	**13503**
315A			AQ24 3UNGR315L	**13507**	AQ24 3SNGR315L	**13511**
350A			AQ24 3UNGR350L	**13515**	AQ24 3SNGR350L	**13519**
400A			AQ24 3UNGR400L	**13523**	AQ24 3SNGR400L	**13527**
4-pole						
225A	3SM8-400	65 kA	AQ24 4UNGR225	**13492**	AQ24 4SNGR225	**13496**
250A			AQ24 4UNGR250	**13500**	AQ24 4SNGR250	**13504**
315A			AQ24 4UNGR315	**13508**	AQ24 4SNGR315	**13512**
350A			AQ24 4UNGR350	**13516**	AQ24 4SNGR350	**13520**
400A			AQ24 4UNGR400	**13524**	AQ24 4SNGR400	**13528**

Selection and ordering data

3SAQ2-630

1

Automatic transfer and restoration between normal and standby power supply (NBR)

	Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
				Type code	Order code	Type code	Order code
	3-pole						
	400A	3SM8-630L	50 kA	AQ26 3UNBR400L	**13529**	AQ26 3SNBR400L	**13533**
	500A			AQ26 3UNBR500L	**13537**	AQ26 3SNBR500L	**13541**
	630A			AQ26 3UNBR630L	**13545**	AQ26 3SNBR630L	**13549**
	4-pole						
	400A	3SM8-630	65 kA	AQ26 4UNBR400	**13530**	AQ26 4SNBR400	**13534**
	500A			AQ26 4UNBR500	**13538**	AQ26 4SNBR500	**13542**
	630A			AQ26 4UNBR630	**13546**	AQ26 4SNBR630	**13550**

Automatic transfer and restoration between normal and generating power supply (NGR)

	Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
				Type code	Order code	Type code	Order code
	3-pole						
	400A	3SM8-630L	50 kA	AQ26 3UNGR400L	**13531**	AQ26 3SNGR400L	**13535**
	500A			AQ26 3UNGR500L	**13539**	AQ26 3SNGR500L	**13543**
	630A			AQ26 3UNGR630L	**13547**	AQ26 3SNGR630L	**13551**
	4-pole						
	400A	3SM8-630	65 kA	AQ26 4UNGR400	**13532**	AQ26 4SNGR400	**13536**
	500A			AQ26 4UNGR500	**13540**	AQ26 4SNGR500	**13544**
	630A			AQ26 4UNGR630	**13548**	AQ26 4SNGR630	**13552**

Selection and ordering data

3SAQ2-800

Automatic transfer and restoration between normal and standby power supply (NBR)

	Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
				Type code	Order code	Type code	Order code
	3-pole						
	630A	3SM8-800M	75 kA	Aq28 3UNBR630M	**13553**	Aq28 3SNBR630M	**13557**
	700A			AQ28 3UNBR700M	**13561**	AQ28 3SNBR700M	**13565**
	800A			AQ28 3UNBR800M	**13569**	AQ28 3SNBR800M	**13573**
	4-pole						
	630A	3SM8-800	75 kA	AQ28 4UNBR630	**13554**	AQ28 4SNBR630	**13558**
	700A			AQ28 4UNBR700	**13562**	AQ28 4SNBR700	**13566**
	800A			AQ28 4UNBR800	**13570**	AQ28 4SNBR800	**13574**

Automatic transfer and restoration between normal and generating power supply (NGR)

	Rated current (A)	Circuit-breaker of main circuit	Breaking capacity Icn at 400 V AC	Unitary type		Split type	
				Type code	Order code	Type code	Order code
	3-pole						
	630A	3SM8-800M	75 kA	Aq28 3UNGR630M	**13555**	Aq28 3SNGR630M	**13559**
	700A			AQ28 3UNGR700M	**13563**	AQ28 3SNGR700M	**13567**
	800A			AQ28 3UNGR800M	**13571**	AQ28 3SNGR800M	**13575**
	4-pole						
	630A	3SM8-800	75 kA	AQ28 4UNGR630	**13556**	AQ28 4SNGR630	**13560**
	700A			AQ28 4UNGR700	**13564**	AQ28 4SNGR700	**13568**
	800A			AQ28 4UNGR800	**13572**	AQ28 4SNGR800	**13576**

Automatic Transfer Switches
Series 3SAQ3 PC Class

1

Features

- Small volume, convenient installation
- With the controller, the setting can transfer between the manual and automatic transfer with restoration or automatic transfer without restoration
- Under-voltage, over-voltage, phase-loss protection
- Reliable and safe interlock, operation parameter could be adjusted
- Rated voltage of 400 V, rated current is from 20 A to 5000 A
- Low malfunction, easy maintenance



Versions

There are two available versions:

- M2 I: 2-stage, Power supply A ⟵⟶ Power supply B; M2 I automatic transfer switch is instantaneously switch type (without internal or external controller unit). If the switches are under maintenance or damaged condition where contineous power supply is required, it is possible to operate the handle by manual and identify the failure point by observing the switching actions.
- M3 II: 3-stage, Power supply A ⟵⟶ Middle position ⟵⟶ Power supply B;
  M3 II automatic transfer switch has following functions:
  - Interchange of automatic between manual operation;
  - Voltage detection for three-phase four-line of power supply A and B;
  - Over-voltage, under-voltage and phase-loss protection;
  - Automatic switching between power supply A and B;
  - Automatical fault handling;
  - Remote start/stop generator;
  - Over-current protection after connect; to an over-current relay via additional expansion interface

For both versions, if the automatic transfer switches are under maintenance or damaged condition while the contineous power supply is required, it is possible to operate the handle slowly by manual to identify the failure point by carefully observing the switching actions.

Version	M2 I	M3 II
Rated operation current	20 ... 500 A	20 ... 5000 A
Rated limit short-circuit current (depending on the current)	12.5 ... 30 kA	12.5 ... 25 kA
Short-time withstand (currentdepending on the current)	5 ...12 kA	5 ... 50 kA
Transfer time (exclude the delay time)	20 - 90 ms	20 - 230 ms
Available controller unit		
Configurated inside	-	■
External LCD controller unit	-	■
External J-type controller unit	■	■
Start the generator automatically	-	■
Control model		
Model R: Automatic transfer with restoration	■	■
Model S: Automatic transfer without restoration	■	-
Connection type		
Front connection	■	■ (≤ 500 A)
Rear connection	-	■ (> 500 A)

■ Available
– Not available

Instruction of type code

AQ3 M3II 3 NB R 125 L

- Series code
- Version
  M2I: M2 I version
  M3II: M3 II version
- Number of poles
  2: 2-pole
  3: 3-pole
  4: 4-pole
- Switch model
  NB: Grid-grid
  NG: Grid-generator
- Control model
  R: Model R
  S: Model S
- Rated current
  20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 180, 200, 225, 250, 315, 350,400, 500, 630, 800, 1000, 1250, 1600, 2000, 3150, 4000, 5000
- Type of controller unit
  N: No controller unit
  L: Built-in controller unit
  C: LCD controller unit
  J: J-type controller unit

Technical specifications

Version M2 I



3SAQ3-125 M2 I



External LCD controller unit



External J-type controller unit

Version		M2 I							
Standard		IEC 60947-6-1							
Rated frame current (A)		125			250			500	
Rated operating current (A)		20, 25, 32, 40, 50, 63, 80, 100, 125			160, 180, 200, 225, 250			315, 350, 400, 500	
Number of poles (P)		2	3	4	2	3	4	3	4
Operating current at AC 230 V (A)		1.5	1.5	1.5	1.5	2	2.5	2.5	3.5
Rated operating voltage (V AC)		400			400			400	
Rated control voltage (V AC)		230			230			230	
Rated frequency (Hz)		50/60			50/60			50/60	
Rated limit short-circuit current (kA)		35			25			30	
Short-time withstand current (kA)		22			10			12	
Transfer time at side	Connect (ms)	55			55			60	
of power supply A	Disconnect (ms)	20			20			25	
Transfer time at side	Connect (ms)	80			80			90	
of power supply B	Disconnect (ms)	20			20			25	
Available controller unit	Built-in	-			-			-	
	LCD	-			-			-	
	J-type	■			■			■	
Control mode	Model R	■			■			■	
	Model S	■			■			■	
Making and breaking capacity		10 I_e making, 8 I_e breaking, cosØ=0.35							
Application category					AC-33B				
Mechanical life (Cycels)		10000			10000			3000	
Electrical life (Cycels)		2500			2500			1000	
Allowable operation cycles per hour (Cycels)		120			120			120	
Connection		Front connection			Front connection			Frong connection	
Capacity of auxiliary switch at AC 230 V (A)		250			250			250	
Weight (kg)		5	5.5	5.5	6	8	10	14	18
Ambient temperature (°C)		-5 to + 40, max. 95% humidity							
Storage temperature (°C)		-40 to + 75							
Altitude (Max.) (m)		2000							

■ Available
- Not available

Technical specifications

Version M3 II



3SAQ3-125 M3 II



External LCD controller unit



External J-type controller unit

Version		M3 II							
Standard		IEC 60947-6-1							
Rated frame current (A)		125			250			500	
Rated operating current (A)		20, 25, 32, 40, 50, 63, 80, 100, 125			160, 180, 200, 225, 250			315, 350, 400, 500	
Number of poles (P)		2	3	4	2	3	4	3	4
Operating current at AC 230 V (A)		1.5	1.5	1.5	1.5	2	2.5	2.5	3.5
Trip current at AC 230 V		0.5			0.5			0.7	
Rated operating voltage (V AC)		400			400			400	
Rated control voltage (V AC)		230			230			230	
Rated frequency (Hz)		50/60			50/60			50/60	
Rated limit short-circuit current (kA)		35			25			30	
Short-time withstand current (kA)		22			10			12	
Transfer time at side	Connect (ms)	55			55			60	
of power supply A	Disconnect (ms)	20			20			25	
Transfer time at side	Connect (ms)	80			80			90	
of power supply B	Disconnect (ms)	20			20			25	
Available controller unit	Built-in	■			■			■	
	LCD	■			■			■	
	J-type	■			■			■	
Control mode	Model R	■			■			■	
	Model S	■			■			■	
Making and breaking capacity		10 I_e making, 8 I_e breaking, cosØ =0.35							
Application category		AC-33B							
Mechanical life (Cycels)		10000			10000			3000	
Electrical life (Cycels)		2500			2500			1000	
Allowable operation cycles per hour (Cycels)		60			60			60	
Connection		Front connection			Front connection			Frong connection	
Capacity of auxiliary switch at AC 230 V (A)		250			250			250	
Weight (kg)		5	5.5	5.5	6	8	10	14	18
Ambient temperature (°C)		-5 to + 40, max.95% humidity							
Storage temperature (°C)		-40 to + 75							
Altitude (Max.) (m)		2000							

■ Available
- Not available

Technical specifications

Version M3 II



3SAQ3-125 M3 II



External LCD controller unit



External J-type controller unit

Version		M3 II													
Standard		IEC 60947-6-1													
Rated frame current (A)		800		1000		1250		1600		2000		3150		4000	5000
Rated operating current (A)		630, 800		1000		1250		1600		2000		3150		4000	5000
Number of poles (P)		3	4	3	4	3	4	3	3	3	4	3	4	3	3
Operating current at AC 230 V (A)		3	3	3	3	3	4	4	4	5	6	7	8	8	9
Trip current at AC 230 V		1		1		1		1		1		1		1	1
Rated operating voltage (V AC)		400		400		400		400		400		400		400	400
Rated control voltage (V AC)		230		230		230		230		230		230		230	230
Rated frequency (Hz)		50/60		50/60		50/60		50/60		50/60		50/60		50/60	50/60
Rated limit short-circuit current (kA)		37.5		50		50		55		65		80		100	120
Short-time withstand current (kA)		15		22		22		25		35		50		50	50
Transfer time at side	Connect (ms)	100		115		115		115		140		180		200	200
of power supply A	Disconnect (ms)	30		25		25		25		25		30		30	35
Transfer time at side	Connect (ms)	135		145		145		150		190		220		220	230
of power supply B	Disconnect (ms)	30		25		25		25		25		30		30	30
Available controller unit	Built-in	■		■		■		■		■		■		■	■
	LCD	■		■		■		■		■		■		■	■
	J-type	■		■		■		■		■		■		■	■
Control mode	Model R	■		■		■		■		■		■		■	■
	Model S	■		■		■		■		■		■		■	■
Making and breaking capacity		10 I_e making, 8 I_e breaking, cosØ =0.35													
Application category		AC-33B													
Mechanical life (Cycels)		3000		2500		2500		2500		1500		1500		1500	1500
Electrical life (Cycels)		1000		500		500		500		500		500		500	500
Allowable operation cycles per hour (Cycels)		60		20		20		20		10		10		10	10
Connection		Rear connection													
Capacity of auxiliary switch at AC 230 V (A)		250		250		250		250		250		250		250	250
Weight (kg)		33	42	39	49	40	51	47	51	115	135	152	192	207	265
Ambient temperature (°C)		-5 to + 40, max.95% humidty													
Storage temperature (°C)		-40 to + 75													
Altitude (Max.) (m)		2000													

■ Available
- Not available

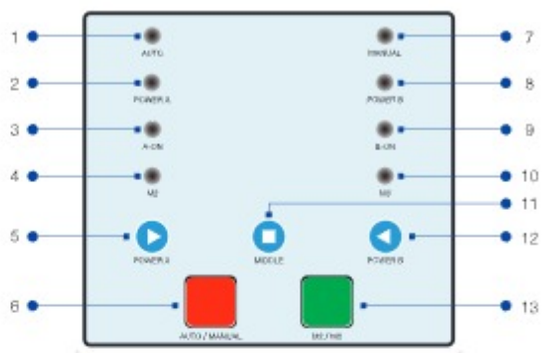
External controller unit

There are two types available external controller units

1

- **J-type external controller unit**
  J-type external controller unit is available for both versions of M2 I and M3 II.

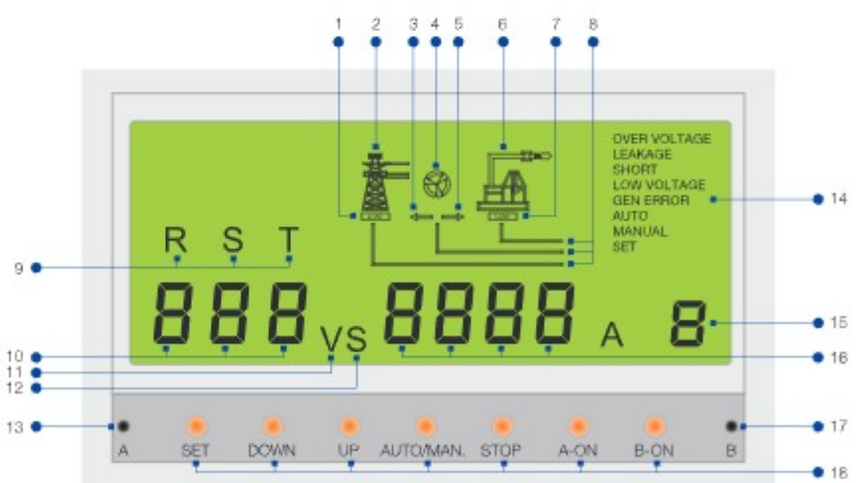




1. Automatic operating indicator
2. Power supply A indicator
3. A-ON indicator
4. M2 version indicator
5. Key for power supply A
6. Button of AUTO/MANUAL exchange
7. Manual operating indicator
8. Power supply B indicator
9. B-ON indicator
10. M3 version indicator
11. Key for middle position
12. Key for power supply B
13. Button of M2/M3 exchange

- **External controller unit with LCD display**

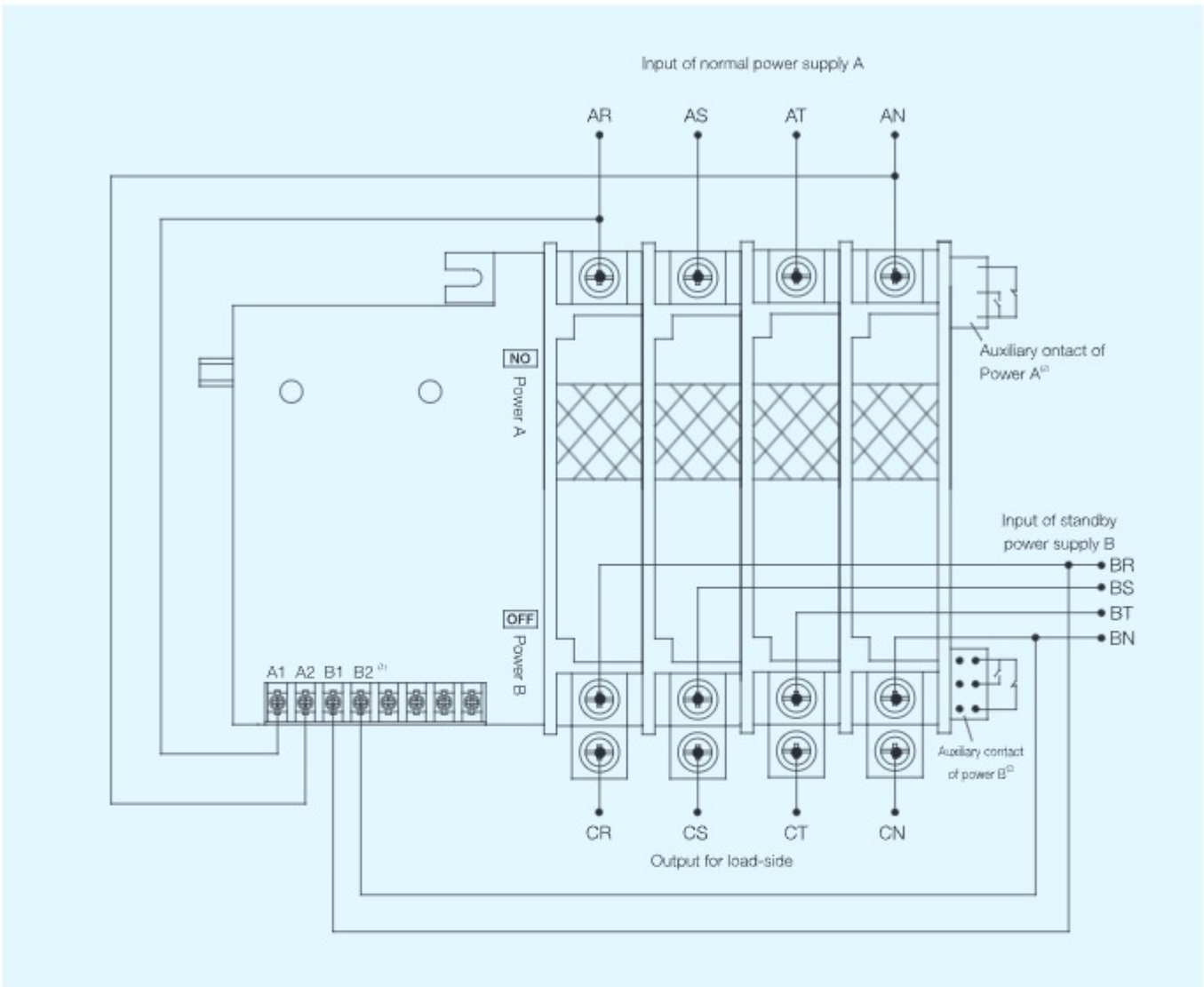




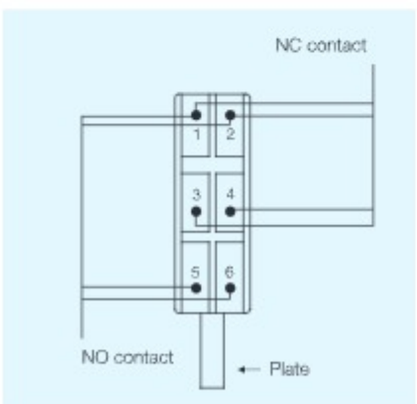
1. Flash when switching to normal power supply
2. Symbol of normal power supply A, light when running
3. Switching to normal power supply A
4. Middle position, rotates when switching
5. Switching to standby power supply B
6. Symbol of standby power supply, light when running
7. Flash when switching to standby power supply
8. Swtich is at OFF position
9. R/S/T poles in 3-phase 4-line system
10. Value of voltage or settings
11. Voltage unit
12. Second for delay time
13. Normal indicator of normal power supply A
14. Error info. and tips of settings and auto/man etc.
15. Code position for setting, 0 when normal
16. Error information and 3-D when normal
17. Normal indicator of standby power supply B
18. Setting buttons

Wiring diagram

- M2 I version without controller unit



Auxiliary contact

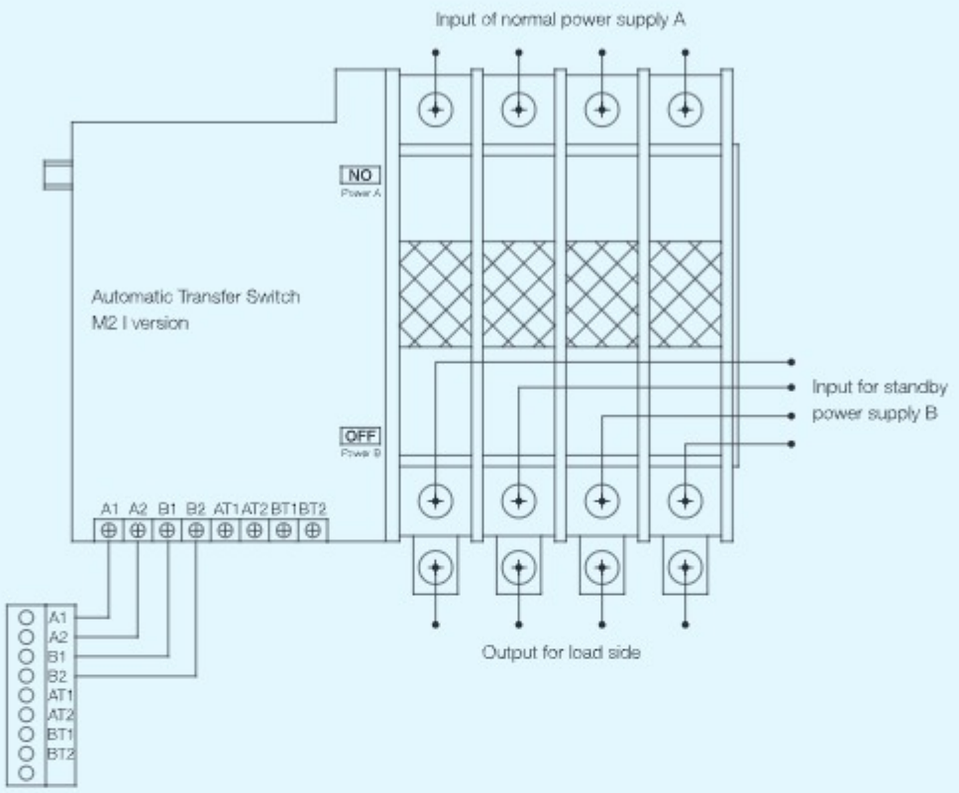


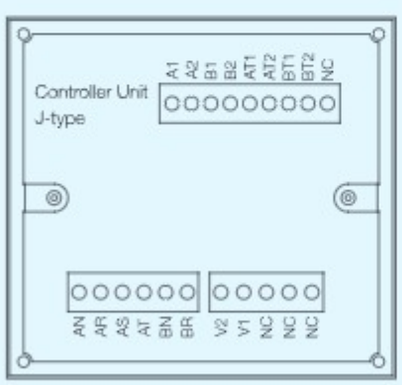
Note:
1. A1/A2 is for input signal of power supply A, AC 220 V;
   B1/B2 is for input signal of power supply B, AC 220 V;
2. Auxiliary contacts can be connected to indications, alarm or signals depending on needs.

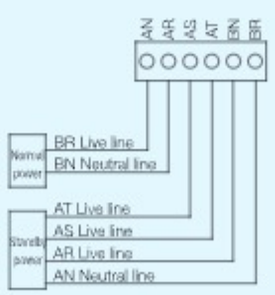
Wiring diagram

- M2 I version with external J-type controller unit

1

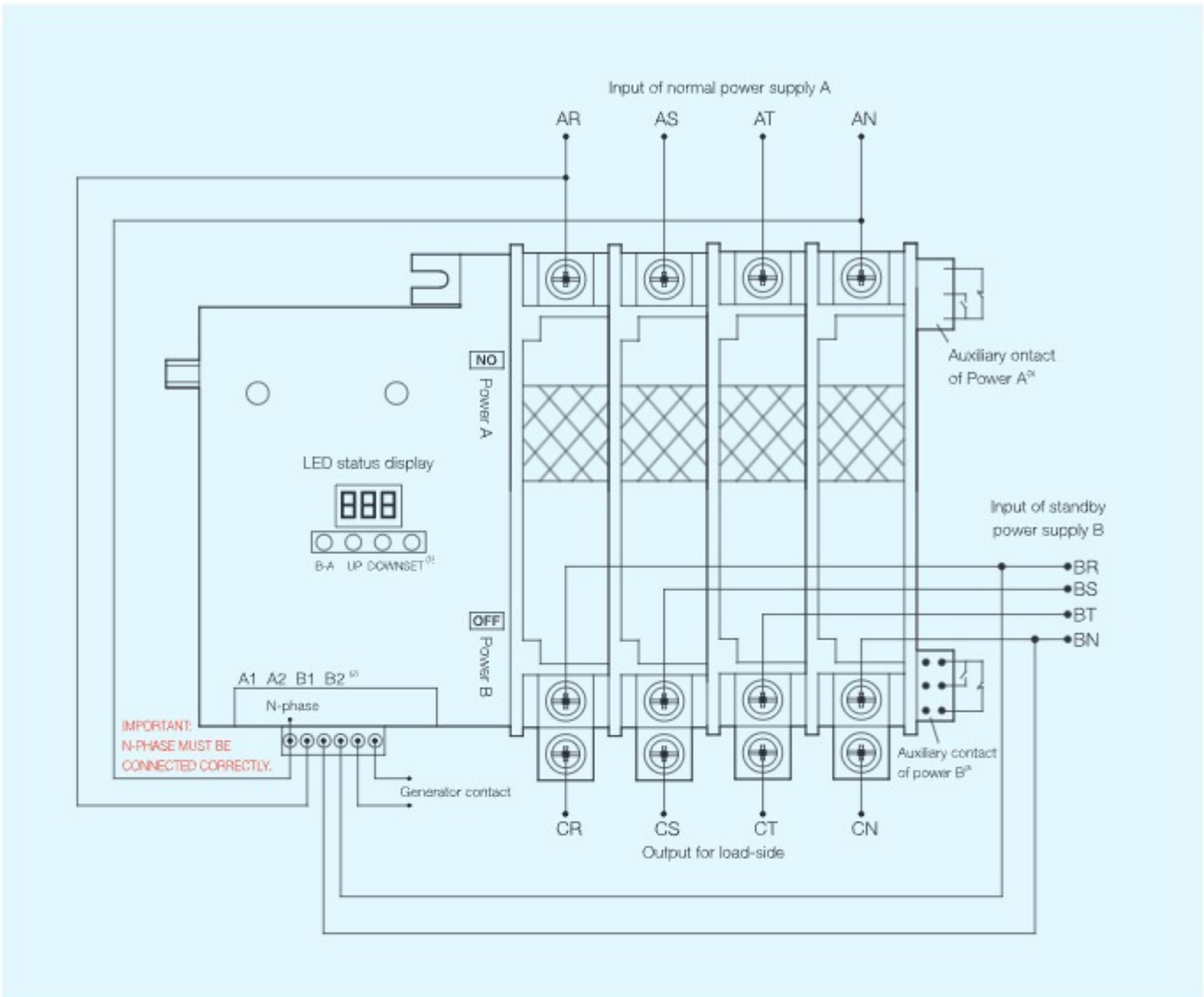




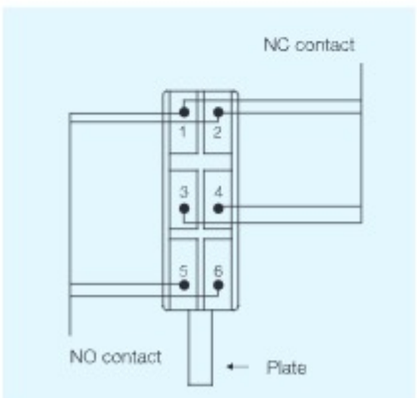


Wiring diagram

- M3 II version with internal controller unit



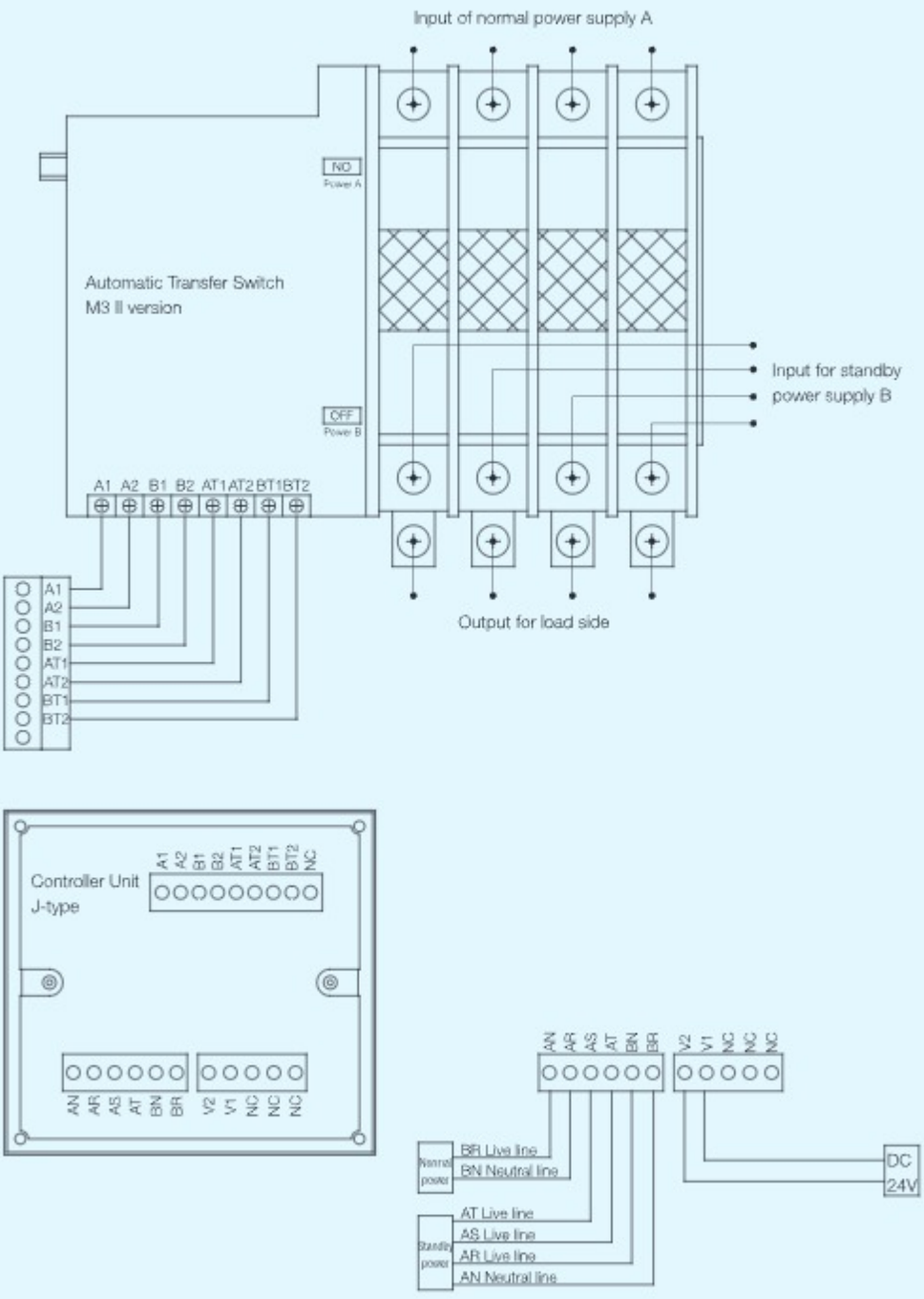
Auxiliary contact



Note:
1. Instruction of function buttons
Set: Settings for delay time of A-B, B-A or generator stop;
- Down: Reduction when setting;
Display B-phase voltage when automatical operating;
Switching to power supply B when manual operating;
- UP: Increase when setting;
Display A-phase voltage when automatical operating;
Switching to power supply A when manual operating;
- B-A: For exchange between Automatic operation and manual operation by pressing the buttons of SET and B-A at the same time (manual operation is available when LED flashing);
- Setting the reference voltage of power supply A and B (LED display U-A and U-B)
2. A1/A2 is for input signal of power supply A, AC 220 V;
3. B1/B2 is for input signal of power supply B, AC 220 V;
Auxiliary contacts can be connected to indications, alarm or signals depending on needs.

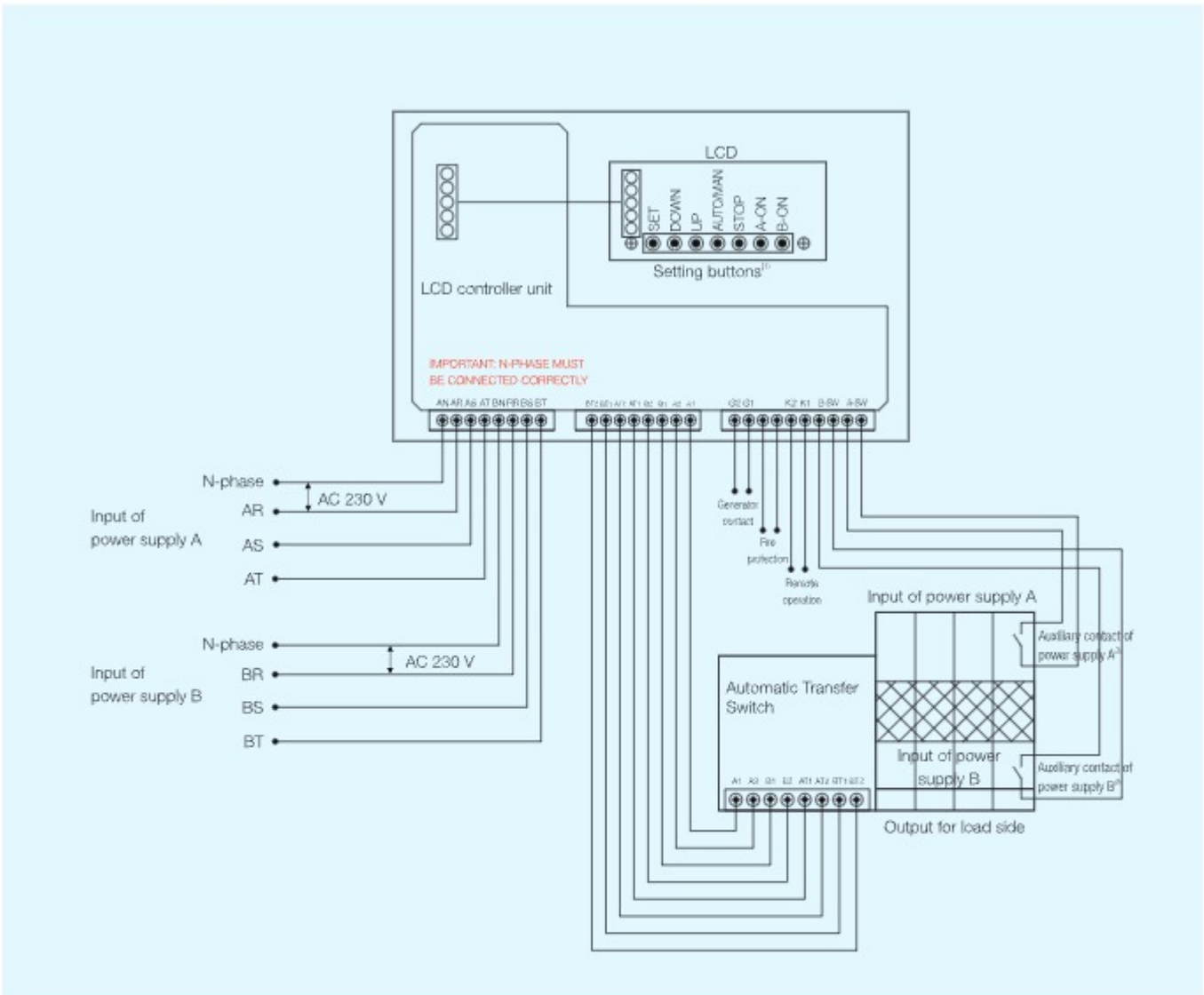
Wiring diagram

- M3 II version with external J-type controller unit

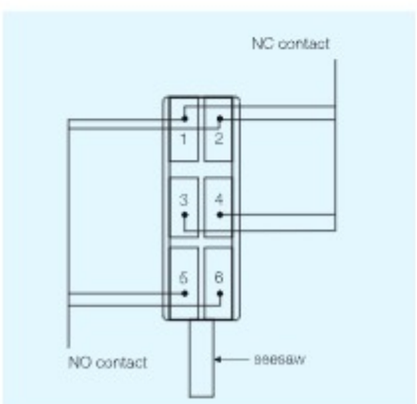


Wiring diagram

- M3 II version with external controller unit with LCD display



Auxiliary contact



Notice:

1. Instruction of function buttons
- SET: Settings for low and high voltage range of power supply A and B, delay time of OFF-A, OFF-B, B-OFF, generator stop, problem of A and B, timing for generator starting; Codes are 1, 2, ... 9, C and D.
- DOWN / UP: Reduction (or incurease) when setting;
- AUTO/MAN: For exchange between Automatic operation and manual operation;
  Setting the reference voltage of phase R/R/T for power supply A and B by pressing it for 3 seconds when manual operation.
- STOP: Cut off from power supply A and B, switch to OFF position and entering standby;
- A-ON: Switch to power supply A at manual mode;
  Display the voltage of phase R/S/T of power supply A at modes of automatic or stop;
- B-ON: Switch to power supply B at manual mode;
  Display the voltage of phase R/S/T of power supply B at modes of automatic or stop;
2. Auxiliary contacts can be connected to indications, alarm or signals depending on needs.

1

Selection and ordering data

M2 I versions without controller unit



	Rated current (A)	2P Type code	2P Order code	3P Type code	3P Order code	4P Type code	4P Order code
Grid-Grid (NB)							
Model R: Automatic transfer with restoration							
	20	AQ3 M2I 2NBR20N	10761	AQ3 M2I 3NBR20N	10815	AQ3 M2I 4NBR20N	10869
	25	AQ3 M2I 2NBR25N	10762	AQ3 M2I 3NBR25N	10816	AQ3 M2I 4NBR25N	10870
	32	AQ3 M2I 2NBR32N	10763	AQ3 M2I 3NBR32N	10817	AQ3 M2I 4NBR32N	10871
	40	AQ3 M2I 2NBR40N	10764	AQ3 M2I 3NBR40N	10818	AQ3 M2I 4NBR40N	10872
	50	AQ3 M2I 2NBR50N	10765	AQ3 M2I 3NBR50N	10819	AQ3 M2I 4NBR50N	10873
	63	AQ3 M2I 2NBR63N	10766	AQ3 M2I 3NBR63N	10820	AQ3 M2I 4NBR63N	10874
	80	AQ3 M2I 2NBR80N	10767	AQ3 M2I 3NBR80N	10821	AQ3 M2I 4NBR80N	10875
	100	AQ3 M2I 2NBR100N	10768	AQ3 M2I 3NBR100N	10822	AQ3 M2I 4NBR100N	10876
	125	AQ3 M2I 2NBR125N	10769	AQ3 M2I 3NBR125N	10823	AQ3 M2I 4NBR125N	10877
	160	AQ3 M2I 2NBR160N	30954	AQ3 M2I 3NBR160N	30984	AQ3 M2I 4NBR160N	31014
	180	AQ3 M2I 2NBR180N	30955	AQ3 M2I 3NBR180N	30985	AQ3 M2I 4NBR180N	31015
	200	AQ3 M2I 2NBR200N	30956	AQ3 M2I 3NBR200N	30986	AQ3 M2I 4NBR200N	31016
	225	AQ3 M2I 2NBR225N	30957	AQ3 M2I 3NBR225N	30987	AQ3 M2I 4NBR225N	31017
	250	AQ3 M2I 2NBR250N	30958	AQ3 M2I 3NBR250N	30988	AQ3 M2I 4NBR250N	31018
	315	AQ3 M2I 2NBR315N	31134	AQ3 M2I 3NBR315N	31158	AQ3 M2I 4NBR315N	31182
	350	AQ3 M2I 2NBR350N	31135	AQ3 M2I 3NBR350N	31159	AQ3 M2I 4NBR350N	31183
	400	AQ3 M2I 2NBR400N	31136	AQ3 M2I 3NBR400N	31160	AQ3 M2I 4NBR400N	31184
	500	AQ3 M2I 2NBR500N	31137	AQ3 M2I 3NBR500N	31161	AQ3 M2I 4NBR500N	31185
Model S: Automa tic transfer without restoration							
	20	AQ3 M2I 2NBS20N	10779	AQ3 M2I 3NBS20N	10833	AQ3 M2I 4NBS20N	10887
	25	AQ3 M2I 2NBS25N	10780	AQ3 M2I 3NBS25N	10834	AQ3 M2I 4NBS25N	10888
	32	AQ3 M2I 2NBS32N	10781	AQ3 M2I 3NBS32N	10835	AQ3 M2I 4NBS32N	10889
	40	AQ3 M2I 2NBS40N	10782	AQ3 M2I 3NBS40N	10836	AQ3 M2I 4NBS40N	10890
	50	AQ3 M2I 2NBS50N	10783	AQ3 M2I 3NBS50N	10837	AQ3 M2I 4NBS50N	10891
	63	AQ3 M2I 2NBS63N	10784	AQ3 M2I 3NBS63N	10838	AQ3 M2I 4NBS63N	10892
	80	AQ3 M2I 2NBS80N	10785	AQ3 M2I 3NBS80N	10839	AQ3 M2I 4NBS80N	10893
	100	AQ3 M2I 2NBS100N	10786	AQ3 M2I 3NBS100N	10840	AQ3 M2I 4NBS100N	10894
	125	AQ3 M2I 2NBS125N	10787	AQ3 M2I 3NBS125N	10841	AQ3 M2I 4NBS125N	10895
	160	AQ3 M2I 2NBS160N	30964	AQ3 M2I 3NBS160N	30994	AQ3 M2I 4NBS160N	31024
	180	AQ3 M2I 2NBS180N	30965	AQ3 M2I 3NBS180N	30995	AQ3 M2I 4NBS180N	31025
	200	AQ3 M2I 2NBS200N	30966	AQ3 M2I 3NBS200N	30996	AQ3 M2I 4NBS200N	31026
	225	AQ3 M2I 2NBS225N	30967	AQ3 M2I 3NBS225N	30997	AQ3 M2I 4NBS225N	31027
	250	AQ3 M2I 2NBS250N	30968	AQ3 M2I 3NBS250N	30998	AQ3 M2I 4NBS250N	31028
	315	AQ3 M2I 2NBS315N	31142	AQ3 M2I 3NBS315N	31166	AQ3 M2I 4NBS315N	31190
	350	AQ3 M2I 2NBS350N	31143	AQ3 M2I 3NBS350N	31167	AQ3 M2I 4NBS350N	31191
	400	AQ3 M2I 2NBS400N	31144	AQ3 M2I 3NBS400N	31168	AQ3 M2I 4NBS400N	31192
	500	AQ3 M2I 2NBS500N	31145	AQ3 M2I 3NBS500N	31169	AQ3 M2I 4NBS500N	31193
Grid-Generator (NG)							
Model R: Automatic transfer with restoration							
	20	AQ3 M2I 2NGR20N	10797	AQ3 M2I 3NGR20N	10851	AQ3 M2I 4NGR20N	10905
	25	AQ3 M2I 2NGR25N	10798	AQ3 M2I 3NGR25N	10852	AQ3 M2I 4NGR25N	10906
	32	AQ3 M2I 2NGR32N	10799	AQ3 M2I 3NGR32N	10853	AQ3 M2I 4NGR32N	10907
	40	AQ3 M2I 2NGR40N	10800	AQ3 M2I 3NGR40N	10854	AQ3 M2I 4NGR40N	10908
	50	AQ3 M2I 2NGR50N	10801	AQ3 M2I 3NGR50N	10855	AQ3 M2I 4NGR50N	10909
	63	AQ3 M2I 2NGR63N	10802	AQ3 M2I 3NGR63N	10856	AQ3 M2I 4NGR63N	10910
	80	AQ3 M2I 2NGR80N	10803	AQ3 M2I 3NGR80N	10857	AQ3 M2I 4NGR80N	10911
	100	AQ3 M2I 2NGR100N	10804	AQ3 M2I 3NGR100N	10858	AQ3 M2I 4NGR100N	10912
	125	AQ3 M2I 2NGR125N	10805	AQ3 M2I 3NGR125N	10859	AQ3 M2I 4NGR125N	10913
	160	AQ3 M2I 2NGR160N	30974	AQ3 M2I 3NGR160N	31004	AQ3 M2I 4NGR160N	31034
	180	AQ3 M2I 2NGR180N	30975	AQ3 M2I 3NGR180N	31005	AQ3 M2I 4NGR180N	31035
	200	AQ3 M2I 2NGR200N	30976	AQ3 M2I 3NGR200N	31006	AQ3 M2I 4NGR200N	31036
	225	AQ3 M2I 2NGR225N	30977	AQ3 M2I 3NGR225N	31007	AQ3 M2I 4NGR225N	31037
	250	AQ3 M2I 2NGR250N	30978	AQ3 M2I 3NGR250N	31008	AQ3 M2I 4NGR250N	31038
	315	AQ3 M2I 2NGR315N	31150	AQ3 M2I 3NGR315N	31174	AQ3 M2I 4NGR315N	31198
	350	AQ3 M2I 2NGR350N	31151	AQ3 M2I 3NGR350N	31175	AQ3 M2I 4NGR350N	31199
	400	AQ3 M2I 2NGR400N	31152	AQ3 M2I 3NGR400N	31176	AQ3 M2I 4NGR400N	31200
	500	AQ3 M2I 2NGR500N	31153	AQ3 M2I 3NGR500N	31177	AQ3 M2I 4NGR500N	31201

Selection and ordering data

M2 I versions equipped with external J-type controller unit



	Rated current (A)	2P Type code	2P Order code	3P Type code	3P Order code	4P Type code	4P Order code
Grid-Grid (NB)							
Model R: Automatic transfer with restoration							
	20	AQ3 M2I 2NBR20J	10770	AQ3 M2I 3NBR20J	10824	AQ3 M2I 4NBR20J	10878
	25	AQ3 M2I 2NBR25J	10771	AQ3 M2I 3NBR25J	10825	AQ3 M2I 4NBR25J	10879
	32	AQ3 M2I 2NBR32J	10772	AQ3 M2I 3NBR32J	10826	AQ3 M2I 4NBR32J	10880
	40	AQ3 M2I 2NBR40J	10773	AQ3 M2I 3NBR40J	10827	AQ3 M2I 4NBR40J	10881
	50	AQ3 M2I 2NBR50J	10774	AQ3 M2I 3NBR50J	10828	AQ3 M2I 4NBR50J	10882
	63	AQ3 M2I 2NBR63J	10775	AQ3 M2I 3NBR63J	10829	AQ3 M2I 4NBR63J	10883
	80	AQ3 M2I 2NBR80J	10776	AQ3 M2I 3NBR80J	10830	AQ3 M2I 4NBR80J	10884
	100	AQ3 M2I 2NBR100J	10777	AQ3 M2I 3NBR100J	10831	AQ3 M2I 4NBR100J	10885
	125	AQ3 M2I 2NBR125J	10778	AQ3 M2I 3NBR125J	10832	AQ3 M2I 4NBR125J	10886
	160	AQ3 M2I 2NBR160J	30959	AQ3 M2I 3NBR160J	30989	AQ3 M2I 4NBR160J	31019
	180	AQ3 M2I 2NBR180J	30960	AQ3 M2I 3NBR180J	30990	AQ3 M2I 4NBR180J	31020
	200	AQ3 M2I 2NBR200J	30961	AQ3 M2I 3NBR200J	30991	AQ3 M2I 4NBR200J	31021
	225	AQ3 M2I 2NBR225J	30962	AQ3 M2I 3NBR225J	30992	AQ3 M2I 4NBR225J	31022
	250	AQ3 M2I 2NBR250J	30963	AQ3 M2I 3NBR250J	30993	AQ3 M2I 4NBR250J	31023
	315	AQ3 M2I 2NBR315J	31138	AQ3 M2I 3NBR315J	31162	AQ3 M2I 4NBR315J	31186
	350	AQ3 M2I 2NBR350J	31139	AQ3 M2I 3NBR350J	31163	AQ3 M2I 4NBR350J	31187
	400	AQ3 M2I 2NBR400J	31140	AQ3 M2I 3NBR400J	31164	AQ3 M2I 4NBR400J	31188
	500	AQ3 M2I 2NBR500J	31141	AQ3 M2I 3NBR500J	31165	AQ3 M2I 4NBR500J	31189
Model S: Automatic transfer without restoration							
	20	AQ3 M2I 2NBS20J	10788	AQ3 M2I 3NBS20J	10842	AQ3 M2I 4NBS20J	10896
	25	AQ3 M2I 2NBS25J	10789	AQ3 M2I 3NBS25J	10843	AQ3 M2I 4NBS25J	10897
	32	AQ3 M2I 2NBS32J	10790	AQ3 M2I 3NBS32J	10844	AQ3 M2I 4NBS32J	10898
	40	AQ3 M2I 2NBS40J	10791	AQ3 M2I 3NBS40J	10845	AQ3 M2I 4NBS40J	10899
	50	AQ3 M2I 2NBS50J	10792	AQ3 M2I 3NBS50J	10846	AQ3 M2I 4NBS50J	10900
	63	AQ3 M2I 2NBS63J	10793	AQ3 M2I 3NBS63J	10847	AQ3 M2I 4NBS63J	10901
	80	AQ3 M2I 2NBS80J	10794	AQ3 M2I 3NBS80J	10848	AQ3 M2I 4NBS80J	10902
	100	AQ3 M2I 2NBS100J	10795	AQ3 M2I 3NBS100J	10849	AQ3 M2I 4NBS100J	10903
	125	AQ3 M2I 2NBS125J	10796	AQ3 M2I 3NBS125J	10850	AQ3 M2I 4NBS125J	10904
	160	AQ3 M2I 2NBS160J	30969	AQ3 M2I 3NBS160J	30999	AQ3 M2I 4NBS160J	31029
	180	AQ3 M2I 2NBS180J	30970	AQ3 M2I 3NBS180J	31000	AQ3 M2I 4NBS180J	31030
	200	AQ3 M2I 2NBS200J	30971	AQ3 M2I 3NBS200J	31001	AQ3 M2I 4NBS200J	31031
	225	AQ3 M2I 2NBS225J	30972	AQ3 M2I 3NBS225J	31002	AQ3 M2I 4NBS225J	31032
	250	AQ3 M2I 2NBS250J	30973	AQ3 M2I 3NBS250J	31003	AQ3 M2I 4NBS250J	31033
	315	AQ3 M2I 2NBS315J	31146	AQ3 M2I 3NBS315J	31170	AQ3 M2I 4NBS315J	31194
	350	AQ3 M2I 2NBS350J	31147	AQ3 M2I 3NBS350J	31171	AQ3 M2I 4NBS350J	31195
	400	AQ3 M2I 2NBS400J	31148	AQ3 M2I 3NBS400J	31172	AQ3 M2I 4NBS400J	31196
	500	AQ3 M2I 2NBS500J	31149	AQ3 M2I 3NBS500J	31173	AQ3 M2I 4NBS500J	31197
Grid-Generator (NG)							
Model R: Automatic transfer with restoration							
	20	AQ3 M2I 2NGR20J	10806	AQ3 M2I 3NGR20J	10860	AQ3 M2I 4NGR20J	10914
	25	AQ3 M2I 2NGR25J	10807	AQ3 M2I 3NGR25J	10861	AQ3 M2I 4NGR25J	10915
	32	AQ3 M2I 2NGR32J	10808	AQ3 M2I 3NGR32J	10862	AQ3 M2I 4NGR32J	10916
	40	AQ3 M2I 2NGR40J	10809	AQ3 M2I 3NGR40J	10863	AQ3 M2I 4NGR40J	10917
	50	AQ3 M2I 2NGR50J	10810	AQ3 M2I 3NGR50J	10864	AQ3 M2I 4NGR50J	10918
	63	AQ3 M2I 2NGR63J	10811	AQ3 M2I 3NGR63J	10865	AQ3 M2I 4NGR63J	30788
	80	AQ3 M2I 2NGR80J	10812	AQ3 M2I 3NGR80J	10866	AQ3 M2I 4NGR80J	30789
	100	AQ3 M2I 2NGR100J	10813	AQ3 M2I 3NGR100J	10867	AQ3 M2I 4NGR100J	30790
	125	AQ3 M2I 2NGR125J	10814	AQ3 M2I 3NGR125J	10868	AQ3 M2I 4NGR125J	30791
	160	AQ3 M2I 2NGR160J	30979	AQ3 M2I 3NGR160J	31009	AQ3 M2I 4NGR160J	31039
	180	AQ3 M2I 2NGR180J	30980	AQ3 M2I 3NGR180J	31010	AQ3 M2I 4NGR180J	31040
	200	AQ3 M2I 2NGR200J	30981	AQ3 M2I 3NGR200J	31011	AQ3 M2I 4NGR200J	31041
	225	AQ3 M2I 2NGR225J	30982	AQ3 M2I 3NGR225J	31012	AQ3 M2I 4NGR225J	31042
	250	AQ3 M2I 2NGR250J	30983	AQ3 M2I 3NGR250J	31013	AQ3 M2I 4NGR250J	31043
	315	AQ3 M2I 2NGR315J	31154	AQ3 M2I 3NGR315J	31178	AQ3 M2I 4NGR315J	31202
	350	AQ3 M2I 2NGR350J	31155	AQ3 M2I 3NGR350J	31179	AQ3 M2I 4NGR350J	31203
	400	AQ3 M2I 2NGR400J	31156	AQ3 M2I 3NGR400J	31180	AQ3 M2I 4NGR400J	31204
	500	AQ3 M2I 2NGR500J	31157	AQ3 M2I 3NGR500J	31181	AQ3 M2I 4NGR500J	31205

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Selection and ordering data

M3 II versions equipped with internal controller unit



	Rated current (A)	2P Type code	2P Order code	3P Type code	3P Order code	4P Type code	4P Order code
Grid-Grid (NB)							
Model R: Automatic transfer with restoration							
	20	AQ3 M3II 2NBR20L	30792	AQ3 M3II 3NBR20L	30846	AQ3 M3II 4NBR20L	30900
	25	AQ3 M3II 2NBR25L	30793	AQ3 M3II 3NBR25L	30847	AQ3 M3II 4NBR25L	30901
	32	AQ3 M3II 2NBR32L	30794	AQ3 M3II 3NBR32L	30848	AQ3 M3II 4NBR32L	30902
	40	AQ3 M3II 2NBR40L	30795	AQ3 M3II 3NBR40L	30849	AQ3 M3II 4NBR40L	30903
	50	AQ3 M3II 2NBR50L	30796	AQ3 M3II 3NBR50L	30850	AQ3 M3II 4NBR50L	30904
	63	AQ3 M3II 2NBR63L	30797	AQ3 M3II 3NBR63L	30851	AQ3 M3II 4NBR63L	30905
	80	AQ3 M3II 2NBR80L	30798	AQ3 M3II 3NBR80L	30852	AQ3 M3II 4NBR80L	30906
	100	AQ3 M3II 2NBR100L	30799	AQ3 M3II 3NBR100L	30853	AQ3 M3II 4NBR100L	30907
	125	AQ3 M3II 2NBR125L	30800	AQ3 M3II 3NBR125L	30854	AQ3 M3II 4NBR125L	30908
	160	AQ3 M3II 2NBR160L	31044	AQ3 M3II 3NBR160L	31074	AQ3 M3II 4NBR160L	31104
	180	AQ3 M3II 2NBR180L	31045	AQ3 M3II 3NBR180L	31075	AQ3 M3II 4NBR180L	31105
	200	AQ3 M3II 2NBR200L	31046	AQ3 M3II 3NBR200L	31076	AQ3 M3II 4NBR200L	31106
	225	AQ3 M3II 2NBR225L	31047	AQ3 M3II 3NBR225L	31077	AQ3 M3II 4NBR225L	31107
	250	AQ3 M3II 2NBR250L	31048	AQ3 M3II 3NBR250L	31078	AQ3 M3II 4NBR250L	31108
	315	AQ3 M3II 2NBR315L	31206	AQ3 M3II 3NBR315L	31230	AQ3 M3II 4NBR315L	31254
	350	AQ3 M3II 2NBR350L	31207	AQ3 M3II 3NBR350L	31231	AQ3 M3II 4NBR350L	31255
	400	AQ3 M3II 2NBR400L	31208	AQ3 M3II 3NBR400L	31232	AQ3 M3II 4NBR400L	31256
	500	AQ3 M3II 2NBR500L	31209	AQ3 M3II 3NBR500L	31233	AQ3 M3II 4NBR500L	31257
	630	-	-	AQ3 M3II 3NBR630L	31278	AQ3 M3II 4NBR630L	31290
	800	-	-	AQ3 M3II 3NBR800L	31279	AQ3 M3II 4NBR800L	31291
	1000	-	-	AQ3 M3II 3NBR1000L	31302	AQ3 M3II 4NBR1000L	31344
	1250	-	-	AQ3 M3II 3NBR1250L	31303	AQ3 M3II 4NBR1250L	31345
	1600	-	-	AQ3 M3II 3NBR1600L	31304	AQ3 M3II 4NBR1600L	31346
	2000	-	-	AQ3 M3II 3NBR2000L	31305	AQ3 M3II 4NBR2000L	31347
	3150	-	-	AQ3 M3II 3NBR3150L	31306	AQ3 M3II 4NBR3150L	31348
	4000	-	-	AQ3 M3II 3NBR4000L	31307	AQ3 M3II 4NBR4000L	31349
	5000	-	-	AQ3 M3II 3NBR5000L	31308	AQ3 M3II 4NBR5000L	31350
Grid-Generator (NG)							
Model R: Automatic transfer with restoration							
	20	AQ3 M3II 2NGR20L	30819	AQ3 M3II 3NGR20L	30873	AQ3 M3II 4NGR20L	30927
	25	AQ3 M3II 2NGR25L	30820	AQ3 M3II 3NGR25L	30874	AQ3 M3II 4NGR25L	30928
	32	AQ3 M3II 2NGR32L	30821	AQ3 M3II 3NGR32L	30875	AQ3 M3II 4NGR32L	30929
	40	AQ3 M3II 2NGR40L	30822	AQ3 M3II 3NGR40L	30876	AQ3 M3II 4NGR40L	30930
	50	AQ3 M3II 2NGR50L	30823	AQ3 M3II 3NGR50L	30877	AQ3 M3II 4NGR50L	30931
	63	AQ3 M3II 2NGR63L	30824	AQ3 M3II 3NGR63L	30878	AQ3 M3II 4NGR63L	30932
	80	AQ3 M3II 2NGR80L	30825	AQ3 M3II 3NGR80L	30879	AQ3 M3II 4NGR80L	30933
	100	AQ3 M3II 2NGR100L	30826	AQ3 M3II 3NGR100L	30880	AQ3 M3II 4NGR100L	30934
	125	AQ3 M3II 2NGR125L	30827	AQ3 M3II 3NGR125L	30881	AQ3 M3II 4NGR125L	30935
	160	AQ3 M3II 2NGR160L	31059	AQ3 M3II 3NGR160L	31089	AQ3 M3II 4NGR160L	31119
	180	AQ3 M3II 2NGR180L	31060	AQ3 M3II 3NGR180L	31090	AQ3 M3II 4NGR180L	31120
	200	AQ3 M3II 2NGR200L	31061	AQ3 M3II 3NGR200L	31091	AQ3 M3II 4NGR200L	31121
	225	AQ3 M3II 2NGR225L	31062	AQ3 M3II 3NGR225L	31092	AQ3 M3II 4NGR225L	31122
	250	AQ3 M3II 2NGR250L	31063	AQ3 M3II 3NGR250L	31093	AQ3 M3II 4NGR250L	31123
	315	AQ3 M3II 2NGR315L	31218	AQ3 M3II 3NGR315L	31242	AQ3 M3II 4NGR315L	31266
	350	AQ3 M3II 2NGR350L	31219	AQ3 M3II 3NGR350L	31243	AQ3 M3II 4NGR350L	31267
	400	AQ3 M3II 2NGR400L	31220	AQ3 M3II 3NGR400L	31244	AQ3 M3II 4NGR400L	31268
	500	AQ3 M3II 2NGR500L	31221	AQ3 M3II 3NGR500L	31245	AQ3 M3II 4NGR500L	31269
	630	-	-	AQ3 M3II 3NGR630L	31284	AQ3 M3II 4NGR630L	31296
	800	-	-	AQ3 M3II 3NGR800L	31285	AQ3 M3II 4NGR800L	31297
	1000	-	-	AQ3 M3II 3NGR1000L	31323	AQ3 M3II 4NGR1000L	31365
	1250	-	-	AQ3 M3II 3NGR1250L	31324	AQ3 M3II 4NGR1250L	31366
	1600	-	-	AQ3 M3II 3NGR1600L	31325	AQ3 M3II 4NGR1600L	31367
	2000	-	-	AQ3 M3II 3NGR2000L	31326	AQ3 M3II 4NGR2000L	31368
	3150	-	-	AQ3 M3II 3NGR3150L	31327	AQ3 M3II 4NGR3150L	31369
	4000	-	-	AQ3 M3II 3NGR4000L	31328	AQ3 M3II 4NGR4000L	31370
	5000	-	-	AQ3 M3II 3NGR5000L	31329	AQ3 M3II 4NGR5000L	31371

- Not available

Selection and ordering data

M3 II versions equipped with external J-type controller unit



	Rated current	2P		3P		4P	
	(A)	Type code	Order code	Type code	Order code	Type code	Order code
Grid-Grid (NB)							
Model R: Automatic transfer with restoration							
	20	AQ3 M3II 2NBR20J	30801	AQ3 M3II 3NBR20J	30855	AQ3 M3II 4NBR20J	30909
	25	AQ3 M3II 2NBR25J	30802	AQ3 M3II 3NBR25J	30856	AQ3 M3II 4NBR25J	30910
	32	AQ3 M3II 2NBR32J	30803	AQ3 M3II 3NBR32J	30857	AQ3 M3II 4NBR32J	30911
	40	AQ3 M3II 2NBR40J	30804	AQ3 M3II 3NBR40J	30858	AQ3 M3II 4NBR40J	30912
	50	AQ3 M3II 2NBR50J	30805	AQ3 M3II 3NBR50J	30859	AQ3 M3II 4NBR50J	30913
	63	AQ3 M3II 2NBR63J	30806	AQ3 M3II 3NBR63J	30860	AQ3 M3II 4NBR63J	30914
	80	AQ3 M3II 2NBR80J	30807	AQ3 M3II 3NBR80J	30861	AQ3 M3II 4NBR80J	30915
	100	AQ3 M3II 2NBR100J	30808	AQ3 M3II 3NBR100J	30862	AQ3 M3II 4NBR100J	30916
	125	AQ3 M3II 2NBR125J	30809	AQ3 M3II 3NBR125J	30863	AQ3 M3II 4NBR125J	30917
	160	AQ3 M3II 2NBR160J	31049	AQ3 M3II 3NBR160J	31079	AQ3 M3II 4NBR160J	31109
	180	AQ3 M3II 2NBR180J	31050	AQ3 M3II 3NBR180J	31080	AQ3 M3II 4NBR180J	31110
	200	AQ3 M3II 2NBR200J	31051	AQ3 M3II 3NBR200J	31081	AQ3 M3II 4NBR200J	31111
	225	AQ3 M3II 2NBR225J	31052	AQ3 M3II 3NBR225J	31082	AQ3 M3II 4NBR225J	31112
	250	AQ3 M3II 2NBR250J	31053	AQ3 M3II 3NBR250J	31083	AQ3 M3II 4NBR250J	31113
	315	AQ3 M3II 2NBR315J	31210	AQ3 M3II 3NBR315J	31234	AQ3 M3II 4NBR315J	31258
	350	AQ3 M3II 2NBR350J	31211	AQ3 M3II 3NBR350J	31235	AQ3 M3II 4NBR350J	31259
	400	AQ3 M3II 2NBR400J	31212	AQ3 M3II 3NBR400J	31236	AQ3 M3II 4NBR400J	31260
	500	AQ3 M3II 2NBR500J	31213	AQ3 M3II 3NBR500J	31237	AQ3 M3II 4NBR500J	31261
	630	-	-	AQ3 M3II 3NBR630J	31280	AQ3 M3II 4NBR630J	31292
	800	-	-	AQ3 M3II 3NBR800J	31281	AQ3 M3II 4NBR800J	31293
	1000	-	-	AQ3 M3II 3NBR1000J	31309	AQ3 M3II 4NBR1000J	31351
	1250	-	-	AQ3 M3II 3NBR1250J	31310	AQ3 M3II 4NBR1250J	31352
	1600	-	-	AQ3 M3II 3NBR1600J	31311	AQ3 M3II 4NBR1600J	31353
	2000	-	-	AQ3 M3II 3NBR2000J	31312	AQ3 M3II 4NBR2000J	31354
	3150	-	-	AQ3 M3II 3NBR3150J	31313	AQ3 M3II 4NBR3150J	31355
	4000	-	-	AQ3 M3II 3NBR4000J	31314	AQ3 M3II 4NBR4000J	31356
	5000	-	-	AQ3 M3II 3NBR5000J	31315	AQ3 M3II 4NBR5000J	31357
Grid-Generator (NG)							
Model R: Automatic transfer with restoration							
	20	AQ3 M3II 2NGR20J	30828	AQ3 M3II 3NGR20J	30882	AQ3 M3II 4NGR20J	30936
	25	AQ3 M3II 2NGR25J	30829	AQ3 M3II 3NGR25J	30883	AQ3 M3II 4NGR25J	30937
	32	AQ3 M3II 2NGR32J	30830	AQ3 M3II 3NGR32J	30884	AQ3 M3II 4NGR32J	30938
	40	AQ3 M3II 2NGR40J	30831	AQ3 M3II 3NGR40J	30885	AQ3 M3II 4NGR40J	30939
	50	AQ3 M3II 2NGR50J	30832	AQ3 M3II 3NGR50J	30886	AQ3 M3II 4NGR50J	30940
	63	AQ3 M3II 2NGR63J	30833	AQ3 M3II 3NGR63J	30887	AQ3 M3II 4NGR63J	30941
	80	AQ3 M3II 2NGR80J	30834	AQ3 M3II 3NGR80J	30888	AQ3 M3II 4NGR80J	30942
	100	AQ3 M3II 2NGR100J	30835	AQ3 M3II 3NGR100J	30889	AQ3 M3II 4NGR100J	30943
	125	AQ3 M3II 2NGR125J	30836	AQ3 M3II 3NGR125J	30890	AQ3 M3II 4NGR125J	30944
	160	AQ3 M3II 2NGR160J	31064	AQ3 M3II 3NGR160J	31094	AQ3 M3II 4NGR160J	31124
	180	AQ3 M3II 2NGR180J	31065	AQ3 M3II 3NGR180J	31095	AQ3 M3II 4NGR180J	31125
	200	AQ3 M3II 2NGR200J	31066	AQ3 M3II 3NGR200J	31096	AQ3 M3II 4NGR200J	31126
	225	AQ3 M3II 2NGR225J	31067	AQ3 M3II 3NGR225J	31097	AQ3 M3II 4NGR225J	31127
	250	AQ3 M3II 2NGR250J	31068	AQ3 M3II 3NGR250J	31098	AQ3 M3II 4NGR250J	31128
	315	AQ3 M3II 2NGR315J	31222	AQ3 M3II 3NGR315J	31246	AQ3 M3II 4NGR315J	31270
	350	AQ3 M3II 2NGR350J	31223	AQ3 M3II 3NGR350J	31247	AQ3 M3II 4NGR350J	31271
	400	AQ3 M3II 2NGR400J	31224	AQ3 M3II 3NGR400J	31248	AQ3 M3II 4NGR400J	31272
	500	AQ3 M3II 2NGR500J	31225	AQ3 M3II 3NGR500J	31249	AQ3 M3II 4NGR500J	31273
	630	-	-	AQ3 M3II 3NGR630J	31286	AQ3 M3II 4NGR630J	31298
	800	-	-	AQ3 M3II 3NGR800J	31287	AQ3 M3II 4NGR800J	31299
	1000	-	-	AQ3 M3II 3NGR1000J	31330	AQ3 M3II 4NGR1000J	31372
	1250	-	-	AQ3 M3II 3NGR1250J	31331	AQ3 M3II 4NGR1250J	31373
	1600	-	-	AQ3 M3II 3NGR1600J	31332	AQ3 M3II 4NGR1600J	31374
	2000	-	-	AQ3 M3II 3NGR2000J	31333	AQ3 M3II 4NGR2000J	31375
	3150	-	-	AQ3 M3II 3NGR3150J	31334	AQ3 M3II 4NGR3150J	31376
	4000	-	-	AQ3 M3II 3NGR4000J	31335	AQ3 M3II 4NGR4000J	31377
	5000	-	-	AQ3 M3II 3NGR5000J	31336	AQ3 M3II 4NGR5000J	31378

- Not available

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Selection and ordering data

M3 II versions equipped with external LCD display controller unit



	Rated current (A)	2P Type code	2P Order code	3P Type code	3P Order code	4P Type code	4P Order code
Grid-Grid (NB)							
Model R: Automatic transfer with restoration							
	20	AQ3 M3II 2NBR20C	30810	AQ3 M3II 3NBR20C	30864	AQ3 M3II 4NBR20C	30918
	25	AQ3 M3II 2NBR25C	30811	AQ3 M3II 3NBR25C	30865	AQ3 M3II 4NBR25C	30919
	32	AQ3 M3II 2NBR32C	30812	AQ3 M3II 3NBR32C	30866	AQ3 M3II 4NBR32C	30920
	40	AQ3 M3II 2NBR40C	30813	AQ3 M3II 3NBR40C	30867	AQ3 M3II 4NBR40C	30921
	50	AQ3 M3II 2NBR50C	30814	AQ3 M3II 3NBR50C	30868	AQ3 M3II 4NBR50C	30922
	63	AQ3 M3II 2NBR63C	30815	AQ3 M3II 3NBR63C	30869	AQ3 M3II 4NBR63C	30923
	80	AQ3 M3II 2NBR80C	30816	AQ3 M3II 3NBR80C	30870	AQ3 M3II 4NBR80C	30924
	100	AQ3 M3II 2NBR100C	30817	AQ3 M3II 3NBR100C	30871	AQ3 M3II 4NBR100C	30925
	125	AQ3 M3II 2NBR125C	30818	AQ3 M3II 3NBR125C	30872	AQ3 M3II 4NBR125C	30926
	160	AQ3 M3II 2NBR160C	31054	AQ3 M3II 3NBR160C	31084	AQ3 M3II 4NBR160C	31114
	180	AQ3 M3II 2NBR180C	31055	AQ3 M3II 3NBR180C	31085	AQ3 M3II 4NBR180C	31115
	200	AQ3 M3II 2NBR200C	31056	AQ3 M3II 3NBR200C	31086	AQ3 M3II 4NBR200C	31116
	225	AQ3 M3II 2NBR225C	31057	AQ3 M3II 3NBR225C	31087	AQ3 M3II 4NBR225C	31117
	250	AQ3 M3II 2NBR250C	31058	AQ3 M3II 3NBR250C	31088	AQ3 M3II 4NBR250C	31118
	315	AQ3 M3II 2NBR315C	31214	AQ3 M3II 3NBR315C	31238	AQ3 M3II 4NBR315C	31262
	350	AQ3 M3II 2NBR350C	31215	AQ3 M3II 3NBR350C	31239	AQ3 M3II 4NBR350C	31263
	400	AQ3 M3II 2NBR400C	31216	AQ3 M3II 3NBR400C	31240	AQ3 M3II 4NBR400C	31264
	500	AQ3 M3II 2NBR500C	31217	AQ3 M3II 3NBR500C	31241	AQ3 M3II 4NBR500C	31265
	630	-	-	AQ3 M3II 3NBR630C	31282	AQ3 M3II 4NBR630C	31294
	800	-	-	AQ3 M3II 3NBR800C	31283	AQ3 M3II 4NBR800C	31295
	1000	-	-	AQ3 M3II 3NBR1000C	31316	AQ3 M3II 4NBR1000C	31358
	1250	-	-	AQ3 M3II 3NBR1250C	31317	AQ3 M3II 4NBR1250C	31359
	1600	-	-	AQ3 M3II 3NBR1600C	31318	AQ3 M3II 4NBR1600C	31360
	2000	-	-	AQ3 M3II 3NBR2000C	31319	AQ3 M3II 4NBR2000C	31361
	3150	-	-	AQ3 M3II 3NBR3150C	31320	AQ3 M3II 4NBR3150C	31362
	4000	-	-	AQ3 M3II 3NBR4000C	31321	AQ3 M3II 4NBR4000C	31363
	5000	-	-	AQ3 M3II 3NBR5000C	31322	AQ3 M3II 4NBR5000C	31364
Grid-Generator (NG)							
Model R: Automatic transfer with restoration							
	20	AQ3 M3II 2NGR20C	30837	AQ3 M3II 3NGR20C	30891	AQ3 M3II 4NGR20C	30945
	25	AQ3 M3II 2NGR25C	30838	AQ3 M3II 3NGR25C	30892	AQ3 M3II 4NGR25C	30946
	32	AQ3 M3II 2NGR32C	30839	AQ3 M3II 3NGR32C	30893	AQ3 M3II 4NGR32C	30947
	40	AQ3 M3II 2NGR40C	30840	AQ3 M3II 3NGR40C	30894	AQ3 M3II 4NGR40C	30948
	50	AQ3 M3II 2NGR50C	30841	AQ3 M3II 3NGR50C	30895	AQ3 M3II 4NGR50C	30949
	63	AQ3 M3II 2NGR63C	30842	AQ3 M3II 3NGR63C	30896	AQ3 M3II 4NGR63C	30950
	80	AQ3 M3II 2NGR80C	30843	AQ3 M3II 3NGR80C	30897	AQ3 M3II 4NGR80C	30951
	100	AQ3 M3II 2NGR100C	30844	AQ3 M3II 3NGR100C	30898	AQ3 M3II 4NGR100C	30952
	125	AQ3 M3II 2NGR125C	30845	AQ3 M3II 3NGR125C	30899	AQ3 M3II 4NGR125C	30953
	160	AQ3 M3II 2NGR160C	31069	AQ3 M3II 3NGR160C	31099	AQ3 M3II 4NGR160C	31129
	180	AQ3 M3II 2NGR180C	31070	AQ3 M3II 3NGR180C	31100	AQ3 M3II 4NGR180C	31130
	200	AQ3 M3II 2NGR200C	31071	AQ3 M3II 3NGR200C	31101	AQ3 M3II 4NGR200C	31131
	225	AQ3 M3II 2NGR225C	31072	AQ3 M3II 3NGR225C	31102	AQ3 M3II 4NGR225C	31132
	250	AQ3 M3II 2NGR250C	31073	AQ3 M3II 3NGR250C	31103	AQ3 M3II 4NGR250C	31133
	315	AQ3 M3II 2NGR315C	31226	AQ3 M3II 3NGR315C	31250	AQ3 M3II 4NGR315C	31274
	350	AQ3 M3II 2NGR350C	31227	AQ3 M3II 3NGR350C	31251	AQ3 M3II 4NGR350C	31275
	400	AQ3 M3II 2NGR400C	31228	AQ3 M3II 3NGR400C	31252	AQ3 M3II 4NGR400C	31276
	500	AQ3 M3II 2NGR500C	31229	AQ3 M3II 3NGR500C	31253	AQ3 M3II 4NGR500C	31277
	630	-	-	AQ3 M3II 3NGR630C	31288	AQ3 M3II 4NGR630C	31300
	800	-	-	AQ3 M3II 3NGR800C	31289	AQ3 M3II 4NGR800C	31301
	1000	-	-	AQ3 M3II 3NGR1000C	31337	AQ3 M3II 4NGR1000C	31379
	1250	-	-	AQ3 M3II 3NGR1250C	31338	AQ3 M3II 4NGR1250C	31380
	1600	-	-	AQ3 M3II 3NGR1600C	31339	AQ3 M3II 4NGR1600C	31381
	2000	-	-	AQ3 M3II 3NGR2000C	31340	AQ3 M3II 4NGR2000C	31382
	3150	-	-	AQ3 M3II 3NGR3150C	31341	AQ3 M3II 4NGR3150C	31383
	4000	-	-	AQ3 M3II 3NGR4000C	31342	AQ3 M3II 4NGR4000C	31384
	5000	-	-	AQ3 M3II 3NGR5000C	31343	AQ3 M3II 4NGR5000C	31385

- Not available

Features

- Easily meet the power needs of various household appliances and industrial equipment
- Used in city power and generator system and PV and city power system
- Easy wiring and easy installation



Technical specifications

- Standard: IEC 60947-3, IEC 60947-6-1
- Current frame (A): 100 A
- Rated operating current (A): 16, 20, 25, 32, 40, 50, 63, 70, 80, 100
- Number of poles (P): 2, 3, 4
- Rated insulation voltage Ui (V AC): 690
- Rated volage Ue (V AC): 400
- Use category: AC-33iB
- Rated conditional short-circuit current Iq (kA): 50
- SCPD (fuse): RT16-00-100A
- Rated impulse withstand voltage (kA): 8
- Rated control voltage Us: AC 220V, 50/60 Hz
- Correct working condition 85% Us ~ 110% Us
- Auxiliary circuit: AC 220V/AC 110V 50/60 Hz
- Contact transfer time (ms): < 50
- Operating transfer time (ms): < 50
- Return transfer time (ms): < 50
- Off time (ms): < 50
- Electrical life (times): 2000
- Mechanical life (times): 5000
- Degree of protection: IP20
- Ambient temperature: -5 ~ 40 °C, max. 95% humidity
- Altitude (Max.): 2000 m

Instruction of type code

AQ5 2P 100 NG

- NG: Grid-generator
  PN: PV- Grid
- Rated current (A):
  16, 20, 25, 32, 40, 50, 63, 70, 80, 100
- Number of poles: 2P, 3P, 4P
- Series code

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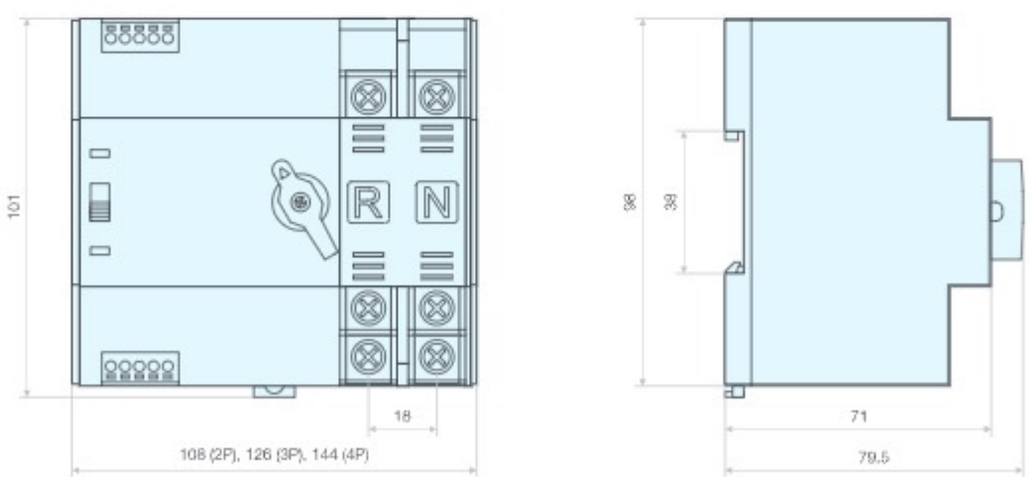
Selection and ordering data



Poles (P)	Rated current (A)	NG Type code	NG Order code	PN Type code	PN Order code
2	16	AQ5 2P16NG	-	AQ5 2P16PN	-
	20	AQ5 2P20NG	-	AQ5 2P20PN	-
	25	AQ5 2P25NG	-	AQ5 2P25PN	-
	32	AQ5 2P32NG	-	AQ5 2P32PN	-
	40	AQ5 2P40NG	-	AQ5 2P40PN	-
	50	AQ5 2P50NG	-	AQ5 2P50PN	-
	63	AQ5 2P63NG	-	AQ5 2P63PN	-
	70	AQ5 2P70NG	-	AQ5 2P70PN	-
	80	AQ5 2P80NG	-	AQ5 2P80PN	-
	100	AQ5 2P100NG	-	AQ5 2P100PN	-
3	16	AQ5 3P16NG	-	AQ5 3P16PN	-
	20	AQ5 3P20NG	-	AQ5 3P20PN	-
	25	AQ5 3P25NG	-	AQ5 3P25PN	-
	32	AQ5 3P32NG	-	AQ5 3P32PN	-
	40	AQ5 3P40NG	-	AQ5 3P40PN	-
	50	AQ5 3P50NG	-	AQ5 3P50PN	-
	63	AQ5 3P63NG	-	AQ5 3P63PN	-
	70	AQ5 3P70NG	-	AQ5 3P70PN	-
	80	AQ5 3P80NG	-	AQ5 3P80PN	-
	100	AQ5 3P100NG	-	AQ5 3P100PN	-
4	16	AQ5 4P16NG	-	AQ5 4P16PN	-
	20	AQ5 4P20NG	-	AQ5 4P20PN	-
	25	AQ5 4P25NG	-	AQ5 4P25PN	-
	32	AQ5 4P32NG	-	AQ5 4P32PN	-
	40	AQ5 4P40NG	-	AQ5 4P40PN	-
	50	AQ5 4P50NG	-	AQ5 4P50PN	-
	63	AQ5 4P63NG	-	AQ5 4P63PN	-
	70	AQ5 4P70NG	-	AQ5 4P70PN	-
	80	AQ5 4P80NG	-	AQ5 4P80PN	-
	100	AQ5 4P100NG	-	AQ5 4P100PN	-

Outline and installation dimensions

unit in mm



Features

- Suitable for AC 50/60 Hz, rated voltage 400 V, rated current to 3200 A in two power supply systems, when the power supply fails (overvoltage, under pressure, or disconnect), the load can be converted to another The power supply all the way to ensure the normal power supply of the load circuit to meet the requirements of users with higher power reliability.
- With small volume, simple structure, convenient operation, long service life The intelligent controller uses a single-chip machine as the control core, simple hardware, powerful function, convenient expansion, high reliability; With overvoltage, underwriting, automatic detection and switching function; The switching driver is driven by electromagnetic coil, mechanical chain and electrical chain, and the switch is reliable; The power supply of the conversion controller adopts the AC 220 V of commonly used, spare power supply as the working voltage; This device has a fire interface circuit, which can realize the disconnection function of fire linkage and passive signals.



Instruction of type code

AQ6 A GA 2P 16 R

- R: Optional function:
  R: self-input and self-recover
  S: self-input without self-recover/ mutal backup
  F: grid-generator
- 16: Rated current (A):
  16, 20, 25, 32, 40, 50, 63, 80, 100;
  125, 160, 200, 225, 250;
  315, 350, 400, 500, 630;
  800, 1000, 1250, 1600;
  2000, 2500, 3200
- 2P: Number of poles: 3P, 4P
- GA: GA: Intergral type, with fire-fighting function (Optional function, see controller selection);
  GA1: Integral type, without fire-fighting function (Current rank:100,default self-input and self recovery, no optional function)
- A: Frame class:
  A (100), B (250), C (630), D (1600), E (3200)
- AQ6: Series code

Technical parameter

			3SAQ6-100	3SAQ6-250	3SAQ6-630	3SAQ6-1600			3SAQ6-3200	
Frame class			100	250	630	1600			3200	
Rated current In		A	16, 20, 25, 32, 40, 50, 63, 80, 100	125, 160, 200, 225, 250	315, 350, 400, 500, 630	800	1000, 1250	1600	2000, 2500	3200
Number of poles			3P, 4P							
Rated insulation voltage Ui		V	690		800					
Rated concussion withstand voltage Uimp		kV	8							
Rated working voltage Ue			AC 400 V							
Rated short-circuit connection capacity		kA	8	17	26	67.5			67.5	
Rated short-time withstand current Icw		kA/ms	5/30	10/60	12.6/60	32/60			32/60	
Use category			AC-33B	AC-33B	AC-33B	AC-33iB			AC-33iB	
Transfer time I-II or II-I		s	2.5	0.6	0.6	1.2		1.8	1.8	2.4
Control voltage			DC 24V, DC 48V, DC 110V, AC 220V							
Rated frequency	Start	W	20	325	355	400	440		600	
	Normal	W		62	74	90	98		120	

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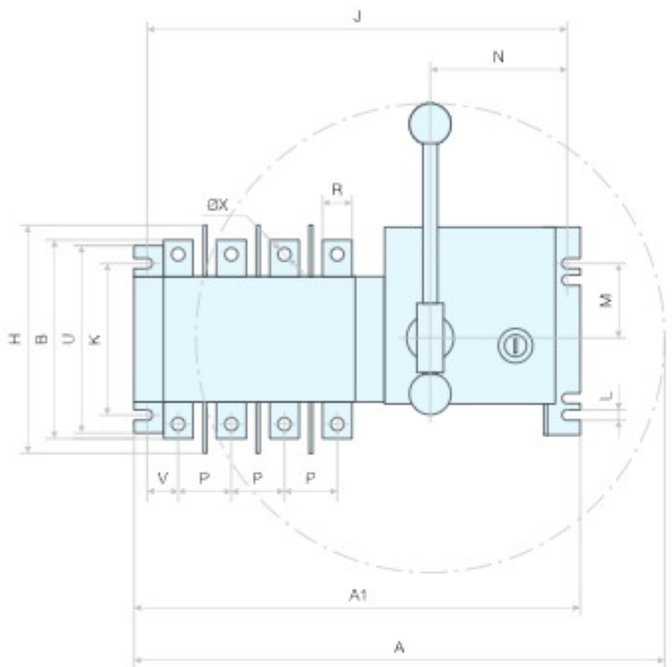
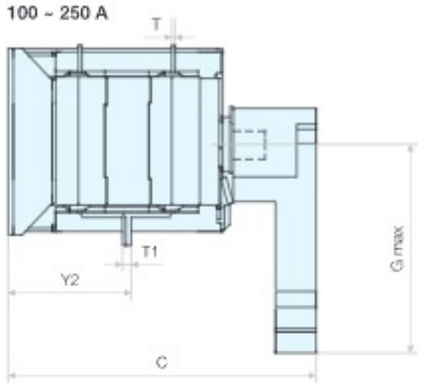
Outline and installation dimensions

16 ~ 1600 A installation dimensions (2 input 1 output).

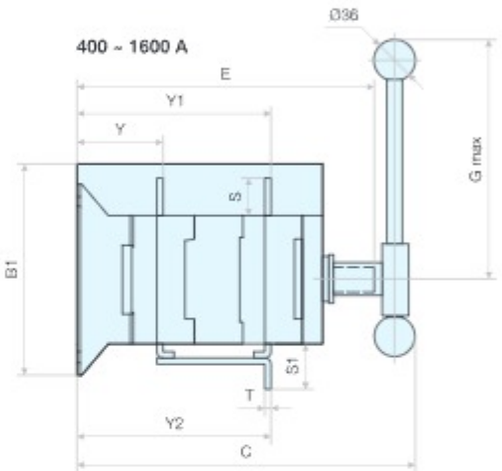
unit in mm



100 ~ 250 A



400 ~ 1600 A



Specification		Total dimension								Switch installation				
		A	A1	B	B1	C	E	G max	H	J	K	L	M	N
3SAQ6-100	16~100A	270	245	110	103	170	142	115	146	226	84	7	44	81
3SAQ6-250	125, 160A	348	305	147	142	224	190	144	185	284	102	7	49	91
	250A	411	368	170	142	224	190	144	200	352	102	7	49	91
3SAQ6-630	400A/3P	525	374	249	222	305	268	250	290	354	179	9	96	91
	400A/4P	585	435	249	222	305	268	250	290	415	179	9	96	91
	630A/3P	525	374	365	222	305	268	250	290	354	179	9	96	91
	630A/4P	585	435	365	222	305	268	250	290	415	179	9	96	91
3SAQ6-1600	800, 1000A/3P	785	520	352	250	390	326	360	-	496	220	11	115	84
	800, 1000A/4P	1080	635	352	250	390	326	540	-	610	220	11	115	84
	1250A/3P	785	520	368	250	390	326	360	-	496	220	11	115	84
	1250A/4P	1080	635	368	250	390	326	540	-	610	220	11	115	84
	1600A/3P	785	520	376	250	390	326	360	-	496	220	11	115	84
	1600A/4P	1080	635	376	250	390	326	540	-	610	220	11	115	84

Specification		Switch installation							Connection terminal				
		P	R	S	S1	T	T1	U	V	ØX	Y	Y1	Y2
3SAQ6-100	16~100A	30	14	18	23	2.5	5	103	12	6	40.5	92	67.5
3SAQ6-250	125, 160A	36	20	25	37	3.5	-	127.5	19	9	56	127.5	127.5
	250A	50	25	29	40	3.5	-	141.5	28	11	56	130	130
3SAQ6-630	400A/3P	65	32	37	52	5	-	222	38	11	83	193	193
	400A/4P	65	32	37	52	5	-	222	38	11	83	193	193
	630A/3P	65	40	45	61	6	-	222	38	12	83.5	193.5	196
	630A/4P	65	40	45	61	6	-	222	38	12	83.5	193.5	196
3SAQ6-1600	800, 1000A/3P	120	60	64	88	8	-	250	56.5	13	109	254	254
	800, 1000A/4P	120	60	64	88	8	-	250	60.5	13	109	254	254
	1250A/3P	120	80	68	100	8	-	250	56.5	13	109	254	254
	1250A/4P	120	80	68	100	8	-	250	60.5	13	109	254	254
	1600A/3P	120	80	68	108	10	-	250	56.5	13	110	255	255
	1600A/4P	120	80	68	108	10	-	250	60.5	13	110	255	255

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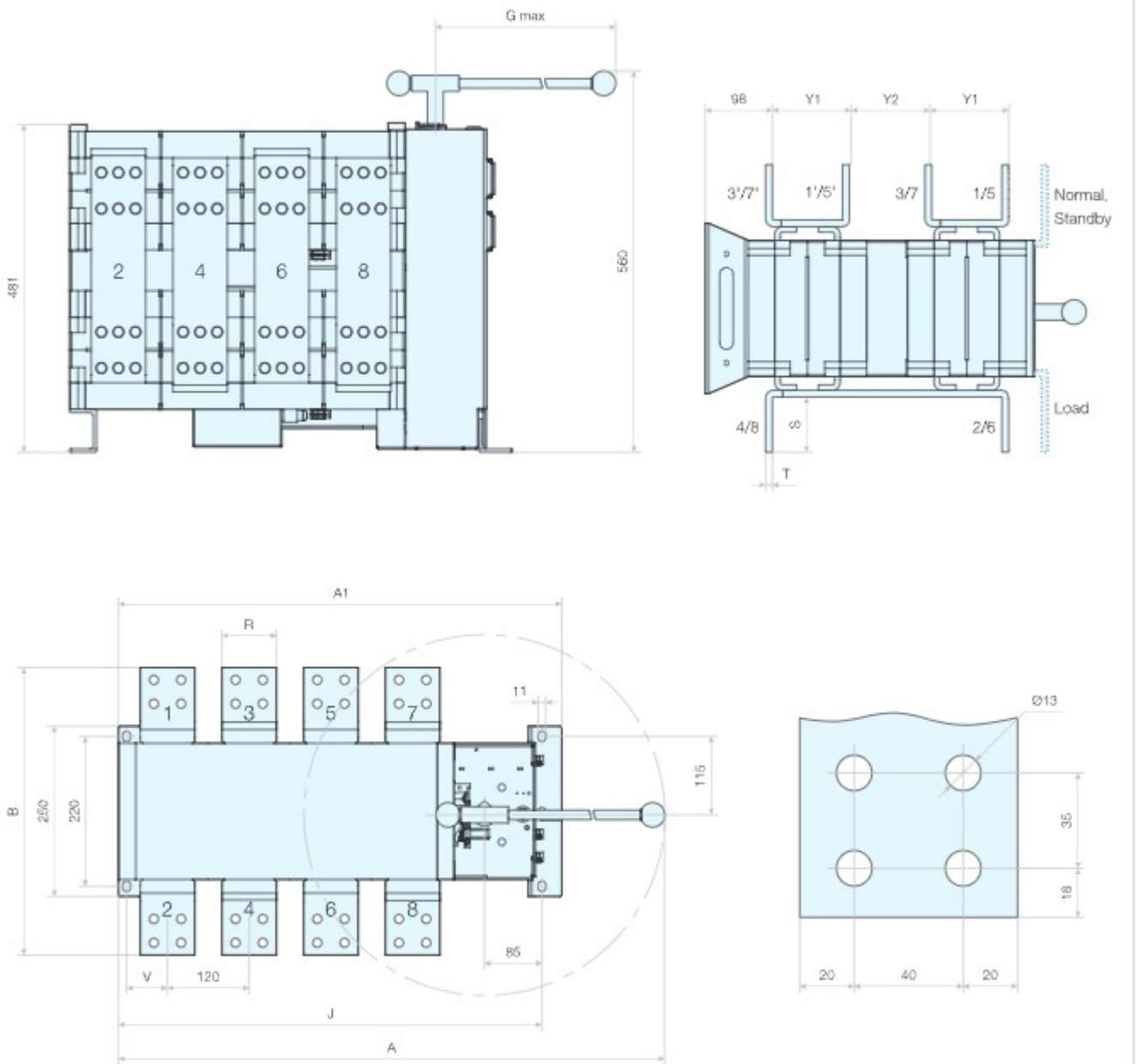
Outline and installation dimensions

2000 – 3200 A installation dimensions (2 input 1 output).

unit in mm



Specification		A	A1	B	G max	J	R	S	T	V	Y1	Y2
3SAQ6-3200	2000A/3P	785	537	423	360	496	80	81	10	56	113	121
	2000A/4P	1080	651	423	540	610	80	81	10	60	113	121
	2500A/3P	785	537	433	360	496	80	81	15	56	118	116
	2500A/4P	1080	651	433	540	610	80	81	15	60	118	116
	3200A/3P	785	537	443	360	496	80	81	20	56	123	111
	3200A/4P	1080	651	443	540	610	80	81	20	60	123	111

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Selection and ordering data

GA

	Type	Rated current (A)	3P		4P	
			Type code	Order code	Type code	Order code
3SAQ6-100	R	16	AQ6AGA3P16R	-	AQ6AGA4P16R	-
		20	AQ6AGA3P20R	-	AQ6AGA4P20R	-
		25	AQ6AGA3P25R	-	AQ6AGA4P25R	-
		32	AQ6AGA3P32R	-	AQ6AGA4P32R	-
		40	AQ6AGA3P40R	-	AQ6AGA4P40R	-
		50	AQ6AGA3P50R	-	AQ6AGA4P50R	-
		63	AQ6AGA3P63R	-	AQ6AGA4P63R	-
		80	AQ6AGA3P80R	-	AQ6AGA4P80R	-
		100	AQ6AGA3P100R	-	AQ6AGA4P100R	-
	S	16	AQ6AGA3P16S	-	AQ6AGA4P16S	-
		20	AQ6AGA3P20S	-	AQ6AGA4P20S	-
		25	AQ6AGA3P25S	-	AQ6AGA4P25S	-
		32	AQ6AGA3P32S	-	AQ6AGA4P32S	-
		40	AQ6AGA3P40S	-	AQ6AGA4P40S	-
		50	AQ6AGA3P50S	-	AQ6AGA4P50S	-
		63	AQ6AGA3P63S	-	AQ6AGA4P63S	-
		80	AQ6AGA3P80S	-	AQ6AGA4P80S	-
		100	AQ6AGA3P100S	-	AQ6AGA4P100S	-
	F	16	AQ6AGA3P16F	-	AQ6AGA4P16F	-
		20	AQ6AGA3P20F	-	AQ6AGA4P20F	-
		25	AQ6AGA3P25F	-	AQ6AGA4P25F	-
		32	AQ6AGA3P32F	-	AQ6AGA4P32F	-
		40	AQ6AGA3P40F	-	AQ6AGA4P40F	-
		50	AQ6AGA3P50F	-	AQ6AGA4P50F	-
		63	AQ6AGA3P63F	-	AQ6AGA4P63F	-
		80	AQ6AGA3P80F	-	AQ6AGA4P80F	-
		100	AQ6AGA3P100F	-	AQ6AGA4P100F	-
3SAQ6-250	R	125	AQ6BGA3P125R	-	AQ6BGA4P125R	-
		160	AQ6BGA3P160R	-	AQ6BGA4P160R	-
		200	AQ6BGA3P200R	-	AQ6BGA4P200R	-
		225	AQ6BGA3P225R	-	AQ6BGA4P225R	-
		250	AQ6BGA3P250R	-	AQ6BGA4P250R	-
	S	125	AQ6BGA3P125S	-	AQ6BGA4P125S	-
		160	AQ6BGA3P160S	-	AQ6BGA4P160S	-
		200	AQ6BGA3P200S	-	AQ6BGA4P200S	-
		225	AQ6BGA3P225S	-	AQ6BGA4P225S	-
		250	AQ6BGA3P250S	-	AQ6BGA4P250S	-
	F	125	AQ6BGA3P125F	-	AQ6BGA4P125F	-
		160	AQ6BGA3P160F	-	AQ6BGA4P160F	-
		200	AQ6BGA3P200F	-	AQ6BGA4P200F	-
		225	AQ6BGA3P225F	-	AQ6BGA4P225F	-
		250	AQ6BGA3P250F	-	AQ6BGA4P250F	-



Selection and ordering data

GA

	Type	Rated current (A)	3P		4P	
			Type code	Order code	Type code	Order code
3SAQ6-630	R	315	AQ6CGA3P315R	-	AQ6CGA4P315R	-
		350	AQ6CGA3P350R	-	AQ6CGA4P350R	-
		400	AQ6CGA3P400R	-	AQ6CGA4P400R	-
		500	AQ6CGA3P500R	-	AQ6CGA4P500R	-
		630	AQ6CGA3P630R	-	AQ6CGA4P630R	-
	S	315	AQ6CGA3P315S	-	AQ6CGA4P315S	-
		350	AQ6CGA3P350S	-	AQ6CGA4P350S	-
		400	AQ6CGA3P400S	-	AQ6CGA4P400S	-
		500	AQ6CGA3P500S	-	AQ6CGA4P500S	-
		630	AQ6CGA3P630S	-	AQ6CGA4P630S	-
	F	315	AQ6CGA3P315F	-	AQ6CGA4P315F	-
		350	AQ6CGA3P350F	-	AQ6CGA4P350F	-
		400	AQ6CGA3P400F	-	AQ6CGA4P400F	-
		500	AQ6CGA3P500F	-	AQ6CGA4P500F	-
		630	AQ6CGA3P630F	-	AQ6CGA4P630F	-
3SAQ6-1600	R	800	AQ6DGA3P800R	-	AQ6DGA4P800R	-
		1000	AQ6DGA3P1000R	-	AQ6DGA4P1000R	-
		1250	AQ6DGA3P1250R	-	AQ6DGA4P1250R	-
		1600	AQ6DGA3P1600R	-	AQ6DGA4P1600R	-
	S	800	AQ6DGA3P800S	-	AQ6DGA4P800S	-
		1000	AQ6DGA3P1000S	-	AQ6DGA4P1000S	-
		1250	AQ6DGA3P1250S	-	AQ6DGA4P1250S	-
		1600	AQ6DGA3P1600S	-	AQ6DGA4P1600S	-
	F	800	AQ6DGA3P800F	-	AQ6DGA4P800F	-
		1000	AQ6DGA3P1000F	-	AQ6DGA4P1000F	-
		1250	AQ6DGA3P1250F	-	AQ6DGA4P1250F	-
		1600	AQ6DGA3P1600F	-	AQ6DGA4P1600F	-
3SAQ6-3200	R	2000	AQ6EGA3P2000R	-	AQ6EGA4P2000R	-
		2500	AQ6EGA3P2500R	-	AQ6EGA4P2500R	-
		3200	AQ6EGA3P3200R	-	AQ6EGA4P3200R	-
	S	2000	AQ6EGA3P2000S	-	AQ6EGA4P2000S	-
		2500	AQ6EGA3P2500S	-	AQ6EGA4P2500S	-
		3200	AQ6EGA3P3200S	-	AQ6EGA4P3200S	-
	F	2000	AQ6EGA3P2000F	-	AQ6EGA4P2000F	-
		2500	AQ6EGA3P2500F	-	AQ6EGA4P2500F	-
		3200	AQ6EGA3P3200F	-	AQ6EGA4P3200F	-

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Selection and ordering data

GA1

	Type	Rated current (A)	3P		4P	
			Type code	Order code	Type code	Order code
3SAQ6-100	R	16	AQ6AGA13P16R	-	AQ6AGA14P16R	-
		20	AQ6AGA13P20R	-	AQ6AGA14P20R	-
		25	AQ6AGA13P25R	-	AQ6AGA14P25R	-
		32	AQ6AGA13P32R	-	AQ6AGA14P32R	-
		40	AQ6AGA13P40R	-	AQ6AGA14P40R	-
		50	AQ6AGA13P50R	-	AQ6AGA14P50R	-
		63	AQ6AGA13P63R	-	AQ6AGA14P63R	-
		80	AQ6AGA13P80R	-	AQ6AGA14P80R	-
		100	AQ6AGA13P100R	-	AQ6AGA14P100R	-
	S	16	AQ6AGA13P16S	-	AQ6AGA14P16S	-
		20	AQ6AGA13P20S	-	AQ6AGA14P20S	-
		25	AQ6AGA13P25S	-	AQ6AGA14P25S	-
		32	AQ6AGA13P32S	-	AQ6AGA14P32S	-
		40	AQ6AGA13P40S	-	AQ6AGA14P40S	-
		50	AQ6AGA13P50S	-	AQ6AGA14P50S	-
		63	AQ6AGA13P63S	-	AQ6AGA14P63S	-
		80	AQ6AGA13P80S	-	AQ6AGA14P80S	-
		100	AQ6AGA13P100S	-	AQ6AGA14P100S	-
	F	16	AQ6AGA13P16F	-	AQ6AGA14P16F	-
		20	AQ6AGA13P20F	-	AQ6AGA14P20F	-
		25	AQ6AGA13P25F	-	AQ6AGA14P25F	-
		32	AQ6AGA13P32F	-	AQ6AGA14P32F	-
		40	AQ6AGA13P40F	-	AQ6AGA14P40F	-
		50	AQ6AGA13P50F	-	AQ6AGA14P50F	-
		63	AQ6AGA13P63F	-	AQ6AGA14P63F	-
		80	AQ6AGA13P80F	-	AQ6AGA14P80F	-
		100	AQ6AGA13P100F	-	AQ6AGA14P100F	-
3SAQ6-250	R	125	AQ6BGA13P125R	-	AQ6BGA14P125R	-
		160	AQ6BGA13P160R	-	AQ6BGA14P160R	-
		200	AQ6BGA13P200R	-	AQ6BGA14P200R	-
		225	AQ6BGA13P225R	-	AQ6BGA14P225R	-
		250	AQ6BGA13P250R	-	AQ6BGA14P250R	-
	S	125	AQ6BGA13P125S	-	AQ6BGA14P125S	-
		160	AQ6BGA13P160S	-	AQ6BGA14P160S	-
		200	AQ6BGA13P200S	-	AQ6BGA14P200S	-
		225	AQ6BGA13P225S	-	AQ6BGA14P225S	-
		250	AQ6BGA13P250S	-	AQ6BGA14P250S	-
	F	125	AQ6BGA13P125F	-	AQ6BGA14P125F	-
		160	AQ6BGA13P160F	-	AQ6BGA14P160F	-
		200	AQ6BGA13P200F	-	AQ6BGA14P200F	-
		225	AQ6BGA13P225F	-	AQ6BGA14P225F	-
		250	AQ6BGA13P250F	-	AQ6BGA14P250F	-



Selection and ordering data

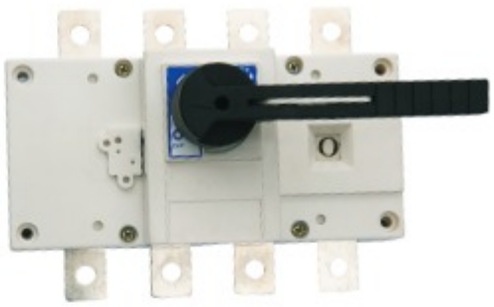
GA1

	Type	Rated current (A)	3P		4P	
			Type code	Order code	Type code	Order code
3SAQ6-630	R	315	AQ6CGA13P315R	-	AQ6CGA14P315R	-
		350	AQ6CGA13P350R	-	AQ6CGA14P350R	-
		400	AQ6CGA13P400R	-	AQ6CGA14P400R	-
		500	AQ6CGA13P500R	-	AQ6CGA14P500R	-
		630	AQ6CGA13P630R	-	AQ6CGA14P630R	-
	S	315	AQ6CGA13P315S	-	AQ6CGA14P315S	-
		350	AQ6CGA13P350S	-	AQ6CGA14P350S	-
		400	AQ6CGA13P400S	-	AQ6CGA14P400S	-
		500	AQ6CGA13P500S	-	AQ6CGA14P500S	-
		630	AQ6CGA13P630S	-	AQ6CGA14P630S	-
	F	315	AQ6CGA13P315F	-	AQ6CGA14P315F	-
		350	AQ6CGA13P350F	-	AQ6CGA14P350F	-
		400	AQ6CGA13P400F	-	AQ6CGA14P400F	-
		500	AQ6CGA13P500F	-	AQ6CGA14P500F	-
		630	AQ6CGA13P630F	-	AQ6CGA14P630F	-
3SAQ6-1600	R	800	AQ6DGA13P800R	-	AQ6DGA14P800R	-
		1000	AQ6DGA13P1000R	-	AQ6DGA14P1000R	-
		1250	AQ6DGA13P1250R	-	AQ6DGA14P1250R	-
		1600	AQ6DGA13P1600R	-	AQ6DGA14P1600R	-
	S	800	AQ6DGA13P800S	-	AQ6DGA14P800S	-
		1000	AQ6DGA13P1000S	-	AQ6DGA14P1000S	-
		1250	AQ6DGA13P1250S	-	AQ6DGA14P1250S	-
		1600	AQ6DGA13P1600S	-	AQ6DGA14P1600S	-
	F	800	AQ6DGA13P800F	-	AQ6DGA14P800F	-
		1000	AQ6DGA13P1000F	-	AQ6DGA14P1000F	-
		1250	AQ6DGA13P1250F	-	AQ6DGA14P1250F	-
		1600	AQ6DGA13P1600F	-	AQ6DGA14P1600F	-
3SAQ6-3200	R	2000	AQ6EGA13P2000R	-	AQ6EGA14P2000R	-
		2500	AQ6EGA13P2500R	-	AQ6EGA14P2500R	-
		3200	AQ6EGA13P3200R	-	AQ6EGA14P3200R	-
	S	2000	AQ6EGA13P2000S	-	AQ6EGA14P2000S	-
		2500	AQ6EGA13P2500S	-	AQ6EGA14P2500S	-
		3200	AQ6EGA13P3200S	-	AQ6EGA14P3200S	-
	F	2000	AQ6EGA13P2000F	-	AQ6EGA14P2000F	-
		2500	AQ6EGA13P2500F	-	AQ6EGA14P2500F	-
		3200	AQ6EGA13P3200F	-	AQ6EGA14P3200F	-

Load Break Switches
Series 3SGL

Applications and functions

- Making, breaking and disconnecting under load conditions
- Providing safety isolation for any low voltage circuit



Instruction of type code

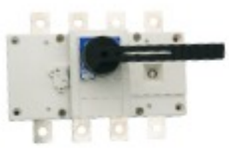
GL 125 A I F 3

- Poles: 3: 3P; 4: 4P
- Operation type
  F: Front operation
- Handle type
  I: Internal handle
  E: External handle
- Operating voltage type
  A: AC voltage
- Conventional thermal current
  125
  160
  250
  400
  630
- Series code

Technical specifications

Type	3SGL-125	3SGL-160	3SGL-250	3SGL-400	3SGL-630
Standard	IEC 60947-3				
Conventional thermal current Ith (A)	125	160	250	400	630
Rated voltage (V)	400				
Rated insulation voltage (V)	800				
Number of poles	3, 4	3, 4	3, 4	3, 4	3, 4
Rated frequency (Hz)	50/60	50/60	50/60	50/60	50/60
400 V, AC 22 B	125	160	250	400	630
690 V, AC 21 B	125	160	250	315	500
400 V, DC 22	125	160	250	400	630
690 V, DC 21	125	160	200	315	500
Rated short-time with stand current Icw (kA) for 1 s	10	10	12	20	25
Rated making capability in AC 230/400 V (A)	1250	1250	2000	4000	4000
Rated breaking capability Icn in AC 230/400 V (A)	1000	1000	1600	2500	3200
Mechanical life (times)	10000	10000	8000	5500	5500
Degree of protection (operator side)	IP20				
Operation torque (N-m)	6.5	6.5	10	14.5	14.5
Ambient temperature	-5 ... +40 °C, max. 95% humidity				
Storage temperature	-40 ... +75 °C				
Altitude Max (meters)	2000				

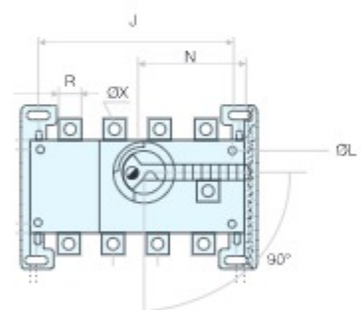
Selection and ordering data



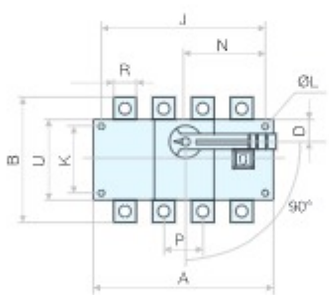
	Number of poles	Rated current In (A)	Type Code	Order Code
Handle in cabinet	3	125	GL125AIF3	**31428**
		160	GL160AIF3	**10919**
		250	GL250AIF3	**10920**
		400	GL400AIF3	**10921**
		630	GL630AIF3	**10922**
	4	125	GL125AIF4	**31429**
		160	GL160AIF4	**10928**
		250	GL250AIF4	**10929**
		400	GL400AIF4	**10930**
		630	GL630AIF4	**10931**
Handle outside cabinet	3	125	GL125AEF3	**31430**
		160	GL160AEF3	**10937**
		250	GL250AEF3	**10938**
		400	GL400AEF3	**10939**
		630	GL630AEF3	**10940**
	4	125	GL125AEF4	**31431**
		160	GL160AEF4	**10946**
		250	GL250AEF4	**10947**
		400	GL400AEF4	**10948**
		630	GL630AEF4	**10949**

Outline and installation dimensions

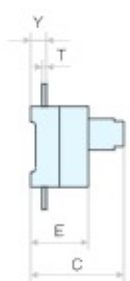
unit in mm

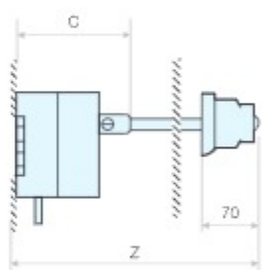


Installing underpan for panel mounting



3SGL-125-630





125A-630
Handle outside cabinet

Current	Poles	A	B	C	D	E	ØL	J	K	N	P	R	T	U	ØX	Y	Z
125-160 A	3P	140	135	125	27	73	5.5	120	65	85	36	20	3.5	85	9	25	226
	4P	170	135	125	27	73	5.5	150	65	85	36	20	3.5	85	9	25	226
250 A	3P	180	170	138	35	86	5.5	160	90	115	50	25	5	110	11	25	236
	4P	230	170	138	35	86	5.5	210	90	115	50	25	6	110	11	25	236
400 A	3P	230	240	169	50	113	7	210	140	145	65	32	8	160	11	37	276
	4P	290	240	169	50	113	7	210	140	145	65	32	8	160	11	37	276
630 A	3P	230	260	169	50	113	7	270	140	145	65	40	8	160	11	37	276
	4P	290	260	169	50	113	7	270	140	145	65	40	10	160	13	37	276

Fuse Combination Switches
Series 3SGLR

Applications and functions

- Breaking or switching off on load
- Safety isolation and protection against over current for any low voltage electrical circuit
- Providing a guarantee of reliable breaking and protection from power distribution to motor protection



Instruction of type code

GLR 160 A I F 3

- 3: Poles: 3: 3P; 4: 4P
- F: Operation type
  - F: Front operation
- I: Handle type
  - I: Internal handle
  - E: External handle
- A: Operating voltage type poles
  - A: AC voltage
- 160: Conventional thermal current
  - 160
  - 250
  - 400
  - 630
- GLR: Series code

Technical specifications

Type	3SGLR-160	3SGLR-250	3SGLR-400	3SGLR-630
Standard	IEC 60947-3			
Conventional thermal current Ith (A)	160	250	400	630
Rated voltage (V)	400			
Rated insulation voltage (V)	690		800	
Number of poles	3, 4	3, 4	3, 4	3, 4
Rated frequency (Hz)	50/60	50/60	50/60	50/60
Associated fuse (size)	00	1	12	13
Associated current (A)				
400 V, AC 21B (A)	160	250	400	630
400 V, AC 22B (A)	160	250	400	630
690 V, AC 22B (A)	100	250	315	425
690 V, AC 22B (A)	100	250	315	425
230 V, DC 21 (A)	160	250	400	630
230 V, DC 22 (A)	160	250	400	630
440 V, DC 21 (A)	100	250	315	425
440 V, DC 22 (A)	100	250	315	425
Rated breaking capability Icn in AC 230 410 V (kA)	10	10	20	35
Mechanical life (times)	10000	8000	5500	5500
Degree of protection (operator side)				
Operation torque (N·m)	6.5	10	14.5	14.5
Ambient temperature	-5 ... +40 °C, max. 95% humidity			
Storage temperature	-40 ... +75 °C			
Altitude Max (meters)	2000			

Selection and ordering data

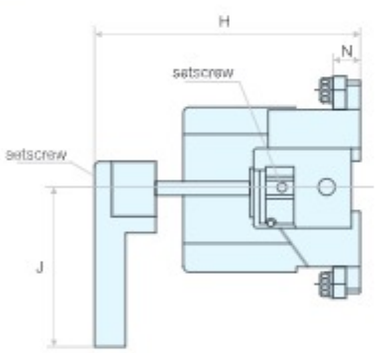


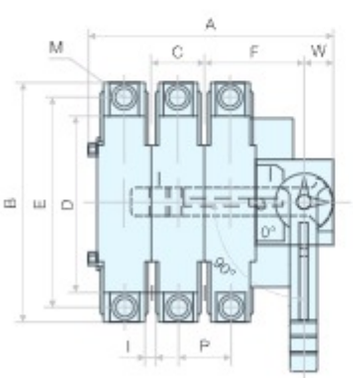
	Number of poles	Rated current In (A)	LV HRC Fuse links (size)	Type code	Order code
Handle in cabinet	3	160	00	GLR160AIF3	**11010**
		250	1	GLR250AIF3	**11011**
		400	2	GLR400AIF3	**11012**
		630	3	GLR630AIF3	**11013**
	4	160	00	GLR160AIF4	**11014**
		250	1	GLR250AIF4	**11015**
		400	2	GLR400AIF4	**11016**
		630	3	GLR630AIF4	**11017**
Handle outside cabinet	3	160	00	GLR160AEF3	**11021**
		250	1	GLR250AEF3	**11022**
		400	2	GLR400AEF3	**11023**
		630	3	GLR630AEF3	**11024**
	4	160	00	GLR160AEF4	**11025**
		250	1	GLR250AEF4	**11026**
		400	2	GLR400AEF4	**11027**
		630	3	GLR630AEF4	**11028**

Outline and installation dimensions

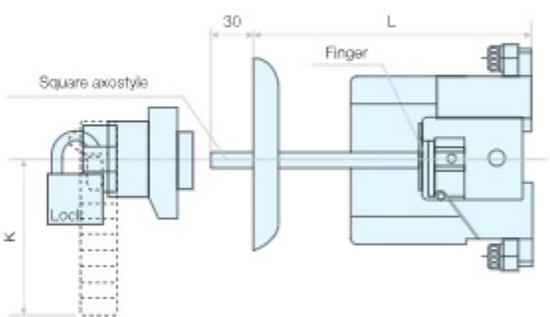
unit in mm

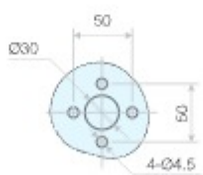
Handle in cabinet



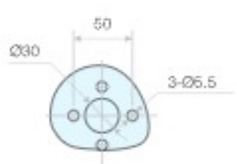


Handle outside cabinet





100-400 A dimension on the panel



630 A dimension on the panel

Specification	A	B	C	D	E	F	H	ØI	J	L	M	N	W	P	K
3SGLR-160/3	165	162	36	120	142	67.5	190	6	115	205~325	8	19	21	36	126
3SGLR-160/4	202	162	36	120	142	67.5	190	6	115	205~325	8	19	21	36	126
3SGLR-250/3	240	195	60	160	166	91.5	210	6	145	205~325	10	19	21	60	126
3SGLR-250/4	300	195	60	160	166	91.5	210	6	145	205~325	10	19	21	60	126
3SGLR-400/3	280	205	66	170	176	122	210	6	145	205~325	10	25	21	66	126
3SGLR-400/4	346	205	66	170	176	122	210	6	145	205~325	10	25	21	66	126
3SGLR-630/3	346	300	250	250	268	39	350	9	190	330~440	12	72	37	80	190
3SGLR-630/4	426	300	250	250	268	39	350	9	190	330~440	12	72	37	80	190

Fuse Disconnector Switches
Series 3SHR17

Applications and functions

- Short circuit protection in the distribution and motor circuit
- To be power switch, isolating switch, emergency switch
- Used in the distribution circuit and motor circuit



Instruction of type code

HR17 160 3 0

- 0: Micro-witch
  0: Without micro-switch
- 3: Poles: 3: 3P; 4: 4P
- 160: Conventional thermal current
  160
  250
  400
  630
- HR17: Series code

Technical specifications

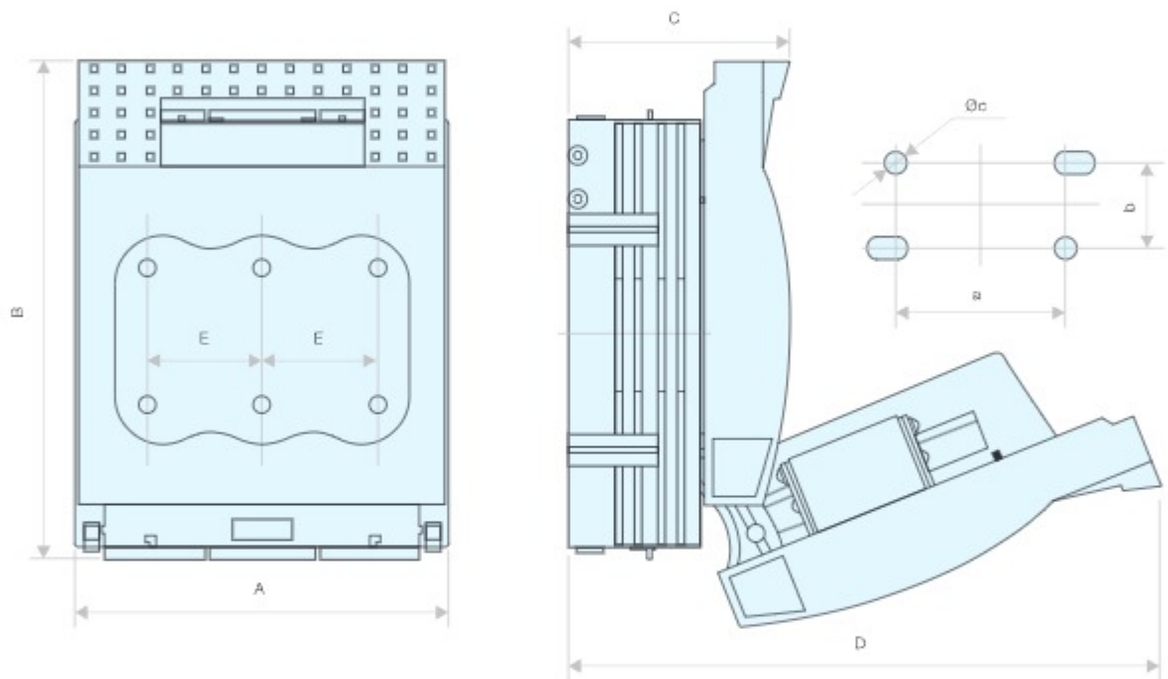
Type	3SHR17-160	3SHR17-250	3SHR17-400	3SHR17-630
Standard	IEC 60947-3			
Conventional thermal current Ith (A)	160	250	400	630
Rated insulation voltage (V)	800	800	800	800
Rated current (A)	160	250	400	630
Associated fuse (size)	0	1	2	3
Number of poles	3, 4	3, 4	3, 4	3, 4
Rated frequency (Hz)	50/60	50/60	50/60	50/60
Rated operational voltage Ue (V AC)	690	690	690	690
Rated insulation voltage Ui (V AC)	800	800	800	800
Rated conditional short-circuit current with fuses (size/A)	00/160	1/250	2/400	3/630
Rated breaking capacity at 500/690 V AC (kA)	50	50	50	50
Utilization category	AC-21B (690 V) AC-22B (500 V) AC-23B (400 V)	AC-21B (690 V) AC-22B (500 V) AC-23B (400 V)	AC-21B (690 V) AC-22B (500 V) AC-23B (400 V)	AC-21B (690 V) AC-22B (500 V) AC-23B (400 V)
Rated making capacity (A)	725 V 240 A 525 V 480 A 420 V 1600 A	725 V 375 A 525 V 750 A 420 V 2500 A	725 V 600 A 525 V 1200 A 420 V 4000 A	725 V 945 A 525 V 1890 A 420 V 6300 A
Rated breaking capacity	725 V 240 A 525 V 480 A 420 V 1280 A	725 V 375 A 525 V 750 A 420 V 2000 A	725 V 600 A 525 V 1200 A 420 V 3200 A	725 V 945 A 525 V 1890 A 420 V 6300 A
Power consumption of fuse (W)	12	24	34	48
Permissible ambient temperature	-5 ... +45 °C for operation, -45 ... +60 °C during storage			
Mechanical endurance, operating cycles	1000	800	800	800
Degree of protection (operator side)	IP20			

Selection and ordering data



Number of poles	Rated current In (A)	LV HRC fuse links (Size)	Type code	Order code
3P	160	00	HR1716030	**11037**
	250	1	HR1725030	**11038**
	400	2	HR1740030	**11039**
	630	3	HR1763030	**11040**
4P	160	00	HR1716040	**11043**
	250	1	HR1725040	**11044**
	400	2	HR1740040	**11045**
	630	3	HR1763040	**11046**

Mounting dimensions



Type		Overall size (mm)					Mounting dimensions (mm)		
		A	B	C	D	E	a	b	c
3SHR17-160	3P	106	200	83	205	33	66	25	ø 7
	4P	138	200	83	205	33	100	25	ø 7
3SHR17-250	3P	185	247	110	295	57	114	50	ø 11
	4P	242	247	110	295	57	172	50	ø 11
3SHR17-400	3P	210	290	125	340	65	130	50	ø 11
	4P	276	290	125	340	65	195	50	ø 11
3SHR17-630	3P	256	300	145	360	81	162	50	ø 11
	4P	340	300	145	360	81	243	50	ø 11

1

Applications and functions

- Connecting and disconnecting circuits under load
- Protection against overloads and short circuits Used for installation systems in non-residential, commercial and industrial buildings as well as in systems of power supply companies.



Instruction of type code

10 RT16 G 00C

- 00C: Blade size — 00C, 00, 0, 1, 2, 3, 4
- G: Protection type — G: Circuit protection
- RT16: Series code
- 10: Rated current (A)
  - 10, 16, 20, 25, 32, 40, 50, 63, 80, 100 (Size 00C)
  - 10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160 (Size 00)
  - 10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160 (Size 0)
  - 63, 80, 100, 125, 160, 200, 225, 250 (Size 1)
  - 125, 160, 200, 225, 250, 300, 315, 355, 400 (Size 2)
  - 160, 200, 225, 250, 300, 315, 355, 400, 500, 630 (Size 3)
  - 800, 1000 (Size 4)

Technical specifications

Size	00C	00	0	1	2	3	4
Standard	IEC 60269						
Frame current Inm (A)	160	160	160	250	400	630	1000
Rated current (A)	10, 16, 20, 25 32, 40, 50, 63 80, 100	10, 16, 20, 25 32, 40, 50, 63 80, 100, 125	10, 16, 20, 25 32, 40, 50, 63 80, 100, 125, 160	63, 80, 100 125, 160, 200 225, 250	125, 160, 200 225, 250, 300 315, 355, 630	160, 200, 225, 250, 300, 315, 355, 400, 500, 630	800, 100
Rated voltage Un (V AC)	500/660						
Rated frequency (Hz)	50/60						
Rated breaking capacity (kA)	120	120	120	120	120	120	120
Ambient temperature	-5 to +40 °C, max. 95% humidity						
Storage temperature	-40 to +75 °C						

Selection and ordering data

LV HRC fuse bases	Size	Matched fuse	Maximum rated voltage (V)	Rated current In (A)	Type code	Order code
	RT16G00/00C	Blade Size 00/00C	500	60	RT16-00-B	**24679**
	RT16G0	Blade Size 0	500	160	RT16-0-B	**24680**
	RT16G1	Blade Size 1	500	250	RT16-1-B	**24681**
	RT16G2	Blade Size 2	500	400	RT16-2-B	**24682**
	RT16G3	Blade Size 3	500	630	RT16-3-B	**24683**
	RT16G4	Blade Size 4	500	1000	RT16-4-B	**24684**

Selection and ordering data

LV HRC fuse core	Fuse type	Matched fuse base	Maximum rated voltage (V)	Rated current In (A)	Type code	Order code
	Blade Size 00C	RT16-00-B	500/660	10	10RT16G00C	24611
				16	16RT16G00C	24612
				20	20RT16G00C	24613
				25	25RT16G00C	24614
				32	32RT16G00C	24615
				40	40RT16G00C	24616
				50	50RT16G00C	24617
				63	63RT16G00C	24618
				80	80RT16G00C	24619
				100	100RT16G00C	24620
	Blade Size 00	RT16-00-B	500/660	10	10RT16G00	24623
				16	16RT16G00	24624
				20	20RT16G00	24625
				25	25RT16G00	24626
				32	32RT16G00	24627
				40	40RT16G00	24628
				50	50RT16G00	24629
				63	63RT16G00	24630
				80	80RT16G00	24631
				100	100RT16G00	24632
				125	125RT16G00	24633
				160	160RT16G00	24634
	Blade Size 0	RT16-0-B	500/660	10	10RT16G0	24635
				16	16RT16G0	24636
				20	20RT16G0	24637
				25	25RT16G0	24638
				32	32RT16G0	24639
				40	40RT16G0	24640
				50	50RT16G0	24641
				63	63RT16G0	24642
				80	80RT16G0	24643
				100	100RT16G0	24644
				125	125RT16G0	24645
				160	160RT16G0	24646
	Blade Size 1	RT16-1-B	500/660	63	63RT16G1	24647
				80	80RT16G1	24648
				100	100RT16G1	24649
				125	125RT16G1	24650
				160	160RT16G1	24651
				200	200RT16G1	24652
				225	225RT16G1	24653
				250	250RT16G1	24654
	Blade Size 2	RT16-2-B	500/660	125	125RT15G2	24655
				160	160RT16G2	24656
				200	200RT16G2	24657
				225	225RT16G2	24658
				250	250RT16G2	24659
				300	300RT16G2	24660
				315	315RT16G2	24661
				355	355RT16G2	24662
				400	400RT16G2	24663
	Blade Size 3	RT16-3-B	500/660	160	160RT16G3	24664
				200	200RT16G3	24665
				225	225RT16G3	24666
				250	250RT16G3	24667
				300	300RT16G3	24668
				315	315RT16G3	24669
				355	355RT16G3	24670
				400	400RT16G3	24671
				500	500RT16G3	24672
				630	630RT16G3	24673
	Blade Size 4	RT16-4-B	500/660	800	800RT16G4	24675
				1000	1000RT16G4	24676

Outline and installation dimensions

1

Carrier Fuse

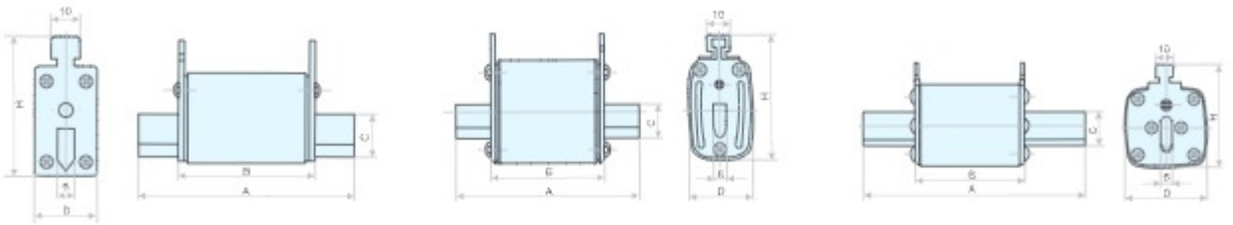


Fig 1 Fig 2 Fig 3

		Overall Dimension (mm)				
SASSIN	**Drawing**	**A**	**B**	**C**	**D**	**H**
RT16-00C	Fig 1	78	49	15	21	52.5
RT16-00	Fig 2	78	49	15	29	56
RT16-0	Fig 2	125	68	15	29	56
RT16-1	Fig 3	135	68	20	48	60
RT16-2	Fig 3	150	68	26	60	70
RT16-3	Fig 3	150	68	32	67	82
RT16-4	Fig 3	200	68	50	90	120

Base

Fig 1



Fig 2



Fig 3



Products		Overall Dimension (mm)							
model	**Drawing**	**A1**	**A2**	**A3**	**B1**	**B2**	**H1**	**H2**	**ød**
RT16-00-B	Fig 1	25	100	120	-	-	25	60	7.5
RT16-0-B	Fig 2	25	100	120	30	-	25	60	7.5
RT16-1-B	Fig 3	25	175	200	30	58	38	84	10.5
RT16-2-B	Fig 3	25	200	225	30	60	38	84	10.5
RT16-3-B	Fig 3	25	210	250	30	60	40	105	10.5
RT16-4-B	Fig 3	25	264	300	30	88	40	137	9