

SASSIN

Better Electric, Better Life

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SASSIN

V 27.2

PRODUCT CATALOG

SASSIN

Pro Series





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 and efficient.

Value

Confidence, Faith, Credit.

Catalog Classification

V 27.1 Super Series

- **Power Distribution Electrics:** Air Circuit Breakers / Moulded Case Circuit Breakers / Automatic Transfer Switches
- **Modular DIN Rail Devices:** MCB / Residual Current Devices / Surge Protective Devices / Switching Devices / Distribution Boxes
- **Industrial Control And Protection:** Contactors / Starters / Thermal Overload Relays / Motor Protection Circuit Breakers



V 27.2 Pro Series

- **Power Distribution Electrics:** Air Circuit Breakers / Moulded Case Circuit Breakers / Automatic Transfer Switches
- **Modular DIN Rail Devices:** MCB / Residual Current Devices / Surge Protective Devices / Switching Devices / Distribution Boxes
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V 27.3 Echo Series

- **Power Distribution Electrics:** Air Circuit Breakers / Moulded Case Circuit Breakers / Automatic Transfer Switches
- **Modular DIN Rail Devices:** MCB / Residual Current Devices / Surge Protective Devices / Switching Devices / Distribution Boxes
- **Industrial Control And Protection:** Contactors / Starters / Thermal Overload Relays / Motor Protection Circuit Breakers



V 27.4 Switches and Relays

- Load Break Switches
- Fuse Combination Switches
- Fuse Disconnecter Switches
- Low Voltage Fuses
- Rotary Change-over Cam Switches
- Pushbutton Switches
- Switches
- Relays



V 27.5 Power Sources

- Automatic Voltage Stabilizers
- Voltage Regulators
- Compensated Voltage Stabilizers
- Pure Sine Wave Inverters
- Back Up UPS
- Switching Power Supplies
- Control Transformers



V 27.6 Meters & Electrical Accessories

- Electronic Kilowatt Hour Meters
- Power Capacitors
- Analogue Panel Meters
- Digital Panel Meters
- Current Transformers
- Metal Boxes
- Terminal Blocks
- PC Plug Socket Couplings
- Electric Bell & Buzzers



Catalog USB Memory Stick

All products in these catalogs listed above are available in USB memory stick.



Catalog PDF

www.sassin.com

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



Power Distribution Electrics

Air Circuit Breakers

P 1-29 3SW8

Moulded Case Circuit Breakers

P 30-38 PM61, MCCBs with thermal magnetic trip units

Automatic Transfer Switches

P 39-41 PAQ61B, CB class, up to 63 A

P 42-48 PAQ61M, CB class, up to 1600 A

Modular DIN Rail Devices

Miniature Circuit Breakers

P 49-52 3SB6, 6000 A

P 53-55 PBH610, high current, 10 kA

Residual Current Devices

P 56-60 3SL6, RCCB, up to 100 A

P 61-62 PRBNE615, RCBO, integrated with earthing cable

P 63-65 **Additional Components For Mcbs**

Surge Protective Devices

P 66 PSC61, compact, type 2

Switching Devices

P 67 3SG6, switch disconnectors

P 68-73 PCH61, modular contactors

P 74-75 P6-E, pushbuttons and indicators

P 76 BT8, doorbell transformers

P 77 PMS61, modular sockets

Distribution Boxes

P 78 PD61MS, metal

Industrial Control And Protection

Contactors

P 79-82 PC61K, mini contactors, up to 5.5 kW

P 83-89 PC61, contactors, up to 45 kW

P 90-95 PC61F, contactors, up to 400 kW

P 96-98 PC61C, contactors for capacitor switching

Thermal Overload Relays

P 99-100 PTR61K, from 0.11 to 14 A

P 101-103 PTR61, from 0.1 to 93 A

P 104-105 PTR61F, from 30 to 630 A

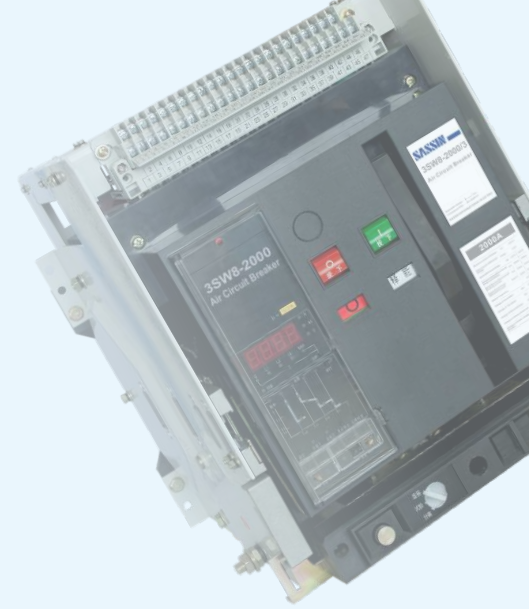
Starters

P 106-107 PQ61, Enclosed direct-on-line (DOL) starters

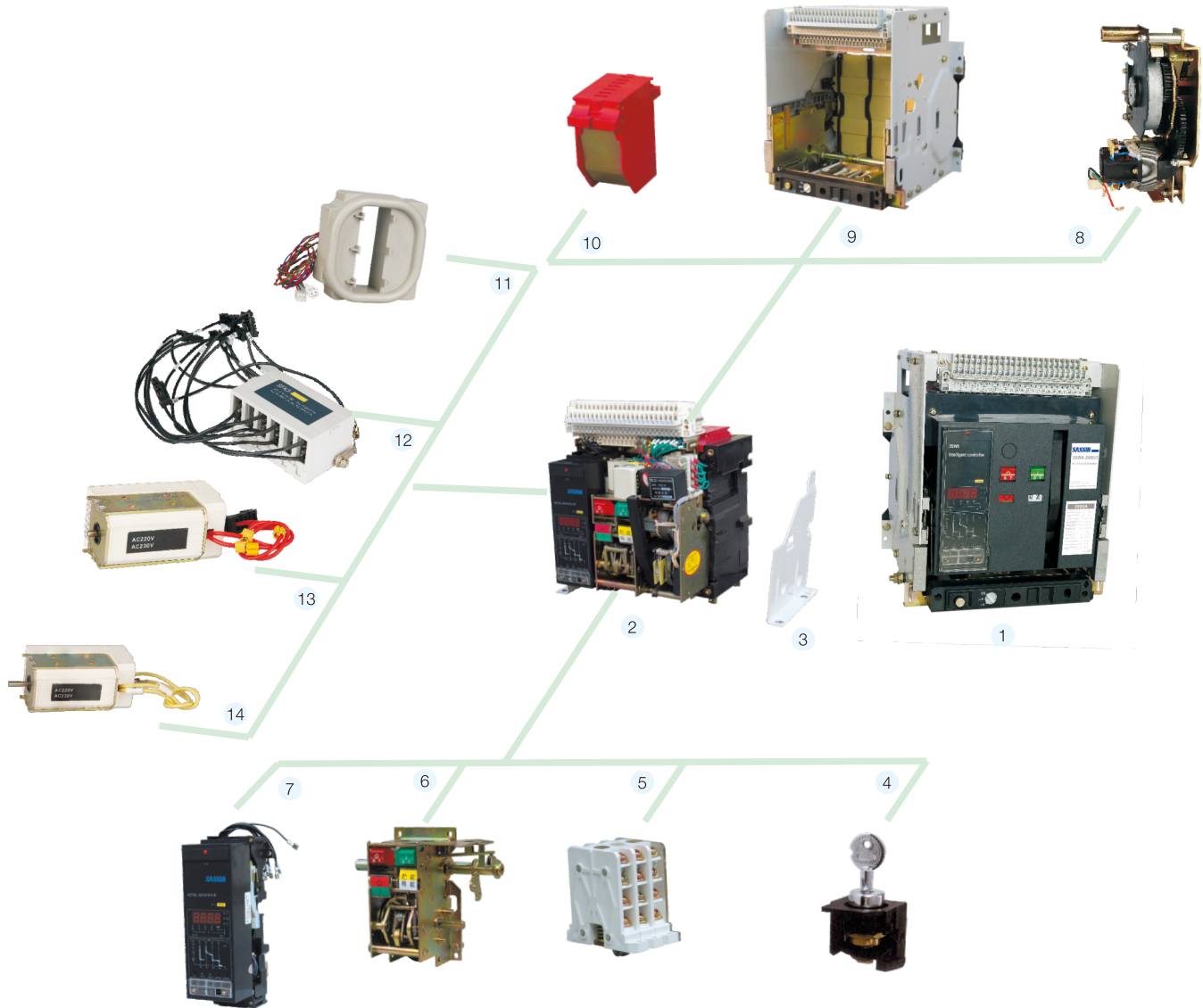
P 108-109 PXQ61, star-delta starters

Motor Protection Circuit Breakers

P 110-112 PMP61, from 0.1 to 80 A



Overview



1 Body 1	5 Auxiliary contact	9 Drawer base	13 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 Auxiliary switch	

Air Circuit Breakers

Series 3SW8

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	
Type of frame	A	B	C	
Rated frame current I_{nm}	A	2000	3200	6300
Number of poles	3, 4	3, 4 (not for 4000A)	3, 4	
Rated current I_n	A	400, 630, 800, 1000 1250, 1600, 2000	2000, 2500 2900, 3200	4000 5000 6300
Rated frequency	Hz	50/60	50/60	50/60
Rated voltage, U_e	V	400, 690	400, 690	400, 690
Rated insulating voltage U_i	V	1000	1000	1000
Rated impulsive withstand voltage, U_{imp}	kV	12	12	12
N-pole rated current		100% I_n	100% I_n	100% I_n
Rated ultimate short-circuit breaking capacity, I_{cu}				120
(AC) 50-60 Hz 400V O-CO	kA	80	100	75
(AC) 50-60 Hz 690V O-CO	kA	50	65	
Rated operating short-circuit breaking capacity, I_{cs}				100
(AC) 50-60 Hz 400V O-CO	kA	50	80	65
(AC) 50-60 Hz 690V O-CO	kA	40	50	
Rated short-circuit making capacity (peak), I_{cm}				264
(AC) 50-60 Hz 400V	kA	176	220	165
(AC) 50-60 Hz 690V	kA	105	143	
Rated short-time withstand current for 1s low	kA			100
(AC) 50-60 Hz 400V	kA/s	50	80	65
(AC) 50-60 Hz 690V	kA/s	40	50	
Making time	mS	25-30	25-30	25-30
Breaking time	mS	70	70	70
Electrical life (times) in 400V		6000	3000	1000
in 690V		3000	1500	800
Mechanical life (times) without maintenance		15000	10000	4000
with maintenance		30000	20000	8000
Mounting position				
Type of installation	Fixed /Withdrawable	Fixed (not for 4000 A) /Withdrawable	Withdrawable	
Dimension (mm)	HxWxD	HxWxD	HxWxD	HxWxD
Fixed, 3P	402x362x322	402x422x322	400x797x364	400x912x364
Fixed, 4P	402x457x322	402x537x322	400x912x364	-
Drawer, 3P	433x375x420	433x435x420	432x813x486	432x928x486
Drawer, 4P	433x470x420	433x550x420	432x928x486	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			

Instruction of type

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

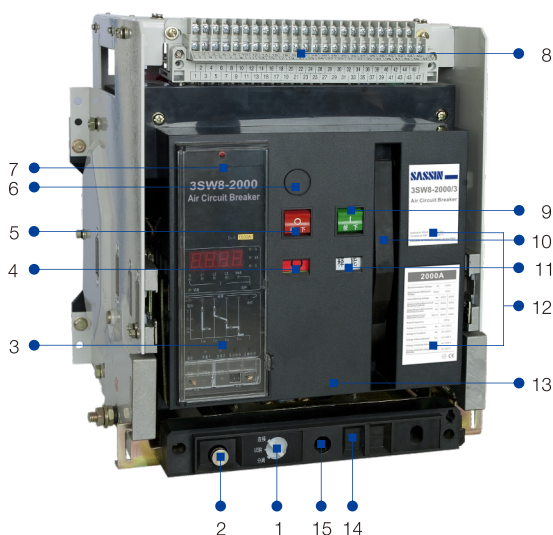


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Product structure

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.

Air Circuit Breakers

Series 3SW8

Normal Operation and Installation Conditions

- Ambient temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, and the average temperature does not exceed $+35^{\circ}\text{C}$ within 24 h
- Altitude: Not higher than 2000 m. The capacity should be decreased if the altitude is above 2000m
- Humidity: When the ambient air temperature is $+40^{\circ}\text{C}$, 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 $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 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 ($I_{nm}=1600\text{ A}$) or M10 ($I_{nm}=3200\text{ A}$ 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 IEC60947-2.
- 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	4000/4P	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 practical experiences or proof tests.

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

Air Circuit Breakers

Series 3SW8

Types of electronic trip unit

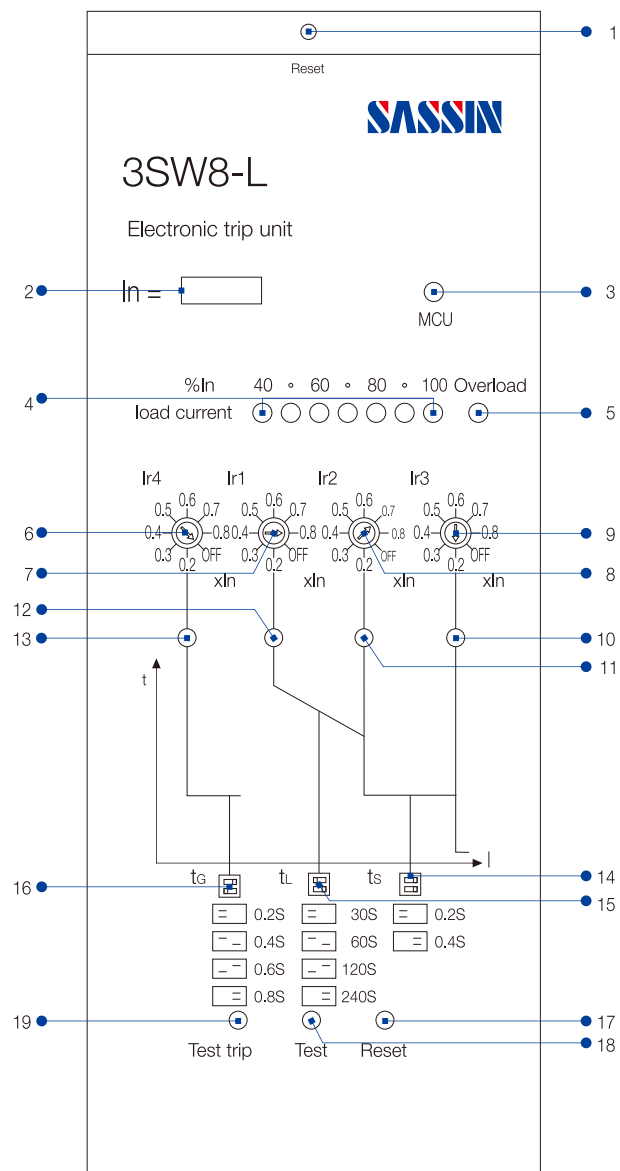
There are three types available:

- 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)

2

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

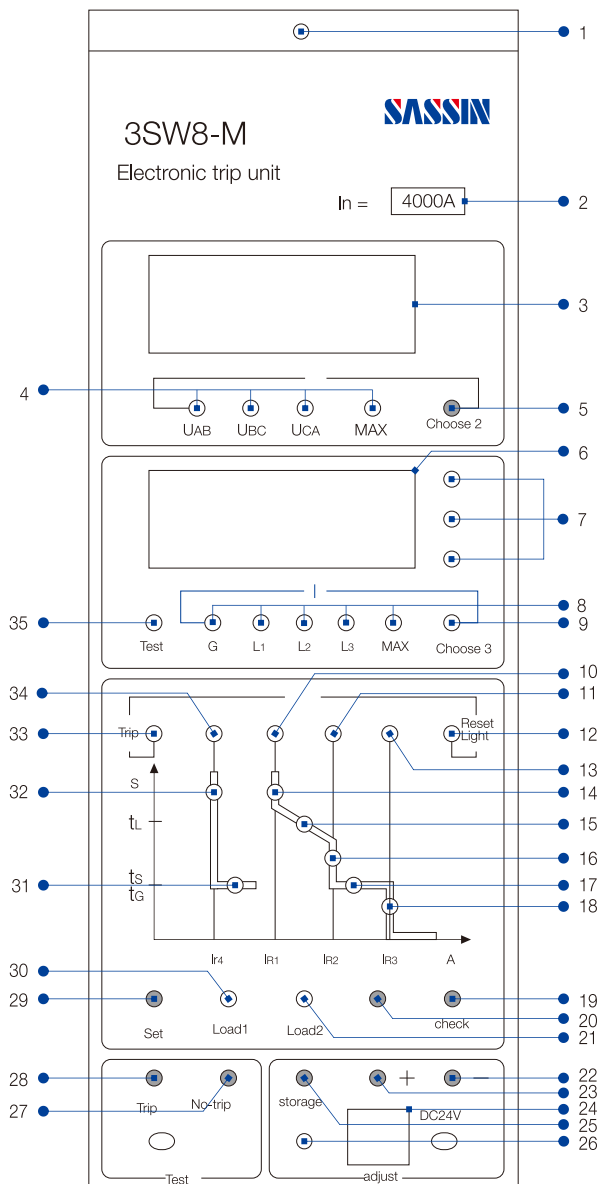
Note:

- (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

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 $I_{r1} < I_{r2} < I_{r3}$
- (3) "Voltage display" is an optional function, users should specify when place the order.

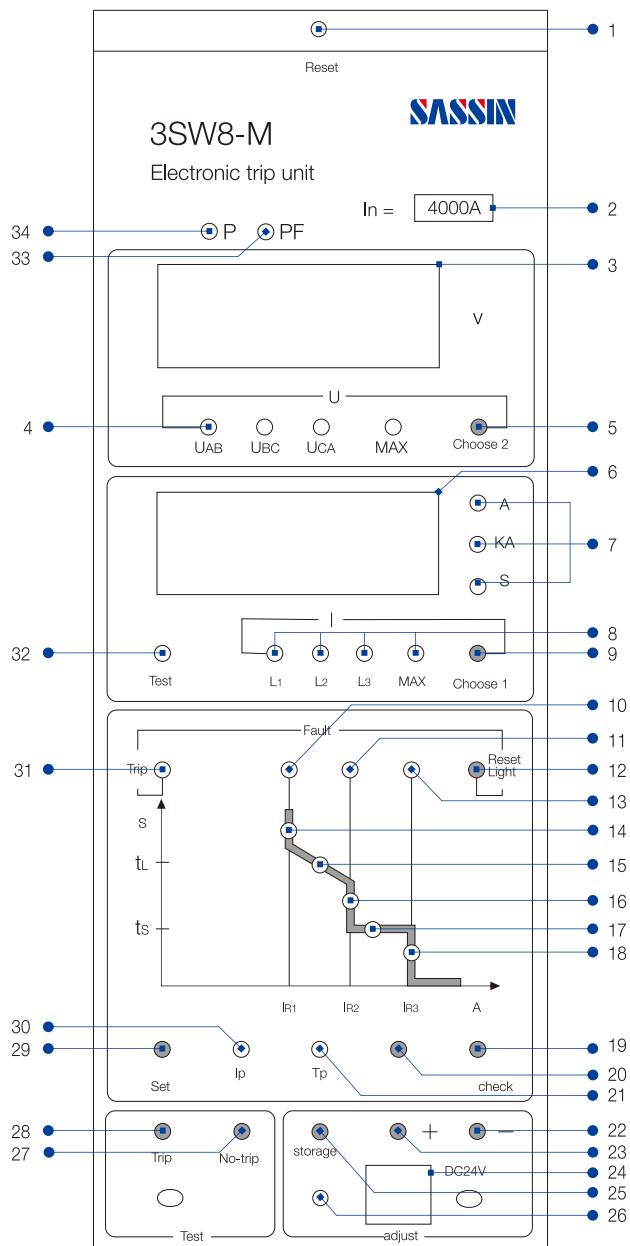
Air Circuit Breakers

Series 3SW8

Types of electronic trip unit (motor protection)

M-type panel structure instruction

2



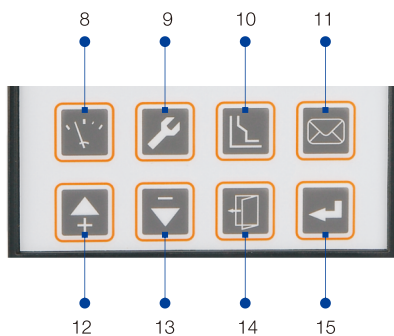
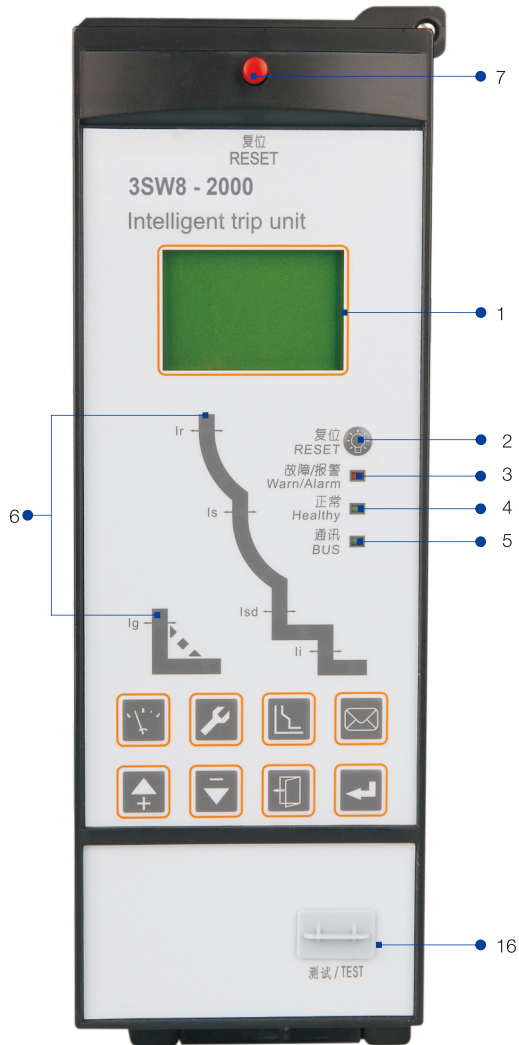
1. Reset button
2. Rated current label
3. Voltage display
4. Three-phase line voltage and maximum voltage indicator
5. Voltage- checking button
6. Three-phase current display
7. Current and time indicator
8. Four-phase, ground and the maximum phase current indicator
9. Current- checking button
10. Long 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



- 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.

Air Circuit Breakers

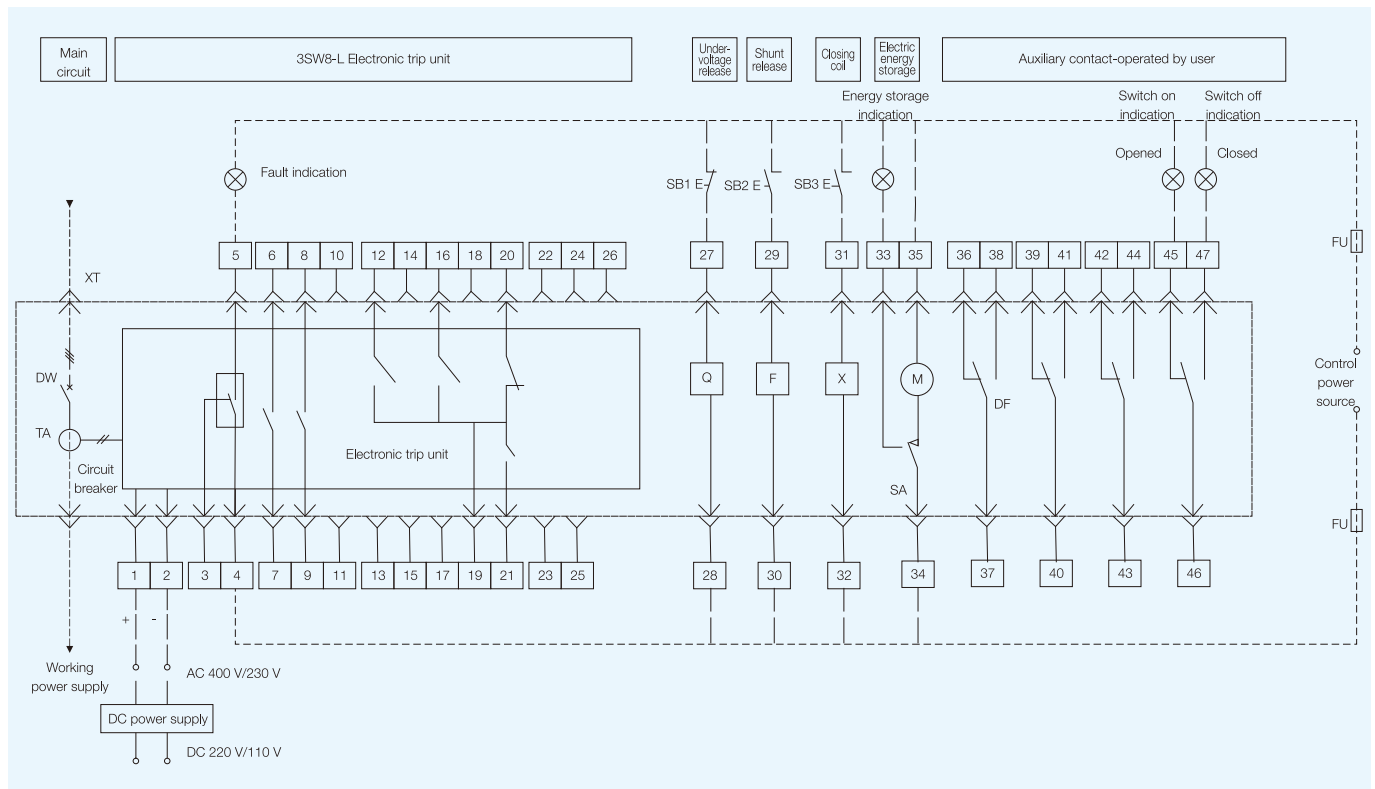
Series 3SW8

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 Set by the user 1.5 Ir tL (s) ± 10% accuracy	1.05 Ir1	2h no action					
	1.30 Ir1	≤2h action					
	1.50 Ir1	15	30	60	120	240	480
	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) ± 15% accuracy	I > 8 Ir1	0.1	0.2	0.3	0.4		
	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 tr1/I ²				
One load limit and one reclose	A	Ic2 =In x ...	0.2~1 (≤2% differential, min160 A)				
		tr2 =	0.25 t1, when 1.5 Ic1, T = 1.5 Ir1 x tr1/I ²				
	A	Ic1 =In x ...	0.2~1 (≤2% differential, min 160 A)				
		tr1 =	0.25 t1, when 1.5 Ic1, T = 1.5 Ir1 x tr1/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 of circuit-breaker					
	Non trip button	Test the current-time characteristic of electronic trip unit					

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

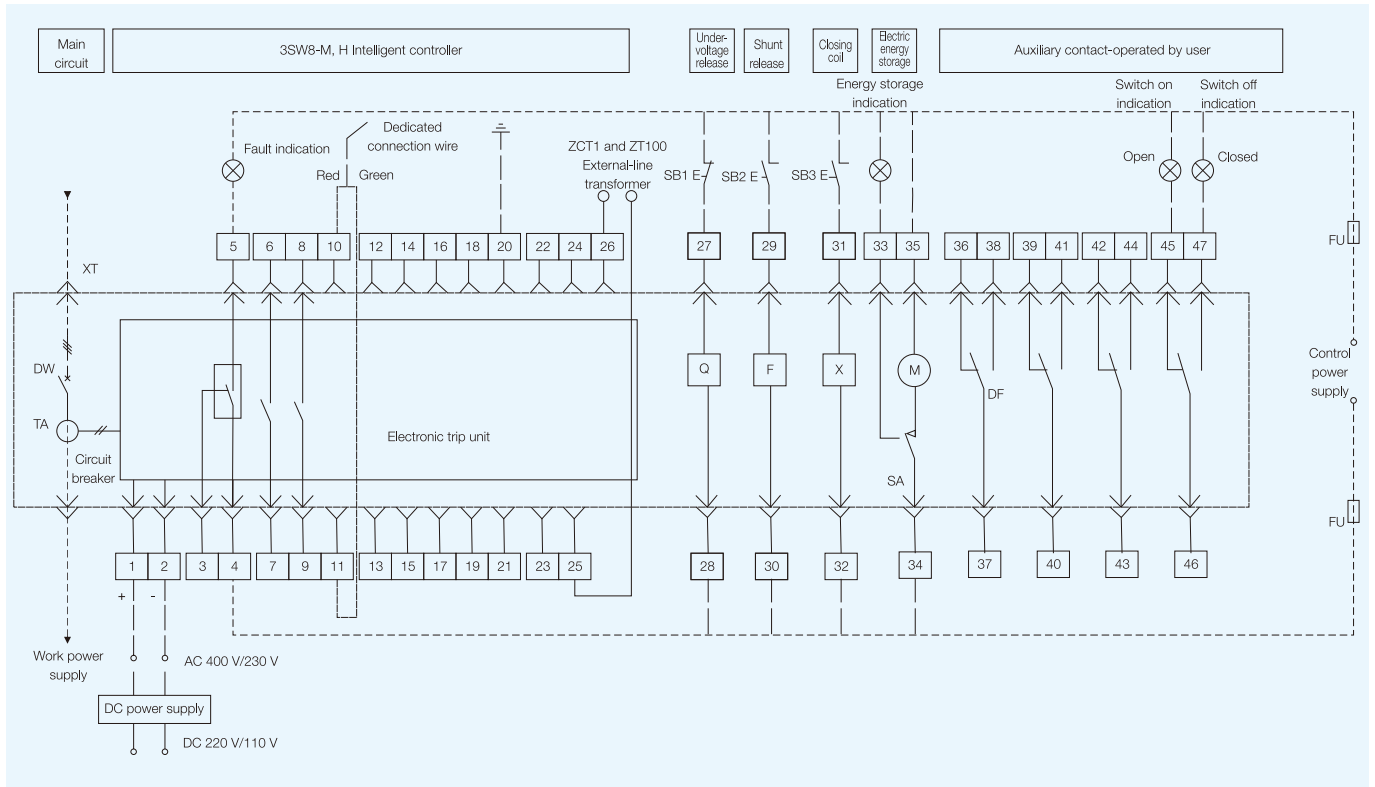
- 1#, 2#: Auxiliary power source input terminal 1# is "+" if it is direct current
- 3#, 4#, 5#: Fault trip contact output (#4 is common terminal), contact capacity: AC250V/16A
- 6#, 7# & 8#, 9#: Two groups breaker status auxiliary contacts, contact capacity: AC250V/16A
- 12#, 19#: DO signal alarm output, function: normally open, overload pre-alarm, contact capacity AC 250V/5A
- 16#, 19#: DO signal alarm output, function: normally open, ground trip or alarm, contact capacity AC 250V/5A
- 20#, 19#: DO signal alarm output, function: normally open, self-diagnosis alarm, contact capacity AC 250V/5A
- 21#, 19#: DO signal alarm output, function: normally open, OCR fault trip, contact capacity AC 250V/5A
- 25#, 26#: External current transformer input terminal (only 3P+N is available)

Air Circuit Breakers

Series 3SW8

Secondary circuit wiring diagram

- Secondary circuit wiring equipped with M, electronic trip unit



Note:

- If the control voltage of F, X, M are different, they should connect different power source
- 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)
- The #6 - #7 are normally closed terminal if the client requires
- 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

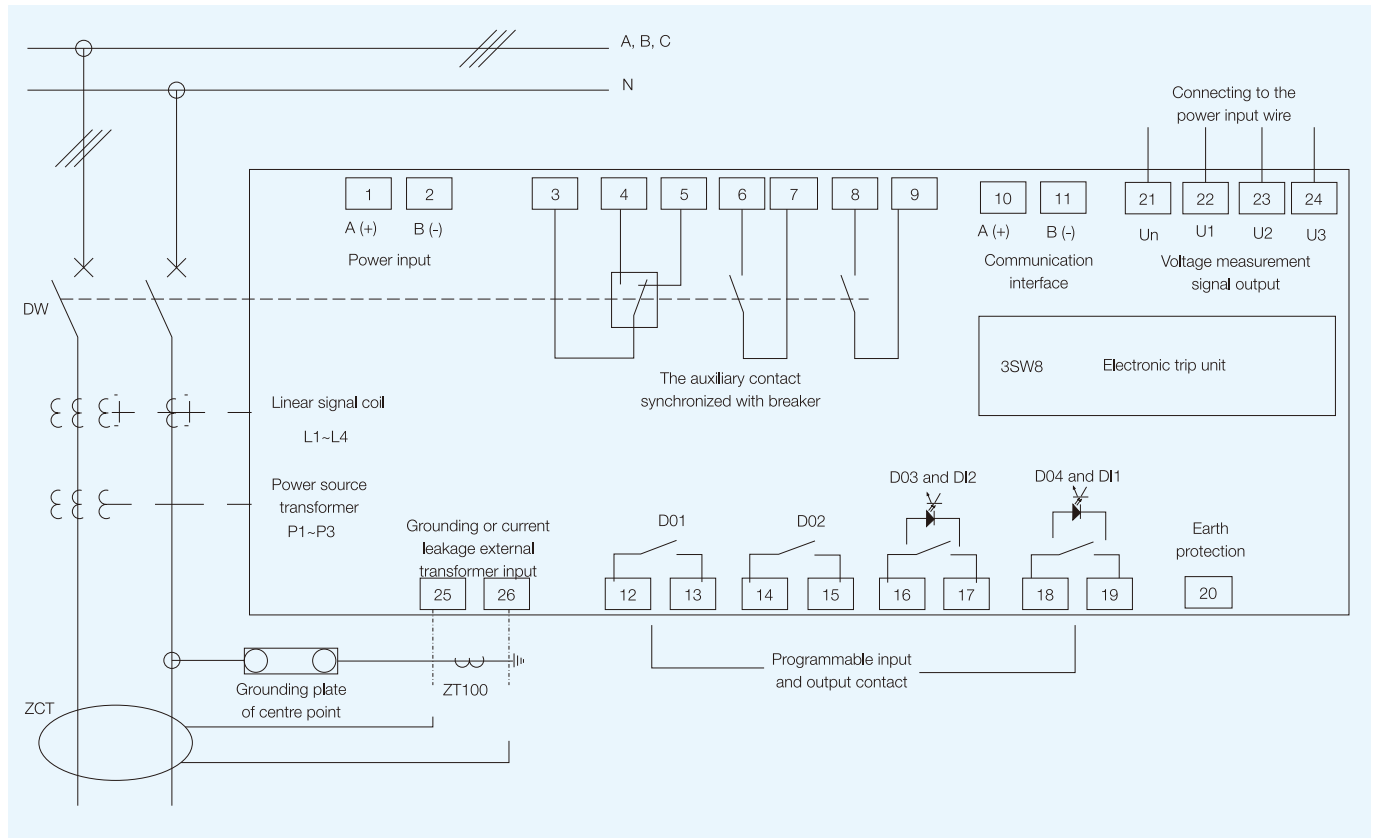
1#, 2#: Auxiliary power source input terminal 1# is "+" if it is direct current.
 Because the controller has several optional types of power source, please note the input power source is same with the working power source of the controller; otherwise the controller will be broken.
 3#, 4#, 5#: Fault trip contact output (#4 is common terminal), contact capacity: AC250V/16A
 6#, 7# & 8#, 9#: Two groups of breaker status auxiliary contacts, contact capacity: AC250V/16A
 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:DC11V 0.5A, AC250V, 5A.DI: DC110V~13V or AC110V~AC250V)

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.

Secondary circuit wiring diagram

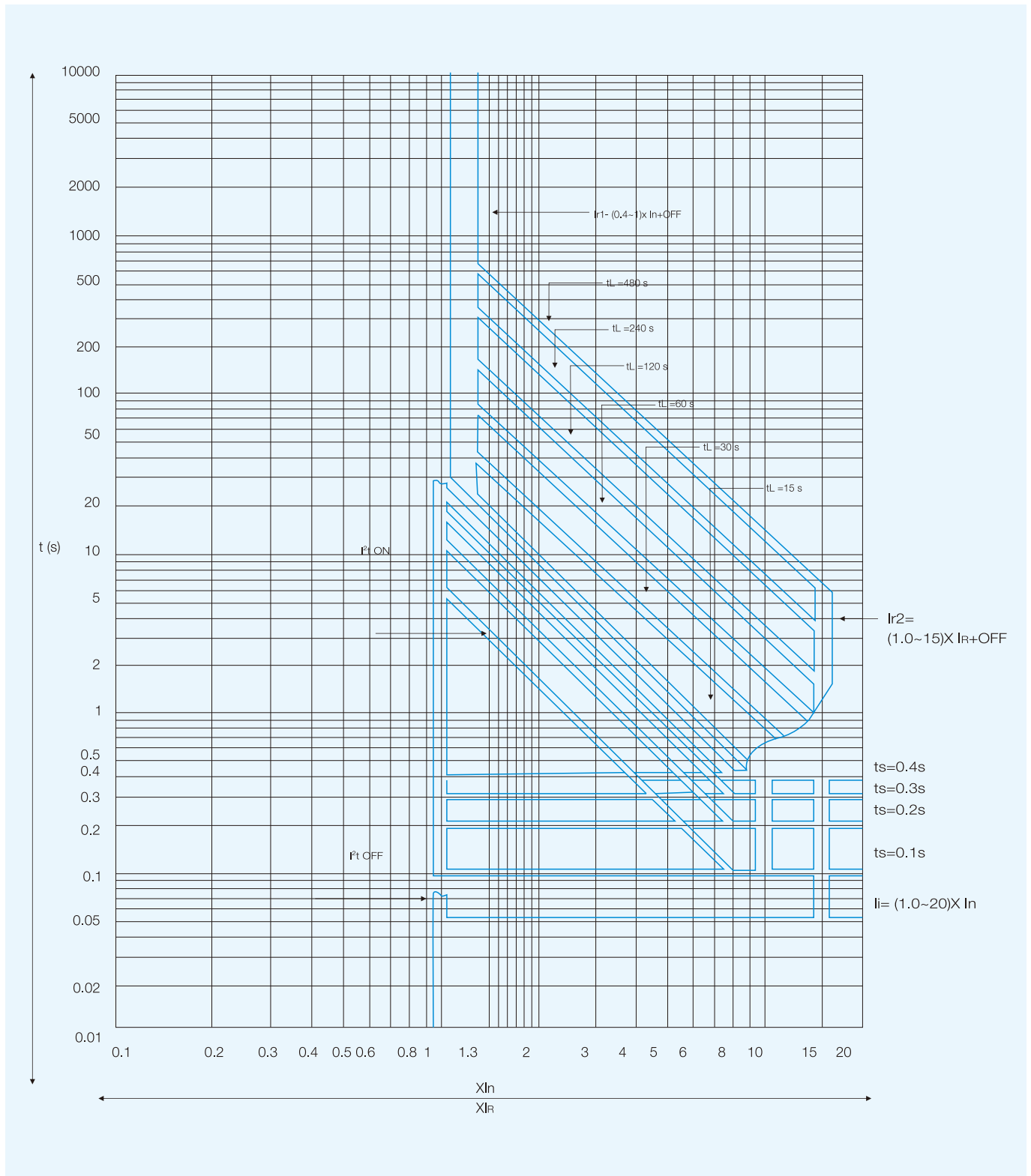
- Wiring diagram for circuit breaker equipped with type M/H electronic trip unit



Air Circuit Breakers Series 3SW8

Characteristic curves for overload protection

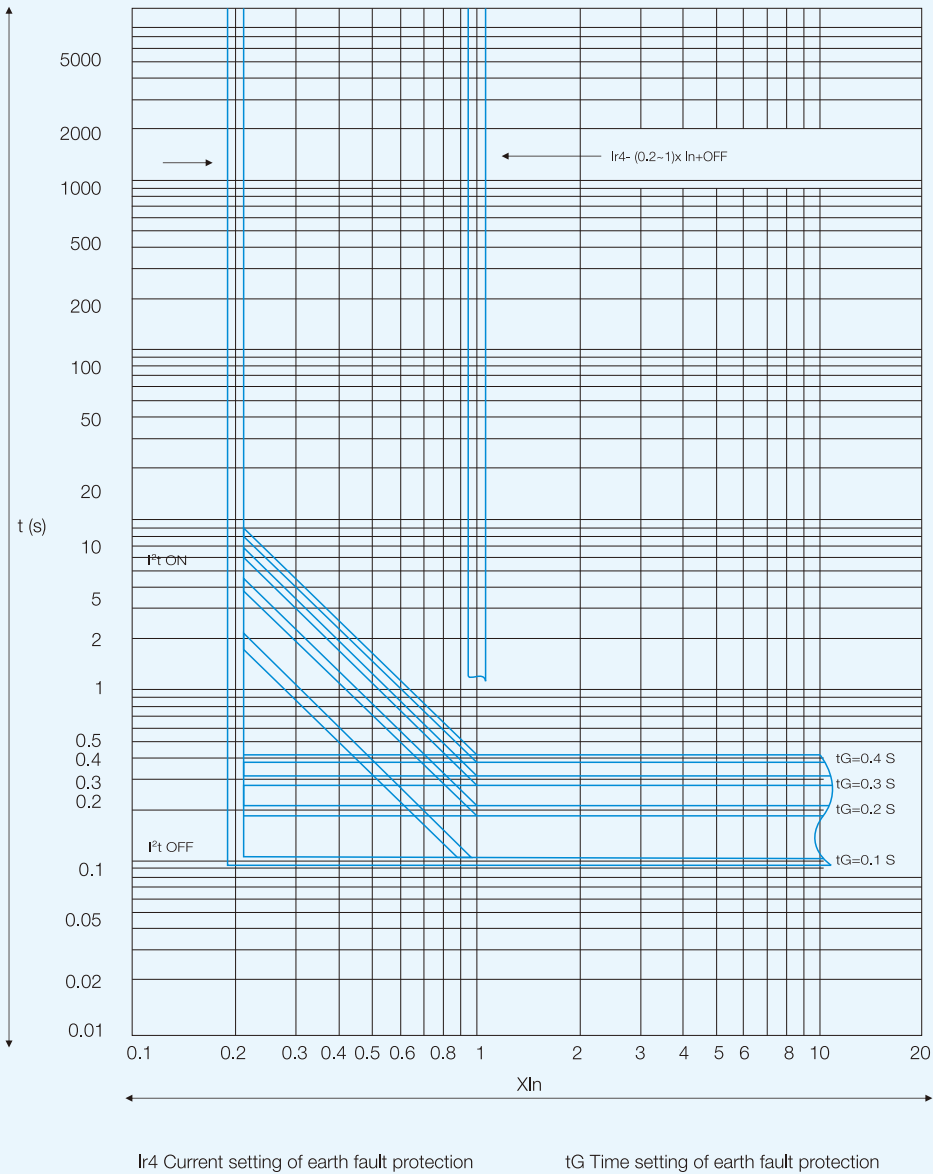
2



I_n Rated current
 I_{r1} Current setting of long-time delayed overload protection
 I_{r2} Current setting of short-time delayed short-circuit protection
 I_i Current setting of instantaneous short-circuit protection

t_L Time setting of long-time delayed overload protection
 t_s Time setting of short-time delayed short-circuit protection
 $I_{2t\text{ ON}}$ Inverse time characteristic
 $I_{2t\text{ OFF}}$ Definite time characteristic

Characteristic curves for overload protection



Air Circuit Breakers

Series 3SW8

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					
	<i>Vertical terminal connection</i>					
	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
	<i>Vertical terminal connection</i>					
	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					
	<i>Horizontal terminal connection</i>					
	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



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					
	<i>Vertical terminal connection</i>					
	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					
	<i>Horizontal terminal connection</i>					
	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	
	<i>Vertical terminal connection</i>					
	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

Air Circuit Breakers

Series 3SW8

Selection and ordering data

Frame B	Number of poles	Rated current In (A)	Fixed type		Withdrawable type	
			Type code	Order code	Type code	Order code
3SW8-3200	L type electronic trip unit					
	<i>Horizontal terminal connection</i>					
	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
	<i>Vertical terminal connection</i>					
	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					
	<i>Horizontal terminal connection</i>					
	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
	<i>Vertical terminal connection</i>					
	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	27920
	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					
	<i>Horizontal terminal connection</i>					
	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

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		Withdrawable type			
			Type code	Order code	Type code	Order code		
3SW8-3200								
H type electronic trip unit								
<i>Vertical terminal connection</i>								
3P	2000	2000	W8BF 3HV2000	27954	W8BD 3HV2000	27946		
		2500	W8BF 3HV2500	27956	W8BD 3HV2500	27948		
		2900	W8BF 3HV2900	27958	W8BD 3HV2900	27950		
	3200	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	3200	W8BF 4HV3200	27976	W8BD 4HV3200	27968		
		Frame C						
		3SW8-6300						
	Ltype electronic trip unit							
	<i>Horizontal terminal connection</i>							
3P	4000	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		
<i>Vertical terminal connection</i>								
3P	4000	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								
<i>Horizontal terminal connection</i>								
3P	4000	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		
<i>Vertical terminal connection</i>								
3P	4000	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								
<i>Horizontal terminal connection</i>								
3P	4000	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		
<i>Vertical terminal connection</i>								
3P	4000	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

Air Circuit Breakers Series 3SW8

Accessory

2



- 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 U_e (V)	AC 400, AC 230
Tripping voltage (V)	(0.35~0.7) U_e
Reliable closing voltage (V)	(0.85~1.1) U_e
Reliable open voltage (V)	$\leq 0.35 U_e$
Power consumption	12 VA

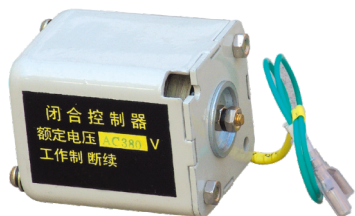


- Shunt release

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



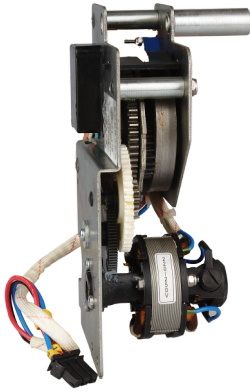
- Closing electromagnet

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:

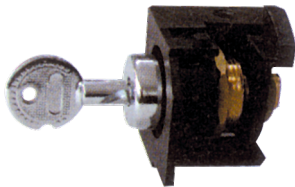
Rated control power source voltage U_e (V)	AC 400, AC 230, DC 220, DC 110
Tripping voltage (V)	(0.8~1.1) U_s
Limit current (A)	0.7, 1.3, 1.3, 2.4
Closing time (ms)	≤ 70

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 U_s (V)	AC 400, AC 230, DC 220, DC 110
Tripping voltage (V)	(0.85~1.1) U_s
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.



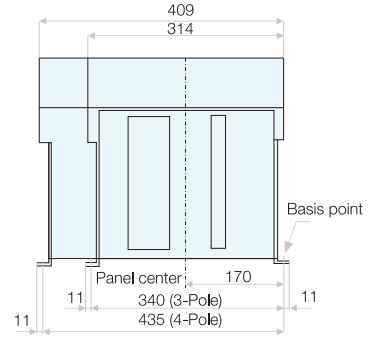
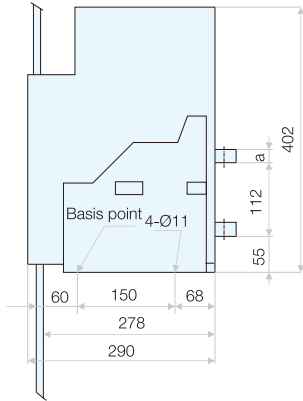
- Door frame
 - It is fixed on the door cabinet and used as seal. Protection grade is up to IP40;
 - Beautiful and practical;
 - The door frame has withdrawable type and fixed type.

Air Circuit Breakers Series 3SW8

Outline and installation dimensions

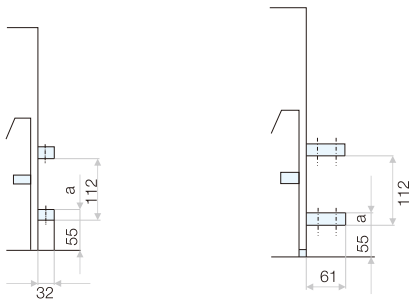
3SW8-2000

Fixed type 3-pole/4-pole



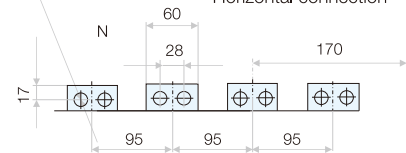
Horizontal connection

Extended horizontal connection



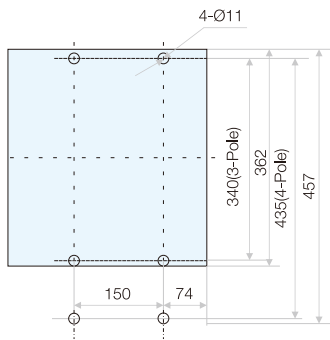
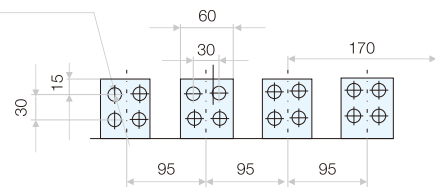
3-Pole 12-Ø15
4-Pole 16-Ø15

Horizontal connection



3-Pole 24-Ø13
4-Pole 32-Ø13

Extended horizontal connection



Basis point

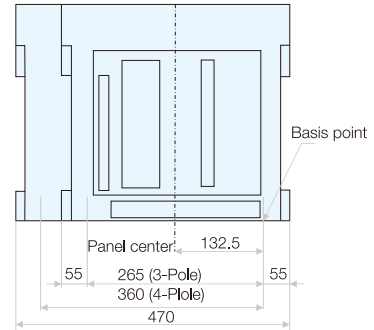
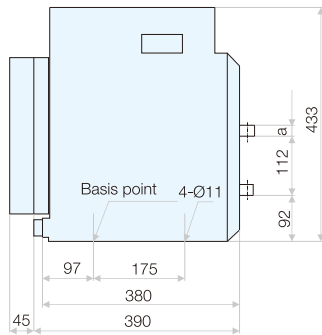
Withdrawable 3-pole 4-pole

In A	a mm
400-800	10
1000-1600	15
2000	20

Outline and installation dimensions

3SW8-2000

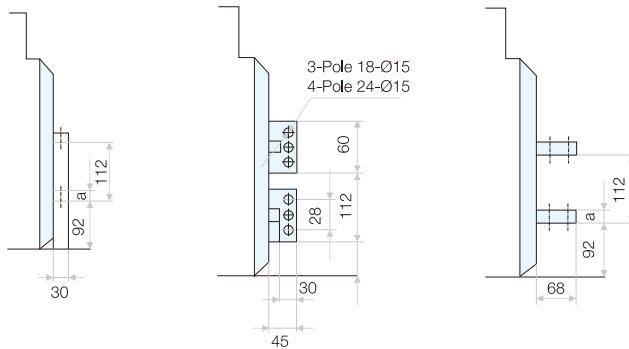
Withdrawable type 3-pole/4-pole



Horizontal connection

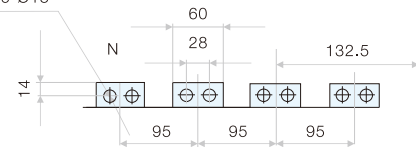
Vertical connection

Extended horizontal connection

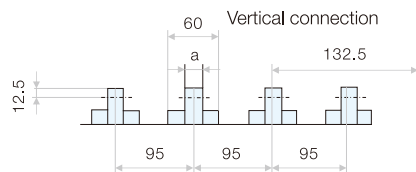


3-Pole 12-Ø13
4-Pole 16-Ø13

Horizontal connection

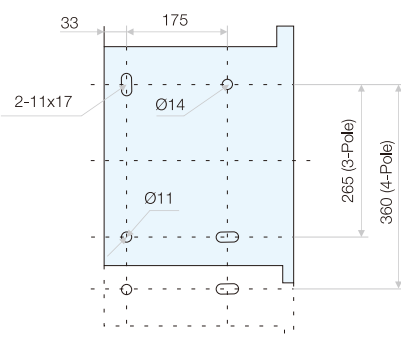
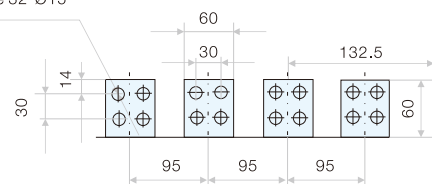


Vertical connection



3-Pole 24-Ø15
4-Pole 32-Ø15

Extended horizontal connection



Basis point

Withdrawable 3-pole 4-pole

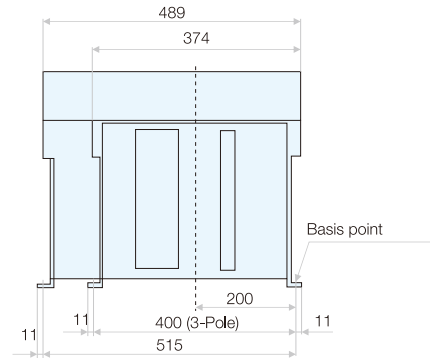
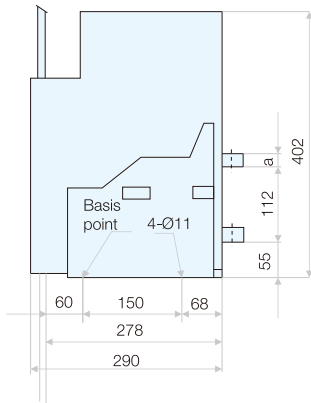
In A	a mm
400-800	10
1000-1600	15
2000	20

Air Circuit Breakers Series 3SW8

Outline and installation dimensions

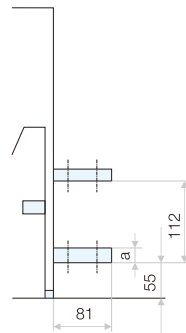
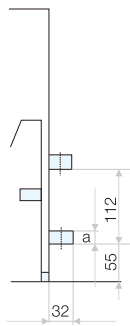
3SW8-3200

Fixed type 3-pole/4-pole



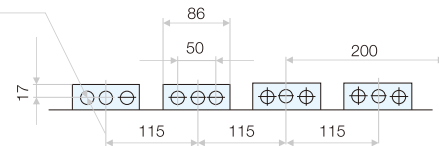
Horizontal connection

Extended horizontal connection



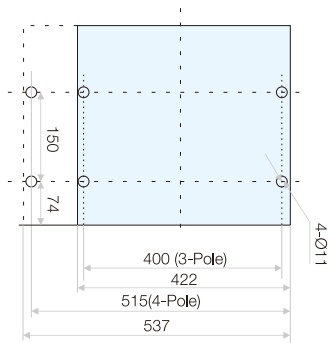
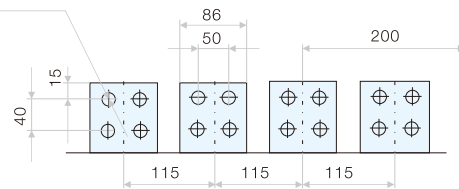
3-Pole 18-Ø12
4-Pole 24-Ø12

Horizontal connection



3-Pole 24-Ø12
4-Pole 32-Ø12

Extended horizontal connection



Basis point

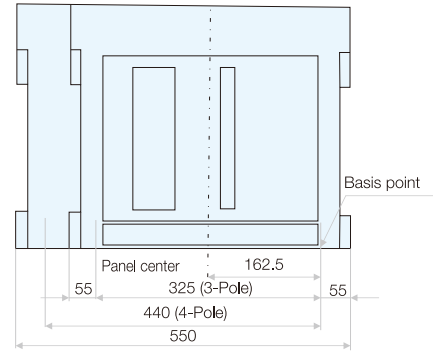
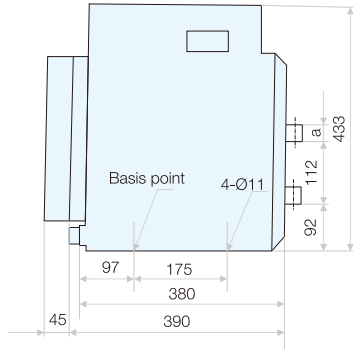
Withdrawable 3-pole 4-pole

In A	a mm
2000-2500	20
2900-3200	30

Outline and installation dimensions

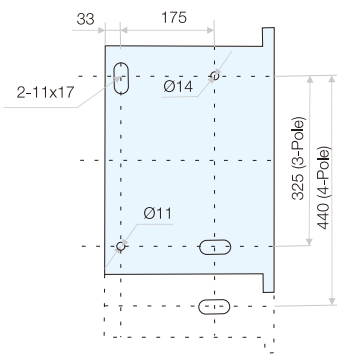
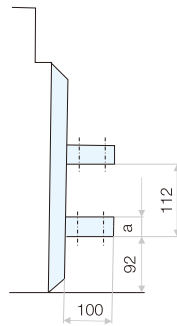
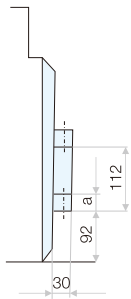
3SW8-3200

Withdrawable type 3-pole/4-pole

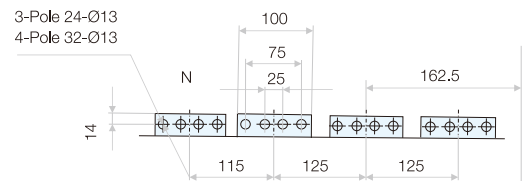


Horizontal connection

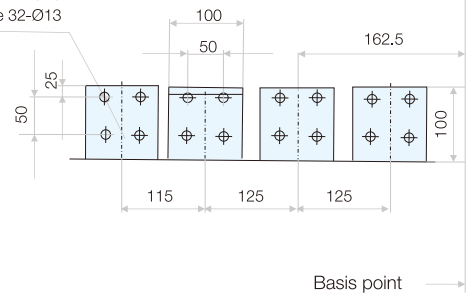
Extended horizontal connection



Horizontal connection



Extended horizontal connection



Withdrawable 3-pole 4-pole

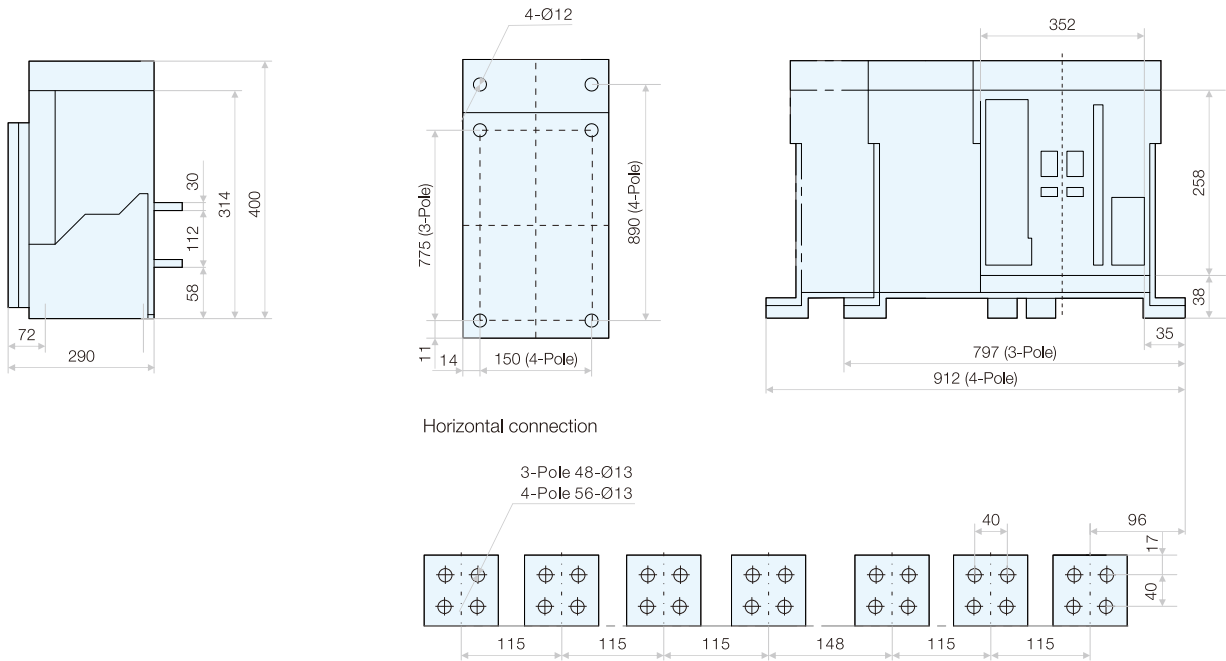
In A	a mm
2000~2500	20
2900~3200	30

Air Circuit Breakers Series 3SW8

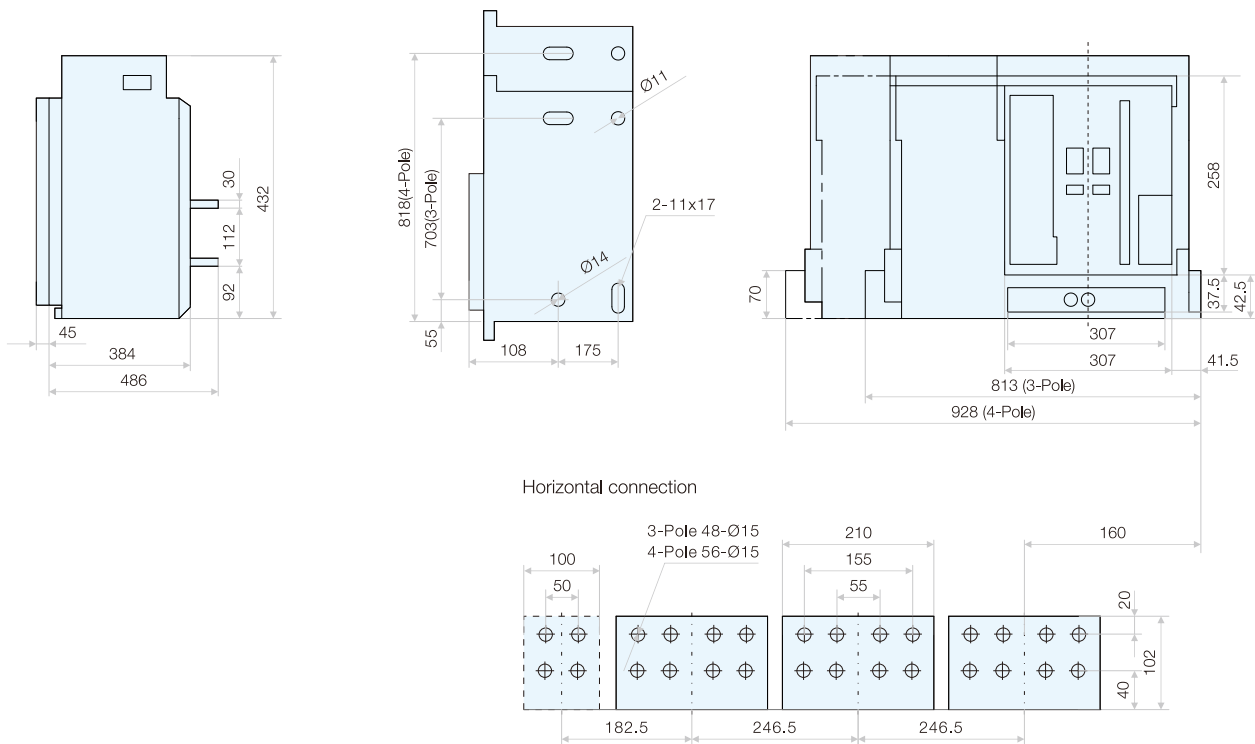
Outline and installation dimensions

3SW8-6300/4000-5000A

Fixed type 3-pole/4-pole



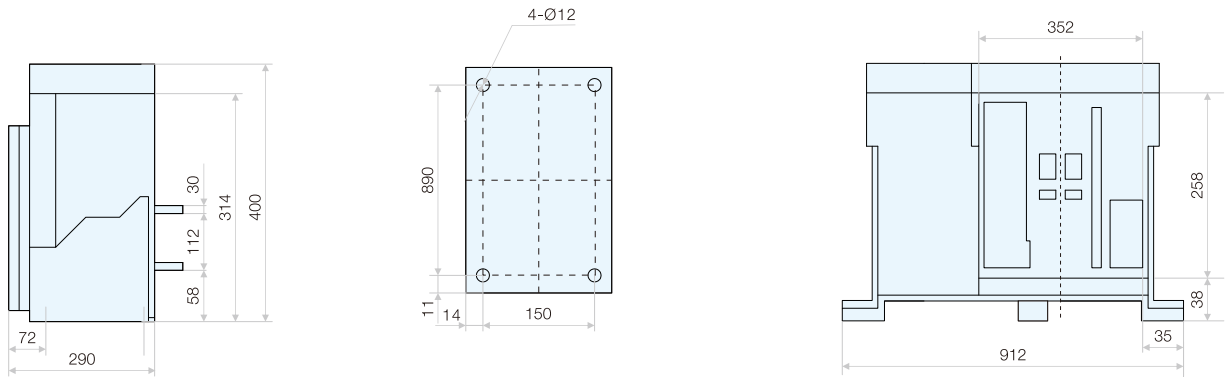
Withdrawable type 3-pole/4-pole



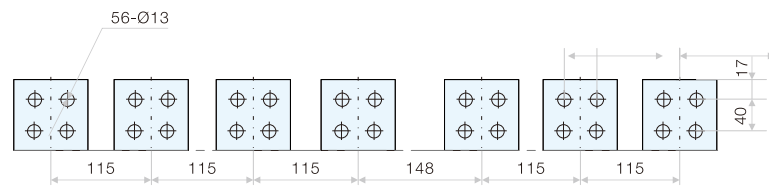
Outline and installation dimensions

3SW8-6300/6300A

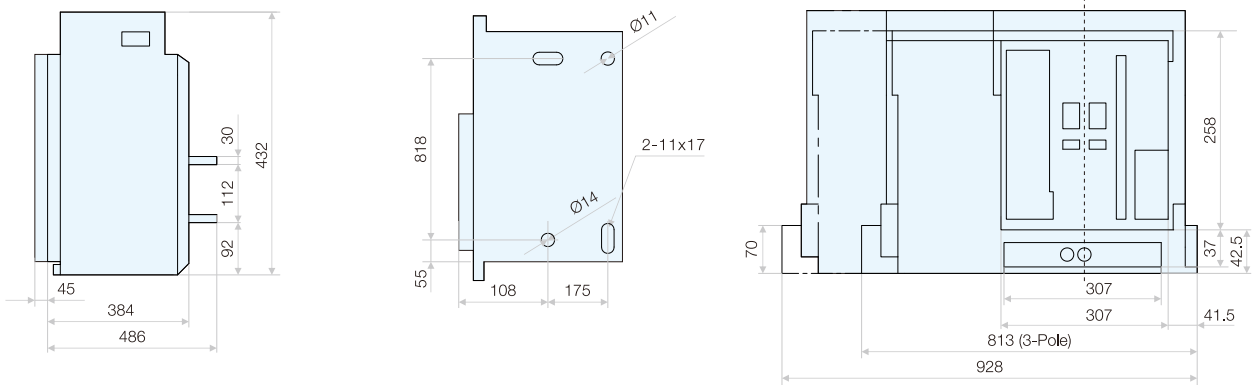
Fixed type 3-pole/4-pole



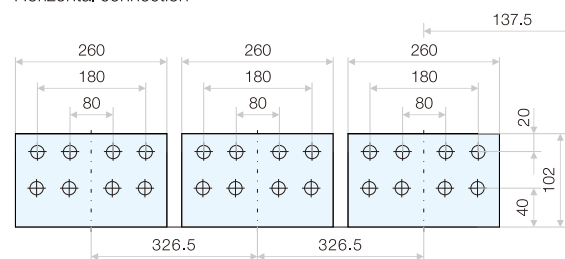
Horizontal connection



Withdrawable type 3-pole



Horizontal connection

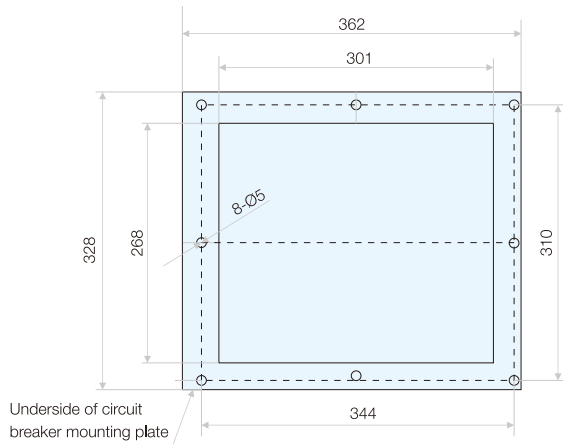


Air Circuit Breakers Series 3SW8

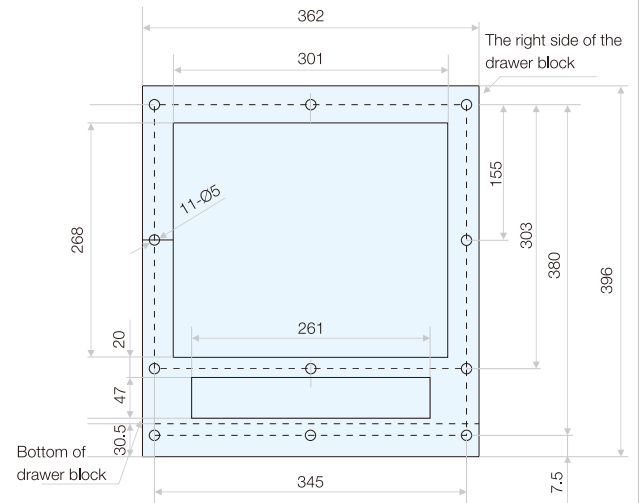
Outline and installation dimensions

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

Fixed type

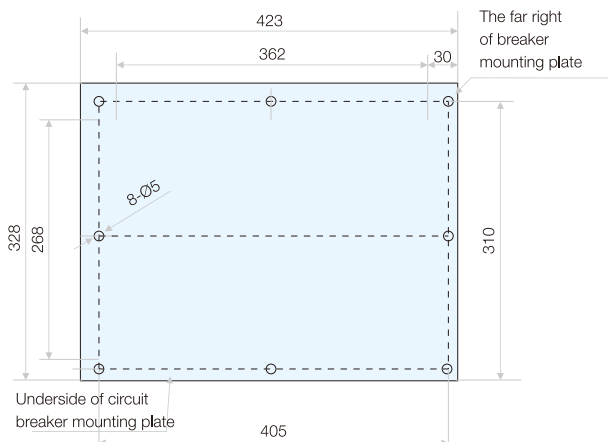


Withdrawable type

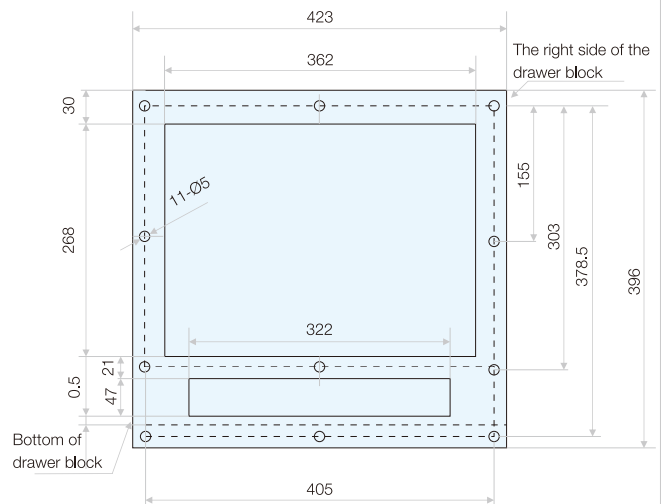


3SW8-3200 (3-pole, 4-pole)

Fixed type

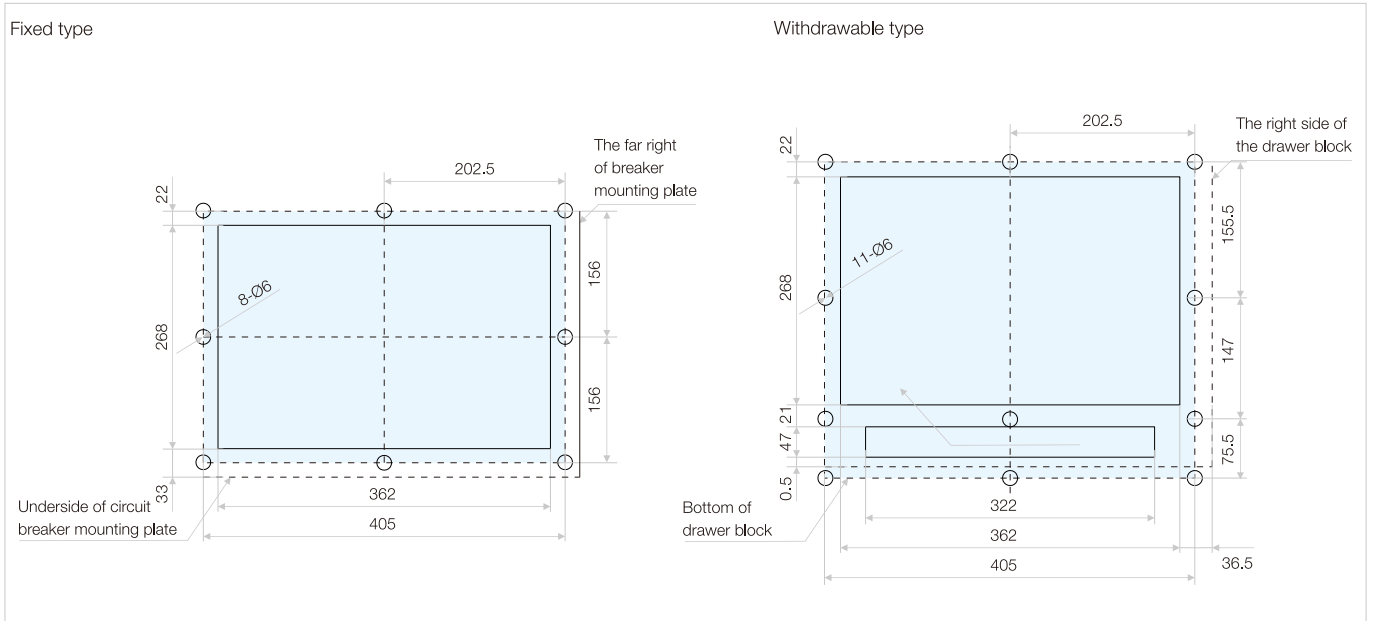


Withdrawable type

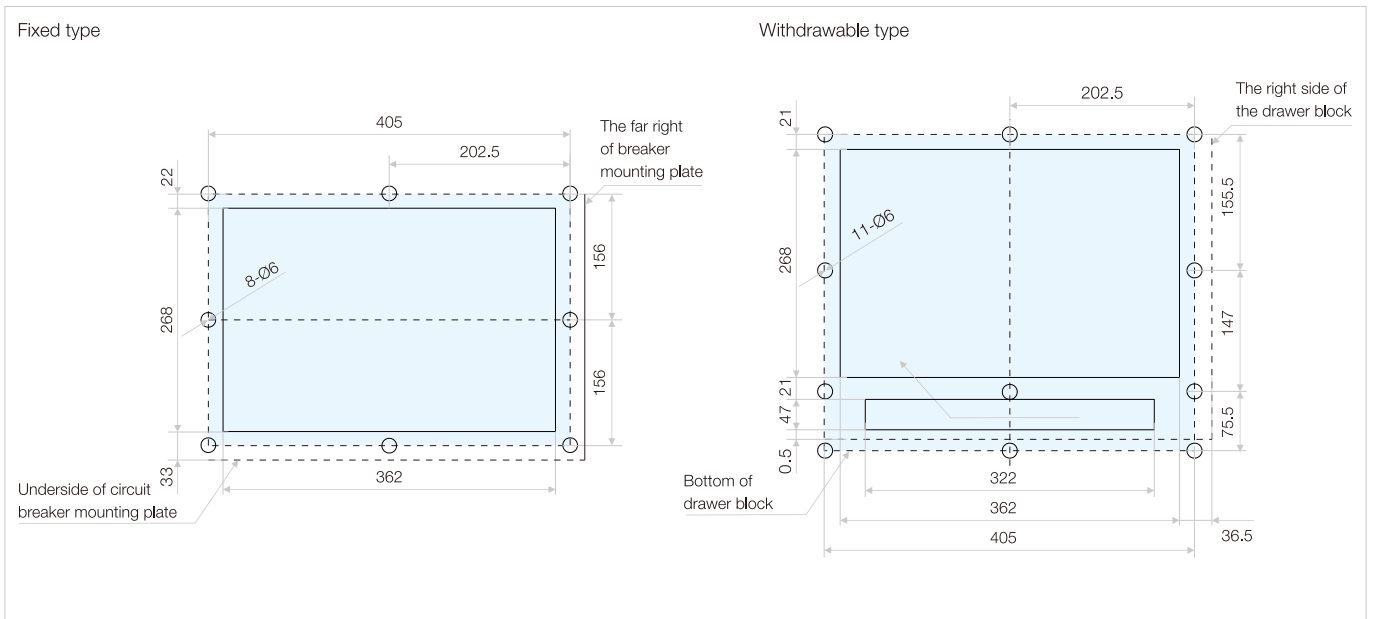


Outline and installation dimensions

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




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



Moulded Case Circuit Breakers

Series PM61

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 condition: rated insulation voltage - 800 V (for size PM6100 - 500 V), rated impulse withstand voltage $U_{imp} - 8 \text{ kV}$ (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 : $-5 \text{ }^{\circ}\text{C} \sim +40 \text{ }^{\circ}\text{C}$;
- The altitude of the installation site does not exceed 2000 m;
- Air conditions: Relative humidity does not exceed 50 % at the max temperature of $+40 \text{ }^{\circ}\text{C}$, higher relative humidity is allowable under a lower temperature. For example, RH could be 90 % at $+20 \text{ }^{\circ}\text{C}$. 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: $-40 \text{ }^{\circ}\text{C} \sim +70 \text{ }^{\circ}\text{C}$.

Moulded Case Circuit Breakers

Series PM61

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 I _{nm} (A)	63			100			250			400			630			800		
Rated current I _n (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 U _i (V)	AC 800																	
Rated impulse withstand voltage U _{imp} (V)	8000																	
Rated operating voltage U _e (V)	400			400			400			400			400			400		
AC 50/60 Hz				690			690			690			690			690		
Arcing distance (mm)	≤ 50			≤ 50			≤ 50			≤ 100			≤ 100			≤ 100		
Rated limit short-circuit breaking capacity I _{cu} (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 I _{cs} (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	
	Height	60			60			83			60			103			106.5	

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

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

Moulded Case Circuit Breakers

Series PM61

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

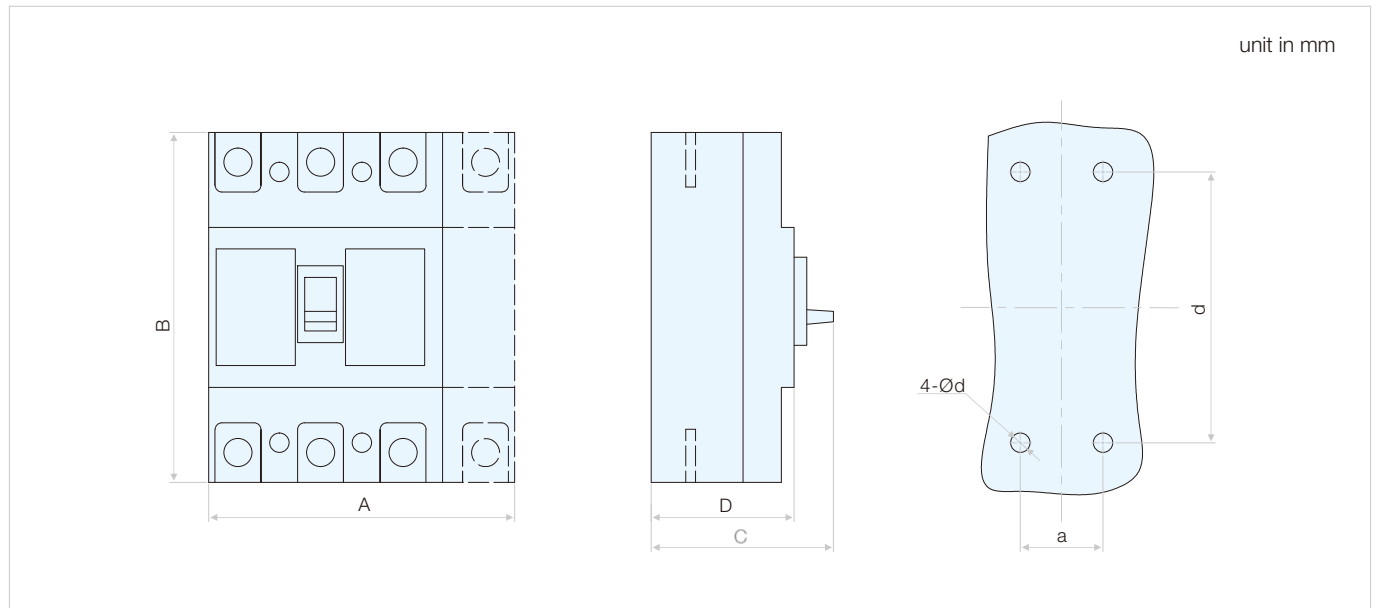
Protection characteristics for motor protection

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 ($I_n \leq 630$ A in PM6102, PM6104, PM6106 and PM6108) 7.2 In (cold status), $0.5 < T_p \leq 5$ s (PM6100L, PM6100M, PM6101C) $4 < T_p \leq 10$ s (PM6101C, PM6101L, PM6101M) $6 < T_p \leq 20$ s ($I_n \leq 630$ A in PM6102, PM6104, PM6106 and PM6108) Tripping level, 5 (PM6100C, PM6100M, PM6101C) 10 (PM6101C, PM6101L, PM6101M) 20 ($I_n \leq 630$ 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	
		PM6102	80/100	63, 756	In (Neutral pole overload protection current setting value), Ir (neutral pole short circuit protection current setting value)
		PM6104	100~200	100, 1200	
			225/250	125, 1500	
		PM6106	225~315	225, 2700	
			350/400	250, 3000	
		PM6108	400~630	400, 4800	
		PM6108	400/500	400, 4800	
	N-pole unprotected	All types	630	500, 6000	
10~630			No protection		

Outline and installation dimensions



Type	Poles (P)	Outline dimensions (mm)				Installation dimensions (mm)		
		A	B	C	D	a	b	Ød
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		

Moulded Case Circuit Breakers

PM6100 up to 63 A

Selection and ordering data

3-pole

	Breaking capacity at 400 V AC	Rated current (A)	For power distribution	For motor protection	
			Type code	Type code	
D 35 kA		10	PM6100D-3P-10	PM6100D-3M-10	
		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	
	G 50 kA		63	PM6100D-3P-63	PM6100D-3M-63
			10	PM6100G-3P-10	PM6100G-3M-10
			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	For motor protection
			Type code	Type code
Neutral unprotected				
G 50 kA		10	PM6100G-4BP-10	PM6100G-4BM-10
		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 50 kA		10	PM6100G-4CP-10	PM6100G-4CM-10
		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

Moulded Case Circuit Breakers PM6101 up to 100 A

Selection and ordering data

3-pole

	Breaking capacity at 400 V AC	Rated current (A)	For power distribution	For motor protection
			Type code	Type code
D 35 kA		10	PM6101D-3P-10	PM6101D-3M-10
		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 50 kA		10	PM6101G-3P-10	PM6101G-3M-10
		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 70 kA		10	PM6101L-3P-10	PM6101L-3M-10
		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	For motor protection
			Type code	Type code
Neutral unprotected				
G 50 kA		10	PM6101G-4BP-10	PM6101G-4BM-10
		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 50kA		10	PM6101G-4CP-10	PM6101G-4CM-10
		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

Moulded Case Circuit Breakers

PM6102 up to 250 A

Selection and ordering data

3-pole

	Breaking capacity at 400 V AC	Rated current (A)	For power distribution	For motor protection	
			Type code	Type code	
D 35 kA		100	PM6102D-3P-100	PM6102D-3M-100	
		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	
	G	50 kA	100	PM6102G-3P-100	PM6102G-3M-100
			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
L	70 kA	100	PM6102L-3P-100	PM6102L-3M-100	
		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	For motor protection
			Type code	Type code
Neutral unprotected				
G 50 kA		100	PM6102G-4BP-100	PM6102G-4BM-100
		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 50 kA		100	PM6102G-4CP-100	PM6102G-4CM-100
		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

Moulded Case Circuit Breakers PM6104 up to 400 A

Selection and ordering data

3-pole

	Breaking capacity at 400 V AC	Rated current (A)	For power distribution	For motor protection
			Type code	Type code
D 35 kA		225	PM6104D-3P-225	PM6104D-3M-225
		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 50 kA		225	PM6104G-3P-225	PM6104G-3M-225
		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 70 kA		225	PM6104L-3P-225	PM6104L-3M-225
		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	For motor protection
			Type code	Type code
Neutral unprotected				
G 50 kA		225	PM6104G-4BP-225	PM6104G-4BM-225
		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 50 kA		225	PM6104G-4CP-225	PM6104G-4CM-225
		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

Moulded Case Circuit Breakers

PM6106 up to 630 A, PM6108 up to 800 A

Selection and ordering data

PM6106, 3-pole

	Breaking capacity at 400 V AC	Rated current (A)	For power distribution	For motor protection
			Type code	Type code
D 35 kA		400	PM6106D-3P-400	PM6106D-3M-400
		500	PM6106D-3P-500	PM6106D-3M-500
		630	PM6106D-3P-630	PM6106D-3M-630
G 50 kA		400	PM6106G-3P-400	PM6106G-3M-400
		500	PM6106G-3P-500	PM6106G-3M-500
		630	PM6106G-3P-630	PM6106G-3M-630
L 70 kA		400	PM6106L-3P-400	PM6106L-3M-400
		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	For motor protection
			Type code	Type code
Neutral unprotected				
G 50 kA		400	PM6106G-4BP-400	PM6106G-4BM-400
		500	PM6106G-4BP-500	PM6106G-4BM-500
		630	PM6106G-4BP-630	PM6106G-4BM-630
Neutral protected				
G 50 kA		400	PM6106G-4CP-400	PM6106G-4CM-400
		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	For motor protection
			Type code	Type code
H 65 kA		400	PM6108H-3P-400	PM6108H-3M-400
		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 75 kA		400	PM6108M-3P-400	PM6108M-3M-400
		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	For motor protection
			Type code	Type code
Neutral unprotected				
H 65 kA		400	PM6108H-4BP-400	PM6108H-4BM-400
		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 65 kA		400	PM6108H-4CP-400	PM6108H-4CM-400
		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

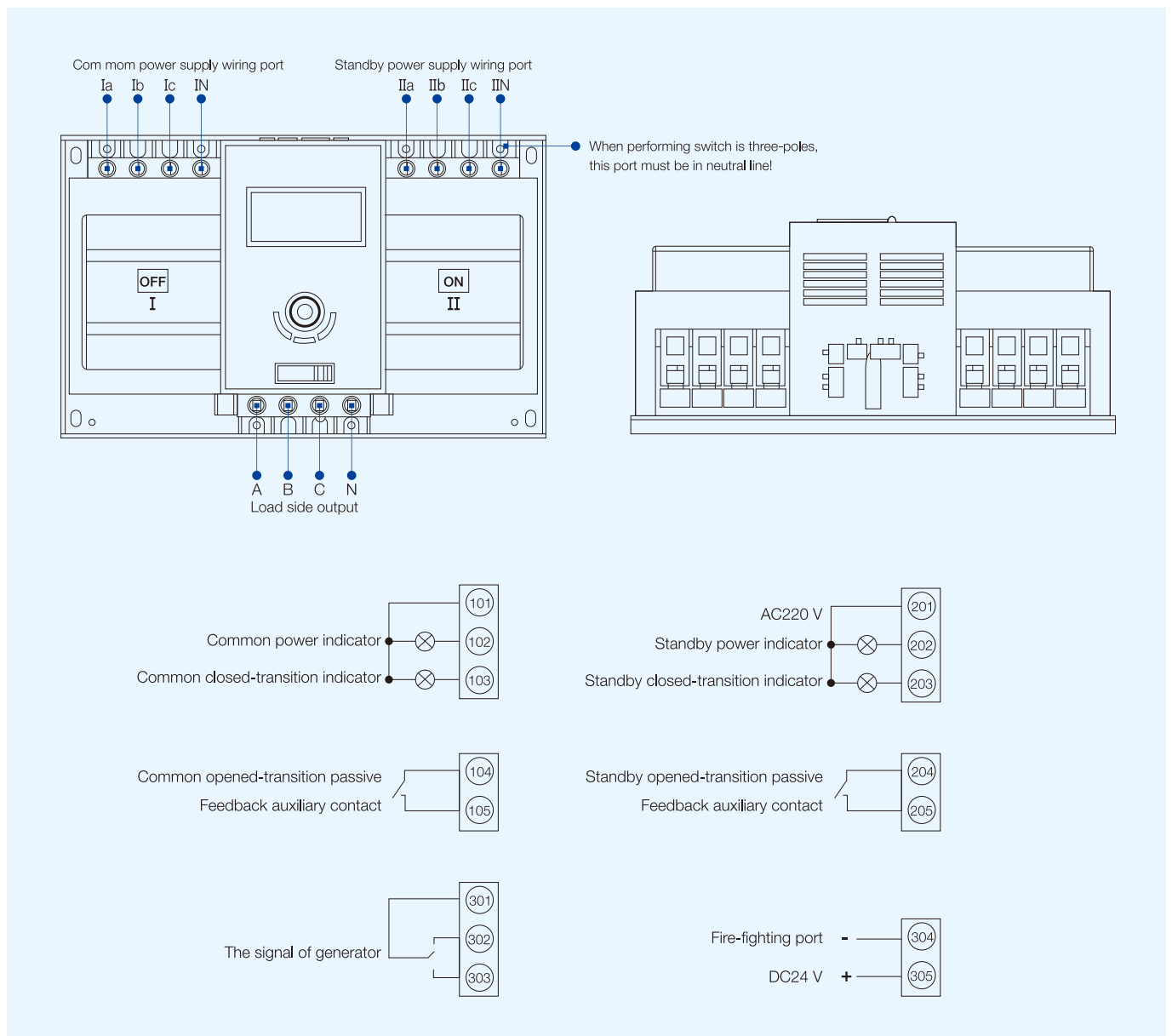
Automatic Transfer Switches Series PAQ61B CB Class

GENERAL

- Control device: built-in controller
- Product structure: small size, high current, simple structure, ATS integration
- Feature: fast switching speed, low failure rate, convenient maintenance, reliable performance
- Connection: front connection
- Conversion mode: power on the grid, grid generator, auto-charge & auto-recovery
- Frame current: 63
- Product current: 10, 16, 20, 25, 32, 40, 50, 63 A
- Pole No.: 2, 3, 4



Wiring principle drawing



Automatic Transfer Switches

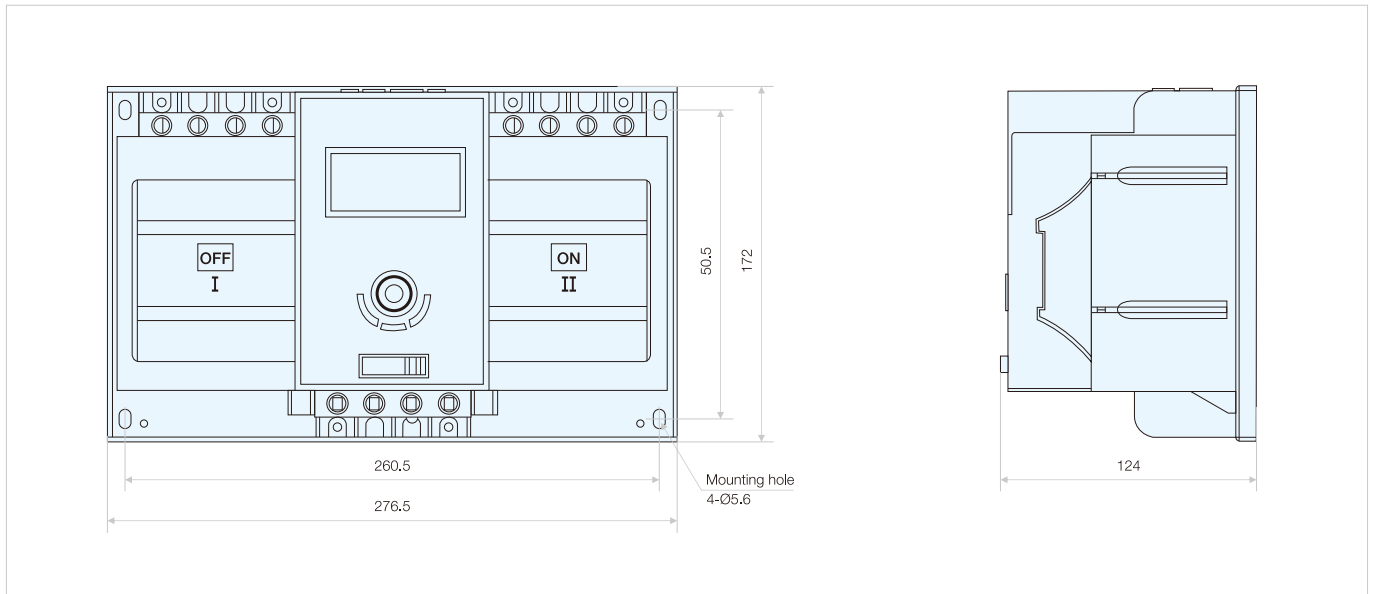
Series PAQ61B CB Class

Selection and ordering data

PAQ61B	Rated current (A)	2P	3P	4P
		Type code	Type code	Type code
Basic type				
<i>For Grid-Grid applications</i>				
	10	PAQ62B-C10	PAQ63B-C10	PAQ64B-C10
	16	PAQ62B-C16	PAQ63B-C16	PAQ64B-C16
	20	PAQ62B-C20	PAQ63B-C20	PAQ64B-C20
	25	PAQ62B-C25	PAQ63B-C25	PAQ64B-C25
	32	PAQ62B-C32	PAQ63B-C32	PAQ64B-C32
	40	PAQ62B-C40	PAQ63B-C40	PAQ64B-C40
	50	PAQ62B-C50	PAQ63B-C50	PAQ64B-C50
	63	PAQ62B-C63	PAQ63B-C63	PAQ64B-C63
Emergency OFF with 24 V DC signal input				
<i>For Grid-Grid applications</i>				
	10	PAQ62B-C10-X	PAQ63B-C10-X	PAQ64B-C10-X
	16	PAQ62B-C16-X	PAQ63B-C16-X	PAQ64B-C16-X
	20	PAQ62B-C20-X	PAQ63B-C20-X	PAQ64B-C20-X
	25	PAQ62B-C25-X	PAQ63B-C25-X	PAQ64B-C25-X
	32	PAQ62B-C32-X	PAQ63B-C32-X	PAQ64B-C32-X
	40	PAQ62B-C40-X	PAQ63B-C40-X	PAQ64B-C40-X
	50	PAQ62B-C50-X	PAQ63B-C50-X	PAQ64B-C50-X
	63	PAQ62B-C63-X	PAQ63B-C63-X	PAQ64B-C63-X
Emergency OFF with 24 V DC signal input				
Switch position signal				
<i>For Grid-Grid and Grid-Generator applications</i>				
	10	PAQ62B-C10-XFZ	PAQ63B-C10-XFZ	PAQ64B-C10-XFZ
	16	PAQ62B-C16-XFZ	PAQ63B-C16-XFZ	PAQ64B-C16-XFZ
	20	PAQ62B-C20-XFZ	PAQ63B-C20-XFZ	PAQ64B-C20-XFZ
	25	PAQ62B-C25-XFZ	PAQ63B-C25-XFZ	PAQ64B-C25-XFZ
	32	PAQ62B-C32-XFZ	PAQ63B-C32-XFZ	PAQ64B-C32-XFZ
	40	PAQ62B-C40-XFZ	PAQ63B-C40-XFZ	PAQ64B-C40-XFZ
	50	PAQ62B-C50-XFZ	PAQ63B-C50-XFZ	PAQ64B-C50-XFZ
	63	PAQ62B-C63-XFZ	PAQ63B-C63-XFZ	PAQ64B-C63-XFZ
Emergency OFF with 24 V DC signal input				
Switch position signal				
Adjustable version with configurable transfer and back-switching delays				
<i>For Grid-Grid and Grid-Generator applications</i>				
	10	PAQ62B-C10-D1	PAQ63B-C10-D1	PAQ64B-C10-D1
	16	PAQ62B-C16-D1	PAQ63B-C16-D1	PAQ64B-C16-D1
	20	PAQ62B-C20-D1	PAQ63B-C20-D1	PAQ64B-C20-D1
	25	PAQ62B-C25-D1	PAQ63B-C25-D1	PAQ64B-C25-D1
	32	PAQ62B-C32-D1	PAQ63B-C32-D1	PAQ64B-C32-D1
	40	PAQ62B-C40-D1	PAQ63B-C40-D1	PAQ64B-C40-D1
	50	PAQ62B-C50-D1	PAQ63B-C50-D1	PAQ64B-C50-D1
	63	PAQ62B-C63-D1	PAQ63B-C63-D1	PAQ64B-C63-D1

Automatic Transfer Switches Series PAQ61B CB Class

Overall and installation dimension



Automatic Transfer Switches

Series PAQ61M CB Class

GENERAL

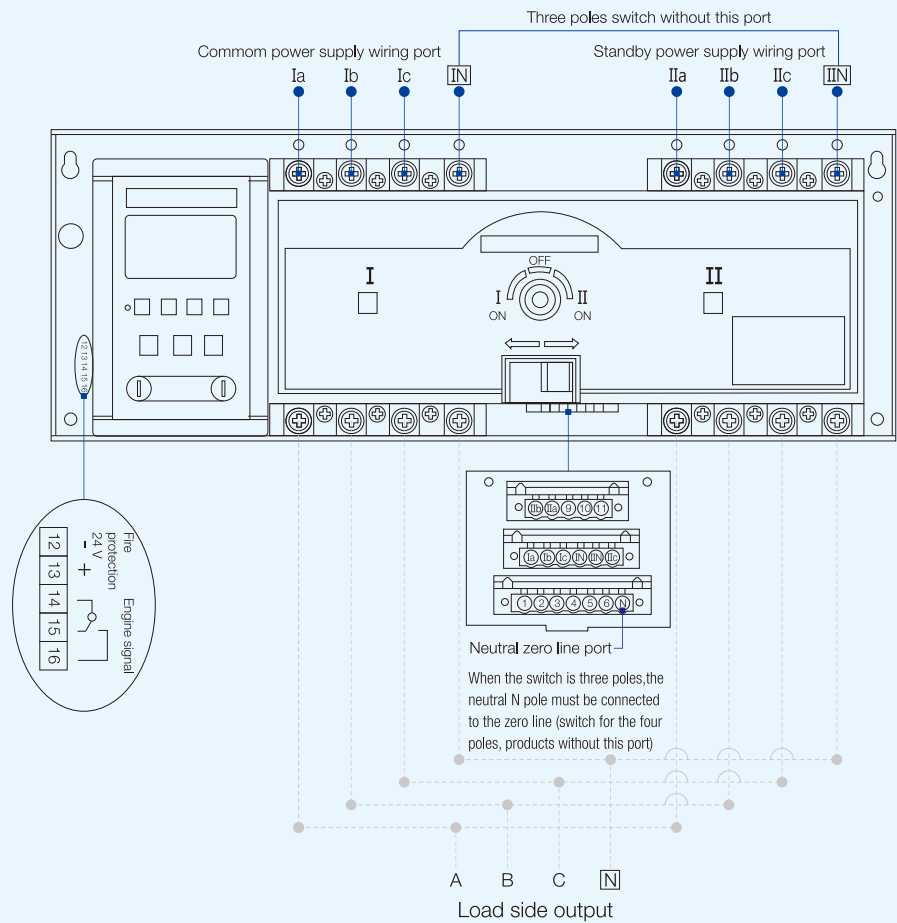
- Control device: LCD controller
- Product structure: small size, high current, simple structure, ATS integration
- Feature: fast switching speed, low failure rate, convenient maintenance, reliable performance (with automatic switching time can be adjusted 1 s-99 s)
- Connection: front connection
- Conversion mode: power on the grid, grid generator, auto-charge & auto-recovery, auto-charge & non-auto-recovery and mutual standby
- Frame current: 63, 100, 225, 400, 630, 800, 1250, 1600 A
- Rated current: 20, 32, 40, 63, 80, 100, 125, 160, 200, 225, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600 A
- Number of Pole: 3, 4

Technical requirement



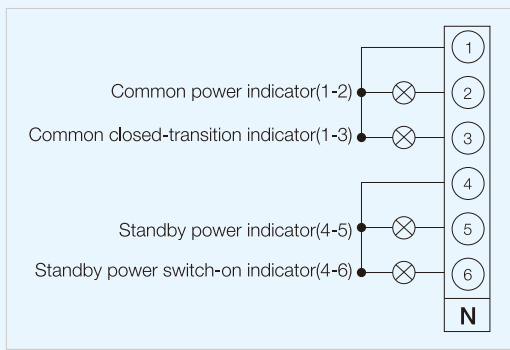
- In the automatic, when the common power supply under-voltage, over-voltage, loss of pressure transferred to the standby power supply. When the standby power appeared in the same failure, converted to double position, display screen will display and alarm automatically at the same time. LCD screen is protecting in the 30 s, on the button for the first time display screen will display, the second time can enter the settings, enter setup requires a password input.
- When the artificial set garbled (crash), the reset button reset to set the value of silence
- When the controller is arranged in the automatic, manual position, pressing the control panel double key display double, but not alarm. The controller sets delay switching time, when there is a power failure recovery in the value set, dual power supply without switching opposite and switching.

Wiring principle drawing



Note:

1. External terminal of user:



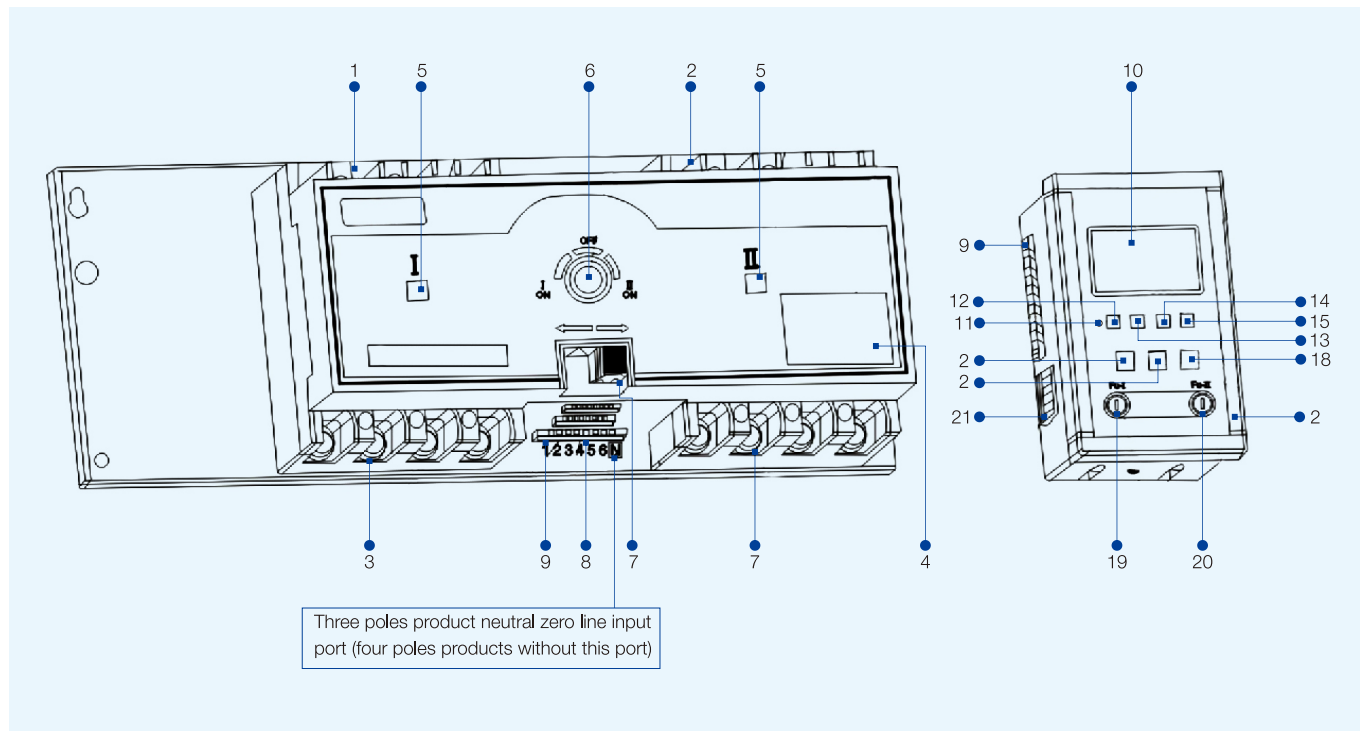
Users is according to requirements to connect by themselves about the signal lamp AC 220 V

2. When the switch is split, the port of signal terminal controller (NA-11 #) uses wire harness with the switch to connect
3. When the switch is integrated, the port of signal terminal controller (NA-11 #) has been connected which is cut of factory, the user does not need to connect
4. The dotted line part is connected by the users for themselves

Warning: the controller connector is strictly forbidden to plug and pull with electric!

Automatic Transfer Switches Series PAQ61M CB Class

Products panel illustrates



- | | |
|---|--|
| 1. Into the line of the main terminal of common power | 12. Set button |
| 2. Into the line of the main terminal of standby power | 13. Shift button |
| 3. Output main terminal of common power and standby power | 14. Digital "+" button |
| 4. Nameplate | 15. Digital "-" button |
| 5. Common power opening and closing indicator | 16. Manual mode |
| 6. Handle socket | 17. Automatic mode |
| 7. Jack board button | 18. Double bond OFF |
| 8. External signal terminal for user | 19. The insurance holder of common power supply |
| 9. Controller signal connection terminal | 20. The insurance holder of standby power supply |
| 10. LCD display | 21. Generator signal port and fire-fighting connection |
| 11. Restore factory default key | |

Main technical parameters

Rated current	10...100 A	125...225 A	400 A	630 A	800 A	1000...1250 A	1600 A	
Usage category	AC-33 IB							
Ue Rated working voltage	Ac400 V					AC 380 V		
Ui Rated insulation voltage	690 V	690 V				690 V		
Uimp Rated impulse withstand voltage	Icn 6 kV	6 kV	690 V	690 V	690 V	8 kV	690 V	
Rated short circuit breaking capacity	Icn 10 kA	10 kA	6 kV	6 kV	6 kV	30 kA	8 kV	
Rated short circuit making capacity	17kA	17kA	20 kA	30 kA	30 kA	63 kA	30 kA	
Service life (times)	Mechanical	4500	5000	40 kA	63 kA	63 kA	2500	63 kA
	Electrical	1500	1000	3000	2000	2000	500	2500
Number of Pole	3, 4		1000	1000	1000		500	
Operating cycles (S/times)	30 s		60s					
Switching time	0-99 s							

Automatic Transfer Switches

Series PAQ61M CB Class

Selection and ordering data

PAQ61M	Rated current (A)	3P	4P
		Type code	Type code
Basic type			
For Grid-Grid applications			
	10	PAQ63M-10-III	PAQ64M-10-III
	16	PAQ63M-16-III	PAQ64M-16-III
	20	PAQ63M-20-III	PAQ64M-20-III
	25	PAQ63M-25-III	PAQ64M-25-III
	32	PAQ63M-32-III	PAQ64M-32-III
	40	PAQ63M-40-III	PAQ64M-40-III
	50	PAQ63M-50-III	PAQ64M-50-III
	63	PAQ63M-63-III	PAQ64M-63-III
	80	PAQ63M-80-III	PAQ64M-80-III
	100	PAQ63M-100-III	PAQ64M-100-III
	125	PAQ63M-125-III	PAQ64M-125-III
	160	PAQ63M-160-III	PAQ64M-160-III
	200	PAQ63M-200-III	PAQ64M-200-III
	225	PAQ63M-225-III	PAQ64M-225-III
	250	PAQ63M-250-III	PAQ64M-250-III
	315	PAQ63M-315-III	PAQ64M-315-III
	400	PAQ63M-400-III	PAQ64M-400-III
	500	PAQ63M-500-III	PAQ64M-500-III
	630	PAQ63M-630-III	PAQ64M-630-III
	800	PAQ63M-800-III	PAQ64M-800-III
	1000	PAQ63M-1000-III	PAQ64M-1000-III
	1250	PAQ63M-1250-III	PAQ64M-1250-III
	1600	PAQ63M-1600-III	PAQ64M-1600-III
Emergency OFF with 24 V DC signal input			
For Grid-Grid applications			
	10	PAQ63M-10-III-X	PAQ64M-10-III-X
	16	PAQ63M-16-III-X	PAQ64M-16-III-X
	20	PAQ63M-20-III-X	PAQ64M-20-III-X
	25	PAQ63M-25-III-X	PAQ64M-25-III-X
	32	PAQ63M-32-III-X	PAQ64M-32-III-X
	40	PAQ63M-40-III-X	PAQ64M-40-III-X
	50	PAQ63M-50-III-X	PAQ64M-50-III-X
	63	PAQ63M-63-III-X	PAQ64M-63-III-X
	80	PAQ63M-80-III-X	PAQ64M-80-III-X
	100	PAQ63M-100-III-X	PAQ64M-100-III-X
	125	PAQ63M-125-III-X	PAQ64M-125-III-X
	160	PAQ63M-160-III-X	PAQ64M-160-III-X
	200	PAQ63M-200-III-X	PAQ64M-200-III-X
	225	PAQ63M-225-III-X	PAQ64M-225-III-X
	250	PAQ63M-250-III-X	PAQ64M-250-III-X
	315	PAQ63M-315-III-X	PAQ64M-315-III-X
	400	PAQ63M-400-III-X	PAQ64M-400-III-X
	500	PAQ63M-500-III-X	PAQ64M-500-III-X
	630	PAQ63M-630-III-X	PAQ64M-630-III-X
	800	PAQ63M-800-III-X	PAQ64M-800-III-X
	1000	PAQ63M-1000-III-X	PAQ64M-1000-III-X
	1250	PAQ63M-1250-III-X	PAQ64M-1250-III-X
	1600	PAQ63M-1600-III-X	PAQ64M-1600-III-X

Automatic Transfer Switches

Series PAQ61M CB Class

Selection and ordering data

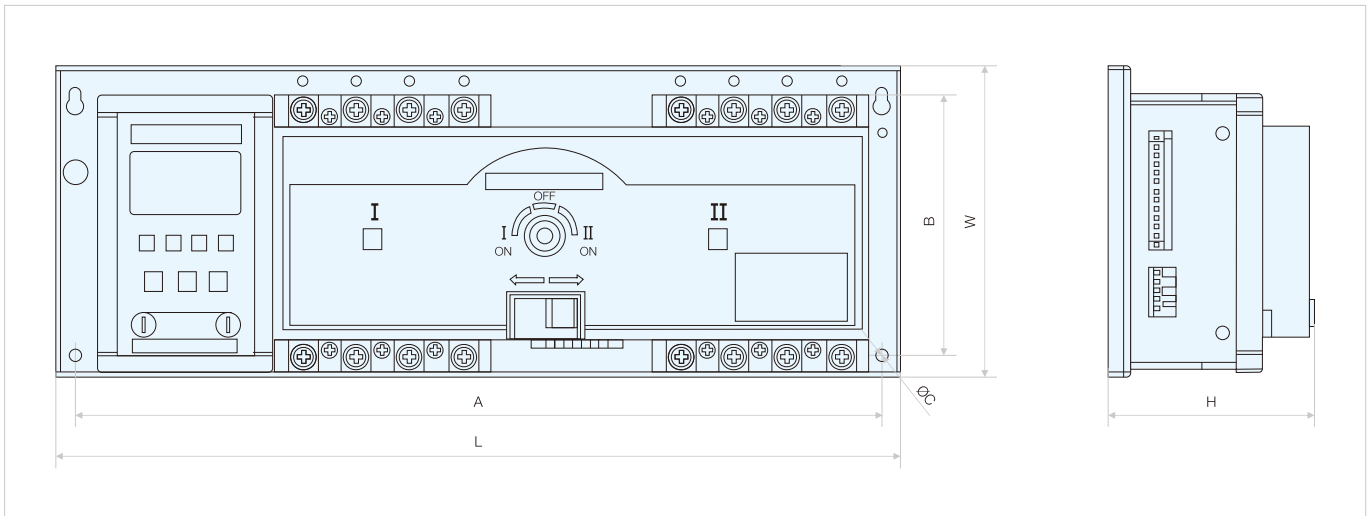
PAQ61M	Rated current (A)	3P	4P
		Type code	Type code
		Emergency OFF with 24 V DC signal input	
		Switch position signal	
		For Grid-Grid and Grid-Generator applications	
	10	PAQ63M-10-III-XFZ	PAQ64M-10-III-XFZ
	16	PAQ63M-16-III-XFZ	PAQ64M-16-III-XFZ
	20	PAQ63M-20-III-XFZ	PAQ64M-20-III-XFZ
	25	PAQ63M-25-III-XFZ	PAQ64M-25-III-XFZ
	32	PAQ63M-32-III-XFZ	PAQ64M-32-III-XFZ
	40	PAQ63M-40-III-XFZ	PAQ64M-40-III-XFZ
	50	PAQ63M-50-III-XFZ	PAQ64M-50-III-XFZ
	63	PAQ63M-63-III-XFZ	PAQ64M-63-III-XFZ
	80	PAQ63M-80-III-XFZ	PAQ64M-80-III-XFZ
	100	PAQ63M-100-III-XFZ	PAQ64M-100-III-XFZ
	125	PAQ63M-125-III-XFZ	PAQ64M-125-III-XFZ
	160	PAQ63M-160-III-XFZ	PAQ64M-160-III-XFZ
	200	PAQ63M-200-III-XFZ	PAQ64M-200-III-XFZ
	225	PAQ63M-225-III-XFZ	PAQ64M-225-III-XFZ
	250	PAQ63M-250-III-XFZ	PAQ64M-250-III-XFZ
	315	PAQ63M-315-III-XFZ	PAQ64M-315-III-XFZ
	400	PAQ63M-400-III-XFZ	PAQ64M-400-III-XFZ
	500	PAQ63M-500-III-XFZ	PAQ64M-500-III-XFZ
	630	PAQ63M-630-III-XFZ	PAQ64M-630-III-XFZ
	800	PAQ63M-800-III-XFZ	PAQ64M-800-III-XFZ
	1000	PAQ63M-1000-III-XFZ	PAQ64M-1000-III-XFZ
	1250	PAQ63M-1250-III-XFZ	PAQ64M-1250-III-XFZ
	1600	PAQ63M-1600-III-XFZ	PAQ64M-1600-III-XFZ

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Automatic Transfer Switches Series PAQ61M CB Class

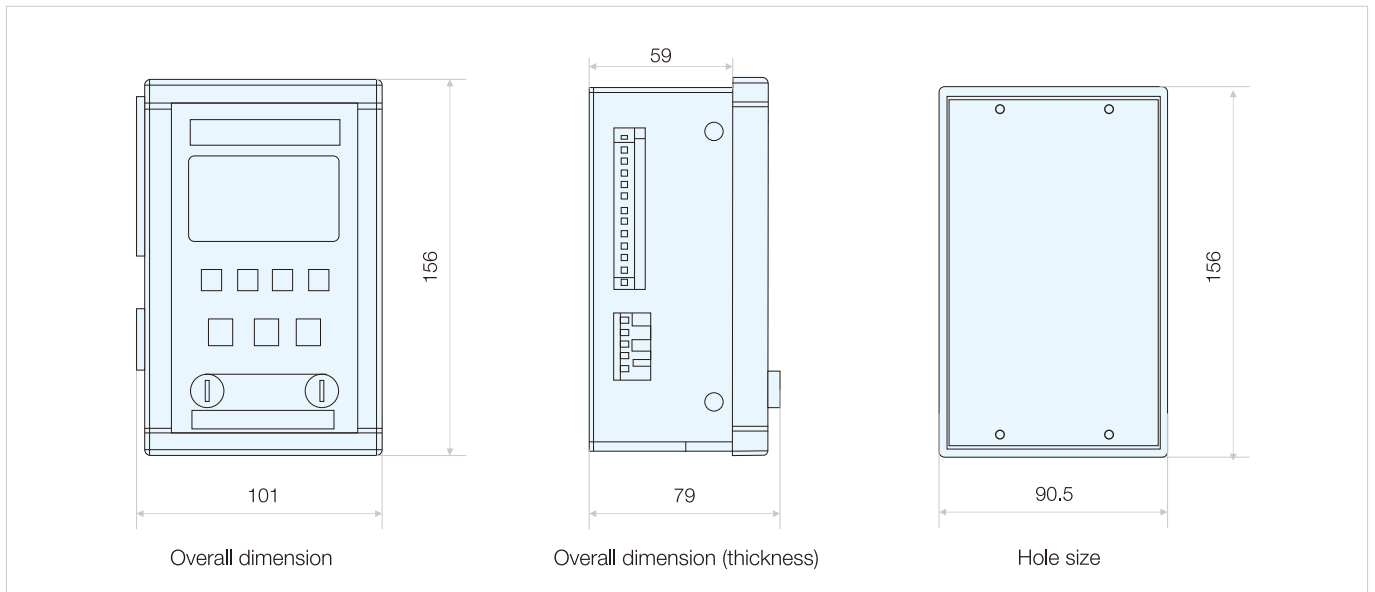
Overall and installation dimensions

Integration type



Overall dimension

Holes for intelligent controller



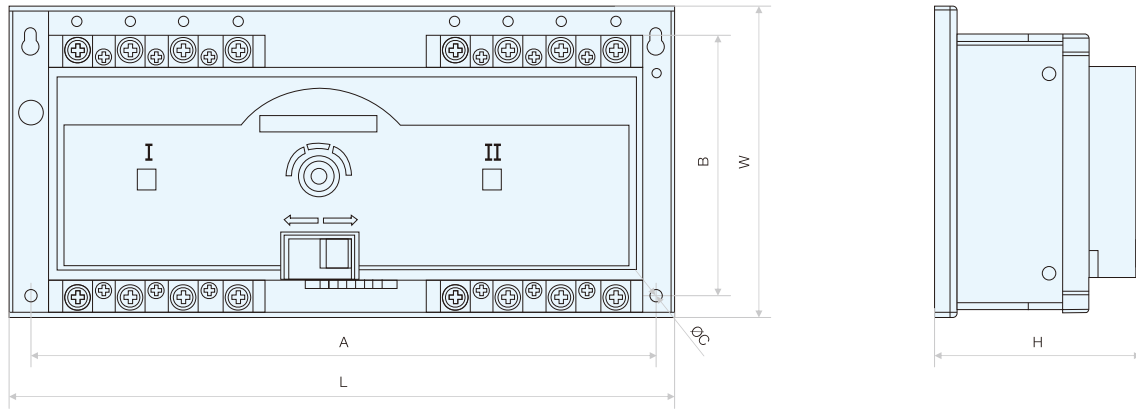
Dimension	Model	No. of pole	Overall dimension (mm)			Installation dimension (mm)		
			L	W	H	A	B	ØC
PAQ61M-10...63 A		3P	390	157	130	370	130	5.5
		4P	415			395		
PAQ61M-80...100 A		3P	442	174	115	422	147	6.5
		4P	472			452		
PAQ61M-125...225 A		3P	481	189	135	461	162	6.5
		4P	516			496		
PAQ61M-250...400 A		3P	608	282	195	582	252	8
		4P	655			629		
PAQ61M-500...630 A		3P	685	295	200	659	264.5	8
		4P	742			716		
PAQ61M-800 A		3P	713	305	190	689	274.5	10
		4P	836			812		
PAQ61M-1000...1250 A		3P	713	358	240	689	328	10
		4P	836			812		
PAQ61M-1600 A		3P	713	475	240	689	350	10
		4P	836			812		

Automatic Transfer Switches

Series PAQ61M CB Class

Overall and installation dimensions

Split type



Dimension		Overall dimension (mm)			Installation dimension (mm)		
Model	No. of pole	L	W	H	A	B	ØC
PAQ61M-10...63 A	3P	285	157	130	265	130	5.5
	4P	310			290		
PAQ61M-80...100 A	3P	337	174	115	317	147	6.5
	4P	367			347		
PAQ61M-125...225 A	3P	376	189	135	356	162	6.5
	4P	411			391		
PAQ61M-250...400 A	3P	503	282	195	479	252	8
	4P	550			524		
PAQ61M-500...630 A	3P	584	295	200	558	264.5	8
	4P	641			615		
PAQ61M-800 A	3P	616	305	190	592	274.5	10
	4P	743			719		
PAQ61M-1000...1250 A	3P	616	358	240	592	328	10
	4P	743			719		
PAQ61M-1600 A	3P	616	475	240	592	350	10
	4P	743			719		

Functions

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure.

Technical specifications

- Standard: IEC 60898-1
- Rated current I_n (A): 6, 10, 16, 20, 25, 32, 40, 50, 63
- Rated voltage U_n (V AC): 1P: 230/400; 2-4P: 400
- Operational voltage U_e (V AC): Min. : 24; Max. : 250/440
- Rated frequency (Hz): 50/60
- Rated insulation voltage U_i (V AC):
 - Phase to ground: 250
 - Phase to phase: 500
- Number of poles (P): 1, 2, 3, 4
- Tripping characteristic:
 - Characteristic Characteristic B (I_n): 3-5
 - Characteristic Characteristic C (I_n): 5-10
 - Characteristic Characteristic D (I_n): 10-20
- Thermal operating limit (I_n): 1.13 - 1.45
- Degree of protection: IP20, with connected conductors
- Electrical endurance (Cycles): 4,000
- Mechanical endurance (Cycles): 10,000
- Breaking Capacity: 6 kA
- Fire resistance according to IEC 60695: 960 °C
- Busbar connection: Pin type
- Mounting position: Any
- Conductor cross-sections
 - Solid and stranded (mm^2): 1-35
 - Finely stranded with end sleeve (mm^2): 1-16
- Terminal tightening torque (N·m): 2.5
- Ambient temperature (°C): -5 ~ +40, max. 95 % humidity
- Altitude (meters): Max. 2,000



Features


- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON / OFF)
- The handle provides a clear indication of the contact position
- Adequate printing of all data on the front provides long-term identification
- Energy limiting class: 3
- The emission of ionized gases is limited to the severest restrictions: 45 mm grid distance
- This MCB for household in accordance with: IEC 60898-1, B, C and D tripping characteristics

Miniature Circuit Breakers Series 3SB6

Selection and ordering data

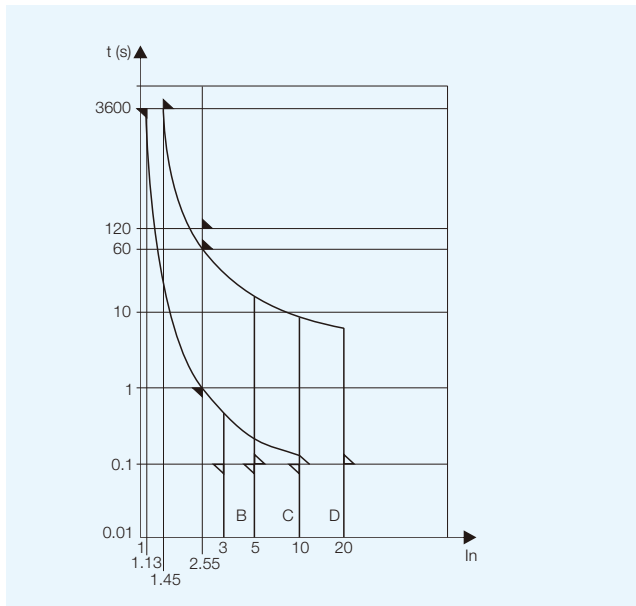
IEC 60898-1 6 kA

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	Number of poles	Rated current I _n (A)	Characteristic B	Characteristic C	Characteristic D	Pack.	
			Type code	Type code	Type code		
	1		6	B6 1B06N	B6 1C06N	B6 1D06N	12
			10	B6 1B10N	B6 1C10N	B6 1D10N	12
			16	B6 1B16N	B6 1C16N	B6 1D16N	12
			20	B6 1B20N	B6 1C20N	B6 1D20N	12
			25	B6 1B25N	B6 1C25N	B6 1D25N	12
			32	B6 1B32N	B6 1C32N	B6 1D32N	12
			40	B6 1B40N	B6 1C40N	B6 1D40N	12
			50	B6 1B50N	B6 1C50N	B6 1D50N	12
	63	B6 1B63N	B6 1C63N	B6 1D63N	12		
	2		6	B6 2B06N	B6 2C06N	B6 2D06N	6
			10	B6 2B10N	B6 2C10N	B6 2D10N	6
			16	B6 2B16N	B6 2C16N	B6 2D16N	6
			20	B6 2B20N	B6 2C20N	B6 2D20N	6
			25	B6 2B25N	B6 2C25N	B6 2D25N	6
			32	B6 2B32N	B6 2C32N	B6 2D32N	6
			40	B6 2B40N	B6 2C40N	B6 2D40N	6
			50	B6 2B50N	B6 2C50N	B6 2D50N	6
	63	B6 2B63N	B6 2C63N	B6 2D63N	6		
	3		6	B6 3B06N	B6 3C06N	B6 3D06N	4
			10	B6 3B10N	B6 3C10N	B6 3D10N	4
			16	B6 3B16N	B6 3C16N	B6 3D16N	4
			20	B6 3B20N	B6 3C20N	B6 3D20N	4
			25	B6 3B25N	B6 3C25N	B6 3D25N	4
			32	B6 3B32N	B6 3C32N	B6 3D32N	4
			40	B6 3B40N	B6 3C40N	B6 3D40N	4
			50	B6 3B50N	B6 3C50N	B6 3D50N	4
	63	B6 3B63N	B6 3C63N	B6 3D63N	4		
	4		6	B6 4B06N	B6 4C06N	B6 4D06N	3
			10	B6 4B10N	B6 4C10N	B6 4D10N	3
			16	B6 4B16N	B6 4C16N	B6 4D16N	3
			20	B6 4B20N	B6 4C20N	B6 4D20N	3
			25	B6 4B25N	B6 4C25N	B6 4D25N	3
			32	B6 4B32N	B6 4C32N	B6 4D32N	3
			40	B6 4B40N	B6 4C40N	B6 4D40N	3
			50	B6 4B50N	B6 4C50N	B6 4D50N	3
	63	B6 4B63N	B6 4C63N	B6 4D63N	3		

Tripping characteristic Characteristics

IEC 60898-1 Standard



Magnetic release

An electromagnet with plunger ensures instantaneous tripping in case of any short circuit. The IEC 60898-1 distinguishes three different types, following the current for instantaneous release: type B, C, D

	Test current	Tripping time	Applications
B	3 In	0.1 < t < 45 s (In ≤ 32 A) 0.1 < t < 90 s (In > 32 A)	Only for resistive loads such as: - electrical heating - water heaters - stoves
	5 In	t < 0.1 s	
C	5 In	0.1 < t < 15 s (In ≤ 32 A) 0.1 < t < 30 s (In > 32 A)	Usual loads such as: - lighting - socket outlets - small motors
	10 In	t < 0.1 s	
D	10 In	0.1 < t < 4 s (In ≤ 32 A) 0.1 < t < 8 s (In > 32 A)	Control and protection of circuits having important transient inrush currents (large motors)
	20 In	t < 0.1 s	

Thermal release

- The release is initiated by a bimetal strip in case of overload
- The standard defines the range of release for specific overload values
- Reference ambient temperature is 30 °C

Test current	Tripping time
1.13 In	t ≥ 1 h (In ≤ 63 A)
1.45 In	t < 1 h (In ≤ 63 A)
2.55 In	1 s < t < 60 s (In ≤ 32 A) 1 s < t < 120 s (In > 32 A)

Miniature Circuit Breakers

Series 3SB6

Temperature derating

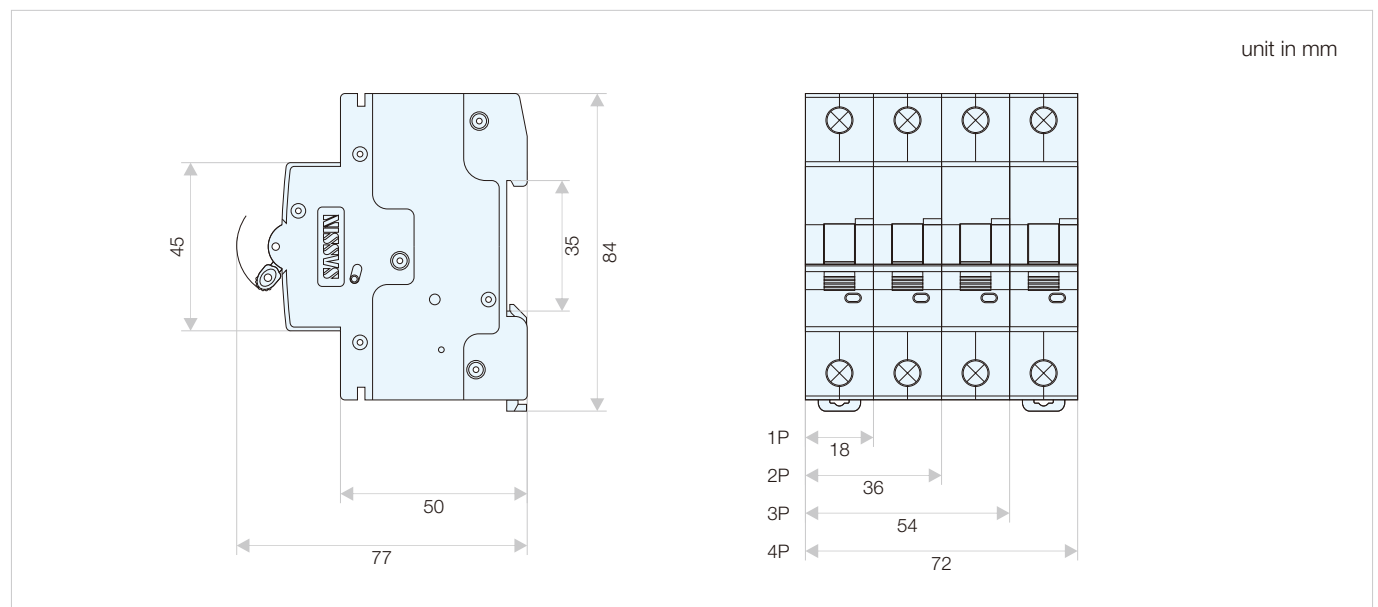
The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30 °C

Rated current I _n (A)	Temperature compensation coefficient under various operational temperature									
	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	55 °C	60 °C	
16	1.20	1.14	1.09	1.05	1.00	0.96	0.80	0.75	0.70	
10-32	1.18	1.12	1.08	1.04	1.00	0.96	0.92	0.88	0.84	
40-60	1.16	1.12	1.07	1.03	1.00	0.97	0.87	0.83	0.80	

When several simultaneously operating circuit breakers are mounted side by side in a small enclosure, the temperature rise inside the enclosure causes a reduction in current rating. Then you must then assign the rating (already derated if necessary according to ambient temperature) a downrating factor of 0.8.

Outline and installation dimensions



Functions

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industries, energy and infrastructures.

Technical specifications

- Standard: IEC 60947-2
- Rated current I_n (A): 80, 100, 125
- Rated voltage U_n (V AC): 230/400
- Operational voltage (V AC): Min: 24; Max: 250/440
- Number of poles: 1, 2, 3, 4
- Tripping characteristic: C, D
- Characteristic Characteristic C (I_n): 8
- Characteristic Characteristic D (I_n): 12
- Thermal operating limit (I_n): (1.05-1.3)
- Degree of protection: IP20, with connected conductors
- Electrical life (times): 4,000
- Mechanical life (times): 10,000
- Breaking capacity:

Model	Rated voltage		Acc. to IEC 60947-2	
		(V)	I_{cu} (kA)	I_{cs} (kA)
PBH610	1P	230/400	10	7.5
	2-4P	400	10	7.5

- Mounting position: Any
- Conductor cross-sections
- Solid and stranded (mm^2): 1-50
- Finely stranded with end sleeve (mm^2): 1-35
- Terminal tightening torque (N·m): 2.8
- Ambient temperature ($^{\circ}C$): -25 ~ +45, max. 95 % humidity
- Storage temperature ($^{\circ}C$): -40 ~ +75
- Altitude (meters): Max 2,000



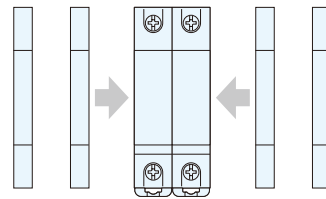
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Features

- Rated current up to 125 A
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON / OFF)
- The handle provides a clear indication of the contact position
- Adequate printing of all data on the front provides long-term identification
- Energy limiting class: 3
- The emission of ionized gases is limited to the severest restrictions: 45 mm grid distance
- This MCB for industry in accordance with IEC 60947-2 instantaneous tripping characteristic release C 8 I_n , release D 12 I_n .
- This MCB may be extended with:
 - A wide range of RCDs and RCBO
 - Full sets of additional components
 - Full sets of accessories

Add-on devices





Auxiliaries



Miniature Circuit Breakers Series PBH610

Selection and ordering data

IEC 60947-2 10 kA

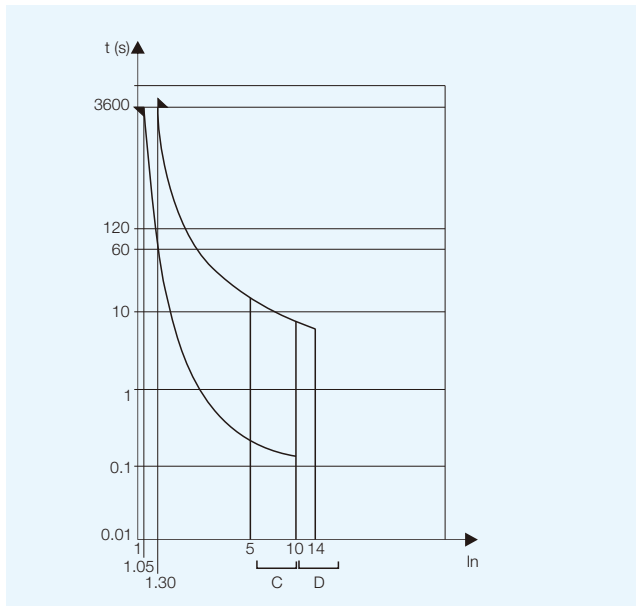
	Number of poles	Rated current In (A)	Characteristic		Pack.
			Characteristic C Type code	Characteristic D Type code	
	1	80	PBH611-C80	PBH611-D80	12
		100	PBH611-C100	PBH611-D100	12
		125	PBH611-C125	PBH611-D125	12
	2	80	PBH612-C80	PBH612-D80	6
		100	PBH612-C100	PBH612-D100	6
		125	PBH612-C125	PBH612-D125	6
	3	80	PBH613-C80	PBH613-D80	4
		100	PBH613-C100	PBH613-D100	4
		125	PBH613-C125	PBH613-D125	4
	4	80	PBH614-C80	PBH614-D80	3
		100	PBH614-C100	PBH614-D100	3
		125	PBH614-C125	PBH614-D125	3

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Miniature Circuit Breakers Series PBH610

Tripping characteristic Characteristics

IEC 60947-2 Standard



Magnetic release

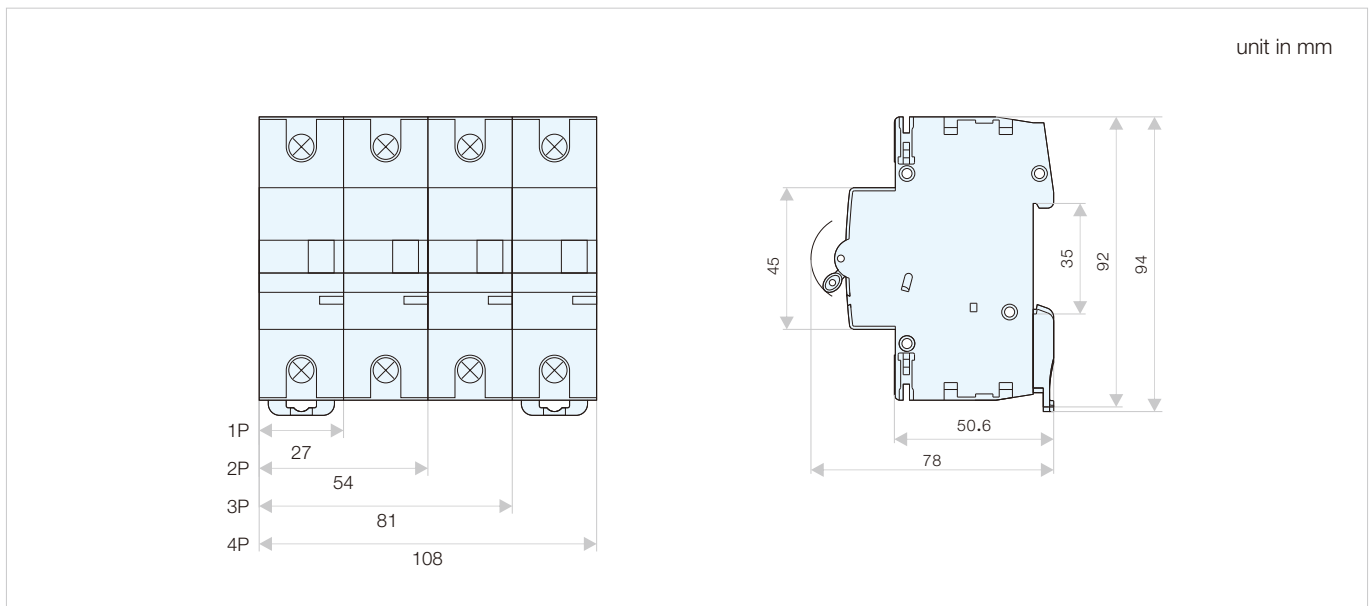
- An electromagnet with plunger ensures instantaneous tripping in case of any short circuit.
- The standard leaves the calibration of magnetic release to manufacturer's decision.
- Sassin MCB series 3SB71-125 offers instantaneous tripping ranges
 - release C: 8 In
 - release D: 12 In

Thermal release

- The release is initiated by a bimetal strip in case of overload.
- The standard defines the range of release for two specific overload values.
- Reference ambient temperature is 30 °C.

Test current	Tripping time
1.05 In	$t \geq 2 \text{ h (In > 63 A)}$
1.30 In	$t < 2 \text{ h (In > 63 A)}$

Outline and installation dimensions



Residual Current Circuit Breakers

Series 3SL6

Functions

- Switching and isolation function
- Controlling
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contacts and additional protection against direct contacts.
- Protection against fire hazard caused by insulation faults
- Used in residential building , non-residential building, energy sources, industry and infrastructure.
- Anti false wiring design to ensure safe wiring

Technical specifications

- Standard: IEC 61008-1 (AC type / A type), IEC 62643 (B type)
- Type (wave form of the earth leakage sensed): AC, A, B
- Tripping time type: instantaneous, selectivity S
- Number of poles (P): 2, 4
- Rated current I_n (A): 10, 16, 25, 40, 63, 80, 100
- Rated voltage U_e (V AC): 2P: 230; 4P: 380
- Rated insulation voltage U_i (V AC): 500
- Rated frequency F_n (Hz): 50/60
- Rated residual currents $I_{\Delta n}$ (mA): 10, 30, 100, 300
- Rated conditional short-circuit current:
 $I_{nc} = I_{\Delta c} = 6000$ A SCPD fuse 100 A Gg
- Making and breaking capacity for 3SL6-63 I_m (A): 630
- Making and breaking capacity for 3SL6-100 I_m (A): 1000
- Rated residual breaking capacity $I_{\Delta m}$ (A): 1000
- Degree of protection: IP20, with connected conductors
- Conductor cross-section
 - Solid and stranded (mm^2): 1-35
 - Finely stranded with end sleeve (mm^2): 1-25
- Electrical endurance (Cycles): 4,000
- Mechanical endurance (Cycles): 10,000
- Fire resistance according to IEC 60695: 960 °C
- Mounting position: Any
- Busbar connection: Pin type
- Terminal tightening torque (N·m): 2.5
- Ambient temperature (°C): -5 ~ +40, max. 95 % humidity

Features





- Electromagnetic type, voltage independent.
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON / OFF)
- Adequate printing of all data on the front provides long-term identification



Residual Current Circuit Breakers Series 3SL6

Selection and ordering data

AC type 





	Number of poles	Rated residual current I _{Δn} (mA)	Rated current I _n (A)	Left neutral	Right neutral	
				Type code	Type code	
General type, instantaneous						
	2P 230 V AC	10	10	L6 2C10/010L	L6 2C10/010	
			16	L6 2C16/010L	L6 2C16/010	
			30	25	L6 2C25/030L	L6 2C25/030
				40	L6 2C40/030L	L6 2C40/030
				63	L6 2C63/030L	L6 2C63/030
				80	L6 2C80/030L	L6 2C80/030
	100	100	L6 2C100/030L	L6 2C100/030		
		25	25	L6 2C25/100L	L6 2C25/100	
			40	L6 2C40/100L	L6 2C40/100	
			63	L6 2C63/100L	L6 2C63/100	
			80	L6 2C80/100L	L6 2C80/100	
		300	100	L6 2C100/100L	L6 2C100/100	
	25		25	L6 2C25/300L	L6 2C25/300	
			40	L6 2C40/300L	L6 2C40/300	
			63	L6 2C63/300L	L6 2C63/300	
			80	L6 2C80/300L	L6 2C80/300	
			4P 380 V AC	10	10	L6 4C10/010L
		16			L6 4C16/010L	L6 4C16/010
30		25			L6 4C25/030L	L6 4C25/030
		40			L6 4C40/030L	L6 4C40/030
		63			L6 4C63/030L	L6 4C63/030
		80			L6 4C80/030L	L6 4C80/030
100		100	L6 4C100/030L	L6 4C100/030		
		25	25	L6 4C25/100L	L6 4C25/100	
			40	L6 4C40/100L	L6 4C40/100	
			63	L6 4C63/100L	L6 4C63/100	
			80	L6 4C80/100L	L6 4C80/100	
		300	100	L6 4C100/100L	L6 4C100/100	
25			25	L6 4C25/300L	L6 4C25/300	
			40	L6 4C40/300L	L6 4C40/300	
			63	L6 4C63/300L	L6 4C63/300	
			80	L6 4C80/300L	L6 4C80/300	
			2P 230 V AC	100	25	L6 2SC25/100L
		40			L6 2SC40/100L	L6 2SC40/100
	63	L6 2SC63/100L			L6 2SC63/100	
	80	L6 2SC80/100L			L6 2SC80/100	
	100	L6 2SC100/100L			L6 2SC100/100	
	300	25			L6 2SC25/300L	L6 2SC25/300
		40	L6 2SC40/300L	L6 2SC40/300		
		63	L6 2SC63/300L	L6 2SC63/300		
		80	L6 2SC80/300L	L6 2SC80/300		
		100	L6 2SC100/300L	L6 2SC100/300		
			4P 380 V AC	100	25	L6 4SC25/100L
	40				L6 4SC40/100L	L6 4SC40/100
	63				L6 4SC63/100L	L6 4SC63/100
	80				L6 4SC80/100L	L6 4SC80/100
	100				L6 4SC100/100L	L6 4SC100/100
	300				25	L6 4SC25/300L
			40	L6 4SC40/300L	L6 4SC40/300	
			63	L6 4SC63/300L	L6 4SC63/300	
80			L6 4SC80/300L	L6 4SC80/300		
100			L6 4SC100/300L	L6 4SC100/300		

S type, selective 

Residual Current Circuit Breakers Series 3SL6

Selection and ordering data

A type 




	Number of poles	Rated residual current $I_{\Delta n}$ (mA)	Rated current I_n (A)	Left neutral	Right neutral	
				Type code	Type code	
General type, instantaneous						
	2P 230 V AC	10	10	L6 2A10/010L	L6 2A10/010	
			16	L6 2A16/010L	L6 2A16/010	
			30	25	L6 2A25/030L	L6 2A25/030
				40	L6 2A40/030L	L6 2A40/030
				63	L6 2A63/030L	L6 2A63/030
				80	L6 2A80/030L	L6 2A80/030
	100	100	L6 2A100/030L	L6 2A100/030		
		25	L6 2A25/100L	L6 2A25/100		
		40	L6 2A40/100L	L6 2A40/100		
		63	L6 2A63/100L	L6 2A63/100		
		80	L6 2A80/100L	L6 2A80/100		
		100	L6 2A100/100L	L6 2A100/100		
	300	25	L6 2A25/300L	L6 2A25/300		
		40	L6 2A40/300L	L6 2A40/300		
		63	L6 2A63/300L	L6 2A63/300		
		80	L6 2A80/300L	L6 2A80/300		
		100	L6 2A100/300L	L6 2A100/300		
	4P 380 V AC	10	10	L6 4A10/010L	L6 4A10/010	
			16	L6 4A16/010L	L6 4A16/010	
			30	25	L6 4A25/030L	L6 4A25/030
				40	L6 4A40/030L	L6 4A40/030
				63	L6 4A63/030L	L6 4A63/030
				80	L6 4A80/030L	L6 4A80/030
	100	100	L6 4A100/030L	L6 4A100/030		
		25	L6 4A25/100L	L6 4A25/100		
		40	L6 4A40/100L	L6 4A40/100		
		63	L6 4A63/100L	L6 4A63/100		
		80	L6 4A80/100L	L6 4A80/100		
		100	L6 4A100/100L	L6 4A100/100		
	300	25	L6 4A25/300L	L6 4A25/300		
		40	L6 4A40/300L	L6 4A40/300		
		63	L6 4A63/300L	L6 4A63/300		
		80	L6 4A80/300L	L6 4A80/300		
		100	L6 4A100/300L	L6 4A100/300		
AD type, anti-disturbance						
	2P 230 V AC	30	25	L6AD 2A25/30L	L6AD 2A25/30	
			40	L6AD 2A40/30L	L6AD 2A40/30	
			63	L6AD 2A63/30L	L6AD 2A63/30	
			80	L6AD 2A80/30L	L6AD 2A80/30	
			100	L6AD 2A100/30L	L6AD 2A100/30	
	4P 380 V AC	30	25	L6AD 4A25/30L	L6AD 4A25/30	
			40	L6AD 4A40/30L	L6AD 4A40/30	
			63	L6AD 4A63/30L	L6AD 4A63/30	
			80	L6AD 4A80/30L	L6AD 4A80/30	
			100	L6AD 4A100/30L	L6AD 4A100/30	

2



Residual Current Circuit Breakers Series 3SL6

Selection and ordering data

A type 

	Number of poles	Rated residual current $I_{\Delta n}$ (mA)	Rated current I_n (A)	Left neutral	Right neutral
				Type code	Type code
S type, selective 					
	2P 230 V AC	100	25	L6 2SA25/100L	L6 2SA25/100
			40	L6 2SA40/100L	L6 2SA40/100
			63	L6 2SA63/100L	L6 2SA63/100
			80	L6 2SA80/100L	L6 2SA80/100
			100	L6 2SA100/100L	L6 2SA100/100
	300	25	L6 2SA25/300L	L6 2SA25/300	
			40	L6 2SA40/300L	L6 2SA40/300
			63	L6 2SA63/300L	L6 2SA63/300
			80	L6 2SA80/300L	L6 2SA80/300
			100	L6 2SA100/300L	L6 2SA100/300
	4P 380 V AC	100	25	L6 4SA25/100L	L6 4SA25/100
			40	L6 4SA40/100L	L6 4SA40/100
			63	L6 4SA63/100L	L6 4SA63/100
			80	L6 4SA80/100L	L6 4SA80/100
			100	L6 4SA100/100L	L6 4SA100/100
	300	25	L6 4SA25/300L	L6 4SA25/300	
			40	L6 4SA40/300L	L6 4SA40/300
			63	L6 4SA63/300L	L6 4SA63/300
			80	L6 4SA80/300L	L6 4SA80/300
			100	L6 4SA100/300L	L6 4SA100/300

B type   

	Number of poles	Rated residual current $I_{\Delta n}$ (mA)	Rated current I_n (A)	Left neutral	Right neutral		
				Type code	Type code		
General type, instantaneous							
	2P 230 V AC	30	16	L6 2B16/010L	L6 2B16/010		
			25	L6 2B25/030L	L6 2B25/030		
			40	L6 2B40/030L	L6 2B40/030		
			63	L6 2B63/030L	L6 2B63/030		
			80	L6 2B80/030L	L6 2B80/030		
			100	L6 2B100/030L	L6 2B100/030		
			100	16	L6 2B16/100L	L6 2B16/100	
					25	L6 2B25/100L	L6 2B25/100
					40	L6 2B40/100L	L6 2B40/100
	300	16	L6 2B63/100L	L6 2B63/100			
			80	L6 2B80/100L	L6 2B80/100		
			100	L6 2B100/100L	L6 2B100/100		
			25	L6 2B25/300L	L6 2B25/300		
			40	L6 2B40/300L	L6 2B40/300		
			63	L6 2B63/300L	L6 2B63/300		
		4P 380 V AC	30	25	L6 4B25/030L	L6 4B25/030	
				40	L6 4B40/030L	L6 4B40/030	
				63	L6 4B63/030L	L6 4B63/030	
80				L6 4B80/030L	L6 4B80/030		
100				L6 4B100/030L	L6 4B100/030		
100				25	L6 4B25/100L	L6 4B25/100	
					40	L6 4B40/100L	L6 4B40/100
					63	L6 4B63/100L	L6 4B63/100
300				25	L6 4B80/100L	L6 4B80/100	
		100	L6 4B100/100L		L6 4B100/100		
		40	L6 4B25/300L		L6 4B25/300		
		63	L6 4B63/300L		L6 4B63/300		
		80	L6 4B80/300L		L6 4B80/300		
		100	L6 4B100/300L		L6 4B100/300		

Residual Current Circuit Breakers

Series 3SL6

Types

Both RCCBs and RCBOs are further divided into types depending on the operating function:

Type AC

For which tripping is ensured for residual sinusoidal alternating currents, whether suddenly applied or slowly rising.

Type A

For which tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents, whether suddenly applied or slowly rising.

Type B

Type B RCDs are not only sensitive to alternating and pulsating earth fault currents with DC components at a frequency of 50/60 Hz (type A), but they are also sensitive to:

- Alternating currents up to a frequency of 1000 Hz;
- Alternating and/or pulsating currents with DC components overlapping with a direct current;
- Earth fault currents generated by a rectifier with two or more phases;
- Direct earth fault currents without residual ripple

...independently of the polarity or whether the earth fault current appears suddenly or increases gradually.

According to their trip time, RCDs can be classed as two types:

General type

Instantaneous trip without time-delay, used for general purpose.

Selective type

Type S, trip with time-delay, used for selectivity and limit the power out only to part of the system affected by a current leakage fault.

AD range (high immunity)

Leakage currents due to actual faults and temporary residual currents caused by disturbances on the mains cannot be distinguished. The reaction to both is the same, it means the RCDs normally present in the system are tripped to break the circuit, even in the event of disturbance occurs, but not a true earth fault.

Disturbances of this kind are most often caused by:

- Operation over-voltages caused by inserting or removing loads (opening or closing protection of control devices, starting and stopping motors, switching fluorescent lighting systems on and off, etc.)
- Over-voltages of atmospheric origin, caused by direct or indirect discharges on the electrical line.

Under these circumstances, such RCD tripping is unwanted, it is neither necessary nor desirable to disconnect the load from the supply. On the contrary, the sudden and unjustified interruption of the power supply may result in very serious problems.

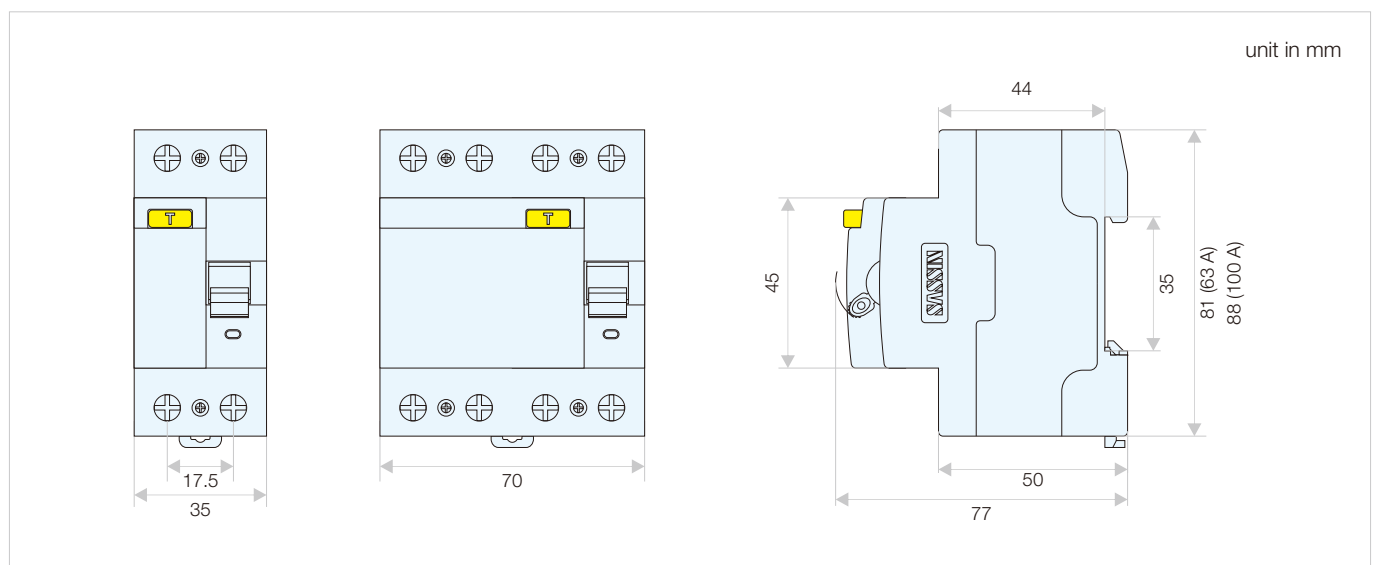
In order to avoid this disturbance, the use of AD range high immunity (anti-disturbance) RCDs is recommended. This device was designed to trip with a slight time delay, but this does not compromise the safety limits set by the standards in force.

For this range of devices, the limit values for the break times are defined. In accordance with the general type, the AD range high immunity RCDs are instantaneous versions.

Tripping sensitivity data

- RCD with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact.
- RCD with a rated residual current of maximum 300 mA are used as preventative fire protection in case of insulation faults.
- RCD with a rated residual current of 100 mA co-ordinated with the earth system according to the formula $I\Delta n < 50/R$, to provide protection against indirect contacts.

Outline and installation dimensions



Residual Current Circuit Breakers with Overcurrent Protection Series PRBNE615

Functions

- Switching and isolation function.
- Protection against overload and short-circuit currents.
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contact and additional protection against direct contact.
- Protection against fire hazard caused by insulation faults.
- Used in residential buildings and distribution boards.

Technical specifications

- Standard: IEC 61009-1
- Type (wave form of the earth leakage sensed): AC, A
- Number of pole: 1+N (1 module)
- Rated current I_n (A): 6, 10, 16, 20, 25, 32, 40, 50
- Rated voltage U_e (V AC): 230
- Rated insulation voltage U_i (V AC): 500
- Rated frequency F_n (Hz): 50/60
- Rated residual currents ΔI_n (mA): 30
- Rated breaking capacity acc. to IEC 61009-1 ultimate I_{cn} (kA): 6
- Rated residual breaking capacity $I_{\Delta m}$ (kA): 3
- Rated impulse withstand voltage (1.2/50) U_{imp} (kV): 4
- Dielectric test voltage at ind. freq. for 1 min. (kV): 2
- Surge current resistance (wave 8/20) (A): 3000
- Tripping characteristic: B, C
 - Characteristic B (I_n): 3-5
 - Characteristic C (I_n): 5-10
- Electrical life (times): 4,000
- Mechanical life (times): 10,000
- Degree of protection: IP20, with connected conductors
- Mounting position: Any
- Conductor cross-sections
 - Solid and stranded (mm²): 0.75-35
 - Finely stranded with end sleeve (mm²): 0.75-25
- Terminals
 - Terminal tightening torque (N·m): 2.5
- Ambient temperature (°C): -25 ~ +45, max. 95 % humidity
- Storage temperature (°C): -40 ~ +75
- Altitude (meters): Max. 2000



Features

- The combination of an RCCB and a miniature circuit breaker is achieved in a compact design.
- The MCB part protects lines against overload and short circuits and is available in characteristics Characteristic B and C.
- Electronic Type, voltage dependent
- The earth reference cable ensures protection against earth leakage in case of any loss of supply neutral.

Selection and ordering data

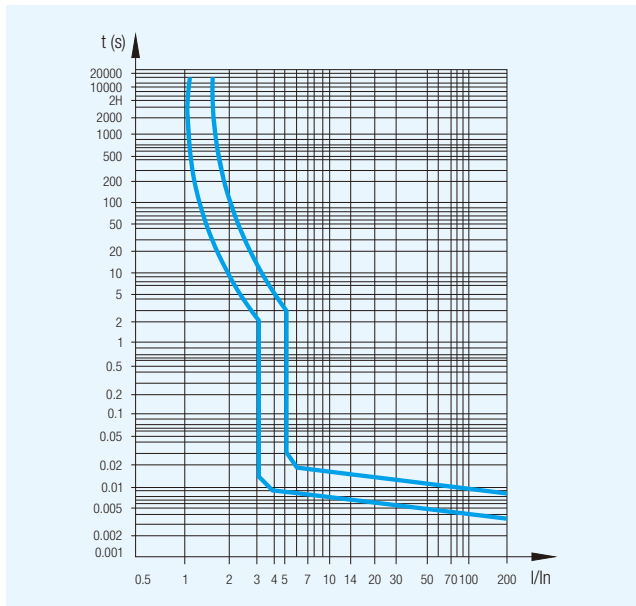
	Number of poles	Rated residual current ΔI_n (mA)	Rated current I_n (A)	Characteristic B	Characteristic C			
				Type code	Type code			
AC Type <input checked="" type="checkbox"/>	1P+N 230 V AC	30	6	PRBNE615-B6-AC-0.03	PRBNE615-C6-AC-0.03			
			10	PRBNE615-B10-AC-0.03	PRBNE615-C10-AC-0.03			
			16	PRBNE615-B16-AC-0.03	PRBNE615-C16-AC-0.03			
			20	PRBNE615-B20-AC-0.03	PRBNE615-C20-AC-0.03			
			25	PRBNE615-B25-AC-0.03	PRBNE615-C25-AC-0.03			
			32	PRBNE615-B32-AC-0.03	PRBNE615-C32-AC-0.03			
			40	PRBNE615-B40-AC-0.03	PRBNE615-C40-AC-0.03			
			50	PRBNE615-B50-AC-0.03	PRBNE615-C50-AC-0.03			
			A Type <input checked="" type="checkbox"/>	1P+N 230 V AC	30	6	PRBNE615-B6-A-0.03	PRBNE615-C6-A-0.03
						10	PRBNE615-B10-A-0.03	PRBNE615-C10-A-0.03
16	PRBNE615-B16-A-0.03	PRBNE615-C16-A-0.03						
20	PRBNE615-B20-A-0.03	PRBNE615-C20-A-0.03						
25	PRBNE615-B25-A-0.03	PRBNE615-C25-A-0.03						
32	PRBNE615-B32-A-0.03	PRBNE615-C32-A-0.03						
40	PRBNE615-B40-A-0.03	PRBNE615-C40-A-0.03						
50	PRBNE615-B50-A-0.03	PRBNE615-C50-A-0.03						



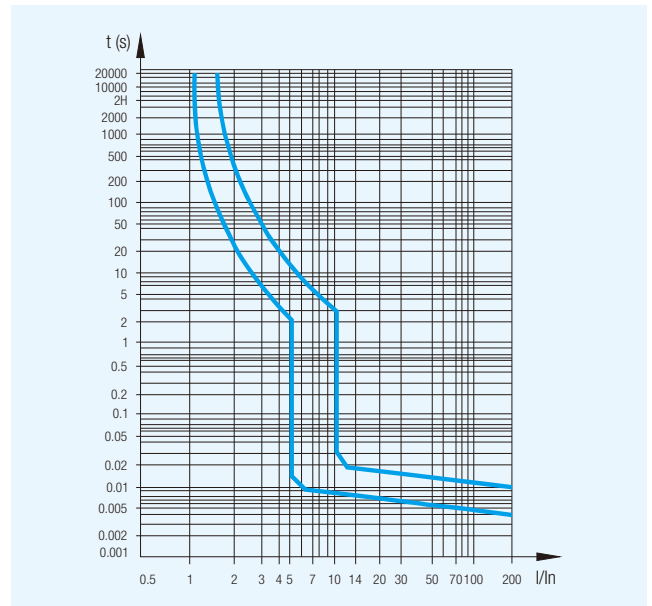
Residual Current Circuit Breakers with Overcurrent Protection Series PRBNE615

Tripping characteristic Characteristics

Characteristic B





Characteristic C



2

Types

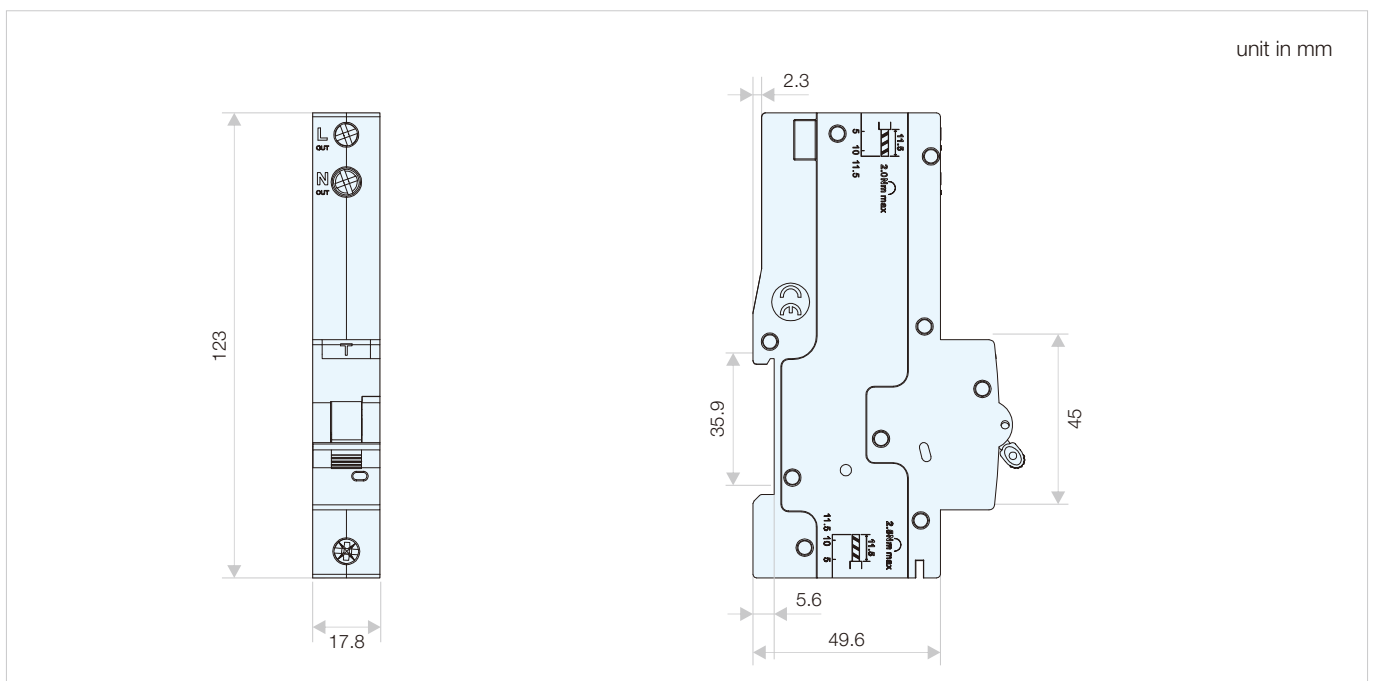
Both RCCBs and RCBOs are further divided into types depending on the operating function:

- Type AC : For which tripping is ensured for residual sinusoidal alternating currents, whether suddenly applied or slowly rising.
- Type A : For which tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents, whether suddenly applied or slowly rising.

Tripping sensitivity data

- RCDs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact.

Outline and installation dimensions



Functions

- P6-AC: Auxiliary contact
Indication of the device contact positions (Open/Closed).
- P6-FC: Fault signal contact
Indication of the device contact positions only after the automatic release due to overcurrent.
- P6-AF: Auxiliary contact and fault signal contact
Two change-over contacts that include both functions of P6-AC and P6-FC.
- P6-URX: Under-voltage release
Protection of the load in the event of a voltage drop (between 75% and 35% of its rated value), and prevent the device closing again until its input voltage is restored.
- P6-UR: Under-voltage release
Protection of the load in the event of the input voltage drop to $170V \pm 5\%$.
- P6-OR: Over-voltage release
Protection of the load in the event of the voltage exceed $280V \pm 5\%$.
- P6-OUR: Over-voltage and undervoltage release
Protection of the load as described above for P6-OR and P6-UR.
- Suitable for 3SB6 range MCBs.



Technical specifications

- Standard: IEC 60947-2
- Rated insulation voltage (V AC): 500
- Rated frequency (Hz): 50/60
- Utilization category: AC 14
- Mechanical life (times): 4,000
- Conductor cross-sections
 - Solid and stranded (mm²): 2.5
- Ambient temperature (°C): -5 ~ +40, max. 95 % humidity
- Storage temperature (°C): -40 ~ +75
- Terminal tightening torque (N·m): 0.5
- Dielectric Strength: 2,000
- Wire square: 2.5

Additional Components for Series 3SB6

Selection and ordering data

Description	Width (mm)	Mouting	Tripping voltage	Coil voltage	Type code
Auxiliary contact	9	Left	-	-	P6-AC-L
		Right	-	-	P6-AC-R
Fault signal contact	9	Left	-	-	P6-FC-L
		Right	-	-	P6-FC-R
Auxiliary contact and fault signal contact	9	Left	-	-	P6-AF-L
		Right	-	-	P6-AF-R
Under-voltage release	18	Left	70% - 35% Un	12V AC/DC	P6-URX-12-L
				24V AC/DC	P6-URX-24-L
				48V AC/DC	P6-URX-48-L
				127V AC/DC	P6-URX-127-L
				230V AC	P6-URX-230A-L
				170 V ± 5%	P6-UR-230
	Right	70% - 35% Un	12V AC/DC	P6-URX-12-R	
			24V AC/DC	P6-URX-24-R	
			48V AC/DC	P6-URX-48-R	
			127V AC/DC	P6-URX-127-R	
			230V AC	P6-URX-230A-R	
			230V AC	P6-OR-3-230	
Over-voltage release	18	Left	280 V ± 5%	230V AC	P6-OR-1-230
	54	Left	280 V ± 5%	230V AC	P6-OR-3-230
Over-voltage and under-voltage release	18	-	-	230V AC	P6-OUR-230
Shunt release	18	Left	-	24-60V AC	P6-SR-L2
				24-48V DC	
				110-415V AC	P6-SR-L1
		110-125V DC			
		Right		24-60V AC	P6-SR-R2
				16-48V DC	
110-415V AC	P6-SR-R1				
			110-125V DC		

Padlock for MCBs and switches

Prevent unauthorised or dangerous operation of the operating lever. An adaptor makes it possible to block the operating lever when switched ON or OFF. The key lock should be provided by user.

Application	Type code
3SB6 series MCBs, 3SL6 series RCCBs, PRBNE615 series RCBOs, 3SG6 series switch disconnectors	PL3

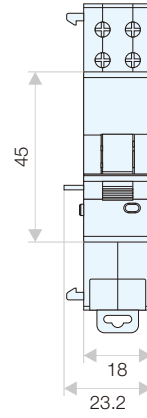
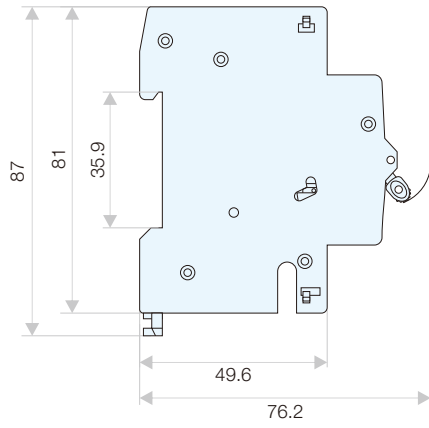


Additional Components for Series 3SB6

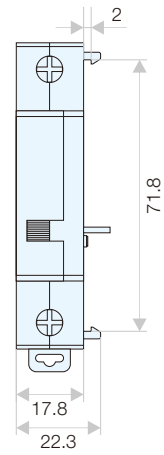
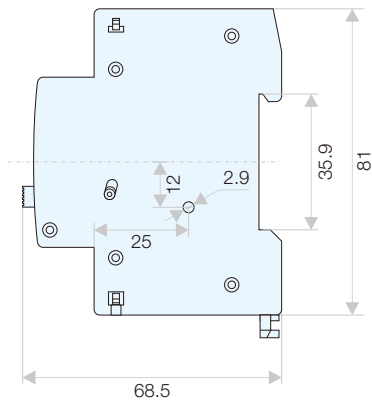
Outline and installation dimensions

unit in mm

P6-SR



P6-OR, P6-UR, P6-OUR



Surge Protective Devices

Series PSC61, compact, type 2

Functions

- Types 2 surge arresters
- Handling energy from distant/ indirect lightning strikes or from switching operations
- Feature lower protection level
- Recommended to be installed at the incoming of installation for locations with no exposure to direct lightning impulses

Technical specifications

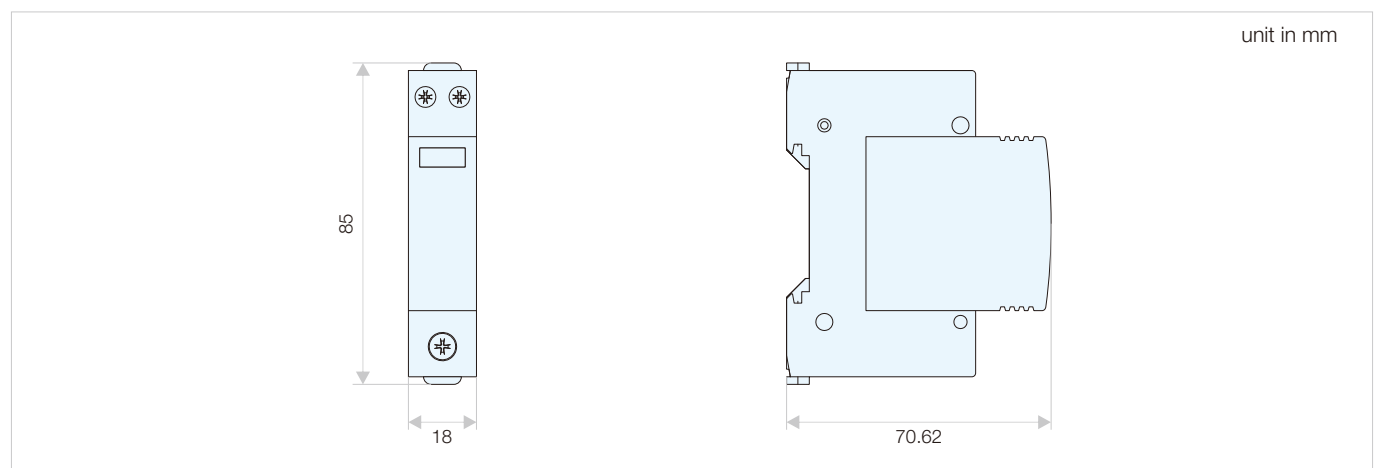
- Standard: IEC 61643-1
- Type / test class: 2 / II
- Number of poles: 1P+N
- Type of current: AC
- Frequency (Hz): 50/60
- Rated voltage U_n (V): 230
- Max. Cont. operating voltage U_c (V): 275
- Max. discharge current I_{max} (8/20) per pole (kA): 15, 30, 40
- Nominal discharge current I_n (8/20) per pole (kA): 5, 15, 20
- Voltage protection level U_p (kV): 1.3
- Continuous operating current I_c (mA): < 1
- Degree of protection: IP20, with connected conductors
- Pluggable cartridge: Yes
- State indicator: Yes
- Conductor cross-sections, Solid and stranded and finely stranded with end sleeve (mm²): 2-16



Selection and ordering data

Protected lines	Width (mm)	I_{max} (8/20) (kA)	I_n (8/20) (kA)	U_p at I_n (kV)	U_n (V)	U_c (V)	Type code
Without remote signal contact							
1+1	18	15	5	1.1	230	275	PSC61-T2-15-275
		30	15	1.3	230	275	PSC61-T2-30-275
		40	20	1.3	230	275	PSC61-T2-40-275
With remote signal contact							
1+1	18	15	5	1.1	230	275	PSC61-T2-15-275R
		30	15	1.3	230	275	PSC61-T2-30-275R
		40	20	1.3	230	275	PSC61-T2-40-275R
Replacement pluggable module							
1+1	18	15	5	1.1	230	275	PSC61-T2-15-275P
		30	15	1.3	230	275	PSC61-T2-30-275P
		40	20	1.3	230	275	PSC61-T2-40-275P

Outline and installation dimensions



Switch Disconnectors Series 3SG6

Functions

- Making and breaking under load condition
- Providing safety isolation for terminal distribution systems
- Used in residential buildings, non-residential buildings

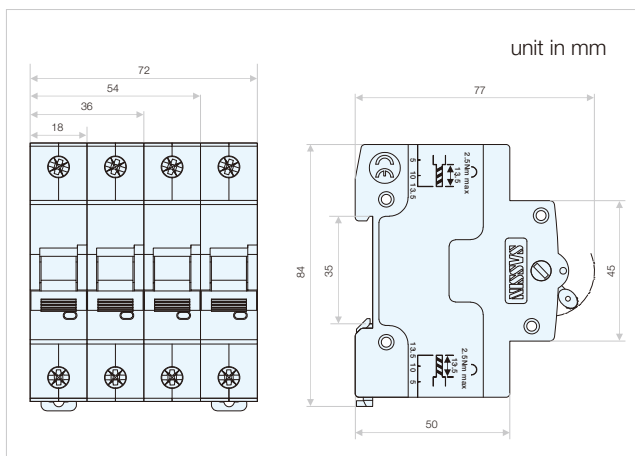
Technical specifications

- Standard: IEC 60947-3
- Rated current I_n (A): 25, 40, 63, 80, 100
- Rated voltage U_n (V AC): 1P: 230/400; 2-4P: 400
- Rated insulation voltage (V AC): 500
- Number of poles (P): 1, 2, 3, 4
- Rated short-time withstand current 20 I_n : 1 s
- Degree of protection: IP20, with connected conductors
- Electrical endurance (Cycles): 4,000
- Mechanical endurance (Cycles): 10,000
- Fire resistance according to IEC 60695: 960 °C
- Mounting position: Any
- Busbar Connection: Pin type
- Conductor cross-sections
 - Solid and stranded (mm²): 1-35
 - Finely stranded with end sleeve (mm²): 1-25
- Terminal tightening torque (N·m): 2.5
- Ambient temperature (°C): -5 ~ +45, max. 95% humidity
- Altitude (meters): Max. 2,000

Features

- Adequate printing of all data on the front provides long term identification
- Matched with series 3SB6

Outline and installation dimensions



Selection and ordering data

Number of poles (P)	Rated current I_n (A)	Type code	Order code	Pack.
1	25	G6 1025	39949	12
	40	G6 1040	39950	12
	63	G6 1063	39951	12
	80	G6 1080	39952	12
	100	G6 1100	39953	12
2	25	G6 2025	39954	6
	40	G6 2040	39955	6
	63	G6 2063	39956	6
	80	G6 2080	39957	6
	100	G6 2100	39958	6
3	25	G6 3025	39959	4
	40	G6 3040	39960	4
	63	G6 3063	39961	4
	80	G6 3080	39962	4
	100	G6 3100	39963	4
4	25	G6 4025	39964	3
	40	G6 4040	39965	3
	63	G6 4063	39966	3
	80	G6 4080	39967	3
	100	G6 4100	39968	3

Modular Contactors

Series PCH61

Functions

- Remote switching and controlling of power circuits
- Used in building automation, controlling of small pumps, ventilations, heating systems, lighting systems, and so on

2

Technical specifications

Type	PCH6102	PCH6106
Frame current (A)	25	63
Standards	IEC 61095	IEC 60947-4-1
Number of poles	2, 4	
Type of current	AC	
Frequency (Hz)	50/60	
Rated voltage Un (V)	230/400	
Rated current In in AC-7a / Ac1 (A)	10, 16, 20, 25	25, 32, 40, 63
Rated current In in AC-7b / Ac1 (A)	4, 5.5, 7, 8.5	8.5, 12, 15, 25
Rated power in AC3 (Kw)		
230 V	2-5	5-13
400 V	6-13	15-40
Control circuit voltage (V)	24, 230	
Mechanical life (times)	300,000	
Electrical life (times)		
AC-7a / AC1	10,000	80,000
AC-7b / AC1	50,000	40,000
Degree of protection	IP20, with connected conductors	
Conductor cross-sections		
Solid and stranded (mm ²)	2-25	
Finely stranded with end sleeve (mm ²)	2-25	
Terminals		
Terminal tightening torque (N·m)	0.8-2.4	
Ambient temperature (°C)	-5 ~ +40, max. 95 % humidity	
Storage temperature (°C)	-40 ~ +75	
Connection Capacity (mm ²)	1-25	

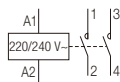
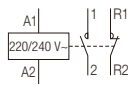


Modular Contactors

Series PCH6102, 2-pole, up to 25 A

Selection and ordering data

Width (mm)	Rated control power		Rated current In		Control voltage 50 Hz (V)	Type of contact	Type code	
	AC-7a 230 V (kW)	AC-7b 230 V (kW)	AC-7a (A)	AC-7b (A)				
18	2	0.75	10	4	24	1NO+1NC	PCH6102-10-11-B5	
						2NO	PCH6102-10-20-B5	
						110	1NO+1NC	PCH6102-10-11-F5
						2NO	PCH6102-10-20-F5	
						230	1NO+1NC	PCH6102-10-11-P5
						2NO	PCH6102-10-20-P5	
	3.2	1.0	16	5.5	24	1NO+1NC	PCH6102-16-11-B5	
						2NO	PCH6102-16-20-B5	
						110	1NO+1NC	PCH6102-16-11-F5
						2NO	PCH6102-16-20-F5	
						230	1NO+1NC	PCH6102-16-11-P5
						2NO	PCH6102-16-20-P5	
4	1.2	20	7	24	1NO+1NC	PCH6102-20-11-B5		
					2NO	PCH6102-20-20-B5		
					110	1NO+1NC	PCH6102-20-11-F5	
					2NO	PCH6102-20-20-F5		
					230	1NO+1NC	PCH6102-20-11-P5	
					2NO	PCH6102-20-20-P5		
5	1.4	25	8.5	24	1NO+1NC	PCH6102-25-11-B5		
					2NO	PCH6102-25-20-B5		
					110	1NO+1NC	PCH6102-25-11-F5	
					2NO	PCH6102-25-20-F5		
					230	1NO+1NC	PCH6102-25-11-P5	
					2NO	PCH6102-25-20-P5		

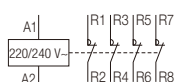
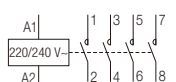
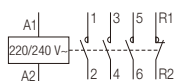
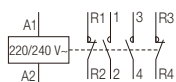


Modular Contactors

Series PCH6102, 4-pole, up to 25 A

Selection and ordering data

Width (mm)	Rated control power		Rated current In		Control voltage 50 Hz (V)	Type of contact	Type code	
	AC-7a 230 V (kW)	AC-7b 230 V (kW)	AC-7a (A)	AC-7b (A)				
36	6.2	2.2	10	4	24	2NO+2NC	PCH6102-10-22-B5	
						3NO+1NC	PCH6102-10-31-B5	
						4NO	PCH6102-10-40-B5	
						4NC	PCH6102-10-04-B5	
	110	6.2	2.2	10	4	24	2NO+2NC	PCH6102-10-22-F5
							3NO+1NC	PCH6102-10-31-F5
							4NO	PCH6102-10-40-F5
							4NC	PCH6102-10-04-F5
	230	6.2	2.2	10	4	24	2NO+2NC	PCH6102-10-22-P5
							3NO+1NC	PCH6102-10-31-P5
							4NO	PCH6102-10-40-P5
							4NC	PCH6102-10-04-P5
10	3	16	5.5	24	2NO+2NC	PCH6102-16-22-B5		
					3NO+1NC	PCH6102-16-31-B5		
					4NO	PCH6102-16-40-B5		
					4NC	PCH6102-16-04-B5		
	110	3	16	5.5	24	2NO+2NC	PCH6102-16-22-F5	
						3NO+1NC	PCH6102-16-31-F5	
						4NO	PCH6102-16-40-F5	
						4NC	PCH6102-16-04-F5	
	230	3	16	5.5	24	2NO+2NC	PCH6102-16-22-P5	
						3NO+1NC	PCH6102-16-31-P5	
						4NO	PCH6102-16-40-P5	
						4NC	PCH6102-16-04-P5	
13	3.5	20	7	24	2NO+2NC	PCH6102-20-22-B5		
					3NO+1NC	PCH6102-20-31-B5		
					4NO	PCH6102-20-40-B5		
					4NC	PCH6102-20-04-B5		
	110	3.5	20	7	24	2NO+2NC	PCH6102-20-22-F5	
						3NO+1NC	PCH6102-20-31-F5	
						4NO	PCH6102-20-40-F5	
						4NC	PCH6102-20-04-F5	
	230	3.5	20	7	24	2NO+2NC	PCH6102-20-22-P5	
						3NO+1NC	PCH6102-20-31-P5	
						4NO	PCH6102-20-40-P5	
						4NC	PCH6102-20-04-P5	
15	4	25	8.5	24	2NO+2NC	PCH6102-25-22-B5		
					3NO+1NC	PCH6102-25-31-B5		
					4NO	PCH6102-25-40-B5		
					4NC	PCH6102-25-04-B5		
	110	4	25	8.5	24	2NO+2NC	PCH6102-25-22-F5	
						3NO+1NC	PCH6102-25-31-F5	
						4NO	PCH6102-25-40-F5	
						4NC	PCH6102-25-04-F5	
	230	4	25	8.5	24	2NO+2NC	PCH6102-25-22-P5	
						3NO+1NC	PCH6102-25-31-P5	
						4NO	PCH6102-25-40-P5	
						4NC	PCH6102-25-04-P5	

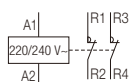
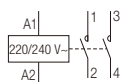
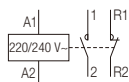


Modular Contactors

Series PCH6106, 2-pole, up to 63 A

Selection and ordering data

Width (mm)	Rated control power		Rated current I _n		Control voltage 50 Hz (V)	Type of contact	Type code	
	AC-7a 230 V (kW)	AC-7b 230 V (kW)	AC-7a (A)	AC-7b (A)				
36	5	1.4	25	8.5	24	1NO+1NC	PCH6106-25-11-B5	
						2NO	PCH6106-25-20-B5	
						2NC	PCH6106-25-02-B5	
						110	1NO+1NC	PCH6106-25-11-F5
						2NO	PCH6106-25-20-F5	
						2NC	PCH6106-25-02-F5	
	6.5	2	32	12	24	1NO+1NC	PCH6106-32-11-B5	
						2NO	PCH6106-32-20-B5	
						2NC	PCH6106-32-02-B5	
						110	1NO+1NC	PCH6106-32-11-F5
						2NO	PCH6106-32-20-F5	
						2NC	PCH6106-32-02-F5	
40	8.5	2.5	40	15	24	1NO+1NC	PCH6106-40-11-B5	
						2NO	PCH6106-40-20-B5	
						2NC	PCH6106-40-02-B5	
						110	1NO+1NC	PCH6106-40-11-F5
						2NO	PCH6106-40-20-F5	
						2NC	PCH6106-40-02-F5	
	13	4	63	25	24	1NO+1NC	PCH6106-63-11-B5	
						2NO	PCH6106-63-20-B5	
						2NC	PCH6106-63-02-B5	
						110	1NO+1NC	PCH6106-63-11-F5
						2NO	PCH6106-63-20-F5	
						2NC	PCH6106-63-02-F5	
36	5	1.4	25	8.5	24	1NO+1NC	PCH6106-25-11-B5	
						2NO	PCH6106-25-20-B5	
						2NC	PCH6106-25-02-B5	
						110	1NO+1NC	PCH6106-25-11-F5
						2NO	PCH6106-25-20-F5	
						2NC	PCH6106-25-02-F5	
40	8.5	2.5	40	15	24	1NO+1NC	PCH6106-40-11-B5	
						2NO	PCH6106-40-20-B5	
						2NC	PCH6106-40-02-B5	
						110	1NO+1NC	PCH6106-40-11-F5
						2NO	PCH6106-40-20-F5	
						2NC	PCH6106-40-02-F5	
63	13	4	63	25	24	1NO+1NC	PCH6106-63-11-B5	
						2NO	PCH6106-63-20-B5	
						2NC	PCH6106-63-02-B5	
						110	1NO+1NC	PCH6106-63-11-F5
						2NO	PCH6106-63-20-F5	
						2NC	PCH6106-63-02-F5	

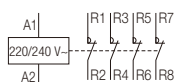
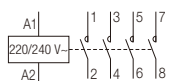
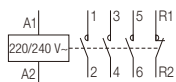
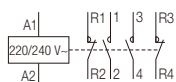


Modular Contactors

Series PCH6106, 4-pole, up to 63 A

Selection and ordering data

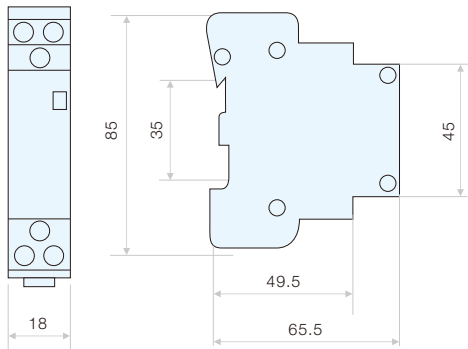
Width (mm)	Rated control power		Rated current I _n		Control voltage 50 Hz (V)	Type of contact	Type code	
	AC-7a 230 V (kW)	AC-7b 230 V (kW)	AC-7a (A)	AC-7b (A)				
54	15	4	25	8.5	24	2NO+2NC	PCH6106-25-22-B5	
						3NO+1NC	PCH6106-25-31-B5	
						4NO	PCH6106-25-40-B5	
						4NC	PCH6106-25-04-B5	
	110	15	4	25	8.5	24	2NO+2NC	PCH6106-25-22-F5
							3NO+1NC	PCH6106-25-31-F5
							4NO	PCH6106-25-40-F5
							4NC	PCH6106-25-04-F5
	230	15	4	25	8.5	24	2NO+2NC	PCH6106-25-22-P5
							3NO+1NC	PCH6106-25-31-P5
							4NO	PCH6106-25-40-P5
							4NC	PCH6106-25-04-P5
21	6.5	32	12	24	24	2NO+2NC	PCH6106-32-22-B5	
						3NO+1NC	PCH6106-32-31-B5	
						4NO	PCH6106-32-40-B5	
						4NC	PCH6106-32-04-B5	
	110	6.5	32	12	24	24	2NO+2NC	PCH6106-32-22-F5
							3NO+1NC	PCH6106-32-31-F5
							4NO	PCH6106-32-40-F5
							4NC	PCH6106-32-04-F5
	230	6.5	32	12	24	24	2NO+2NC	PCH6106-32-22-P5
							3NO+1NC	PCH6106-32-31-P5
							4NO	PCH6106-32-40-P5
							4NC	PCH6106-32-04-P5
26	7.5	40	15	24	24	2NO+2NC	PCH6106-40-22-B5	
						3NO+1NC	PCH6106-40-31-B5	
						4NO	PCH6106-40-40-B5	
						4NC	PCH6106-40-04-B5	
	110	7.5	40	15	24	24	2NO+2NC	PCH6106-40-22-F5
							3NO+1NC	PCH6106-40-31-F5
							4NO	PCH6106-40-40-F5
							4NC	PCH6106-40-04-F5
	230	7.5	40	15	24	24	2NO+2NC	PCH6106-40-22-P5
							3NO+1NC	PCH6106-40-31-P5
							4NO	PCH6106-40-40-P5
							4NC	PCH6106-40-04-P5
40	13	63	25	24	24	2NO+2NC	PCH6106-63-22-B5	
						3NO+1NC	PCH6106-63-31-B5	
						4NO	PCH6106-63-40-B5	
						4NC	PCH6106-63-04-B5	
	110	13	63	25	24	24	2NO+2NC	PCH6106-63-22-F5
							3NO+1NC	PCH6106-63-31-F5
							4NO	PCH6106-63-40-F5
							4NC	PCH6106-63-04-F5
	230	13	63	25	24	24	2NO+2NC	PCH6106-63-22-P5
							3NO+1NC	PCH6106-63-31-P5
							4NO	PCH6106-63-40-P5
							4NC	PCH6106-63-04-P5



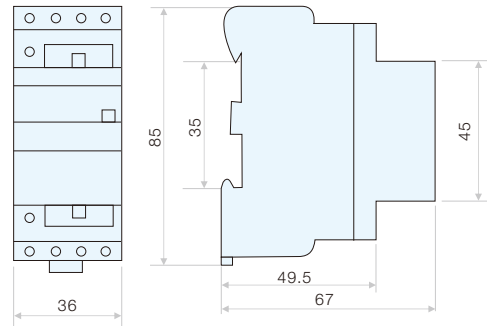
Outline and installation dimensions

unit in mm

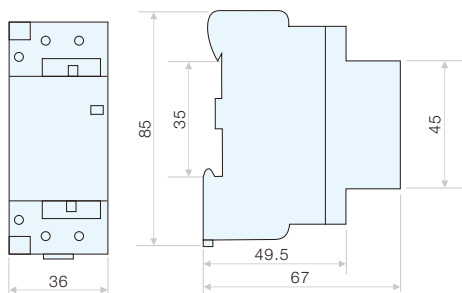
PCH6101 2P



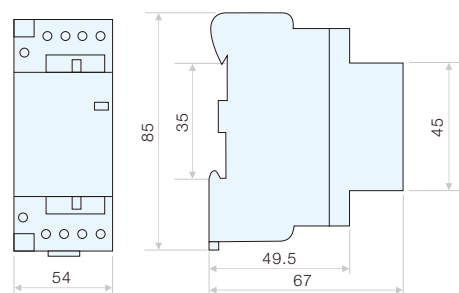
PCH6101 4P



PCH6106 2P



PCH6106 4P



Modular Pushbuttons and Indicators

Series P6-E

Functions

- The pushbuttons are used for remote control in every kind of electric installation.
- The indicator lamps signal any event in every kind of electric installation.
- P6-E may match with MCB series 3SB6-63.

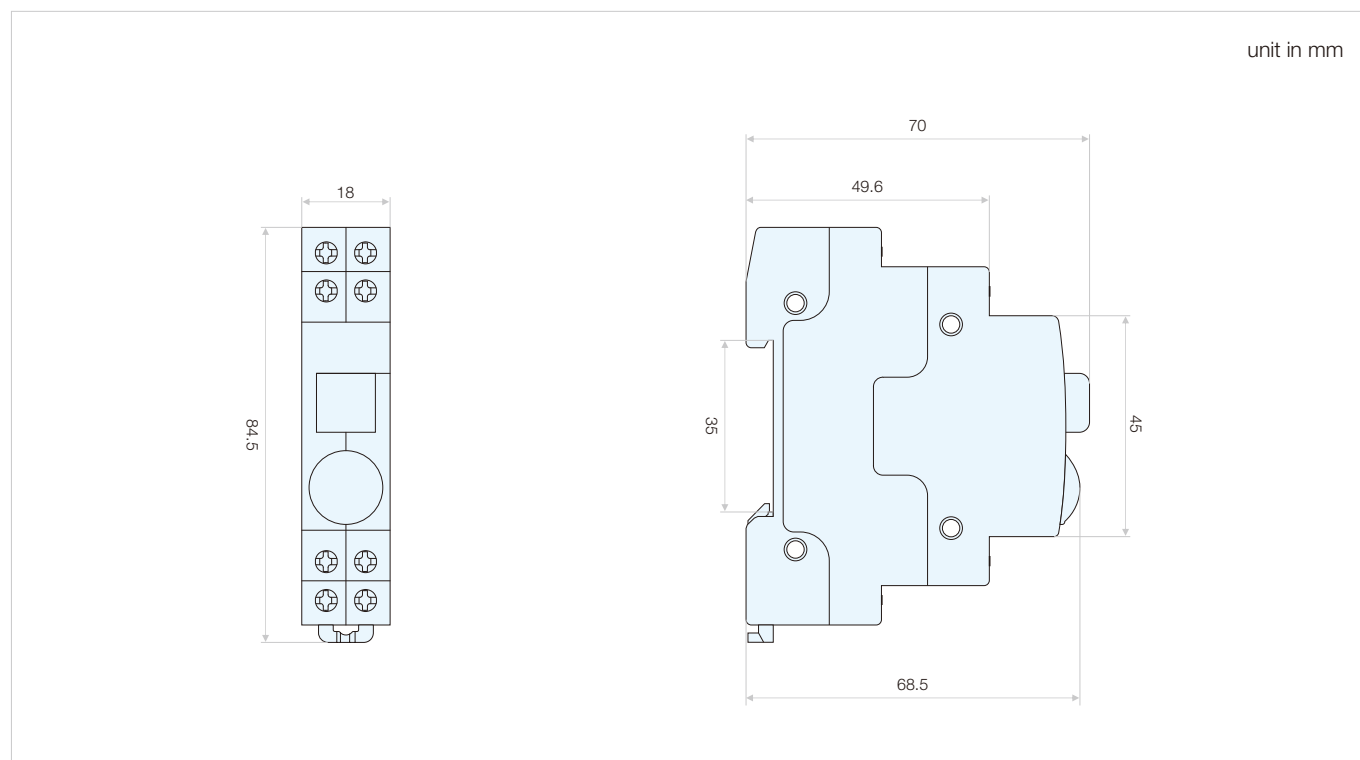


Technical specifications

- Standard: IEC 60947-5-1
- Rated voltage U_e (V): 230
- Rated current I_n (A): 6
- Conventional glowing current (A): 16
- Frequency (Hz): 50/60
- Modules (18 mm): 1
- Utilization category: AC14, DC13
- Degree of protection: IP20, with connected conductors
- Conductor cross-sections
 - Solid and stranded (mm²): 1-10
 - Finely stranded with end sleeve (mm²): 1-4
- Terminal tightening torque (N·m): 0.5
- Ambient temperature (°C): -5 ~ +40, max. 95% humidity
- Storage temperature (°C): -40 ~ +75
- Connection Capacity (mm²): 1-16



Outline and installation dimensions



Modular Pushbuttons and Indicators

Series P6-E

Selection and ordering data

Pushbutton

Color	Type of contact	Type code
■ Green	1NO+2NC	P6-E1-G-12
	2NO+1NC	P6-E1-G-21
	2NO+2NC	P6-E1-G-22
	3NO	P6-E1-G-30
■ Red	1NO+2NC	P6-E1-R-12
	2NO+1NC	P6-E1-R-21
	2NO+2NC	P6-E1-R-22
	3NO	P6-E1-R-30
■ Yellow	1NO+2NC	P6-E1-Y-12
	2NO+1NC	P6-E1-Y-21
	2NO+2NC	P6-E1-Y-22
	3NO	P6-E1-Y-30
■ Blue	1NO+2NC	P6-E1-B-12
	2NO+1NC	P6-E1-B-21
	2NO+2NC	P6-E1-B-22
	3NO	P6-E1-B-30
■ Black	1NO+2NC	P6-E1-H-12
	2NO+1NC	P6-E1-H-21
	2NO+2NC	P6-E1-H-22
	3NO	P6-E1-H-30

Indicator

Color	Voltage AC/DC (V)	Type code
● Green	12	P6-E21-G-12
	24	P6-E21-G-24
	110	P6-E21-G-110
	230	P6-E21-G-230
● Red	12	P6-E21-R-12
	24	P6-E21-R-24
	110	P6-E21-R-110
	230	P6-E21-R-230
○ White	12	P6-E21-W-12
	24	P6-E21-W-24
	110	P6-E21-W-110
	230	P6-E21-W-230
● Yellow	12	P6-E21-Y-12
	24	P6-E21-Y-24
	110	P6-E21-Y-110
	230	P6-E21-Y-230
● Blue	12	P6-E21-B-12
	24	P6-E21-B-24
	110	P6-E21-B-110
	230	P6-E21-B-230
● + ● Green + Red	12	P6-E22-GR-12
	24	P6-E22-GR-24
	110	P6-E22-GR-110
	230	P6-E22-GR-230

Pushbutton and indicator

Color	Voltage AC/DC (V)	Type of contact	Type code
■ ● Green	12	1NO+2NC	P6-E3-G-11-12
		2NO+1NC	P6-E3-G-22-12
		3NO	P6-E3-G-30-12
	24	1NO+2NC	P6-E3-G-11-24
		2NO+1NC	P6-E3-G-22-24
		3NO	P6-E3-G-30-24
	110	1NO+2NC	P6-E3-G-11-110
		2NO+1NC	P6-E3-G-22-110
		3NO	P6-E3-G-30-110
	230	1NO+2NC	P6-E3-G-11-230
		2NO+1NC	P6-E3-G-22-230
		3NO	P6-E3-G-30-230
■ ● Red	12	1NO+2NC	P6-E3-R-11-12
		2NO+1NC	P6-E3-R-22-12
		3NO	P6-E3-R-30-12
	24	1NO+2NC	P6-E3-R-11-24
		2NO+1NC	P6-E3-R-22-24
		3NO	P6-E3-R-30-24
	110	1NO+2NC	P6-E3-R-11-110
		2NO+1NC	P6-E3-R-22-110
		3NO	P6-E3-R-30-110
	230	1NO+2NC	P6-E3-R-11-230
		2NO+1NC	P6-E3-R-22-230
		3NO	P6-E3-R-30-230
□ ○ White	12	1NO+2NC	P6-E3-W-11-12
		2NO+1NC	P6-E3-W-22-12
		3NO	P6-E3-W-30-12
	24	1NO+2NC	P6-E3-W-11-24
		2NO+1NC	P6-E3-W-22-24
		3NO	P6-E3-W-30-24
	110	1NO+2NC	P6-E3-W-11-110
		2NO+1NC	P6-E3-W-22-110
		3NO	P6-E3-W-30-110
	230	1NO+2NC	P6-E3-W-11-230
		2NO+1NC	P6-E3-W-22-230
		3NO	P6-E3-W-30-230
■ ● Yellow	12	1NO+2NC	P6-E3-Y-11-12
		2NO+1NC	P6-E3-Y-22-12
		3NO	P6-E3-Y-30-12
	24	1NO+2NC	P6-E3-Y-11-24
		2NO+1NC	P6-E3-Y-22-24
		3NO	P6-E3-Y-30-24
	110	1NO+2NC	P6-E3-Y-11-110
		2NO+1NC	P6-E3-Y-22-110
		3NO	P6-E3-Y-30-110
	230	1NO+2NC	P6-E3-Y-11-230
		2NO+1NC	P6-E3-Y-22-230
		3NO	P6-E3-Y-30-230
■ ● Blue	12	1NO+2NC	P6-E3-B-11-12
		2NO+1NC	P6-E3-B-22-12
		3NO	P6-E3-B-30-12
	24	1NO+2NC	P6-E3-B-11-24
		2NO+1NC	P6-E3-B-22-24
		3NO	P6-E3-B-30-24
	110	1NO+2NC	P6-E3-B-11-110
		2NO+1NC	P6-E3-B-22-110
		3NO	P6-E3-B-30-110
	230	1NO+2NC	P6-E3-B-11-230
		2NO+1NC	P6-E3-B-22-230
		3NO	P6-E3-B-30-230

Doorbell Transformers

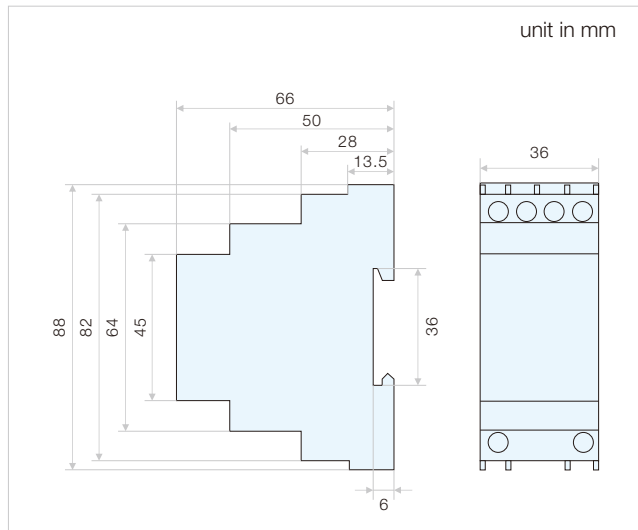
Series BT8

Technical specifications

- Rated input voltage AC (V): 230
- Rated output voltage AC (V): 4, 6, 8, 12, 16, 24
- Rated frequency (Hz): 50/60
- Rated output power (VA): 6
- Consumption (W): 1.15
- Pollution class: 2



Outline and installation dimensions



Selection and ordering data

Rated output power	Type code	Pack.
	8 VA	BT8-8



Functions

Widely used in terminal distribution systems

Technical specifications

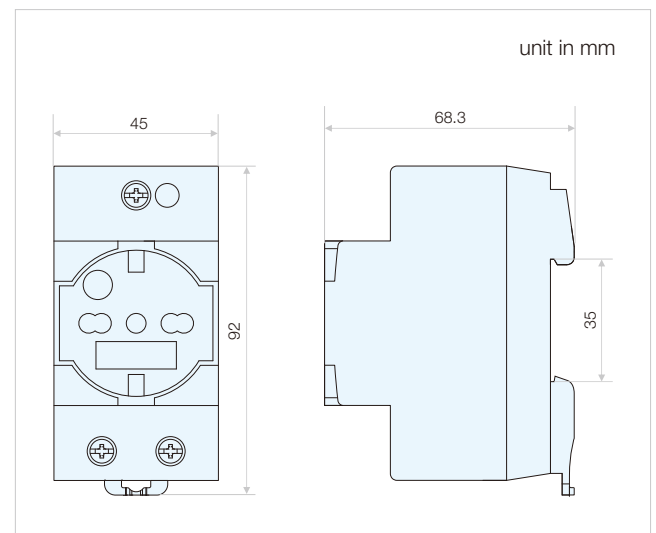
- Standard: IEC 60884-1
- Rated current (A): 16
- Modules: 2.5
- Rated voltage Ue (V): 230/400
- Conductor cross-sections
- Solid and stranded (mm²): 0.75-35

Selection and ordering data

Number of poles (P)	Rated current I _n (A)	Type code
2+E	16	PMS61



Outline and installation dimensions



Distribution Boxes

Series PD61MS

Functions

PD61MS series distribution boxes are fitted for AC 50/60 Hz, rated voltage 400 V, rated current to 100 A in the home and similar field circuits, for the redistribution of electrical energy and offering overload and short-circuit protection through the switches.

2

Technical specifications

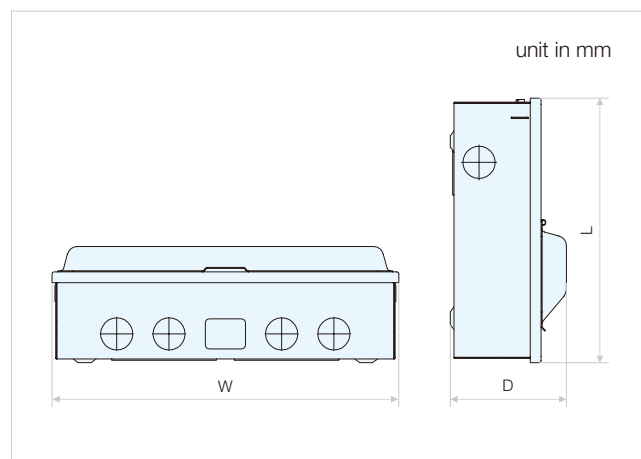
- Standard: IEC/EN 61439-3
- The base, top and buckle cover are made of metal alloy.
- Rated operational voltage U_n (U_e) (V): 220/400
- Rated operational current I_n (I_e) (A): 100, 80, 63 and below
- Mounting type: surface
- Degree of protection: IP 2XC



Selection and ordering data

Rated current I_n (A)	Color of base	Color of door	Number of module	Type code
100	White	White	4	PD61MS04
			8	PD61MS08
			12	PD61MS12
			16	PD61MS16
			18	PD61MS18
			22	PD61MS22

Outline and installation dimensions



Type	L (mm)	W (mm)	D (mm)
PD61MS04	235	128	105
PD61MS08	264	202	115.3
PD61MS12	264	273	115.3
PD61MS16	264	345	115.3
PD61MS18	264	380	115.3
PD61MS22	264	454	115.3

Applications and functions for AC contactor

- Used for controlling 3-phase motors and generally for controlling power circuits.
- Used for many other applications such as isolation, capacitor switching and lighting.



Technical specifications

Type		PC61K-0610, PC61K-0601, PC61K-06004, PC61K-06008	PC61K-0910, PC61K-0901, PC61K-09004, PC61K-09008	PC61K-1210, PC61K-1201, PC61K-12004, PC61K-12008
Standard		IEC 60947-4-1		
Number of contacts		3NO+1NO, 3NO+1NC, 4NO, 2NO+2NC		
Rated conventional thermal current Ith (A)	AC-1	20		
Rated operational voltage Ue (V)		690		
Rated insulation voltage Ui (V)		690		
Rated impulse withstand voltage Uimp (kV)		6		
Rated frequency (Hz)		50/60		
Rated operational current (A)	AC-3 380/400 V	6	9	12
	AC-4 380/400 V	2.6	3.5	5
Number of poles		3,4	3,4	3,4
Rated operational power in category AC-3 (KW)	220/230/240 V	1.5	2.2	3
	380/400 V	2.2	4	5.5
	660/690 V	3	4	5.5
Rated making capacity (A)		110	110	114
Rated breaking capacity (A)	380 V	100	100	100
	690 V	70	70	70
Short-circuit protection (A)	gG fuse U ≤ 440 V	25		
Average impedance per pole (mV)		3		
Add-on auxiliary contact blocks	Front	PC61K-A1		
	Side	-		
	Front time delay	-		
	Front dust and damp protected	-		
Reversing contactor type		PC61KN		
Associated thermal overload relays	3 Pins/5 Pins	PTR61K		
Operation cycles(times/hour)	Electrical AC-3	1200		
	Electrical AC-4	300		
	Mechanical	3600		
Electrical life (X 10 ⁴ times)	AC-3	100	120	
	AC-4	20		
Mechanical life (X 10 ⁴ times)		1000		
Matching fuse model		RT16-16	RT16-20	
Tightening torque (N-m)		0.8		
Connection				
Screw clamp terminals	solid conductor (mm ²)	Max. 1x4+1x2.5		
	Flexible conductor without cable end (mm ²)	Max. 2x2.5		
	Flexible conductor with cable end (mm ²)	Max. 1X1.5+1X2.5		
Degree of protection		IP20		
Ambient air temperature (°C)		-5 to +40, max. 95 % humidity		
Storage temperature (°C)		-40 ~ +75		
Maximum operating altitude (meters)		2000		
Flame resistance	Conforming to UL 94	V1		

Contactors

Series PC61K

Technical specifications for auxiliary contact incorporated in the contactor type PC61K

- Standard: IEC 60947-5-1
- Number of auxiliary contact: 2, 4
- Mounting type: Front
- Conventional heating current (A): 10
- Rated operational voltage Ue (V): Up to 690
- Rated insulation voltage Ui (V): 690
- Conventional thermal current Ith (A): 10
- Minimum switching capacity Im (mA): 5
- Short circuit protection (A): 10
- Rated making capacity (A): 110

Coil voltage of contactor PC61K

Coil voltage Us (V)	12	20	24	32	36	42	48	60	100	110	115	120	127	208	220	230	240	265	380	400	415	440	480	500	550	600	550/600 600/660	660/690
50 Hz	J5	-	B5	C5	-	D5	E5	-	-	F5	FE5	G5	FC5	LE5	M5	P5	U5	-	Q5	V5	N5	R5	T5	S5	SC5	X5	-	Y5
60 Hz	-	-	B6	-	-	-	E6	-	-	F6	-	-	-	-	M6	-	U6	-	Q6	-	-	R6	-	-	-	-	-	Y6
50/60 Hz	J7	Z7	B7	C7	CC7	D7	E7	EE7	K7	F7	FE7	-	FC7	-	M7	P7	U7	W7	Q7	V7	N7	R7	-	S7	-	X7	Y7	

Selection and ordering data

Mini contactors PC61K , 3-pole, 2.2 to 5.5 kW

Rated operational power AC-3 380/400 V (kW)	Rated operational power			Rated operational current AC-3 380/400 V (A)	Main contact		Rated control circuit voltage V 50 Hz	Auxiliary contact		Type code
	380/400 V (kW)	660/690 V (kW)	660/690 V (kW)		a	b		1	2	
1.5	2.2	3	6	3	0	24	1	0	PC61K-0610-B5	
							0	1	PC61K-0601-B5	
							1	0	PC61K-0610-F5	
							0	1	PC61K-0601-F5	
							1	0	PC61K-0610-P5	
							0	1	PC61K-0601-P5	
2.2	4	4	9	3	0	24	1	0	PC61K-0910-B5	
							0	1	PC61K-0901-B5	
							1	0	PC61K-0910-F5	
							0	1	PC61K-0901-F5	
							1	0	PC61K-0910-P5	
							0	1	PC61K-0901-P5	
3	5.5	5.5	12	3	0	24	1	0	PC61K-1210-B5	
							0	1	PC61K-1201-B5	
							1	0	PC61K-1210-F5	
							0	1	PC61K-1201-F5	
							1	0	PC61K-1210-P5	
							0	1	PC61K-1201-P5	



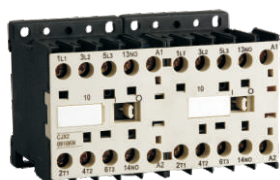
Selection and ordering data

Mini contactors PC61K, 4-pole, 2.2 to 5.5 kW

Rated operational power	Rated operational current	Main contact	Rated control circuit voltage	Auxiliary contact		Type code							
				AC-3	AC-3								
220/230 V (kW)	380/400 V (kW)	660/690 V (kW)	380/400 V (A)	↓	↓	V 50 Hz	↓	↓					
1.5	2.2	3	6	4	0	24	0	0	PC61K-06004-B5				
						110	0	0	PC61K-06004-F5				
						230	0	0	PC61K-06004-P5				
				2	2	24	0	0	PC61K-06008-B5				
						110	0	0	PC61K-06008-F5				
						230	0	0	PC61K-06008-P5				
				2.2	4	4	9	4	0	24	0	0	PC61K-09004-B5
										110	0	0	PC61K-09004-F5
										230	0	0	PC61K-09004-P5
2	2	24	0					0	PC61K-09008-B5				
		110	0					0	PC61K-09008-F5				
		230	0					0	PC61K-09008-P5				
3	5.5	5.5	12					4	0	24	0	0	PC61K-12004-B5
										110	0	0	PC61K-12004-F5
										230	0	0	PC61K-12004-P5
				2	2	24	0	0	PC61K-12008-B5				
						110	0	0	PC61K-12008-F5				
						230	0	0	PC61K-12008-P5				

Mini reversing contactors PC61KN, 3-pole, 2.2 to 5.5 kW

Rated operational power	Rated operational current	Main contact	Rated control circuit voltage	Auxiliary contact		Type code							
				AC-3	AC-3								
380/400 V (kW)	380/400 V (kW)	660/690 V (kW)	380/400 V (A)	↓	↓	V 50 Hz	↓	↓					
1.5	2.2	3	6	3	0	24	1	0	PC61KN-0610-B5				
						0	1	0	PC61KN-0601-B5				
						110	1	0	PC61KN-0610-F5				
						0	1	0	PC61KN-0601-F5				
						230	1	0	PC61KN-0610-P5				
						0	1	0	PC61KN-0601-P5				
				2.2	4	4	9	3	0	24	1	0	PC61KN-0910-B5
										0	1	0	PC61KN-0901-B5
										110	1	0	PC61KN-0910-F5
								0	1	0	PC61KN-0901-F5		
								230	1	0	PC61KN-0910-P5		
								0	1	0	PC61KN-0901-P5		
3	5.5	5.5	12	3	0	24	1	0	PC61KN-1210-B5				
						0	1	0	PC61KN-1201-B5				
						110	1	0	PC61KN-1210-F5				
				0	1	0	PC61KN-1201-F5						
				230	1	0	PC61KN-1210-P5						
				0	1	0	PC61KN-1201-P5						



Mini reversing contactors PC61KN, 4-pole, 2.2 to 5.5 kW

Rated operational power	Rated operational current	Main contact	Rated control circuit voltage	Auxiliary contact		Type code			
				AC-3	AC-3				
220/230 V (kW)	380/400 V (kW)	660/690 V (kW)	380/400 V (A)	↓	↓	V 50 Hz	↓	↓	
1.5	2.2	3	6	4	0	24	0	0	PC61KN-06004-B5
						110	0	0	PC61KN-06004-F5
						230	0	0	PC61KN-06004-P5
2.2	4	4	9	4	0	24	0	0	PC61KN-09004-B5
						110	0	0	PC61KN-09004-F5
						230	0	0	PC61KN-09004-P5
3	5.5	5.5	12	4	0	24	0	0	PC61KN-12004-B5
						110	0	0	PC61KN-12004-F5
						230	0	0	PC61KN-12004-P5




Contactors

Series PC61K

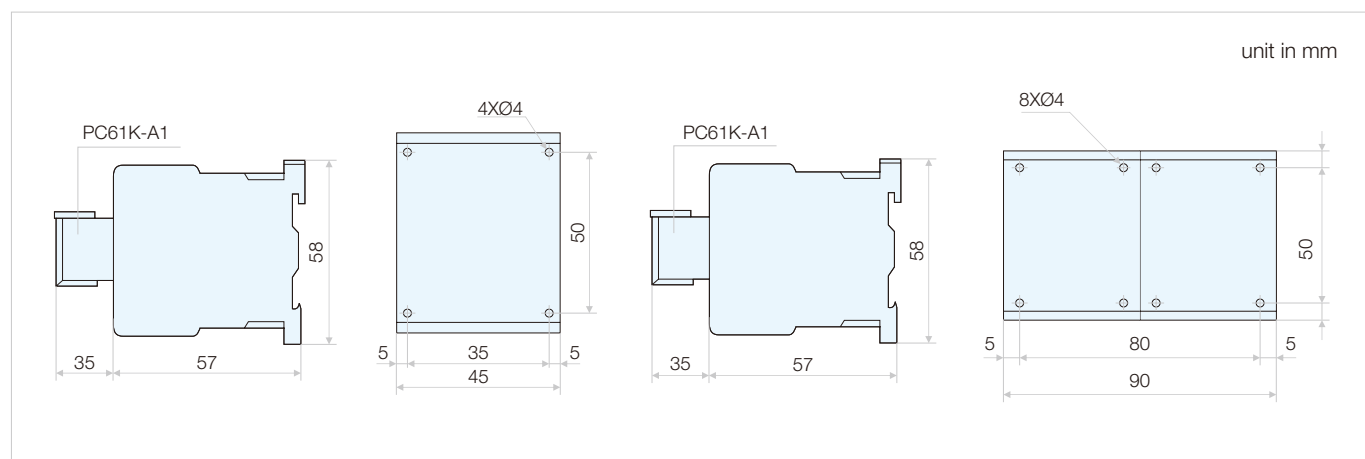
Selection and ordering data

Front-mounted instantaneous auxiliary contact blocks

For contactors

	Auxiliary contacts		Type code
			
	0	2	PC61KA1-02
	1	1	PC61KA1-11
	2	0	PC61KA1-20
	0	4	PC61KA1-04
	1	3	PC61KA1-13
	2	2	PC61KA1-22
	3	1	PC61KA1-31
	4	0	PC61KA1-40

Outline and installation dimensions



Applications and functions

- Used for controlling 3-phase motors and generally for controlling power circuits.
- Used for many other applications such as isolating, capacitor switching and lighting.



Technical specifications for type PC61

Type		PC61-09	PC61-12	PC61-18	PC61-25	PC61-32	PC61-40	PC61-50	PC61-65	PC61-80	PC61-95	
Standard		IEC 60947-4-1										
Number of poles		3, 4	3, 4	3	3, 4	3	3, 4	3, 4	3, 4	3, 4	3, 4	
Rated operational current Ie (A)	380 V	In AC-3	9	12	18	25	32	40	50	65	80	95
		In AC-4	3.5	5	7.7	8.5	12	18.5	24	28	37	44
	660 V	In AC-3	6.6	8.9	12	18	21	34	39	42	49	55
		In AC-4	1.5	2	3.8	4.4	7.5	9	12	14	17.3	21.3
	440 V	In AC-1	20	25	32	40	50	60	80	80	110	125
Rated operational voltage Ue (V)	Up to	690										
Frequency limits of the operational current (time/h)		25-400										
Rated conventional thermal current Ith (A)		25	25	32	40	50	60	80	80	125	125	
Rated insulation voltage Ui (V)		690										
Rated impulse withstand voltage Uimp (kV)		8										
Rated frequency (Hz)		50/60										
Rated making capacity (A)	400 V	10 x Ie AC-3 or 12 x Ie AC-4										
Rated breaking capacity (A)	400 V	8 x Ie AC-3 or 10 x Ie AC-4										
Rated operational power in category AC-3 (kw)	220/230/240 V	2.2	3	4	5.5	7.5	11	15	18.5	22	25	
	380/400 V	4	5.5	7.5	11	15	18.5	22	30	37	45	
	660/690 V	5.5	7.5	10	15	18.5	30	33	37	45	45	
Fuse protection against short-circuit (A)	Without thermal overload relay, Gg fuse Type 1		20	25	32	40	50	63	80	80	125	160
		Type 2	20	20	25	32	40	50	63	80	150	150
	With thermal overload relay		see specification and ordering data of PTR61, for aM or gG fuse ratings corresponding to the associated thermal overload relay									
Average impedance per pole (mΩ)		2.5	2.5	2.5	2	2	1.5	1.5	1.5	0.8	0.8	
Add-on auxiliary contact blocks	Front	PC61-A1 and PC61-A1D										
	Side	PC61-A1C										
	Front time delay	PC61-A2										
	Front dust and damp protected	■										
Reversing contactor type		PC61DN										
Associated thermal overload relays		PTR61-25					PTR61-36		PTR61-93			
Operation cycles (times/hour)	Electrical AC-3	1200	1200	1200	1200	600	600	600	600	600	600	
	Electrical AC-4	300	300	300	300	300	300	300	300	300	300	
	Mechanical	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	
Electrical life (X 10 ³ times)	AC-3	1000	1000	1000	1000	800	800	600	600	600	600	
	AC-4	200	200	200	200	200	150	150	150	100	100	
Mechanical life (X 10 ⁵ times)		10	10	10	10	8	8	8	8	6	6	
Matching fuse model		RT16-20	RT16-20	RT16-32	RT16-40	RT16-50	RT16-63	RT16-80	RT16-80	RT16-100	RT16-125	
Tightening torque (N · m) Connection		1.2	1.2	1.7	2.0	2.5	5	5	5	9	9	
Cabling cross section (CU)	Flexible cable with cold-pressed 2 socket (mm ²)	1/2.5	1/2.5	1/4	1/4	1.5/4	2.5/10	2.5/10	2.5/10	4/16	4/16	
	Flexible cable without cold-pressed 2 socket (mm ²)	1/4	1/4	1.5/6	1.5/6	2.5/10	2.5/16	2.5/16	2.5/16	4/25	4/25	
	Inflexible 2 cable (mm ²)	1/4	1.5/4	1.5/6	1.5/6	1.5/10	2.5/25	2.5/25	2.5/25	4/50	4/50	
Screw size		M3.5	M3.5	M3.5	M4	M4	M8	M8	M8	M10	M10	
Degree of protection		IP20										
Ambient air temperature (°C)		-5 to +40, max. 95 % humidity										
Storage temperature (°C)		-40 ~ +75										
Maximum operating altitude (meters)		2000										
Flame resistance	Conforming to UL 94	V1										

Contactors

Series PC61

2

Technical specifications for auxiliary contacts PC61-A1/A1D/A1C

- Standard: IEC 60947-5-1
- Number of auxiliary contacts: 2, 4
- Mounting type: Front, side
- Conventional heating current (A): 10
- Rated operational voltage U_e (V): Up to 690
- Rated insulation voltage U_i (V): 690
- Conventional thermal current I_{th} (A): 10
- Minimum switching capacity I_{min} (mA): 5
- Short circuit protection (A): gG fuse: 10 A
- Rated making capacity (A): 140

Technical specifications for time delay contact PC61-A2/A3

- Standard: IEC 60255-5
- Number of contacts: 2
- Mounting type: Front
- Delay time type making time delay, breaking time delay
- Timing ranges: 0.1-3, 0.1-30, 10-180
- Repeat accuracy: ± 3 % (10 ms minimum)
- Reset time
- During time delay period (ms): 150
- After time delay period (ms): 50
- Conventional heating current (A): 10
- Rated operational voltage U_e (V): Up to 690
- Rated insulation voltage U_i (V): 250
- Conventional thermal current I_{th} (A): 10

Voltage and frequency for coil PC61-D2/D4/D6






Coil voltage Us (V)	12	20	24	32	36	42	48	60	100	110	115	120	127	208	220	230	240	265	380	400	415	440	480	500	550	600	550/600 600/660	660/690
50 Hz	J5	-	B5	C5	-	D5	E5	-	-	F5	FE5	G5	FC5	LE5	M5	P5	U5	-	Q5	V5	N5	R5	T5	S5	SC5	X5	-	Y5
60 Hz	-	-	B6	-	-	-	E6	-	-	F6	-	-	-	-	M6	-	U6	-	Q6	-	-	R6	-	-	-	-	-	Y6
50/60 Hz	J7	Z7	B7	C7	CC7	D7	E7	EE7	K7	F7	FE7	-	FC7	-	M7	P7	U7	W7	Q7	V7	N7	R7	-	S7	-	-	X7	Y7

Technical specifications for coil PC61-D2/D4/D6

Suitable contactor		PC61-D2			PC61-D4		PC61-D6				
		PC61-09	PC61-12	PC61-18	PC61-25	PC61-32	PC61-40	PC61-50	PC61-65	PC61-80	PC61-95
Coil consumption	Pick-up (VA)	70	70	70	100	100	245	245	245	245	245
	Holding (VA)	50 Hz, 60 Hz	9.0	9.0	9.0	10	10	30	30	30	30
		50/60 Hz	10	10	10	11	11	32	32	32	32
	Power (W)	2~3.5	2~3.5	2~3.5	3~4	3~4	6~10	6~10	6~10	6~10	6~10

Selection and ordering data

AC contactors PC61, 3-pole, 4 to 45 kW

AC-3 220/230 V (kW)	Rated operational power		AC-3 380/400 V (A)	Main contact		Rated control circuit voltage V 50 Hz	Auxiliary contact		Type code	
	380/400 V (kW)	660/690 V (kW)		3	0		1	0		
	220/230 V (kW)	380/400 V (kW)		3	0		1	0		
	2.2	4	5.5	9	3	0	24	1	0	PC61-0910-B5
								0	1	PC61-0901-B5
								1	1	PC61-0911-B5
	110	1	0	PC61-0910-F5						
		0	1	PC61-0901-F5						
		1	1	PC61-0911-F5						
	230	1	0	PC61-0910-P5						
		0	1	PC61-0901-P5						
		1	1	PC61-0911-P5						
	3	5.5	7.5	12	3	0	24	1	0	PC61-1210-B5
								0	1	PC61-1201-B5
								1	1	PC61-1211-B5
	110	1	0	PC61-1210-F5						
		0	1	PC61-1201-F5						
		1	1	PC61-1211-F5						
	230	1	0	PC61-1210-P5						
		0	1	PC61-1201-P5						
		1	1	PC61-1211-P5						
	4	7.5	10	18	3	0	24	1	0	PC61-1810-B5
								0	1	PC61-1801-B5
								1	1	PC61-1811-B5
	110	1	0	PC61-1810-F5						
		0	1	PC61-1801-F5						
		1	1	PC61-1811-F5						
	230	1	0	PC61-1810-P5						
		0	1	PC61-1801-P5						
		1	1	PC61-1811-P5						
	5.5	11	15	25	3	0	24	1	0	PC61-2510-B5
								0	1	PC61-2501-B5
								1	1	PC61-2511-B5
	110	1	0	PC61-2510-F5						
		0	1	PC61-2501-F5						
		1	1	PC61-2511-F5						
	230	1	0	PC61-2510-P5						
		0	1	PC61-2501-P5						
		1	1	PC61-2511-P5						
	7.5	15	18.5	32	3	0	24	1	0	PC61-3210-B5
								0	1	PC61-3201-B5
								1	1	PC61-3211-B5
	110	1	0	PC61-3210-F5						
		0	1	PC61-3201-F5						
		1	1	PC61-3211-F5						
	230	1	0	PC61-3210-P5						
		0	1	PC61-3201-P5						
		1	1	PC61-3211-P5						
11	18.5	30	40	3	0	24	1	1	PC61-4011-B5	
							110	1	1	PC61-4011-F5
							230	1	1	PC61-4011-P5
15	22	33	50	3	0	24	1	1	PC61-5011-B5	
							110	1	1	PC61-5011-F5
							230	1	1	PC61-5011-P5
18.5	30	37	65	3	0	24	1	1	PC61-6511-B5	
							110	1	1	PC61-6511-F5
							230	1	1	PC61-6511-P5
22	37	45	80	3	0	24	1	1	PC61-8011-B5	
							110	1	1	PC61-8011-F5
							230	1	1	PC61-8011-P5
25	45	45	95	3	0	24	1	1	PC61-9511-B5	
							110	1	1	PC61-9511-F5
							230	1	1	PC61-9511-P5

Contactors Series PC61


Selection and ordering data

AC contactors PC61, 4-pole, 4 to 45 kW

AC-3 220/230 V (kW)	Rated operational power			Rated operational current AC-3 380/400 V (A)	Main contact		Rated control circuit voltage			Auxiliary contact	Type code								
	380/400 V (kW)	660/690 V (kW)	380/400 V (kW)		4	0	V 50 Hz												
	24	110	230				0	0	0										
2.2	4	5.5	9	4	0	24	0	0	0	PC61-09004-B5									
										110	0	0	PC61-09004-F5						
										230	0	0	PC61-09004-P5						
						3	5.5	7.5	12	4	0	24	0	0	0	PC61-12004-B5			
																110	0	0	PC61-12004-F5
																230	0	0	PC61-12004-P5
5.5	11	15	25	4	0							24	0	0	0	PC61-25004-B5			
																110	0	0	PC61-25004-F5
																230	0	0	PC61-25004-P5
						11	18.5	30	40	4	0	24	0	0	0	PC61-40004-B5			
																110	0	0	PC61-40004-F5
																230	0	0	PC61-40004-P5
15	22	33	50	4	0							24	0	0	0	PC61-50004-B5			
																110	0	0	PC61-50004-F5
																230	0	0	PC61-50004-P5
						18.5	30	37	65	4	0	24	0	0	0	PC61-65004-B5			
																110	0	0	PC61-65004-F5
																230	0	0	PC61-65004-P5
22	37	45	80	4	0							24	0	0	0	PC61-80004-B5			
																110	0	0	PC61-80004-F5
																230	0	0	PC61-80004-P5
						25	45	45	95	4	0	24	0	0	0	PC61-95004-B5			
																110	0	0	PC61-95004-F5
																230	0	0	PC61-95004-P5
25	45	45	95	4	0							24	0	0	0	PC61-95008-B5			
																110	0	0	PC61-95008-F5
																230	0	0	PC61-95008-P5

Selection and ordering data





Reversing contactors PC61DN, 4 to 45 kW

	Rated operational power			Rated operational current AC-3 380/400 V (A)	Rated control circuit voltage V 50 Hz	Type code
	AC-3					
	220/230 V (kW)	380/400 V (kW)	660/690 V (kW)			
	2.2	4	5.5	9	24	PC61DN-09-B5
					110	PC61DN-09-F5
					230	PC61DN-09-P5
	3	5.5	7.5	12	24	PC61DN-12-B5
					110	PC61DN-12-F5
					230	PC61DN-12-P5
	4	7.5	10	18	24	PC61DN-18-B5
					110	PC61DN-18-F5
					230	PC61DN-18-P5
	5.5	11	15	25	24	PC61DN-25-B5
					110	PC61DN-25-F5
					230	PC61DN-25-P5
	7.5	15	18.5	32	24	PC61DN-32-B5
					110	PC61DN-32-F5
					230	PC61DN-32-P5
	11	18.5	30	40	24	PC61DN-40-B5
					110	PC61DN-40-F5
					230	PC61DN-40-P5
15	22	33	50	24	PC61DN-50-B5	
				110	PC61DN-50-F5	
				230	PC61DN-50-P5	
18.5	30	37	65	24	PC61DN-65-B5	
				110	PC61DN-65-F5	
				230	PC61DN-65-P5	
22	37	45	80	24	PC61DN-80-B5	
				110	PC61DN-80-F5	
				230	PC61DN-80-P5	
25	45	45	95	24	PC61DN-95-B5	
				110	PC61DN-95-F5	
				230	PC61DN-95-P5	




Accessories for PC61

Selection and ordering data




Instantaneous auxiliary contact blocks

	Type	Auxiliary contact		Type code
				
	Side-mounted PC61-A1C	1	1	PC61-A1C-11
	Front-mounted PC61-A1D	0 1	1 0	PC61-A1D-01 PC61-A1D-10
	PC61-A1	0	2	PC61-A1-02
		1	1	PC61-A1-11
		2	0	PC61-A1-20
		0	4	PC61-A1-04
		1	3	PC61-A1-13
		2	2	PC61-A1-22
		3	1	PC61-A1-31
4	0	PC61-A1-40		

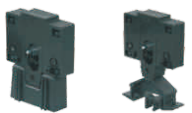
Time-delay auxiliary contact blocks

	Type	Auxiliary contact		Time-delay setting range		Type code
				Type	Setting range	
	PC61-A2	1	1	On-delay	0.1 ... 3 s	PC61-A2-T0
					0.1 ... 30 s	PC61-A2-T2
					10 ... 180 s	PC61-A2-T4
PC61-A3	1	1	Off-delay	0.1 ... 3 s	PC61-A3-T0	
				0.1 ... 30 s	PC61-A3-T2	
				10 ... 180 s	PC61-A3-T4	

Coils

	Size	For contactors	Rated control circuit voltage		Type code
			V	50 Hz	
	D2	PC61 09 ... 18	24	PC61-D2-B5	
			110	PC61-D2-F5	
			230	PC61-D2-P5	
	D4	PC61 25 ... 32	24	PC61-D4-B5	
			110	PC61-D4-F5	
			230	PC61-D4-P5	
	D6	PC61 40 ... 95	24	PC61-D6-B5	
			110	PC61-D6-F5	
			230	PC61-D6-P5	

Mechanical interlock for inverting contactors

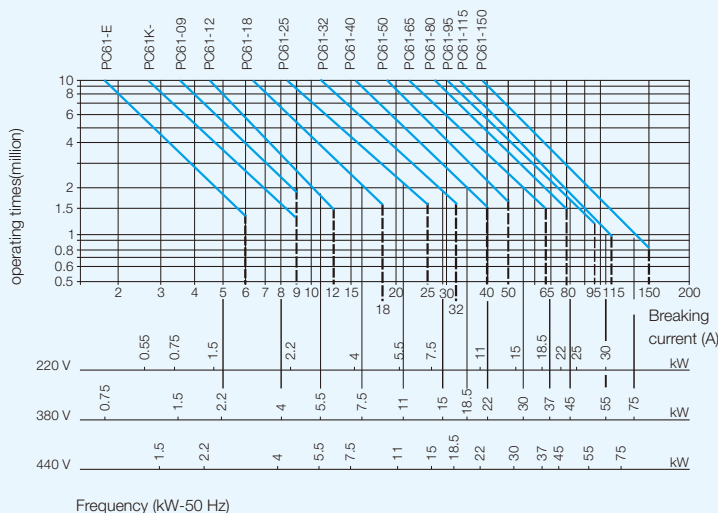
	Type	For contactors	Type code
	PC61-A4	PC61 09...32 PC61 40...95	PC61-A4X PC61-A4D

Electrical life curve for AC contactor PC61

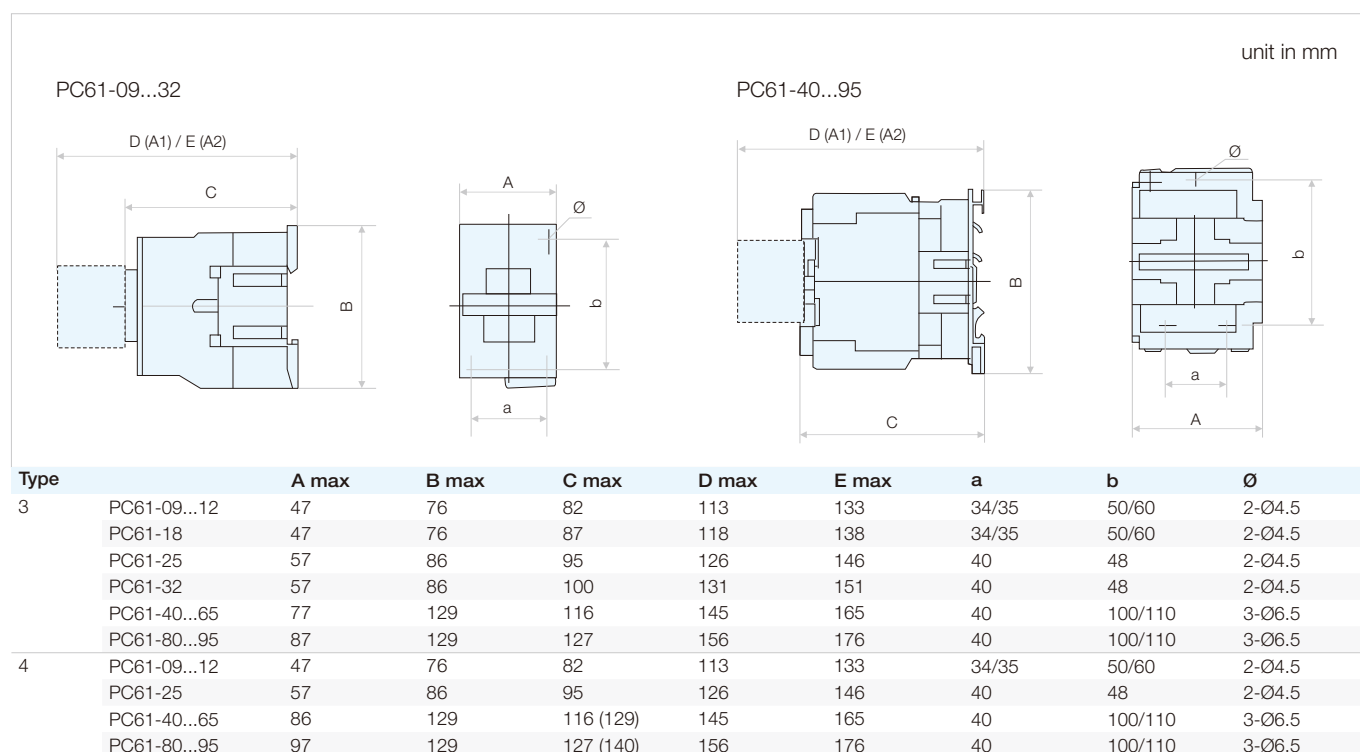
For breaking control when AC-3 type work. ($U_e \leq 440$ V)
The breaking current is equal to rated making current.

Notes:

Asynchronous, $P = 5.5$ kW,
 $U_e = 400$ V, $I_e = 11$ A, $I_c = I_e = 11$ A
motor or asynchronous, $P = 5.5$ kW,
 $U_e = 415$ V, $I_e = 11$ A, $I_c = I_e = 11$ A
For 30 million electrical life.



Outline and installation dimensions



Notes: The dimensions in brackets are for 008 (4P) type

Contactors

Series PC61F

Applications and functions for AC contactor PC61F

- Used for controlling 3-phase motors and generally for controlling power circuits.
- Used for many other applications such as isolation, capacitor switching and lighting.



Technical specifications for contactor PC61F

Model	PC61F-115	PC61F-150	PC61F-185	PC61F-225	PC61F-265	PC61F-330	PC61F-400	PC61F-500	PC61F-630	PC61F-780	
Standard	IEC 60947-4-1										
Number of poles	3, 4	3, 4	3, 4	3, 4	3	3	3, 4	3, 4	3, 4	3, 4	
Rated operational current I _e (A)	In AC-3	115	150	185	225	265	330	400	500	630	780
	In AC-1	200	250	275	315	350	400	500	700	1000	1600
Rated operational voltage U _e (V) Up to	1000										
Frequency limits of the operational current (time/h)	16-200										
Rated conventional thermal current I _{th} (A)	200	250	275	315	350	400	500	700	1000	1600	
Rated insulation voltage U _i (V)	1000										
Rated impulse withstand voltage U _{imp} (kV)	8										
Rated frequency (Hz)	50/60										
Rated making capacity (A)	10 x I _n AC-3 or 12 x I _n AC-4										
Rated breaking capacity (A)	8 x I _n AC-3 or 10 x I _n AC-4										
Rated operational power in category AC-3 (kw)	400 V	30	40	55	68	75	100	129	147	200	220
	220/230/240 V	55	75	90	100	132	160	200	250	335	400
	380/400 V	80	100	120	129	180	220	280	355	450	475
Short-circuit protection by fuse (A)	660/690 V	125	160	200	250	315	400	400	500	630	-
	Motor circuit (type aM)	200	200	315	315	500	500	630	800	800	-
	With thermal overload relay (type gG)	200	250	315	315	400	500	500	800	1000	-
gG fuses	200	250	315	315	400	500	500	800	1000	-	
Average impedance per pole (mV)	0.37	0.35	0.33	0.32	0.3	0.28	0.26	0.18	0.12	0.1	
Add-on auxiliary contact blocks	Front	identical to those used on PC61 contactors									
	Side	-									
	Front time delay	identical to those used on PC61 contactors									
	Front dust and damp protected	-									
Reversing contactor type	PC61FN										
Associated thermal overload relays	PTR61F-53					PTR61F-73					
Operation cycles (times/hour) In AC-3	1200	1200	600	600	600	600	600	600	600	600	
Electrical life (X 10 ⁶ times)	1.2	1.2	1	1	0.8	0.8	0.8	0.8	0.8	0.8	
Mechanical life (X 10 ⁶ times)	10	10	6	6	6	6	6	6	6	6	
Matching fuse model	RT16-1	RT16-1	RT16-2	RT16-2	RT16-2	RT16-3	RT16-3	RT16-4	RT16-4	RT16-4	
Tightening torque (N·m) Connection	0.8	0.8	0.8	1.2	1.2	1.2	1.2	1.2	4	4	
Cabling cross section CU (mm ²)	95	120	150	185	240	240	2 x 150	2 x 240	240	300	
Screw size	M6	M8	M8	M10	M10	M10	M10	M12	M12	M4	
Degree of protection	IP20										
Ambient air temperature (°C)	-5 to +40, max. 95 % humidity										
Storage temperature (°C)	-40 ~ +70										
Maximum operating altitude (meters)	2000										
Flame resistance	Conforming to UL 94	V1									

Selection and ordering data

AC contactors PC61F

	Rated operational power			Rated operational current AC-3 380/400 V (A)	Rated control circuit voltage V 50 Hz	Type code
	AC-3					
	220/230 V (kW)	380/400 V (kW)	660/690 V (kW)			
PC61F, 3-pole, 55 to 400 kW	30	55	59	115	24	PC61F-115-3-B5
					110	PC61F-115-3-F5
					230	PC61F-115-3-P5
	40	75	80	150	24	PC61F-150-3-B5
					110	PC61F-150-3-F5
					230	PC61F-150-3-P5
	55	90	100	185	24	PC61F-185-3-B5
					110	PC61F-185-3-F5
					230	PC61F-185-3-P5
	63	110	110	225	24	PC61F-225-3-B5
					110	PC61F-225-3-F5
					230	PC61F-225-3-P5
	75	132	140	265	24	PC61F-265-3-B5
					110	PC61F-265-3-F5
					230	PC61F-265-3-P5
	100	165	180	330	24	PC61F-330-3-B5
					110	PC61F-330-3-F5
					230	PC61F-330-3-P5
115	200	220	400	24	PC61F-400-3-B5	
				110	PC61F-400-3-F5	
				230	PC61F-400-3-P5	
147	250	280	500	24	PC61F-500-3-B5	
				110	PC61F-500-3-F5	
				230	PC61F-500-3-P5	
200	335	375	630	24	PC61F-630-3-B5	
				110	PC61F-630-3-F5	
				230	PC61F-630-3-P5	
200	400	425	780	24	PC61F-780-3-B5	
				110	PC61F-780-3-F5	
				230	PC61F-780-3-P5	
PC61F, 4-pole, 55 to 400 kW	30	55	59	115	24	PC61F-115-4-B5
					110	PC61F-115-4-F5
					230	PC61F-115-4-P5
	40	75	80	150	24	PC61F-150-4-B5
					110	PC61F-150-4-F5
					230	PC61F-150-4-P5
	55	90	100	185	24	PC61F-185-4-B5
					110	PC61F-185-4-F5
					230	PC61F-185-4-P5
	63	110	110	225	24	PC61F-225-4-B5
					110	PC61F-225-4-F5
					230	PC61F-225-4-P5
	75	132	140	265	24	PC61F-265-4-B5
					110	PC61F-265-4-F5
					230	PC61F-265-4-P5
	100	165	180	330	24	PC61F-330-4-B5
					110	PC61F-330-4-F5
					230	PC61F-330-4-P5
115	200	220	400	24	PC61F-400-4-B5	
				110	PC61F-400-4-F5	
				230	PC61F-400-4-P5	
147	250	280	500	24	PC61F-500-4-B5	
				110	PC61F-500-4-F5	
				230	PC61F-500-4-P5	
200	335	375	630	24	PC61F-630-4-B5	
				110	PC61F-630-4-F5	
				230	PC61F-630-4-P5	
200	400	425	780	24	PC61F-780-4-B5	
				110	PC61F-780-4-F5	
				230	PC61F-780-4-P5	



Contactors

Series PC61F

Selection and ordering data








Reversing contactors PC61FN

	Rated operational power			Rated operational current AC-3 380/400 V (A)	Rated control circuit voltage V 50 Hz	Type code
	AC-3 220/230 V (kW)	380/400 V (kW)	660/690 V (kW)			
3-pole, 55 to 400 kW	30	55	59	115	24	PC61FN-115-3-B5
					110	PC61FN-115-3-F5
					230	PC61FN-115-3-P5
	40	75	80	150	24	PC61FN-150-3-B5
					110	PC61FN-150-3-F5
					230	PC61FN-150-3-P5
	55	90	100	185	24	PC61FN-185-3-B5
					110	PC61FN-185-3-F5
					230	PC61FN-185-3-P5
	63	110	110	225	24	PC61FN-225-3-B5
					110	PC61FN-225-3-F5
					230	PC61FN-225-3-P5
	75	132	140	265	24	PC61FN-265-3-B5
					110	PC61FN-265-3-F5
					230	PC61FN-265-3-P5
	100	165	180	330	24	PC61FN-330-3-B5
					110	PC61FN-330-3-F5
					230	PC61FN-330-3-P5
	115	200	220	400	24	PC61FN-400-3-B5
					110	PC61FN-400-3-F5
230					PC61FN-400-3-P5	
147	250	280	500	24	PC61FN-500-3-B5	
				110	PC61FN-500-3-F5	
				230	PC61FN-500-3-P5	
200	335	375	630	24	PC61FN-630-3-B5	
				110	PC61FN-630-3-F5	
				230	PC61FN-630-3-P5	
200	400	425	780	24	PC61FN-780-3-B5	
				110	PC61FN-780-3-F5	
				230	PC61FN-780-3-P5	
4-pole, 55 to 400 kW	30	55	59	115	24	PC61FN-115-4-B5
					110	PC61FN-115-4-F5
					230	PC61FN-115-4-P5
	40	75	80	150	24	PC61FN-150-4-B5
					110	PC61FN-150-4-F5
					230	PC61FN-150-4-P5
	55	90	100	185	24	PC61FN-185-4-B5
					110	PC61FN-185-4-F5
					230	PC61FN-185-4-P5
	63	110	110	225	24	PC61FN-225-4-B5
					110	PC61FN-225-4-F5
					230	PC61FN-225-4-P5
	75	132	140	265	24	PC61FN-265-4-B5
					110	PC61FN-265-4-F5
					230	PC61FN-265-4-P5
	100	165	180	330	24	PC61FN-330-4-B5
					110	PC61FN-330-4-F5
					230	PC61FN-330-4-P5
	115	200	220	400	24	PC61FN-400-4-B5
					110	PC61FN-400-4-F5
230					PC61FN-400-4-P5	
147	250	280	500	24	PC61FN-500-4-B5	
				110	PC61FN-500-4-F5	
				230	PC61FN-500-4-P5	
200	335	375	630	24	PC61FN-630-4-B5	
				110	PC61FN-630-4-F5	
				230	PC61FN-630-4-P5	
200	400	425	780	24	PC61FN-780-4-B5	
				110	PC61FN-780-4-F5	
				230	PC61FN-780-4-P5	



Selection and ordering data

Coils

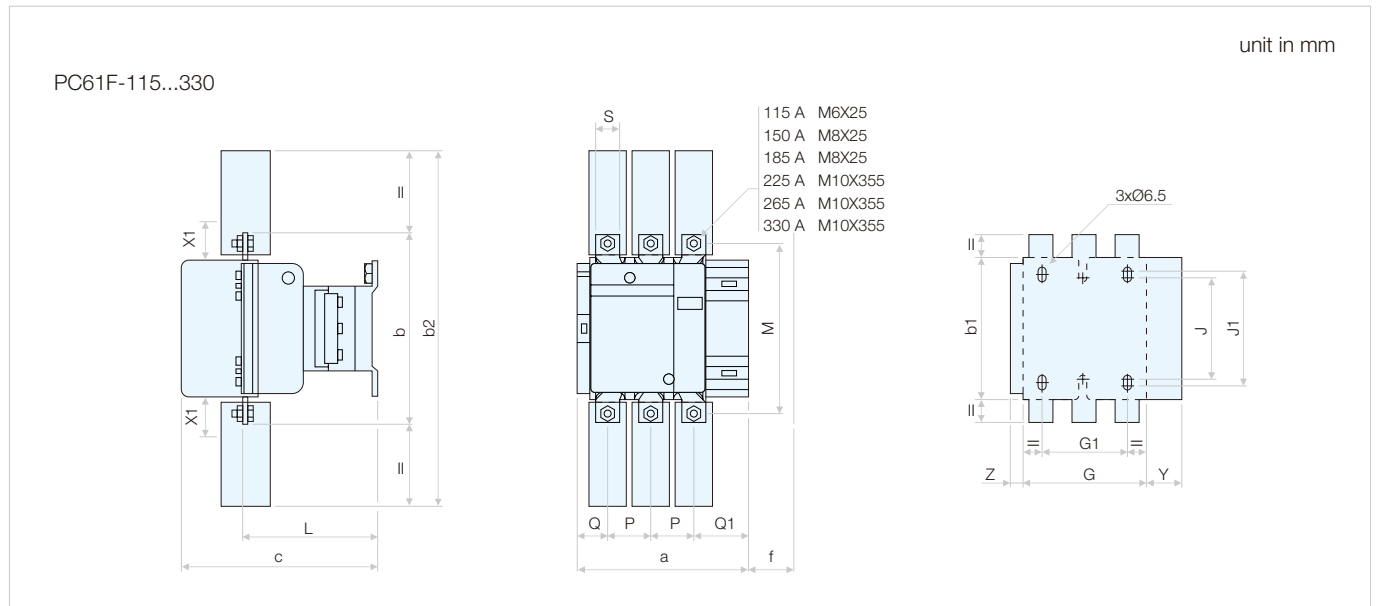
	Size	For cotactors	Rated control circuit voltage V 50 Hz	Type code
	FF	PC61F 115 ... 150	24	PC61F-FF-B5
			110	PC61F-FF-F5
			230	PC61F-FF-P5
	FG	PC61F 185 ... 225	24	PC61F-FG-B5
			110	PC61F-FG-F5
			230	PC61F-FG-P5
	FH	PC61F 265 ... 330	24	PC61F-FH-B5
			110	PC61F-FH-F5
			230	PC61F-FH-P5
	FJ	PC61F 400	24	PC61F-FJ-B5
			110	PC61F-FJ-F5
			230	PC61F-FJ-P5
	FK	PC61F 500	24	PC61F-FK-B5
			110	PC61F-FK-F5
			230	PC61F-FK-P5
	FL	PC61F 630	24	PC61F-FL-B5
			110	PC61F-FL-F5
			230	PC61F-FL-P5
	FX	PC61F 780	24	PC61F-FX-B5
			110	PC61F-FX-F5
			230	PC61F-FX-P5

Contactors

Series PC61F

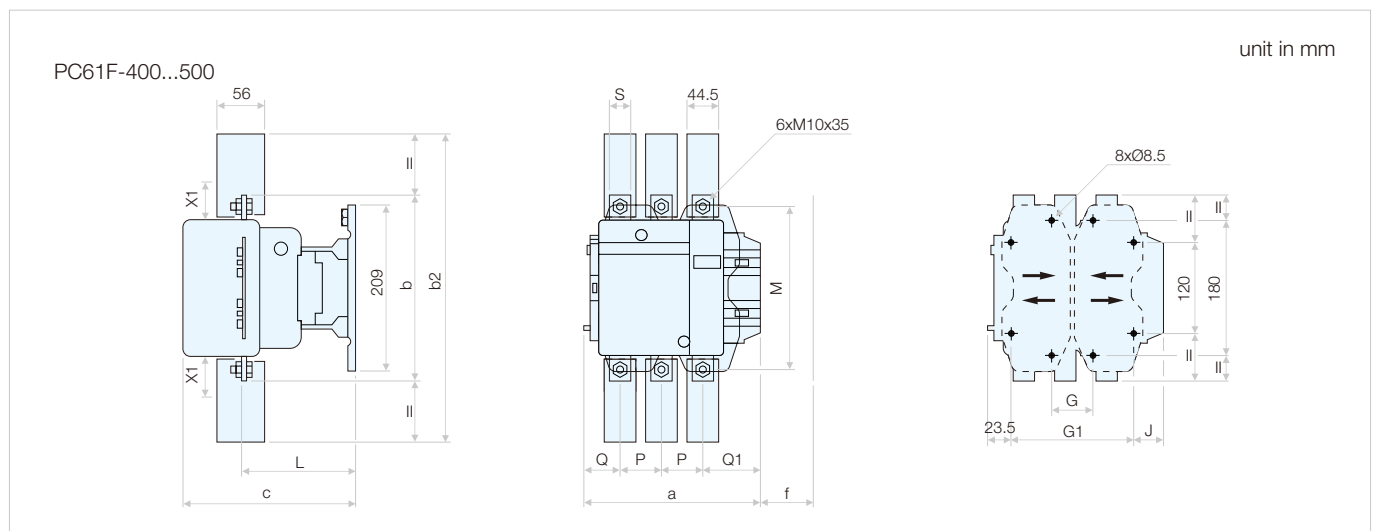
Outline and installation dimensions

2



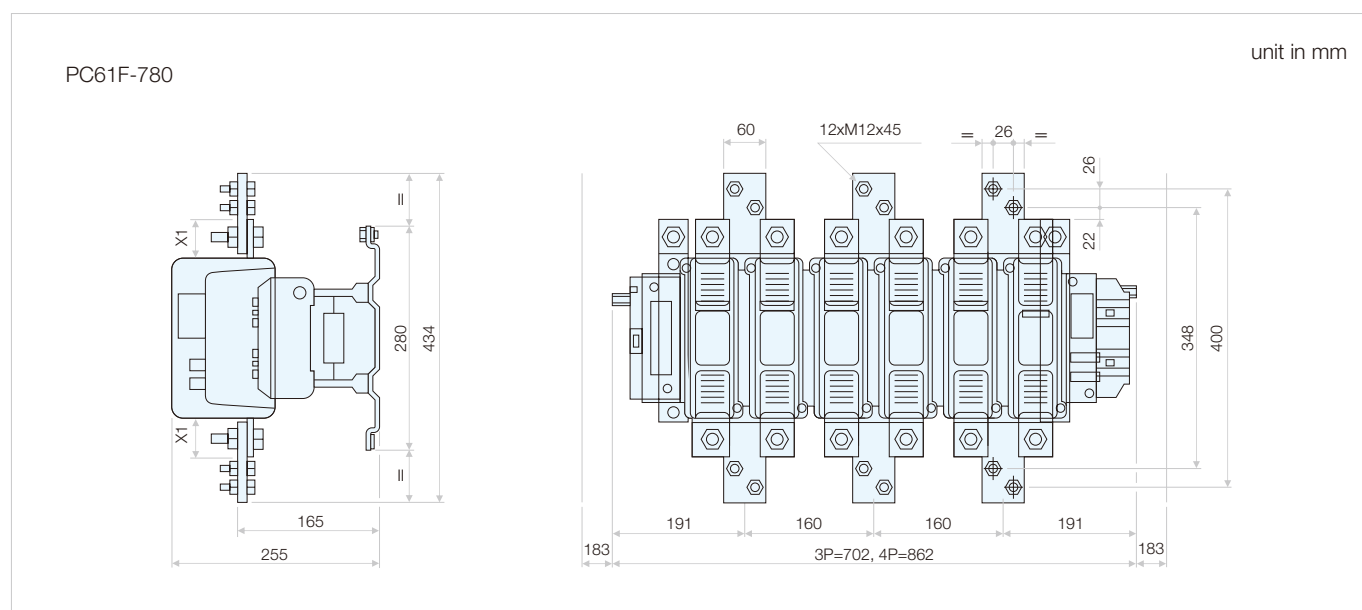
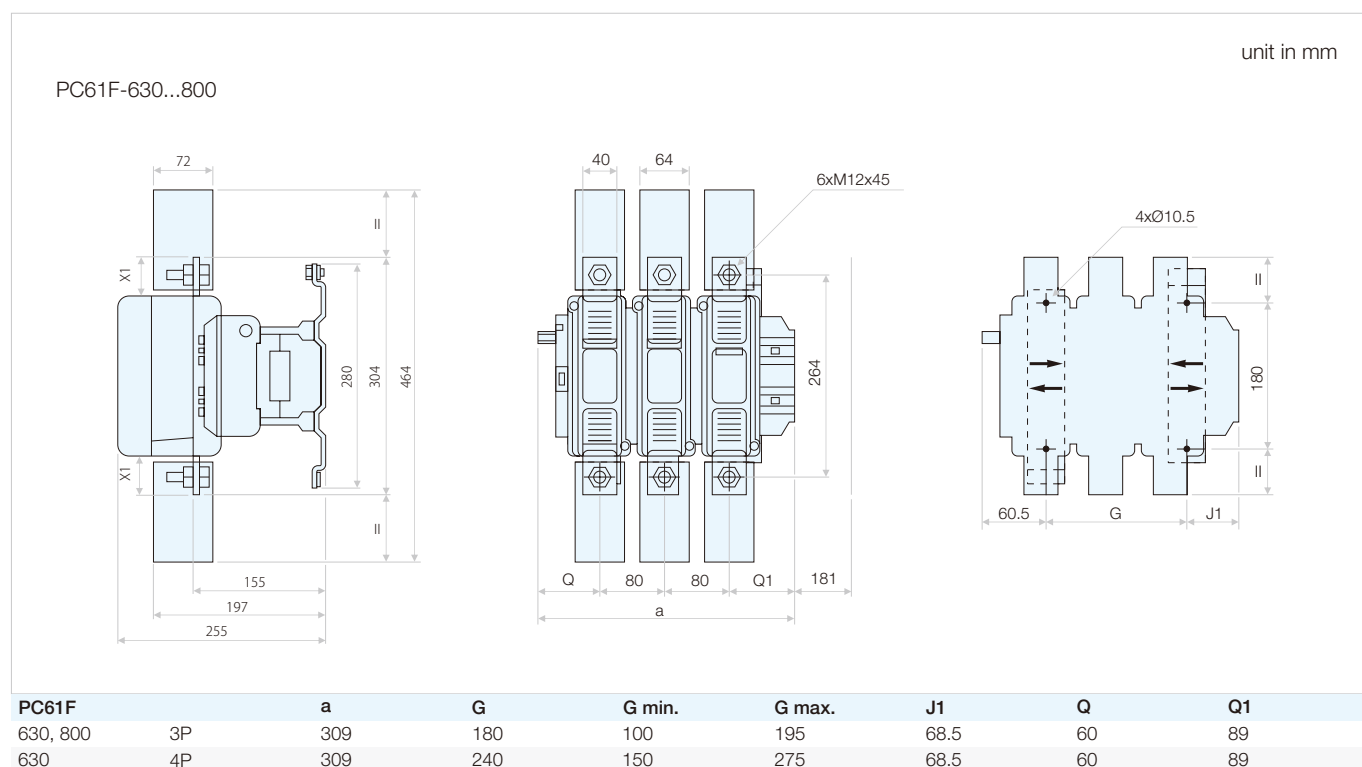
PC61F	a	b	b1	b2	c	f	G	G1	J	J1	L	M	P	Q	Q1	S	1	Y	Z	
115	3P	163.5	162	137	265	171	131	106	80	106	120	107	147	37	29.5	60	20	26	44	13.5
	4P	200.5	162	137	265	171	131	143	80	106	120	107	147	37	29.5	60	20	26	44	13.5
150	3P	163.5	170	137	301	171	131	106	80	106	120	107	150	40	26	57.5	20	34	44	13.5
	4P	200.5	170	137	301	171	131	143	80	106	120	107	150	40	26	55.5	20	34	44	13.5
185	3P	168.5	174	137	305	181	130	111	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
	4P	208.5	174	137	305	181	130	151	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
225	3P	168.5	197	137	364	181	130	111	80	106	120	113.5	172	48	21	51.5	25	44.5	44	13.5
	4P	208.5	197	137	364	181	130	151	80	106	120	113.5	172	48	17	47.5	25	44.5	44	13.5
265	3P	201.5	203	145	375	213	147	142	96	106	120	141	178	48	39	66.5	25	44.5	38	21.5
	4P	244.5	203	145	375	213	147	190	96	106	120	141	178	48	34	66.5	25	44.5	38	21.5
330	3P	213	206	145	375	219	147	154.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5
	4P	261	206	145	375	219	147	202.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5

f = minimum distance required for coil removal



PC61F	a	b	b2	c	f	G*	G min.	G max.	G1*	G1 min.	G1 max.	J	L	M	P	Q	Q1	S	
400	2P	213	206	375	219	119	80	66	102	170	156	192	19.5	145	181	48	69	96	25
	3P	213	206	375	219	119	80	66	102	170	156	192	19.5	145	181	48	43	74	25
	4P	261	206	375	219	119	80	66	150	170	156	240	67.5	145	181	48	43	74	25
500	2P	233	238	400	232	141	80	66	120	170	156	210	39.5	146	208	55	76	102	30
	3P	233	238	400	232	141	80	66	120	170	156	210	39.5	146	208	55	46	77	30
	4P	288	288	400	232	141	140	66	175	230	156	265	34.5	146	208	55	46	77	30

Outline and installation dimensions



Capacitor Switching Contactors Series PC61C

Applications and functions

- Switching parallel connection capacitance from low voltage reactive power compensating equipments
- Reducing efficiently the impact to capacitor and restraining over-voltage when switching ON/OFF with special flow-cut equipment



Technical specifications

Type		PC61C-25	PC61C-32	PC61C-43	PC61C-50	PC61C-63	PC61C-80	PC61C-95	PC61C-125
Rated insulating voltage Ui	V	690	690	690	690	690	690	690	690
Rated conventional thermal current Ith	A	25	32	43	50	63	80	95	125
Controllable power AC-6b	220/230 V	Kvar	6	8.5	10	12	15	22	25
	380/400 V	Kvar	12	16	20	25	30	37	45
	660/690 V	Kvar	12	16	20	25	30	37	45
Rated current of capacitor	400 V	A	17.3	23	29	36	43	53	65
Rated working current 1.3Ie	A	22.5	30	37.7	47	56	69	85	94
Restrained surge capacity		≤ 20 Ie	≤ 20 Ie	≤ 20 Ie	≤ 20 Ie	≤ 20 Ie	≤ 20 Ie	≤ 20 Ie	≤ 20 Ie
Coil consumed power	Starting	VA	70	100	100	245	245	245	245
	Holding	VA	9	10	10	30	30	30	30
Auxiliary contact type	2NO	√	√	√	-	-	-	-	-
	2NC	√	√	√	-	-	-	-	-
	1NO + 1NC	√	√	√	-	-	-	-	-
	2NO + 1NC	-	-	-	√	√	√	√	√
	1NO + 2NC	-	-	-	√	√	√	√	√
Mechanical life	10 ⁴	times	300	300	300	100	100	100	80
Electrical life	10 ⁴	times	10	10	10	6	6	6	6
Operating frequency		times/h	120	120	120	120	120	120	120
Pollution grade			3	3	3	3	3	3	3
Installation category			3	3	3	3	3	3	3
Installation type	screws	√	√	√	√	√	√	√	√
	35mm DIN-rail	√	√	√	√	√	√	√	√
	75mm DIN-rail	-	-	-	-	√	√	√	√
Ambient air temperature		°C	-5 ~ +40	-5 ~ +40	-5 ~ +40	-5 ~ +40	-5 ~ +40	-5 ~ +40	-5 ~ +40
Altitude	max.	meter	2000	2000	2000	2000	2000	2000	2000
Coil sectional area (mm ²)			4	6	10	10	16	25	35
Tightening torque (N·m)			1.7	2.0	2.5	5	5	9	9

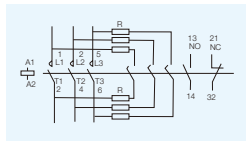
Capacitor Switching Contactors Series PC61C

Selection and ordering data

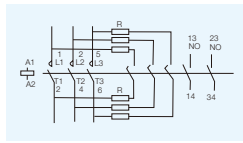
Rated operational power			Rated conventional thermal current lth (A)	Rated control circuit voltage V 50 Hz	Auxiliary contact		Type code			
AC-6b at 220/230 V (kvar)	at 380/400 V (kvar)	at 660/690 V (kvar)			$\left \right.$	$\left \right.$				
6	12	12	25	24	2	0	PC61C-2520-B5			
					1	1	PC61C-2511-B5			
					0	2	PC61C-2502-B5			
					2	0	PC61C-2520-F5			
					1	1	PC61C-2511-F5			
					0	2	PC61C-2502-F5			
			110	12	12	25	24	2	0	PC61C-2520-P5
								1	1	PC61C-2511-P5
								0	2	PC61C-2502-P5
								2	0	PC61C-2520-F5
								1	1	PC61C-2511-F5
								0	2	PC61C-2502-F5
8.5	16	16	32	24	2	0	PC61C-3220-B5			
					1	1	PC61C-3211-B5			
					0	2	PC61C-3202-B5			
					2	0	PC61C-3220-F5			
					1	1	PC61C-3211-F5			
					0	2	PC61C-3202-F5			
			110	16	16	32	24	2	0	PC61C-3220-P5
								1	1	PC61C-3211-P5
								0	2	PC61C-3202-P5
								2	0	PC61C-3220-F5
								1	1	PC61C-3211-F5
								0	2	PC61C-3202-F5
10	20	20	40	24	2	0	PC61C-4320-B5			
					1	1	PC61C-4311-B5			
					0	2	PC61C-4302-B5			
					2	0	PC61C-4320-F5			
					1	1	PC61C-4311-F5			
					0	2	PC61C-4302-F5			
			110	20	20	40	24	2	0	PC61C-4320-P5
								1	1	PC61C-4311-P5
								0	2	PC61C-4302-P5
								2	0	PC61C-4320-F5
								1	1	PC61C-4311-F5
								0	2	PC61C-4302-F5
12	25	25	50	24	1	2	PC61C-5012-B5			
					2	1	PC61C-5021-B5			
					1	2	PC61C-5012-F5			
					2	1	PC61C-5021-F5			
					1	2	PC61C-5012-P5			
					2	1	PC61C-5021-P5			
			110	25	25	50	24	1	2	PC61C-5012-B5
								2	1	PC61C-5021-B5
								1	2	PC61C-5012-F5
								2	1	PC61C-5021-F5
								1	2	PC61C-5012-P5
								2	1	PC61C-5021-P5
15	30	30	65	24	1	2	PC61C-6312-B5			
					2	1	PC61C-6321-B5			
					1	2	PC61C-6312-F5			
					2	1	PC61C-6321-F5			
					1	2	PC61C-6312-P5			
					2	1	PC61C-6321-P5			
			110	30	30	65	24	1	2	PC61C-6312-B5
								2	1	PC61C-6321-B5
								1	2	PC61C-6312-F5
								2	1	PC61C-6321-F5
								1	2	PC61C-6312-P5
								2	1	PC61C-6321-P5
22	37	37	80	24	1	2	PC61C-8012-B5			
					2	1	PC61C-8021-B5			
					1	2	PC61C-8012-F5			
					2	1	PC61C-8021-F5			
					1	2	PC61C-8012-P5			
					2	1	PC61C-8021-P5			
			110	37	37	80	24	1	2	PC61C-8012-B5
								2	1	PC61C-8021-B5
								1	2	PC61C-8012-F5
								2	1	PC61C-8021-F5
								1	2	PC61C-8012-P5
								2	1	PC61C-8021-P5
23	45	45	95	24	1	2	PC61C-9512-B5			
					2	1	PC61C-9521-B5			
					1	2	PC61C-9512-F5			
					2	1	PC61C-9521-F5			
					1	2	PC61C-9512-P5			
					2	1	PC61C-9521-P5			
			110	45	45	95	24	1	2	PC61C-9512-B5
								2	1	PC61C-9521-B5
								1	2	PC61C-9512-F5
								2	1	PC61C-9521-F5
								1	2	PC61C-9512-P5
								2	1	PC61C-9521-P5
25	50	50	125	24	1	2	PC61C-12512-B5			
					2	1	PC61C-12521-B5			
					1	2	PC61C-12512-F5			
					2	1	PC61C-12521-F5			
					1	2	PC61C-12512-P5			
					2	1	PC61C-12521-P5			
			110	50	50	125	24	1	2	PC61C-12512-B5
								2	1	PC61C-12521-B5
								1	2	PC61C-12512-F5
								2	1	PC61C-12521-F5
								1	2	PC61C-12512-P5
								2	1	PC61C-12521-P5

Capacitor Switching Contactors Series PC61C

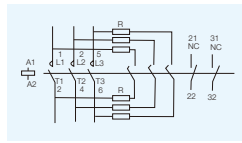
Terminal and electric diagram



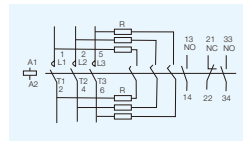
PC61C-2511
PC61C-3211
PC61C-4311



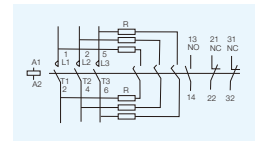
PC61C-2520
PC61C-3220
PC61C-4320



PC61C-2502
PC61C-3202
PC61C-4302

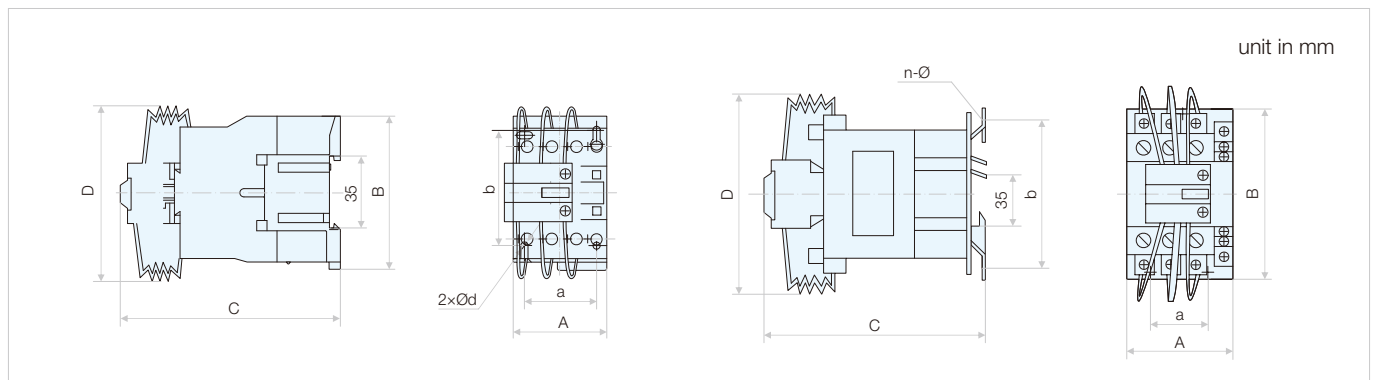


PC61C-5021
PC61C-6321
PC61C-8021
PC61C-9521
PC61C-12521



PC61C-5012
PC61C-6312
PC61C-8012
PC61C-9512
PC61C-12512

Outline and installation dimensions



Type	Outline dimensions				Installation dimensions		
	A	B	C	D	a	b	C
PC61C-25	47	76	124	100	34/35	50/60	2-Ø4.5
PC61C-32	57	86	132	110	40	50/60	2-Ø4.5
PC61C-43	57	86	136	110	40	50/60	2-Ø4.5
PC61C-50	77	129	152	155	40	100/110	3-Ø6.5
PC61C-63	77	129	152	155	40	100/110	3-Ø6.5
PC61C-80	77	129	152	155	40	100/110	3-Ø6.5
PC61C-95	87	129	162	165	40	100/110	3-Ø6.5
PC61C-125	87	129	162	165	40	100/110	3-Ø6.5

Applications and functions for thermal relay

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.

Technical specifications for assembled thermal relay of type PC61K

- Type: PTR61K
- Standard: IEC 60947-4-1
- Tripping class: 10 A
- Number of connecting pin: 4
- Rated operational voltage U_e (V): up to 690
- Rated insulation voltage U_i (V): 690
- Rated impulse withstand voltage U_{imp} (kV): 6
- Rated current range I_n (A):
0.11-0.16, 0.16-0.23,
0.23-0.36, 0.36-0.54,
0.54-0.8, 0.8-1.2,
1.8-2.6, 2.6-3.7,
3.7-5.5, 5.-8,
8-11.5, 10-14
- Signalling: Trip indicator
- Tightening torque (N·m): 0.8
- Degree of protection: IP20
- Ambient air temperature (°C): -5 to +40, max. 95 % humidity
- Storage temperature (°C): -40 ~ +75
- Maximum operating altitude (meters): 2000
- Flame resistance: V1
- Mounting: directly under the contactor



Selection and ordering data

Thermal overload relays PTR61K, 0.11 to 14 A

	For contactors	Current setting range (A)	Fuses to be used with selected relay		Type code
			aM (A)	gG (A)	
	PC61K	0.11 ... 0.16	0.25	0.5	PTR61K-5-0.16
		0.16 ... 0.23	0.25	0.5	PTR61K-5-0.23
		0.23 ... 0.36	0.5	1	PTR61K-5-0.36
		0.36 ... 0.54	1	1.6	PTR61K-5-0.54
		0.54 ... 0.8	1	2	PTR61K-5-0.8
		0.8 ... 1.2	2	6	PTR61K-5-1.2
		1.2 ... 1.8	2	8	PTR61K-5-1.8
		1.8 ... 2.6	4	8	PTR61K-5-2.6
		2.6 ... 3.7	4	10	PTR61K-5-3.7
		3.7 ... 5.5	6	16	PTR61K-5-5.5
		5.5 ... 8	8	20	PTR61K-5-8
		8 ... 11.5	10	25	PTR61K-5-11.5
		10 ... 14	16	32	PTR61K-5-14
	12 ... 16	20	40	PTR61K-5-16	



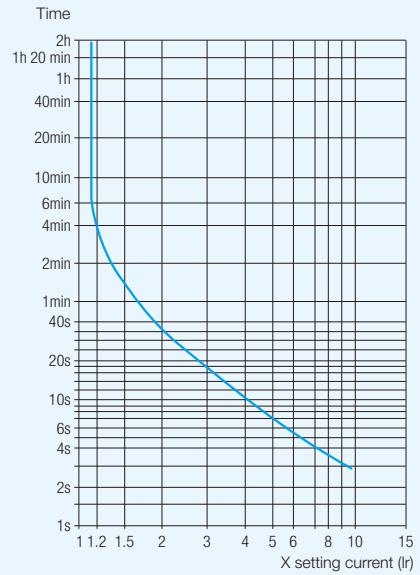
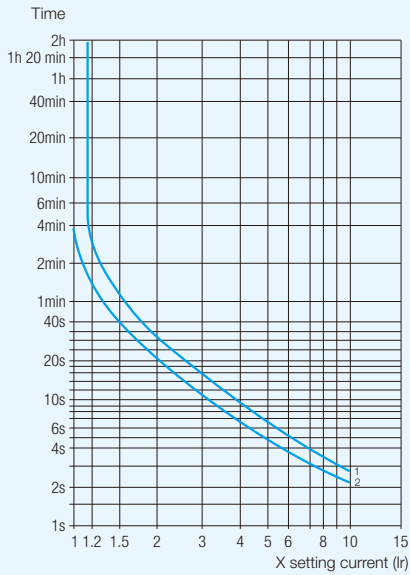
Thermal Overload Relays Series PTR61K

Tripping curve of thermal relay PTR61K

Average operating time related to multiples of the current setting (Class 10 A)

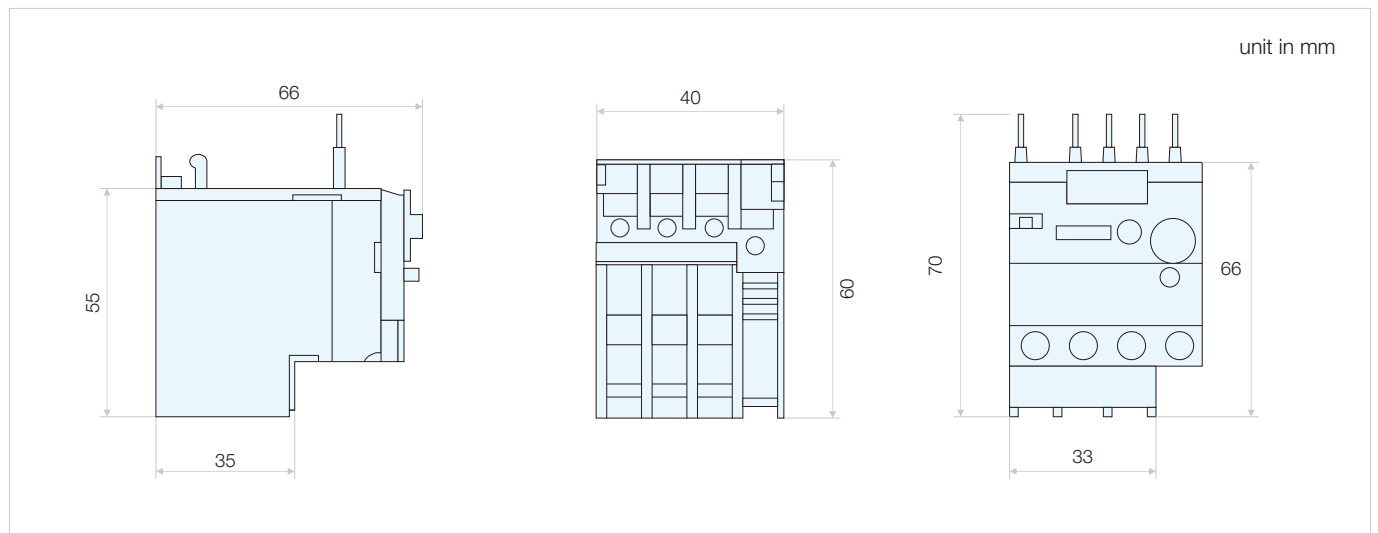
Balanced 3-phase operation, from cold state

Balanced operation with 2 phases only, from cold state



- 1 Setting: at lower end of scale
- 2 Setting: at upper end of scale

Outline and installation dimensions



Applications and functions for thermal relay PTR61

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.



Technical specifications


Type	PTR61-25	PTR61-36	PTR61-93
Standard	IEC 60947-4-1		
Tripping class	10 A		
Rated working current Ie (A)	25	36	93
Setting range (A)	0.1-0.16, 0.16-0.25, 0.25-0.4, 0.4-0.63, 0.63-1, 1-1.6, 1.25-2, 1.6-2.5, 2.5-4, 4-6, 5.5-8, 7-10, 9-13, 12-18, 17-25	23-32, 28-36,	23-32, 30-40, 37-50, 48-65, 55-70, 63-80, 80-93
Rated insulation voltage Ui (V)	690		
Rated impulse withstand voltage Uimp (kV)	6		
Signalling Trip indicator	Trip indicator		
Tightening torque (N·m)	0.8		
Degree of protection	IP20		
Ambient air temperature (°C)	-5 to +40, max. 95 % humidity		
Storage temperature (°C)	-40 ~ +75		
Maximum operating altitude (meters)	2000		
Flame resistance	V1		
Mounting	Directly under the contactor		

Thermal Overload Relays


PTR61

Selection and ordering data

Thermal overload relays PTR61, 0.1 to 93 A

	Type	For contactor	Current setting range (A)	Fuses to be used with selected relay		Type code	
				aM (A)	gG (A)		
	PTR61-25	PC61-09	0.1~0.16	0.25	2	PTR61-25-0.16	
			0.16~0.25	0.25	2	PTR61-25-0.25	
			0.25~0.4	1	2	PTR61-25-0.4	
			0.4~0.63	1	2	PTR61-25-0.63	
			0.63~1	2	4	PTR61-25-1	
			1~1.6	2	4	PTR61-25-1.6	
			1.25~2	4	6	PTR61-25-2	
			1.6~2.5	4	6	PTR61-25-2.5	
			2.5~4	6	10	PTR61-25-4	
			4~6	8	16	PTR61-25-6	
			5.5~8	12	20	PTR61-25-8	
			PC61-12	7~10	12	20	PTR61-25-10
				9~13	16	25	PTR61-25-13
			PC61-18	12~18	20	35	PTR61-25-18
				PC61-25	17~25	25	50
PTR61-36	PC61-32	23~32	40	63	PTR61-36-32		
		28~36	40	80	PTR61-36-36		
PTR61-93	PC61-40	23~32	40	63	PTR61-93-32		
		30~40	40	100	PTR61-93-40		
		PC61-50	37~50	63	100	PTR61-93-50	
		PC61-65	48~65	63	100	PTR61-93-65	
		PC61-80	55~70	80	125	PTR61-93-70	
		63~80	80	125	PTR61-93-80		
PC61-95	80~93	100	160	PTR61-93-93			

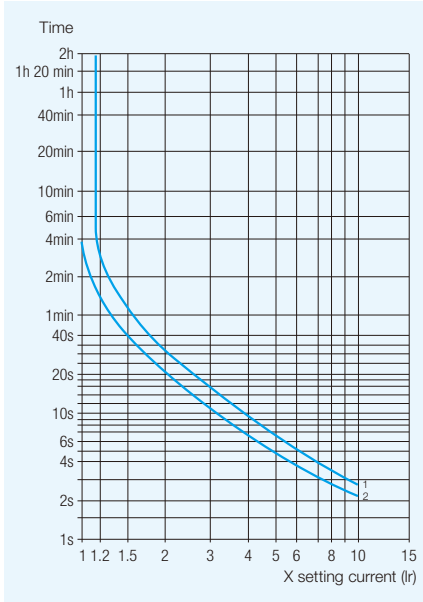
Terminal block adapter for mounting a relay

	For relays	Type code
	PTR61-25	PTR61-A71
	PTR61-36	PTR61-A72
	PTR61-93	PTR61-A73

Operating characteristics

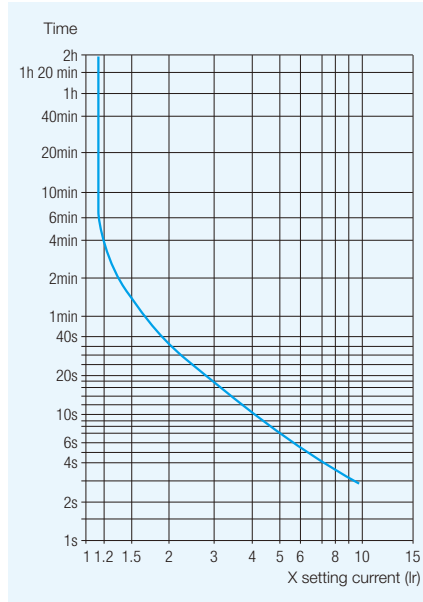
Average operating time related to multiples of the current setting (Class 10 A)

Balanced 3-phase operation, from cold state

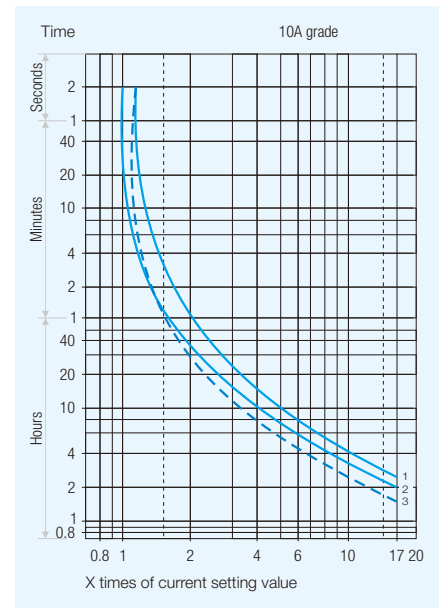


- 1 Setting: at lower end of scale
- 2 Setting: at upper end of scale

Balanced operation with 2 phases only, from cold state

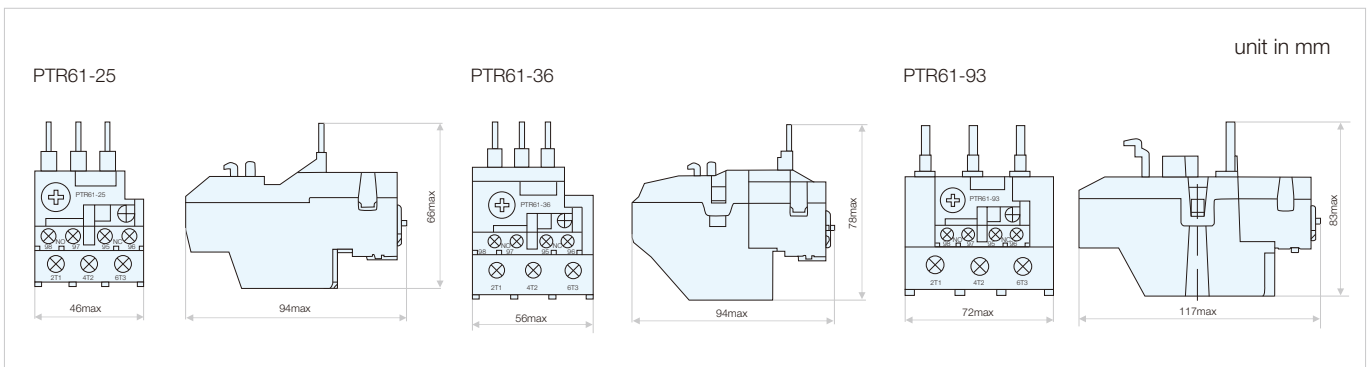


Tripping curve

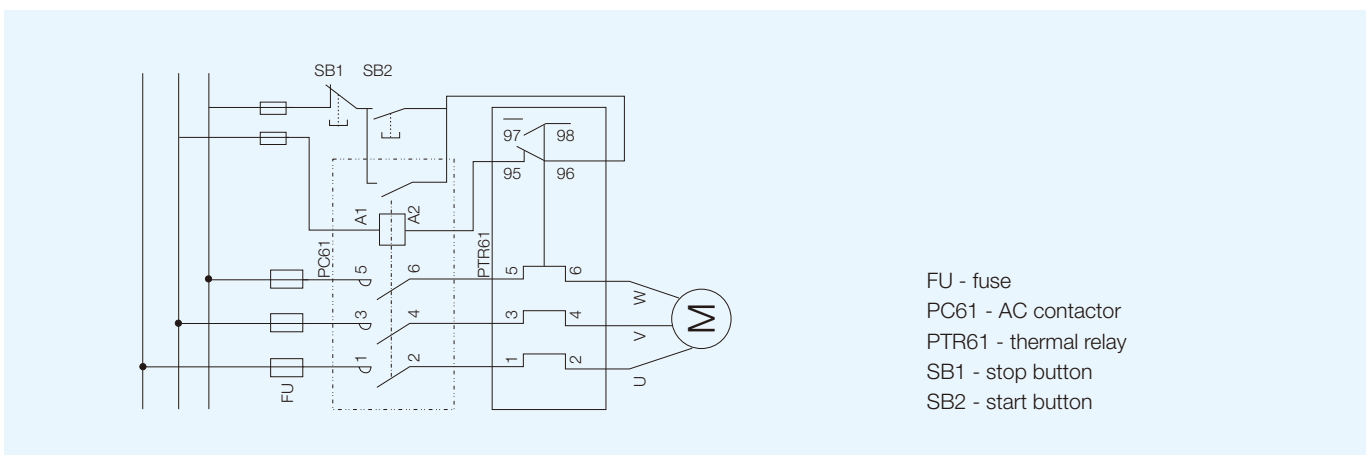


- 1. Equilibrium running, 3 phase, start from cold state
- 2. Equilibrium running, 2 phase, start from cold state
- 3. Equilibrium running, 3 phase, after long period of setting current (hot state)

Outline and installation dimensions



Operating principle diagram



Thermal Overload Relays

Series PTR61F

Applications and functions

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or a circuit breaker.
- Used for the protection of motors.



2

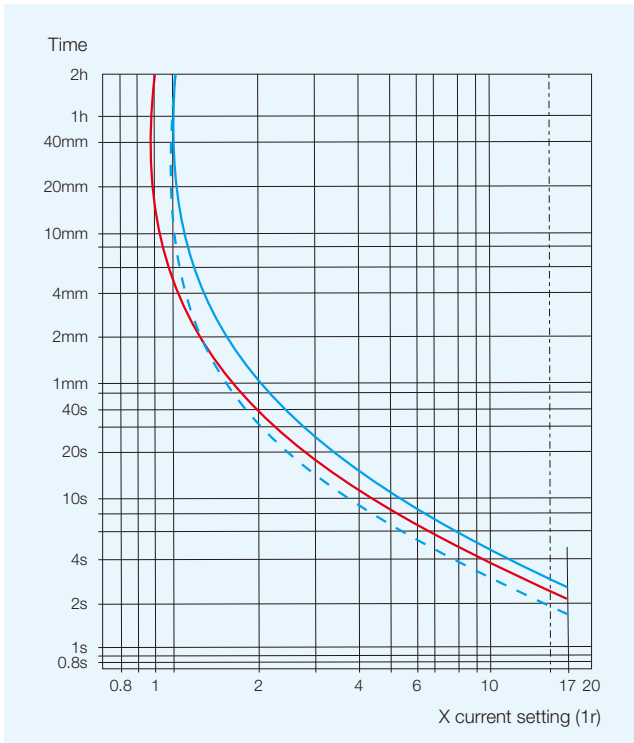
Technical specifications

Type	PTR61F-53	PTR61F-73
Standard	IEC 60947-4-1	
Tripping class	10 A, 20 A	
Rated operational voltage U _e (V)	1000	
Rated working current I _e (A)	220	630
Setting range (A)	30 ... 50, 48 ... 80, 60 ... 100, 90 ... 150, 132 ... 220	200 ... 330, 300 ... 500, 380 ... 630
Reset	Manual on front of relay	
Rated insulation voltage U _i (V)	1000	
Rated impulse withstand voltage U _{imp} (kV)	6	
Tightening torque (N·m)	0.8	
Degree of protection	IP20	
Ambient air temperature (°C)	-5 to +40, max. 95 % humidity	
Storage temperature (°C)	-40 ~ +75	
Maximum operating altitude (meters)	2000	
Flame resistance	V1	

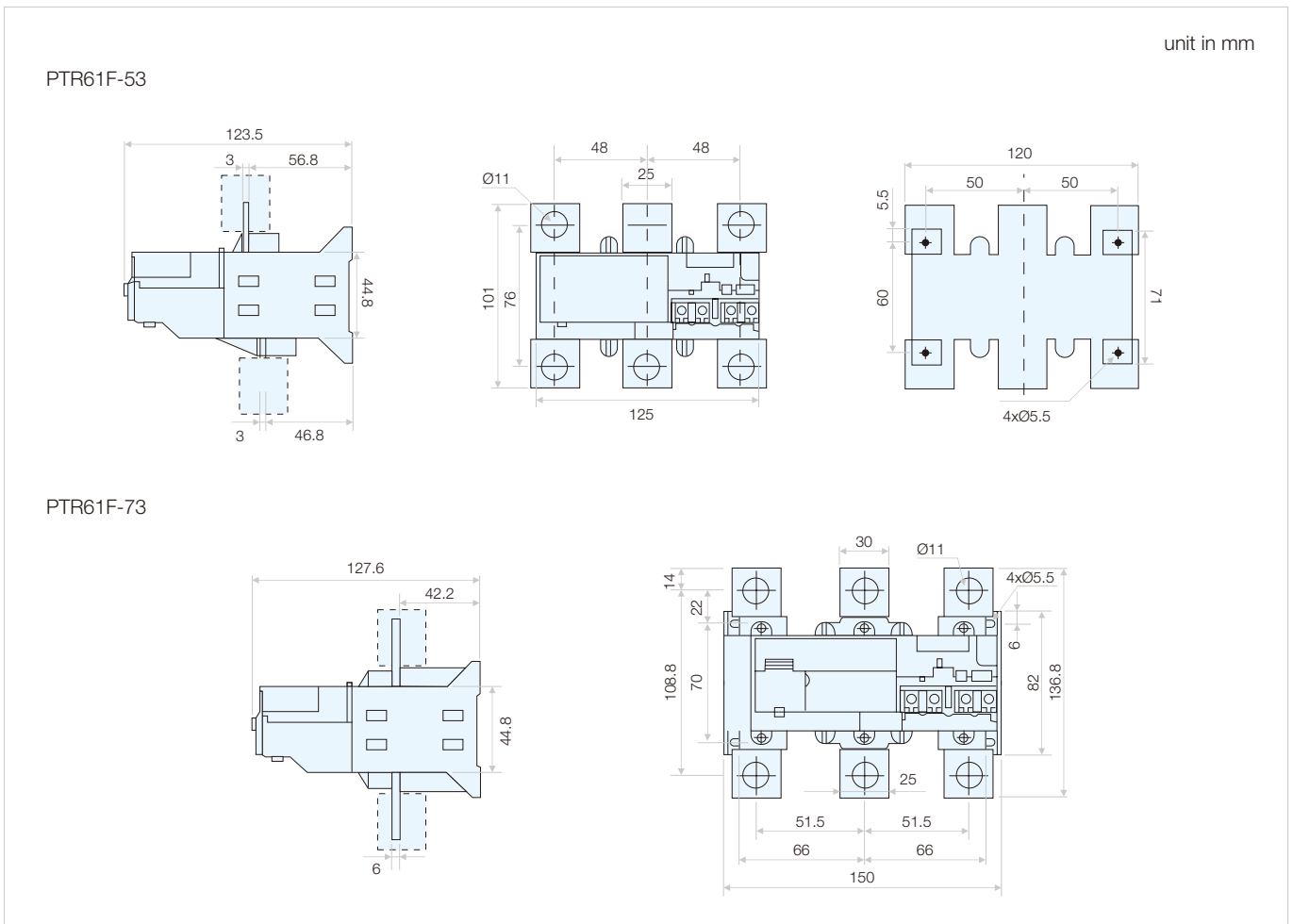
Selection and ordering data

	Type	For contactor	Current setting range (A)	Fuses to be used with selected relay		Type code
				aM (A)	gG (A)	
	PTR61F-53	PC61F 115 ... 185	30 ... 50	50	80	PTR61F-53-50
			48 ... 80	80	125	PTR61F-53-80
			60 ... 100	100	200	PTR61F-53-100
			90 ... 150	160	250	PTR61F-53-150
			132 ... 220	250	315	PTR61F-53-220
	PTR61F-73	PC61F 225 ... 500	200 ... 330	400	500	PTR61F-73-330
			300 ... 500	500	800	PTR61F-73-500
			380 ... 630	630	800	PTR61F-73-630

Tripping curve



Outline and installation dimensions



Enclosed Direct-on-line (DOL) Staters Series PQ61

Applications and functions

- Controlling the direct start and halt of the electromotor
- Protecting the motor from overload and phase failure
- Used in remote making and breaking circuit and frequently starting and controlling motor.




2

Technical specifications

- Standards: IEC 60947-4-1, IEC 60439-1
- Rated working current (A): 09, 12, 18, 25, 32, 40, 50, 65, 80, 95
- Rated operational voltage U_e (V): 690
- Rated insulation voltage U_i (V): 690
- Rated impulse withstand voltage U_{imp} (kV): 8
- Rated frequency (Hz): 50/60
- Control (2 pushbuttons mounted on enclosure cover):
1 green Start button "I"; 1 red Stop/Reset button "O"
- Enclosure: PQ61-09/12/18 Double insulated, degree of protection IP65;
PQ61-25/32 Double insulated, degree of protection IP55;
PQ61-40/50/65/80/95 Metal, degree of protection IP65
- Electrical life ($\times 10^5$ times): 5
- Mechanical life ($\times 10^5$ times): 50
- Matched AC contactor: PC61
- Matched thermal overload relay: PTR61
- Ambient air temperature (°C): -5 to +40, max. 95 % humidity
- Storage temperature (°C): -40 ~ +75
- Maximum operating altitude (meters): 2000

Selection and ordering data

	Rated operational power			Rated operational I current AC-3 380/400 V (A)	Rated conventional thermal current I _{th} (A)	Rated control circuit voltage V 50 Hz	Type code
	220/230 V (kW)	380/400 V (kW)	660/690 V (kW)				
	2.2	4	5.5	9	20	24	PQ61-09-B5
						110	PQ61-09-F5
						230	PQ61-09-P5
	3	5.5	7.5	12	20	24	PQ61-12-B5
						110	PQ61-12-F5
						230	PQ61-12-P5
	4	7.5	9	18	32	24	PQ61-18-B5
						110	PQ61-18-F5
						230	PQ61-18-P5
5.5	11	15	25	40	24	PQ61-25-B5	
					110	PQ61-25-F5	
					230	PQ61-25-P5	
7.5	15	18.5	32	50	24	PQ61-32-B5	
					110	PQ61-32-F5	
					230	PQ61-32-P5	
11	18.5	30	40	60	24	PQ61-40-B5	
					110	PQ61-40-F5	
					230	PQ61-40-P5	
15	22	33	50	80	24	PQ61-50-B5	
					110	PQ61-50-F5	
					230	PQ61-50-P5	
18.5	30	37	65	80	24	PQ61-65-B5	
					110	PQ61-65-F5	
					230	PQ61-65-P5	
22	37	45	80	110	24	PQ61-80-B5	
					110	PQ61-80-F5	
					230	PQ61-80-P5	
25	45	45	95	125	24	PQ61-95-B5	
					110	PQ61-95-F5	
					230	PQ61-95-P5	

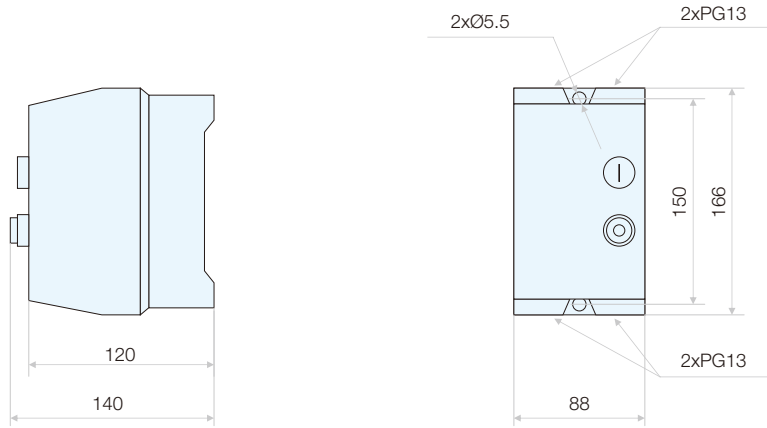


Enclosed Direct-on-line (DOL) Stators Series PQ61

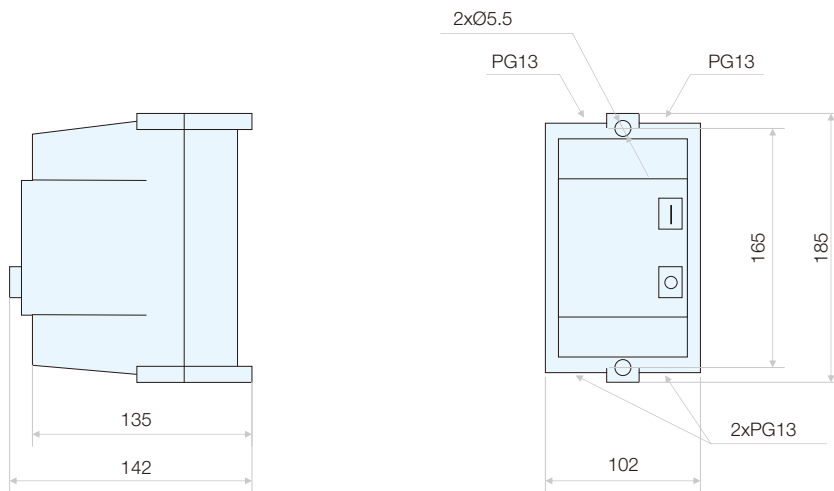
Outline and installation dimensions

unit in mm

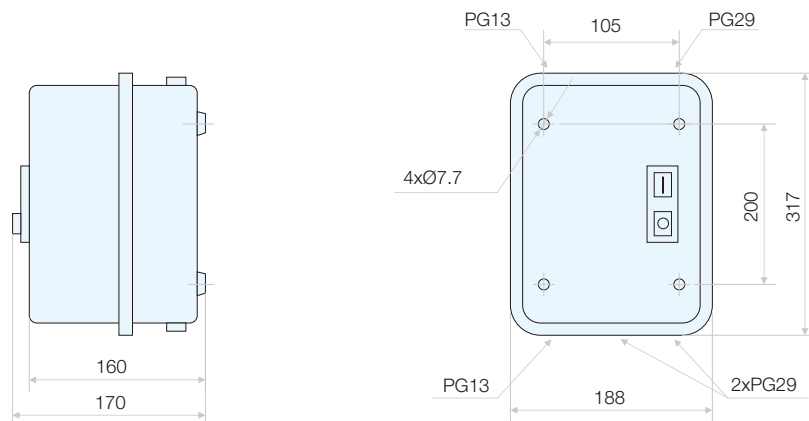
PQ61-09/12/18



PQ61-25/32



PQ61-40/50/65/80/95



Star-delta Starters Series PXQ61


Applications and functions

- For startup of motor that has heavy duty and current used is high
- Reducing the starting current and starting torque when motor starts up
- Smaller circuit breakers and thinner 3-phase line wires can be installed to supply power to the motor



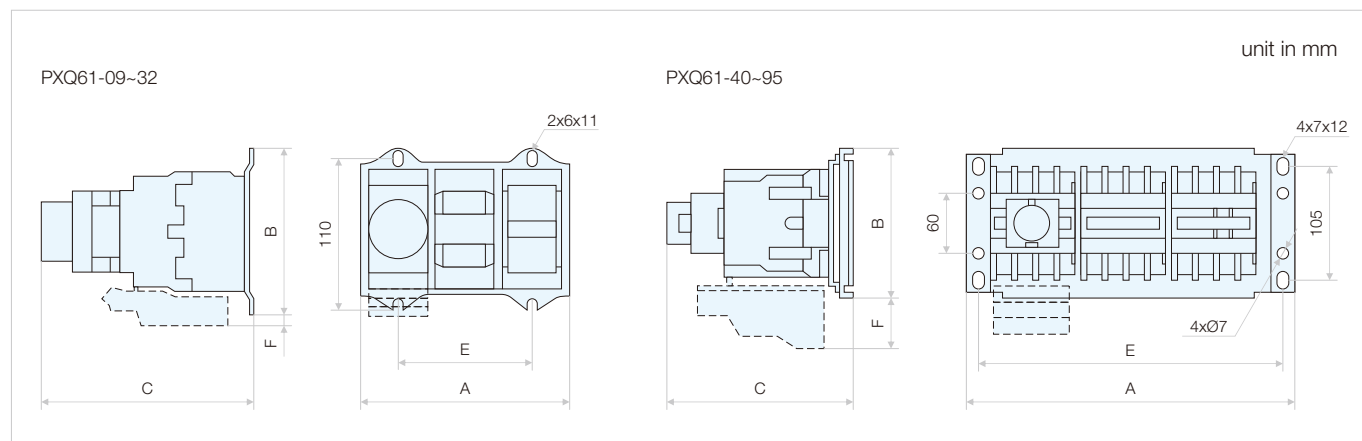
2

Selection and ordering data

	Rated operational power				Rated operational I current AC-3 380/400 V (A)	Rated control circuit voltage V 50 Hz	Type code
	AC-3 220/230 V (kW)	380/400 V (kW)	660/690 V (kW)	660/690 V (kW)			
	4	7.5	7.5	7.5	9	24	PXQ61-09-B5
						110	PXQ61-09-F5
						230	PXQ61-09-P5
	5.5	11	11	11	12	24	PXQ61-12-B5
						110	PXQ61-12-F5
						230	PXQ61-12-P5
	7.5	15	15	18.5	18	24	PXQ61-18-B5
						110	PXQ61-18-F5
						230	PXQ61-18-P5
	11	18.5	18.5	22	25	24	PXQ61-25-B5
						110	PXQ61-25-F5
						230	PXQ61-25-P5
15	25	25	30	32	24	PXQ61-32-B5	
					110	PXQ61-32-F5	
					230	PXQ61-32-P5	
18.5	33	33	37	40	24	PXQ61-40-B5	
					110	PXQ61-40-F5	
					230	PXQ61-40-P5	
25	45	45	59	50	24	PXQ61-50-B5	
					110	PXQ61-50-F5	
					230	PXQ61-50-P5	
30	55	55	59	65	24	PXQ61-65-B5	
					110	PXQ61-65-F5	
					230	PXQ61-65-P5	
37	63	63	75	80	24	PXQ61-80-B5	
					110	PXQ61-80-F5	
					230	PXQ61-80-P5	
45	80	80	80	95	24	PXQ61-95-B5	
					110	PXQ61-95-F5	
					230	PXQ61-95-P5	

Star-delta Starters Series PXQ61

Outline and installation dimensions



Model	A	B	C	E	F
PXQ61-09~18	135	124	153	90±0.5	22
PXQ61-25~32	166	124	165	90±0.5	35
PXQ61-40~65	285	143	178	267±1.0	50
PXQ61-80~95	315	143	187	297±1.0	80

Motor Protection Circuit Breakers

Series PMP61

Applications and functions

- Providing motor overload protection and short-circuit protection.





Technical specifications


Type	PMP612																			PMP613		
Standards	IEC 60947-2, IEC 60947-4-1																					
Utilization category	according to IEC 60947-2 A																					
Rated insulation voltage U_i (V)	690																					
Rated operational voltage U_e (V)	230/240, 400/415, 440, 500, 660/690																					
Rated impulse withstand voltage U_{imp} (kA)	8																					
Rated range of setting current (A)	0.1-0.16	0.16-0.25	0.25-0.4	0.4-0.63	0.63-1	1-1.6	1.6-2.5	2.5-4	4-6.3	6-10	9-14	13-18	17-23	20-25	24-32	25-40	40-63	56-80				
Rated current of release (A)	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6	10	14	18	23	25	32	40	63	80				
Rated frequency (Hz)	50/60																					
Rated ultimate short-circuit breaking capacity	230/240 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Icu (kA)	400/415 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	440 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	500 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Rated service short-circuit breaking capacity	660/690 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	230/240 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	400/415 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Ics (kA)	440 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	500 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
	660/690 V	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Arcing distance (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40		
Standard rated power of three-phase (kW)	230/240 V	-	-	-	-	-	-	0.37	0.75	1.1	2.2	3	4	5.5	5.5	11	15	22				
	400 V	-	-	-	-	-	0.37	0.75	1.5	2.2	4	5.5	7.5	11	11	11	18.5	30	40			
	500 V	-	-	-	-	-	-	0.75	1.5	2.2	4	5.5	9	11	11	11	22	33	45			
	440 V	-	-	-	-	0.37	0.55	1.1	1.5	3	4	7.5	9	11	11	-	22	33	45			
	500 V	-	-	-	-	0.37	0.75	1.1	2.2	3.7	5.5	7.5	9	11	11	-	25	40	55			
660/690 V	-	-	-	0.37	0.55	1.1	1.5	3	4	7.5	9	11	15	15	-	33	55	63				
Current setting value of instantaneous electromagnetic release I_r (A)	1.5	2.4	5	8	13	22.5	33.5	51	78	138	170	223	327	327	327	480	756	960				
Current rating of use-link of back-up fuse, which is only needed in case of $I_{cc} > I_{cu}$ (Icc: prospective short-circuit breaking current)	230/240 V	aM A	●	●	●	●	●	●	●	●	●	●	●	80	80	●	●	●	●			
		gl/gG A	●	●	●	●	●	●	●	●	●	●	●	●	100	100	●	●	●	●		
● Fuse is not required	400/415 V	aM A	●	●	●	●	●	●	●	●	●	●	●	63	63	63	63	●	250	315	315	
		gl/gG A	●	●	●	●	●	●	●	●	●	●	●	●	80	80	80	80	●	315	400	400
● Fuse is not required	440 V	aM A	●	●	●	●	●	●	●	●	●	●	●	50	50	50	50	50	-	250	315	315
		gl/gG A	●	●	●	●	●	●	●	●	●	●	●	●	63	63	63	63	-	315	400	400
● Fuse is not required	500 V	aM A	●	●	●	●	●	●	●	●	●	●	●	50	50	50	50	50	-	160	200	200
		gl/gG A	●	●	●	●	●	●	●	●	●	●	●	●	63	63	63	63	-	200	250	250
● Fuse is not required	500 V	aM A	●	●	●	●	●	●	●	●	●	●	●	40	40	40	40	40	-	160	200	200
		gl/gG A	●	●	●	●	●	●	●	●	●	●	●	●	50	50	50	50	-	200	250	250
Add-on auxiliary contact blocks	Front mounting	1NO+1NC, 2NO																				
	Side mounting	1NO+1NC, 2NO																				
Shunt release	●																					
Under voltage release	●																					
Auxiliary alarm	1NO+1NO, 1NO+1NC, 1NC+1NO, 1NC+1NC																					
Enclosure	●																					
Electrical life in AC-3 (times)	10000																					
Mechanical life (times)	20000																					
Tightening torque (N·m)	1.7																					
Degree of protection	IP20; IP65 with enclosure																					
Ambient air temperature (°C)	-5 to +40, max. 95 % humidity																					
Storage temperature (°C)	-40~+75																					
Maximum operating altitude (meters)	2000																					

Motor Protection Circuit Breakers Series PMP61, 0.1 to 80 A


Selection and ordering data

	Rated current In (A)	Rated operational power of three-phase motors AC-3 400W (kW)	Setting range for thermal overload release	Rated instantaneous short-circuit current setting I _r (A)	Type code
Controlled by pushbutton					
	0.16	0.06	0.1 ... 0.16	1.5	PMP612-0.16-M
	0.25	0.06	0.16 ... 0.25	2.4	PMP612-0.25-M
	0.4	0.09	0.25 ... 0.4	5	PMP612-0.4-M
	0.63	0.18	0.4 ... 0.63	8	PMP612-0.63-M
	1	0.25	0.63 ... 1	13	PMP612-1-M
	1.6	0.37	1 ... 1.6	22.5	PMP612-1.6-M
	2.5	0.75	1.6 ... 2.5	33.5	PMP612-2.5-M
	4	1.5	2.5 ... 4	51	PMP612-4-M
	6.3	2.2	4 ... 6.3	78	PMP612-6.3-M
	10	4	6 ... 10	138	PMP612-10-M
	14	5.5	9 ... 14	170	PMP612-14-M
	18	7.5	13 ... 18	223	PMP612-18-M
	23	9	17 ... 23	327	PMP612-23-M
	25	11	20 ... 25	327	PMP612-25-M
	32	11	24 ... 32	327	PMP612-32-M
	40	18.5	25 ... 40	480	PMP613-40
63	30	40 ... 63	756	PMP613-63	
80	40	55 ... 80	960	PMP613-80	

Controlled by rocker lever					
	0.16	0.06	0.1 ... 0.16	1.5	PMP612-0.16-RS
	0.25	0.06	0.16 ... 0.25	2.4	PMP612-0.25-RS
	0.4	0.09	0.25 ... 0.4	5	PMP612-0.4-RS
	0.63	0.18	0.4 ... 0.63	8	PMP612-0.63-RS
	1	0.25	0.63 ... 1	13	PMP612-1-RS
	1.6	0.37	1 ... 1.6	22.5	PMP612-1.6-RS
	2.5	0.75	1.6 ... 2.5	33.5	PMP612-2.5-RS
	4	1.5	2.5 ... 4	51	PMP612-4-RS
	6.3	2.2	4 ... 6.3	78	PMP612-6.3-RS
	10	4	6 ... 10	138	PMP612-10-RS
	14	5.5	9 ... 14	170	PMP612-14-RS
	18	7.5	13 ... 18	223	PMP612-18-RS
23	9	17 ... 23	327	PMP612-23-RS	
25	11	20 ... 25	327	PMP612-25-RS	
32	11	24 ... 32	327	PMP612-32-RS	

Controlled by pushbutton, with enclosure					
	0.16	0.06	0.1 ... 0.16	1.5	PMP614-0.16-M
	0.25	0.06	0.16 ... 0.25	2.4	PMP614-0.25-M
	0.4	0.09	0.25 ... 0.4	5	PMP614-0.4-M
	0.63	0.18	0.4 ... 0.63	8	PMP614-0.63-M
	1	0.25	0.63 ... 1	13	PMP614-1-M
	1.6	0.37	1 ... 1.6	22.5	PMP614-1.6-M
	2.5	0.75	1.6 ... 2.5	33.5	PMP614-2.5-M
	4	1.5	2.5 ... 4	51	PMP614-4-M
	6.3	2.2	4 ... 6.3	78	PMP614-6.3-M
	10	4	6 ... 10	138	PMP614-10-M
	14	5.5	9 ... 14	170	PMP614-14-M
	18	7.5	13 ... 18	223	PMP614-18-M
23	9	17 ... 23	327	PMP614-23-M	
25	11	20 ... 25	327	PMP614-25-M	
32	11	24 ... 32	327	PMP614-32-M	



Accessories for PMP612



	Description	Mounting	Type code
	Enclosure	Surface	PMP612B

Motor Protection Circuit Breakers Series PMP61

Selection and ordering data

Accessories for PMP612

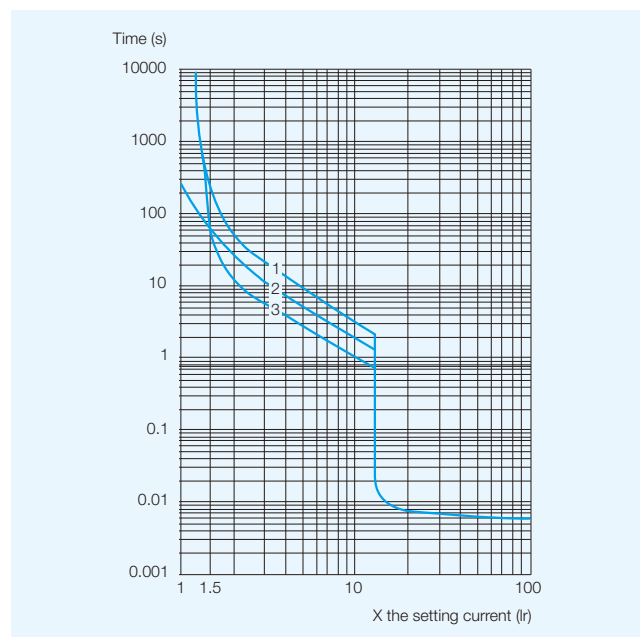
	Description	Mounting	Type of contact		Type code
	Auxiliary contact	Front	1NO + 1NC		PMP612-AE11
			2NO		PMP612-AE20
		Side	1NO + 1NC		PMP612-AN11
			2NO		PMP612-AN20
	Fault signal contact	Side	1NO (Fault)	+ 1NO	PMP612-AD1010
				+ 1NC	PMP612-AD1001
			1NC (Fault)	+ 1NO	PMP612-AD0110
				+ 1NC	PMP612-AD0101

	Description	Mounting	Voltage (V)		Type code
	Under-voltage release	Side	110 ... 127	50/60 Hz	PMP612-AU115
			220 ... 240	50/60 Hz	PMP612-AU225
			380 ... 415	50/60 Hz	PMP612-AU385
	Shunt release	Side	110 ... 127	50/60 Hz	PMP612-AS115
			220 ... 240	50/60 Hz	PMP612-AS225
			380 ... 415	50/60 Hz	PMP612-AS385

Tripping Curve

Average operating times at 20 °C related to multiples of the setting current

1: 3 poles from cold state; 2: 2 poles from cold state; 3: 3 poles from hot state



Outline and installation dimensions

