e-Front runners

MOLDED CASE CIRCUIT BREAKERS

S series

Handle-operated type

E series

Distribution breakers
F series

H series

Solid-state trip type

4-pole
S and E series

Motor operated breakers

LOW
VOLTAGE
EQUIPMENT
Up to 600 Volts

INDIVIDUAL CATALOG

from D&C CATALOG 19th Edition
Revised

06

D & C CATALOG DIGEST INDEX

06 Molded Case Circuit Breakers

Page

MINIMUM ORDERS

Orders amounting to **less than ¥10,000** net per order will be charged as ¥10,000 net per order plus freight and other charges.

WEIGHTS AND DIMENSIONS

Weights and dimensions appearing in this catalog are the best information available at the time of going to press. FUJI ELECTRIC FA has a policy of continuous product improvement, and design changes may make this information out of date.
Please confirm such details before planning actual construction.

INFORMATION IN THIS CATALOG IS SUBJECT TO CHANGE WITHOUT NOTICE.

■ Description

The highest priority for the molded case circuit breakers (MCCBs) and earth leakage circuit breakers (ELCBs) employed in power distribution control systems is to provide sure, safe protection for connected equipment against short-circuits or earth leakage. Fuji Electric FA has led the industry with the α-TWIN Breakers (30 to 800AF), same-size MCCBs and ELCBs. All of these breakers meet exacting demands for quality and performance.
Now, the lineup has been further enhanced with six major concepts — international standardization, utility, technical innovation, compactness, safety and ecology — in the α-TWIN series.

• Outstanding features
α-TWIN Breakers employ a new current-limiting mechanism based on the arc-driving technique for high-speed contact opening and very short arcing time. This, and a dual-latching mechanism, enable 30AF and 225AF MCCBs to interrupt current faster at higher capacities. A special resin with excellent thermal and mechanical properties produces a more compact molded case for higher breaking capacity.

• Standardized modular construction
Standardized dimensions ease panel design and manufacture. Models 30AF to 225AF are 60mm deep and require a panel cutout height of 52mm. Models 400AF to 800AF are 103mm deep and require a panel cutout height of 92mm.
With standardized modular construction, α-TWIN Breakers cut panel manufacturing costs.

• A wider range of customer-mountable accessories
The range of cassette-type internal accessories has been greatry expanded for 30AF to 800AF MCCBs. This speeds up and simplifies customer response to specification changes.
All accessories shown here can be mounted by the customer except for motor operating mechanism and plate type padlocking device.

• Conforming to international standards
The α-TWIN series conforms to IEC and EN standards, and features UL, cUL and CCC.

• Compliance with EN Standards
FUJI's MCCBs conform to the European Standards for circuit breakers (EN60947-2 = IEC60947-2). (E and S series, 30AF to 800AF only)

06

■ Types of MCCBs

• Line protection

For general-purpose circuit protection
This type of MCCB may be employed in both main and branch circuits. They are installed in motor control centers and distribution boards to provide protection from both overload and short-circuit currents.
The overcurrent trip mechanism of the general-purpose MCCB consists of thermal and magnetic elements. Thermal trip action and magnetic trip action provided overcurrent protection and short-circuit protection, respectively.

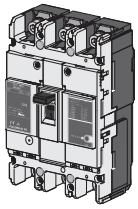
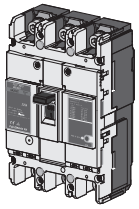
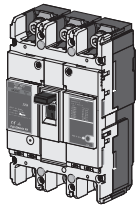
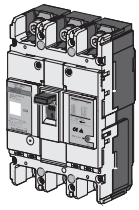
For distribution boards
These MCCBs are used exclusively in branch circuits of distribution boards for lighting installations. These breaker are compact and suitable for mounting in groups. These circuit breakers are available in 50 and 100AF (Ampere Frame) types, and their breaking capacities are within the 2.5kA to 5.5kA range.

• Motor-protection
The line current ratings of MCCBs for motor protection are equal to the motor's full-load current to provided motor overload and line overcurrent protection. These MCCBs obviate the need for magnetic motor starters. Since these MCCBs control motor start-stop operation, they must be used with loads which do not require frequent switching. These MCCBs handle starting rush currents of up to 600% and enable starting times of up to two seconds.
These MCCBs are for general-purpose, 3-phase squirrel-cage induction motors with direct-on-line starting.

• Solid-state trip
These solid-state trip type MCCBs incorporate a trip device with a built-in microprocessor. Rated current levels can be selected in five to six steps, and a wide variety of tripping parameters, including long-time delay, short-time delay, and instantaneous tripping, can be set with high precision. These MCCBs are ideal for providing selective trip protection coordination with various protective devices, such as fuses and other MCCB units. This type of MCCB also increases the reliability of the power supply.

General information

■ Models and applications

CE marking			UL approved
Line protection		Motor protection	UL489 Listed
S series	E series	S, E series	S-UL, E-UL series
			
Used for equipment with a capacity range of 15 to 20kVA. Satisfies EN (IEC) standards and bears CE markings.	Ideal for circuits with comparatively low short-circuit current. Satisfies EN (IEC) standards and bears CE markings. Enables the design of compact, economical control panels. The depth is 60mm for types with a capacity range of 30 to 225A.	This breaker protects motors from overload and cables from excessive current.	This breaker is UL and CSA approved. Satisfies EN (IEC) standards and bears CE markings.

■ Varieties of MCCBs

IEC and CE marking conformed

Frame size		30AF	50AF	60AF	100AF	225AF	400AF	600AF	800AF
Line protection	S series	SA30C□-CE	SA50C□-CE SA50RC□-CE	SA60C□-CE SA60RC□-CE	SA100C□-CE SA100RC□-CE	SA225C□-CE SA225RC□-CE	SA400C□-CE SA400RC□-CE	SA600RC□-CE	SA800RC□-CE
	E series	EA30AC□-CE	EA50AC□-CE EA50C□-CE	EA60C□-CE	EA100AC□-CE EA100C□-CE	EA225C□-CE	EA400C□-CE	EA600C□-CE	EA800C□-CE
Motor protection	S series	SA30CM□-CE	SA50CM□-CE SA50RCM□-CE	SA60CM□-CE	SA100CM□-CE SA100RCM□-CE	SA225CM□-CE SA225RCM□-CE	–	–	–
	E series	EA30ACM□-CE	EA50CM□-CE	EA60CM□-CE	EA100CM□-CE	EA225CM□-CE			

Note: Type number with "-CE" indicates the IEC and CE marking conformed model, but type number without "-CE" indicates also the same.

UL489 Listed

Frame size		30AF	50AF	60AF	100AF	225AF	400AF	600AF	800AF
UL489 Listed	SA-UL	–	SA50RCUL	–	SA100CUL SA100RCUL	SA225CUL SA225RCUL	SA400CUL SA400RCUL	SA600RCUL	SA800RCUL
	EA-UL	–	–	–	EA100CUL	–	–	–	–

JIS C8201-2-1

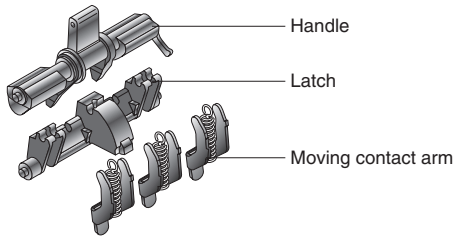
Frame size	30AF	50AF	60AF	100AF	225AF	400AF	600AF	800AF
S series	–	–	–	–	–	–	–	–
L series H series	–	LA50B H50BA	–	H100BA H100R	H225BA H225R	H400BA H400R	H600BA H600R	H800BA H800R
4-pole	–	SA54B	–	EA104B SA104R	SA204R	SA404HA	SA604H	SA804H
F series	–	F51B F52B F53B	–	F102B F103B	–	–	–	–

Note: Solid-state trip type is also available. SA1000E, 1200E, 1600E

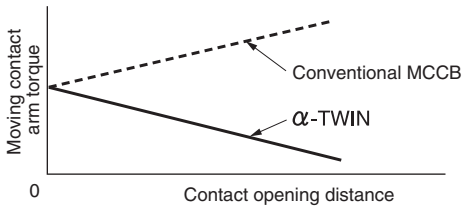
■ Design features

Direct-Drive switching mechanism

A vertical link mechanism is used for the switching mechanism to reduce the torque of the moving contact arm, serve as a countermeasure against increased contact opening distance, and improve contact opening speed.

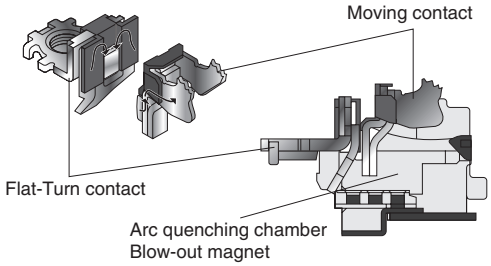


Contact opening distance/Moving contact arm torque

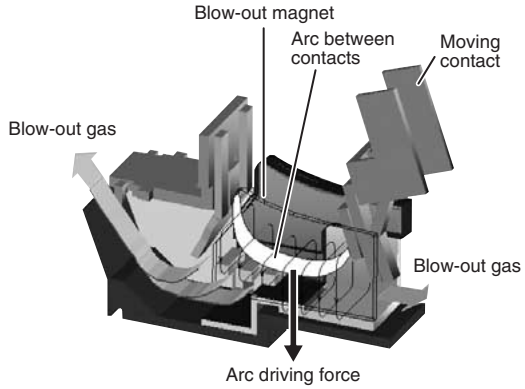


High-performance arc quenching chamber

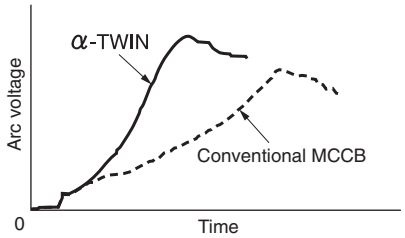
The combination of the simple Flat Turn contact arm, blowout magnet, and arc-quenching chamber provided a unique current-limiting effect.

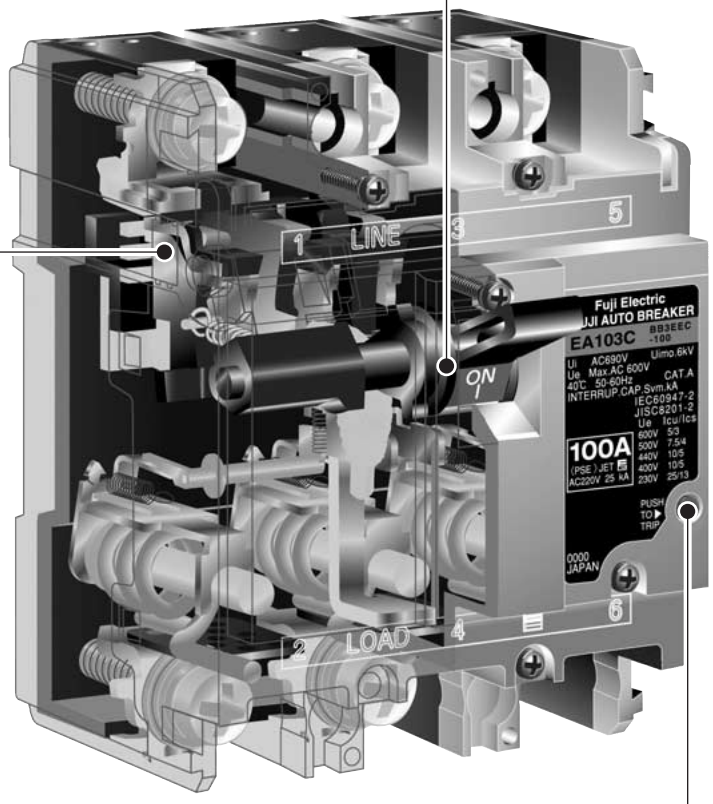


Structure of the arc-quenching chamber



Comparison of arc voltages resulting from short-circuit current



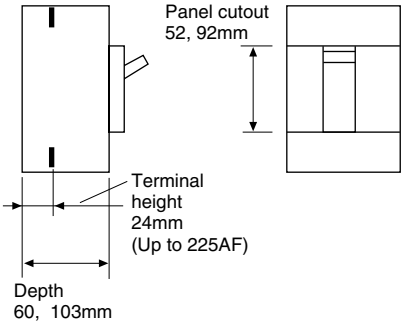


Trip button

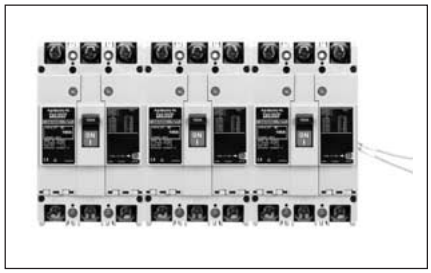
The MCCB can be mechanically tripped externally.

■ Model configuration
Standardization of the main dimensions of the MCCB's has a large effect on panel design, manufacturing and appearance.

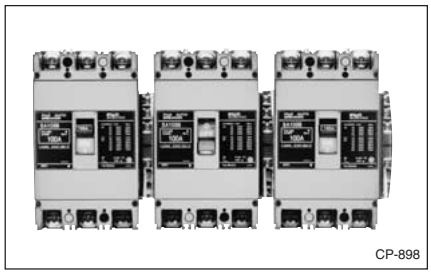
■ Modular construction
Standardized modular construction
30AF to 800AF α-TWIN Breakers standardized basic dimensions — panel design and cutouts are simplified for manufacturing cost savings. The number of mounting space sizes for the 30AF to 800AF S and E series models has been reduced to 5.
New α-TWIN Breakers are available in two standard depths: 60 and 103mm, choose it from two front panel cutout height of 52mm or 92mm.
The operating handle is at the center of the breaker and its panel cutout for eased panel design, manufacture, and mounting are easy. Terminal height above the panel of models 30AF to 225AF is standardized at 24mm to ease wiring.



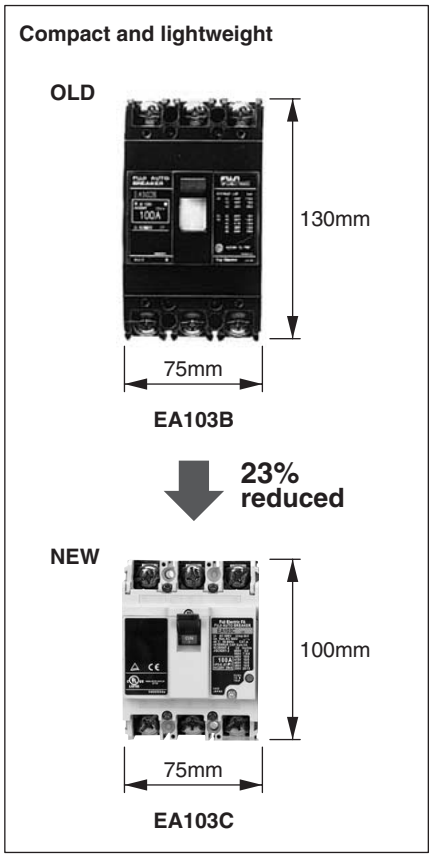
Side-by-side installation
A pole width of 25mm was selected for distribution panel breakers and economy type general-purpose breakers with frame size of 100A and smaller.
Therefore, extremely rational procedures can be devised for panel machining and wiring.



Thin terminal block
The terminal block for internal accessory is now thinner (1/2 the size of conventional type). Thus, the space between breakers has been reduced to less than 1/3 that required by conventional type. (EA100AF or smaller)



Compact and lightweight
These breakers are more compact and lightweight than those of the old series. Photos are a comparison of new EA103C breakers and old EA103B.



The standardization of depths reduces the number of frame sizes from 6 to 5.
Conventional series dimensions (30AF to 800AF)

(mm)

60 × 75 × 96	60 × 75 × 130	60 × 90 × 155	60 × 105 × 165	103 × 140 × 257	103 × 210 × 275
EA30 EA50A EA100F	SA30B SA50B SA50R SA60B SA60R EA50B EA60B EA100B	SA100BA SA100RA	SA225BA SA225RA EA225B	SA400B SA400R EA400B	SA600R SA800R EA600B EA800B

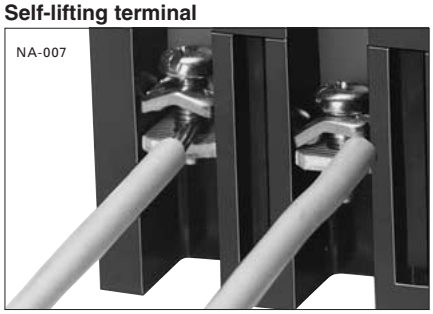
α-TWIN series dimensions

60 × 75 × 100	60 × 90 × 155	60 × 105 × 165	103 × 140 × 257	103 × 210 × 275
SA30C SA50C SA50RC SA60C SA60RC EA30AC EA50AC EA50C EA60C EA100AC EA100C	SA103C SA103RC	SA225C SA225RC EA225C	SA400C SA400RC EA400C	SA600RC SA800RC EA600C EA800C

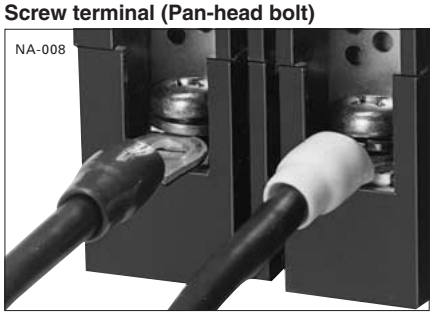
Note : The figures show the dimensions of three-pole models

■ **Front mounting front connection**
4 main types of terminals are as shown in the photos. Terminal screws are self-lifting, pan-head screw, hexagonal socket head screw and flat terminal which are tighten because bolts are used.
Terminals vary according to the current capacity of each type of housing. All breaker terminals should be connected to copper crimp
connectors or copper bus bars. Never connect to aluminium conductors, since overheating can be expected.

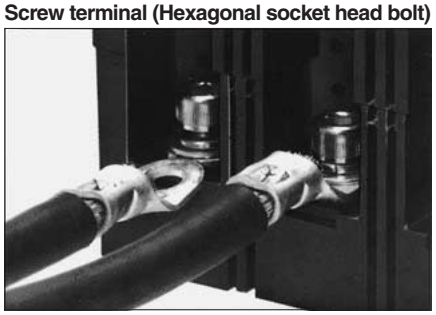
Self-lifting terminal



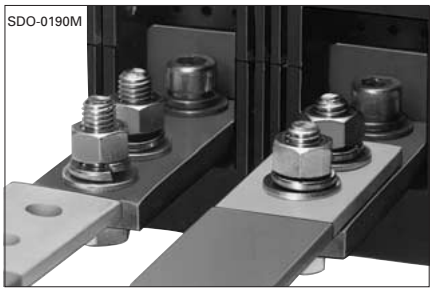
Screw terminal (Pan-head bolt)



Screw terminal (Hexagonal socket head bolt)

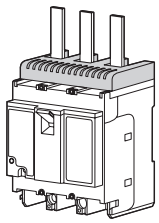


Flat terminal

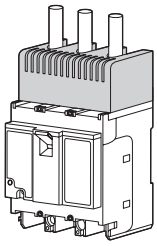


Terminal covers
Since the live conductors are exposed at the MCCB terminals there is the danger of accidental contact.
A terminal cover can be provided where necessary.
For further information refer to page 06 /128.

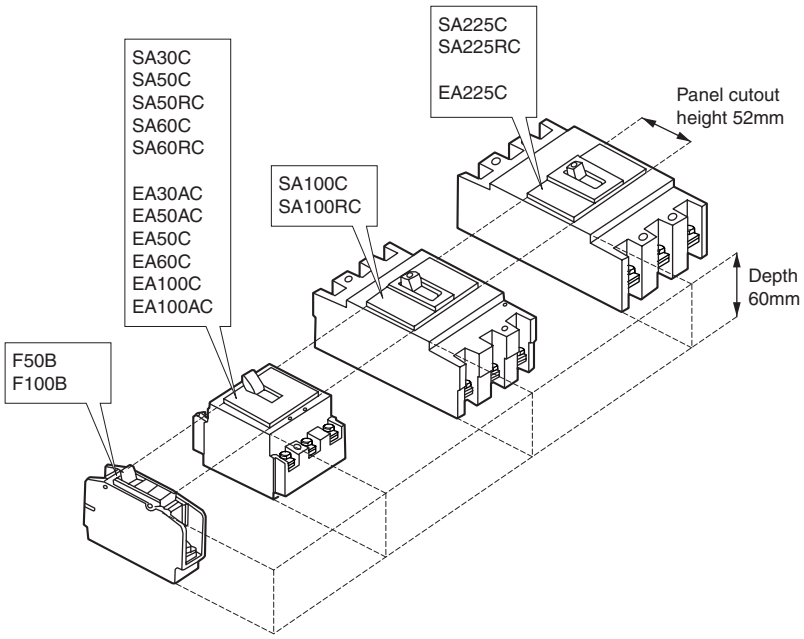
Short type



Long type



Modular design — Up to 225AF
E and S series (α-TWIN series)
Since molded cases generally have comon dimensions and outlines they can easily be installed on distribution boards in uniform neat groupings, with switches lined up in a row. E and S series up to 225AF are built on the modular system. For instance the depth is 60mm while the panel cutout height of 52mm. The standardization of the MCCBs and panel board allows the speed up of assembling and wiring of the panel and permits panel surface processing to be carried out in a shorter period of time.



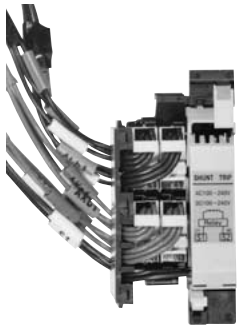
■ Internal and external accessories
A wider range of customer-mountable accessories
The range of cassette-type internal accessories has been greatly expanded for α-TWIN MCCBs. This speeds up and simplifies customer response to specification changes.
All accessories shown here can be mounted by the customer except for motor operating mechanism and plate type padlocking device.

Wide variety of internal accessory combinations
Up to two auxiliary switches, two alarm switches, and one shunt trip device or undervoltage trip device quickly snap on or in.

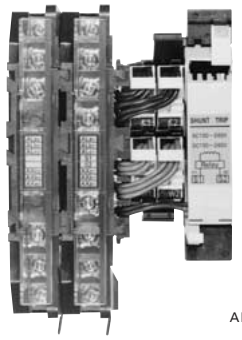
Quick and easy mounting
No need to open breaker cover to mount accessories. Internal accessories easily snap into a pocket at the left of the breaker window frame.

No adjustments
Accessory mounting is quick and easy — accessories adjust automatically at the correct position when mounted.

Two ways to connect — lead wires or terminal blocks
• Lead wire types
Leads are marked with to indicate the correct terminal number of the accessory — incorrect wiring is minimized.
To make wiring easy and prevent to incorrect connection, the lead wires are provided with color coated tube and marking on it.


AF93-82

• Terminal block types
Terminal blocks are mounted on the side of the breaker case. Blocks are only 12.5 or 19mm thick, minimizing panel mounting space. Installed lead wires are parallel to the side of the case.


AF93-81

Alarm switch

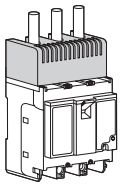
Auxiliary switch

Shunt trip device

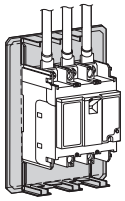
Undervoltage trip device

Terminal block

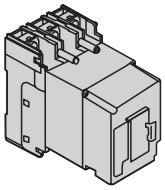
Terminal covers
Long type
Short type



Insulation barriers
Interphase barrier
Earth barrier



Motor operating mechanism



Mechanical interlocking device

Steel enclosure

Handle padlocking device
Handle locking cover

Operating handles
N type V type

Modification kits
For front mounting, rear connection

For plug-in mounting

For flush mounting, rear connection

■ IEC60947-2, EN60947-2, JIS C8201-2-1 / IEC and CE marking conformed

Series	Breaker ampere frame	Basic type	Pole	Rated current (A)	Insulation voltage Ui (V)	Breaking capacity (kA)[Icu/Ics] IEC60947-2 JIS C8201-2-1 AC 230V	380V	400V	415V	440V	500V	600V	DC 250V
S	30	**SA32C□-CE**	2	3, 5, 10, 15, 20, 30	690	5/3	2.5/2	2.5/2	2.5/2	2.5/2	1.5/1	–	2.5/2
	30	**SA33C□-CE**	3	3, 5, 10, 15, 20, 30	690	5/3	2.5/2	2.5/2	2.5/2	2.5/2	1.5/1	–	2.5/2
	50	**SA52C□-CE**	2	5, 10, 15, 20, 30, 40, 50	690	10/5	7.5/4	7.5/4	7.5/4	7.5/4	5/3	–	5/3
	50	**SA53C□-CE**	3	5, 10, 15, 20, 30, 40, 50	690	10/5	7.5/4	7.5/4	7.5/4	7.5/4	5/3	–	5/3
	50	**SA52RC□-CE**	2	10, 15, 20, 30, 40, 50	690	25/13	10/5	10/5	10/5	10/5	7.5/4	–	5/3
	50	**SA53RC□-CE**	3	10, 15, 20, 30, 40, 50	690	25/13	10/5	10/5	10/5	10/5	7.5/4	–	5/3
	60	**SA62C□-CE**	2	60	690	10/5	7.5/4	7.5/4	7.5/4	7.5/4	5/3	–	5/3
	60	**SA63C□-CE**	3	60	690	10/5	7.5/4	7.5/4	7.5/4	7.5/4	5/3	–	5/3
	60	**SA62RC□-CE**	2	60	690	25/13	10/5	10/5	10/5	10/5	7.5/4	–	5/3
	60	**SA63RC□-CE**	3	60	690	25/13	10/5	10/5	10/5	10/5	7.5/4	–	5/3
	100	**SA102C□-CE**	2	15, 20, 30, 40, 50, 60, 75, 100	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8
	100	**SA103C□-CE**	3	15, 20, 30, 40, 50, 60, 75, 100	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8
	100	**SA102RC□-CE**	2	15, 20, 30, 40, 50, 60, 75, 100	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20
	100	**SA103RC□-CE**	3	15, 20, 30, 40, 50, 60, 75, 100	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20
	225	**SA202C□-CE**	2	125, 150, 175, 200, 225	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8
	225	**SA203C□-CE**	3	125, 150, 175, 200, 225	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8
	225	**SA202RC□-CE**	2	125, 150, 175, 200, 225	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20
	225	**SA203RC□-CE**	3	125, 150, 175, 200, 225	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20
	400	**SA402C□-CE**	2	250, 300, 350, 400	690	50/25	35/18	35/18	35/18	35/18	22/11	–	20/10
	400	**SA403C□-CE**	3	250, 300, 350, 400	690	50/25	35/18	35/18	35/18	35/18	22/11	–	20/10
	400	**SA402RC□-CE**	2	250, 300, 350, 400	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20
	400	**SA403RC□-CE**	3	250, 300, 350, 400	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20
	600	**SA603RC□-CE**	3	500, 600	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20
	800	**SA803RC□-CE**	3	700, 800	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20
E	30	**EA32AC□-CE**	2	3, 5, 10, 15, 20, 30	500	2.5/2	1.5/1	1.5/1	1.5/1	1.5/1	–	–	–
	30	**EA33AC□-CE**	3	3, 5, 10, 15, 20, 30	500	2.5/2	1.5/1	1.5/1	1.5/1	1.5/1	–	–	–
	50	**EA52AC□-CE**	2	5, 10, 15, 20, 30, 40, 50	500	2.5/2	1.5/1	1.5/1	1.5/1	1.5/1	–	–	–
	50	**EA53AC□-CE**	3	5, 10, 15, 20, 30, 40, 50	500	2.5/2	1.5/1	1.5/1	1.5/1	1.5/1	–	–	–
	50	**EA52C□-CE**	2	5, 10, 15, 20, 30, 40, 50	690	5/3	2.5/2	2.5/2	2.5/2	2.5/2	1.5/1	–	2.5/2
	50	**EA53C□-CE**	3	5, 10, 15, 20, 30, 40, 50	690	5/3	2.5/2	2.5/2	2.5/2	2.5/2	1.5/1	–	2.5/2
	60	**EA62C□-CE**	2	60	690	5/3	5/3	2.5/2	2.5/2	2.5/2	1.5/1	–	2.5/2
	60	**EA63C□-CE**	3	60	690	5/3	5/3	2.5/2	2.5/2	2.5/2	1.5/1	–	2.5/2
	100	**EA103AC□-CE**	3	60, 75, 100	400	5/3	1.5/1	1.5/1	–	–	–	–	–
	100	**EA102C□-CE**	2	50, 60, 75, 100	690	25/13	10/5	10/5	10/5	10/5	7.5/4	–	5/3
	100	**EA103C□-CE**	3	50, 60, 75, 100	690	25/13	10/5	10/5	10/5	10/5	7.5/4	–	5/3
	225	**EA202C□-CE**	2	125, 150, 175, 200, 225	690	35/18	18/5	18/5	18/5	15/4	10/3	–	10/5
	225	**EA203C□-CE**	3	125, 150, 175, 200, 225	690	35/18	18/5	18/5	18/5	15/4	10/3	–	10/5
	400	**EA402C□-CE**	2	250, 300, 350, 400	690	35/18	25/13	25/13	25/13	25/13	18/9	–	20/10
	400	**EA403C□-CE**	3	250, 300, 350, 400	690	35/18	25/13	25/13	25/13	25/13	18/9	–	20/10
	600	**EA603C□-CE**	3	500, 600	690	50/25	35/18	35/18	35/18	35/18	22/11	–	20/10
	800	**EA803C□-CE**	3	700, 800	690	50/25	35/18	35/18	35/18	35/18	22/11	–	20/10

Note: For details of breaking capacity, *see page 06 /10 "Quick reference guide"*.

Series	Breaker ampere frame	Basic type	Pole	Rated current (A)	Insulation voltage Ui (V)	Breaking capacity (kA)[Icu/Ics] IEC60947-2 JIS C8201-2-1 AC 230V	380V	400V	415V	440V	500V	600V	DC 250V
S	1000	**SA1003E**	3	500-600-700-800-900-1000	690	100/75	65/49	65/49	65/49	65/49	45/34	25/19	–
		SA1004E	4	500-600-700-800-900-1000	690	100/75	65/49	65/49	65/49	65/49	45/34	25/19	–
	1200	**SA1203E**	3	600-700-800-1000-1200	690	100/75	65/49	65/49	65/49	65/49	45/34	25/19	–
		SA1204E	4	600-700-800-1000-1200	690	100/75	65/49	65/49	65/49	65/49	45/34	25/19	–
	1600	**SA1603E**	3	800-900-1000-1200-1400-1600	690	125/94	85/64	85/64	85/64	85/64	65/49	45/34	–
		SA1604E	4	800-900-1000-1200-1400-1600	690	125/94	85/64	85/64	85/64	85/64	65/49	45/34	–

Breaking capacities

■ JIS C8201-2-1

Series	Breaker ampere frame	Basic type	Pole	Rated current (A)	Insulation voltage Ui (V)	Breaking capacity (kA)[Icu] AC 230V	380V	400V	415V	440V	500V	600V	DC 250V
L	50	**LA53B**	3	5, 10	660	100	50	50	50	50	42	–	–
H	100	**H103R**	3	40, 50, 60, 75, 100	660	125	100	85	85	85	42	–	40
	225	**H203R**	3	125, 150, 175, 200, 225	660	125	100	85	85	85	42	–	40
	400	**H403R**	3	250, 300, 350, 400	690	125	125	125	125	125	85	–	40
	600	**H603R**	3	500, 600	690	125	125	125	125	125	85	–	40
	800	**H803R**	3	700, 800	690	125	125	125	125	125	85	–	40

Series	Breaker ampere frame	Basic type	Pole	Rated current (A)	Insulation voltage Ui (V)	Breaking capacity (kA) AC 230V	380V	400V	415V	440V	500V	600V	DC 250V
S	50	**SA54B**	4	5, 10, 15, 20, 30, 40, 50	660	10	7.5	7.5	7.5	7.5	5	–	–
	100	**SA104R**	4	15, 20, 30, 40, 50, 60, 75, 100	660	85	50	45	45	35	35	–	–
	225	**SA204R**	4	125, 150 175, 200, 225	660	85	50	50	50	35	35	–	–
	400	**SA404HA**	4	250 300, 350, 400	660	85	45	45	45	35	35	–	–
	600	**SA604H**	4	500, 600	660	85	45	45	45	35	35	–	–
	800	**SA804H**	4	700, 800	660	85	45	45	45	35	35	–	–
E	100	**EA104B**	4	50, 60, 75, 100	660	25	15	15	10	10	7.5	–	–
F	50	**F51B**	1	15, 20, 30, 40, 50	300	2.5	–	–	3	–	–	–	–
	50	**F52B**	2	15, 20, 30, 40, 50	300	5	–	–	3	–	–	–	–
	50	**F53B**	3	15, 20, 30, 40, 50	300	5	–	–	–	–	–	–	–
	100	**F102B**	2	60, 75, 100	300	5.5	–	–	–	–	–	–	–
	100	**F103B**	3	60, 75, 100	300	5.5	–	–	–	–	–	–	–

■ IEC 60947-2

Series	Breaker ampere frame	Basic type	Pole	Rated current (A)	Insulation voltage Ui (V)	Breaking capacity (kA)[Icu/Ics] IEC60947-2 JIS C8201-2-1 AC 230V	380V	400V	415V	440V	500V	600V	DC 250V
H	50	**H52BA**	2	15, 20, 30, 40, 50	690	125/32	65/17	65/17	65/17	65/17	35/9	25/7	40/10
	50	**H53BA**	3	15, 20, 30, 40, 50	690	125/32	65/17	65/17	65/17	65/17	35/9	25/7	40/10
	100	**H102BA**	2	15, 20, 30, 40, 50, 60, 75, 100	690	125/32	65/17	65/17	65/17	65/17	35/9	25/7	40/10
	100	**H103BA**	3	15, 20, 30, 40, 50, 60, 75, 100	690	125/32	65/17	65/17	65/17	65/17	35/9	25/7	40/10
	225	**H202BA**	2	125, 150, 175, 200, 225	690	125/32	65/17	65/17	65/17	65/17	35/9	25/7	40/10
	225	**H203BA**	3	125, 150, 175, 200, 225	690	125/32	65/17	65/17	65/17	65/17	35/9	25/7	40/10
	400	**H402B**	2	250, 300, 350, 400	690	125/63	65/33	65/33	65/33	65/33	42/21	35/18	40/20
	400	**H403B**	3	250, 300, 350, 400	690	125/63	65/33	65/33	65/33	65/33	42/21	35/18	40/20
	600	**H603B**	3	500, 600	690	125/63	65/33	65/33	65/33	65/33	42/21	35/18	40/20
	800	**H803B**	3	700, 800	690	125/63	65/33	65/33	65/33	65/33	42/21	35/18	40/20

■ UL489 Listed

Series	Breaker ampere frame	Basic type	Pole	Rated current (A)	Insulation voltage Ui (V)	Breaking capacity (kA)[Icu/Ics] IEC60947–2 JIS C8201-2-1 AC 230V	380V	400V	415V	440V	500V	600V	DC 250V	UL489 (cUL) Rated voltage (V)	Breaking capacity (kA) 240	480Y/277	480
S	50	**SA52RCUL**	2	3, 5, 10, 15, 20, 30, 40, 50	690	25/13	10/5	10/5	10/5	10/5	7.5/4	5/3	–	240	14	–	–
	50	**SA53RCUL**	3	3, 5, 10, 15, 20, 30, 40, 50	690	25/13	10/5	10/5	10/5	10/5	7.5/4	5/3	–	240	14	–	–
	100	**SA102CUL**	2	15, 20, 30, 40, 50, 60, 70, 75, 80, 90, 100	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8	240	35	–	–
	100	**SA103CUL**	3	15, 20, 30, 40, 50, 60, 70, 75, 80, 90, 100	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8	240	35	–	–
	100	**SA102RCUL**	2	15, 20, 30, 40, 50, 60, 70, 75, 80, 90, 100	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20	480Y/277	85	25	–
	100	**SA103RCUL**	3	15, 20, 30, 40, 50, 60, 70, 75, 80, 90, 100	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20	480Y/277	85	25	–
	225	**SA202CUL**	2	125, 150, 175, 200, 225	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8	240	35	–	–
	225	**SA203CUL**	3	125, 150, 175, 200, 225	690	50/25	30/8	30/8	30/8	25/7	15/4	–	15/8	240	35	–	–
	225	**SA202RCUL**	2	125, 150, 175, 200, 225	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20	480Y/277	85	25	–
	225	**SA203RCUL**	3	125, 150, 175, 200, 225	690	100/50	50/13	50/13	50/13	50/13	30/8	–	40/20	480Y/277	85	25	–
	400	**SA402CUL**	2	250, 300, 350, 400	690	50/25	35/18	35/18	35/18	35/18	22/11	–	20/10	480	42	25	25
	400	**SA403CUL**	3	250, 300, 350, 400	690	50/25	35/18	35/18	35/18	35/18	22/11	–	20/10	480	42	25	25
	400	**SA402RCUL**	2	250, 300, 350, 400	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20	480	85	50	50
	400	**SA403RCUL**	3	250, 300, 350, 400	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20	480	85	50	50
	600	**SA603RCUL**	3	500, 600	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20	480	85	50	50
	800	**SA803RCUL**	3	700, 800	690	85/43	50/25	50/25	50/25	50/25	35/18	30/15	40/20	480	85	50	50
E	100	**EA102CUL**	2	60, 70, 75, 80, 90, 100	690	25/13	10/5	10/5	10/5	10/5	7.5/4	5/3	–	240	14	–	–
	100	**EA103CUL**	3	60, 70, 75, 80, 90, 100	690	25/13	10/5	10/5	10/5	10/5	7.5/4	5/3	–	240	14	–	–

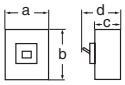
■ S series/2, 3-pole IEC and CE marking conformed types

Frame			30A		50A			
Pole			2	3	2	3	2	3
Type		*Page 06/42*	**SA32C□-CE**	**SA33C□-CE**	**SA52C□-CE**	**SA53C□-CE**	**SA52RC□-CE**	**SA53RC□-CE**
Rated current (A)			3, 5, 10, 15, 20, 30		5, 10, 15, 20, 30, 40, 50		10, 15, 20, 30, 40, 50	
Rated insulation voltage	(V AC)		690		690		690	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)		250 *2		250 *2		250 *2	
Rated breaking capacity (kA)	600V AC		–		–		–	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC		1.5/1		5/3		7.5/4	
(Icu/Ics) *1	440V AC		2.5/2		7.5/4		10/5	
	415V AC		2.5/2		7.5/4		10/5	
	400V AC		2.5/2		7.5/4		10/5	
	380V AC		2.5/2		7.5/4		10/5	
	230V AC		5/3		10/5		25/13	
	250V DC		2.5/2		5/3		5/3	
Rated operating voltage [UL508] (V AC)		*Page 06/36*	550		600		600	
Dimensions (mm)		a	50	75	50	75	50	75
		b	100	100	100	100	100	100
Page 06/52		c	60	60	60	60	60	60
		d	84	84	84	84	84	84
Mass (kg) Front mounting type			0.4	0.5	0.4	0.5	0.4	0.5
Tripping device			Hydraulic-magnetic		Hydraulic-magnetic		Hydraulic-magnetic	
Front mounting, front connection		No-mark	●	●	●	●	●	●
Front mounting, rear connection		X	●	●	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●	●	●
Flush mounting, top & bottom connection		Y	●	●	●	●	●	●
Plug-in mounting		P	●	●	●	●	●	●
IEC 35mm wide rail mounting			●	●	●	●	●	●
Internal accessories		*Page 06/88*						
Alarm switch		K	BZ6KR10C	BZ6K□10C	BZ6KR10C	BZ6K□10C	BZ6KR10C	BZ6K□10C
Alarm switch with terminal block		KA	BZ6KR10CA	BZ6K□10CA	BZ6KR10CA	BZ6K□10CA	BZ6WR10CA	BZ6K□10CA
Auxiliary switch		W	BZ6WR10C	BZ6W□10C	BZ6WR10C	BZ6W□10C	BZ6WR10C	BZ6W□10C
Auxiliary switch with terminal block		WA	BZ6WR10CA	BZ6W□10CA	BZ6WR10CA	BZ6W□10CA	BZ6WR10CA	BZ6W□10CA
Undervoltage trip		R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C
Shunt trip		F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C
Shunt trip with terminal block		FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA
External accessories								
Motor operating mechanism		M	–	▲	–	▲	–	▲
Handle padlocking device	Cap type	Q1	–	–	–	–	–	–
	Plate type	Q2	▲	▲	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3
		M2	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3
		M3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3
Operating handle	N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C
Operating handle	V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C
Steel enclosure	Direct operating	C	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3
Dustproof steel enclosure	Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C
Rainproof steel enclosure	Handle operating	CW	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C
Terminal cover	Short	TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3
Terminal cover	Long	TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3
Insulation barrier	Interphase *3	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C
Insulation barrier	Earth	BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C
Flat terminal		S	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503

● Available – Not available ▲ Factory-mounted accessory

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Specify DC only when ordering circuit breakers for DC circuit.
*3 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

■ S series/2, 3-pole IEC and CE marking conformed types

Frame			60A			
Pole			2	3	2	3
Type		*Page 06/42*	**SA62C□-CE**	**SA63C□-CE**	**SA62RC□-CE**	**SA63RC□-CE**
Rated current (A)			60		60	
Rated insulation voltage		(V AC)	690		690	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]		(V DC)	250 *2		250 *2	
Rated breaking capacity (kA)		600V AC	–		–	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]		500V AC	5/3		7.5/4	
(Icu/Ics) *1		440V AC	7.5/4		10/5	
		415V AC	7.5/4		10/5	
		400V AC	7.5/4		10/5	
		380V AC	7.5/4		10/5	
		230V AC	10/5		25/13	
		250V DC	5/3		5/3	
Rated operating voltage [UL508] (V AC)		*Page 06/36*	600		600	
Dimensions (mm)		a	50	75	50	75
		b	100	100	100	100
Page 06/52		c	60	60	60	60
		d	84	84	84	84
Mass (kg) Front mounting type			0.4	0.6	0.4	0.6
Tripping device			Hydraulic-magnetic		Hydraulic-magnetic	
Front mounting, front connection		No-mark	●	●	●	●
Front mounting, rear connection		X	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●
Flush mounting, top & bottom connection		Y	●	●	●	●
Plug-in mounting		P	●	●	●	●
IEC 35mm wide rail mounting			●	●	●	●
Internal accessories		*Page 06/88*				
Alarm switch		K	BZ6KR10C	BZ6K□10C	BZ6KR10C	BZ6K□10C
Alarm switch with terminal block		KA	BZ6KR10CA	BZ6K□10CA	BZ6KR10CA	BZ6K□10CA
Auxiliary switch		W	BZ6WR10C	BZ6W□10C	BZ6WR10C	BZ6W□10C
Auxiliary switch with terminal block		WA	BZ6WR10CA	BZ6W□10CA	BZ6WR10CA	BZ6W□10CA
Undervoltage trip		R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C
Shunt trip		F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C
Shunt trip with terminal block		FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA
External accessories						
Motor operating mechanism		M	–	▲	–	▲
Handle padlocking device	Cap type	Q1	–	–	–	–
	Plate type	Q2	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3
		M2	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3
		M3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3
Operating handle	N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C
Operating handle	V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C
Steel enclosure	Direct operating	C	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3
Dustproof steel enclosure	Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C
Rainproof steel enclosure	Handle operating	CW	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C
Terminal cover	Short	TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3
Terminal cover	Long	TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3
Insulation barrier	Interphase *3	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C
Insulation barrier	Earth	BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C
Flat terminal		S	BZ6S10C1002	BZ6S10C1003	BZ6S10C1002	BZ6S10C1003

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Specify DC only when ordering circuit breakers for DC circuit.
*3 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

● Available – Not available ▲ Factory-mounted accessory

06

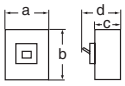
■ S series/2, 3-pole IEC and CE marking conformed types

Frame			100A				225A	
Pole			2	3	2	3	2	3
Type		*Page 06/42*	**SA102C□-CE**	**SA103C□-CE**	**SA102RC□-CE**	**SA103RC□-CE**	**SA202C□-CE**	**SA203C□-CE**
Rated current (A)			15, 20, 30, 40, 50, 60, 75, 100		15, 20, 30, 40, 50, 60, 75, 100		125, 150, 175, 200, 225	
Rated insulation voltage	(V AC)		690		690		690	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)		250		250		250	
Rated breaking capacity (kA)	600V AC		–		–		–	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC		15/4		30/8		15/4	
(Icu/Ics) *1	440V AC		25/7		50/13		25/7	
	415V AC		30/8		50/13		30/8	
	400V AC		30/8		50/13		30/8	
	380V AC		30/8		50/13		30/8	
	230V AC		50/25		100/50		50/25	
	250V DC		15/8		40/20		15/8	
Rated operating voltage [UL508] (V AC)			–		–		–	
Dimensions (mm)		a	60	90	90	90	105	105
		b	155	155	155	155	165	165
Page 06/53		c	60	60	60	60	60	60
		d	82	82	82	82	84	84
Mass (kg) Front mounting type			0.7	1.1	1.1	1.2	1.1	1.3
Tripping device			Thermal-magnetic		Thermal-magnetic		Thermal-magnetic	
Front mounting, front connection		No-mark	●	●	●	●	●	●
Front mounting, rear connection		X	●	●	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●	●	●
Flush mounting, top & bottom connection		Y	–	–	–	–	–	–
Plug-in mounting		P	●	●	●	●	●	●
IEC 35mm wide rail mounting			–	–	–	–	–	–
Internal accessories		*Page 06/88*						
Alarm switch		K	BZ6K□30C	BZ6K□30C	BZ6K□30C	BZ6K□30C	BZ6K□40C	BZ6K□40C
Alarm switch with terminal block		KA	BZ6K□30CA	BZ6K□30CA	BZ6K□30CA	BZ6K□30CA	BZ6W□40CA	BZ6K□40CA
Auxiliary switch		W	BZ6W□30C	BZ6W□30C	BZ6W□30C	BZ6W□30C	BZ6W□40C	BZ6W□40C
Auxiliary switch with terminal block		WA	BZ6W□30CA	BZ6W□30CA	BZ6W□30CA	BZ6W□30CA	BZ6W□40CA	BZ6W□40CA
Undervoltage trip		R	▲	▲	▲	▲	▲	▲
Shunt trip		F	BZ6F□30C	BZ6F□30C	BZ6F□30C	BZ6F□30C	BZ6F□40C	BZ6F□40C
Shunt trip with terminal block		FA	BZ6F□30CA	BZ6F□30CA	BZ6F□30CA	BZ6F□30CA	BZ6F□40CA	BZ6F□40CA
External accessories								
Motor operating mechanism		M	–	▲	▲	▲	▲	▲
Handle padlocking device	Cap type	Q1	–	–	–	–	–	–
	Plate type	Q2	–	–	–	–	–	–
Mechanical interlocking device		M1	BZ6M130C2	BZ6M130C3	BZ6M130C3	BZ6M130C3	BZ6M140C	BZ6M140C
		M2	BZ-M230C-2	BZ-M230C-3	BZ-M230C-3	BZ-M230C-3	BZ-M240C	BZ-M240C
		M3	BZ-M330C-2	BZ-M330C-3	BZ-M330C-3	BZ-M330C-3	BZ-M340C	BZ-M340C
Operating handle	N-type	N	BZ-N30C	BZ-N30C	BZ-N30C	BZ-N30C	BZ-N40C	BZ-N40C
Operating handle	V-type	V	BZ6V30C	BZ6V30C	BZ6V30C	BZ6V30C	BZ6V40C	BZ6V40C
Steel enclosure	Direct operating	C	BZ6C30C2	BZ6C30C3	BZ6C30C3	BZ6C30C3	BZ-C40B	BZ-C40B
Dustproof steel enclosure	Handle operating	CV	BZ-CV30C	BZ-CV30C	BZ-CV30C	BZ-CV30C	BZ-CV40C	BZ-CV40C
Rainproof steel enclosure	Handle operating	CW	BZ-CW30C	BZ-CW30C	BZ-CW30C	BZ-CW30C	BZ-CW40C	BZ-CW40C
Terminal cover	Short	TS	BZ-TS30B-2	BZ-TS30B-3	BZ-TS30B-3	BZ-TS30B-3	BZ-TS40B	BZ-TS40B
Terminal cover	Long	TB	BZ-TB30B-2	BZ-TB30B-3	BZ-TB30B-3	BZ-TB30B-3	BZ-TB40B	BZ-TB40B
Insulation barrier	Interphase *2	B	BZ-B30B	BZ-B30B	BZ-B30B	BZ-B30B	BZ-B40B	BZ-B40B
Insulation barrier	Earth	BL	BZ-BL30B-2	BZ-BL35B	BZ-BL35B	BZ-BL35B	BZ-BL40B	BZ-BL40B
Handle locking cover		L	BZ6L30C	BZ6L30C	BZ6L30C	BZ6L30C	BZ6L40C	BZ6L40C
Flat terminal		S	BZ-S35B-1002	BZ-S35B-1003	BZ-S35B-1002	BZ-S35B-1003	BZ-S50B-2252	BZ-S50B-2253

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

●Available – Not available ▲Factory-mounted accessory

■ S series/2, 3-pole IEC and CE marking conformed types

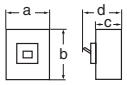
Frame		225A		400A	
Pole		2	3	2	3
Type	*Page 06/42*	**SA202RC□-CE**	**SA203RC□-CE**	**SA402C□-CE**	**SA403C□-CE**
Rated current (A)		125, 150, 175, 200, 225		250, 300, 350, 400	
Rated insulation voltage	(V AC)	690		690	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)	250		250	
Rated breaking capacity (kA)	600V AC	–		–	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC	30/8		22/11	
(Icu/Ics) *1	440V AC	50/13		35/18	
	415V AC	50/13		35/18	
	400V AC	50/13		35/18	
	380V AC	50/13		35/18	
	230V AC	100/50		50/25	
	250V DC	40/20		20/10	
Rated operating voltage [UL508] (V AC)		–		–	
Dimensions (mm)	a	105	105	140	140
	b	165	165	257	257
Page 06/54	c	60	60	103	103
	d	84	84	146	146
Mass (kg) Front mounting type		1.1	1.3	4.5	5
Tripping device		Thermal-magnetic		Thermal-magnetic	
Front mounting, front connection	No-mark	●	●	●	●
Front mounting, rear connection	X	●	●	●	●
Flush mounting, rear connection	E	●	●	●	●
Flush mounting, top & bottom connection	Y	–	–	–	–
Plug-in mounting	P	●	●	●	●
IEC 35mm wide rail mounting		–	–	–	–
Internal accessories	*Page 06/88*				
Alarm switch	K	BZ6K□40C	BZ6K□40C	BZ-K70B	BZ-K70B
Alarm switch with terminal block	KA	BZ6K□40CA	BZ6K□40CA	BZ-K70BA	BZ-K70BA
Auxiliary switch	W	BZ6W□40C	BZ6W□40C	BZ-W70B	BZ-W70B
Auxiliary switch with terminal block	WA	BZ6W□40CA	BZ6W□40CA	BZ-W70BA	BZ-W70BA
Undervoltage trip	R	▲	▲	BZ-R70B-□	BZ-R70B-□
Shunt trip	F	BZ6F□40C	BZ6F□40C	BZ-F70B-□	BZ-F70B-□
Shunt trip with terminal block	FA	BZ6F□40CA	BZ6F□40CA	BZ-F70BA-□	BZ-F70BA-□
External accessories					
Motor operating mechanism	M	▲	▲	▲	▲
Handle padlocking device Cap type	Q1	–	–	▲	▲
Plate type	Q2	–	–	▲	▲
Mechanical interlocking device	M1	BZ6M140C	BZ6M140C	BZ-M160C	BZ-M160C
	M2	BZ-M240C	BZ-M240C	BZ-M260C	BZ-M260C
	M3	BZ-M340C	BZ-M340C	BZ-M360C	BZ-M360C
Operating handle N-type	N	BZ-N40C	BZ-N40C	BZ-N60C	BZ-N60C
Operating handle V-type	V	BZ6V40C	BZ6V40C	BZ6V60C	BZ6V60C
Steel enclosure Direct operating	C	BZ-C40B	BZ-C40B	BZ-C60B	BZ-C60B
Dustproof steel enclosure Handle operating	CV	BZ-CV40C	BZ-CV40C	BZ-CV60C	BZ-CV60C
Rainproof steel enclosure Handle operating	CW	BZ-CW40C	BZ-CW40C	BZ-CW60C	BZ-CW60C
Terminal cover Short	TS	BZ-TS40B	BZ-TS40B	–	–
Terminal cover Long	TB	BZ-TB40B	BZ-TB40B	BZ-TB60B	BZ-TB60B
Insulation barrier Interphase *2	B	BZ-B40B	BZ-B40B	B-43A	B-43A
Insulation barrier Earth	BL	BZ-BL40B	BZ-BL40B	–	–
Handle locking cover	L	BZ6L40C	BZ6L40C	BZ-L70B	BZ-L70B
Flat terminal	S	BZ-S50B-2252	BZ-S50B-2253	–	–

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

● Available – Not available ▲ Factory-mounted accessory

06

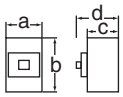
■ S series/2, 3-pole IEC and CE marking conformed types

Frame			400A		600A	800A
Pole			2	3	3	3
Type		*Page 06/42*	**SA402RC□-CE**	**SA403RC□-CE**	**SA603RC□-CE**	**SA803RC□-CE**
Rated current (A)			250, 300, 350, 400		500, 600	700, 800
Rated insulation voltage	(V AC)		690		690	690
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)		250		250	250
Rated breaking capacity (kA)	600V AC		30/15		30/15	30/15
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC		35/18		35/18	35/18
(Icu/Ics) *1	440V AC		50/25		50/25	50/25
	415V AC		50/25		50/25	50/25
	400V AC		50/25		50/25	50/25
	380V AC		50/25		50/25	50/25
	230V AC		85/43		85/43	85/43
	250V DC		40/20		40/20	40/20
Rated operating voltage [UL508] (V AC)			–		–	–
Dimensions (mm)		a	140	140	210	210
		b	257	257	275	275
Page 06/54		c	103	103	103	103
		d	146	146	146	146
Mass (kg) Front mounting type			4.5	5	9	10
Tripping device			Thermal-magnetic		Thermal-magnetic	Thermal-magnetic
Front mounting, front connection		No-mark	●	●	●	●
Front mounting, rear connection		X	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●
Flush mounting, top & bottom connection		Y	–	–	–	–
Plug-in mounting		P	●	●	●	●
IEC 35mm wide rail mounting			–	–	–	–
Internal accessories		*Page 06/88*				
Alarm switch		K	BZ-K70B	BZ-K70B	BZ-K70B	BZ-K70B
Alarm switch with terminal block		KA	BZ-K70BA	BZ-K70BA	BZ-K70BA	BZ-K70BA
Auxiliary switch		W	BZ-W70B	BZ-W70B	BZ-W70B	BZ-W70B
Auxiliary switch with terminal block		WA	BZ-W70BA	BZ-W70BA	BZ-W70BA	BZ-W70BA
Undervoltage trip		R	BZ-R70B-□	BZ-R70B-□	BZ-R70B-□	BZ-R70B-□
Shunt trip		F	BZ-F70B-□	BZ-F70B-□	BZ-F70B-□	BZ-F70B-□
Shunt trip with terminal block		FA	BZ-F70BA-□	BZ-F70BA-□	BZ-F70BA-□	BZ-F70BA-□
External accessories						
Motor operating mechanism		M	▲	▲	▲	▲
Handle padlocking device	Cap type	Q1	▲	▲	▲	▲
	Plate type	Q2	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ-M160C	BZ-M160C	BZ-M170C	BZ-M170C
		M2	BZ-M260C	BZ-M260C	BZ-M270C	BZ-M270C
		M3	BZ-M360C	BZ-M360C	BZ-M370C	BZ-M370C
Operating handle	N-type	N	BZ-N60C	BZ-N60C	BZ-N70C	BZ-N70C
Operating handle	V-type	V	BZ6V60C	BZ6V60C	BZ6V70C	BZ6V70C
Steel enclosure	Direct operating	C	BZ-C60B	BZ-C60B	BZ-C70B	BZ-C70B
Dustproof steel enclosure	Handle operating	CV	BZ-CV60C	BZ-CV60C	BZ-CV70C	BZ-CV70C
Rainproof steel enclosure	Handle operating	CW	BZ-CW60C	BZ-CW60C	–	–
Terminal cover	Short	TS	–	–	–	–
Terminal cover	Long	TB	BZ-TB60B	BZ-TB60B	BZ-TB70B	BZ-TB70B
Insulation barrier	Interphase *2	B	B-43A	B-43A	B-43A	B-43A
Insulation barrier	Earth	BL	–	–	–	–
Handle locking cover		L	BZ-L70B	BZ-L70B	BZ-L70B	BZ-L70B
Flat terminal		S	–	–	–	–

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

● Available – Not available ▲ Factory-mounted accessory

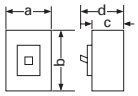
■ S series/3, 4-pole IEC and CE marking conformed types

Frame			1000A		1200A		1600A	
Pole			3	4	3	4	3	4
Type			**SA1003E**	**SA1004E**	**SA1203E**	**SA1204E**	**SA1603E**	**SA1604E**
Rated current(A)			Adjustable 500—600—700—800—900—1000		Adjustable 600—700—800—1000—1200		Adjustable 800—900—1000—1200—1400—1600	
Rated insulation voltage(V)		AC	690		690		690	
		DC	—		—		—	
Rated breaking capacity (kA)	IEC 60947-2, EN60947-2 JIS C8201-2-1 (Icu/Ics)	690V AC	25/19		25/19		45/34	
		660V AC	25/19		25/19		45/34	
		600V AC	25/19		25/19		45/34	
		500V AC	45/34		45/34		65/49	
		440V AC	65/49		65/49		85/64	
		400V AC	65/49		65/49		85/64	
		230V AC	100/75		100/75		125/94	
		250V DC	—		—		—	
Dimensions (mm)		a	210	280	210	280	210	280
		b	370		370		370	
		c	120		120		140	
		d	171		171		191	
Protection function	Long-time delay tripping time (s)		5-30 (at 6In) (Adjustable)					
	Short-time delay tripping current (A)		2In-10In (Adjustable)					
	Short-time delay tripping time (s)		0.1-0.3 (Adjustable)					
	Instantaneous tripping current (kA)		3.0-12 (Adjustable)		3.75-15 (Adjustable)		4.8-19.2 (Adjustable)	
	Ground fault current tripping or pre-alarm		●		●		●	
Mass(kg) Front mounting, front connection			22	28	22	28	27	35
Tripping device			Solid-state		Solid-state		Solid-state	
Trip button			Provided		Provided		Provided	
Mounting								
Front mounting, front connection		No marrk	●		● Bar stud		●	
Front mounting, rear connection		X	● Bar Stud		● Bar stud		● Bar stud	
Flush mounting, rear connection		E	● Bar Stud		●		● Bar stud	
Plug-in mounting		P	●		●		—	
Internal accessories								
Auxiliary switch		W	●		●		●	
Alarm switch		K	●		●		●	
Shunt trip		F	●		●		●	
Undervoltage trip		R	●		●		●	
External accessories								
Motor operating mechanism		M	●		●		●	
Lead-wire terminal block		—	●		●		●	

● Available – Not available

06

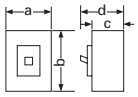
■ S series/4-pole

Frame			50A	100A	225A
Pole			4	4	4
Type		*Page 06/43*	**SA54B**	**SA104R**	**SA204R**
Rated current (Amps) Ambient temp.: 40˚C for general use			5, 10, 15, 20 30, 40, 50	15, 20, 30, 40 50, 60, 75, 100	125, 150, 175 200, 225
Rated insulation voltage Ui (Volts)		AC	660	660	660
Rated breaking capacity (kA)	JIS C8201-2-1 Ann.2 [Icu]	500V AC	5	35	35
		440V AC	7.5	35	35
		415V AC	7.5	45	50
		400V AC	7.5	45	50
		380V AC	7.5	50	50
		230V AC	10	85	85
Dimensions (mm) *Page 06/56*		a	100	120	140
		b	130	155	165
		c	60	82	82.5
		d	80	104	109
Mass (kg)	Front mounting type		0.8	1.9	2.5
Tripping device			Hydraulic-magnetic	Thermal-magnetic	Thermal-magnetic
Trip button			Provided	Provided	Provided
Front mounting,	front connection	No-mark	●	●	●
	rear connection	X	●	●	●
Flush mounting,	rear connection	E	●	●	●
	top & bottom connection	Y	●	—	—
Plug-in mounting		P	—	—	—
Draw-out		D	—	—	—
Internal accessories		*Page 06/88*			
Alarm switch		K	BZ-K23B□	BZ-K35B□	BZ-K50B
Auxiliary switch		W	BZ-W23B□	BZ-W35B□	BZ-W50B
Undervoltage trip		R	–	–	–
Shunt trip		F	BZ-F23BT □	BZ-F35BT □	BZ-F50BT □
External accessories					
Motor operating mechanism		M	—	▲	▲
Padlocking device		Q	▲	▲	▲
Mechanical interlocking device		M1	BZ-M120C-4	BZ-M135C-4	BZ-M150C-4
Operating handle	N type	N	BZ-N20C	BZ-N35B	BZ-N50B
Operating handle	V, G type	V, G	BZ-V20C	BZ-G35C	BZ-G50C
Steel enclosure		C	—	—	—
Steel enclosure with V type handle		CV	—	—	—
Terminal cover	Short	TS	BZ-TS20B-4	—	—
Terminal cover	Long	TB	BZ-TB20B-4	BZ-TB35B-4	BZ-TB45B-4
Insulation barrier	Interphase	B	—	—	—
Insulation barrier	Earth	BL	—	—	—

Notes: • Handlelock cover is supplied on request (sold separately)

● Available — Not available ▲ Factory-mounted accessory

■ S series/4-pole

Frame			400A	600A	800A
Pole			4	4	4
Type	*Page 06/43*		**SA404HA**	**SA604H**	**SA804H**
Rated current (Amps) Ambient temp.: 40˚C for general use			250, 300 350, 400	500, 600	700, 800
Rated insulation voltage Ui (Volts)		AC	660	660	660
Rated breaking capacity (kA)	JIS C8201-2-1 Ann.2 [Icu]	500V AC 440V AC 415V AC 400V AC 380V AC 230V AC	35 35 45 45 45 85	35 35 45 45 45 85	35 35 45 45 45 85
Dimensions (mm) *Page 06/57*		a b c d	185 257 103 134	280 275 103 149	280 275 103 149
Mass (kg)	Front mounting type		7.5	17.0	18.2
Tripping devices			Thermal-magnetic	Thermal-magnetic	Thermal-magnetic
Trip button			Provided	Provided	Provided
Front mounting,	front connection	No-mark	●	●	●
	rear connection	X	●	●	●
Flush mounting,	rear connection	E	●	●	●
	top & bottom connection	Y	—	—	—
Plug-in mounting		P	—	—	—
Draw-out		D	—	—	—
Internal accessories	*Page 06/88*				
Alarm switch		K	▲	▲	▲
Auxiliary switch		W	▲	▲	▲
Undervoltage trip		R	▲	▲	▲
Shunt trip		F	▲	▲	▲
External accessories					
Motor operating mechanism		M	▲	▲	▲
Padlocking device		Q	▲	▲	▲
Mechanical interlocking device		M1	BZ-M144	BZ-M154	BZ-M154
Operating handle	N type	N	N-23A	N-41A	N-41A
Operating handle	G type	G	G-22A	G-42A	G-42A
Steel enclosure		C	—	—	—
Steel enclosure with G type handle		CG	—	—	—
Terminal cover	Inside panel use	A1	—	—	—
Terminal cover	Outside panel use	T1	—	—	—
Insulation barrier	Interphase	B	B-44A	B-44A	B-44A
Insulation barrier	Earth	BL	—	—	—

Notes: *1 Specify the frequency when ordering circuit breaker for AC circuit.
Contact FUJI for DC circuit.
• Handlelock cover is supplied on request (sold separately)

● Available — Not available ▲ Factory-mounted accessory

06

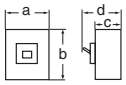
■ E series/2, 3-pole IEC and CE marking conformed types

Frame			30A		50A			
Pole			2	3	2	3	2	3
Type		*Page 06/42*	**EA32AC□-CE**	**EA33AC□-CE**	**EA52AC□-CE**	**EA53AC□-CE**	**EA52C□-CE**	**EA53C□-CE**
Rated current (A)			3, 5, 10, 15, 20, 30		5, 10, 15, 20, 30, 40, 50		5, 10, 15, 20, 30, 40, 50	
Rated insulation voltage	(V AC)		500		500		690	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)		–		–		250 *2	
Rated breaking capacity (kA)	600V AC		–		–		–	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC		–		–		1.5/1	
(Icu/Ics) *1	440V AC		1.5/1		1.5/1		2.5/2	
	415V AC		1.5/1		1.5/1		2.5/2	
	400V AC		1.5/1		1.5/1		2.5/2	
	380V AC		1.5/1		1.5/1		2.5/2	
	230V AC		2.5/2		2.5/2		5/3	
	250V DC		–		–		2.5/2	
Rated operating voltage [UL508] (V AC)		*Page 06/37*	240		240		550	
Dimensions (mm)		a	50	75	50	75	50	75
		b	100	100	100	100	100	100
Page 06/63		c	60	60	60	60	60	60
		d	84	84	84	84	84	84
Mass (kg) Front mounting type			0.4	0.5	0.4	0.5	0.4	0.5
Tripping device			Hydraulic-magnetic		Hydraulic-magnetic		Hydraulic-magnetic	
Front mounting, front connection		No-mark	●	●	●	●	●	●
Front mounting, rear connection		X	●	●	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●	●	●
Flush mounting, top & bottom connection		Y	●	●	●	●	●	●
Plug-in mounting		P	●	●	●	●	●	●
IEC 35mm wide rail mounting			●	●	●	●	●	●
Internal accessories		*Page 06/88*						
Alarm switch		K	BZ6KR10C	BZ6K□10C	BZ6KR10C	BZ6K□10C	BZ6KR10C	BZ6K□10C
Alarm switch with terminal block		KA	BZ6KR10CA	BZ6K□10CA	BZ6KR10CA	BZ6K□10CA	BZ6KR10CA	BZ6K□10CA
Auxiliary switch		W	BZ6WR10C	BZ6W□10C	BZ6WR10C	BZ6W□10C	BZ6WR10C	BZ6W□10C
Auxiliary switch with terminal block		WA	BZ6WR10CA	BZ6W□10CA	BZ6WR10CA	BZ6W□10CA	BZ6WR10CA	BZ6W□10CA
Undervoltage trip		R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C
Shunt trip		F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C
Shunt trip with terminal block		FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA
External accessories								
Motor operating mechanism		M	–	▲	–	▲	–	▲
Handle padlocking device	Cap type	Q1	–	–	–	–	–	–
	Plate type	Q2	▲	▲	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3
		M2	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3
		M3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3
Operating handle	N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C
Operating handle	V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C
Steel enclosure	Direct operating	C	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3
Dustproof steel enclosure	Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C
Rainproof steel enclosure	Handle operating	CW	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C
Terminal cover	Short	TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3
Terminal cover	Long	TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3
Insulation barrier	Interphase *3	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C
Insulation barrier	Earth	BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C
Flat terminal		S	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Specify DC only when ordering circuit breakers for DC circuit.
*3 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over. Except for EA50AC

● Available – Not available ▲ Factory-mounted accessory

■ E series/2, 3-pole IEC and CE marking conformed types

Frame		60A		100A		
Pole		2	3	3	2	3
Type	*Page 06/42*	**EA62C□-CE**	**EA63C□-CE**	**EA103AC□-CE**	**EA102C□-CE**	**EA103C□-CE**
Rated current (A)		60		60, 75, 100	50, 60, 75, 100	
Rated insulation voltage	(V AC)	690		400	690	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)	250 *2		–	250 *2	
Rated breaking capacity (kA)	600V AC	–		–	–	
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC	1.5/1		–	7.5/4	
(Icu/Ics) *1	440V AC	2.5/2		–	10/5	
	415V AC	2.5/2		–	10/5	
	400V AC	2.5/2		1.5/1	10/5	
	380V AC	5/3		1.5/1	10/5	
	230V AC	5/3		5/3	25/13	
	250V DC	2.5/2		–	5/3	
Rated operating voltage [UL508] (V AC)	*Page 06/37*	550		240	600	
Dimensions (mm)	a	50	75	75	50	75
	b	100	100	100	100	100
Page 06/63	c	60	60	60	60	60
	d	84	84	84	84	84
Mass (kg) Front mounting type		0.4	0.6	0.6	0.4	0.6
Tripping device		Hydraulic-magnetic		Hydraulic-magnetic		
Front mounting, front connection	No-mark	●	●	●	●	●
Front mounting, rear connection	X	●	●	●	●	●
Flush mounting, rear connection	E	●	●	●	●	●
Flush mounting, top & bottom connection	Y	●	●	●	●	●
Plug-in mounting	P	●	●	●	●	●
IEC 35mm wide rail mounting		●	●	●	●	●
Internal accessories	*Page 06/88*					
Alarm switch	K	BZ6KR10C	BZ6K□10C	BZ6K□10C	BZ6KR10C	BZ6K□10C
Alarm switch with terminal block	KA	BZ6KR10CA	BZ6K□10CA	BZ6K□10CA	BZ6KR10CA	BZ6K□10CA
Auxiliary switch	W	BZ6WR10C	BZ6W□10C	BZ6W□10C	BZ6WR10C	BZ6W□10C
Auxiliary switch with terminal block	WA	BZ6WR10CA	BZ6W□10CA	BZ6W□10CA	BZ6WR10CA	BZ6W□10CA
Undervoltage trip	R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C
Shunt trip	F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C
Shunt trip with terminal block	FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA
External accessories						
Motor operating mechanism	M	–	▲	▲	–	▲
Handle padlocking device Cap type	Q1	–	–	–	–	–
Plate type	Q2	▲	▲	▲	▲	▲
Mechanical interlocking device	M1	BZ6M110C2	BZ6M110C3	BZ6M110C3	BZ6M110C2	BZ6M110C3
	M2	BZ6M210C2	BZ6M210C3	BZ6M210C3	BZ6M210C2	BZ6M210C3
	M3	BZ6M310C2	BZ6M310C3	BZ6M310C3	BZ6M310C2	BZ6M310C3
Operating handle N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C
Operating handle V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C
Steel enclosure Direct operating	C	BZ6C10C2	BZ6C10C3	BZ6C25C3	BZ6C25C2	BZ6C25C3
Dustproof steel enclosure Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV25C	BZ6CV25C	BZ6CV25C
Rainproof steel enclosure Handle operating	CW	BZ6CW10C	BZ6CW10C	BZ6CW25C	BZ6CW25C	BZ6CW25C
Terminal cover Short	TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3
Terminal cover Long	TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3
Insulation barrier Interphase *3	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C
Insulation barrier Earth	BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3
Handle locking cover	L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C
Flat terminal	S	BZ6S10C1002	BZ6S10C1003	BZ6S10C1003	BZ6S10C1002	BZ6S10C1003

● Available – Not available ▲ Factory-mounted accessory

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Specify DC only when ordering circuit breakers for DC circuit.
*3 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over. Except for EA100AC

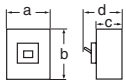
■ E series/2, 3-pole IEC and CE marking conformed types

Frame			225A		400A		600A
Pole			2	3	2	3	3
Type		*Page 06/42*	**EA202C□-CE**	**EA203C□-CE**	**EA402C□-CE**	**EA403C□-CE**	**EA603C□-CE**
Rated current (A)			125, 150, 175, 200, 225		250, 300, 350, 400		500, 600
Rated insulation voltage	(V AC)		690		690		690
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)		250		250		250
Rated breaking capacity (kA)	600V AC		–		–		–
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC		10/3		18/9		22/11
(Icu/Ics) *1	440V AC		15/4		25/13		35/18
	415V AC		18/5		25/13		35/18
	400V AC		18/5		25/13		35/18
	380V AC		18/5		25/13		35/18
	230V AC		35/18		35/18		50/25
	250V DC		10/5		20/10		20/10
Rated operating voltage [UL508] (V AC)			–		–		–
Dimensions (mm)		a	105	105	140	140	210
		b	165	165	257	257	275
Page 06/65		c	60	60	103	103	103
		d	84	84	146	146	146
Mass (kg) Front mounting type			1.1	1.3	4.5	5	9
Tripping device			Thermal-magnetic		Thermal-magnetic		Thermal-magnetic
Front mounting, front connection		No-mark	●	●	●	●	●
Front mounting, rear connection		X	●	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●	●
Flush mounting, top & bottom connection		Y	–	–	–	–	–
Plug-in mounting		P	●	●	●	●	●
IEC 35mm wide rail mounting			–	–	–	–	–
Internal accessories		*Page 06/88*					
Alarm switch		K	BZ6K□40C	BZ6K□40C	BZ-K70B	BZ-K70B	BZ-K70B
Alarm switch with terminal block		KA	BZ6K□40CA	BZ6K□40CA	BZ-K70BA	BZ-K70BA	BZ-K70BA
Auxiliary switch		W	BZ6W□40C	BZ6W□40C	BZ-W70B	BZ-W70B	BZ-W70B
Auxiliary switch with terminal block		WA	BZ6W□40CA	BZ6W□40CA	BZ-W70BA	BZ-W70BA	BZ-W70BA
Undervoltage trip		R	▲	▲	BZ-R70B-□	BZ-R70B-□	BZ-R70B-□
Shunt trip		F	BZ6F□40C	BZ6F□40C	BZ-F70B-□	BZ-F70B-□	BZ-F70B-□
Shunt trip with terminal block		FA	BZ6F□40CA	BZ6F□40CA	BZ-F70BA-□	BZ-F70BA-□	BZ-F70BA-□
External accessories							
Motor operating mechanism		M	▲	▲	▲	▲	▲
Handle padlocking device	Cap type	Q1	–	–	▲	▲	▲
	Plate type	Q2	–	–	▲	▲	▲
Mechanical interlocking device		M1	BZ6M140C	BZ6M140C	BZ-M160C	BZ-M160C	BZ-M170C
		M2	BZ-M240C	BZ-M240C	BZ-M260C	BZ-M260C	BZ-M270C
		M3	BZ-M340C	BZ-M340C	BZ-M360C	BZ-M360C	BZ-M370C
Operating handle	N-type	N	BZ-N40C	BZ-N40C	BZ-N60C	BZ-N60C	BZ-N70C
Operating handle	V-type	V	BZ6V40C	BZ6V40C	BZ6V60C	BZ6V60C	BZ6V70C
Steel enclosure	Direct operating	C	BZ-C40B	BZ-C40B	BZ-C60B	BZ-C60B	BZ-C70B
Dustproof steel enclosure	Handle operating	CV	BZ-CV40C	BZ-CV40C	BZ-CV60C	BZ-CV60C	BZ-CV70C
Rainproof steel enclosure	Handle operating	CW	BZ-CW40C	BZ-CW40C	BZ-CW60C	BZ-CW60C	–
Terminal cover	Short	TS	BZ-TS40B	BZ-TS40B	–	–	–
Terminal cover	Long	TB	BZ-TB40B	BZ-TB40B	BZ-TB60B	BZ-TB60B	BZ-TB70B
Insulation barrier	Interphase *2	B	BZ-B40B	BZ-B40B	B-43A	B-43A	B-43A
Insulation barrier	Earth	BL	BZ-BL40B	BZ-BL40B	–	–	–
Handle locking cover		L	BZ6L40C	BZ6L40C	BZ-L70B	BZ-L70B	BZ-L70B
Flat terminal		S	BZ-S50B-2252	BZ-S50B-2253	–	–	–

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers.

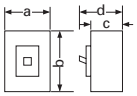
● Available – Not available ▲ Factory-mounted accessory

■ E series/3-pole IEC and CE marking conformed types

Frame		800A
Pole		3
Type	*Page 06/42*	**EA803C□-CE**
Rated current (A)		700, 800
Rated insulation voltage	(V AC)	690
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)	250
Rated breaking capacity (kA)	600V AC	–
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	500V AC	22/11
(Icu/Ics) *1	440V AC	35/18
	415V AC	35/18
	400V AC	35/18
	380V AC	35/18
	230V AC	50/25
	250V DC	20/10
Rated operating voltage [UL508] (V AC)		–
Dimensions (mm)	a	210
	b	275
Page 06/66	c	103
	d	146
Mass (kg) Front mounting type		10
Tripping device		Thermal-magnetic
Front mounting, front connection	No-mark	●
Front mounting, rear connection	X	●
Flush mounting, rear connection	E	●
Flush mounting, top & bottom connection	Y	–
Plug-in mounting	P	●
IEC 35mm wide rail mounting		–
Internal accessories *Page 06/88*		
Alarm switch	K	BZ-K70B
Alarm switch with terminal block	KA	BZ-K70BA
Auxiliary switch	W	BZ-W70B
Auxiliary switch with terminal block	WA	BZ-W70BA
Undervoltage trip	R	BZ-R70B-□
Shunt trip	F	BZ-F70B-□
Shunt trip with terminal block	FA	BZ-F70BA-□
External accessories		
Motor operating mechanism	M	▲
Handle padlocking device Cap type	Q1	▲
Plate type	Q2	▲
Mechanical interlocking device	M1	BZ-M170C
	M2	BZ-M270C
	M3	BZ-M370C
Operating handle N-type	N	BZ-N70C
Operating handle V-type	V	BZ6V70C
Steel enclosure Direct operating	C	BZ-C70B
Dustproof steel enclosure Handle operating	CV	BZ-CV70C
Rainproof steel enclosure Handle operating	CW	–
Terminal cover Short	TS	–
Terminal cover Long	TB	BZ-TB70B
Insulation barrier Interphase *2	B	B-43A
Insulation barrier Earth	BL	–
Handle locking cover	L	BZ-L70B
Flat terminal	S	–

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers.

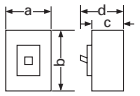
■ E series/4-pole

Frame			100A
Pole			4
Type		*Page 06/47*	**EA104B**
Rated current (A)			50, 60, 75, 100
Rated insulation voltage Ui (Volts)		AC	660
		DC	—
Rated breaking capacity (kA)	JIS C8201-2-1 Ann.2 [Icu]	500V AC	7.5
		440V AC	10
		415V AC	10
		400V AC	15
		380V AC	15
		230V AC	25
Dimensions (mm)		a	100
		b	130
		c	60
Page 06/66		d	80
Mass (kg)	Front mounting type		1.0
Tripping device			Hydraulic-magnetic
Trip button			Provided
Front mounting, front connection		No-mark	●
rear connection		X	●
Flush mounting, rear connection		E	●
top & bottom connection		Y	●
Plug-in mounting		P	–
Draw-out		D	–
Internal accessories		*Pege 06/88*	
Alarm switch		K	BZ-K25B□
Auxiliary switch		W	BZ-W25B□
Undervoltage trip		R	–
Shunt trip		F	BZ-F25BT
External accessories			
Motor operating mechanism		M	–
Padlocking device		Q	▲
Mechanical interlocking device		M1	BZ-M120C-4
Operating handle	N type	N	BZ-N20C
Operating handle	V type	V	BZ-V20C
Steel enclosure		C	–
Steel enclosure with V type handle		CV	–
Terminal cover	Short	TS	BZ-TS20B-4
Terminal cover	Long	TB	BZ-TB20B-4
Insulation barrier	Interphase	B	–
Insulation barrier	Earth	BL	–

● Available — Not available ▲ Factory-mounted accessory

06

■ L series/3-pole

Frame			50A
Pole			3
Type	*Page 06/43*		**LA53B**
Rated current (A)			5, 10
Rated insulation voltage Ui (Volts)		AC	690
		DC	—
Rated breaking capacity (kA)	IEC 60947-2 [Icu/Ics]*	600V AC	—
	JIS C8201-2-1	500V AC	42
	Ann.2 [Icu]	440V AC	50
		415V AC	50
		400V AC	50
		380V AC	50
		230V AC	100
		250V DC	—
Dimensions (mm) *Page 06/70*		a	75
		b	150
		c	82
		d	102
Mass (kg)	Front mounting type		1.1
Tripping device			Hydraulic-magnetic
Trip button			Provided
Front mounting,	front connection	No-mark	●
	rear connection	X	—
Flush mounting,	rear connection	E	—
	top & bottom connection	Y	—
Plug-in mounting		P	—
Draw-out		D	—
Internal accessories	*Page 06/88*		
Alarm switch		K	BZ-K23B□
Auxiliary switch		W	BZ-W23B□
Undervoltage trip		R	BZ-R23BT
Shunt trip		F	BZ-F23BT
External accessories			
Motor operating mechanism		M	▲
Padlocking device		Q	▲
Mechanical interlocking device		M1	BZ-M120C-3
Operating handle	N type	N	BZ-N20C
Operating handle	V type	V	BZ-V20C
Steel enclosure		C	—
Steel enclosure with V type handle		CV	—
Terminal cover	Short	TS	—
Terminal cover	Long	TB	—
Insulation barrier	Interphase	B	BZ-B30B (Line), B35B (Load)
Insulation barrier	Earth	BL	BZ-BL20B-3

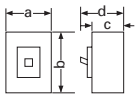
■ H series/2, 3-pole

50A			100A		
2	3		2	3	3
H52BA	**H53BA**		**H102BA**	**H103BA**	**H103R**
15, 20, 30 40, 50			15, 20, 30, 40 50, 60, 75, 100		40, 50, 60 75, 100
690 250			690 250		660 250
25/7 35/9 65/17 65/17 65/17 65/17 125/32 40/10			25/7 35/9 65/17 65/17 65/17 65/17 125/32 40/10		— 42 85 85 85 100 125 40
90 155 60 82			90 155 60 82		105 165 99 127
1.1	1.2		1.1	1.2	2.3
Thermal-magnetic			Thermal-magnetic		Thermal-magnetic
Provided			Provided		Provided
●			●		●
●			●		●
●			●		●
—			—		—
●			●		●
—			—		—
BZ-K35B□			BZ-K35B□		BZ-K50B□
BZ-W35B□			BZ-W35B□		BZ-W50B□
BZ-R35BT			BZ-R35BT		BZ-R50BT
BZ-F35BT			BZ-F35BT		BZ-F50BT
▲			▲		▲
▲			▲		▲
BZ-M130C-3			BZ-M130C-3		BZ-M140C
BZ-N30C			BZ-N30C		BZ-N50C
BZ-V30C			BZ-V30C		BZ-V50C
BZ-C30B-3			BZ-C30B-3		BZ-C50B
BZ-CV30C			BZ-CV30C		—
BZ-TS30B-3			BZ-TS30B-3		BZ-TS50B
BZ-TB30B-3			BZ-TB30B-3		BZ-TB50B
BZ-B30B			BZ-B30B		BZ-B50B
BZ-BL35B			BZ-BL35B		BZ-BL50B

● Available — Not available ▲ Factory-mounted accessory

Notes: • The breaking capacity for the 240V, 380V and 415V circuits are equivalent to that of 230V, 400V and 440V, resprctively.
• Interphase insulation barriers are standard provided for the front mounting type breakers.
* LA53B, H103R do not conform to IEC 60947-2.

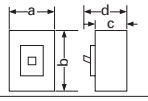
■ H series/2, 3-pole

Frame			225A			400A		
Pole			2	3	3	2	3	3
Type	*Page 06/43*		**H202BA**	**H203BA**	**H203R**	**H402B**	**H403B**	**H403R**
Rated current (A)			125, 150, 175 200, 225		125, 150, 175 200, 225	250, 300 350, 400		250, 300 350, 400
Rated insulation voltage Ui (Volts)		AC DC	690 250		660 250	690 250		690 250
Rated breaking capacity (kA)	IEC 60947-2 [Icu/Ics]* JIS C8201-2-1 Ann.2 [Icu]	600V AC 500V AC 440V AC 415V AC 400V AC 380V AC 230V AC 250V DC	25/7 35/9 65/17 65/17 65/17 65/17 125/32 40/10		— 42 85 85 85 100 125 40	35/18 42/21 65/33 65/33 65/33 65/33 125/65 40/20		— 85 125 125 125 125 125 40
Dimensions (mm) *Page 06/70*		a b c d	105 165 60 84		105 165 99 127	140 257 103 146		140 257 103 146
Mass (kg)	Front mounting type		1.1	1.3	2.3	4.5	5	5
Tripping device			Thermal-magnetic			Thermal-magnetic		
Trip button			Provided			Provided		
Front mounting, front connection		No-mark	●		●	●		●
	rear connection	X	●		●	●		●
Flush mounting, rear connection		E	●		●	●		●
	top & bottom connection	Y	—		—	—		—
Plug-in mounting		P	●		●	●		●
Draw-out		D	—		—	—		—
Internal accessories	*Page 06/88*							
Alarm switch		K	BZ-K40B□		BZ-K40B□	BZ-K70B□		BZ-K70B□
Auxiliary switch		W	BZ-W40B□		BZ-W40B□	BZ-W70B□		BZ-W70B□
Undervoltage trip		R	BZ-R40BT		BZ-R40BT	BZ-R70BT		BZ-R70BT
Shunt trip		F	BZ-F40BT		BZ-F40BT	BZ-F70BT		BZ-F70BT
External accessories								
Motor operating mechanism		M	▲		▲	▲		▲
Padlocking device		Q	▲		▲	▲		▲
Mechanical interlocking device		M1	BZ-M140C		BZ-M140C	BZ-M160C		BZ-M160C
Operating handle	N type	N	BZ-N40C		BZ-N50C	BZ-N60C		BZ-N60C
Operating handle	V type	V	BZ-V40C		BZ-V50C	BZ-V60C		BZ-V60C
Steel enclosure		C	BZ-C40B		BZ-C50B	BZ-C60B		BZ-C60B
Steel enclosure with V type handle		CV	—		—	BZ-CV60C		BZ-CV60B
Terminal cover	Short	TS	BZ-TS40B		BZ-TS50B	—		—
Terminal cover	Long	TB	BZ-TB40B		BZ-TB50B	BZ-TB60B		BZ-TB60B
Insulation barrier	Interphase	B	BZ-B40B		BZ-B50B	B-43A		B-43A
Insulation barrier	Earth	BL	BZ-BL40B		BZ-BL50B	—		—

● Available — Not available ▲ Factory-mounted accessory

Notes: • The breaking capacity for the 240V, 380V and 415V circuits are equivalent to that of 230V, 400V and 440V, resprctively.
• Interphase insulation barriers are standard provided for the front mounting type breakers.
* H203R, H403R do not conform to IEC 60947-2.

■ H series/3-pole

Frame			600A		800A	
Pole			3	3	3	3
Type	*Page 06/42*		**H603B**	**H603R**	**H803B**	**H803R**
Rated current (A)			500, 600	500, 600	700, 800	700, 800
Rated insulation voltage Ui (Volts)		AC	690	690	690	690
		DC	250	250	250	250
Rated breaking capacity (kA)	IEC 60947-2 [Icu/Ics]*	600V AC	35/18	—	35/18	—
	JIS C8201-2-1	500V AC	42/21	85	42/21	85
	Ann.2 [Icu]	440V AC	42/21	125	42/21	125
		415V AC	65/33	125	65/33	125
		400V AC	65/33	125	65/33	125
		380V AC	65/33	125	65/33	125
		230V AC	125/63	125	125/63	125
		250V DC	40/20	40	40/20	40
Dimensions (mm) *Page 06/71*		a	210	210	210	210
		b	275	275	275	275
		c	103	103	103	103
		d	146	146	146	146
Mass (kg)	Front mounting type		9	9	10	10
Tripping device			Thermal-magnetic		Thermal-magnetic	
Trip button			Provided		Provided	
Front mounting,	front connection	No-mark	●	●	●	●
	rear connection	X	●	●	●	●
Flush mounting,	rear connection	E	●	●	●	●
	top & bottom connection	Y	—	—	—	—
Plug-in mounting		P	●	●	●	●
Draw-out		D	●	●	●	●
Internal accessories	*Page 06/88*					
Alarm switch		K	BZ-K70B□	BZ-K70B□	BZ-K70B□	BZ-K70B□
Auxiliary switch		W	BZ-W70B□	BZ-W70B□	BZ-W70B□	BZ-W70B□
Undervoltage trip		R	BZ-R70BT	BZ-R70BT	BZ-R70BT	BZ-R70BT
Shunt trip		F	BZ-F70BT	BZ-F70BT	BZ-F70BT	BZ-F70BT
External accessories						
Motor operating mechanism		M	▲	▲	▲	▲
Padlocking device		Q	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ-M170C	BZ-M170C	BZ-M170C	BZ-M170C
Operating handle	N type	N	BZ-N70C	BZ-N70C	BZ-N70C	BZ-N70C
Operating handle	V type	V	BZ-V70C	BZ-V70C	BZ-V70C	BZ-V70C
Steel enclosure		C	BZ-70B	BZ-70B	BZ-70B	BZ-70B
Steel enclosure with V type handle		CV	BZ-CV70C	BZ-CV70C	BZ-CV70C	BZ-CV70C
Terminal cover	Short	TS	—	—	—	—
Terminal cover	Long	TB	BZ-TB70B	BZ-TB70B	BZ-TB70B	BZ-TB70B
Insulation barrier	Interphase	B	B-43A	B-43A	B-43A	B-43A
Insulation barrier	Earth	BL	—	—	—	—

Notes: • Interphase insulation barriers are standard provided for the front mounting type breakers. ● Available — Not available ▲ Factory-mounted accessory
* H603R, H803R do not conform to IEC 60947-2.

Motor protection breakers

Motors are normally controlled by MCCBs and magnetic starters. In this case the MCCB carries out overcurrent or short-circuit current protection while the starter deals with ON-OFF switching of the motor and offers protection against sustained overload currents. These are the motor breakers which combine the two functions.
FUJI motor breakers are designed to eliminate erroneous operations due to the rush current produced at the time of starting the motor. They will trip in the face of sustained overcurrent when the integrated bimetal relay has operated.

■ S series/2, 3-pole IEC and CE marking conformed types

Frame			30A		50A		60A
Pole			2	3	3	3	3
Type	*Page 06/42*		**SA32CM□-CE**	**SA33CM□-CE**	**SA53CM□-CE**	**SA53RCM□-CE**	**SA63CM□-CE**
Rated current (A) *1			2, 4, 5, 8, 10, 16	0.7, 1.4, 2, 2.6, 4 5, 8, 10, 12, 16, 24, 32	0.7, 1.4, 2, 2.6, 4 5, 8, 10, 12, 16, 24, 32, 40, 45	10, 12, 16, 24, 32, 40, 45	60
Rated insulation voltage	(V AC)		690		690	690	690
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)		–		–	–	–
Rated breaking capacity (kA)	500V AC		1.5/1		7.5/4	7.5/4	5/3
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	440V AC		2.5/2		7.5/4	10/5	7.5/4
(Icu/Ics) *2	415V AC		2.5/2		7.5/4	10/5	7.5/4
	400V AC		2.5/2		7.5/4	10/5	7.5/4
	380V AC		2.5/2		7.5/4	10/5	7.5/4
	230V AC		5/3		10/5	25/13	10/5
Rated operating voltage [UL508] (V AC)			550		600	600	600
Dimensions (mm)		a	50	75	75	75	75
		b	100	100	100	100	100
Page 06/52		c	60	60	60	60	60
		d	84	84	84	84	84
Mass (kg) Front mounting type			0.5	0.5	0.5	0.5	0.6
Tripping device			Hydraulic-magnetic		Hydraulic-magnetic	Hydraulic-magnetic	Hydraulic-magnetic
Front mounting, front connection		No-mark	●	●	●	●	●
Front mounting, rear connection		X	●	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●	●
Flush mounting, top & bottom connection		Y	●	●	●	●	●
Plug-in mounting		P	●	●	●	●	●
IEC 35mm wide rail mounting			●	●	●	●	●
Internal accessories	*Page 06/88*						
Alarm switch		K	BZ6KR10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C
Auxiliary switch		W	BZ6WR10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C
Undervoltage trip		R	BZ6RR10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C
Shunt trip		F	BZ6FR10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C
External accessories							
Handle padlocking device Cap type		Q1	–	–	–	–	–
Plate type		Q2	▲	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ6M110C2	BZ6M110C3	BZ6M110C3	BZ6M110C3	BZ6M110C3
		M2	BZ6M210C2	BZ6M210C3	BZ6M210C3	BZ6M210C3	BZ6M210C3
		M3	BZ6M310C2	BZ6M310C3	BZ6M310C3	BZ6M310C3	BZ6M310C3
Operating handle N-type		N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C
Operating handle V-type		V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C
Steel enclosure Direct operating		C	BZ6C10C2	BZ6C10C3	BZ6C10C3	BZ6C10C3	BZ6C10C3
Dustproof steel enclosure Handle operating		CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C
Rainproof steel enclosure Handle operating		CW	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C
Terminal cover Short		TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3
Terminal cover Long		TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3
Insulation barrier Interphase *3		B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C
Insulation barrier Earth		BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C
Flat terminal		S	BZ6S10C502	BZ6S10C503	BZ6S10C503	BZ6S10C503	BZ6S10C1003

Notes: *1 For further information related to motor capacity, *see page 06/49*.
*2 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*3 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

● Available – Not available ▲ Factory-mounted accessory

■ S series/2, 3-pole IEC and CE marking conformed types

Frame			100A		225A	
Pole			3		3	
Type	*Page 06/42*		**SA103CM□-CE**	**SA103RCM□-CE**	**SA203CM□-CE**	**SA203RCM□-CE**
Rated current (A) *1			16, 24, 32, 40, 45, 60, 75, 90	16, 24, 32, 40, 45, 60, 75, 90	125, 150, 175, 200, 225	125, 150, 175, 200, 225
Rated insulation voltage	(V AC)		690	690	690	690
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	(V DC)		–	–	–	–
Rated breaking capacity (kA)	500V AC		15/4	30/8	15/4	30/8
[IEC 60947-2, EN60947-2, JIS C8201-2-1]	440V AC		25/7	50/13	25/7	50/13
(Icu/Ics) *2	415V AC		30/8	50/13	30/8	50/13
	400V AC		30/8	50/13	30/8	50/13
	380V AC		30/8	50/13	30/8	50/13
	230V AC		50/25	100/50	50/25	100/50
Rated operating voltage [UL508] (V AC)			–	–	–	–
Dimensions (mm)		a	90	90	105	105
		b	155	155	165	165
Page 06/53		c	60	60	60	60
		d	82	82	84	84
Mass (kg) Front mounting type			1.1	1.4	1.3	1.3
Tripping device			Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic
Front mounting, front connection		No-mark	●	●	●	●
Front mounting, rear connection		X	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●
Flush mounting, top & bottom connection		Y	–	–	–	–
Plug-in mounting		P	●	●	●	●
IEC 35mm wide rail mounting			–	–	–	–
Internal accessories	*Page 06/88*					
Alarm switch		K	BZ6K□30C	BZ6K□30C	BZ6K□40C	BZ6K□40C
Auxiliary switch		W	BZ6W□30C	BZ6W□30C	BZ6W□40C	BZ6W□40C
Undervoltage trip		R	▲	▲	▲	▲
Shunt trip		F	BZ6F□30C	BZ6F□30C	BZ6F□40C	BZ6F□40C
External accessories						
Handle padlocking device	Cap type	Q1	–	–	–	–
	Plate type	Q2	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ6M130C-3	BZ6M130C-3	BZ6M140C	BZ6M140C
		M2	BZ-M230C-3	BZ-M230C-3	BZ-M240C	BZ-M240C
		M3	BZ-M330C-3	BZ-M330C-3	BZ-M340C	BZ-M340C
Operating handle N-type		N	BZ-N30C	BZ-N30C	BZ-N40C	BZ-N40C
Operating handle V-type		V	BZ6V30C	BZ6V30C	BZ6V40C	BZ6V40C
Steel enclosure Direct operating		C	BZ6C30C3	BZ6C30C3	BZ-C40B	BZ-C40B
Dustproof steel enclosure Handle operating		CV	BZ-CV30C	BZ-CV30C	BZ-CV40C	BZ-CV40C
Rainproof steel enclosure Handle operating		CW	BZ-CW30C	BZ-CW30C	BZ-CW40C	BZ-CW40C
Terminal cover Short		TS	BZ-TS30B-3	BZ-TS30B-3	BZ-TS40B	BZ-TS40B
Terminal cover Long		TB	BZ-TB30B-3	BZ-TB30B-3	BZ-TB40B	BZ-TB40B
Insulation barrier Interphase *3		B	BZ-B30B	BZ-B30B	BZ-B40B	BZ-B40B
Insulation barrier Earth		BL	BZ-BL35B	BZ-BL35B	BZ-BL40B	BZ-BL40B
Handle locking cover		L	BZ6L30C	BZ6L30C	BZ6L40C	BZ6L40C
Flat terminal		S	BZ-S35B-1003	BZ-S35B-1003	BZ-S50B-2253	BZ-S50B-2253

Notes: *1 For further information related to motor capacity, *see page 06/49*.
*2 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*3 Interphase insulation barriers are standard provided for the front mounting type breakers.

● Available – Not available ▲ Factory-mounted accessory

■ E series/3-pole IEC and CE marking conformed types

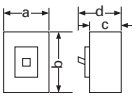
Frame			30A	50A	60A	100A	225A
Pole			3	3	3	3	3
Type	*Page 06/42*		**EA33ACM□-CE**	**EA53CM□-CE**	**EA63CM□-CE**	**EA103CM□-CE**	**EA203CM□-CE**
Rated current (A) *1			1.4, 2.6, 4, 8, 10, 16, 24, 32	24, 32, 40, 45	60	60, 75, 90	125, 150, 175, 200, 225
Rated insulation voltage		(V AC)	500	690	690	690	690
[IEC 60947-2, EN60947-2, JIS C8201-2-1]		(V DC)	–	–	–	–	–
Rated breaking capacity (kA)		500V AC	–	1.5/1	1.5/1	7.5/4	10/3
[IEC 60947-2, EN60947-2, JIS C8201-2-1]		440V AC	1.5/1	2.5/2	2.5/2	10/5	15/4
(Icu/Ics) *2		415V AC	1.5/1	2.5/2	2.5/2	10/5	18/5
		400V AC	1.5/1	2.5/2	2.5/2	10/5	18/5
		380V AC	1.5/1	2.5/2	5/3	10/5	18/5
		230V AC	2.5/2	5/3	5/3	25/13	35/18
Rated operating voltage [UL508] (V AC)			240	240	550	–	–
Dimensions (mm)		a	75	75	75	75	105
		b	100	100	100	100	165
Page 06/63		c	60	60	60	60	60
		d	84	84	84	84	84
Mass (kg) Front mounting type			0.5	0.5	0.6	0.6	1.3
Tripping device			Hydraulic-magnetic	Hydraulic-magnetic	Hydraulic-magnetic	Hydraulic-magnetic	Thermal-magnetic
Front mounting, front connection		No-mark	●	●	●	●	●
Front mounting, rear connection		X	●	●	●	●	●
Flush mounting, rear connection		E	●	●	●	●	●
Flush mounting, top & bottom connection		Y	●	●	●	●	–
Plug-in mounting		P	●	●	●	●	●
IEC 35mm wide rail mounting			●	●	●	●	–
Internal accessories	*Page 06/88*						
Alarm switch		K	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□40C
Auxiliary switch		W	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□40C
Undervoltage trip		R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	
Shunt trip		F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□40C
External accessories							
Handle padlocking device	Cap type	Q1	▲	▲	▲	▲	▲
	Plate type	Q2	▲	▲	▲	▲	▲
Mechanical interlocking device		M1	BZ6M110C3	BZ6M110C3	BZ6M110C3	BZ6M110C3	BZ6M140C
		M2	BZ6M210C3	BZ6M210C3	BZ6M210C3	BZ6M210C3	BZ-M240C
		M3	BZ6M310C3	BZ6M310C3	BZ6M310C3	BZ6M310C3	BZ-M340C
Operating handle N-type		N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ-N40C
Operating handle V-type		V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V40C
Steel enclosure Direct operating		C	BZ6C10C3	BZ6C10C3	BZ6C10C3	BZ6C25C3	BZ-C40B
Dustproof steel enclosure Handle operating		CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV25C	BZ-CV40C
Rainproof steel enclosure Handle operating		CW	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW25C	BZ-CW40C
Terminal cover Short		TS	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3	BZ-TS40B
Terminal cover Long		TB	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3	BZ-TB40B
Insulation barrier Interphase *3		B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ-B40B
Insulation barrier Earth		BL	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3	BZ-BL40B
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L40C
Flat terminal		S	BZ6S10C503	BZ6S10C503	BZ6S10C1003	BZ6S10C1003	BZ-S50B-2253

Notes: *1 For further information related to motor capacity, *see page 06/50*.
*2 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*3 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

● Available – Not available ▲ Factory-mounted accessory

06

■ L and H series/3-pole

Frame			50A	
Pole			3	3
Type	*Page 06/43*		**LA53BM**	**H53BAM**
Rated current (A) *1			5, 8, 10, 12	16, 24, 32, 40, 45
Rated insulation voltage Ui (Volts)		AC	660	660
		DC	—	—
Rated breaking capacity (kA)	IEC 60947-2 [Icu/Ics]*2	600V AC	—	35/9
	JIS C8201-2-1	500V AC	42	42/11
	Ann.2 [Icu]	440V AC	50	65/17
		415V AC	50	65/17
		400V AC	50	65/17
		380V AC	50	65/17
		230V AC	100/50	125/32
Dimensions (mm) *Page 06/70*		a	75	90
		b	150	155
		c	82	60
		d	102	82
Mass (kg)	Front mounting type		1.1	1.4
Tripping device			Hydraulic-magnetic	Thermal-magnetic
Trip button			Provided	
Front mounting,	front connection	No-mark	●	●
	rear connection	X	—	●
Flush mounting,	rear connection	E	—	●
	top & bottom connection	Y	—	—
Plug-in mounting		P	—	●
Draw-out		D	—	—
Internal accessories	*Page 06/88*			
Alarm switch		K	BZ-K23B□	BZ-K35B□
Auxiliary switch		W	BZ-W23B□	BZ-W35B□
Undervoltage trip		R	BZ-R23BT□	BZ-R35BT□
Shunt trip		F	BZ-F23BT□	BZ-F35BT□
External accessories				
Motor operating mechanism		M	▲	▲
Padlocking device		Q	▲	▲
Mechanical interlocking device		M1	BZ-M120C-3	BZ-M130C-3
Operating handle	N type	N	BZ-N20C	BZ-N30C
Operating handle	V type	V	BZ-V20C	BZ-V30C
Steel enclosure		C	–	BZ-C30B-3
Steel enclosure with V type handle		CV	–	BZ-CV30C
Terminal cover	Short	TS	–	BZ-TS30B-3
Terminal cover	Long	TB	–	BZ-TB30B-3
Insulation barrier	Interphase	B	BZ-B30B (LINE), B35B (LOAD)	BZ-B30B
Insulation barrier	Earth	BL	BZ-BL20B-3	BZ-BL35B

Notes: *1 For further information related to motor capacity, see page 06/50.
*2 LA53BM does not conform to IEC 60947-2.

● Available — Not available ▲ Factory-mounted accessory

■ S series/2, 3-pole UL489 Listed

Frame			50A		100A			
Pole			2	3	2	3	2	3
Type		*Page 06/44*	**SA52RCUL**	**SA53RCUL**	**SA102CUL**	**SA103CUL**	**SA102RCUL**	**SA103RCUL**
Rated current (A)			3, 5, 10, 15, 20, 30, 40, 50		15, 20, 30, 40, 50, 60, 70, 75, 80, 90, 100		15, 20, 30, 40, 50, 60, 70, 75, 80, 90, 100	
Rated insulation voltage [IEC 60947-2]		(V AC)	690		690		690	
Rated operating voltage [UL489]		(V AC)	240		240		480Y/277	
Rated breaking capacity (kA)	UL489	480Y/277V AC	–		–		25	
	CSA C22.2 No.5	240V AC	14		35		85	
	IEC 60947-2	600V AC	–		–		–	
	EN60947-2	500V AC	7.5/4		15/4		30/8	
	JIS C8201-2-1	440V AC	10/5		25/7		50/13	
	(Icu/Ics) *1	415V AC	10/5		30/8		50/13	
		400V AC	10/5		30/8		50/13	
		380V AC	10/5		30/8		50/13	
		230V AC	25/13		50/25		100/50	
		250V DC	–		15/8		40/20	
Dimensions (mm)		a	50	75	90	90	90	90
		b	120	120	155	155	155	155
Page 06/75		c	60	60	60	60	60	60
		d	84	84	82	82	82	82
Mass (kg) Front mounting type			0.4	0.5	1.1	1.2	1.1	1.2
Tripping device			Hydraulic-magnetic		Thermal-magnetic		Thermal-magnetic	
Connecting terminal	Screw		●	●	●	●	●	●
	Flat		●	●	●	●	●	●
	Block		–	–	●	●	●	●
Internal accessories		*Page 06/88*						
Alarm switch		K	BZ6KR10CU	BZ6K□10CU	BZ6KR30CU	BZ6K□30CU	BZ6K□30CU	BZ6K□30CU
Alarm switch with terminal block		KA	BZ6KR10CAU	BZ6K□10CAU	BZ6KR30CAU	BZ6K□30CAU	BZ6K□30CAU	BZ6K□30CAU
Auxiliary switch		W	BZ6WR10CU	BZ6W□10CU	BZ6WR30CU	BZ6W□30CU	BZ6W□30CU	BZ6W□30CU
Auxiliary switch with terminal block		WA	BZ6WR10CAU	BZ6W□10CAU	BZ6WR30CAU	BZ6W□30CAU	BZ6W□30CAU	BZ6W□30CAU
Undervoltage trip with terminal block		RA	BZ6R□10CAU	BZ6R□10CAU	▲	▲	▲	▲
Shunt trip		F	BZ6F□10CU	BZ6F□10CU	BZ6F□30CU	BZ6F□30CU	BZ6F□30CU	BZ6F□30CU
Shunt trip with terminal block		FA	BZ6F□10CAU	BZ6F□10CAU	BZ6F□30CAU	BZ6F□30CAU	BZ6F□30CAU	BZ6F□30CAU
External accessories								
Handle padlocking device Cap type		Q1	–	–	–	–	–	–
Operating handle N-type		N	BZ6N10CP	BZ6N10CP	BZ6N30CP	BZ6N30CP	BZ6N30CP	BZ6N30CP
Operating handle V-type		V	BZ6V10C	BZ6V10C	BZ6V30C	BZ6V30C	BZ6V30C	BZ6V30C
Terminal cover Short		TS	Provided	Provided	BZ-TS30B-3	BZ-TS30B-3	BZ-TS30B-3	BZ-TS30B-3
Terminal cover Long		TB	BZ6TB10C2U	BZ6TB10C3U	BZ-TB30B-3	BZ-TB30B-3	BZ-TB30B-3	BZ-TB30B-3
Terminal cover for flat terminal		TL	–	–	BZ-TL30B-3	BZ-TL30B-3	BZ-TL30B-3	BZ-TL30B-3
Insulation barrier Interphase *2		B	–	–	BZ6B30CU	BZ6B30CU	BZ6B30CU	BZ6B30CU
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L30C	BZ6L30C	BZ6L30C	BZ6L30C
Flat terminal		S	BZ-SU20B	BZ-SU20B	BZ6SU35B	BZ6SU35B	BZ6SU35B	BZ6SU35B
Block terminal		TA	–	–	BZ6TA100	BZ6TA100	BZ6TA100	BZ6TA100

● Available – Not available ▲ Factory-mounted accessory

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers of 100AF and over.

■ S series/2, 3-pole UL489 Listed

Frame			225A			
Pole			2	3	2	3
Type		*Page 06/44*	**SA202CUL**	**SA203CUL**	**SA202RCUL**	**SA203RCUL**
Rated current (A)			125, 150, 175, 200, 225		125, 150, 175, 200, 225	
Rated insulation voltage [IEC 60947-2]		(V AC)	690		690	
Rated operating voltage [UL489]		(V AC)	240		480Y/277	
Rated breaking capacity (kA)	UL489	480Y/277V AC	–		25	
	CSA C22.2 No.5	240V AC	35		85	
	IEC 60947-2	600V AC	–		–	
	EN60947-2	500V AC	15/4		30/8	
	JIS C8201-2-1	440V AC	25/7		50/13	
	(Icu/Ics) *1	415V AC	30/8		50/13	
		400V AC	30/8		50/13	
		380V AC	30/8		50/13	
		230V AC	50/25		100/50	
		250V DC	15/8		40/20	
Dimensions (mm)		a	105	105	105	105
		b	165	165	165	165
Page 06/76		c	60	60	60	60
		d	84	84	84	84
Mass (kg) Front mounting type			1.1	1.3	1.1	1.3
Tripping device			Thermal-magnetic		Thermal-magnetic	
Connecting terminal	Screw		●	●	●	●
	Flat		●	●	●	●
	Block		●	●	●	●
Internal accessories		*See page 06/88*				
Alarm switch		K	BZ6K□40CU	BZ6K□40CU	BZ6K□40CU	BZ6K□40CU
Alarm switch with terminal block		KA	BZ6K□40CAU	BZ6K□40CAU	BZ6K□40CAU	BZ6K□40CAU
Auxiliary switch		W	BZ6W□40CU	BZ6W□40CU	BZ6W□40CU	BZ6W□40CU
Auxiliary switch with terminal block		WA	BZ6W□40CAU	BZ6W□40CAU	BZ6W□40CAU	BZ6W□40CAU
Undervoltage trip with terminal block		RA	▲	▲	▲	▲
Shunt trip		F	BZ6F□40CU	BZ6F□40CU	BZ6F□40CU	BZ6F□40CU
Shunt trip with terminal block		FA	BZ6F□40CAU	BZ6F□40CAU	BZ6F□40CAU	BZ6F□40CAU
External accessories						
Handle padlocking device Cap type		Q1	–	–	–	–
Operating handle N-type		N	BZ6N40CP	BZ6N40CP	BZ6N40CP	BZ6N40CP
Operating handle V-type		V	BZ6V40C	BZ6V40C	BZ6V40C	BZ6V40C
Terminal cover Short		TS	BZ-TS40B	BZ-TS40B	BZ-TS40B	BZ-TS40B
Terminal cover Long		TB	BZ-TB40B	BZ-TB40B	BZ-TB40B	BZ-TB40B
Terminal cover for flat terminal		TL	BZ-TL40B	BZ-TL40B	BZ-TL40B	BZ-TL40B
Insulation barrier Interphase *2		B	BZ6B40CU	BZ6B40CU	BZ6B40CU	BZ6B40CU
Handle locking cover		L	BZ6L40C	BZ6L40C	BZ6L40C	BZ6L40C
Flat terminal		S	BZ6SU50B	BZ6SU50B	BZ6SU50B	BZ6SU50B
Block terminal		TA	BZ6TA225	BZ6TA225	BZ6TA225	BZ6TA225

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers.

●Available – Not available ▲Factory-mounted accessory

■ S series/2, 3-pole UL489 Listed

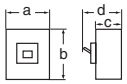
Frame			400A			
Pole			2	3	2	3
Type		*Page 06/44*	**SA402CUL**	**SA403CUL**	**SA402RCUL**	**SA403RCUL**
Rated current (A)			250, 300, 350, 400		250, 300, 350, 400	
Rated insulation voltage [IEC 60947-2]		(V AC)	690		690	
Rated operating voltage [UL489]		(V AC)	240		480	
Rated breaking capacity (kA)	UL489	480V	25		50	
	CSA C22.2 No.5	480Y/277V	25		50	
		240V	42		85	
	IEC 60947-2	600V AC	–		30/15	
	EN60947-2	500V AC	22/11		35/18	
	JIS C8201-2-1	440V AC	35/18		50/25	
	(Icu/Ics) *1	415V AC	35/18		50/25	
		400V AC	35/18		50/25	
		380V AC	35/18		50/25	
		230V AC	50/25		85/43	
		250V DC	20/10		40/20	
Dimensions (mm)		a	140	140	140	140
		b	257	257	257	257
Page 06/76		c	103	103	103	103
		d	146	146	146	146
Mass (kg) Front mounting type			4.5	5	4.5	5
Tripping device			Thermal-magnetic		Thermal-magnetic	
Connecting terminal	Screw		–	–	–	–
	Flat		●	●	●	●
	Block		●	●	●	●
Internal accessories		*Page 06/88*				
Alarm switch		K	▲	▲	▲	▲
Alarm switch with terminal block		KA	▲	▲	▲	▲
Auxiliary switch		W	▲	▲	▲	▲
Auxiliary switch with terminal block		WA	▲	▲	▲	▲
Undervoltage trip with terminal block		RA	▲	▲	▲	▲
Shunt trip		F	▲	▲	▲	▲
Shunt trip with terminal block		FA	▲	▲	▲	▲
External accessories						
Handle padlocking device Cap type		Q1	▲	▲	▲	▲
Operating handle N-type		N	BZ6N60CP	BZ6N60CP	BZ6N60CP	BZ6N60CP
Operating handle V-type		V	BZ6V60C	BZ6V60C	BZ6V60C	BZ6V60C
Terminal cover Short		TS	–	–	–	–
Terminal cover Long		TB	BZ-TB60B	BZ-TB60B	BZ-TB60B	BZ-TB60B
Terminal cover for flat terminal		TL	–	–	–	–
Insulation barrier Interphase *2		B	B-43A	B-43A	B-43A	B-43A
Handle locking cover		L	BZ-L70B	BZ-L70B	BZ-L70B	BZ-L70B
Flat terminal		S	BZ-SU60B	BZ-SU60B	BZ-SU60B	BZ-SU60B
Block terminal		TA	Up to 350A: BZ6TA350 400A: BZ6TA400	Up to 350A: BZ6TA350 400A: BZ6TA400	Up to 350A: BZ6TA350 400A: BZ6TA400	Up to 350A: BZ6TA350 400A: BZ6TA400

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers.

● Available – Not available ▲ Factory-mounted accessory

06

■ S series/3-pole UL489 Listed

Frame			600A	800A
Pole			3	3
Type		*Page 06/44*	**SA603RCUL**	**SA803RCUL**
Rated current (A)			500, 600	700, 800
Rated insulation voltage [IEC 60947-2]		(V AC)	690	690
Rated operating voltage [UL489]		(V AC)	480	480
Rated breaking capacity (kA)	UL489	480V	50	50
	CSA C22.2 No.5	480Y/277V	50	50
		240V	85	85
	IEC 60947-2	600V AC	30/15	35/15
	EN60947-2	500V AC	35/18	35/18
	JIS C8201-2-1	440V AC	50/25	50/25
	(Icu/Ics) *1	415V AC	50/25	50/25
		400V AC	50/25	50/25
		380V AC	50/25	50/25
		230V AC	85/43	85/43
		250V DC	40/20	40/20
Dimensions (mm)		a	210	210
		b	275	275
Page 06/77		c	103	103
		d	146	146
Mass (kg) Front mounting type			9	10
Tripping device			Thermal-magnetic	Thermal-magnetic
Connecting terminal	Screw		–	–
	Flat		●	●
	Block		●	●
Internal accessories		*See page 06/88*		
Alarm switch		K	▲	▲
Alarm switch with terminal block		KA	▲	▲
Auxiliary switch		W	▲	▲
Auxiliary switch with terminal block		WA	▲	▲
Undervoltage trip with terminal block		RA	▲	▲
Shunt trip		F	▲	▲
Shunt trip with terminal block		FA	▲	▲
External accessories				
Handle padlocking device Cap type		Q1	▲	▲
Operating handle N-type		N	BZ6N70CP	BZ6N70CP
Operating handle V-type		V	BZ6V70C	BZ6V70C
Terminal cover Short		TS	–	–
Terminal cover Long		TB	BZ-TB70B	BZ-TB70B
Terminal cover for flat terminal		TL	–	–
Insulation barrier Interphase *2		B	B-43A	B-43A
Handle locking cover		L	BZ-L70B	BZ-L70B
Flat terminal		S	BZ-SU70B-600	BZ-SU70B-800
Block terminal		TA	BZ-TA600	700A: BZ-TA700 800A: BZ-TA800

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity
*2 Interphase insulation barriers are standard provided for the front mounting type breakers.

●Available – Not available ▲Factory-mounted accessory

■ E series/2, 3-pole UL489 Listed

Frame			100A	
Pole			2	3
Type		*Page 06/44*	**EA102CUL**	**EA103CUL**
Rated current (A)			60, 70, 75, 80, 90, 100	
Rated insulation voltage [IEC 60947-2]		(V AC)	690	
Rated operation voltage [UL489]		(V AC)	240	
Rated breaking capacity (kA)	UL489	480Y/277V	–	
	CSA C22.2 No.5	240V	14	
	IEC 60947-2	600V AC	–	
	EN60947-2	500V AC	7.5/4	
	JIS C8201-2-1	440V AC	10/5	
	(Icu/Ics) *1	415V AC	10/5	
		400V AC	10/5	
		380V AC	10/5	
		230V AC	25/13	
		250V DC	–	
Dimensions (mm)		a	50	75
		b	120	100
Page 06/78		c	60	60
		d	84	84
Mass (kg) Front mounting type			0.5	0.6
Tripping device			Hydraulic-magnetic	
Connecting terminal	Screw		●	●
	Flat		●	●
	Block		–	–
Internal accessories		*See page 06/88*		
Alarm switch		K	BZ6KR10CU	BZ6K□10CU
Alarm switch with terminal block		KA	BZ6KR10CAU	BZ6K□10CAU
Auxiliary switch		W	BZ6WR10CU	BZ6W□10CU
Auxiliary switch with terminal block		WA	BZ6WR10CAU	BZ6W□10CAU
Undervoltage trip with terminal block		RA	BZ6R□10CAU	BZ6R□10CAU
Shunt trip		F	BZ6F□10CU	BZ6F□10CU
Shunt trip with terminal block		FA	BZ6F□10CAU	BZ6F□10CAU
External accessories				
Handle padlocking device	Cap type	Q1	▲	▲
Operating handle	N-type	N	BZ6N10CP	BZ6N10CP
Operating handle	V-type	V	BZ6V10C	BZ6V10C
Terminal cover	Short	TS	Provided	Provided
Terminal cover	Long	TB	BZ6TB10CU2	BZ6TB10CU3
Terminal cover for flat terminal		TL	–	–
Insulation barrier	Interphase	B	–	–
Handle locking cover		L	BZ6L10C	BZ6L10C
Flat terminal		S	BZ-SU20B	BZ-SU20B
Block terminal		TA	–	–

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
Ics: Rated service short-circuit breaking capacity

● Available – Not available ▲ Factory-mounted accessory

06

■ Circuit configuration and breaker application for control panels of industrial machinery in North America.

● UL508A (Industrial control panels) requirements

1. The requirements of NFPA70 (NEC), NFPA79, and applicable UL standards must be satisfied.
2. Positioning of protective equipment

• Install branch circuit protection (BCP) for the main circuit at the point of electrical inlet.
• Use equipment that is UL508 listed as applicable to each kind of loads, installed under appropriate load conditions, as protective equipment for load circuits used in branch circuits downstream from the BCP.

UL508/Group Installation, which combines UL489 Listed SA/EA-UL series and UL508 Listed Manual Motor Controllers (MMCs), complies with the UL508A requirements for North American industrial control panels.

● Application of UL489 Listed SA/EA-UL series and UL508 Listed MMCs (Group installation)

1. For group installations, if the UL489 Listed SA/EA-UL series is installed at the power inlet point (upstream) and any of the following conditions is satisfied in the circuit, a UL508 Listed MMC can be used as a downstream multi-circuit protective device. (In accordance with NEC430.53.)

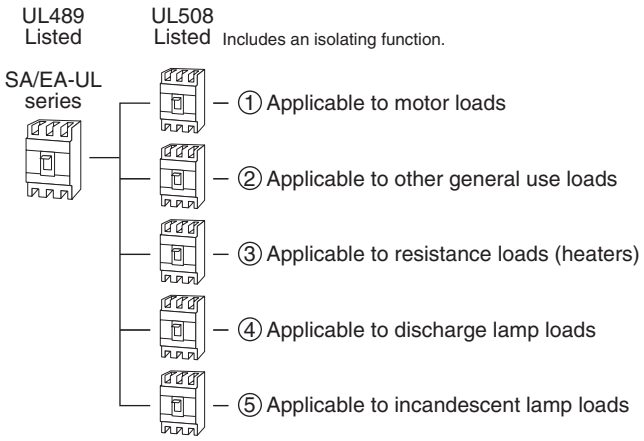
a. No conductor to the motor shall have an ampacity less than that of the branch-circuit conductors.
b. No conductor to the motor shall have an ampacity less than one-third than of the branch-circuit conductors, the conductors to the motor overload device being not more than 7.5m(25ft) long and being protected from physical damage.
c. Conductors from the branch-circuit short-circuit and ground-fault protective device to a listed manual motor controller shall be permitted to have an ampacity not less than 1/10 the rating or setting of the branch-circuit short-circuit and ground-fault protective device. The conductors from the branch-circuit short-circuit and ground-fault protective device to the controller shall (1) be suitably protected from physical damage and enclosed either by an enclosed controller or by a raceway and shall be not more than 3m(10ft) long or (2) shall have an ampacity not less than that of the branch circuit conductors.

2. The UL508 Listed MMC also has UL508 Group Installation certification.

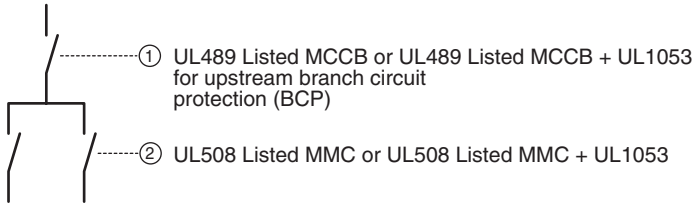
3. See NEC 430.53 for detail.

4. Refer to the table on the next page for breaking capacity of the UL508 Listed Group Installation when making your selection.

Item NEC430.53 Group Installation



■ Group Installation



● 240V AC for UL508 Listed MMC (② in figure) combined with UL489 Listed MCCB (+ UL1053) (① in figure)

	① UL489 Listed MCCBs (+ UL1053)					
② UL508 Listed MMCs	SA53RCUL SG53RCUL	SA103CUL SA103RCUL SG103CUL EA103CUL EG103CUL	SA203CUL SA203RCUL SG203CUL	SA403CUL SA403RCUL	SA603RCUL	SA803RCUL
SA30C	5kA	5kA	5kA	5kA	–	–
SA50C	10kA	10kA	10kA	10kA	–	–
SA50RC	25kA	25kA	25kA	25kA	–	–
SA60C	10kA	10kA	10kA	10kA	10kA	10kA
SA60RC	25kA	25kA	25kA	25kA	25kA	25kA
EA30AC	5kA	5kA	5kA	5kA	–	–
EA50AC	5kA	5kA	5kA	5kA	–	–
EA50C	5kA	5kA	5kA	5kA	–	–
EA60C	5kA	5kA	5kA	5kA	5kA	5kA
EA100AC	5kA	5kA	5kA	5kA	5kA	5kA
EA100C	25kA	25kA	25kA	25kA	25kA	25kA

● 480V AC for UL508 Listed MMC (② in figure) combined with UL489 Listed MCCB (+ UL1053) (① in figure)

	① UL489 Listed MCCBs (+ UL1053)				
② UL508 Listed MMCs	SA103RCUL	SA203RCUL	SA403RCUL	SA603RCUL	SA803RCUL
SA30C	5kA	5kA	5kA	–	–
SA50C	10kA	10kA	10kA	–	–
SA50RC	10kA	10kA	10kA	–	–
SA60C	10kA	10kA	10kA	10kA	10kA
SA60RC	10kA	10kA	10kA	10kA	10kA
EA50C	5kA	5kA	5kA	–	–
EA60C	5kA	5kA	5kA	5kA	5kA
EA100C	10kA	10kA	10kA	10kA	10kA

● 240V AC for UL508 Listed MMC + UL1053 (② in figure) combined with UL489 Listed MCCB (+ UL1053) (① in figure)

	① UL489 Listed MCCBs (+ UL1053)					
② UL508 Listed MMCs + UL1053	SA53RCUL SG53RCUL	SA103CUL SA103RCUL SG103CUL EA103CUL EG103CUL	SA203CUL SA203RCUL SG203CUL	SA403CUL SA403RCUL	SA603RCUL	SA803RCUL
SG33C	5kA	5kA	5kA	5kA	–	–
SG53C	10kA	10kA	10kA	10kA	–	–
SG53RC	25kA	25kA	25kA	25kA	–	–
SG63C	10kA	10kA	10kA	10kA	10kA	10kA
SG63RC	25kA	25kA	25kA	25kA	25kA	25kA
EG32AC, EG33AC	5kA	5kA	5kA	5kA	–	–
EG33C	5kA	5kA	5kA	5kA	–	–
EG52AC, EG53AC	5kA	5kA	5kA	5kA	–	–
EG53C	5kA	5kA	5kA	5kA	–	–
EG63C	5kA	5kA	5kA	5kA	5kA	5kA
EG102AC, EG103AC	5kA	5kA	5kA	5kA	5kA	5kA
EG103C	25kA	25kA	25kA	25kA	25kA	25kA

■ **S series UL/cUL508 Listed** (File No.E216772)

Frame			30A						50A											
Pole			2			3			2			3				2			3	
Type			**SA32C□-CE**			**SA33C□-CE**			**SA52C□-CE**			**SA53C□-CE**				**SA52RC□-CE**			**SA53RC□-CE**	
Rated operating voltage (V AC)			550						600							600				
Max. motor ratings	Rated current (A)		3	5	10	15	20	30	5	10	15	20	30	40	50	10	15	20	30	40	50
(HP)	3-phase	550 (-600) V AC*2	3/4	1	3	5	7.5	10	1	3	5	7.5	10	15	20	3	5	7.5	10	15	20
UL508 [cUL]*1		440-480V AC	0.5	1	2	3	5	10	1	2	3	5	10	10	15	2	3	5	10	10	15
		220-240V AC	–	0.5	1	2	2	3	0.5	1	2	2	3	5	7.5	1	2	2	3	5	7.5
		110-120V AC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Single-phase	550 (-600) V AC*2	–	0.5	1.5	3	3	5	0.5	1.5	3	3	5	7.5	10	1.5	3	3	5	7.5	10
		440-480V AC	–	–	1	2	3	5	–	1	2	3	5	5	7.5	1	2	3	5	5	7.5
		220-240V AC	–	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	3	3	1/3	3/4	1	2	3	3
		110-120V AC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Load (A)	Resistance *3		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50							10, 15, 20, 30, 40, 50					
UL508 [cUL]	Discharge lamp *4		1.5, 2.5, 5, 7.5, 10, 15						2.5, 5, 7.5, 10. 15, 20, 25							5, 7.5, 10. 15, 20, 25					
	Incandescent lamp *3		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50							10, 15, 20, 30, 40, 50					
	Others *3		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50							10, 15, 20, 30, 40, 50					

Frame			60A			
Pole			2	3	2	3
Type			**SA62C□-CE**	**SA63C□-CE**	**SA62RC□-CE**	**SA63RC□-CE**
Rated operating voltage (V AC)			600		600	
Max. motor ratings	Rated current (A)		60		60	
(HP)	3-phase	550 (-600) V AC*2	25		25	
UL508 [cUL]*1		440-480V AC	20		20	
		220-240V AC	10		10	
		110-120V AC	–		–	
	Single-phase	550 (-600) V AC*2	15		15	
		440-480V AC	10		10	
		220-240V AC	5		5	
		110-120V AC	–		–	
Load (A)	Resistance *3		60		60	
UL508 [cUL]	Discharge lamp *4		30		30	
	Incandescent lamp *3		60		60	
	Others *3		60		60	

Notes: *1 The performance of UL508 approved models is indicated as applicable motor rating (HP).
*2 Rated operating voltage 550-600V AC: For SA50C, 50RC, 60C and 60RC.
*3 Rated current x 1
*4 Rated current x 1/2

■ **E series UL/cUL508 Listed** (File No.E216772)

Frame			30A						50A												
Pole			2			3			2			3				2				3	
Type			**EA32AC□-CE**			**EA33AC□-CE**			**EA52AC□-CE**			**EA53AC□-CE**				**EA52C□-CE**				**EA53C□-CE**	
Rated operating voltage (V AC)			240						240							550					
Max. motor ratings	Rated current (A)		3	5	10	15	20	30	5	10	15	20	30	40	50	5	10	15	20	30	40	50
(HP)	3-phase	550 (-600) V AC*2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	3	5	7.5	10	15	20
UL508 [cUL]*1		440-480V AC	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	3	5	10	10	15
		220-240V AC	–	0.5	1	2	2	3	0.5	1	2	2	3	5	7.5	0.5	1	2	2	3	5	7.5
		110-120V AC	–	–	0.5	3/4	1	2	–	0.5	3/4	1	2	2	3	–	–	–	–	–	–	–
	Single-phase	550 (-600) V AC*2	–	–	–	–	–	–	–	–	–	–	–	–	–	0.5	1.5	3	3	5	7.5	10
		440-480V AC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	3	5	5	7.5
		220-240V AC	0.1	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	3	3	1/6	1/3	3/4	1	2	3	3
		110-120V AC	–	–	1/6	1/4	1/3	3/4	–	1/6	1/4	1/3	3/4	1	1.5	–	–	–	–	–	–	–
Load (A)	Resistance *3		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50												
UL508 [cUL]	Discharge lamp *4		1.5, 2.5, 5, 7.5, 10, 15						2.5, 5, 7.5, 10, 15, 20, 25												
	Incandescent lamp *3		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50												
	Others *3		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50												

Frame			60A			100A						
Pole			2		3	3			2		3	
Type			**EA62C□-CE**		**EA63C□-CE**	**EA103AC□-CE**			**EA102C□-CE**		**EA103C□-CE**	
Rated operating voltage (V AC)			550			240			600			
Max. motor ratings	Rated current (A)		60			60	75	100	50	60	75	100
(HP)	3-phase	550 (-600) V AC*2	25			–	–	–	20	25	30	40
UL508 [cUL]*1		440-480V AC	20			–	–	–	15	20	25	30
		220-240V AC	10			10	10	15	7.5	10	10	15
		110-120V AC	–			3	5	7.5	–	–	–	–
	Single-phase	550 (-600) V AC*2	15			–	–	–	10	15	20	25
		440-480V AC	10			–	–	–	7.5	10	15	20
		220-240V AC	5			5	5	7.5	3	5	5	7.5
		110-120V AC	–			2	3	3	–	–	–	–
Load (A)	Resistance *3		60			60, 75, 100			50, 60, 75, 100			
UL508 [cUL]	Discharge lamp *4		30			30, 37.5, 50			25, 30, 37.5, 50			
	Incandescent lamp *3		60			60, 75, 100			50, 60, 75, 100			
	Others *3		60			60, 75, 100			50, 60, 75, 100			

Notes: *1 The performance of UL508 approved models is indicated as applicable motor rating (HP).
*2 Rated operating voltage 550-600V AC: For SA50C, 50RC, 60C and 60RC.
*3 Rated current x 1
*4 Rated current x 1/2

Mounting modifications

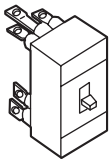
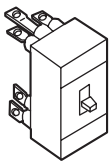
■ Mounting modifications

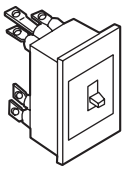
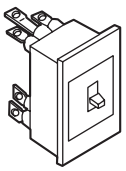
Standard type FUJI breakers are front mounting with front connections. The standard breaker can easily be modified to become front mounting rear connection type, flush mounting type and plug-in type. The additional parts such as insulation bases, barriers, covers and similar parts are added as required.

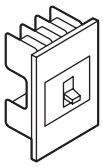
Standard type
Front mounting
Front connection

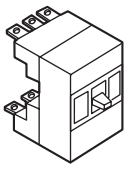
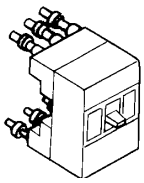
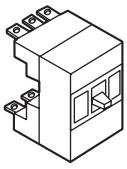
BASIC DESIGN

Mounting modification kits:
See page 06/130

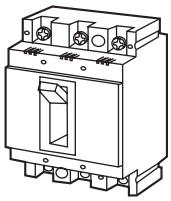
Additional main parts	Front mounting Rear connection (X type)	
Bar stud terminal 	SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50C EA50AC EA60C EA100C EA100AC
Bar stud terminal 	SA100C SA100RC SA225C SA225RC SA400C SA400RC SA600RC SA800RC	EA225C EA400C EA600C EA800C
	Each stud can be turned by 90°	

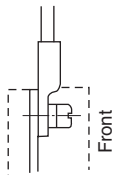
Additional main parts	Flush mounting Rear connection (E type)	
Bar stud terminal 	SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50C EA50AC EA60C EA100C EA100AC
Bar stud terminal 	SA100C SA100RC SA225C SA225RC SA400C SA400RC SA600RC SA800RC	EA225C EA400C EA600C EA800C
	Each stud can be turned by 90°	

Additional main parts	Flush mounting Top and bottom connection (Y type)	
Decorative flush plate 	SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50C EA50AC EA60C EA100C EA100AC

Additional main parts	Plug-in mounting (P type)	
Bar stud terminal 	SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50C EA50AC EA60C EA100C EA100AC
Round stud terminal 	SA100C SA100RC	
Bar stud terminal 	SA225C SA225RC SA400C SA400RC SA600RC SA800RC	EA225C EA400C EA600C EA800C
	Each stud can be turned by 90°	

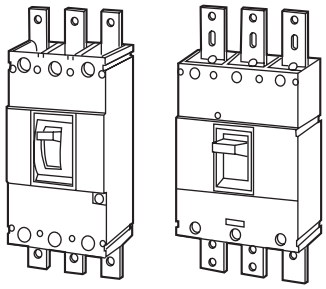
■ Terminal connection/Front mounting, front connection

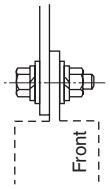




Flat terminal

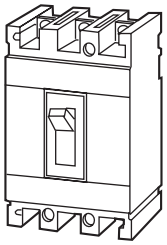
Self lifting screw	Breaker type	Size
	SA30C EA30AC SA50C EA50AC SA50RC EA50C	M5 × 14
Pan-head screw 	SA60C EA60C SA60RC EA100AC EA100C	M8 × 15

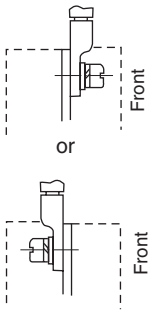




Flat terminal

Hexagonal head bolt	Breaker type	Size
	SA400C EA400C SA400RC	M12 × 35
	SA600RC EA600C SA800RC EA800C	M12 × 40



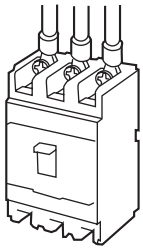


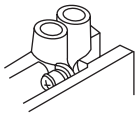
Flat terminal

Self lifting screw	Breaker type	Size
Pan-head screw 	SA100C SA100RC	M8 × 14
Hexagonal socket head bolt 	SA225C EA225C SA225RC	M8 × 16

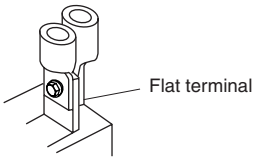
Type of connection/up to 225AF
Front mounting front connection

Direct connection





Flat terminal connection
Flat terminals are required.



1-hole type

Flat bar studs/1-hole type

Breaker type	Pole	Type of flat terminal
SA30C, SA50C, SA50RC EA30AC, EA50AC, EA50C	2 3	**BZ6S10C502** **BZ6S10C503**
SA60C, SA60RC EA60C, EA100C*	2 3	**BZ6S10C1002** **BZ6S10C1003**
SA100C, SA100RC	2 3	**BZ-S35B-1002** **BZ-S35B-1003**
SA225C, SA225RC EA225C	2 3	**BZ-S50B-2252** **BZ-S50B-2253**

* EA100C breaker of rated current 50A: BZ6S10C502 or 503.

Wire size and terminal

■ Wire size and crimp terminal

The following is the size recommendations for crimp terminals.

Crimp terminal
R : JIS C2805
CB : JEM-1399
JST : Product of Japan Crimp Terminal Co., Ltd.
F : FUJI special crimp terminal

Ampere frame	Breaker	Wire size(mm^2)										
		1.04 | 2.63	2.63 | 6.64	6.64 | 10.52	10.52 | 16.78	16.78 | 26.66	26.66 | 42.42	42.42 | 60.57	96.3 | 117.2	117.2 | 152.05	192.6 | 242.27	242.27 | 325
30	EA30AC SA30C	R2-5	R5.5-5	R8-5	R14-5							
50	SA50C, SA50RC EA50AC, EA50C LA50B	R2-5	R5.5-5	R8-5	R14-5							
	H50BA	R2-8	R5.5-8	R8-8	R14-8	JST22-S8						
60	SA60C, SA60RC EA60C	R2-8	R5.5-8	R8-8	R14-8	JST22-S8						
100	SA100C, SA100RC H100BA, H100R	R2-8	R5.5-8	R8-8	R14-8	R22-8	JST38-S8	CB60-8				
	EA100AC EA100C	R2-8	R5.5-8	R8-8	R14-8	JST22-S8	JST38-S8	F60-8				
225	EA225C SA225C, SA225RC H225BA, H225R				R14-8	R22-8	R38-8	R60-8	CB100-8	CB150		
400	SA400C, SA400RC EA400C H400B, H400R						R38-12	R60-12	R100-12	R150-12	R200-12	JST325-12 *1
600	SA600RC EA600C H600B, H600R								R100-12	R150-12	R200-12	JST325-12
800	SA800RC EA800C H800B, H800R								R100-12	R150-12	R200-12	JST325-12
1000 1200	SA1000E SA1200E								R100-12	R150-12	R200-12	JST325-12
1600	SA1600E								R100-12	R150-12	R200-12	JST325-12

Note: For solid-state trip types, same as the standard types.
*1 When this crimp terminal is used, the terminal cover cannot be mounted.

Block terminal connection (For UL Listed)

MCCB type	Rated current (A)	Connectable wire size	Tightening torque (N•m)	Type of screw head and size (mm)
SA100CUL SA100RCUL	15	14AWG	5.8 (5.8 to 6.4)	Slotted head screw
	20	12AWG		
	30	10AWG		
	40	8AWG		
	45	8AWG		
	50	8AWG		
	60	6AWG		
	75	4AWG		
	100	3AWG		
SA225CUL SA225RCUL	125	1AWG	23 (23 to 25.3)	Hexagonal socket head bolt 6.35mm (1/4 inch)
	150	1/0AWG		
	175	2/0AWG		
	200	3/0AWG		
	225	4/0AWG		
SA400CUL SA400RCUL	250	250kcmil	43.5 (43.5 to 48)	Hexagonal socket head bolt 9.53mm (3/8 inch)
	300	350kcmil		
	350	500kcmil		
	400	3/0AWG x2	31.9 (31.9 to 35.1)	Hexagonal socket head bolt 8mm (5/16 inch)
SA600RCUL	500	250-500kcmil x2	31.07 (31.07 to 34.2)	
	600	250-500kcmil x2		
SA800RCUL	700	250-500kcmil x2	31.07 (31.07 to 34.2)	
	800	3/0AWG-300kcmil x3		

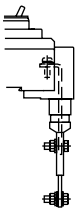
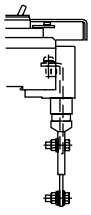
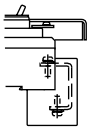
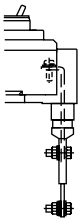
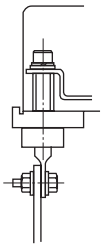
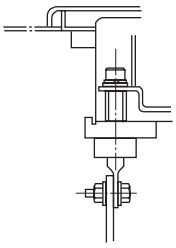
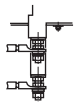
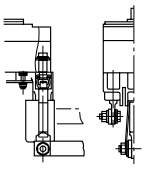
Notes: • AWG is abbreviation of "American Wire Gauge" and the UL approved wire unit.
• The allowable temperature of wire is 75°C. (UL CSA approved)

Crimp terminal connection (For UL Listed)

MCCB type	Rated current (A)	Applicable crimp terminal								Connectable wire size (AWG)		Tightening torque (N•m)	Type of screw head and size (mm)
		J.S.T. Mfg. Co., Ltd		Aikoku Kogyo K.K.		Nichifu Co., Ltd.		Daido Solderless Terminal Mfg. Co., Ltd.					
		60°C wire	75°C wire	60°C wire	75°C wire	60°C wire	75°C wire	60°C wire	75°C wire	60°C wire	75°C wire		
SA50RCUL	3		R2-5		R2-5						14AWG	2.3-2.8	Cross-recessed pan-head screw M5 x 14
	5												
	10												
	15												
	20		R5.5-5		R5.5-5						12AWG		
	30										10AWG		
	40		R8-5		R8-5						8AWG		
	50												
EA100CUL	60		R14-8		R14-8						6AWG	5.5-7.5	Cross-recessed pan-head screw M8 x 14
	75		22-S8		22-8						4AWG		
	100		38-S8		38-8S						3AWG		
SA100CUL SA100RCUL	30	R5.5-8	R5.5-8	R5.5-8	R5.5-8	R5.5-8	R5.5-8	R5.5-8	R5.5-8	10AWG	10AWG	5.8 (5.3-6.4)	Cross-recessed pan-head screw M8 x 14
	40	R8-8	R8-8	R8-8	R8-8	R8-8	R8-8	R8-8	R8-8	8AWG	8AWG		
	45	R14-8	R14-8	R14-8	R14-8	R14-8	R14-8	R14-8	R14-8	6AWG	6AWG		
	50												
	60	22-S8		22-8		22-8S		22-8S		4AWG			
	70		22-S8		22-8		22-8S		22-8S		4AWG		
	75							38-8S		3AWG			
	80												
	90	38-S8	38-S8	38-8S	38-8S	38-8S	38-8S		38-8S	2AWG	3AWG		
	100									1AWG			
SA225CUL SA225RCUL	125		38-S8		38-8S		R38-8S		38-8S		1AWG	10.5 (8-13)	Hexagonal socket head bolt M8 x 16
	150		R60-8		R60-8		R60-8		60-8		1/0AWG		
	175		70-8				R70-8		70-8		2/0AWG		
	200		CB80-S8						CB80-S8		3/0AWG		
	225		CB100-S8						CB100-S8		4/0AWG		

Notes: • AWG is abbreviation of "American Wire Gauge" and the UL approved wire unit.
• The allowable temperature of wire is 75°C. (UL CSA approved)

■ Breaker termination

MCCB type	Front connection	Rear connection **X**	Flush mounting **E**	**Y**	Plug-in mounting **P**
SA30AC, SA50C, SA50RC EA30AC, EA50C, EA50AC	Self-lifiting terminal				
SA60C, SA60RC EA60C, EA100C, EA100AC	Flat terminal				
SA100C, SA100RC				—	
SA225C, SA225RC EA225C	Flat terminal				 90° rotational stud
SA400C, SA400RC SA600RC, SA800RC EA400C, EA600C, EA800C	Flat terminal				

Type number nomenclature

■ Type number nomenclature

● IEC and CE marking conformed / Up to 800AF

SA 5 3 C M / 50 X Q2 M1 - CE (CCC)

Series
SA: S series
EA: E series

Frame size
3: 30AF
5: 50AF
6: 60AF
10: 100AF
20: 225AF
40: 400AF
60: 600AF
80: 800AF

No. of poles
2: 2-pole
3: 3-pole

Operating characteristic
Blank: Line protection
M: Motor protection

Instantaneous trip, non-automatic trip types and transformer primary circuit use are also available, contact FUJI.

Standard
CE: IEC and CE marking conformed
(CCC): CCC approved

Operation
Blank: Manual operation
With motor operating device
M1: 100V AC MN: 48V DC
M2: 110V AC MK: 100V DC
M4: 200V AC
M5: 220V AC

Handle padlocking device
O1: Cap type
Q2: Plate type

Mounting and connection
Blank: Front mounting front connection
X: Front mounting rear connection
E: Flush mounting rear connection
Y: Flush mounting top & bottom connection
P: Plug-in mounting

Rated current
See page 06/45

■ Ordering information

Specify the following:
1. Type number of MCCB including factory-mounted optional accessories
2. Type number of customer-mountable optional accessories

■ Customer-mountable optional accessories/Sold separately

Internal accessories
Auxiliary switch, alarm switch, shunt trip device, undervoltage trip device (except for SA100, SA225, EA225), terminal block

External accessories
Operating handles (N and V-type), terminal covers, insulation barrier, steel enclosures, handle locking covers, kits for mounting modification, flat terminal, mechanical interlock device

■ Factory-mounted accessories

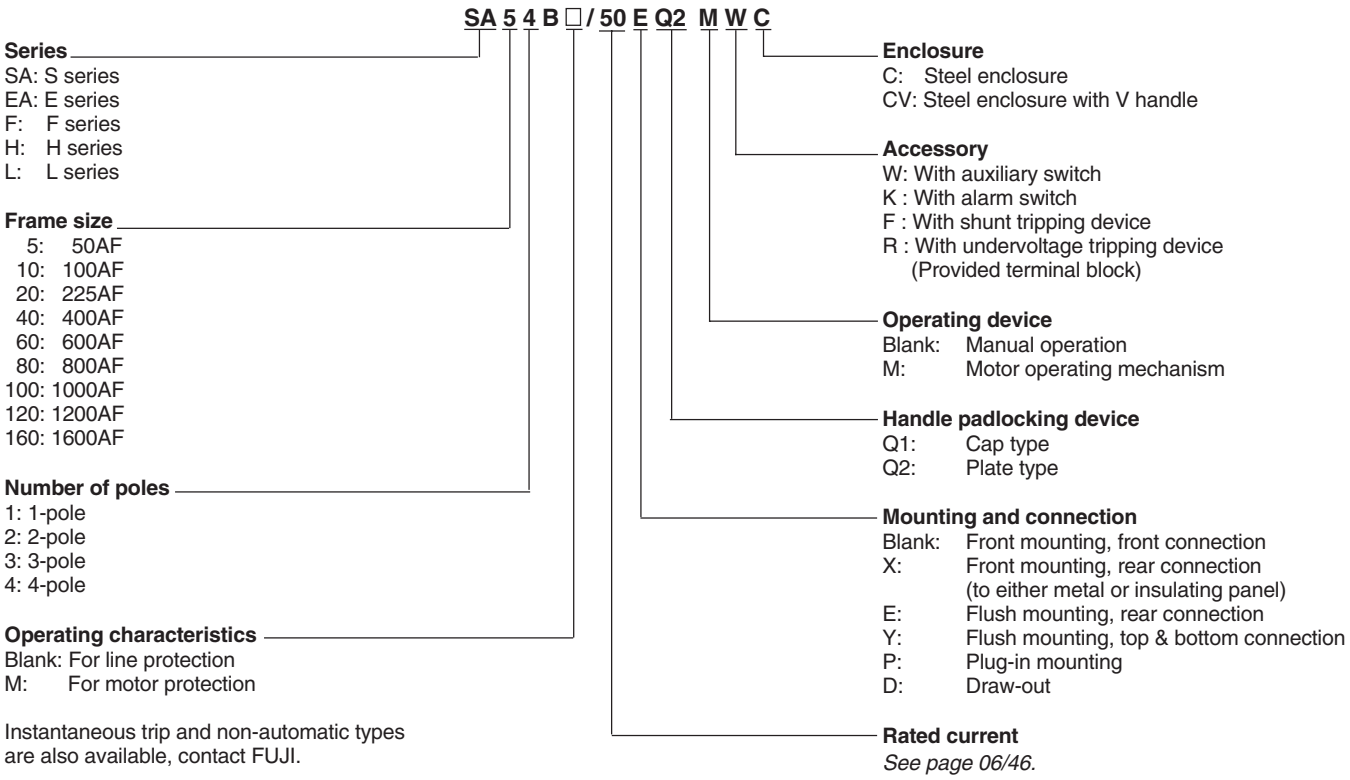
External accessories
Handle padlocking devices/Q1 and Q2, motor-operating mechanism/M, under voltage trip device for SA100, SA225 and EA225 only

Further information: See page 06/88.

• Example

S series	SA
3-pole, 660V, 100A Frame	103C
Rated current 75A	75
Front moumting, front connection	Blank
IEC and CE marking conformed	CE
Complete type number	**SA103C/75-CE**

■ Type number nomenclature



■ Ordering information

Specify the following:
1. Type number
2. Optional accessories
   Lead wire or terminal block connection
3. When ordering MCCB with shunt tripping device, undervoltage tripping device or motor operating mechanism, specify rated voltage and frequency.
4. Handle type if required

Type number nomenclature

■ Type number nomenclature

● UL489 Listed

SA 10 3 CUL / 75 L Q W K F TB

Series
SA: S series
EA: E series

Frame size
5: 50AF
10: 100AF
20: 225AF
40: 400AF
60: 600AF
80: 800AF

Number of poles
2: 2-pole
3: 3-pole

Terminal cover
Blank: Short
TB: Long

Tripping device
F: Shunt trip
R: Undervoltage trip

Alarm switch
K: Standard 1x SPDT
K2: Standard 2x SPDT
KD: For low level circuit 1x SPDT
KD2: For low level circuit 2x SPDT

Auxiliary switch
W: Standard 1x SPDT
W2: Standard 2x SPDT
WD: For low level circuit 1x SPDT
WD2: For low level circuit 2x SPDT

Padlocking device
Q1: Cap type padlocking device

Terminal combination
See table below.

Rated current
See page 06/51.

■ Terminal combination

Code	Terminal position		Applicable breaker type				
	Line	Load	SA50RCUL EA100CUL	SA100CUL SA100RCUL SA225CUL SA225RCUL	SA400CUL SA400RCUL	SA600RCUL SA800RCUL/700	SA800RCUL/800
Blank	Screw	Screw	●	●	–	–	–
L	Block terminal	Block terminal	–	●	●	●	●
L1	Flat terminal	Flat terminal	●	●	●	●	–
L3	Screw	Flat terminal	●	●	–	–	–
L4	Flat terminal	Screw	●	●	–	–	–
L5	Screw	Block terminal	–	●	–	–	–
L6	Block terminal	Screw	–	●	–	–	–
L7	Flat terminal	Block terminal	–	●	●	●	–
L8	Block terminal	Flat terminal	–	●	●	●	–

● Available – Not available

● **S series, 2-pole IEC and CE marking conformed**

Breaker ampere frame	Rated current (A)	Type	□ : Available mounting and connection
30	3 5 10 15 20 30	**SA32C/3□-CE** **SA32C/5□-CE** **SA32C/10□-CE** **SA32C/15□-CE** **SA32C/20□-CE** **SA32C/30□-CE**	Blank, X, E, Y, P
50	5 10 15 20 30 40 50	**SA52C/5□-CE** **SA52C/10□-CE** **SA52C/15□-CE** **SA52C/20□-CE** **SA52C/30□-CE** **SA52C/40□-CE** **SA52C/50□-CE**	Blank, X, E, Y, P
	10 15 20 30 40 50	**SA52RC/10□-CE** **SA52RC/15□-CE** **SA52RC/20□-CE** **SA52RC/30□-CE** **SA52RC/40□-CE** **SA52RC/50□-CE**	Blank, X, E, Y, P
60	60	**SA62C/60□-CE**	Blank, X, E, Y, P
		SA62RC/60□-CE	Blank, X, E, Y, P
100	15 20 30 40 50 60 75 100	**SA102C/15□-CE** **SA102C/20□-CE** **SA102C/30□-CE** **SA102C/40□-CE** **SA102C/50□-CE** **SA102C/60□-CE** **SA102C/75□-CE** **SA102C/100□-CE**	Blank, X, E, P
	15 20 30 40 50 60 75 100	**SA102RC/15□-CE** **SA102RC/20□-CE** **SA102RC/30□-CE** **SA102RC/40□-CE** **SA102RC/50□-CE** **SA102RC/60□-CE** **SA102RC/75□-CE** **SA102RC/100□-CE**	Blank, X, E, P
225	125 150 175 200 225	**SA202C/125□-CE** **SA202C/150□-CE** **SA202C/175□-CE** **SA202C/200□-CE** **SA202C/225□-CE**	Blank, X, E, P
	125 150 175 200 225	**SA202RC/125□-CE** **SA202RC/150□-CE** **SA202RC/175□-CE** **SA202RC/200□-CE** **SA202RC/225□-CE**	Blank, X, E, P
400	250 300 350 400	**SA402C/250□-CE** **SA402C/300□-CE** **SA402C/350□-CE** **SA402C/400□-CE**	Blank, X, E, P
	250 300 350 400	**SA402RC/250□-CE** **SA402RC/300□-CE** **SA402RC/350□-CE** **SA402RC/400□-CE**	Blank, X, E, P

Mounting	Connection	□
Front	Front	Blank
Front	Rear	X
Flush	Rear	E
Flush	Top and bottom	Y
Plug-in		P
Draw-out		D

● **S series, 3-pole IEC and CE marking conformed**

Breaker ampere frame	Rated current (A)	Type	□ : Available mounting and connection
30	3 5 10 15 20 30	**SA33C/3□-CE** **SA33C/5□-CE** **SA33C/10□-CE** **SA33C/15□-CE** **SA33C/20□-CE** **SA33C/30□-CE**	Blank, X, E, Y, P
50	5 10 15 20 30 40 50	**SA53C/5□-CE** **SA53C/10□-CE** **SA53C/15□-CE** **SA53C/20□-CE** **SA53C/30□-CE** **SA53C/40□-CE** **SA53C/50□-CE**	Blank, X, E, Y, P
	10 15 20 30 40 50	**SA53RC/10□-CE** **SA53RC/15□-CE** **SA53RC/20□-CE** **SA53RC/30□-CE** **SA53RC/40□-CE** **SA53RC/50□-CE**	Blank, X, E, Y, P
60	60	**SA63C/60□-CE**	Blank, X, E, Y, P
		SA63RC/60□-CE	Blank, X, E, Y, P
100	15 20 30 40 50 60 75 100	**SA103C/15□-CE** **SA103C/20□-CE** **SA103C/30□-CE** **SA103C/40□-CE** **SA103C/50□-CE** **SA103C/60□-CE** **SA103C/75□-CE** **SA103C/100□-CE**	Blank, X, E, P
	15 20 30 40 50 60 75 100	**SA103RC/15□-CE** **SA103RC/20□-CE** **SA103RC/30□-CE** **SA103RC/40□-CE** **SA103RC/50□-CE** **SA103RC/60□-CE** **SA103RC/75□-CE** **SA103RC/100□-CE**	Blank, X, E, P
225	125 150 175 200 225	**SA203C/125□-CE** **SA203C/150□-CE** **SA203C/175□-CE** **SA203C/200□-CE** **SA203C/225□-CE**	Blank, X, E, P
	125 150 175 200 225	**SA203RC/125□-CE** **SA203RC/150□-CE** **SA203RC/175□-CE** **SA203RC/200□-CE** **SA203RC/225□-CE**	Blank, X, E, P
400	250 300 350 400	**SA403C/250□-CE** **SA403C/300□-CE** **SA403C/350□-CE** **SA403C/400□-CE**	Blank, X, E, P
	250 300 350 400	**SA403RC/250□-CE** **SA403RC/300□-CE** **SA403RC/350□-CE** **SA403RC/400□-CE**	Blank, X, E, P
600	500 600	**SA603RC/500□-CE** **SA603RC/600□-CE**	Blank, X, E, P, D
800	700 800	**SA803RC/700□-CE** **SA803RC/800□-CE**	Blank, X, E, P, D

06

Type number
Line protection

● **S series, 4-pole**

Breaker ampere frame	Rated current (A)	Type	□ : Available mounting and connection
50	5	**SA54B/5□**	Blank, X, E, Y
	10	**SA54B/10□**	Blank, X, E, Y
	15	**SA54B/15□**	Blank, X, E, Y
	20	**SA54B/20□**	Blank, X, E, Y
	30	**SA54B/30□**	Blank, X, E, Y
	40	**SA54B/40□**	Blank, X, E, Y
	50	**SA54B/50□**	Blank, X, E, Y
100	15	**SA104R/15□**	Blank, X, E
	20	**SA104R/20□**	Blank, X, E
	30	**SA104R/30□**	Blank, X, E
	40	**SA104R/40□**	Blank, X, E
	50	**SA104R/50□**	Blank, X, E
	60	**SA104R/60□**	Blank, X, E
	75	**SA104R/75□**	Blank, X, E
	100	**SA104R/100□**	Blank, X, E
225	125	**SA204R/125□**	Blank, X, E
	150	**SA204R/150□**	Blank, X, E
	175	**SA204R/175□**	Blank, X, E
	200	**SA204R/200□**	Blank, X, E
	225	**SA204R/225□**	Blank, X, E
400	250	**SA404HA/250□**	Blank, X, E
	300	**SA404HA/300□**	Blank, X, E
	350	**SA404HA/350□**	Blank, X, E
	400	**SA404HA/400□**	Blank, X, E
600	500	**SA604H/500□**	Blank, X, E
	600	**SA604H/600□**	Blank, X, E
800	700	**SA804H/700□**	Blank, X, E
	800	**SA804H/800□**	Blank, X, E
1000	500 to 1000	**SA1004/1000E□**	Blank, X, E
1200	600 to 1200	**SA1204/1200E□**	Blank, X, E
1600	800 to 1600	**SA1604E/1600□**	Blank, X, E

● **E series, 2-pole IEC and CE marking conformed**

Breaker ampere frame	Rated current (A)	Type	□ : Available mounting and connection
30	3	**EA32AC/3□-CE**	Blank, X, E, Y, P
	5	**EA32AC/5□-CE**	
	10	**EA32AC/10□-CE**	
	15	**EA32AC/15□-CE**	
	20	**EA32AC/20□-CE**	
	30	**EA32AC/30□-CE**	
50	5	**EA52AC/5□-CE**	Blank, X, E, Y, P
	10	**EA52AC/10□-CE**	
	15	**EA52AC/15□-CE**	
	20	**EA52AC/20□-CE**	
	30	**EA52AC/30□-CE**	
	40	**EA52AC/40□-CE**	
	50	**EA52AC/50□-CE**	
	5	**EA52C/5□-CE**	Blank, X, E, Y, P
	10	**EA52C/10□-CE**	
	15	**EA52C/15□-CE**	
	20	**EA52C/20□-CE**	
	30	**EA52C/30□-CE**	
	40	**EA52C/40□-CE**	
	50	**EA52C/50□-CE**	
60	60	**EA62C/60□-CE**	Blank, X, E, Y, P
100	50	**EA102C/50□-CE**	Blank, X, E, Y, P
	60	**EA102C/60□-CE**	
	75	**EA102C/75□-CE**	
	100	**EA102C/100□-CE**	
225	125	**EA202C/125□-CE**	Blank, X, E, P
	150	**EA202C/150□-CE**	
	175	**EA202C/175□-CE**	
	200	**EA202C/200□-CE**	
	225	**EA202C/225□-CE**	
400	250	**EA402C/250□-CE**	Blank, X, E, P
	300	**EA402C/300□-CE**	
	350	**EA402C/350□-CE**	
	400	**EA402C/400□-CE**	

● **E series, 3-pole IEC and CE marking conformed**

Breaker ampere frame	Rated current (A)	Type	□ : Available mounting and connection
30	3 5 10 15 20 30	**EA33AC/3□-CE** **EA33AC/5□-CE** **EA33AC/10□-CE** **EA33AC/15□-CE** **EA33AC/20□-CE** **EA33AC/30□-CE**	Blank, X, E, Y, P
50	5 10 15 20 30 40 50	**EA53AC/5□-CE** **EA53AC/10□-CE** **EA53AC/15□-CE** **EA53AC/20□-CE** **EA53AC/30□-CE** **EA53AC/40□-CE** **EA53AC/50□-CE**	Blank, X, E, Y, P
	5 10 15 20 30 40 50	**EA53C/5□-CE** **EA53C/10□-CE** **EA53C/15□-CE** **EA53C/20□-CE** **EA53C/30□-CE** **EA53C/40□-CE** **EA53C/50□-CE**	Blank, X, E, Y, P
60	60	**EA63C/60□-CE**	Blank, X, E, Y, P
100	60 75 100	**EA103AC/60-CE** **EA103AC/75-CE** **EA103AC/100-CE**	Blank, X, E, Y, P
	50 60 75 100	**EA103C/50□-CE** **EA103C/60□-CE** **EA103C/75□-CE** **EA103C/100□-CE**	Blank, X, E, Y, P
225	125 150 175 200 225	**EA203C/125□-CE** **EA203C/150□-CE** **EA203C/175□-CE** **EA203C/200□-CE** **EA203C/225□-CE**	Blank, X, E, P
400	250 300 350 400	**EA403C/250□-CE** **EA403C/300□-CE** **EA403C/350□-CE** **EA403C/400□-CE**	Blank, X, E, P
600	500 600	**EA603C/500□-CE** **EA603C/600□-CE**	Blank, X, E, P, D
800	700 800	**EA803C/700□-CE** **EA803C/800□-CE**	Blank, X, E, P, D

● **E series, 4-pole**

Breaker ampere frame	Rated current (A)	Type	□ : Available mounting and connection
100	50 60 75 100	**EA104B/50□** **EA104B/60□** **EA104B/75□** **EA104B/100□**	Blank, X, E, Y

06

Type number
Line protection

● **H series, 2-pole**

Breaker ampere frame	Rated current (A)	Type	☐ : Available mounting and connection
50	15	**H52BA/15☐**	Blank, X, E, P
	20	**H52BA/20☐**	
	30	**H52BA/30☐**	
	40	**H52BA/40☐**	
	50	**H52BA/50☐**	
100	15	**H102BA/15☐**	Blank, X, E, P
	20	**H102BA/20☐**	
	30	**H102BA/30☐**	
	40	**H102BA/40☐**	
	50	**H102BA/50☐**	
	60	**H102BA/60☐**	
	75	**H102BA/75☐**	
	100	**H102BA/100☐**	
225	125	**H202BA/125☐**	Blank, X, E, P
	150	**H202BA/150☐**	
	175	**H202BA/175☐**	
	200	**H202BA/200☐**	
	225	**H202BA/225☐**	
400	250	**H402B/250☐**	Blank, X, E, P
	300	**H402B/300☐**	
	350	**H402B/350☐**	
	400	**H402B/400☐**	

● **L and H series, 3-pole**

Breaker ampere frame	Rated current (A)	Type	☐ : Available mounting and connection
50	5	**LA53B/5**	Blank
	10	**LA53B/10**	
50	15	**H53BA/15☐**	Blank, X, E, P
	20	**H53BA/20☐**	
	30	**H53BA/30☐**	
	40	**H53BA/40☐**	
	50	**H53BA/50☐**	
100	15	**H103BA/15☐**	Blank, X, E, P
	20	**H103BA/20☐**	
	30	**H103BA/30☐**	
	40	**H103BA/40☐**	
	50	**H103BA/50☐**	
	60	**H103BA/60☐**	
	75	**H103BA/75☐**	
	100	**H103BA/100☐**	
	40	**H103R/40☐**	Blank, X, E, P
	50	**H103R/50☐**	
	60	**H103R/60☐**	
	75	**H103R/75☐**	
	100	**H103R/100☐**	
225	125	**H203BA/125☐**	Blank, X, E, P
	150	**H203BA/150☐**	
	175	**H203BA/175☐**	
	200	**H203BA/200☐**	
	225	**H203BA/225☐**	
	125	**H203R/125☐**	Blank, X, E, P
	150	**H203R/150☐**	
	175	**H203R/175☐**	
	200	**H203R/200☐**	
	225	**H203R/225☐**	
400	250	**H403B/250☐**	Blank, X, E, P
	300	**H403B/300☐**	
	350	**H403B/350☐**	
	400	**H403B/400☐**	
	250	**H403R/250☐**	Blank, X, E, P
	300	**H403R/300☐**	
	350	**H403R/350☐**	
	400	**H403R/400☐**	
600	500	**H603B/500☐**	Blank, X, E, P, D
	600	**H603B/600☐**	
	500	**H603R/500☐**	Blank, X, E, P, D
	600	**H603R/600☐**	
800	700	**H803B/700☐**	Blank, X, E, P, D
	800	**H803B/800☐**	
	700	**H803R/700☐**	Blank, X, E, P, D
	800	**H803R/800☐**	

■ S series, 2-pole IEC and CE marking conformed

Breaker ampere frame	Motor capacity (kW) 100V	200V	Rated current (A)	Type	□ :Available mounting and connection
30	—	—	2	**SA32CM/2□-CE**	Blank, X, E, Y, P
	—	—	4	**SA32CM/4□-CE**	Blank, X, E, Y, P
	0.1	0.4	5	**SA32CM/5□-CE**	Blank, X, E, Y, P
	0.2	0.75	8	**SA32CM/8□-CE**	Blank, X, E, Y, P
	0.4	—	10	**SA32CM/10□-CE**	Blank, X, E, Y, P
	0.75	—	16	**SA32CM/16□-CE**	Blank, X, E, Y, P

■ S series, 3-pole IEC and CE marking conformed

Breaker ampere frame	Motor capacity (kW) 200 /220V	400 /440V	Rated current (A)	Type	□ : Available mounting and connection
30	—	0.2	0.7	**SA33CM/0.7□-CE**	Blank, X, E, Y, P
	0.2	0.4	1.4	**SA33CM/1.4□-CE**	
	—	0.75	2	**SA33CM/2□-CE**	
	0.4	—	2.6	**SA33CM/2.6□-CE**	
	0.75	1.5	4	**SA33CM/4□-CE**	
	—	2.2	5	**SA33CM/5□-CE**	
	1.5	3.7	8	**SA33CM/8□-CE**	
	2.2	—	10	**SA33CM/10□-CE**	
	—	5.5	12	**SA33CM/12□-CE**	
	3.7	7.5	16	**SA33CM/16□-CE**	
	5.5	11	24	**SA33CM/24□-CE**	
	7.5	15	32	**SA33CM/32□-CE**	
50	—	0.2	0.7	**SA53CM/0.7□-CE**	Blank, X, E, Y, P
	0.2	0.4	1.4	**SA53CM/1.4□-CE**	
	—	0.75	2	**SA53CM/2□-CE**	
	0.4	—	2.6	**SA53CM/2.6□-CE**	
	0.75	1.5	4	**SA53CM/4□-CE**	
	—	2.2	5	**SA53CM/5□-CE**	
	1.5	3.7	8	**SA53CM/8□-CE**	
	2.2	—	10	**SA53CM/10□-CE**	
	—	5.5	12	**SA53CM/12□-CE**	
	3.7	7.5	16	**SA53CM/16□-CE**	
	5.5	11	24	**SA53CM/24□-CE**	
	7.5	15	32	**SA53CM/32□-CE**	
	—	18.5	40	**SA53CM/40□-CE**	
	11	22	45	**SA53CM/45□-CE**	
	2.2	—	10	**SA53RCM/10□-CE**	Blank, X, E, Y, P
	—	5.5	12	**SA53RCM/12□-CE**	
	3.7	7.5	16	**SA53RCM/16□-CE**	
	5.5	11	24	**SA53RCM/24□-CE**	
	7.5	15	32	**SA53RCM/32□-CE**	
	—	18.5	40	**SA53RCM/40□-CE**	
	11	22	45	**SA53RCM/45□-CE**	
60	15	30	60	**SA63CM/60□-CE**	Blank, X, E, Y, P
100	3.7	7.5	16	**SA103CM/16□-CE**	Blank, X, E, P
	5.5	11	24	**SA103CM/24□-CE**	
	7.5	15	32	**SA103CM/32□-CE**	
	—	18.5	40	**SA103CM/40□-CE**	
	11	22	45	**SA103CM/45□-CE**	
	15	30	60	**SA103CM/60□-CE**	
	18.5	37	75	**SA103CM/75□-CE**	
	22	45	90	**SA103CM/90□-CE**	

Type number
Motor protection

■ S series, 3-pole IEC and CE marking conformed

Breaker ampere frame	Motor capacity (kW) 200/220V	400/440V	Rated current (A)	Type	□ : Available mounting and connection
100	3.7	7.5	16	**SA103RCM/16□-CE**	Blank, X, E, P
	5.5	11	24	**SA103RCM/24□-CE**	
	7.5	15	32	**SA103RCM/32□-CE**	
	—	18.5	40	**SA103RCM/40□-CE**	
	11	22	45	**SA103RCM/45□-CE**	
	15	30	60	**SA103RCM/60□-CE**	
	18.5	37	75	**SA103RCM/75□-CE**	
	22	45	90	**SA103RCM/90□-CE**	
225	30	55	125	**SA203CM/125□-CE**	Blank, X, E, P
	37	75	150	**SA203CM/150□-CE**	
	45	90	175	**SA203CM/175□-CE**	
	—	—	200	**SA203CM/200□-CE**	
	55	110	225	**SA203CM/225□-CE**	
	30	55	125	**SA203RCM/125□-CE**	Blank, X, E, P
	37	75	150	**SA203RCM/150□-CE**	
	45	90	175	**SA203RCM/175□-CE**	
	—	—	200	**SA203RCM/200□-CE**	
	55	110	225	**SA203RCM/225□-CE**	

■ E series, 3-pole IEC and CE marking conformed

30	0.2	—	1.4	**EA33ACM/1.4□-CE**	Blank, X, E, Y, P
	0.4	—	2.6	**EA33ACM/2.6□-CE**	
	0.75	—	4	**EA33ACM/4□-CE**	
	1.5	—	8	**EA33ACM/8□-CE**	
	2.2	—	10	**EA33ACM/10□-CE**	
	3.7	—	16	**EA33ACM/16□-CE**	
	5.5	—	24	**EA33ACM/24□-CE**	
	7.5	—	32	**EA33ACM/32□-CE**	
50	5.5	11	24	**EA53CM/24□-CE**	Blank, X, E, Y, P
	7.5	15	32	**EA53CM/32□-CE**	
	—	18.5	40	**EA53CM/40□-CE**	
	11	22	45	**EA53CM/45□-CE**	
60	15	30	60	**EA63CM/60□-CE**	Blank, X, E, Y, P
100	15	30	60	**EA103CM/60□-CE**	Blank, X, E, Y, P
	18.5	37	75	**EA103CM/75□-CE**	
	22	45	90	**EA103CM/90□-CE**	
225	30	55	125	**EA203CM/125□-CE**	Blank, X, E, P
	37	75	150	**EA203CM/150□-CE**	
	45	90	175	**EA203CM/175□-CE**	
	—	—	200	**EA203CM/200□-CE**	
	55	110	225	**EA203CM/225□-CE**	

■ L and H series, 3-pole

50	—	2.2	5	**LA53BM/5**	Blank
	1.5	3.7	8	**LA53BM/8**	
	2.2	—	10	**LA53BM/10**	
	—	5.5	12	**LA53BM/12**	
50	3.7	7.5	16	**H53BAM/16□**	Blank, X, E, P
	5.5	11	24	**H53BAM/24□**	
	7.5	15	32	**H53BAM/32□**	
	—	18.5	40	**H53BAM/40□**	
	11	22	45	**H53BAM/45□**	

■ UL489 Listed

● S and E series, 2-pole

Breaker ampere frame	Rated current (A)	Type	□ : Available terminal combination
50	3	**SA52RCUL/3□**	Blank, L1, L3, L4
	5	**SA52RCUL/5□**	
	10	**SA52RCUL/10□**	
	15	**SA52RCUL/15□**	
	20	**SA52RCUL/20□**	
	30	**SA52RCUL/30□**	
	40	**SA52RCUL/40□**	
	50	**SA52RCUL/50□**	
100	15	**SA102CUL/15□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	20	**SA102CUL/20□**	
	30	**SA102CUL/30□**	
	40	**SA102CUL/40□**	
	50	**SA102CUL/50□**	
	60	**SA102CUL/60□**	
	70	**SA102CUL/70□**	
	75	**SA102CUL/75□**	
	80	**SA102CUL/80□**	
	90	**SA102CUL/90□**	
	100	**SA102CUL/100□**	
	15	**SA102RCUL/15□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	20	**SA102RCUL/20□**	
	30	**SA102RCUL/30□**	
	40	**SA102RCUL/40□**	
	50	**SA102RCUL/50□**	
	60	**SA102RCUL/60□**	
	70	**SA102RCUL/70□**	
	75	**SA102RCUL/75□**	
	80	**SA102RCUL/80□**	
	90	**SA102RCUL/90□**	
	100	**SA102RCUL/100□**	
225	125	**SA202CUL/125□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	150	**SA202CUL/150□**	
	175	**SA202CUL/175□**	
	200	**SA202CUL/200□**	
	225	**SA202CUL/225□**	
	125	**SA202RCUL/125□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	150	**SA202RCUL/150□**	
	175	**SA202RCUL/175□**	
	200	**SA202RCUL/200□**	
	225	**SA202RCUL/225□**	
400	250	**SA402CUL/250□**	L, L1, L7, L8
	300	**SA402CUL/300□**	
	350	**SA402CUL/350□**	
	400	**SA402CUL/400□**	
	250	**SA402RCUL/250□**	L, L1, L7, L8
	300	**SA402RCUL/300□**	
	350	**SA402RCUL/350□**	
	400	**SA402RCUL/400□**	
100	60	**EA102CUL/60□**	Blank, L1, L3, L4
	70	**EA102CUL/70□**	
	75	**EA102CUL/75□**	
	80	**EA102CUL/80□**	
	90	**EA102CUL/90□**	
	100	**EA102CUL/100□**	

● S and E series, 3-pole

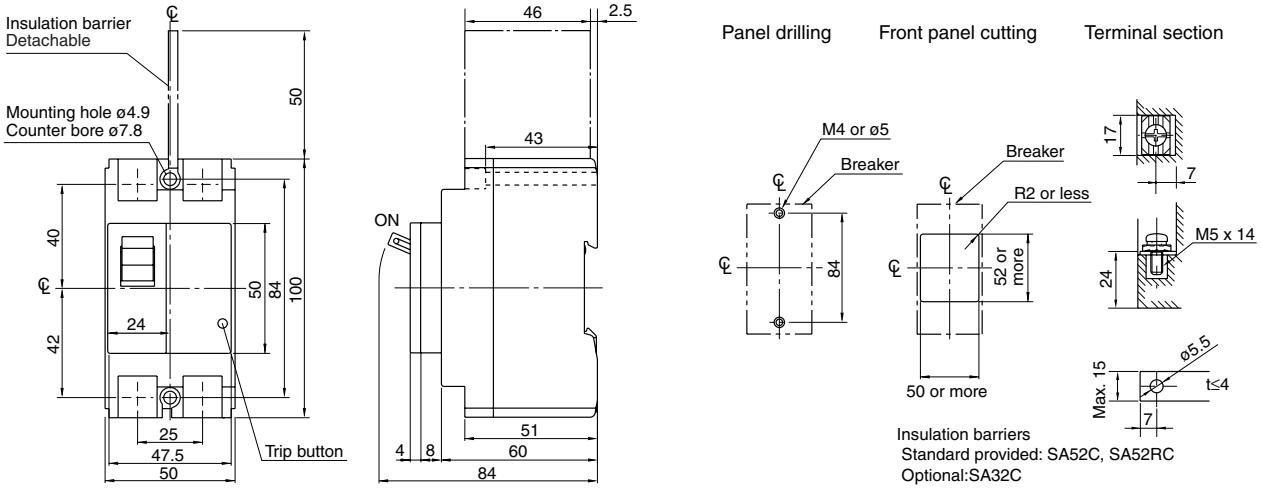
Breaker ampere frame	Rated current (A)	Type	□ : Available terminal combination
50	3	**SA53RCUL/3□**	Blank, L1, L3, L4
	5	**SA53RCUL/5□**	
	10	**SA53RCUL/10□**	
	15	**SA53RCUL/15□**	
	20	**SA53RCUL/20□**	
	30	**SA53RCUL/30□**	
	40	**SA53RCUL/40□**	
	50	**SA53RCUL/50□**	
100	15	**SA103CUL/15□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	20	**SA103CUL/20□**	
	30	**SA103CUL/30□**	
	40	**SA103CUL/40□**	
	50	**SA103CUL/50□**	
	60	**SA103CUL/60□**	
	70	**SA103CUL/70□**	
	75	**SA103CUL/75□**	
	80	**SA103CUL/80□**	
	90	**SA103CUL/90□**	
	100	**SA103CUL/100□**	
	15	**SA103RCUL/15□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	20	**SA103RCUL/20□**	
	30	**SA103RCUL/30□**	
	40	**SA103RCUL/40□**	
	50	**SA103RCUL/50□**	
	60	**SA103RCUL/60□**	
	70	**SA103RCUL/70□**	
	75	**SA103RCUL/75□**	
	80	**SA103RCUL/80□**	
	90	**SA103RCUL/90□**	
	100	**SA103RCUL/100□**	
225	125	**SA203CUL/125□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	150	**SA203CUL/150□**	
	175	**SA203CUL/175□**	
	200	**SA203CUL/200□**	
	225	**SA203CUL/225□**	
	125	**SA203RCUL/125□**	Blank, L, L1, L3, L4, L5, L6, L7, L8
	150	**SA203RCUL/150□**	
	175	**SA203RCUL/175□**	
	200	**SA203RCUL/200□**	
	225	**SA203RCUL/225□**	
400	250	**SA403CUL/250□**	L, L1, L7, L8
	300	**SA403CUL/300□**	
	350	**SA403CUL/350□**	
	400	**SA403CUL/400□**	
	250	**SA403RCUL/250□**	L, L1, L7, L8
	300	**SA403RCUL/300□**	
	350	**SA403RCUL/350□**	
	400	**SA403RCUL/400□**	
600	500	**SA603RCUL/500□**	L, L1, L7, L8
	600	**SA603RCUL/600□**	
800	700	**SA803RCUL/700□**	L, L1, L7, L8
	800	**SA803RCUL/800□**	L
100	60	**EA103CUL/60□**	Blank, L1, L3, L4
	70	**EA103CUL/70□**	
	75	**EA103CUL/75□**	
	80	**EA103CUL/80□**	
	90	**EA103CUL/90□**	
	100	**EA103CUL/100□**	

Dimensions
S series/2, 3-pole

■ Dimensions, mm

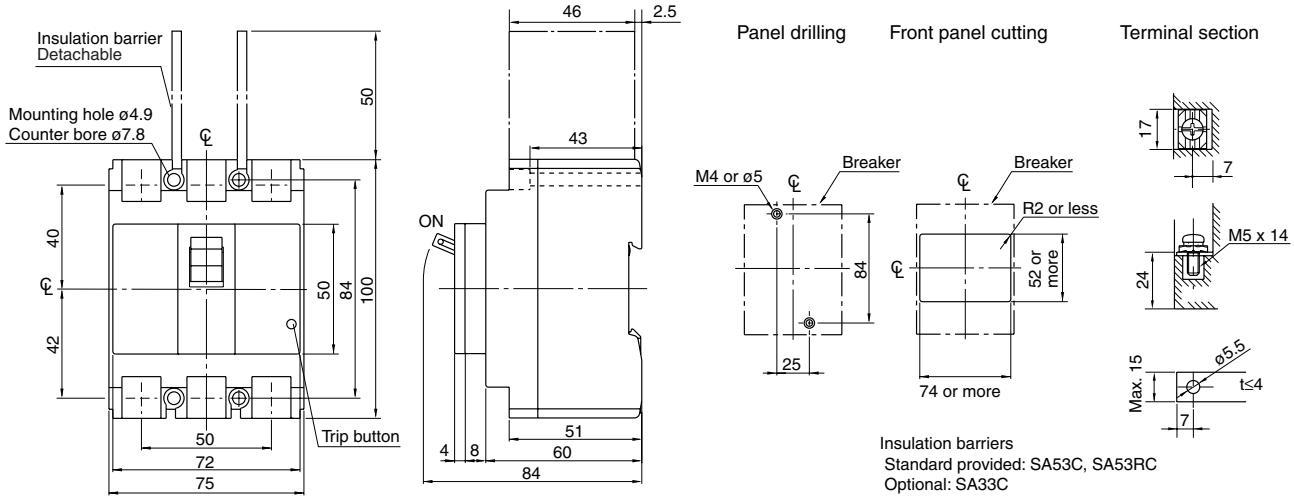
● Front mounting, front connection

SA32C □ -CE, 52C □ -CE, 52RC □ -CE



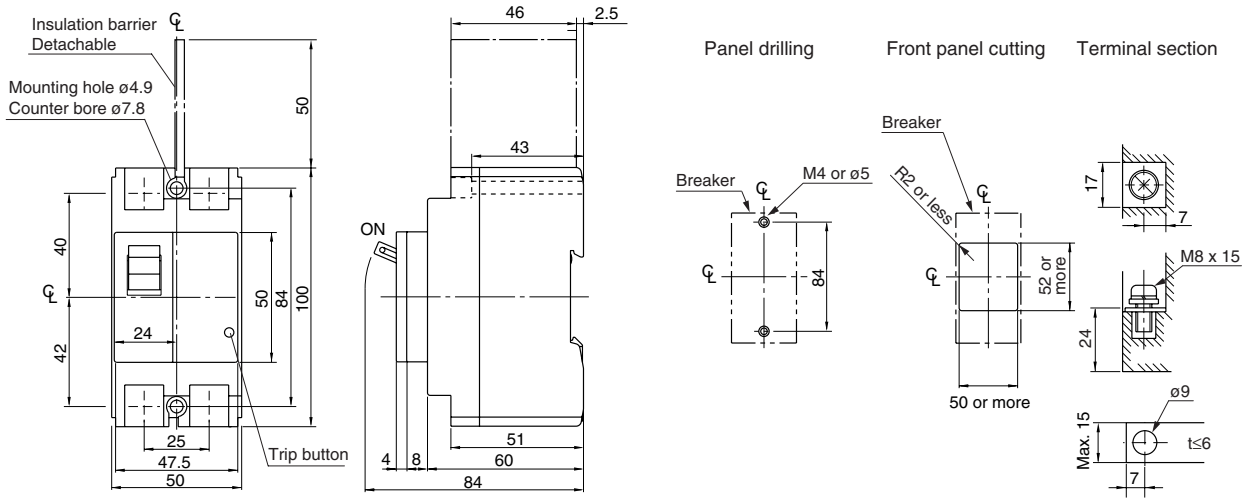
Insulation barriers
Standard provided: SA52C, SA52RC
Optional:SA32C

SA33C □ -CE, 53C □ -CE, 53RC □ -CE



Insulation barriers
Standard provided: SA53C, SA53RC
Optional: SA33C

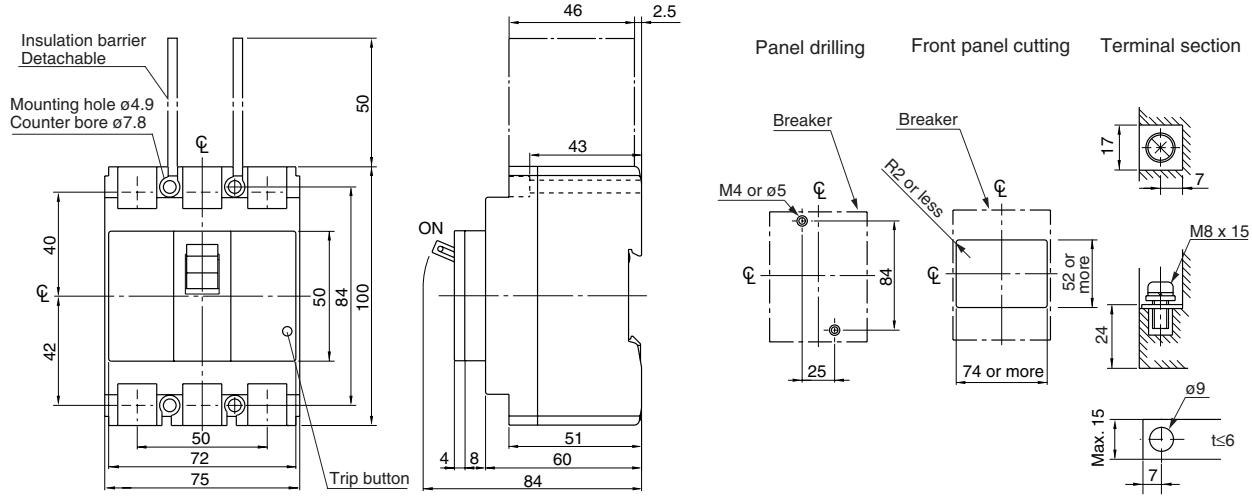
SA62C □ -CE, 62RC □ -CE



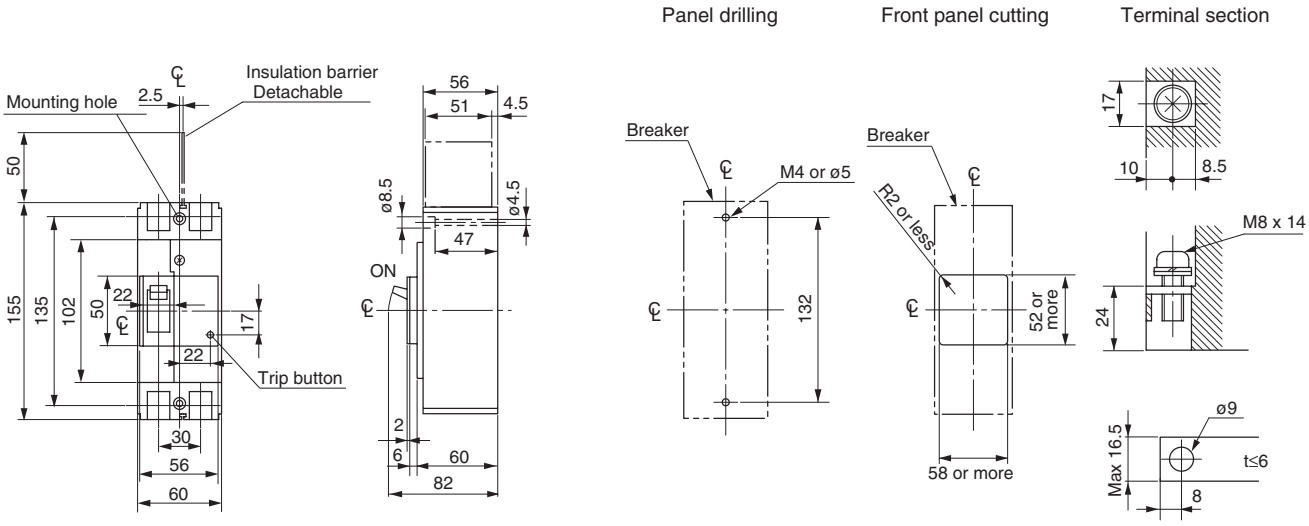
■ Dimensions, mm

● Front mounting, front connection

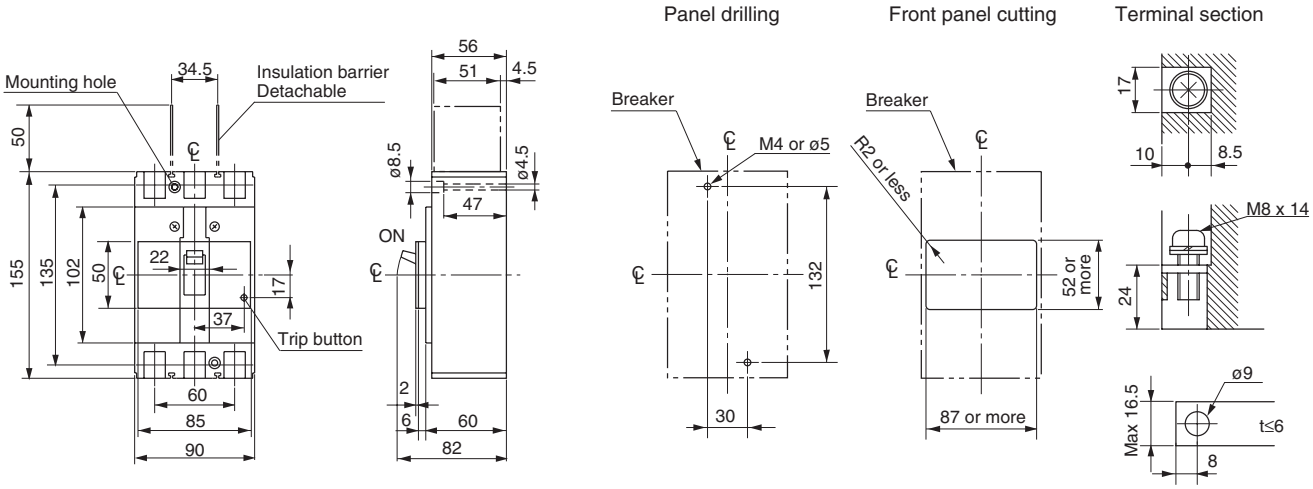
SA63C □ -CE, 63RC □ -CE



SA102C □ -CE



SA103C □ -CE

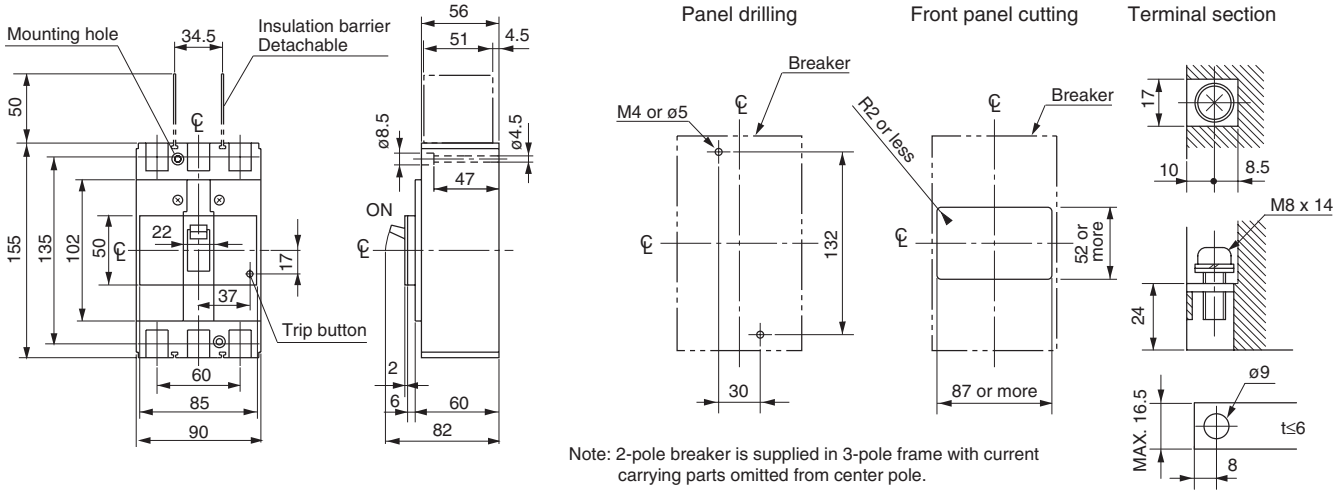


Dimensions
S series/2, 3-pole

■ Dimensions, mm

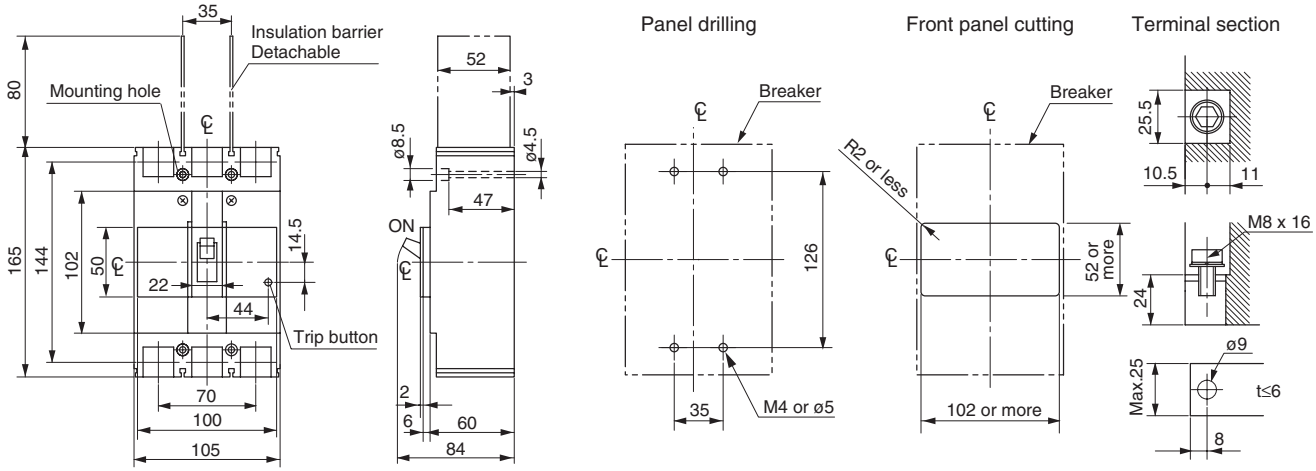
● Front mounting, front connection

SA102RC □ -CE, 103RC □ -CE



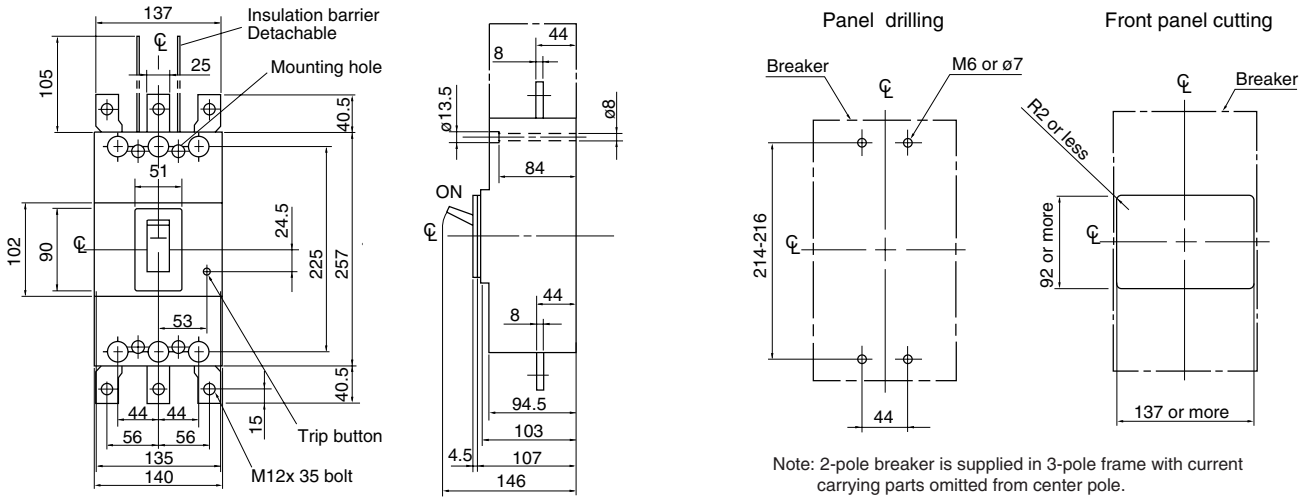
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

SA202C □ -CE, 203C □ -CE, 202RC □ -CE, 203RC □ -CE



Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

SA402C □ -CE, 403C □ -CE, 402RC □ -CE, 403RC □ -CE

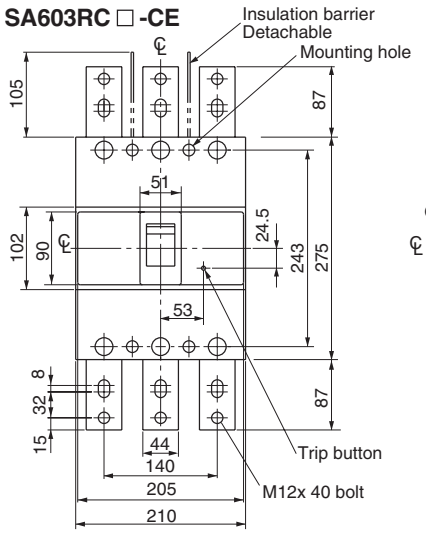


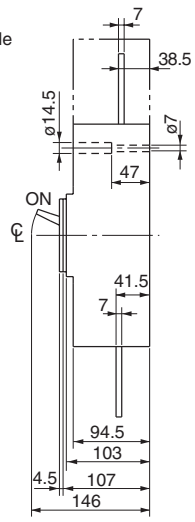
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

■ Dimensions, mm

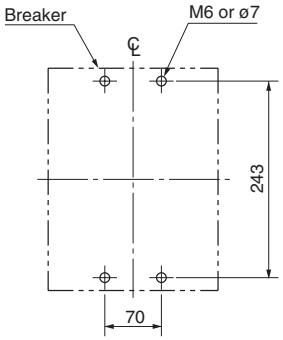
● Front mounting, front connection

SA603RC □ -CE

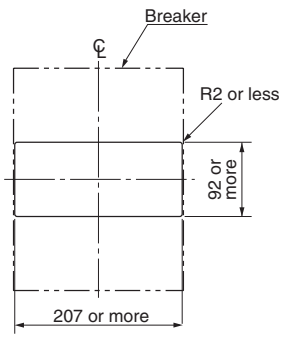




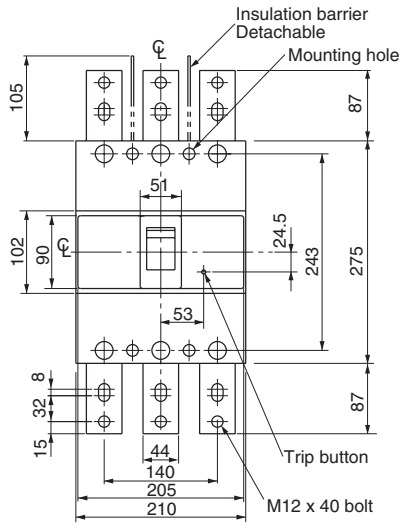
Panel drilling

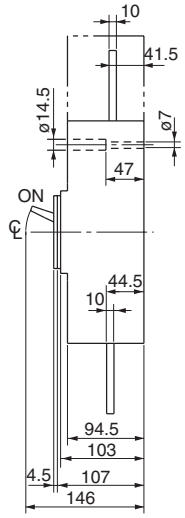


Front panel cutting

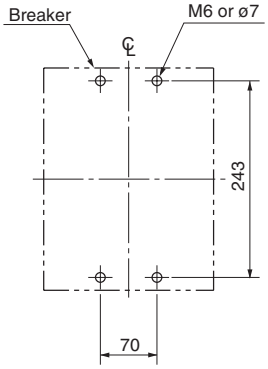


SA803RC □ -CE

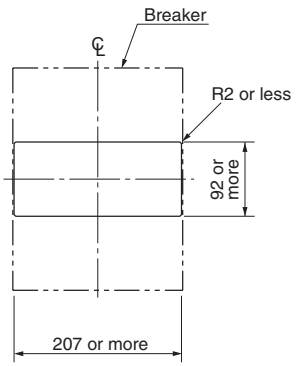




Panel drilling

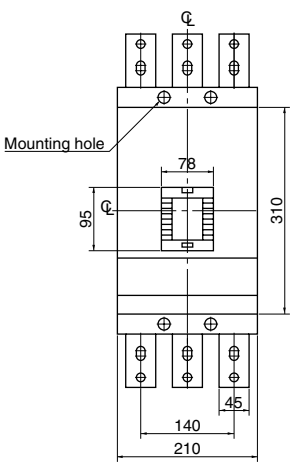


Front panel cutting

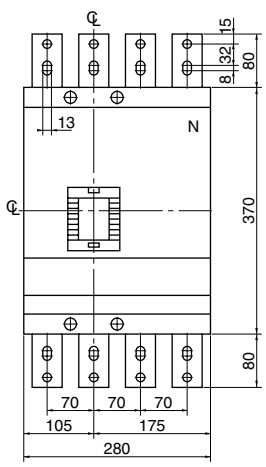


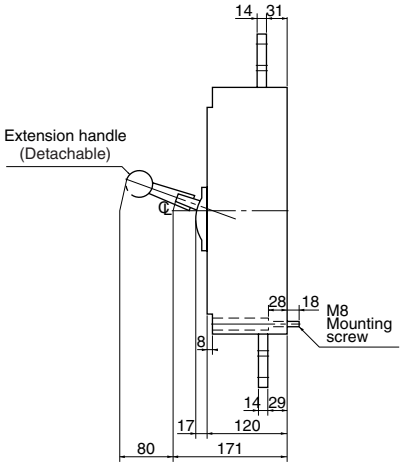
SA1003E, SA1004E, SA1203E, SA1204E

3-pole

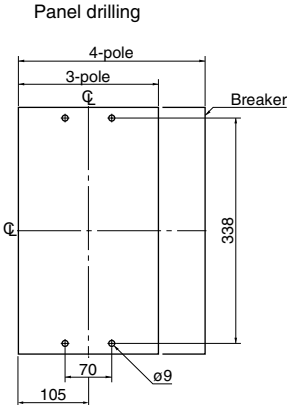


4-pole





Panel drilling

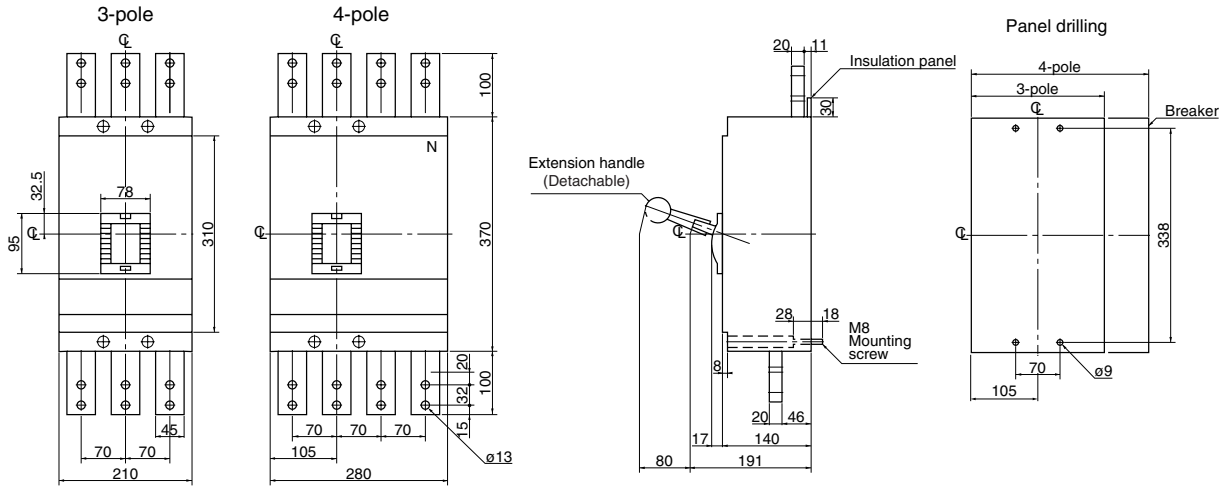


Dimensions
S series/3, 4-pole

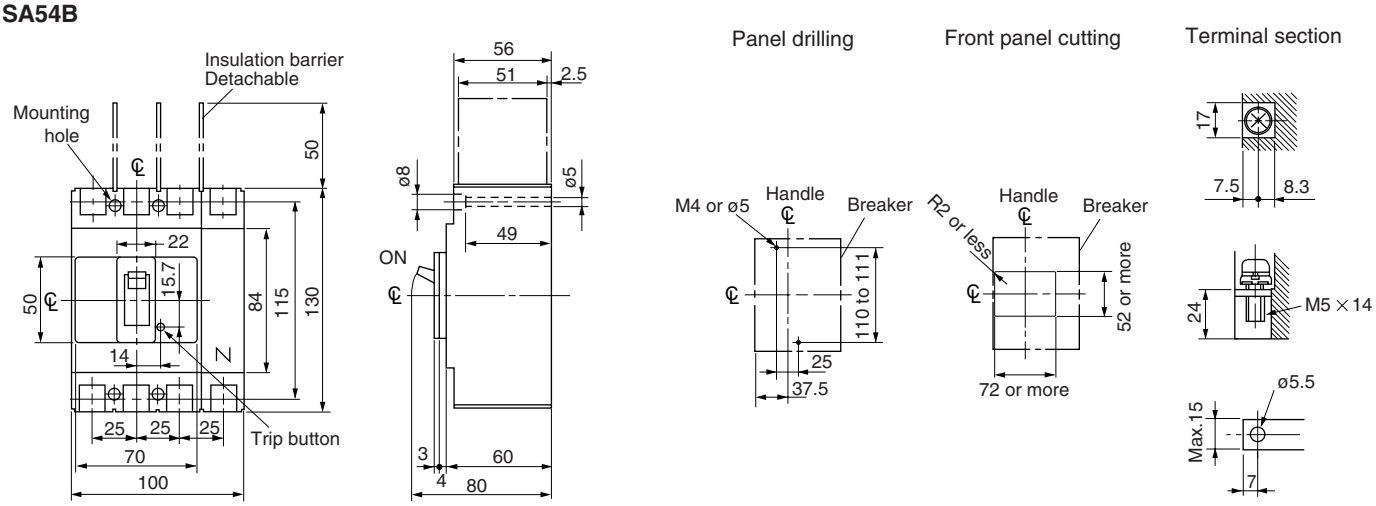
■ **Dimensions, mm**

● **Front mounting, front connection**

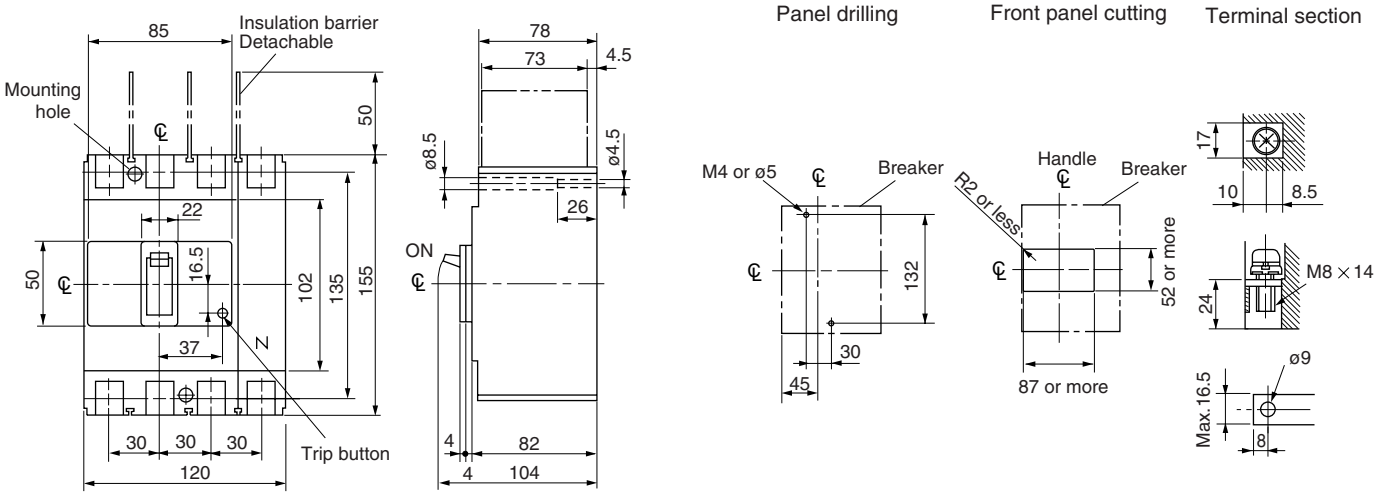
SA1603E, SA1604E



SA54B



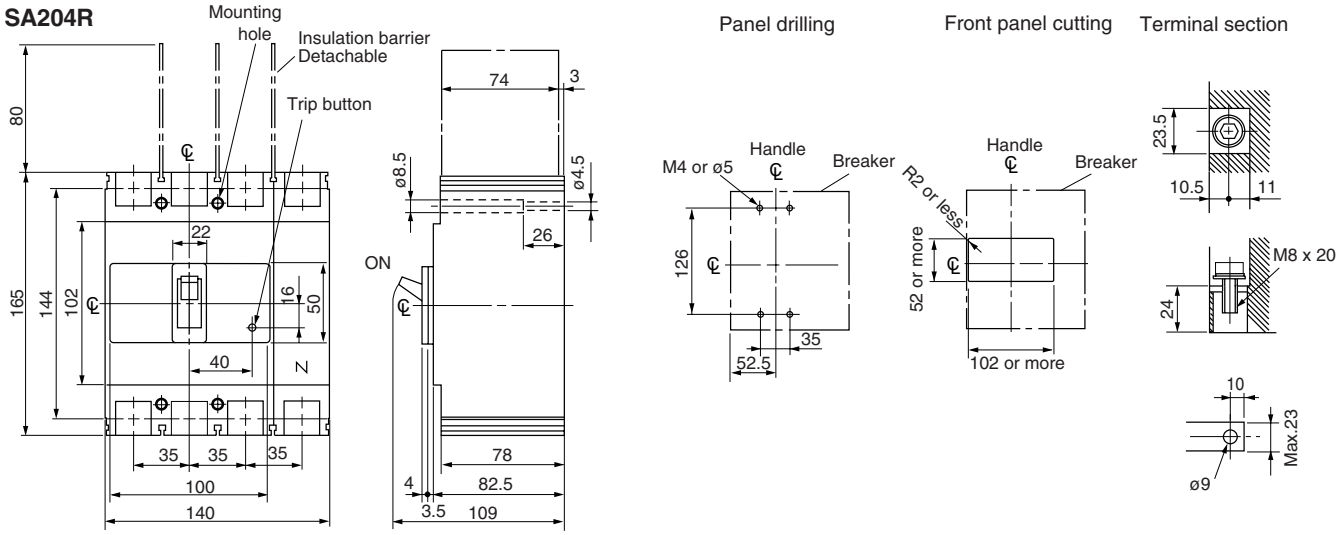
SA104R



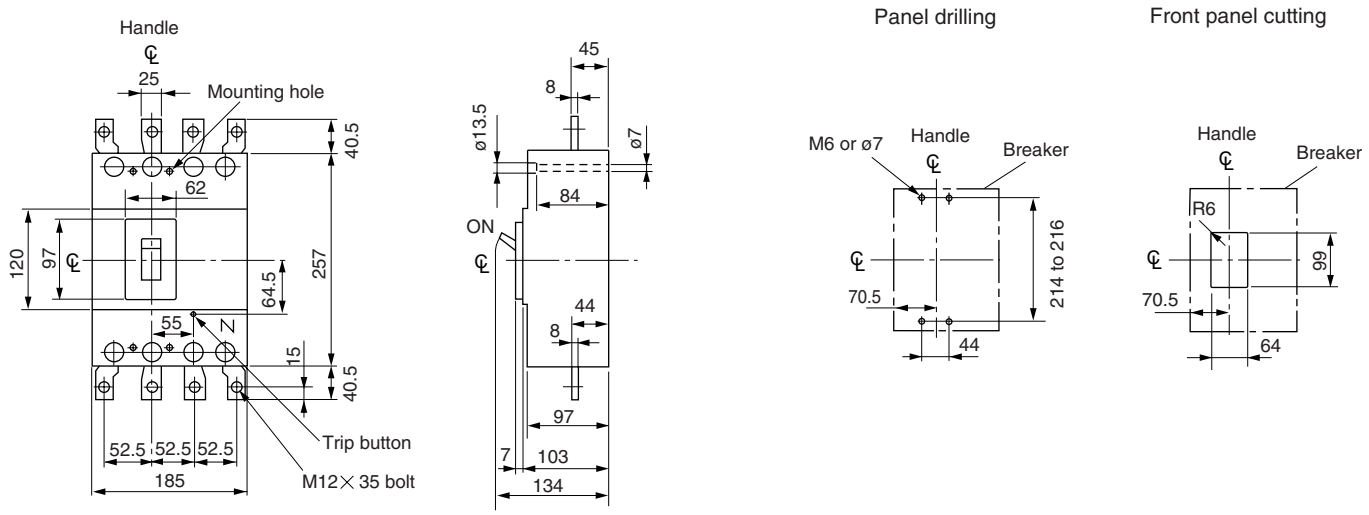
■ **Dimensions, mm**

● **Front mounting, front connection**

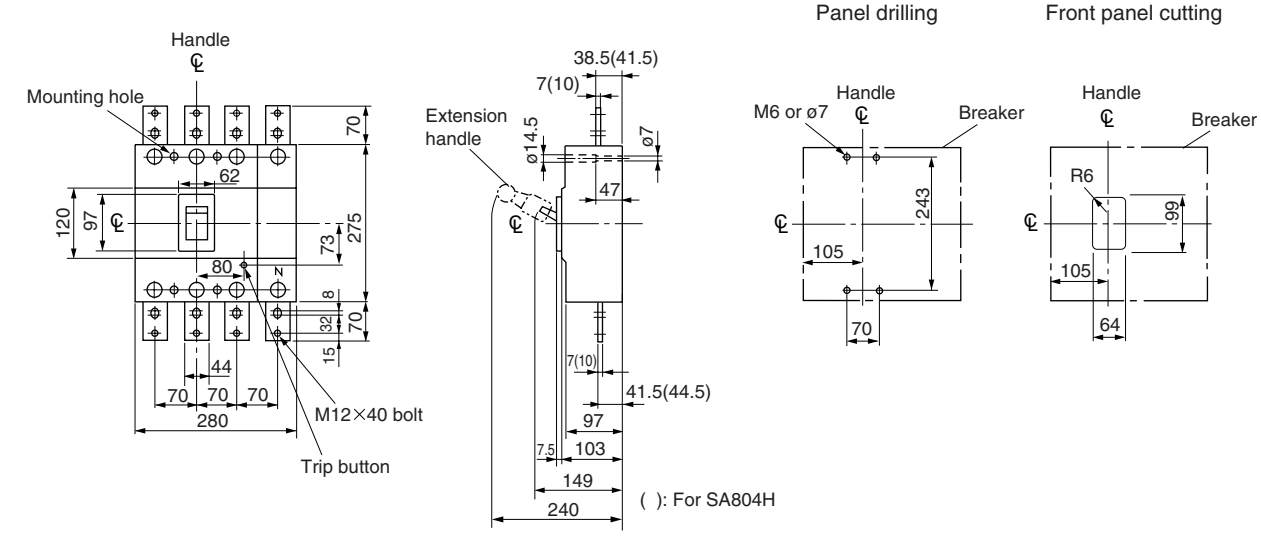
SA204R



SA404HA



SA604H, 804H

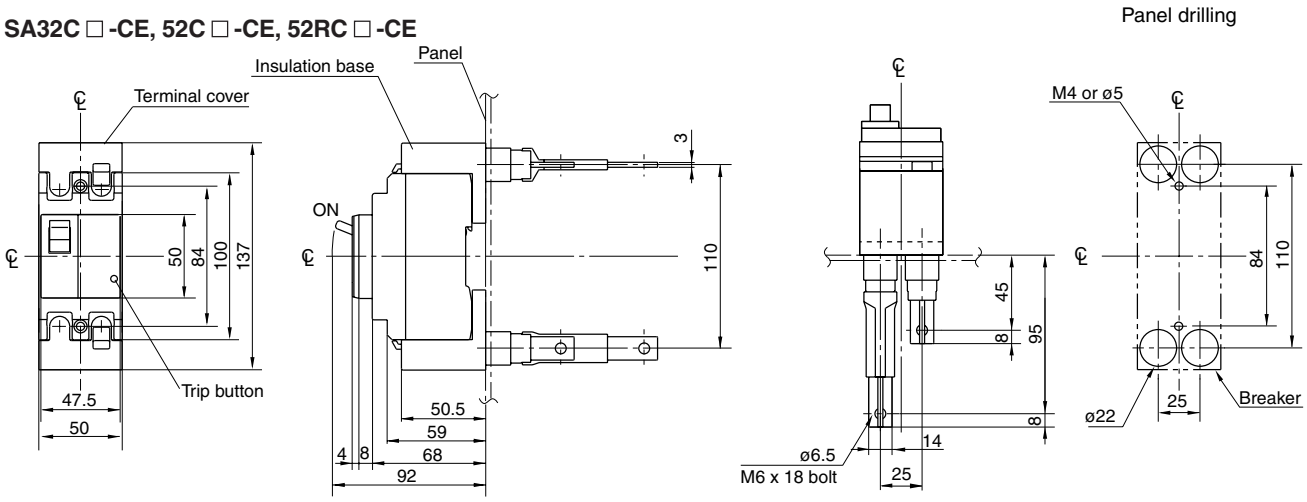


Dimensions
S series/2, 3-pole

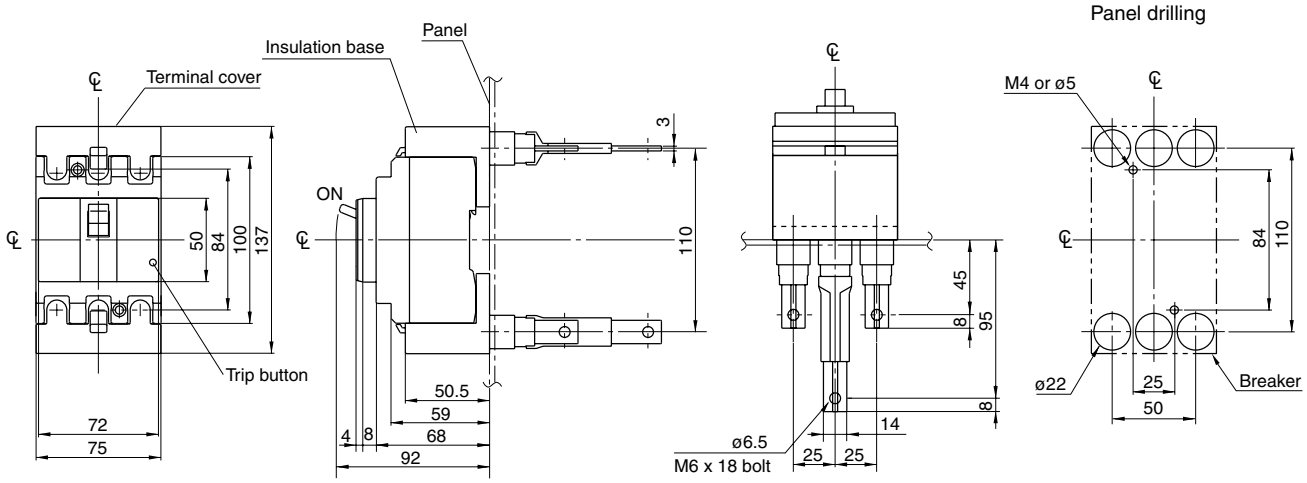
■ Dimensions, mm

● Front mounting, rear connection (type X)

SA32C □ -CE, 52C □ -CE, 52RC □ -CE



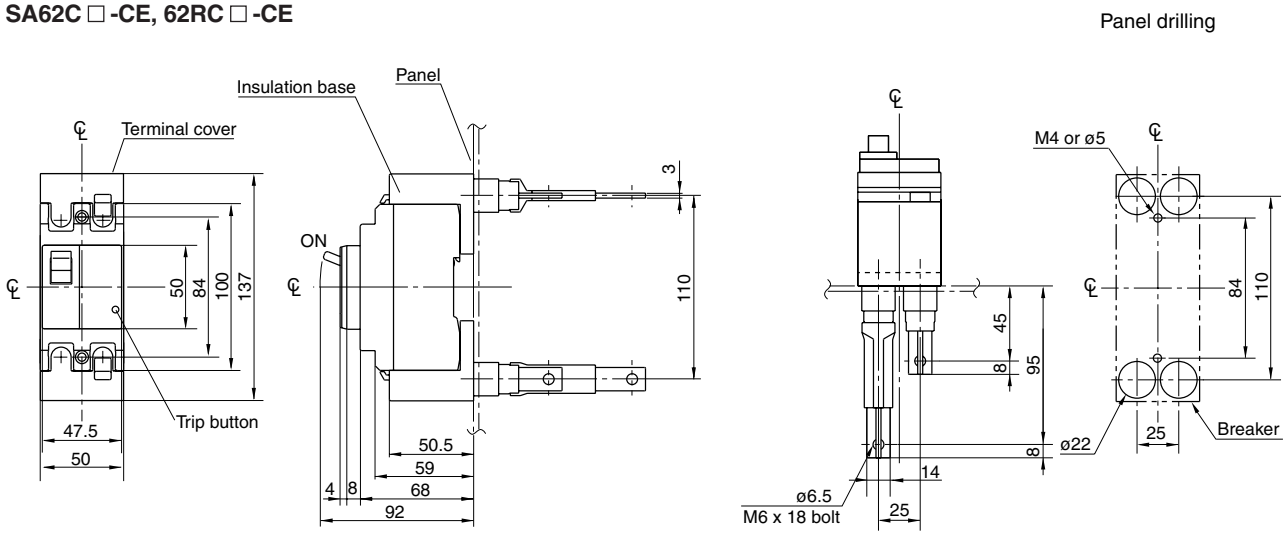
SA33C □ -CE, 53C □ -CE, 53RC □ -CE



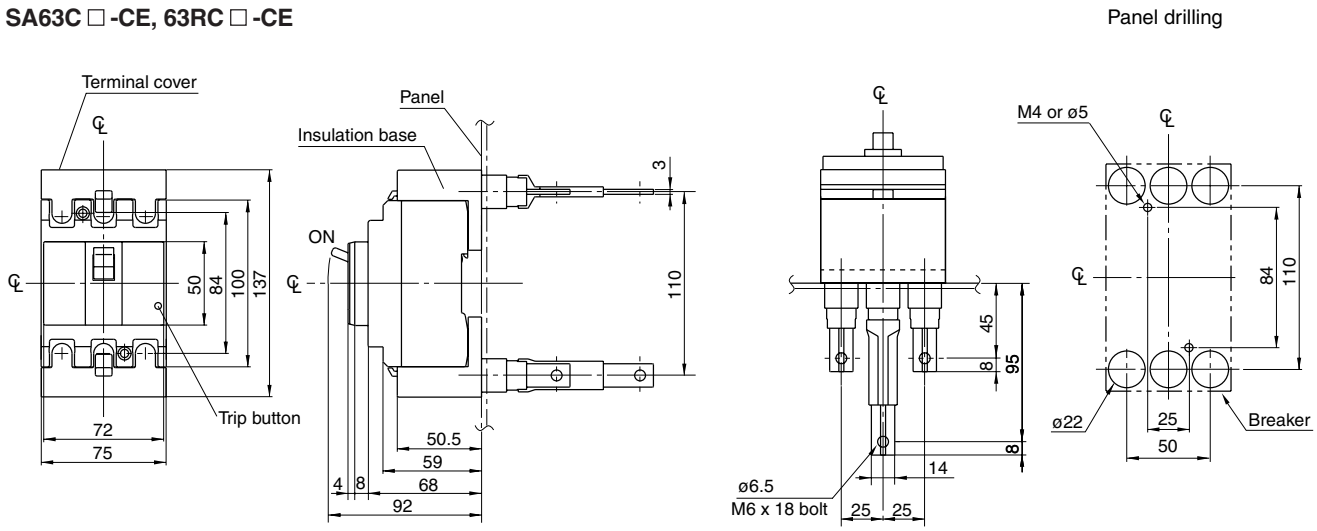
■ Dimensions, mm

● Front mounting, rear connection (type X)

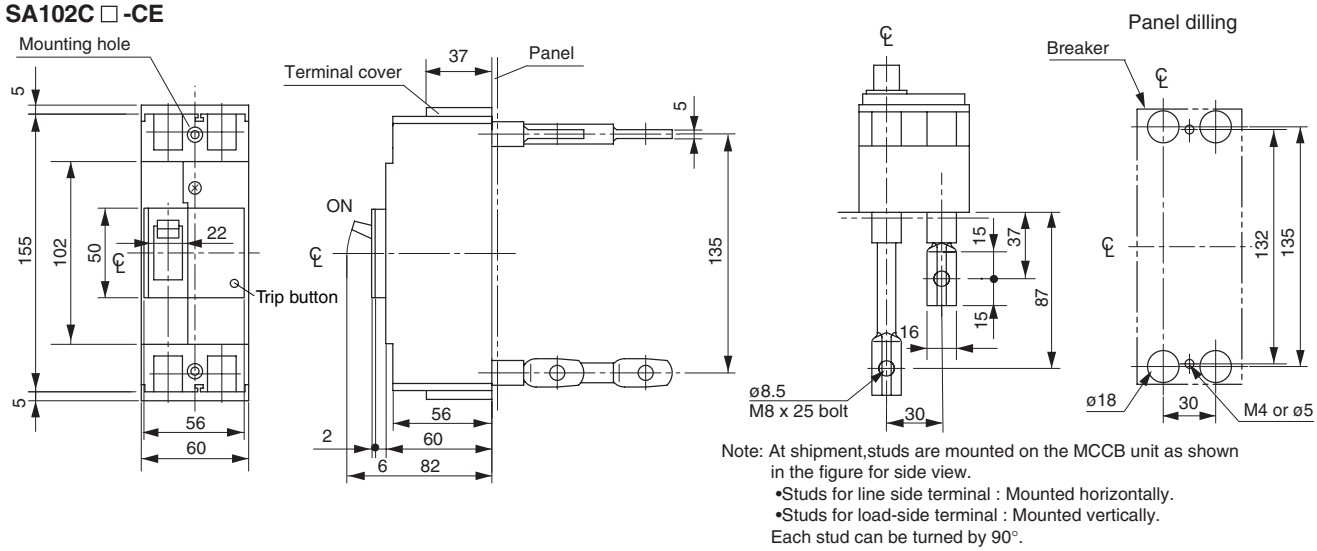
SA62C □ -CE, 62RC □ -CE



SA63C □ -CE, 63RC □ -CE



SA102C □ -CE



Note: At shipment,studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load-side terminal : Mounted vertically.

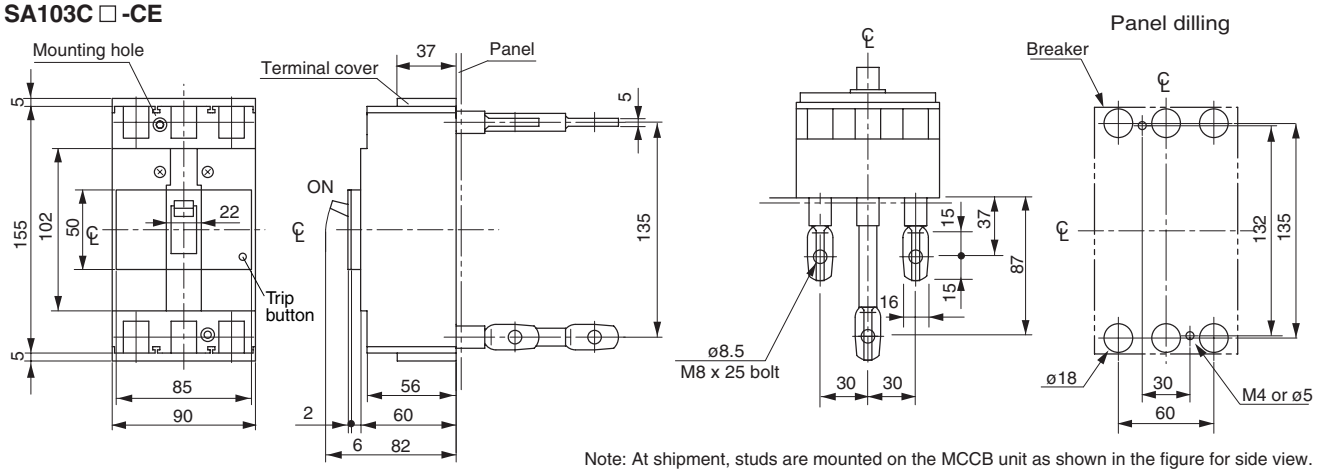
Each stud can be turned by 90°.

Dimensions
S series/2, 3-pole

■ Dimensions, mm

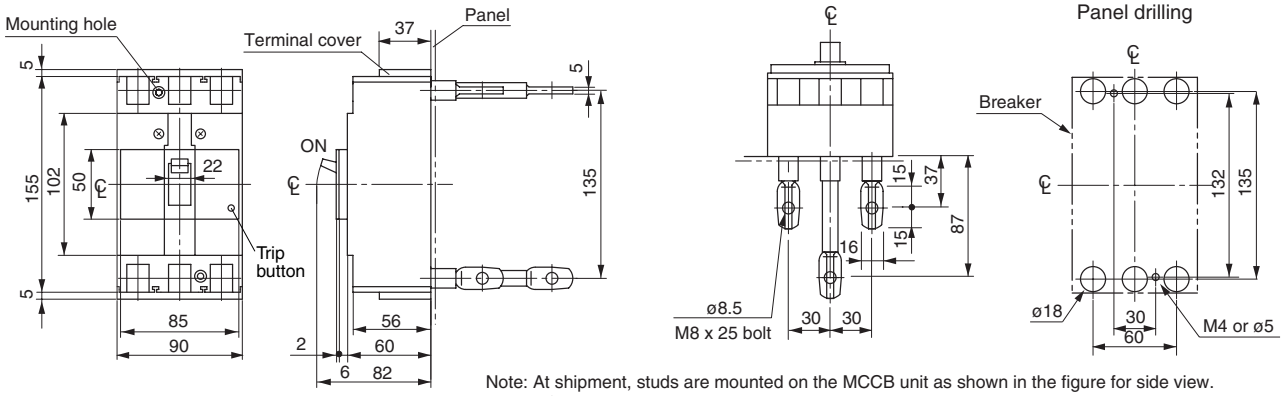
● Front mounting, rear connection (type X)

SA103C □ -CE



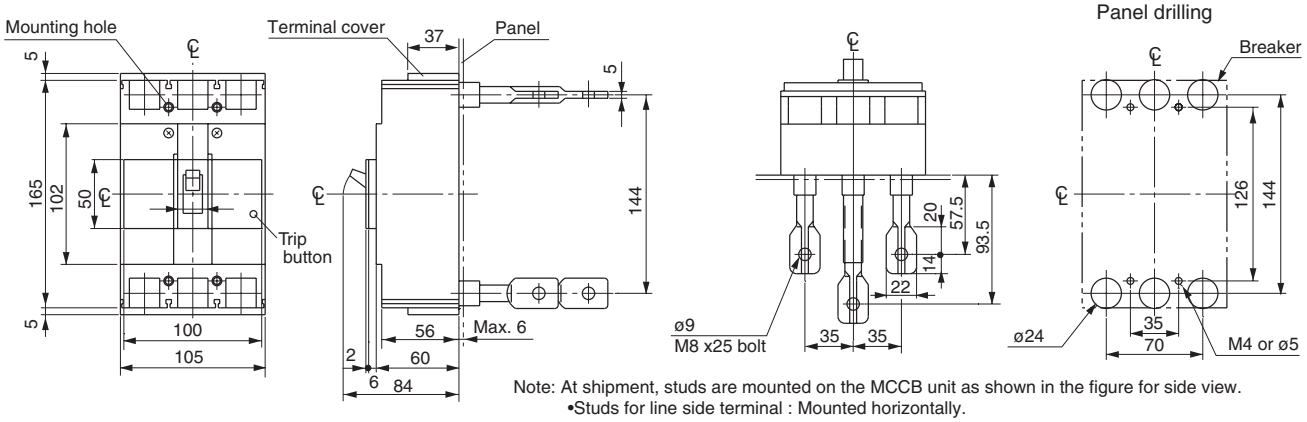
Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
•Studs for line side terminal : Mounted horizontally.
•Studs for load-side terminal : Mounted vertically.
Each stud can be turned by 90°.

SA102RC □ -CE, 103RC □ -CE



Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
•Studs for line side terminal : Mounted horizontally.
•Studs for load-side terminal : Mounted vertically.
Each stud can be turned by 90°.
2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

SA202C □ -CE, 203C □ -CE, 202RC □ -CE, 203RC □ -CE

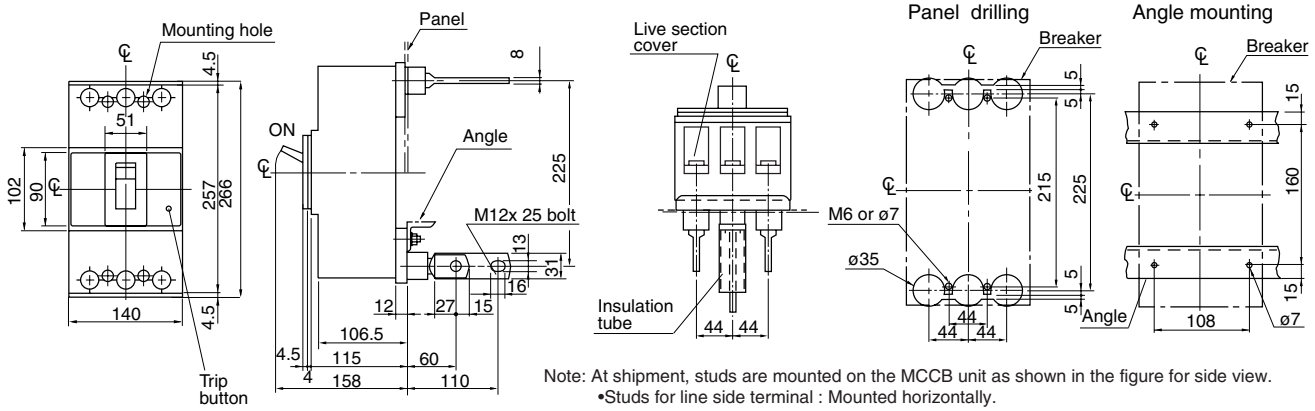


Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
•Studs for line side terminal : Mounted horizontally.
•Studs for load-side terminal : Mounted vertically.
Each stud can be turned by 90°.
2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

■ Dimensions, mm

● Front mounting, rear connection (type X)

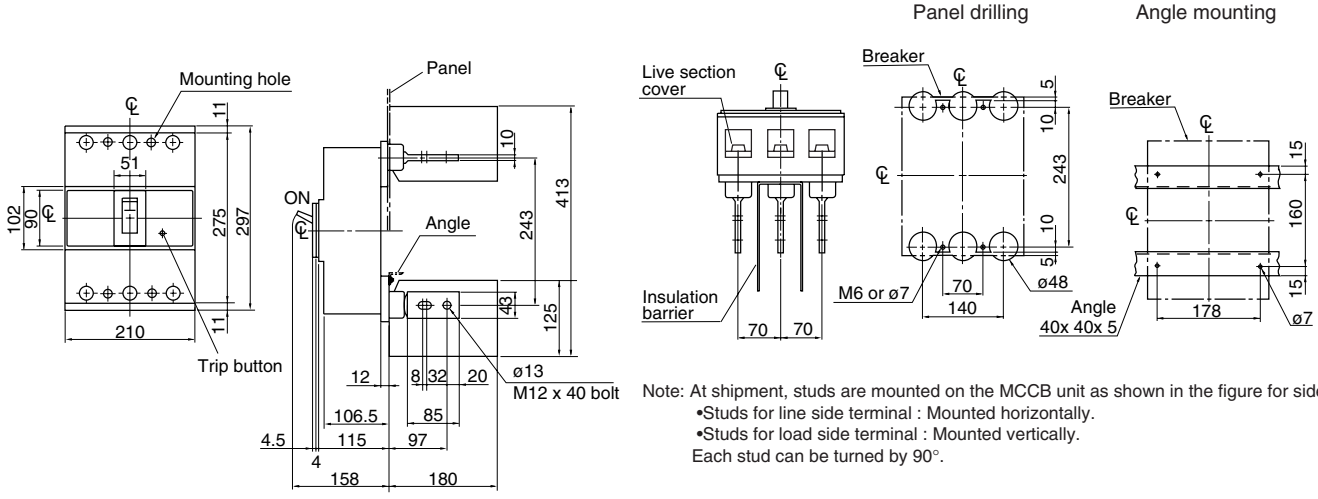
SA402C □ -CE, 403C □ -CE, 402RC □ -CE, 403RC □ -CE



Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load-side terminal : Mounted vertically.

Each stud can be turned by 90°.
2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

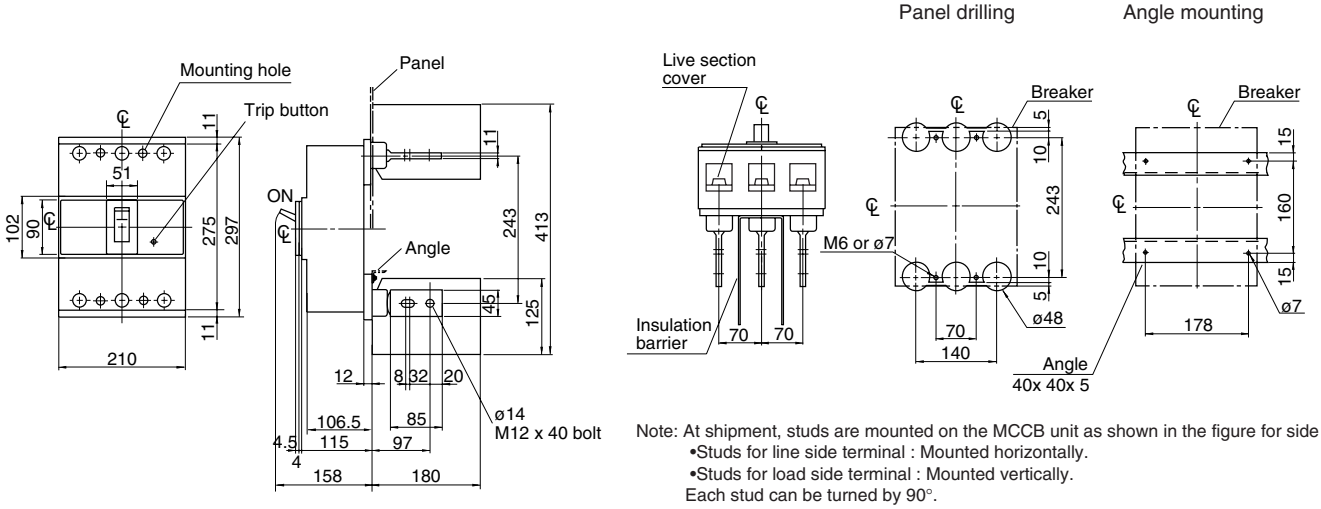
SA603RC □ -CE



Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load side terminal : Mounted vertically.

Each stud can be turned by 90°.

SA803RC □ -CE



Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load side terminal : Mounted vertically.

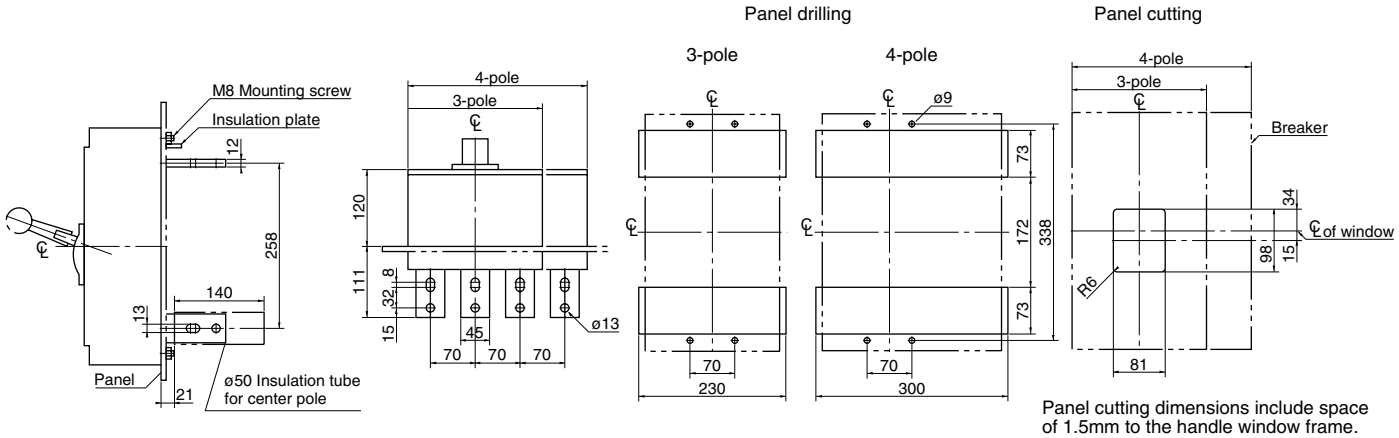
Each stud can be turned by 90°.

Dimensions
S series/ 3-pole

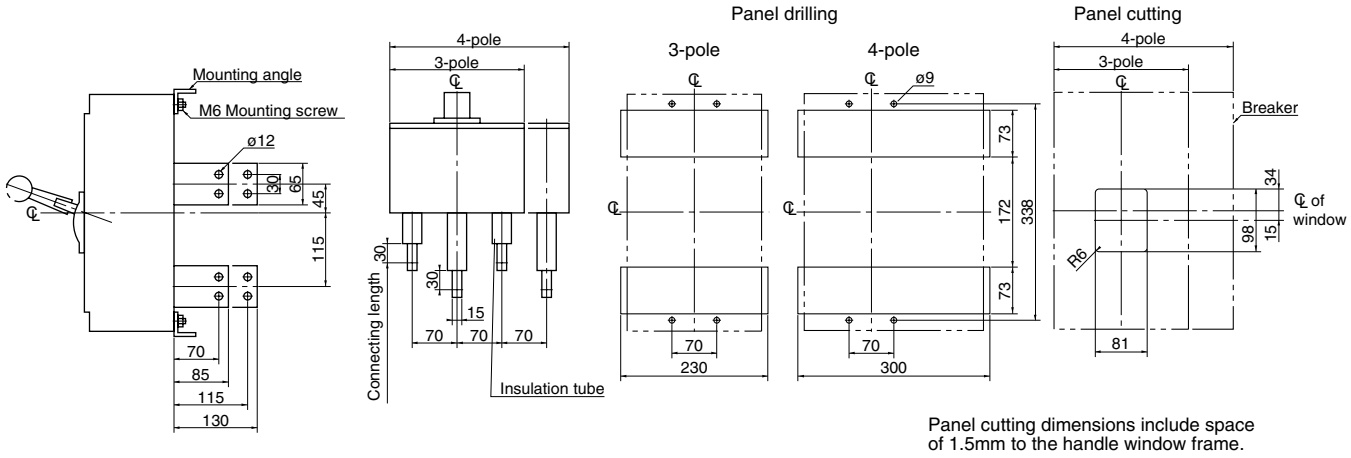
■ **Dimensions, mm**

● **Front mounting, rear connection (type X)**

SA1003E, SA1004E, SA1203E, SA1204E



SA1603E, SA1604E

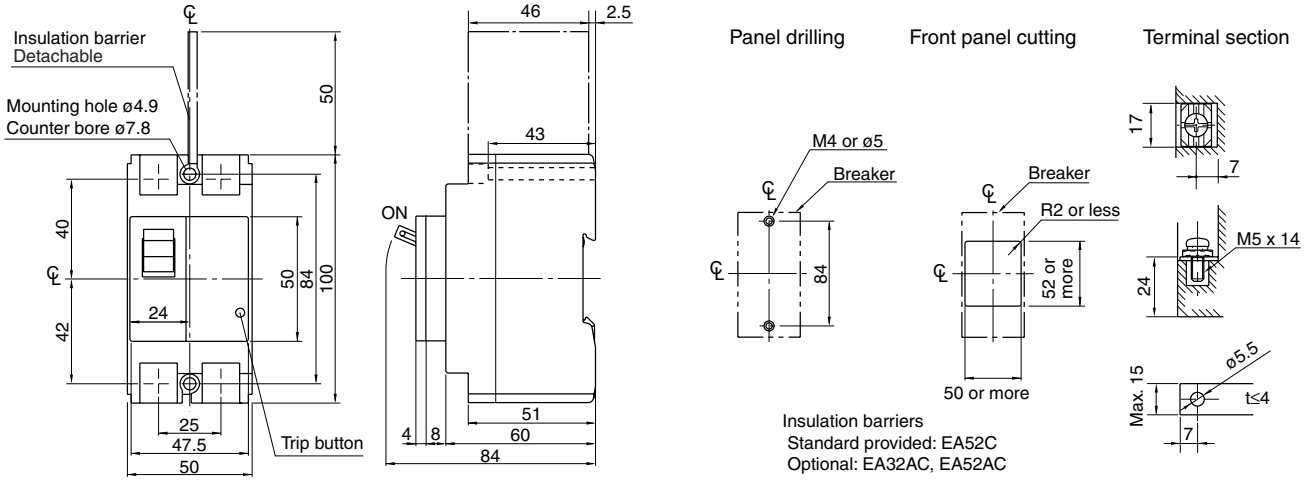


Dimensions for reference only. Confirm before construction begins.

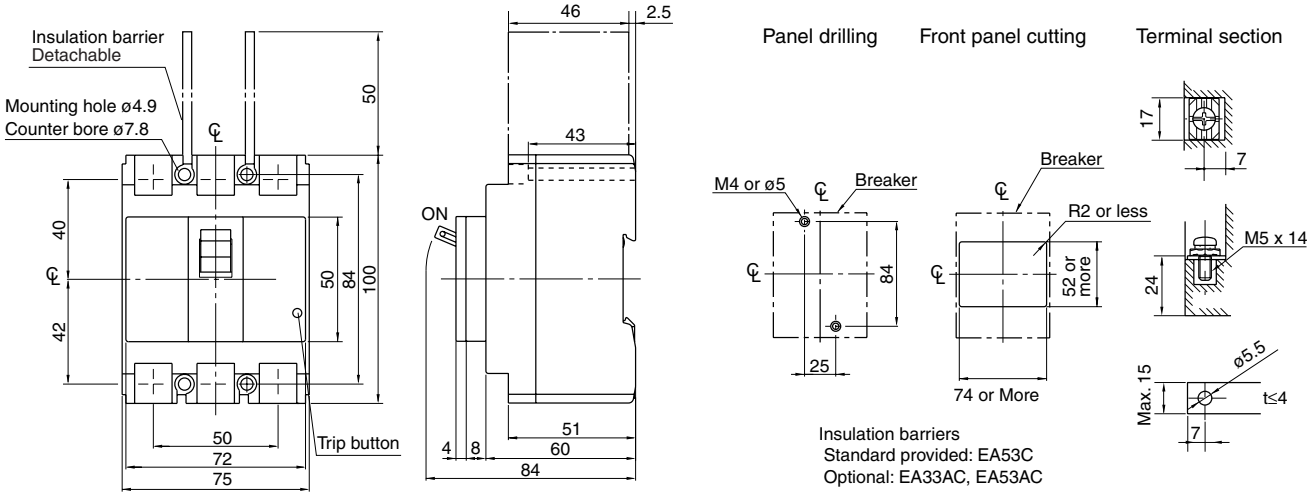
■ Dimensions, mm

● Front mounting, front connection

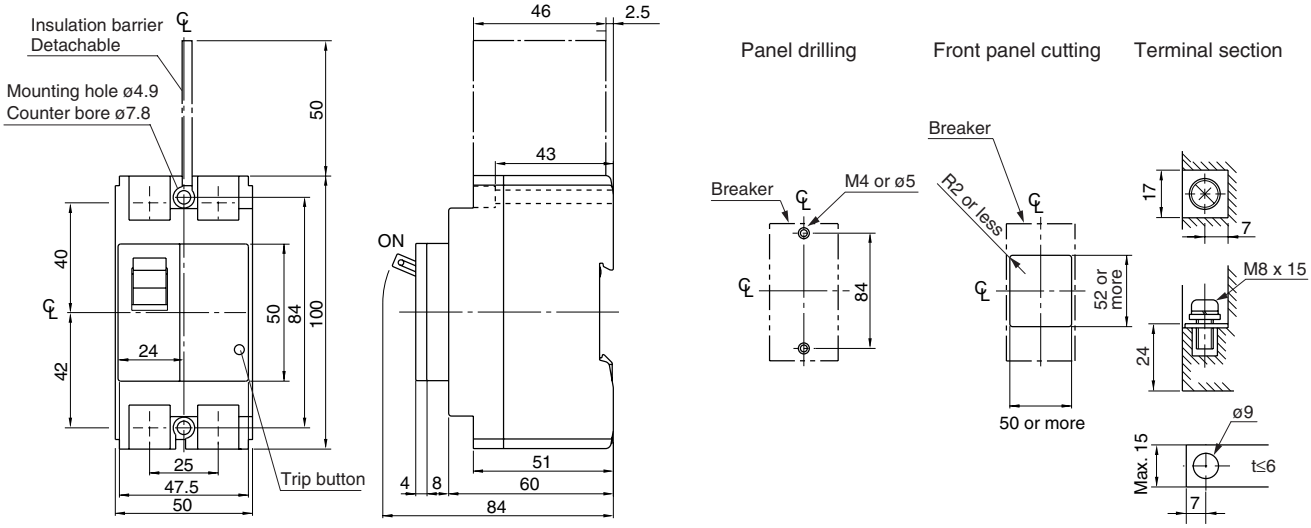
EA32AC □ -CE, 52AC □ -CE, 52C □ -CE



EA33AC □ -CE, 53AC □ -CE, 53C □ -CE



EA62C □ -CE

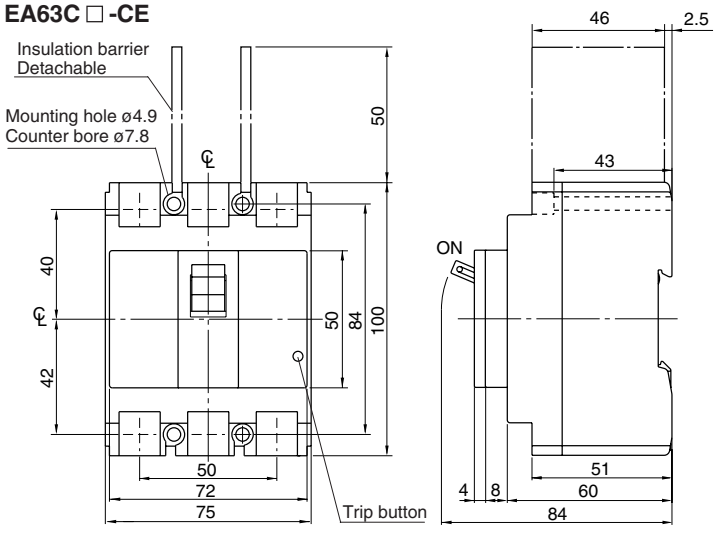


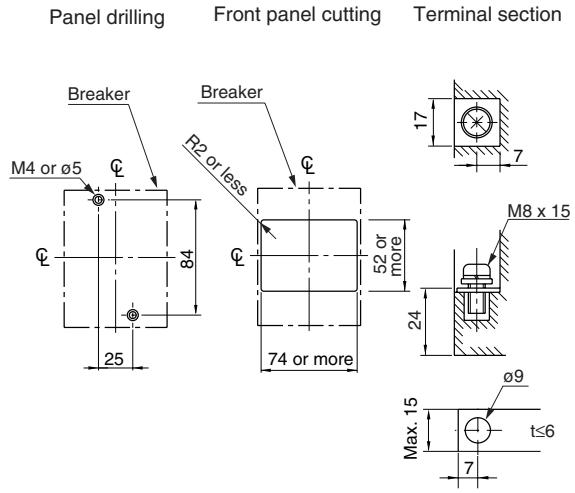
Dimensions
E series/2, 3-pole

■ Dimensions, mm

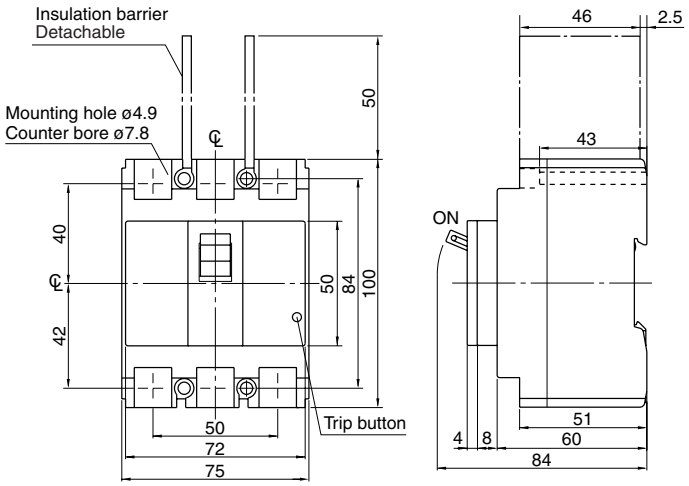
● Front mounting, front connection

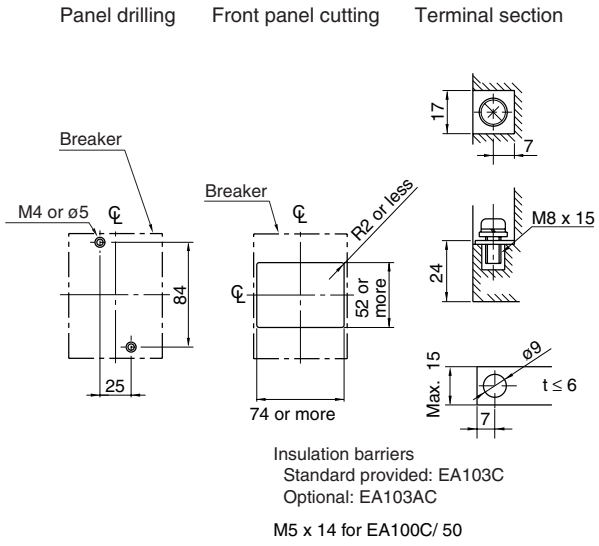
EA63C □ -CE





EA103AC □ -CE, 103C □ -CE

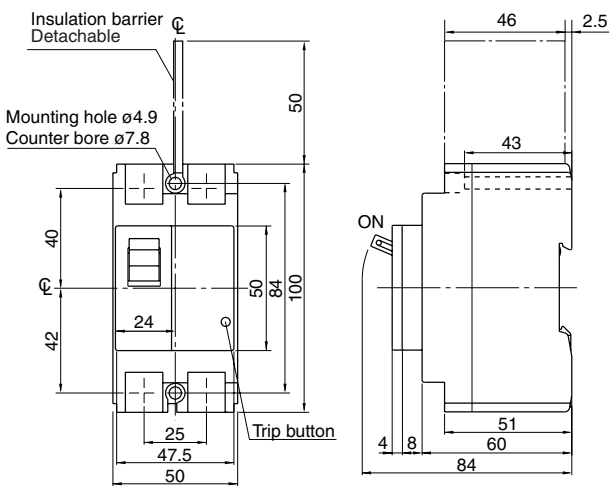


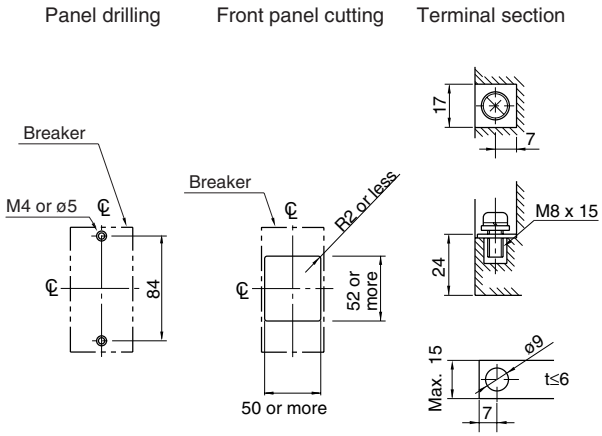


Insulation barriers
Standard provided: EA103C
Optional: EA103AC

M5 x 14 for EA100C/ 50

EA102C □ -CE



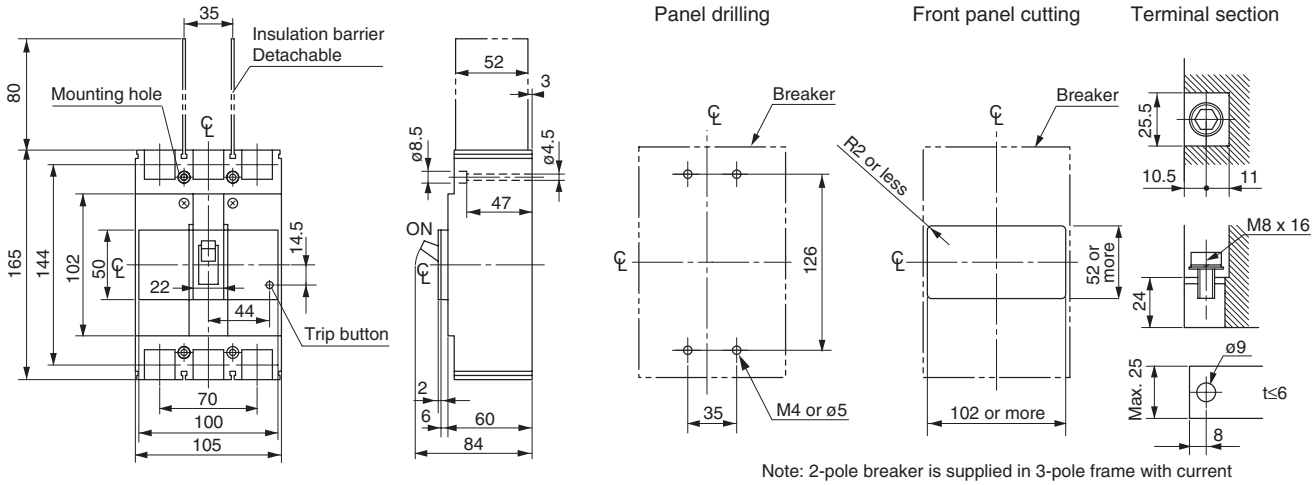


M5 x 14 for EA100C/ 50

■ Dimensions, mm

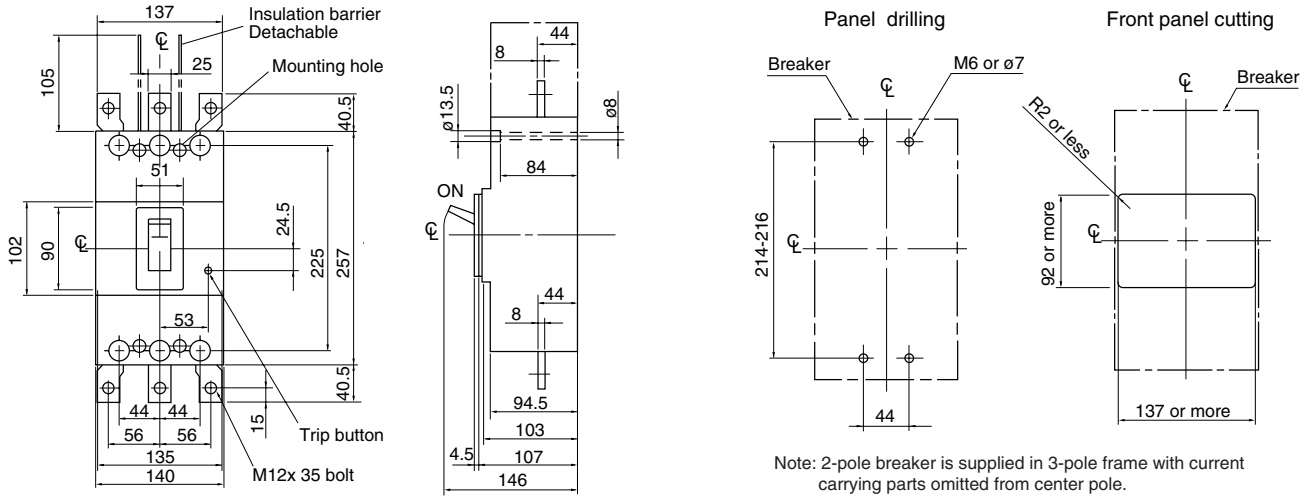
● Front mounting, front connection

EA202C □ -CE, 203C □ -CE



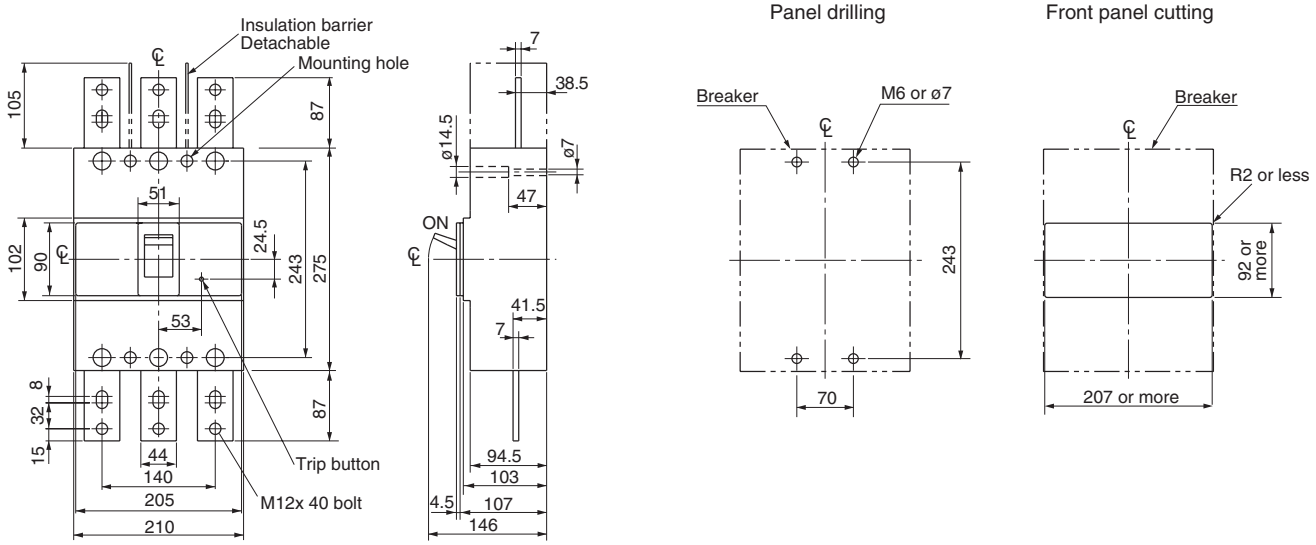
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

EA402C □ -CE, 403C □ -CE



Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

EA603C □ -CE

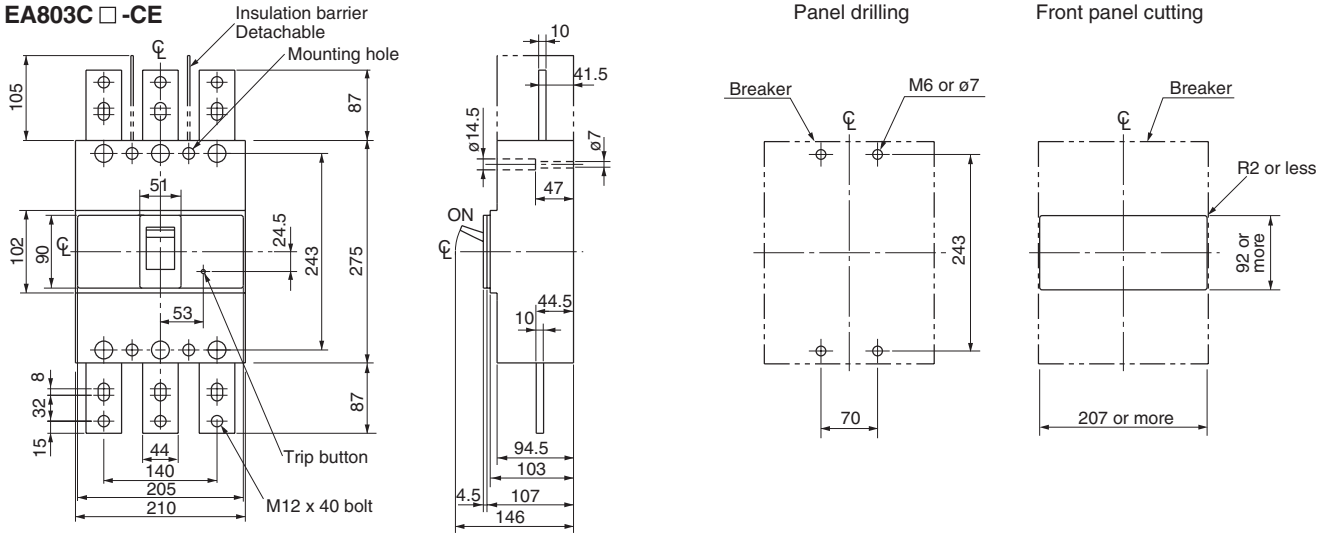


Dimensions
E series/2, 3, 4-pole

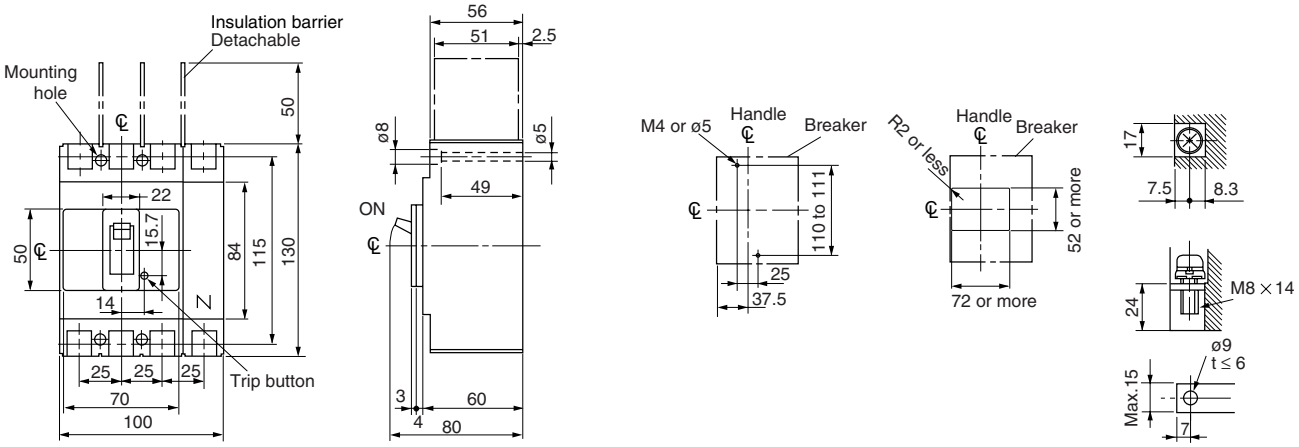
■ Dimensions, mm

● Front mounting, front connection

EA803C □ -CE

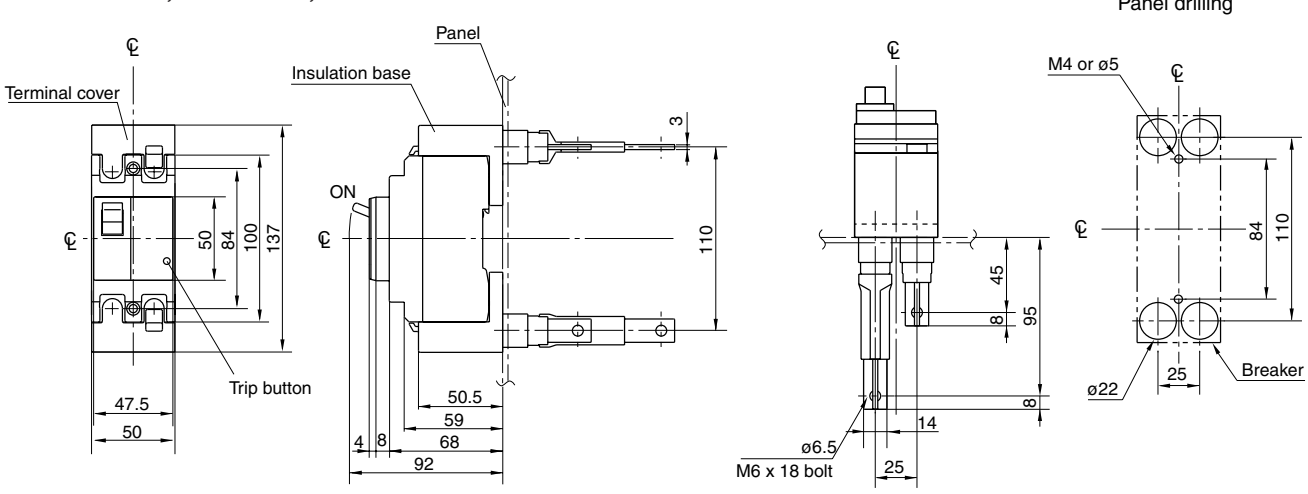


EA104B



● Front mounting, rear connection (type X)

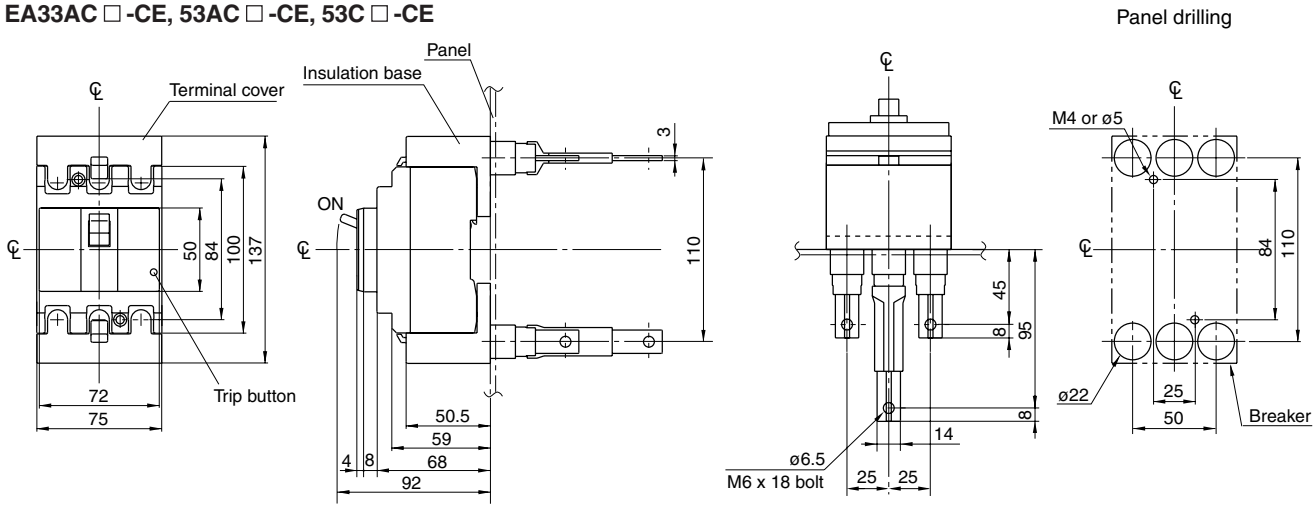
EA32AC □ -CE, 52AC □ -CE, 52C □ -CE



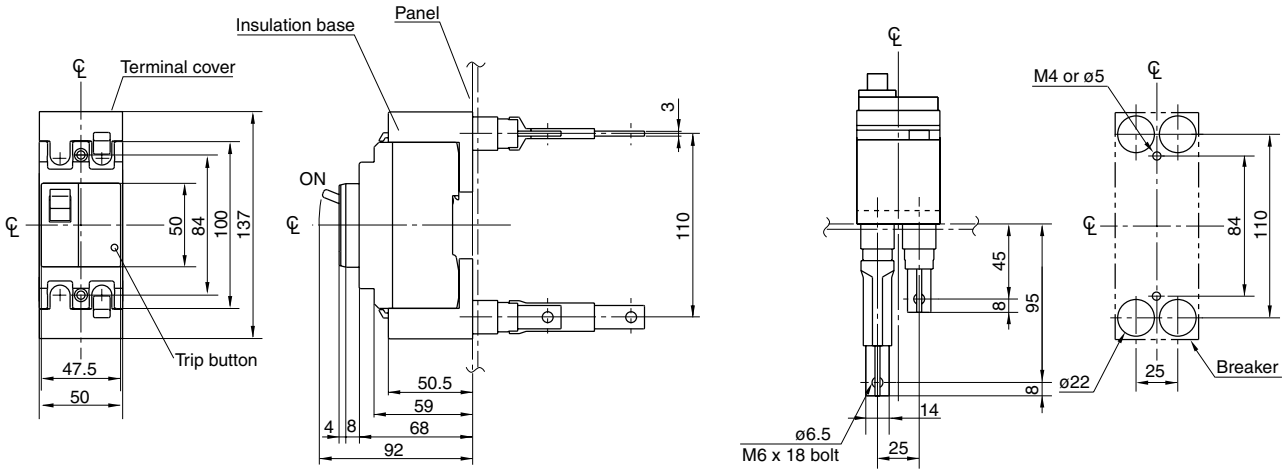
■ **Dimensions, mm**

● **Front mounting, rear connection (type X)**

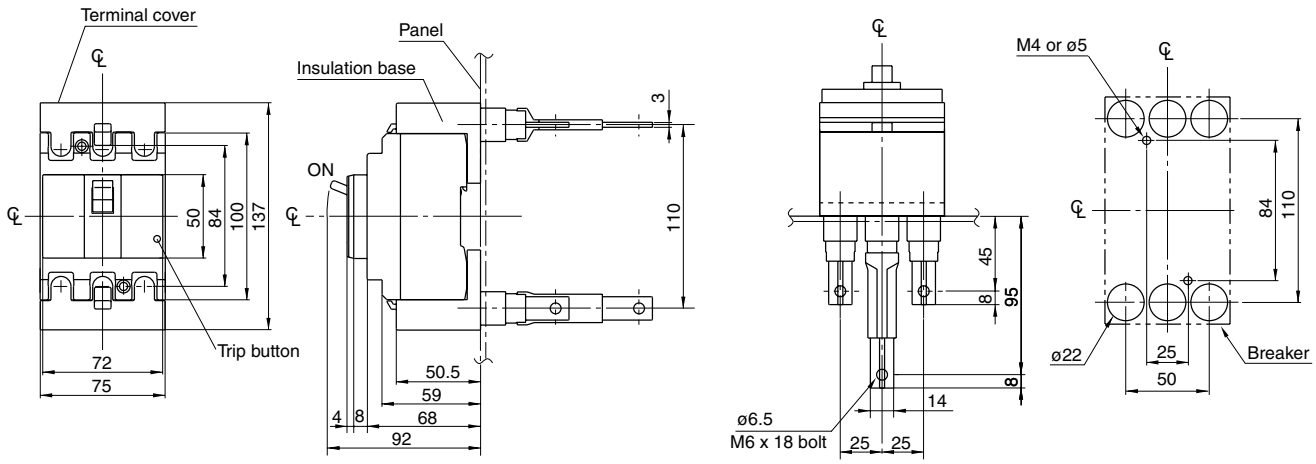
EA33AC □ -CE, 53AC □ -CE, 53C □ -CE



EA62C □ -CE



EA63C □ -CE



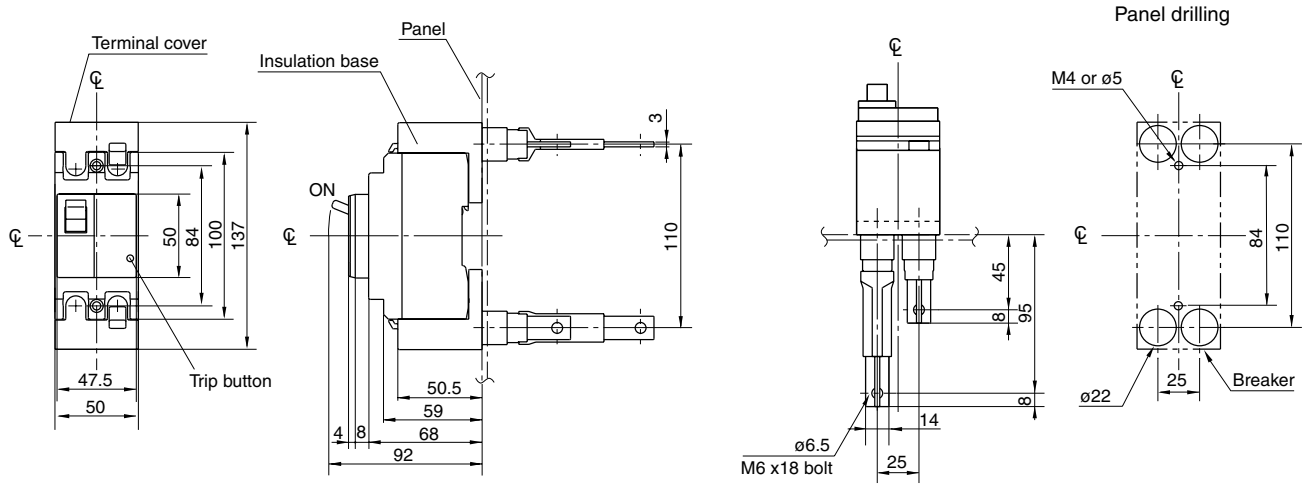
06

Dimensions
E series/2, 3-pole

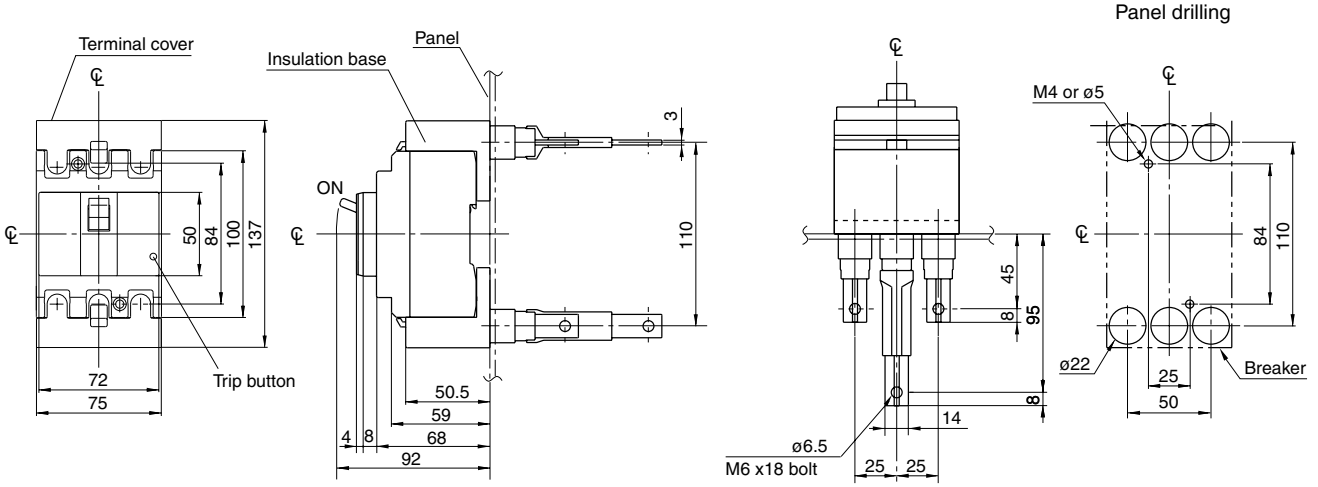
■ Dimensions, mm

● Front mounting, rear connection (type X)

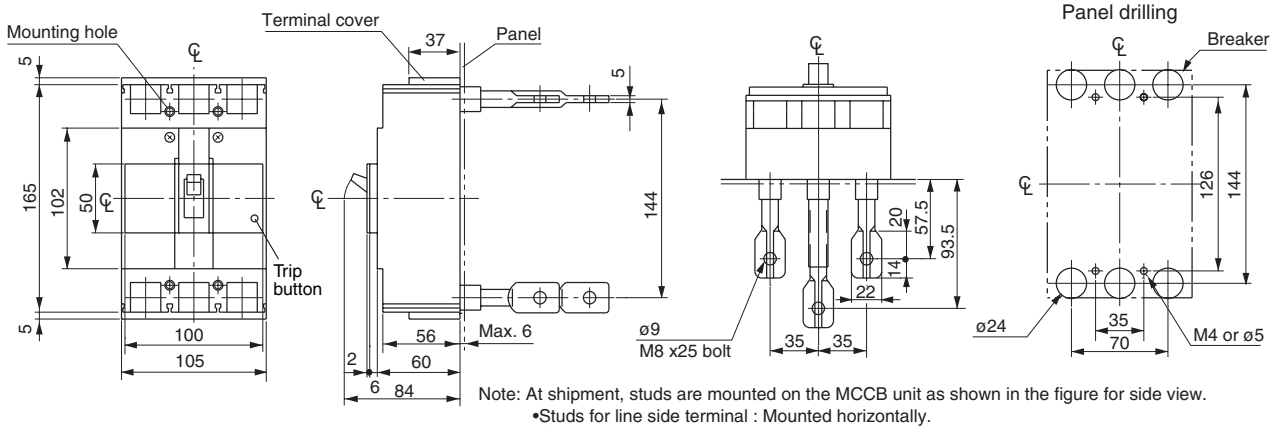
EA102AC □ -CE



EA103AC □ -CE, 103C □ -CE



EA202C □ -CE, 203C □ -CE



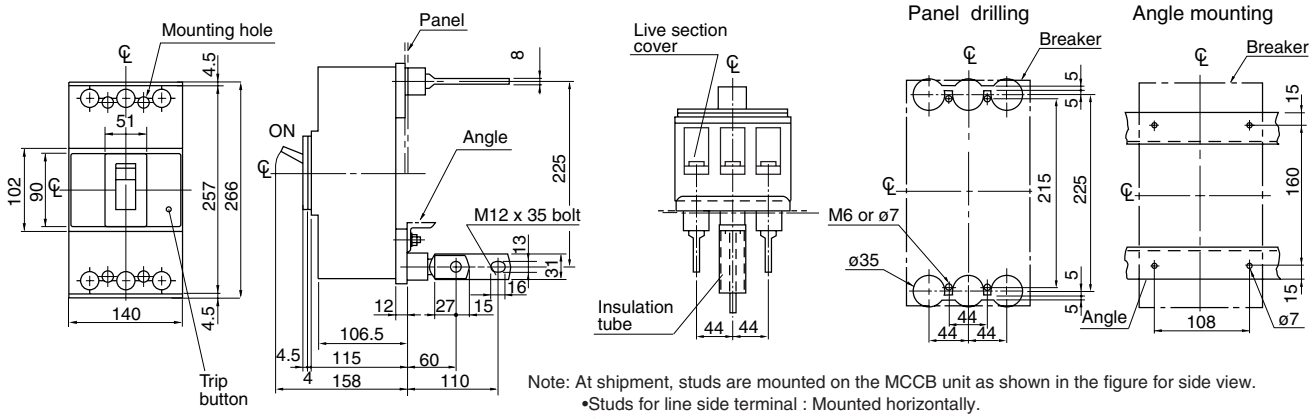
Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load side terminal : Mounted vertically.

Each stud can be turned by 90°.
2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

■ Dimensions, mm

● Front mounting, rear connection (type X)

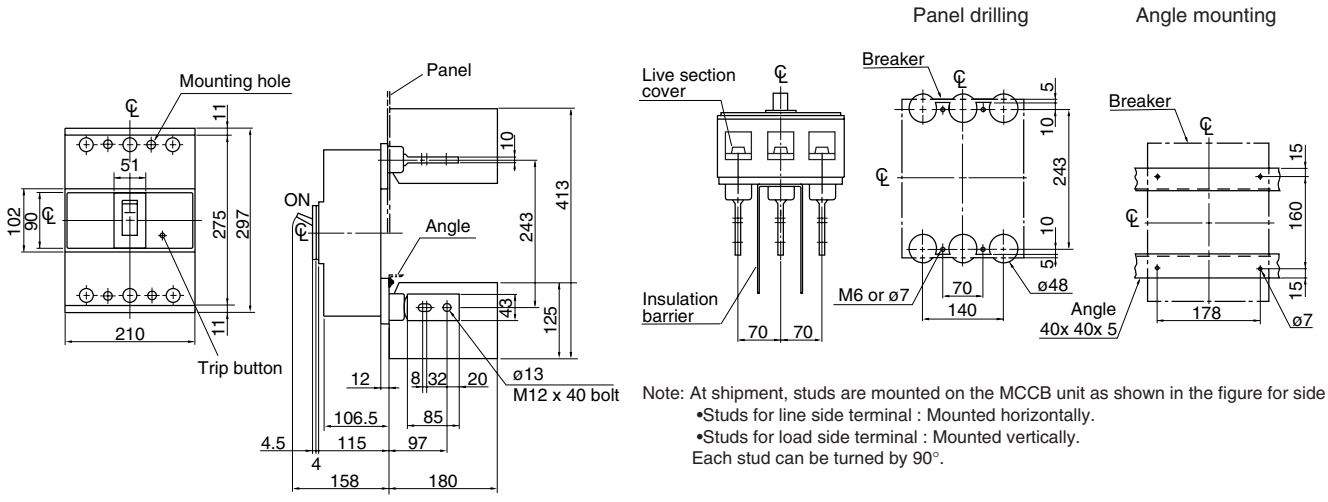
EA402C □ -CE, 403C □ -CE



Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load side terminal : Mounted vertically.

Each stud can be turned by 90°.
2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

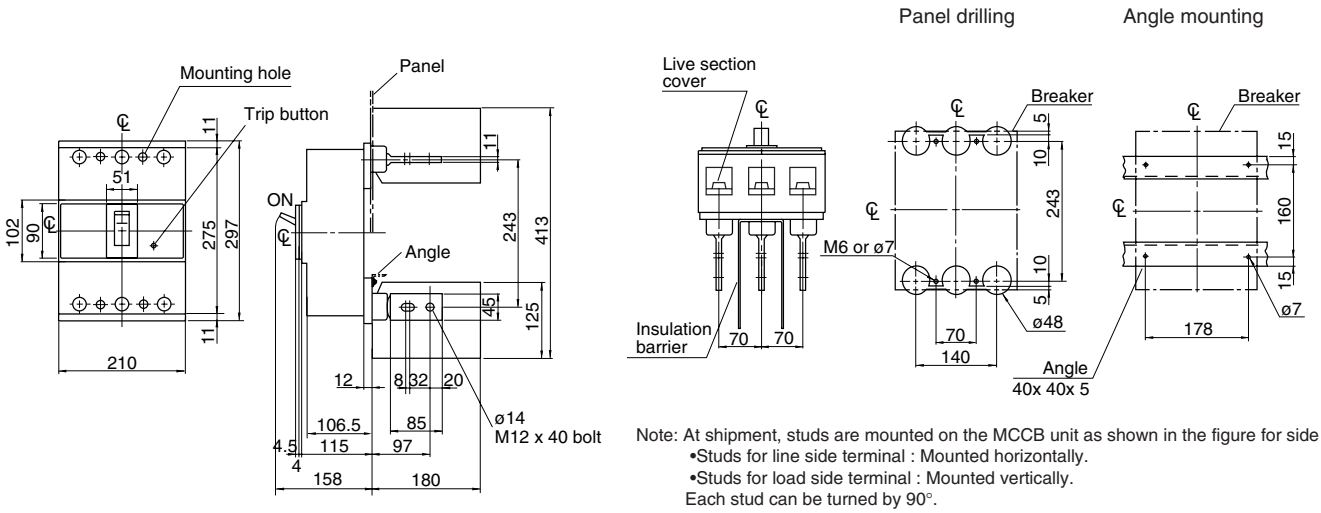
EA603C □ -CE



Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load side terminal : Mounted vertically.

Each stud can be turned by 90°.

EA803C □ -CE



Note: At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- •Studs for line side terminal : Mounted horizontally.
- •Studs for load side terminal : Mounted vertically.

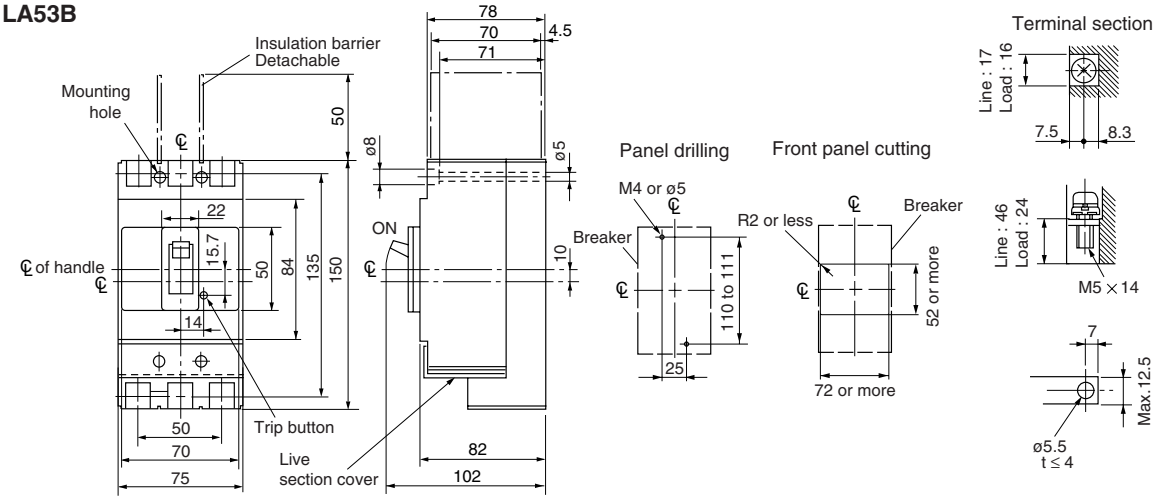
Each stud can be turned by 90°.

Dimensions
L, H series/2, 3-pole

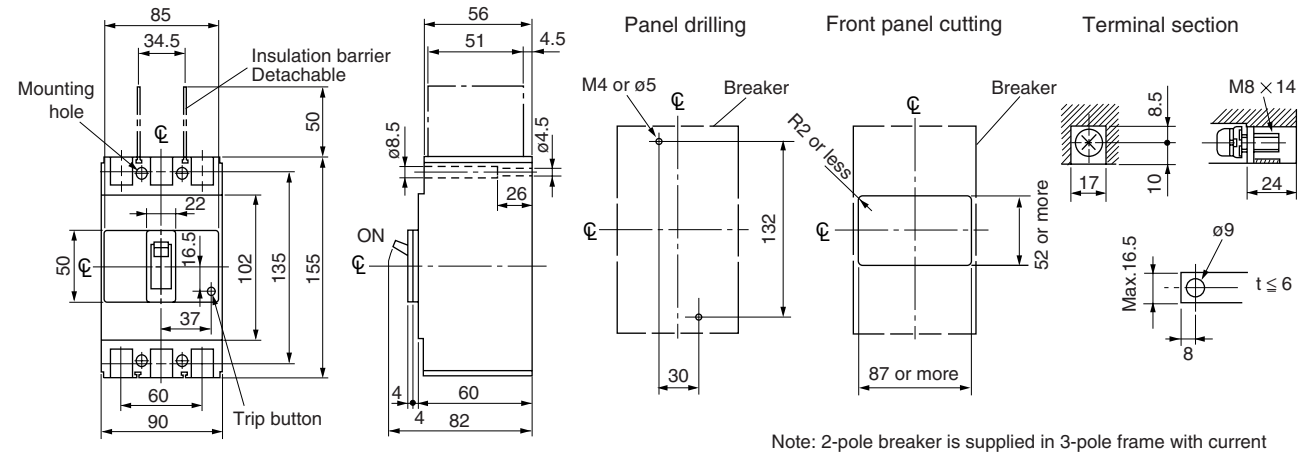
■ Dimensions, mm

● Front mounting, front connection

LA53B

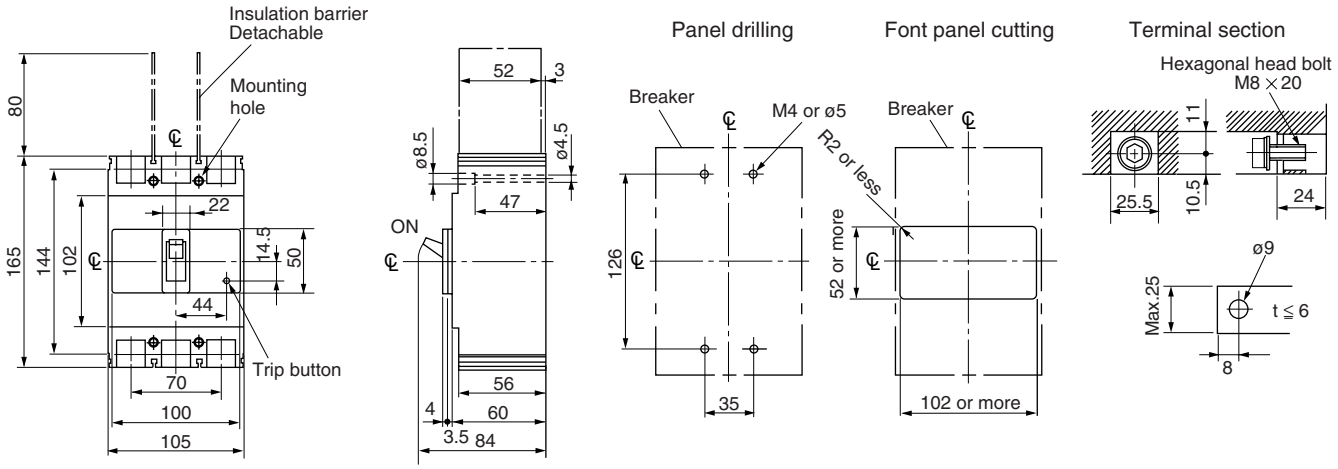


H52BA, H53BA, H102BA, H103BA



Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

H202BA, H203BA

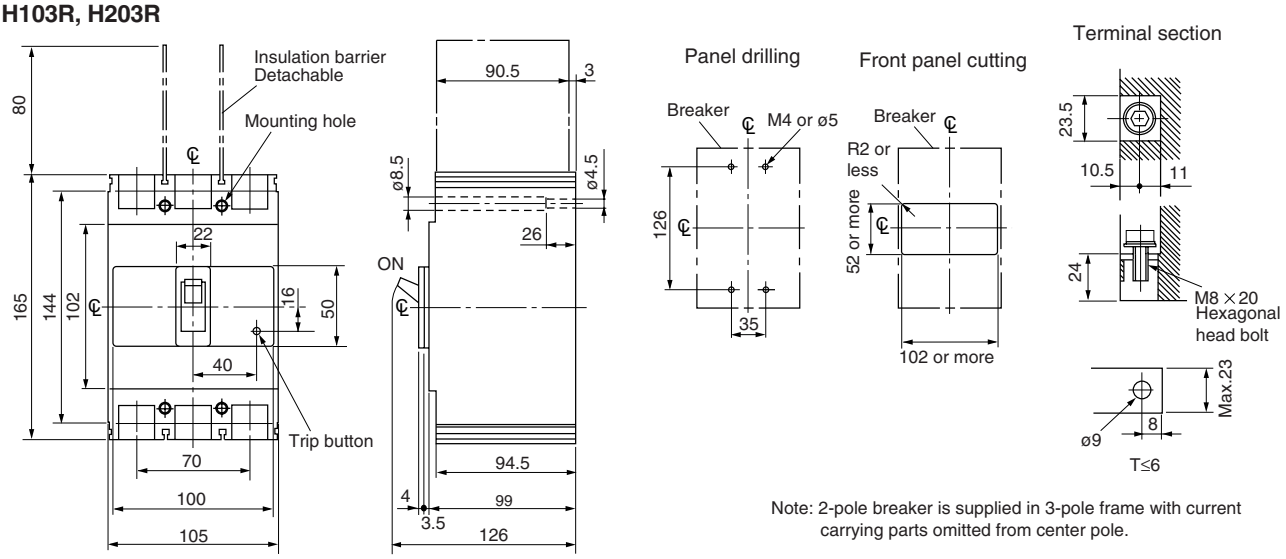


Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

■ Dimensions, mm

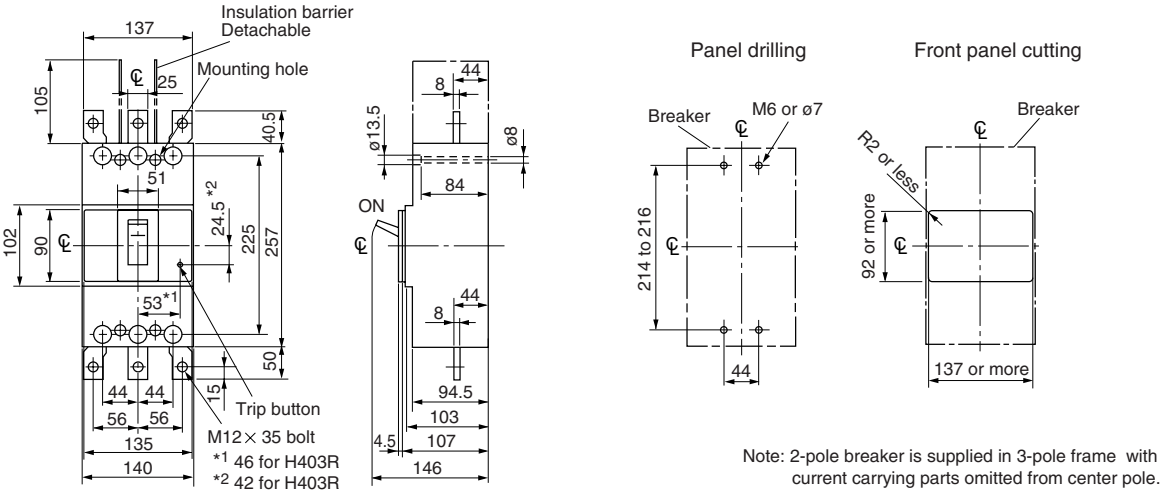
● Front mounting, front connection

H103R, H203R



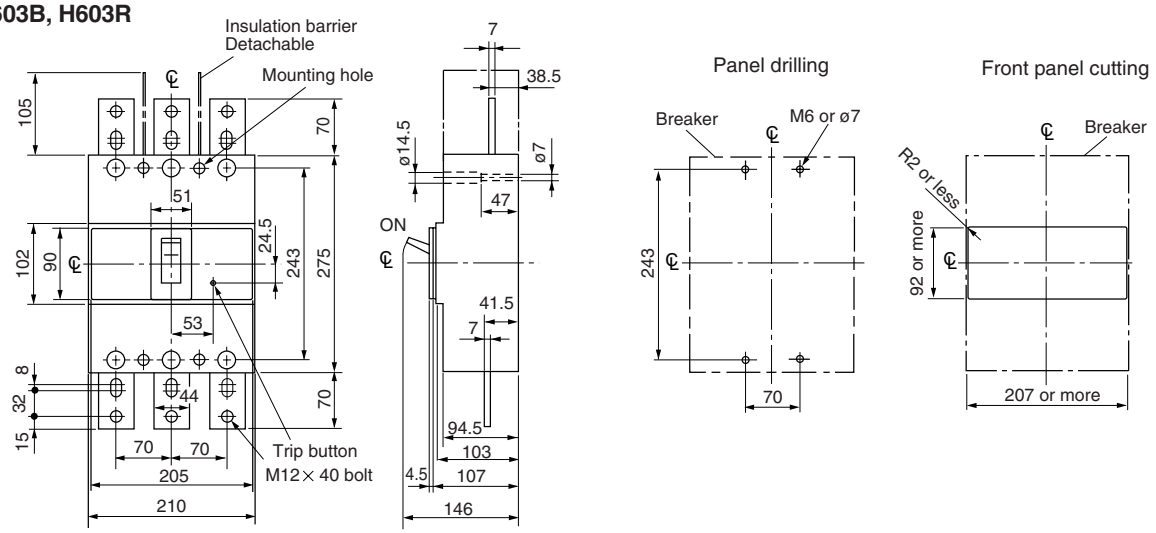
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

H402B, H403B, H403R



Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

H603B, H603R

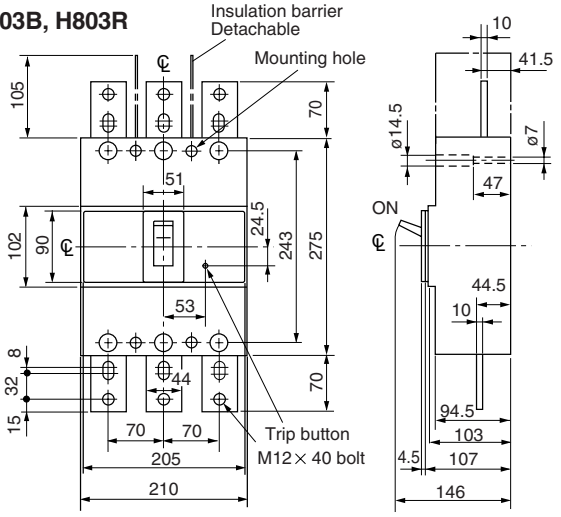


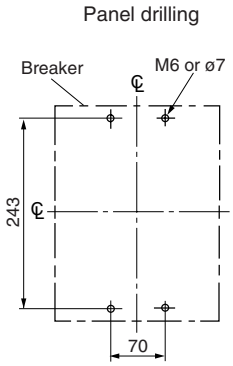
Dimensions
H series/2, 3-pole

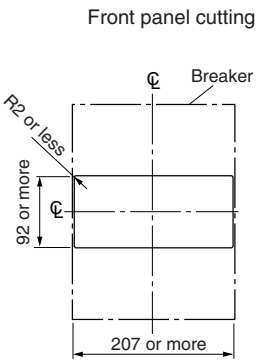
■ Dimensions, mm

● Front mounting, front connection

H803B, H803R

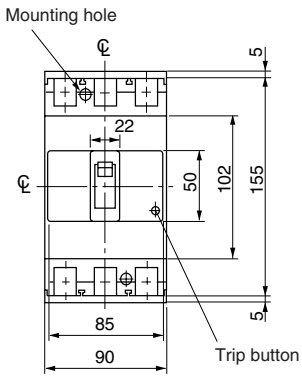


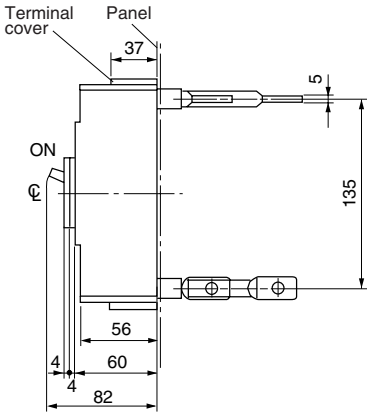


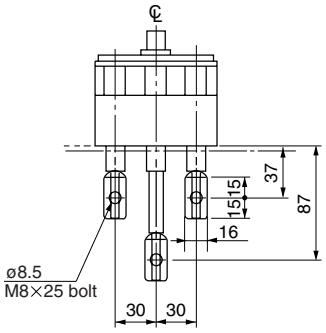


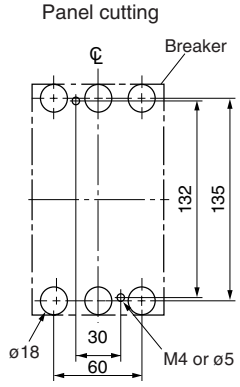
● Front mounting, rear connection (type X)

H52BA, H53BA, H102BA, H103BA







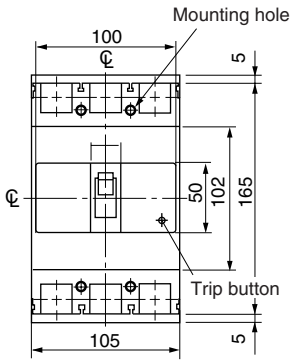


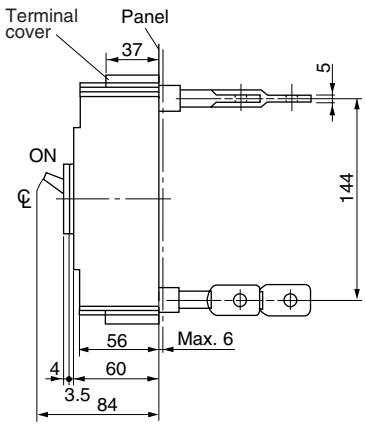
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

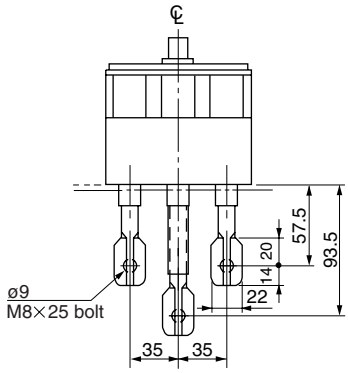
At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- Studs for line side terminals : mounted horizontally
- Studs for load side terminals : mounted vertically

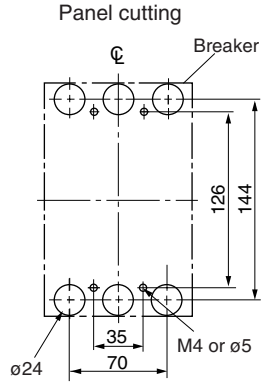
Each stud can be mounted both horizontally or vertically.

H202BA, H203BA









Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

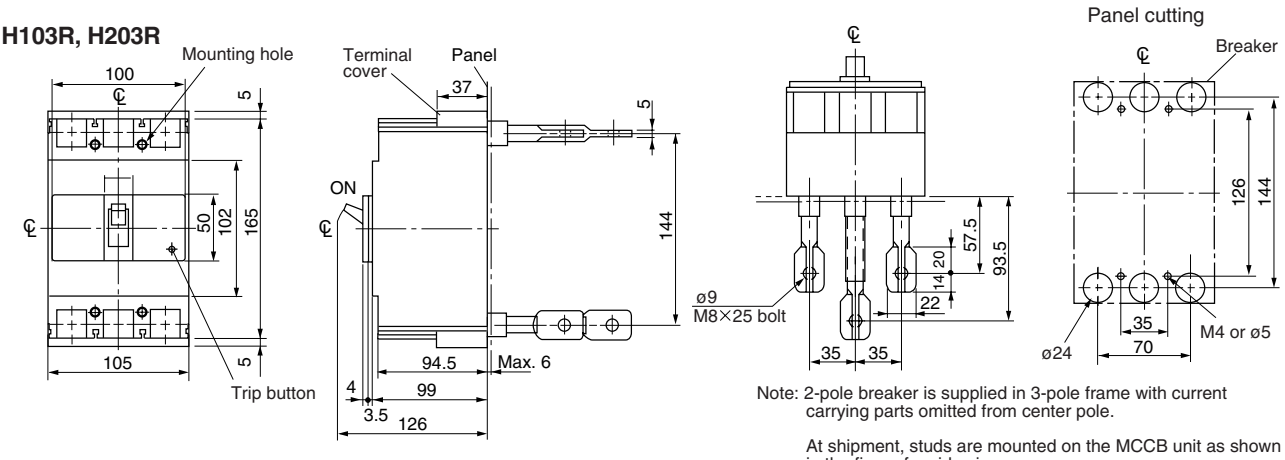
At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- Studs for line side terminals : mounted horizontally
- Studs for load side terminals : mounted vertically

Each stud can be mounted both horizontally or vertically.

■ Dimensions, mm

● Front mounting, rear connection (type X)

H103R, H203R

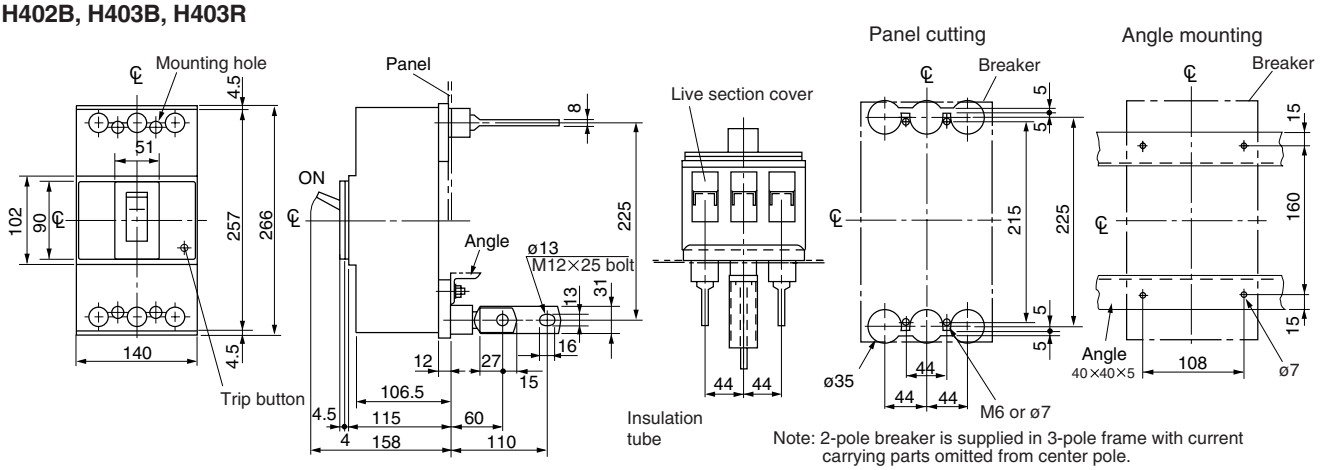


Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- Studs for line side terminals : mounted horizontally
- Studs for load side terminals : mounted vertically

Each stud can be mounted both horizontally or vertically.

H402B, H403B, H403R

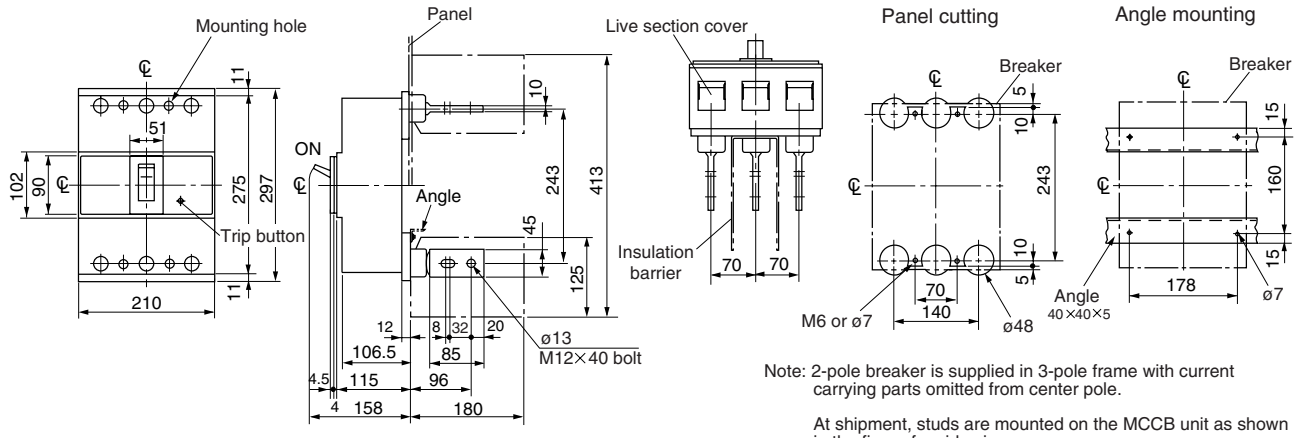


Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- Studs for line-side terminals : mounted horizontally
- Studs for load-side terminals : mounted vertically

Each stud can be mounted both horizontally or vertically.

H603B, H603R



Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- Studs for line side terminals : mounted horizontally
- Studs for load side terminals : mounted vertically

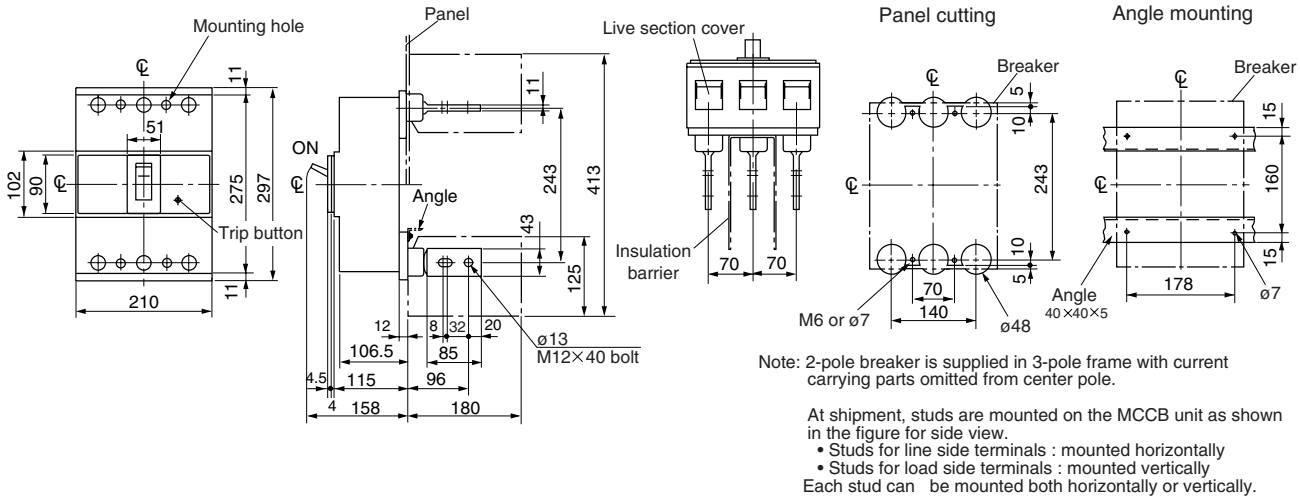
Each stud can be mounted both horizontally or vertically.

Dimensions
H series/ 3-pole

■ Dimensions, mm

● Front mounting, rear connection (type X)

H803B, H803R



Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

At shipment, studs are mounted on the MCCB unit as shown in the figure for side view.
- Studs for line side terminals : mounted horizontally
- Studs for load side terminals : mounted vertically

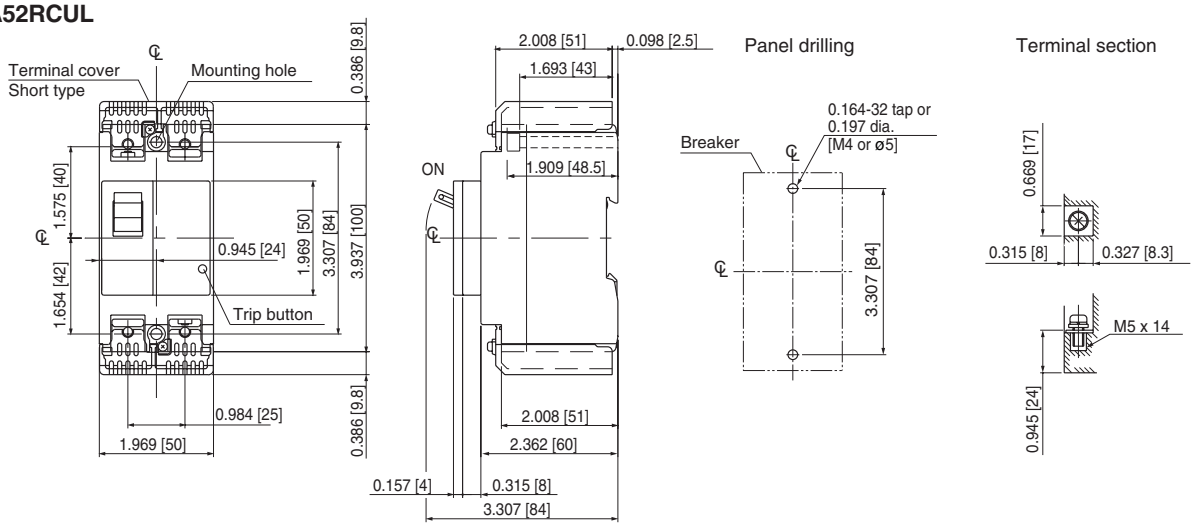
Each stud can be mounted both horizontally or vertically.

Dimensions for reference only. Confirm before construction begins.

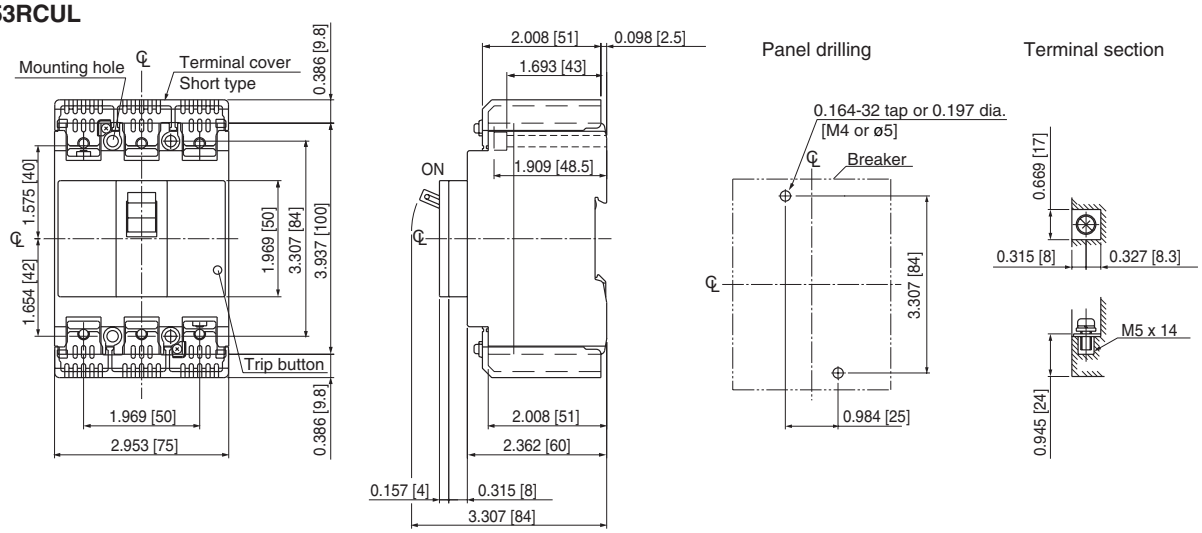
■ **Dimensions, inch [mm]**

● **Front mounting, front connection**

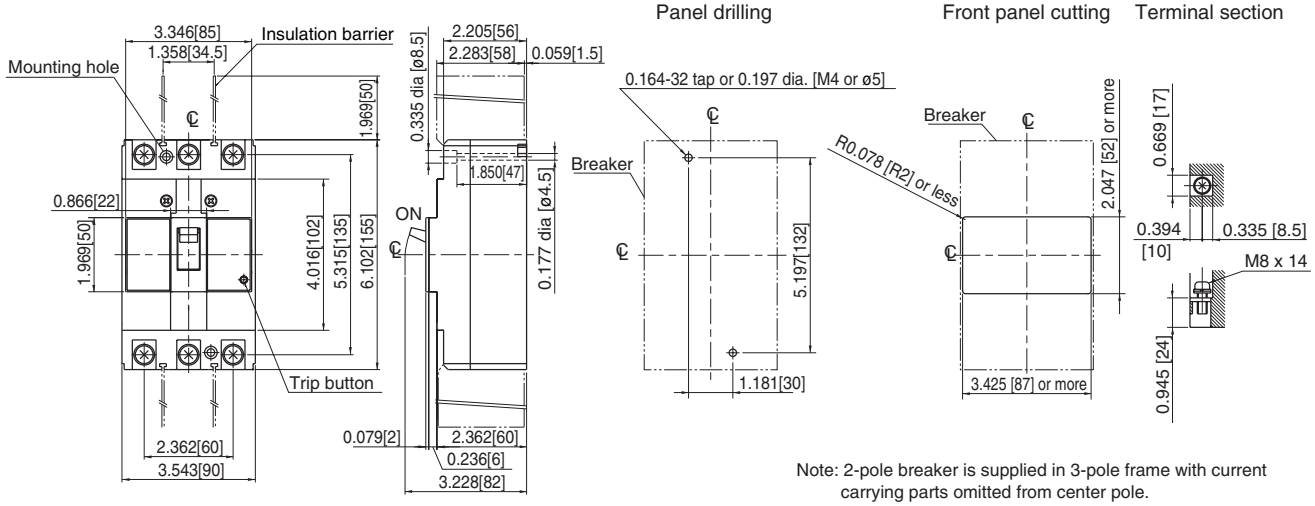
SA52RCUL



SA53RCUL



SA102CUL, SA103CUL, SA102RCUL, SA103RCUL

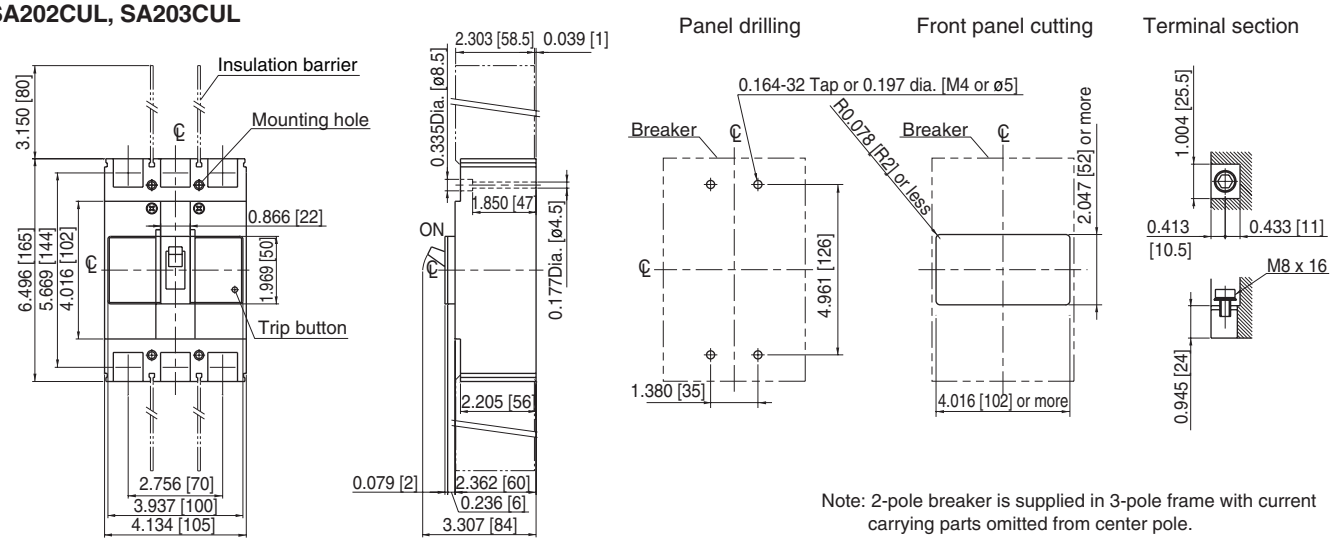


Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

■ **Dimensions, inch [mm]**

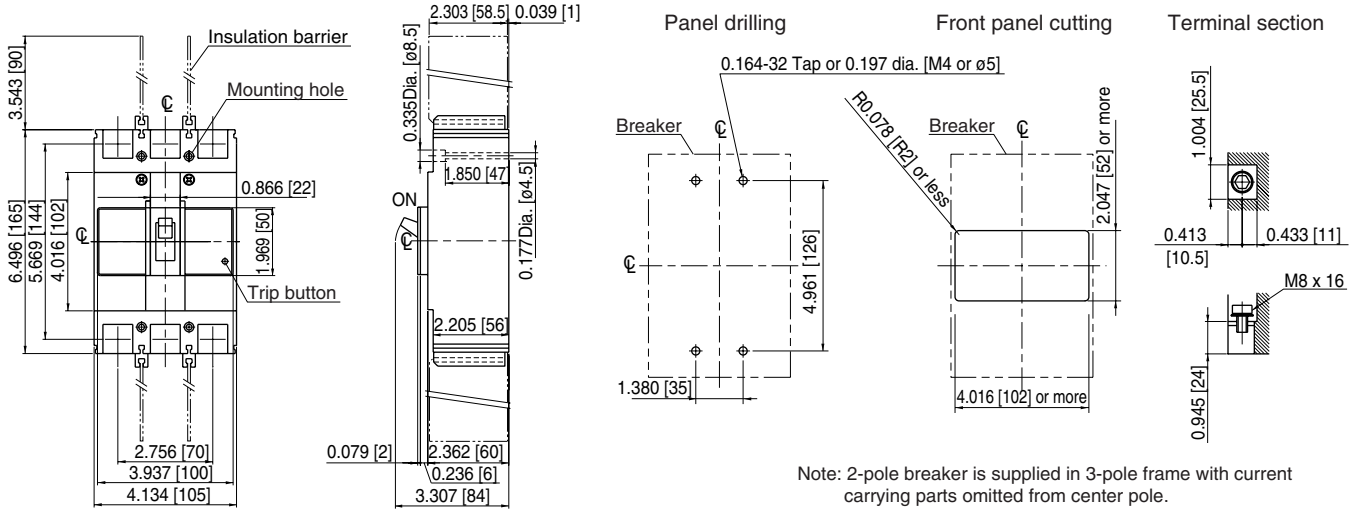
● **Front mounting, front connection**

SA202CUL, SA203CUL



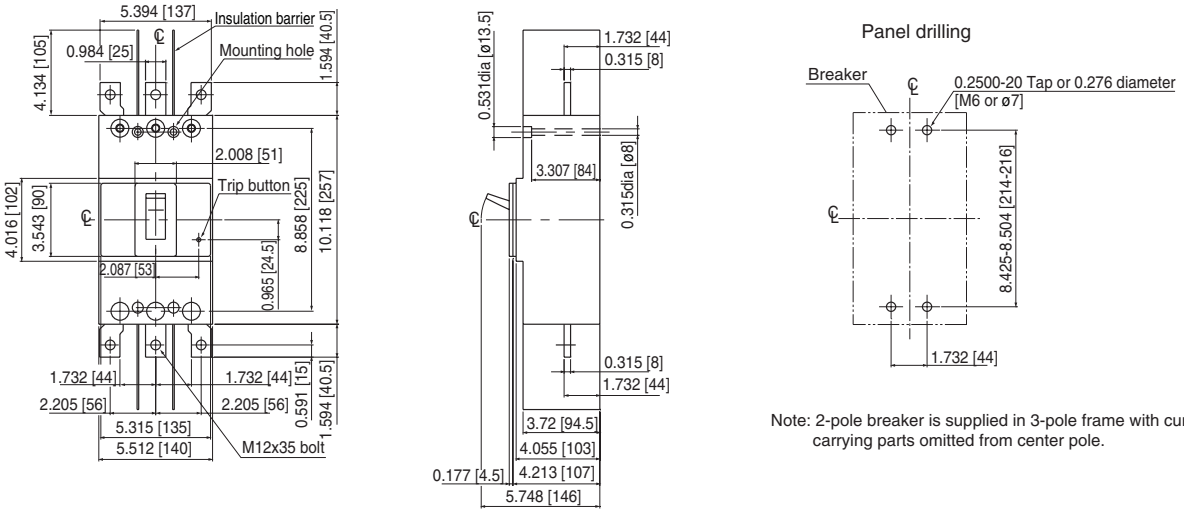
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

SA202RCUL, SA203RCUL



Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

SA402CUL, SA403CUL, SA402RCUL, SA403RCUL

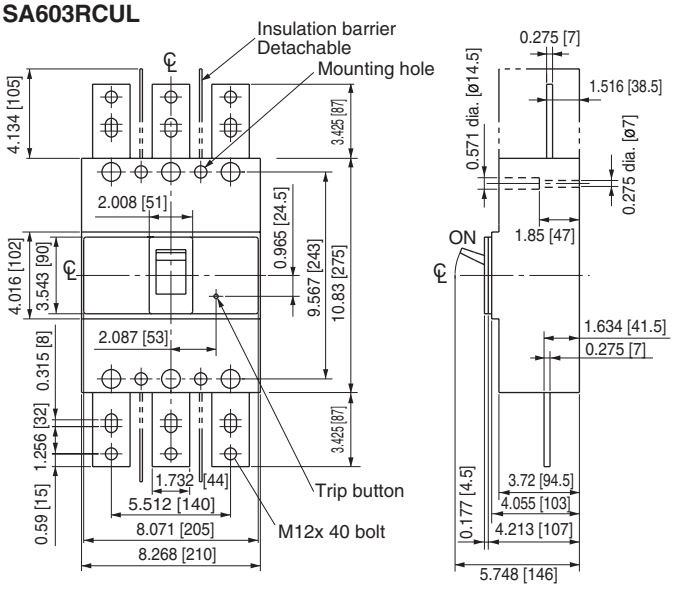


Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

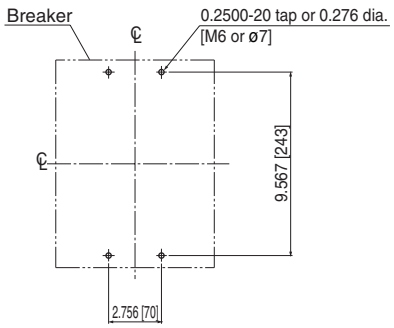
■ Dimensions, inch [mm]

● Front mounting, front connection

SA603RCUL

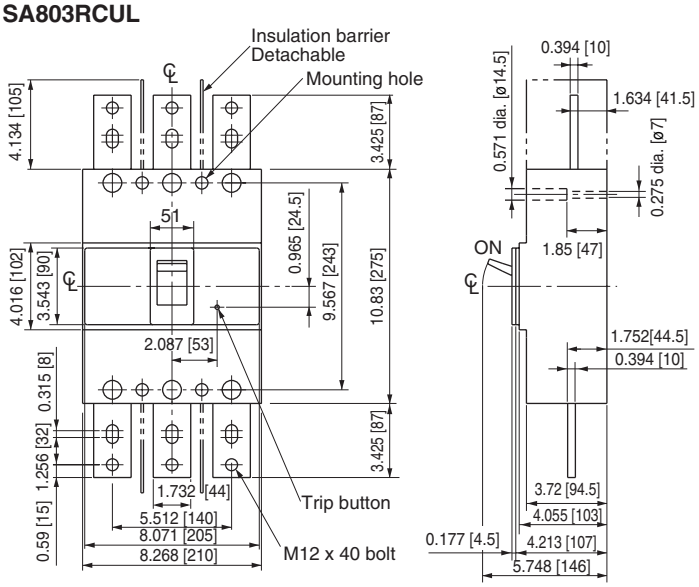


Panel drilling

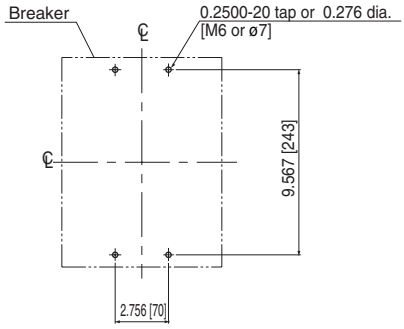


Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

SA803RCUL



Panel drilling



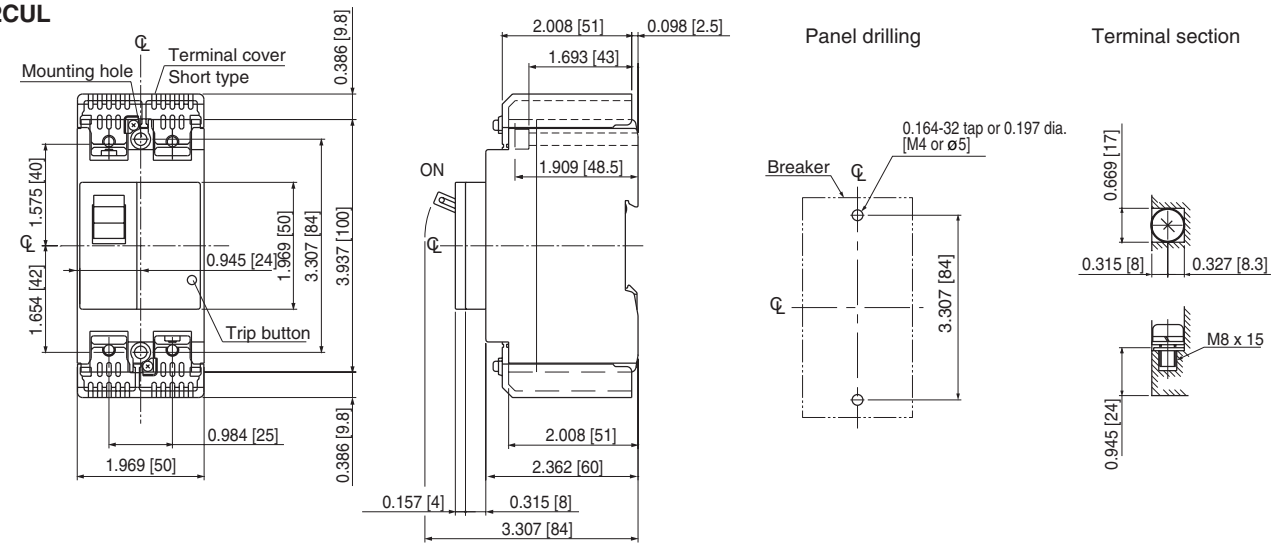
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

Dimensions
UL Listed

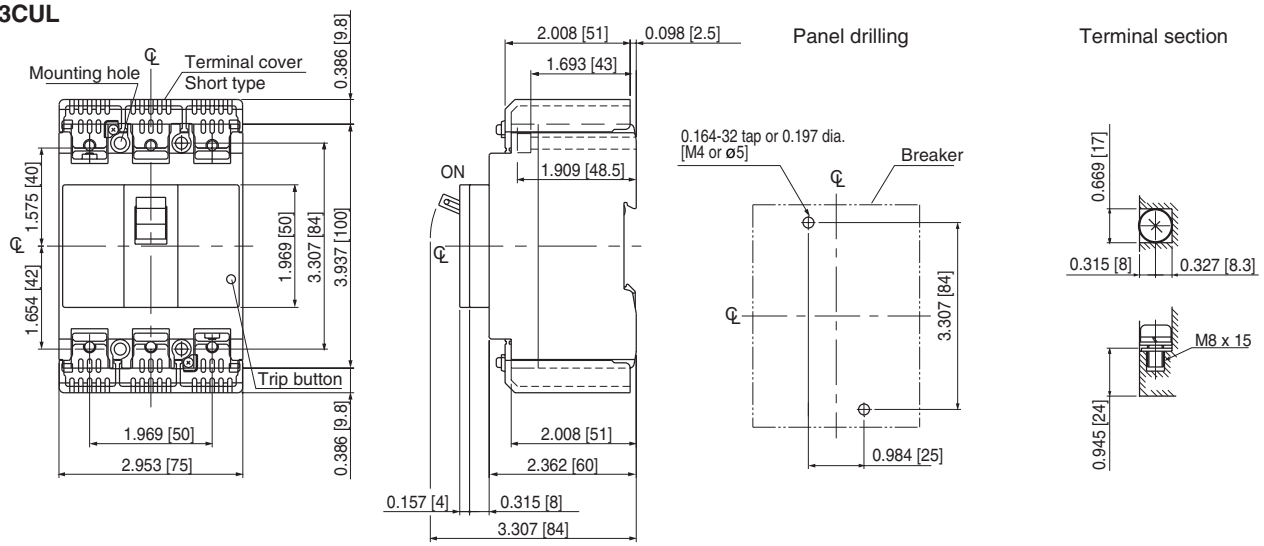
■ Dimensions, inch [mm]

● Front mounting, front connection

EA102CUL



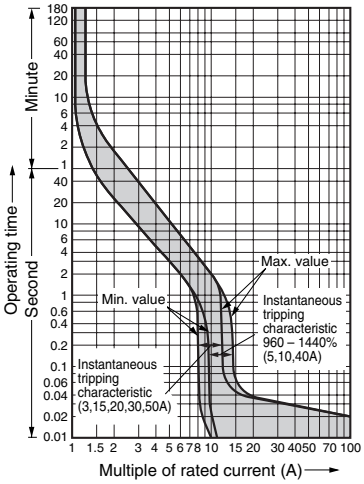
EA103CUL

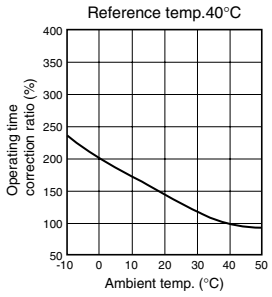


Dimensions for reference only. Confirm before construction begins.

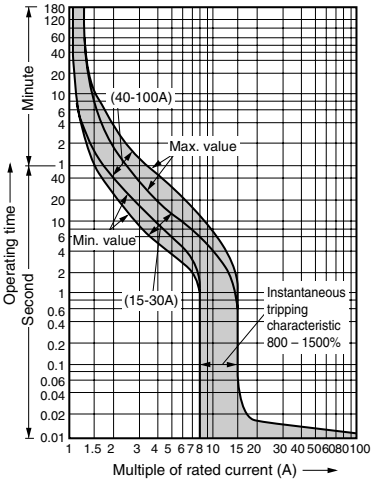
■ S and E series, 2, 3-pole

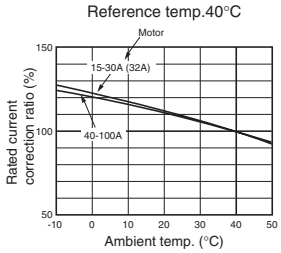
SA30C, SA50C, SA50RC
EA30AC, EA50AC, EA50C



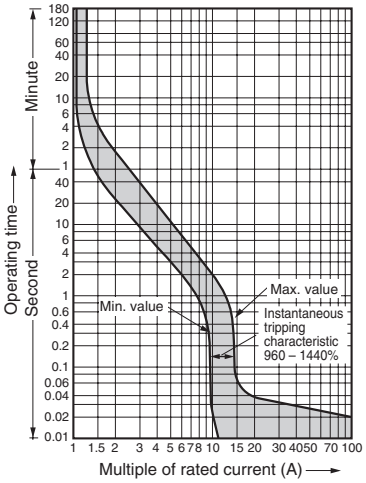


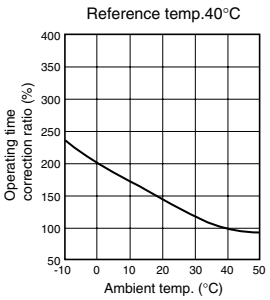
SA100C, SA100RC



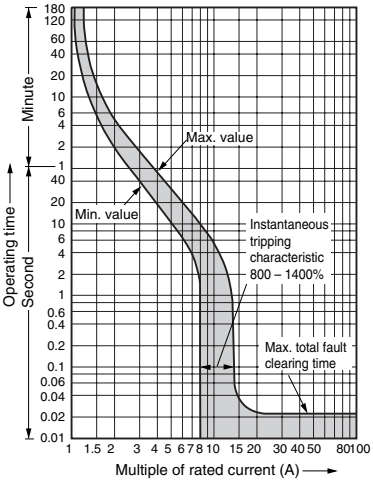


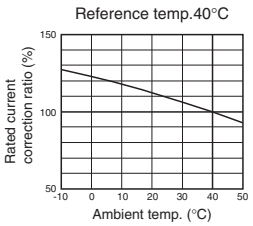
SA60C, SA60RC
EA60C



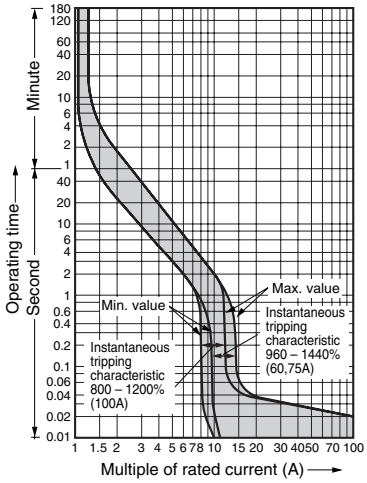


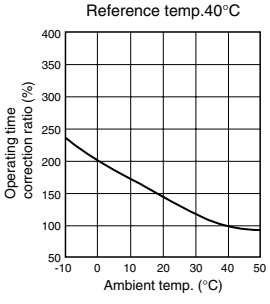
SA225C, SA225RC
EA225C



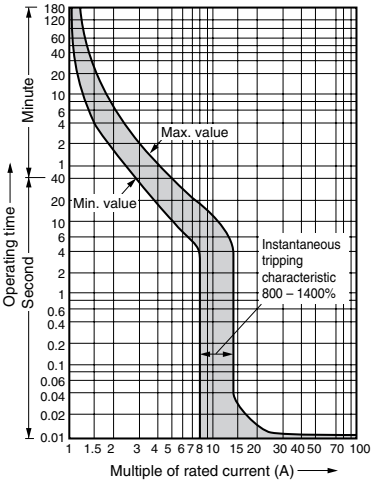


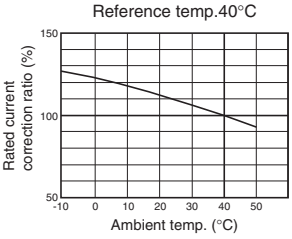
EA100AC, EA100C





SA400C, SA400RC
EA400C

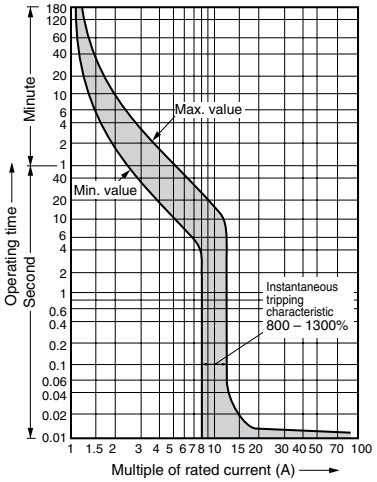


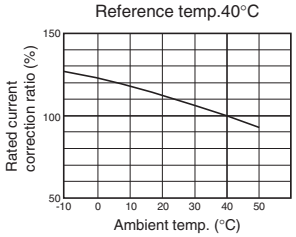


Characteristic curves
Line protection

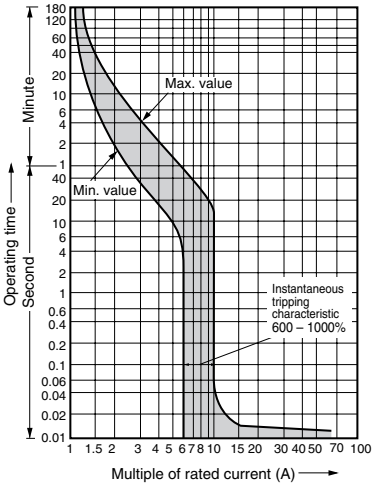
■ S and E series, 3-pole

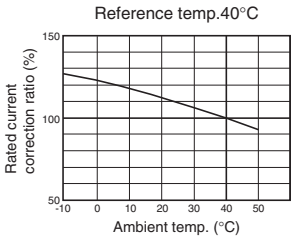
SA600RC
EA600C





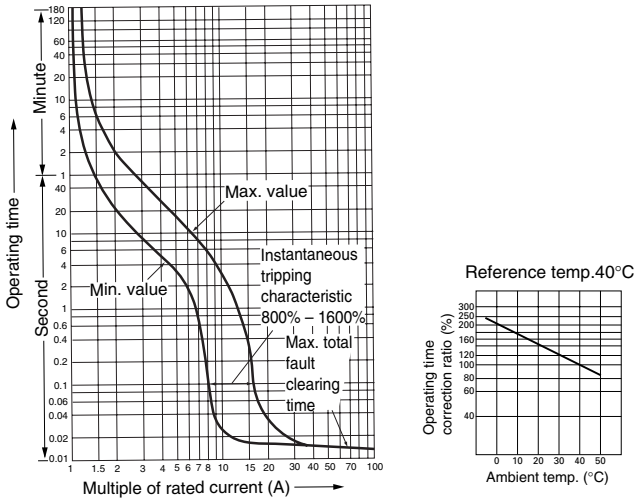
SA800RC
EA800C



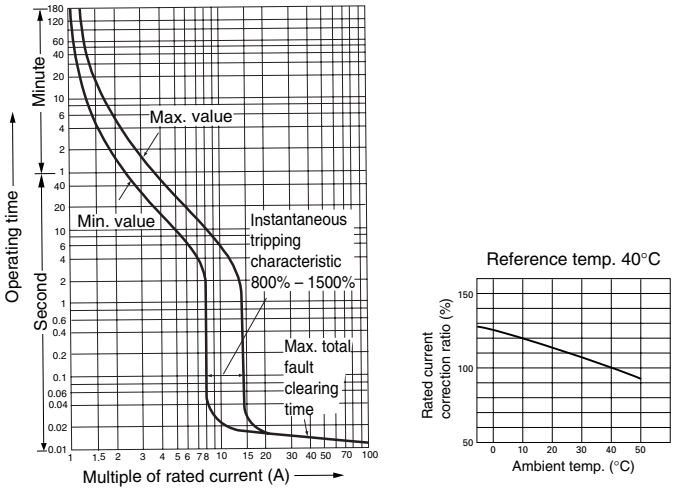


■ S and E series, 4-pole

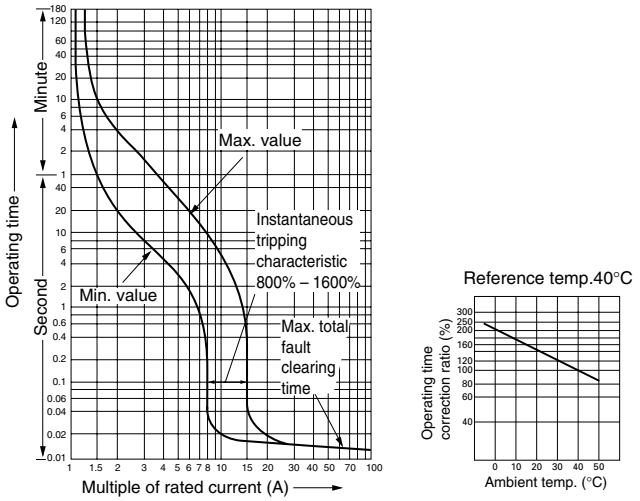
SA54B



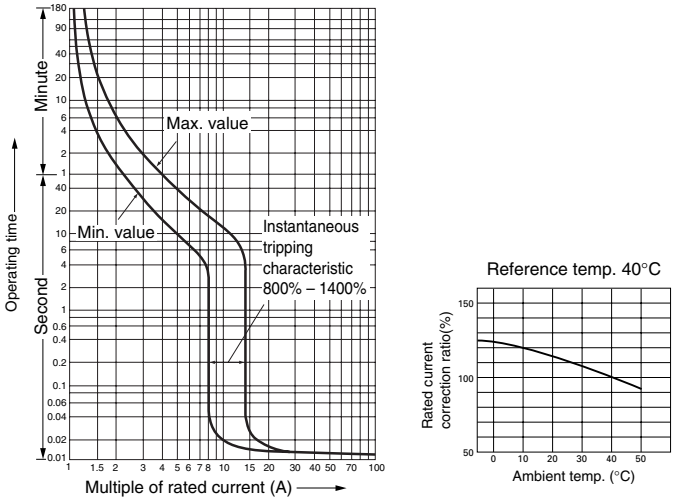
SA204R



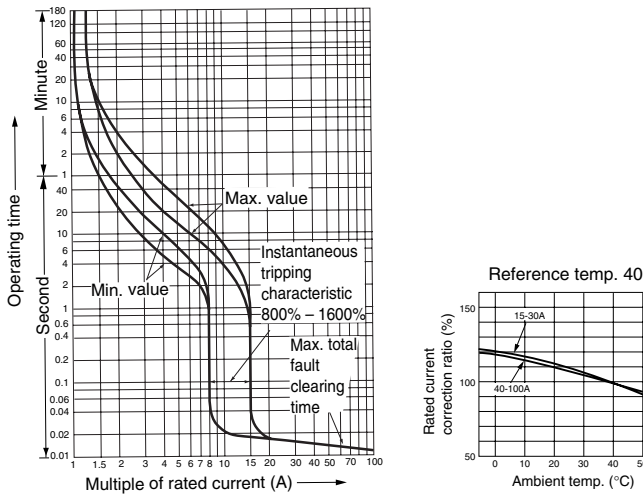
EA104B



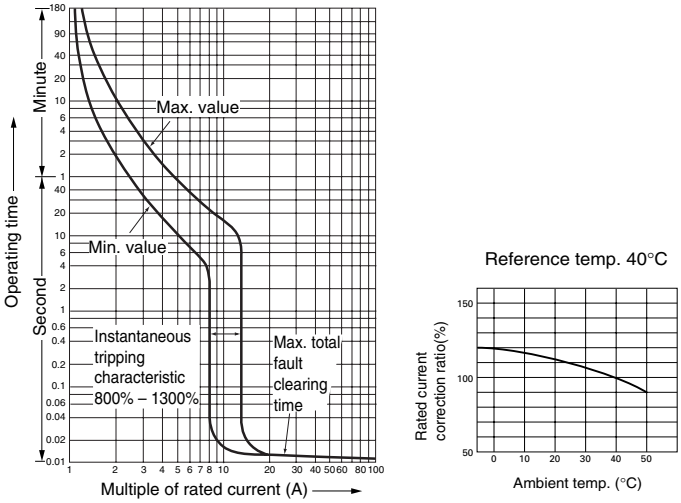
SA404HA



SA104R



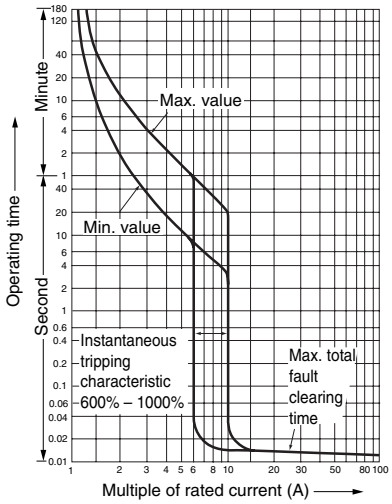
SA604H

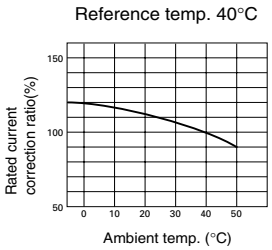


Characteristic curves
Line protection

■ S series, 4-pole

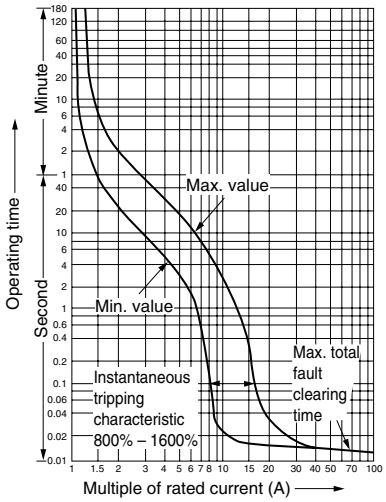
SA804H

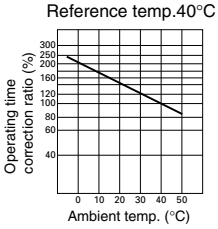




■ L series, 3-pole

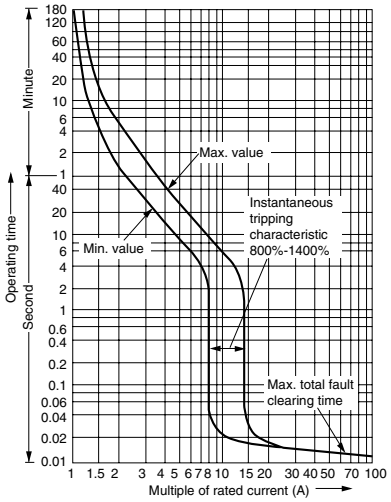
LA50B

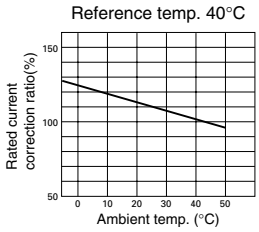




■ H series, 2, 3-pole

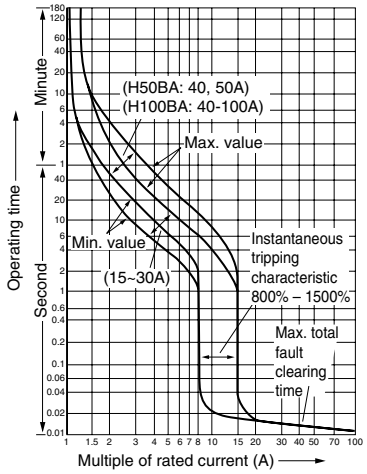
H225BA, H225R

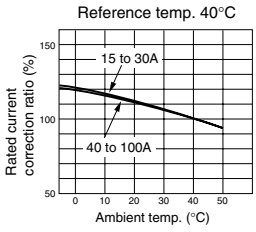




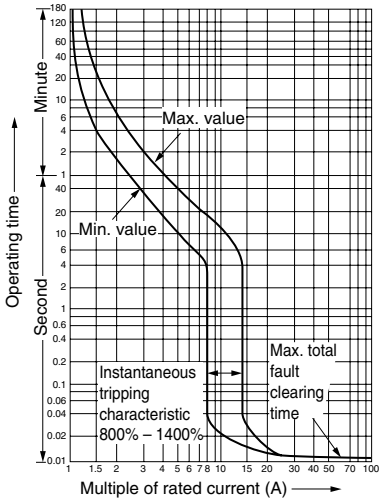
■ H series, 2, 3-pole

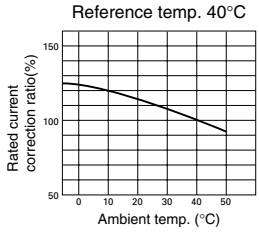
H50BA, H100BA



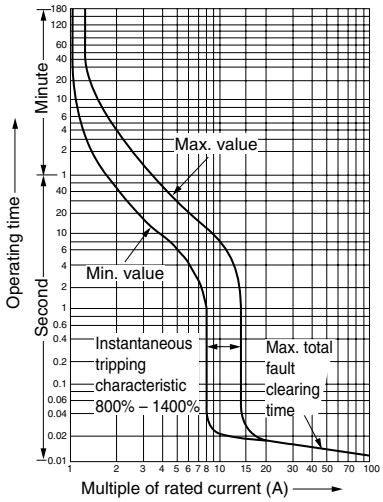


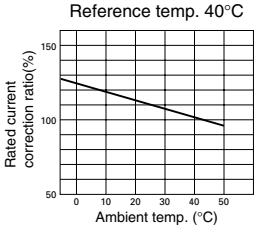
H400B, H400R



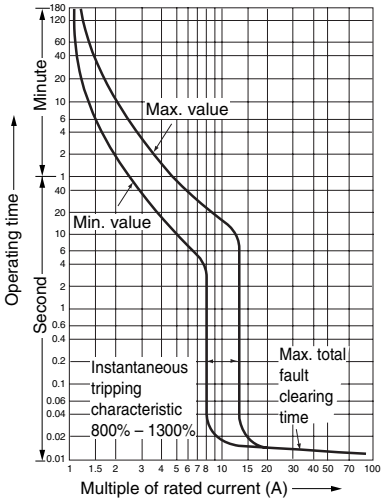


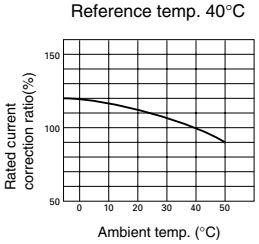
H100R





H600B, H600R

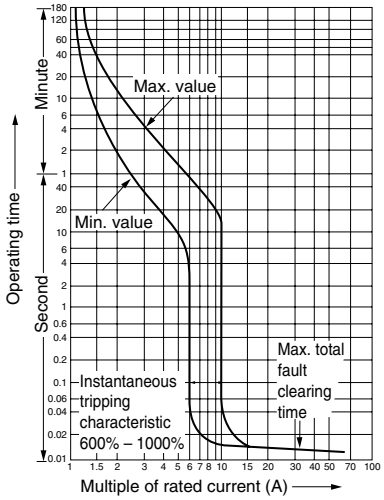


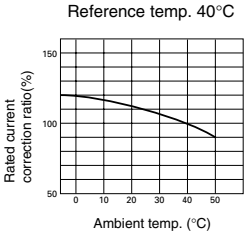


06

■ H series, 3-pole

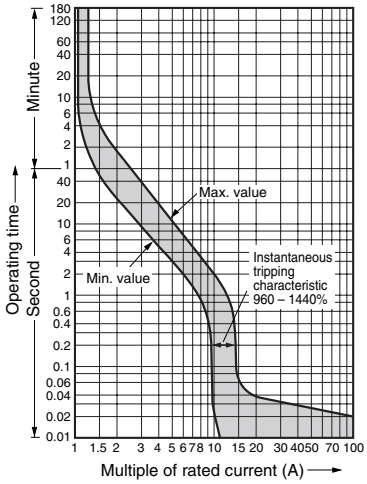
H800B, H800R

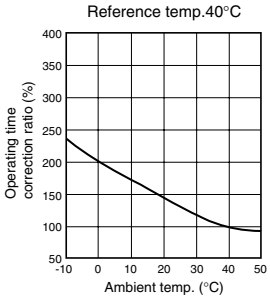




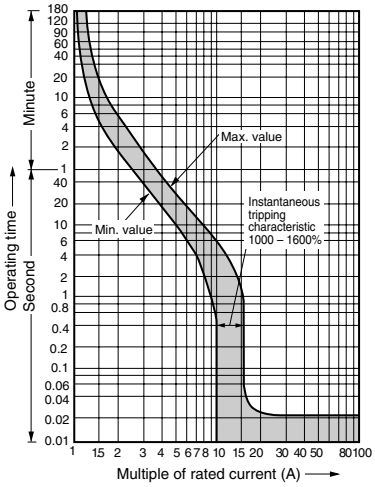
■ S and E series

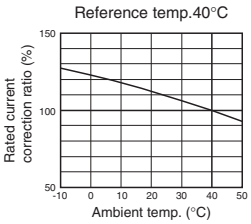
SA30CM, SA50CM, SA50RCM
EA30ACM, EA50CM



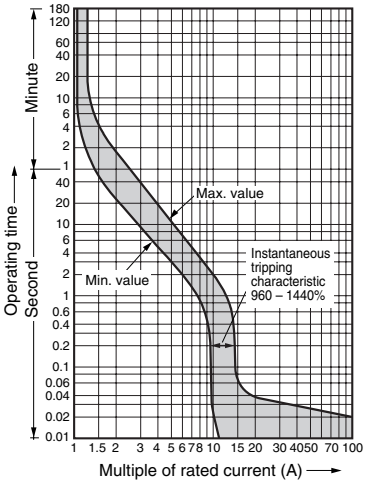


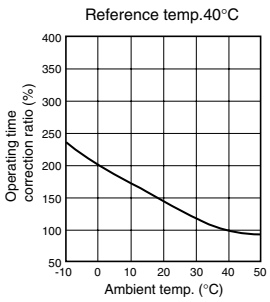
SA225CM, SA225RCM
EA225CM



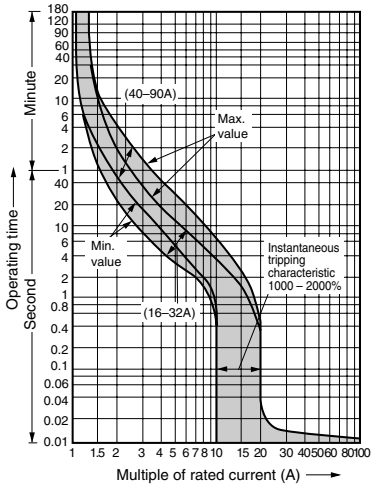


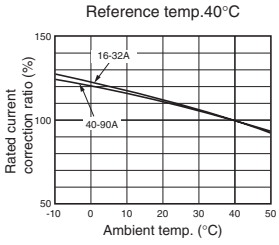
SA60CM
EA60CM, EA100CM





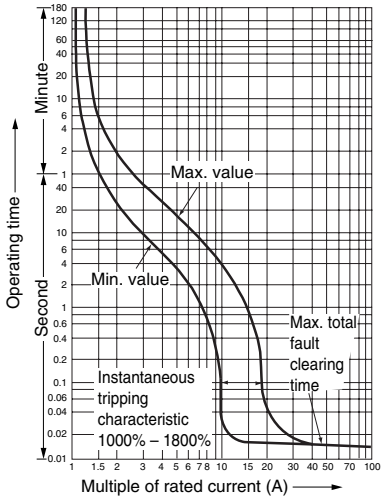
SA100CM, SA100RCM

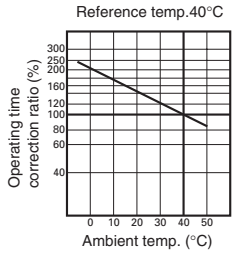




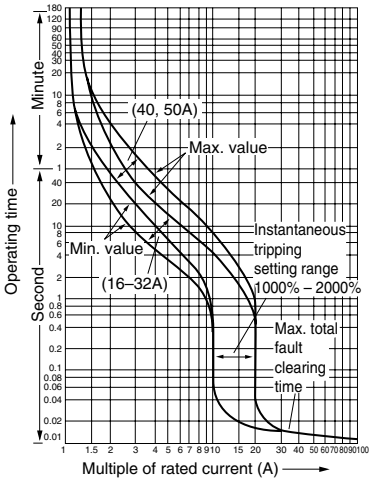
■ L and H series

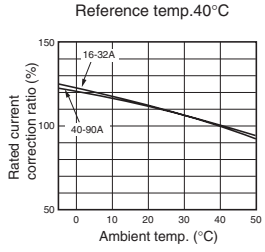
LA50BM





H50BAM



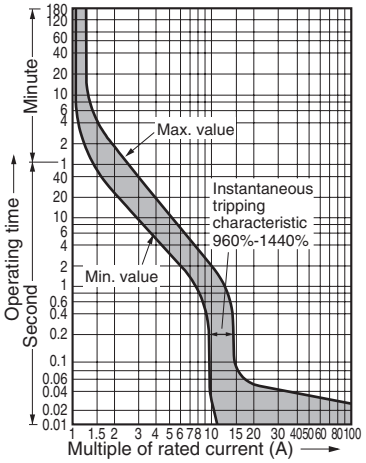


Characteristic curves
UL Listed

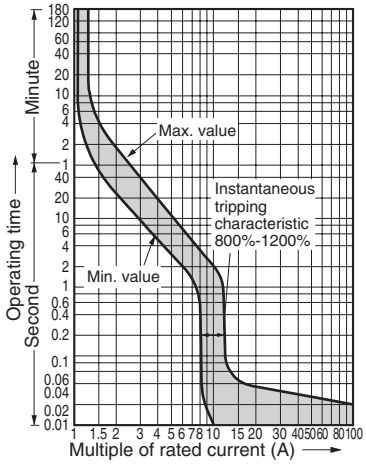
■ S and E series, 2, 3-pole

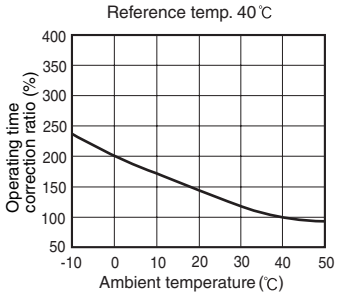
SA50RCUL, EA100CUL

Rated current : 5, 10, 40, 60, 70, 75, 80, 90A

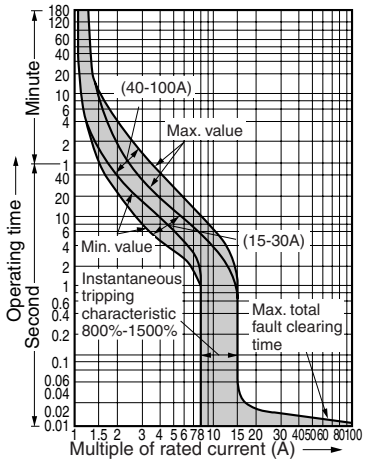


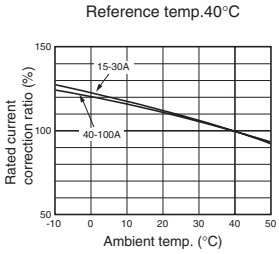
Rated current : 3, 15, 20, 30, 50, 100A



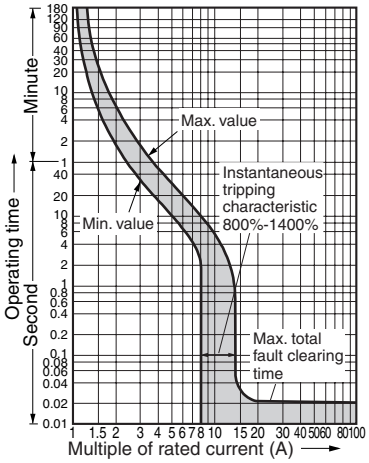


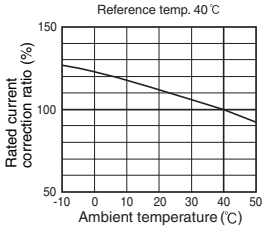
SA100CUL, SA100RCUL





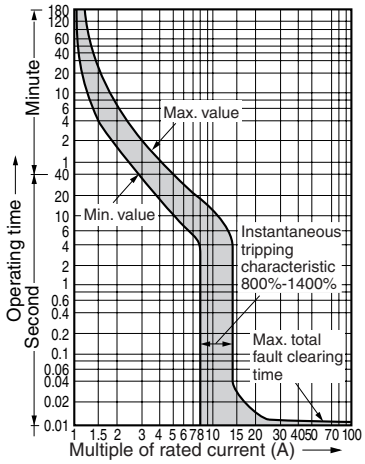
SA225CUL, SA225RCUL

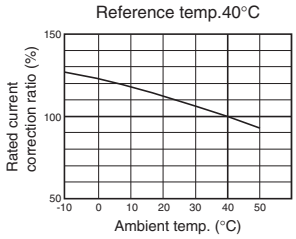




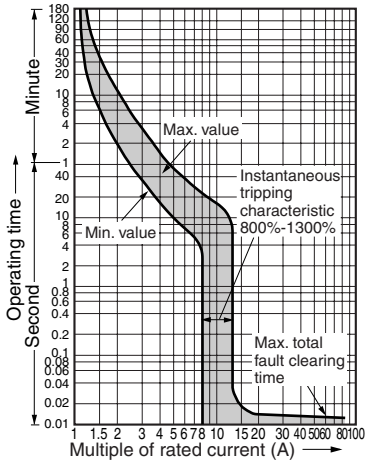
■ S series, 2, 3-pole

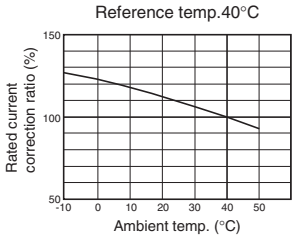
SA400CUL, SA400RCUL



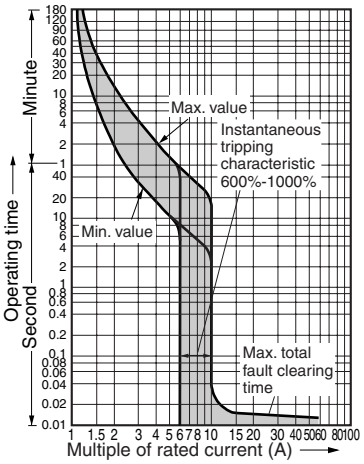


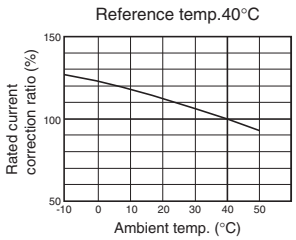
SA600RCUL





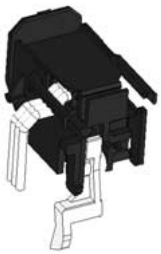
SA800RCUL





Variation of internal accessory

Auxiliary switch (Type W)

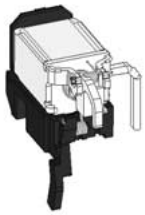


This switch is used for indicator lamp or control circuit.

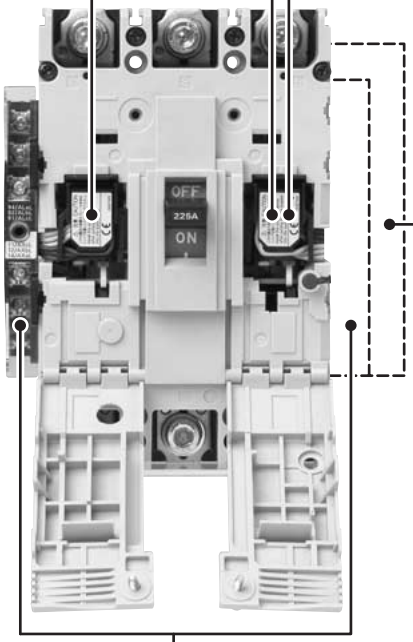
Alarm switch (Type K)

This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped.

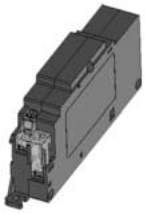
Shunt trip device (Type F)



The purpose of this accessory is to trip the breaker from a distance.

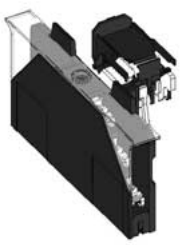


Undervoltage trip device (Type R)



The device is designed to protect circuits from harmful voltage drops.
It can also be used for remote control purposes. The trip operates when the voltage drops to less than 70% of nominal coil rating, and the breaker cannot be reset until the voltage recovers 85% of its normal rating.

Terminal block (Type A)

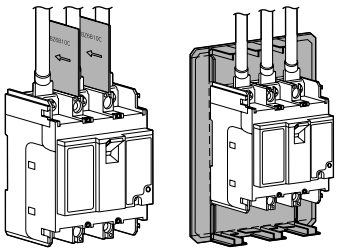


A wiring terminal for internal accessories (Order with W, K or F)

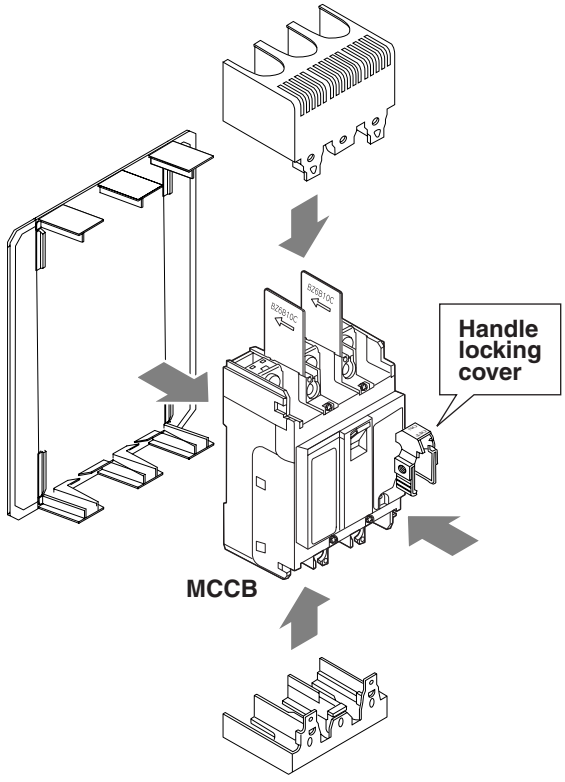
Variation of external accessory

Insulation barriers

The interphase barrier reinforces the insulation between terminals, while the earth barrier increases the insulation between the terminal and the mounting panel.
See page 06/129

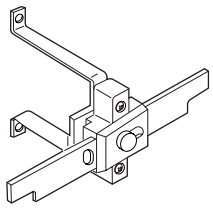


Interface barrier Earth barrier



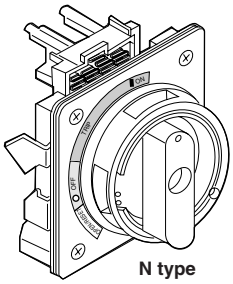
Mechanical interlock device

The mechanical interlock device can be mounted onto two separate breakers to maintain a mutual ON or OFF condition. The device can also be locked with a padlock.
See page 06/110

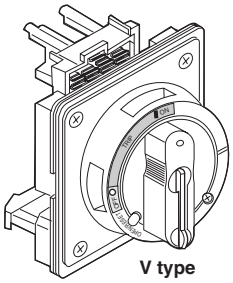


External operating handles

There are two handles available in the series: the V type handle on panel mount and the N type handle on breaker mount. An extension shaft (sold separately) for the V type handle allows the distance between the handle and the breaker to be adjusted. The protective structure of the V type handle operation section conforms to IP54. Both handle types can be locked with a padlock conforming to IEC 60204-1. The panel cutout dimensions are the same for both handles.
See page 06/113



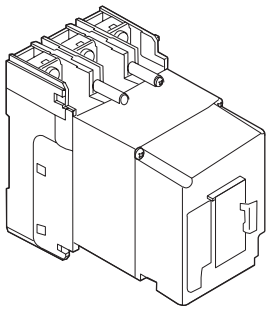
N type



V type

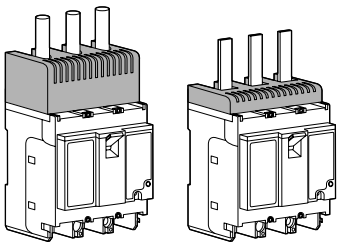
Motor-operating mechanism

A new drive structure in the motor operating mechanism speeds up drive operation to drastically reduce ON/OFF switching time from 2s to 0.1s.
See page 06/106



Terminal covers

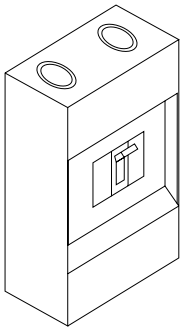
Finger protection guards against shock from accidentally touching live terminals.
Two types of terminal covers are available–long type and short type.
See page 06/128



Long type Short type

Steel enclosures

Enclosures are available in three types–two with V-type handle which allows the operation from the outside, and other direct operating.
See page 06/126



Terminal blocks for auxiliary circuit

- It indicates the terminal No. of internal accessory.The connection method of internal accessory is lead-wire system and terminal block system.
- Specify the connection method when ordering. It is lead-wire system unless specified.
- The lead wires are pulled out and terminal blocks are attached on the same side of the internal accessory will be attached
- For the available configuration of internal accessory, *see page 06/92 to 06/93.*

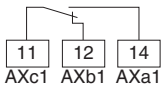
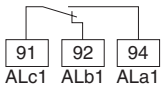
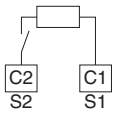
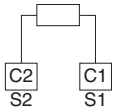
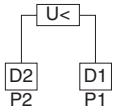
Lead-wire wiring

With terminal block

• IEC and CE marking conformed types

Accessory		30 – 225AF		400 – 800AF
		Left side mounting	Right side mounting	Left side mounting
Auxiliary switch	SPDT: W	11 12 14 AXcL AXbL AXaL	21 22 24 AXcR AXbR AXaR	11 12 14 AXc AXb AXa
	2PDT: W2	11 12 14 AXcL AXbL AXaL	21 22 24 AXcR AXbR AXaR	11 12 14 AXc AXb AXa 21 22 24 AXc AXb AXa
Alarm switch	SPDT: K	91 92 94 ALcL ALbL ALaL	01 02 04 ALcR ALbR ALaR	91 92 94 ALc ALb ALa
	2PDT: K2	91 92 94 ALcL ALbL ALaL	01 02 04 ALcR ALbR ALaR	91 92 94 ALc ALb ALa 01 02 04 ALc ALb ALa
Shunt trip device : F	With 1NO contact to prevent coil burn-out	C2 C1 S2 S1		
	Continuous rating	C2 C1 S2 S1		
Undervoltage trip device : R		U< D2 D1 P2 P1		

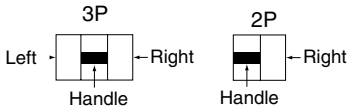
• L series, H series

Accessory		Terminal number LA50B, H100R, H225R, H400R, H600R, H800R H50BA, H100BA, H225BA, H400B, H600B, H800B
Auxiliary switch	SPDT: W	
	2PDT: W2	
Alarm switch	SPDT: K	
	2PDT: K2	
Shunt trip device : F	With 1NO contact to prevent coil burn-out	
	Continuous rating	
Undervoltage trip device : R		

06

Internal accessories

■ Available configurations



Undervoltage trip: R Shunt trip: F ○ Auxiliary switch: W ● Alarm switch: K

MCCB										
	S series	**SA32C** **SA52C** **SA52RC** **SA62C** **SA62RC**	**SA102C**	**SA33C** **SA53C** **SA53RC** **SA63C** **SA63RC**	**SA103C** **SA102RC** **SA103RC** **SA202C** **SA203C** **SA202RC** **SA203RC**	–	**SA402C** **SA403C** **SA402RC** **SA403RC** **SA603RC** **SA803RC**	**SA54B***1 **SA104R** **SA204R**	**SA404HA**	**SA604H** **SA804H**
	E series	**EA32AC** **EA52AC** **EA52C** **EA62C** **EA102C**	–	**EA33AC** **EA53AC** **EA53C, 63C** **EA103AC** **EA103C**	**EA202C** **EA203C**	–	**EA402C** **EA403C** **EA603C** **EA803C**	**EA104B** *1	–	–
	H • L series	–	–	–	–	**LA53B** **H103R, 203R** **H52BA, 53BA** **H102BA, 103BA** **H202BA, 203BA**	**H402B, H403B** **H403R** **H603B, H603R** **H803B, H803R** *3	–	–	–
Pole		2	2	3	2, 3	2, 3	2, 3	4	4	4
Auxiliary switch SPDT W		○	○	○	○	○	○	○	○	○
Alarm switch SPDT K		●	●	●	●	●	●	●	●	●
Shunt trip F		□	□	□	□	□	□	□	□	□
Undervoltage trip R		■	■	■	■	■ *2	■		■ *2	■ *2
W2				○○	○○	○○	○○	○○	○○	○○
W+K		●○	○●	●○	●○	●○	●○	●○	●○	●○
W2+K				●○○	●○○	●○○	●○○	●○○	●○○	●○○
K2				●●	●●●	●●●	●●●	●●●		
W+K2				●○●	●○●	●○●	●○●	●○●		
W2+K2				●○●○	●○●○	●○●○	●○●○	●○●○		
W+F				○□	○□	○□	○□	○□	□○	□○
W2+F							○○□		□○○	□○○
W+R		○■		○■	○■	○■ *2	○■		■○ *2	■○ *2
W2+R				○○■			○○■		■○○ *2	■○○ *2
K+F				●□	●□	●□	●□	●□	□●	□●
K+R		●■		●■	●■	●■ *2	●■		■● *2	■● *2
W+K+F				●○□	●○□	●○□	●○□	○●□	□●○	□●○
W+K+R		●○■		●○■	●○■	●○■ *2	●○■		■●○ *2	■●○ *2
K2+F							●●□			
K2+R				●●■			●●■			
W2+K+F							●○○□			□●○○ *2
W2+K+R				●○●■			●○○■			■●○○ *2
W+K2+F							●●○□			
W+K2+R				●○●■			●●○■			
W2+K2+F							●●○○□			
W2+K2+R				●○●○■			●●○○■			

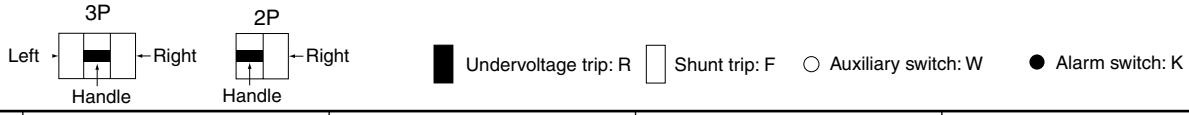
Notes: • The lead wires are pulled out and terminal blocks are attached on the same side of the accessory.attached.

*1 The "W" and "K" of EA104B and SA54B are mounted on the left pole only. They cannot be mounted on the right side pole.

*2 The side on which the undervoltage trip device "R" is mounted has the terminal block.

*3 H400R, H600R, H800R: Factory-mounted

■ Available configurations



MCCB					
	S series	**SA52RCUL ***	**SA53RCUL ***	**SA102CUL** **SA103CUL** **SA102RCUL** **SA103RCUL** **SA202CUL** **SA203CUL** **SA202RCUL** **SA203RCUL**	**SA402CUL** **SA403CUL** **SA402RCUL** **SA403RCUL** **SA603RCUL** **SA803RCUL**
	E series	**EA102CUL ***	**EA103CUL ***	–	–
Pole		2	3	2, 3	2, 3
Auxiliary switch SPDT W					
Alarm switch SPDT K					
Shunt trip F					
Undervoltage trip R					
W2					
W+K					
W2+K					
K2					
W+K2					
W2+K2					
W+F					
W2+F					
W+R					
W2+R					
K+F					
K+R					
W+K+F					
W+K+R					
K2+F					
K2+R					
W2+K+F					
W2+K+R					
W+K2+F					
W+K2+R					
W2+K2+F					
W2+K2+R					

Notes: • The lead wires are pulled out and terminal blocks are attached on the same side of the accessory.attached.
* Terminal block connection is standard method

Internal accessories

■ Type number nomenclature of internal accessory

• Up to 225AF

BZ6 WK L 10C A (CCC)

Optional accessories

Type of accessories
W: Auxiliary switch
WD: Aux. switch for low level circuit
K: Alarm switch
KD: Alarm switch for low level circuit
WK: Aux. and alarm switches
WDKD: Aux. and alarm switches for low level circuit
F☐: Shunt trip device
R☐: Undervoltage trip device

☐: Operating voltage code
See page 06/103

Terminal block installation position
L : Left side of breaker
R : Right side of breaker

(CCC): CCC approved

Wiring
Blank : Lead-wire wiring
A : With terminal block

Applicable breakers
10C : Up to SA60RC, EA100C
30C : SA100C, SA100RC
40C : SA225C, SA225RC, EA225C

• 400AF to 800AF

BZ - WKF 70B - 24 - A (CCC)

Optional accessories

Type of accessories
W : Auxiliary switch
K : Alarm switch
F : Shunt trip device
R : Undervoltage trip device

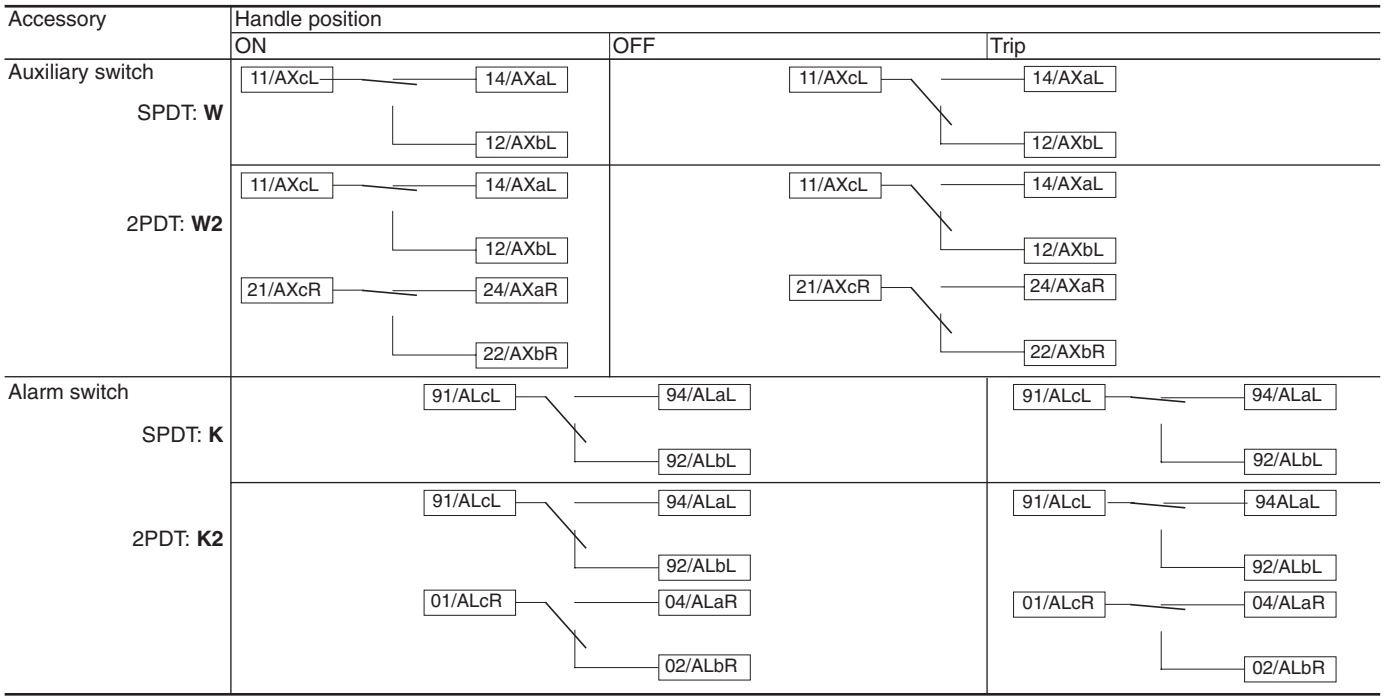
Applicable breakers
70B : 400AF to 800AF

(CCC): CCC approved

Wiring
Blank : Lead-wire wiring
A : With terminal block

Operating voltage code
See page 06/105

■ Operation of auxiliary switches(W) and alarm switches(K)



Note: ▭ Ring mark indication

06

■ Ratings of auxiliary switches(W) and alarm switches(K)

● Standard type

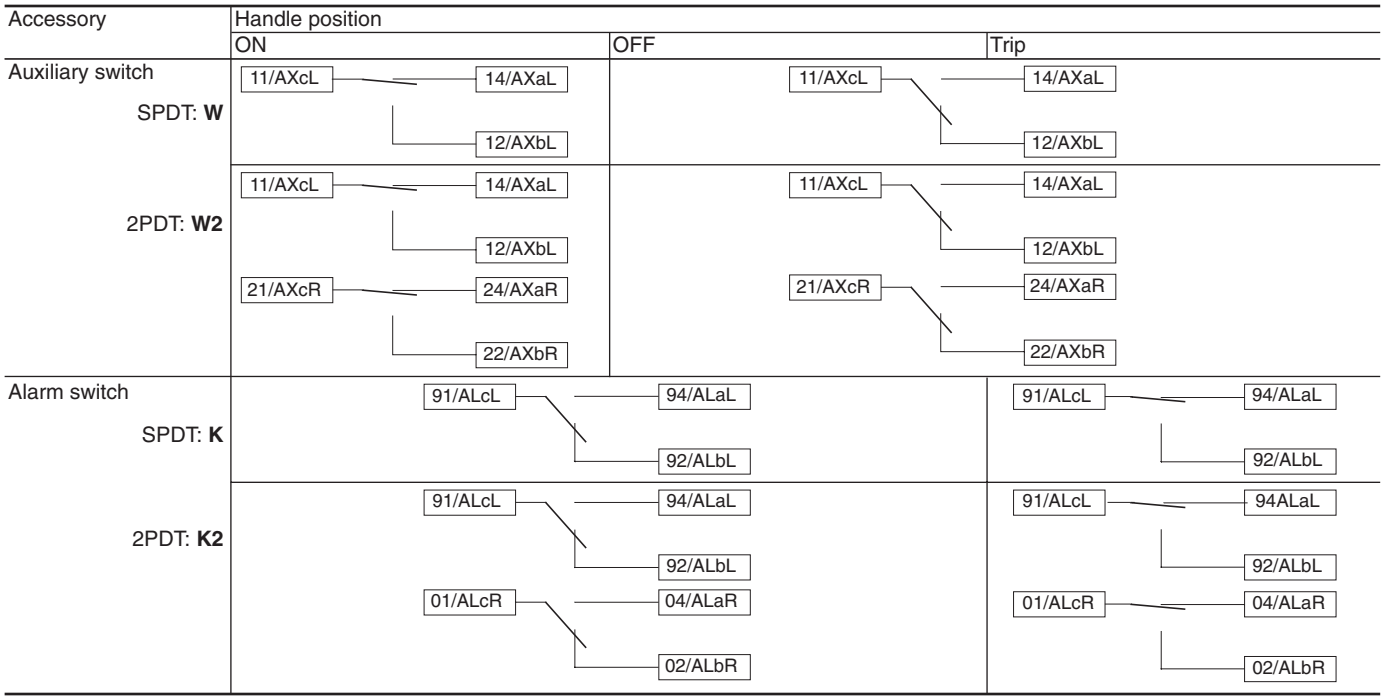
Applicable breaker type			Rated operating current (A) IEC60947-5-1, JIS C8201-5-1				Minimum load current
S series	E series	H and L series	AC		DC		
			Voltage (V)	AC15 Ind. load	Voltage (V)	DC13 Ind. load	
SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50AC EA50C EA60C EA100AC EA100C	–	125	5	125	0.6	5V DC 160mA
			250	5	250	0.3	30V DC 30mA

Applicable breaker type			Rated operating current (A) IEC60947-5-1, JIS C8201-5-1				Minimum load current
S series	E series	H and L series	AC		DC		
			Voltage (V)	AC15 Ind. load	Voltage (V)	DC14 Ind. load	
–	–	LA50B, H50BA H100BA, H100R H225BA, H225R	125	2	125	0.5	5V DC 160mA
			250	1	250	0.2	30V DC 30mA
SA100C SA100RC SA225C SA225RC	EA225C	–					
SA400C SA400RC SA600RC SA800RC	EA400C EA600C EA800C	H400B H400R H600B H600R H800B H800R					

● Low level circuit

Applicable breaker type			DC		Minimum load current
S series	E series	H and L series	Voltage (V)	Make/break current (A)	
SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50AC EA50C EA60C EA100AC EA100C	–	30	0.1	5V DC 1mA 30V DC 1mA
SA100C SA100RC SA225C SA225RC	EA225C	–			
SA400C SA400RC SA600RC SA800RC	EA400C EA600C EA800C	–			
–	–	H50BA, LA50B H100BA, H100R H225BA, H225R H400B, H400R H600B, H600R H800B, H800R			

■ Operation of auxiliary switches(W) and alarm switches(K)



Note: ▭ Ring mark indication

06

■ Ratings of auxiliary switches(W) and alarm switches(K)

● Standard type

MCCB		AC		DC		Minimum load current
S series	E series	Voltage (V)	Make/break current (A)	Voltage (V)	Make/break current (A)	
SA50RCUL	EA100CUL	120	3.6	125	0.55	5V DC 160mA
		240	1.8	250	0.27	30V DC 30mA
SA100CUL SA100RCUL SA225CUL SA225RCUL	–	120	5	–	–	
		240	3			
SA400CUL SA400RCUL SA600RCUL SA800RCUL	–	120	5	–	–	
		240	5			

● Low level circuit

MCCB		DC		Minimum load current
S series	E series	Voltage (V)	Make/break current (A)	
SA50RCUL	EA100CUL	30	0.1	5V DC 1mA 30V DC 1mA
SA100CUL SA100RCUL SA225CUL SA225RCUL	–			
SA400CUL SA400RCUL SA600RCUL SA800RCUL	–			

■ Rating of shunt trip (F)

• IEC and CE marking conformed

MCCB type			Power consumption				Time rating of coil	Operating time (ms)
S series	E series	H and L series	AC		DC			
			V	VA	V	W		
SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50AC EA50C EA60C EA100AC EA100C	–	100-120 (50/60Hz)	150	100-110	150	Continuous (With 1NO contact to prevent coil burn-out)	7-13
			200-240 (50/60Hz)	150	–	–		
			380-450 (50/60Hz)	200	–	–		
SA100C SA100RC SA225C SA225RC	EA225C	H50BA LA50B H100BA H100R H225BA H225R	24 (50/60Hz)	30	24	35	Continuous (With 1NO contact to prevent coil burn-out)	7-21
			48 (50/60Hz)		48			
			100-125 (50/60Hz)		100-110			
			200-240 (50/60Hz)		200-220			
			380-450 (50/60Hz)		–			
			440-480 (50/60Hz)		–			
SA400C SA400RC SA600RC SA800RC	EA400C EA600C EA800C	H400B H400R H600B H600R H800B H800R	24-48 (50/60Hz)	2	24-48	2	Continuous	8-20
			100-240 (50/60Hz)	3	100-220	3		
			380-550 (50/60Hz)	4	–	–		

Note: Allowable voltage function AC voltage: 85% to 110% of coil rated voltage
DC voltage: 75% to 125% of coil rated voltage

● UL Listed

MCCB type			Power consumption				Time rating of coil	Operating time (ms)
S series	E series	H and L series	AC		DC			
			V	VA	V	W		
SA50RCUL	EA100CUL	–	100-120 (50/60Hz)	150	100-110	150	Continuous (With 1NO contact to prevent coil burn-out)	7-13
			200-240 (50/60Hz)	150	–	–		
			380-450 (50/60Hz)	200	–	–		
SA100CUL SA100RCUL SA225CUL SA225RCUL	–	–	24 (50/60Hz)	30	24	35	Continuous	7-21
			48 (50/60Hz)		48			
			100-125 (50/60Hz)		100-110			
			200-240 (50/60Hz)		200-220			
SA400CUL SA400RCUL SA600RCUL SA800RCUL	–	–	24-48 (50/60Hz)	2	24-48	2	Continuous	8-20
			100-240 (50/60Hz)	3	100-220	3		

Note: Allowable voltage function AC voltage: 85% to 110% of coil rated voltage
DC voltage: 75% to 125% of coil rated voltage

■ Rating of undervoltage trip (R)

• IEC and CE marking conformed

MCCB type			Power consumption				Operating voltage
S series	E series	H and L series	AC		DC		
			V	VA	V	W	
SA30C	EA30AC	–	100(50Hz)/100-110(60Hz)	2.8	–	–	Tripping voltage:
SA50C	EA50AC		200(50Hz)/200-220(60Hz)	3.4	–	–	70 to 35% of coil rating voltage
SA50RC	EA50C		400(50Hz)/400-440(60Hz)	4.4	–	–	
SA60C	EA60C		–	–	100-110	2.86	Closing voltage:
SA60RC	EA100AC						85% or more of coil rating voltage
	EA100C						
SA100C	EA225C	H50C	100(50Hz)/100-110(60Hz)	200	–	–	
SA100RC		H100C	200(50Hz)/200-220(60Hz)	150	–	–	
SA225C		H225C	400(50Hz)/400-440(60Hz)	200	–	–	
SA225RC			–	–	100-110	200	
–	–	LA50B *1	24 (50/60Hz)	0.76	24	0.76	
		H 50BA *1	48 (50/60Hz)	1.5	48	1.5	
		H100BA *1	100-110 (50/60Hz)	3.5	100-110	3.5	
		H100R *1	200-220 (50/60Hz)	2.0	200-220	2.0	
		H225BA *1	380-440 (50/60Hz)	2.9	–	–	
		H225R *1	440-480 (50/60Hz)	4.3	–	–	
SA400C	EA400C	H400B	24 (50/60Hz)	2	24	2	
SA400RC	EA600C	H400R	48 (50/60Hz)	2	48	2	
SA600RC	EA800C	H600B	100-110 (50/60Hz)	3	100-110	3	
SA800RC		H600R	200-240 (50/60Hz)	3	200-220	3	
		H800B	380-480 (50/60Hz)	4	–	–	
		H800R					

Notes: • Specify the operating voltage when ordering.
*1 Terminal block connection is standard method.

● UL type

MCCB type			Power consumption				Operating voltage
S series	E series	H and L series	AC		DC		
			V	VA	V	W	
SA50RCUL	EA100CUL	–	100(50Hz)/100-110(60Hz)	3	–	–	Tripping voltage:
			200(50Hz)/200-220(60Hz)	3	–	–	70 to 35% of coil rating voltage
			400(50Hz)/400-440(60Hz)	4	–	–	Closing voltage:
							85% or more of coil rating voltage
SA100CUL	–	–	–	–	100-110	200	
SA100RCUL			100(50Hz)/100-110(60Hz)	200	–	–	
SA225CUL			200(50Hz)/200-220(60Hz)	150	–	–	
SA225RCUL			400(50Hz)/400-440(60Hz)	200	–	–	
SA400CUL	–	–	24 (50/60Hz)	2	24	2	
SA400RCUL			48 (50/60Hz)	2	48	2	
SA600RCUL			100-110 (50/60Hz)	3	100-110	3	
SA800RCUL			200-240 (50/60Hz)	3	200-220	3	

Internal accessories

■ Dimensions, mm

Shunt trip device "F" and undervoltage trip device "R"

S series	E series	Fig.	Mass (kg)
SA30C SA50C, SA50RC SA60C, SA60RC	EA30AC EA50AC, EA50C EA60C EA100AC, EA100C	Fig.1	0.15
SA100C, SA100RC	–	Fig.2	0.17
SA225C, SA225RC	EA225C	Fig.3	

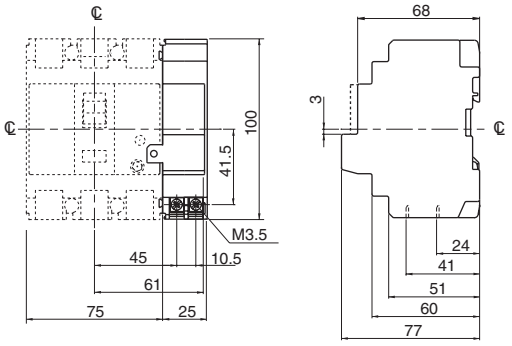


Fig.1

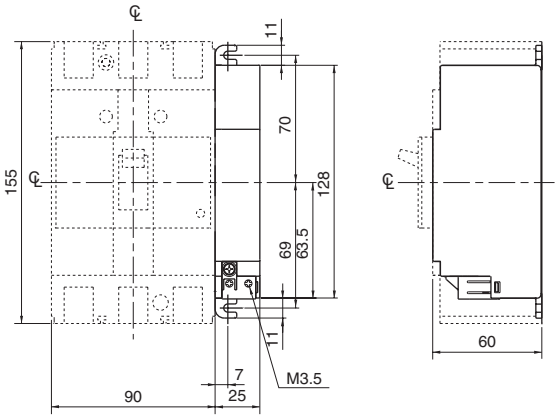


Fig.2

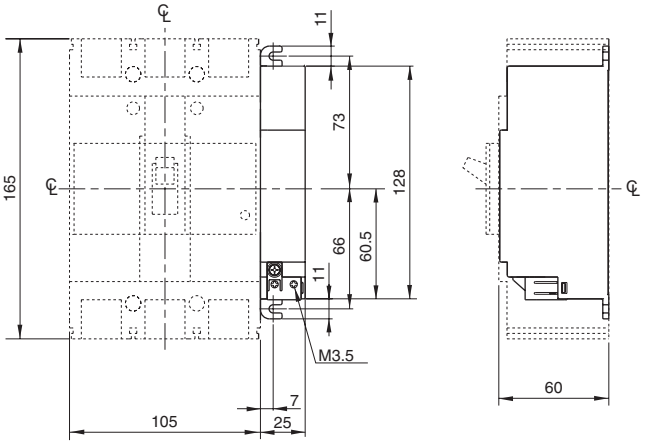


Fig.3

■ Lead wire specifications

• IEC and CE marking conformed

S series	E series	L and H series	Wire size	Wire length
SA30C SA50C, SA50RC SA60C, SA60RC	EA30A EA50AC, EA50C EA60C EA100AC, EA100C	–	22AWG (0.4mm^2)	500mm
SA100C, SA100RC SA225C, SA225RC SA400C, SA400RC SA600RC SA800RC S1000 S1200 SE1600	EA225C EA400C EA600C EA800C	LA50B H50BA H100BA, H100R H225BA, H225R H400B, H400R H600B, H600R H800B, H800R	0.5mm^2	500mm

● UL Listed

S series	E series	L and H series	Wire size	Wire length
SA100CUL, SA100RCUL SA225CUL, SA225RCUL SA400CUL, SA400RCUL SA600RCUL SA800RCUL	–	–	20AWG	500mm

■ Terminal block specifications

MCCB type			Terminal	Dimensions (mm)						
S series	E series	L and H series	screw	Fig.	A	B	C	D	E	F
SA30C SA50C, SA50RC SA60C, SA60RC	EA30AC EA50AC, EA50C EA60C EA100AC, EA100C	–	M3.5	Fig.1	0	10.5	23.5	36	48.5	–
SA50RCUL *	EA100CUL *	–		Fig.2	0	10.5	23.5	36	48.5	–
SA100C, SA100CUL SA100RC, SA100RCUL	–	–		Fig.3	0	4	19	31	43.5	–
–	–	H50BA, H100BA			+4.7	2.9	19.8	32.2	44.5	
SA225C, SA225CUL SA225RC, SA225RCUL	EA225C	–			+2.5	4	19	31	43.5	
–	–	H225BA			+5.5	2.8	19.7	32.1	44.4	
–	–	H100R, H225R			+0.2	34.9	51.8	64.2	76.5	
–	–	LA50B			+4.8	26.9	44.3	56.2	68.5	
SA400C, SA400CUL SA400RC, SA400RCUL	EA400C	H400B, H400R		Fig.4	-6.5	–	–	–	–	76.5
SA600RC, SA600RCUL SA800RC, SA800RCUL	EA600C EA800C	H600B, H600R H800B. H800R								85.5

Notes: • Lead wire ø1.6 or 2mm^2 * Lead wire pull-out type are not available

Fig.1

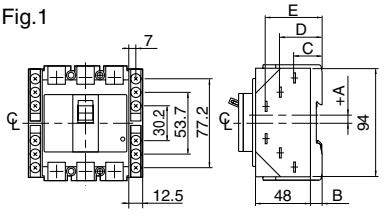


Fig.2

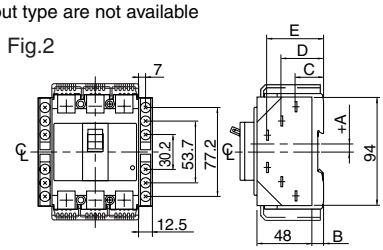


Fig.3

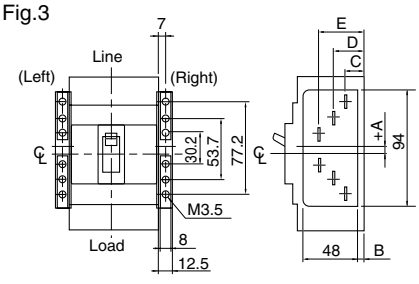
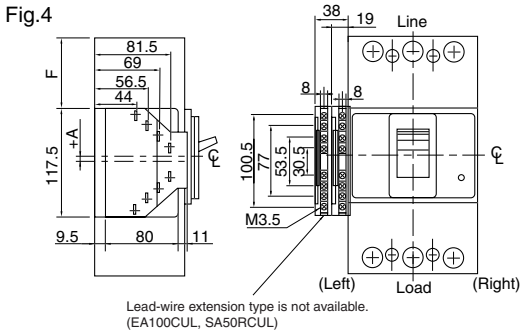


Fig.4



Lead-wire extension type is not available.
(EA100CUL, SA50RCUL)

06

■ Type number

● Auxiliary switches (W) and alarm switches (K)

MCCB type		Type number									
S series	E series	Auxiliary switch / W SPDT: W	Mass(kg)	2PDT: W2	Mass(kg)	Alarm switch / K SPDT: K	Mass(kg)	2PDT: K2	Mass(kg)	Auxiliary switch + Alarm switch / WK	Mass (kg)
SA30C * SA50C * SA50RC * SA60C * SA60RC *	EA30AC * EA50AC * EA50C * EA60C * EA100AC * EA100C *	**BZ6W□10C** **BZ6W□10CA** (With terminal block)	0.01 0.04	–		**BZ6K□10C** **BZ6K□10CA** (With terminal block)	0.01 0.04	–		**BZ6WK□10C** **BZ6WK□10CA** (With terminal block)	0.02 0.08
SA100C SA100RC	–	**BZ6W□30C** **BZ6W□30CA** (With terminal block)	0.02 0.05	–		**BZ6K□30C** **BZ6K□30CA** (With terminal block)	0.02 0.05	–		**BZ6WK□30C** **BZ6WK□30CA** (With terminal block)	0.04 0.07
SA225C SA225RC	EA225C	**BZ6W□40C** **BZ6W□40CA** (With terminal block)	0.02 0.05	–		**BZ6K□40C** **BZ6K□40CA** (With terminal block)	0.02 0.05	–		**BZ6WK□40C** **BZ6WK□40CA** (With terminal block)	0.04 0.07
SA400C SA400RC SA600RC SA800RC	EA400C EA600C EA800C	**BZ-W70B** **BZ-W70B-A** (With terminal block)	0.02 0.11	**BZ-W270B** **BZ-W270B-A** (With terminal block)	0.04 0.22	**BZ-K70B** **BZ-K70B-A** (With terminal block)	0.02 0.11	**BZ-K270B** **BZ-K270B-A** (With terminal block)	0.04 0.22	**BZ-WK70B** **BZ-WK70B-A** (With terminal block)	0.04 0.03

MCCB type		Type number		
L series	H series	Auxiliary switch / W SPDT: W	Alarm switch / K SPDT: K	Auxiliary switch + Alarm switch / WK
LA50B	–	**BZ-W23B□**	**BZ-K23B□**	**BZ-WK23B□**
–	H50B H100BA	**BZ-W35B□**	**BZ-K35B□**	**BZ-WK35B□**
–	H225BA	**BZ-W40B□**	**BZ-K40B□**	**BZ-WK40B□**
–	H100R H225R	**BZ-W50B□**	**BZ-K50B□**	**BZ-WK50B□**
–	H400B H600B H800B	**BZ-W70B□**	**BZ-K70B□**	**BZ-WK70B□**

● UL Listed

MCCB type		Type number		
S series	E series	Auxiliary switch / W SPDT: W	Alarm switch / K SPDT: K	Auxiliary switch + Alarm switch / WK
SA50RCUL	EA100CUL	**BZ6W□10CU** **BZ6W□10CAU** (With terminal block)	**BZ6K□10CU** **BZ6K□10CAU** (With terminal block)	**BZ6WK□10CU** **BZ6WK□10CAU** (With terminal block)
SA100CUL SA100RCUL	–	**BZ6W□30CU** **BZ6W□30CAU** (With terminal block)	**BZ6K□30CU** **BZ6K□30CAU** (With terminal block)	–
SA225CUL SA225RCUL	–	**BZ6W□40CU** **BZ6W□40CAU** (With terminal block)	**BZ6K□40CU** **BZ6K□40CAU** (With terminal block)	–
SA400CUL SA600CUL SA800CUL	–	▲ ▲	▲ ▲	–

Notes: • Auxiliary switch and alarm switch for low level circuit are also available on request, in this case add **D** to the type number when ordering. Example: WD, KD
• Replace the □ mark by the **R** when an auxiliary switch or an alarm switch is mounted on right hand side of the breaker. Enter the **L** when it is mounted on left hand side of the breaker.
* 2-pole types are mountable on right side only.

▲ Factory-mounted accessory

● Shunt trip devices (F)

MCCB type		Operating voltage		Type number	
S series	E series	Code	Voltage		With terminal block
SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50AC EA50C EA60C EA100AC EA100C	**A** **K** **P**	100-120V AC 50/60Hz, 100-110V DC 200-240V AC 50/60Hz 380-450V AC 50/60Hz	**BZ6FA10C** **BZ6FK10C** **BZ6FP10C**	**BZ6FA10CA** **BZ6FK10CA** **BZ6FP10CA**
SA100C SA100RC	–	**R** **S** **T** **U** **P**	24V AC 50/60Hz, 24V DC 48V AC 50/60Hz, 48V DC 100-125V AC 50/60Hz, 100-110V DC 200-240V AC 50/60Hz, 200-220V DC 380-450V AC 50/60Hz	**BZ6FR30C** **BZ6FS30C** **BZ6FT30C** **BZ6FU30C** **BZ6FP30C**	**BZ6FR30CA** **BZ6FS30CA** **BZ6FT30CA** **BZ6FU30CA** **BZ6FP30CA**
SA225C SA225RC	EA225C	**R** **S** **T** **U** **P**	24V AC 50/60Hz, 24V DC 48V AC 50/60Hz, 48V DC 100-125V AC 50/60Hz, 100-110V DC 200-240V AC 50/60Hz, 200-220V DC 380-450V AC 50/60Hz	**BZ6FR40C** **BZ6FS40C** **BZ6FT40C** **BZ6FU40C** **BZ6FP40C**	**BZ6FR40CA** **BZ6FS40CA** **BZ6FT40CA** **BZ6FU40CA** **BZ6FP40CA**
SA400C SA400RC SA600RC SA800RC	EA400C EA600C EA800C	**24** **100** **380**	24-48V AC 50/60Hz, 24-48V DC 100-240V AC 50/60Hz, 100-220V DC 380-550V AC 50/60Hz	**BZ-F70B-24** **BZ-F70B-100** **BZ-F70B-380**	**BZ-F70B-24-A** **BZ-F70B-100-A** **BZ-F70B-380-A**

● Undervoltage trip devices (R)

MCCB type		Operating voltage		Type number	Operating voltage
S series	E series	Code	Voltage		
SA30C SA50C SA50RC SA60C SA60RC	EA30AC EA50AC EA50C EA60C EA100AC EA100C	**2** **1** **W** **4** **5** **8** **0** **9** **F** **T**	100V AC 50Hz/100-110V AC 60Hz 110V AC 50Hz/110-127V AC 60Hz 200V AC 50Hz/200-220V AC 60Hz 220V AC 50Hz/220-240V AC 60Hz 230V AC 50Hz/230-240V AC 60Hz 240V AC 50Hz 380V AC 50Hz/380-415V AC 60Hz 400V AC 50Hz/400-440V AC 60Hz 24V DC 100-110V DC	**BZ6R210C** **BZ6R110C** **BZ6RW10C** **BZ6R410C** **BZ6R510C** **BZ6R810C** **BZ6R010C** **BZ6R910C** **BZ6RF10C** **BZ6RT10C**	Tripping voltage: 70 to 35% of coil rated voltage Closing voltage: 85% or more of coil rated voltage
SA100C SA100RC SA225C SA225RC	EA225C	**2** **4** **C** **T**	100V AC 50Hz/100-110V AC 60Hz 200V AC 50Hz/200-220V AC 60Hz 400V AC 50Hz/400-440V AC 60Hz 100-110V DC	▲ ▲ ▲ ▲	
SA400C SA400RC SA600RC SA800RC	EA400C EA600C EA800C	**R** **S** **X** **U** **E**	24V AC 50/60Hz, 24V DC 48V AC 50/60Hz, 48V DC 100-110V AC 50/60Hz, 100-110V DC 200-240V AC 50/60Hz, 200-220V DC 380-480V AC 50/60Hz	**BZ-R70B-24** **BZ-R70B-48** **BZ-R70B-100** **BZ-R70B-200** **BZ-R70B-380**	

Notes: • Specify operating voltage with ordering.
• Terminal block

▲ Factory-mounted accessory
When ordering, specify the rated voltage.

Internal accessories

● UL Listed Shunt trip devices (F)

MCCB type		Rated voltage	Type number	
S series	E series		Lead wire	With terminal block
SA50RCUL	EA100CUL	100-120V AC 50/60Hz	**BZ6FA10CU**	**BZ6FA10CAU**
		200-240V AC 50/60Hz	**BZ6FK10CU**	**BZ6FK10CAU**
		380-450V AC 50/60Hz	**BZ6FP10CU**	**BZ6FP10CAU**
SA100CUL	–	100-125V AC 50/60Hz	**BZ6FT30CU**	**BZ6FT30CAU**
SA100RCUL		200-240V AC 50/60Hz	**BZ6FU30CU**	**BZ6FU30CAU**
SA225CUL	–	100-125V AC 50/60Hz	**BZ6FT40CU**	**BZ6FT40CAU**
SA225RCUL		200-240V AC 50/60Hz	**BZ6FU40CU**	**BZ6FU40CAU**
SA400CUL	–	24V 50/60Hz	▲	
SA400RCUL		48V 50/60Hz	▲	
SA600RCUL		100-240V 50/60Hz	▲	
SA800RCUL				

▲ Factory-mounted accessory

● UL Listed Undervoltage trip devices (R)

MCCB type		Rated voltage	Type number	
S series	E series		Lead wire	With terminal block
SA50RCUL	EA100CUL	100V AC 50Hz/100-110V AC 60Hz	–	**BZ6R210CAU**
		200V AC 50Hz/200-220V AC 60Hz	–	**BZ6RW10CAU**
		400V AC 50Hz/400-440V AC 60Hz	–	**BZ6R910CAU**

● Internal accessories (optional) for 400AF to 800AF

Accessory type	Auxiliary switch W	Auxiliary switch W2	Alarm switch K	Alarm switch K2	Shunt trip F	Undervoltage trip R	Number of terminal blocks	Mass (kg) w/lead wire	Mass (kg) w/terminal block
BZ-W70B-□	●						1	0.05	0.14
BZ-K70B-□			●				1	0.05	0.14
BZ-F70B-■-□					●		1	0.09	0.18
BZ-R70B-■-□						●	1	0.09	0.18
BZ-W270B-□		●					2	0.07	0.25
BZ-WK70B-□	●		●				1	0.07	0.16
BZ-W2K70B-□		●	●				2	0.09	0.27
BZ-K270B-□				●			2	0.07	0.25
BZ-WK270B-□	●			●			2	0.09	0.27
BZ-W2K270B-□		●		●			2	0.11	0.29
BZ-WF70B-■-□	●				●		1	0.11	0.20
BZ-W2F70B-■-□		●			●		2	0.13	0.31
BZ-WR70B-■-□	●					●	1	0.11	0.20
BZ-W2R70B-■-□		●				●	2	0.13	0.31
BZ-KF70B-■-□			●		●		1	0.11	0.20
BZ-KR70B-■-□			●			●	1	0.11	0.20
BZ-WKF70B-■-□	●		●		●		1	0.13	0.22
BZ-WKR70B-■-□	●		●			●	1	0.13	0.22
BZ-K2F70B-■-□				●	●		2	0.13	0.31
BZ-K2R70B-■-□				●		●	2	0.13	0.31
BZ-W2KF70B-■-□		●	●		●		2	0.15	0.33
BZ-W2KR70B-■-□		●	●			●	2	0.15	0.33
BZ-WK2F70B-■-□	●			●	●		2	0.15	0.33
BZ-WK2R70B-■-□	●			●		●	2	0.15	0.33
BZ-W2K2F70B-■-□		●		●	●		2	0.17	0.35
BZ-W2K2R70B-■-□		●		●		●	2	0.17	0.35

Notes: ● Indicates the mountable accessories.
- Replace the mark ■ by the operating voltage of shunt trip or undervoltage trip device.
- Replace the mark □ by the **A** suffix for terminal block type, **blank** for lead-wire connection type.

● Operating voltage for 400AF to 800AF

BZ - WKF 70B - 100 - A

Type of accessory
Operating voltage
Terminal

Operating voltage	Shunt trip			Undervoltage trip				
	24/48V AC/DC	100-240V AC 100-220V DC	380-550V AC	24V AC/DC	48V AC/DC	100-110V AC/DC	200-240V AC 200-220V DC	380-480V AC
Code	24	100	380	24	48	100	200	380

■ Ordering information

Specifty the following.
1. Type number
2. Lead-wire connection or terminal block type

06

External accessories
Motor-operated breakers

Motor-operated breakers

■ Description

The breaker is fitted with a motor operating mechanism which enables ON, OFF and RESET operations to be carried out electronically by remote control.
4-pole motor operated breakers are also available.

The breakers do not conform to IEC and EN standard.

AF02-54

CP-1214

100 to 225AF

AF93-403

400 to 800AF

■ Types and ratings

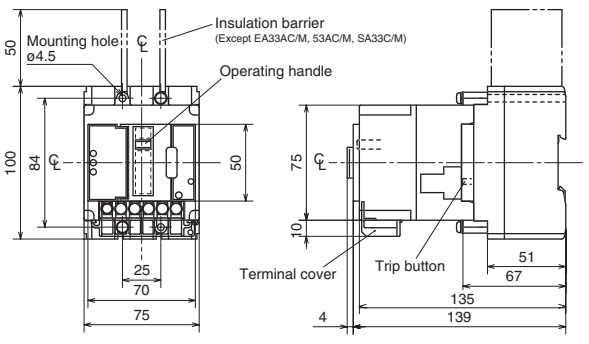
S series	E series	Motor rating			Power source capacity
		Operating voltage	Operating time	Time rating	
SA33C/M **SA53C/M, 53RC/M** **SA63C/M, 63RC/M**	**EA33AC/M** **EA53AC/M, 53C/M** **EA63C/M** **EA103AC/M, 103C/M**	100V DC 100/110V AC 200/220V AC	0.1s	15s per on-off operation	500VA
SA54B/M **SA103C/M** **SA102RC/M, 103RC/M** **SA104R/M**	**EA104B/M**	24V DC 48V DC 100V DC 100/110V AC 200/220V AC	2s	30s	50VA
SA202C/M, 203C/M **SA202RC/M, 203RC/M** **SA204R/M**	**EA202C/M, 203C/M**		2.5s	30s	50VA
SA402C/M, 403C/M **SA402RC/M, 403RC/M** **SA603RC/M** **SA803RC/M** **SA404HA/M**	**EA402C/M, 403C/M** **EA603C/M** **EA803C/M**	100/110V DC 100/110V AC 200/220V AC	2s	30s	100VA at 100/110V DC, 100/110V AC 200VA at 200/220V AC
SA604H/M **SA804H/M**	–		1.5s	30s	1000VA

■ Ordering information

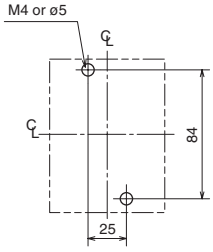
Specify the following:
1. Type number
2. Motor operating voltage

■ Dimensions, mm / Front mounting, front connection

SA33C/M, SA53C/M, SA53RC/M, SA63C/M, SA63RC/M
EA33AC/M, EA53AC/M, EA53C/M, EA63C/M, EA103AC/M, EA103C/M



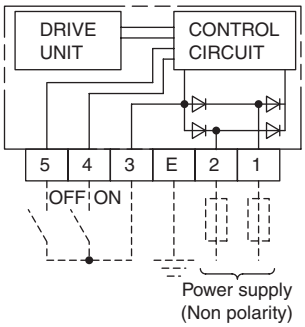
Panel drilling



Notes: • Trip button operation can be carried out at right side of the breaker.
• IEC 35mm wide mounting rail is not available.

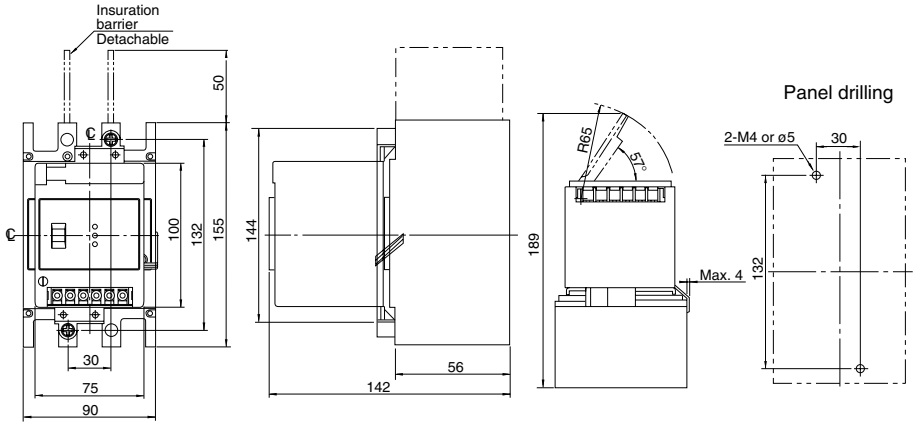
■ Wiring diagrams

100/110V AC, 200/220V AC, 100V DC

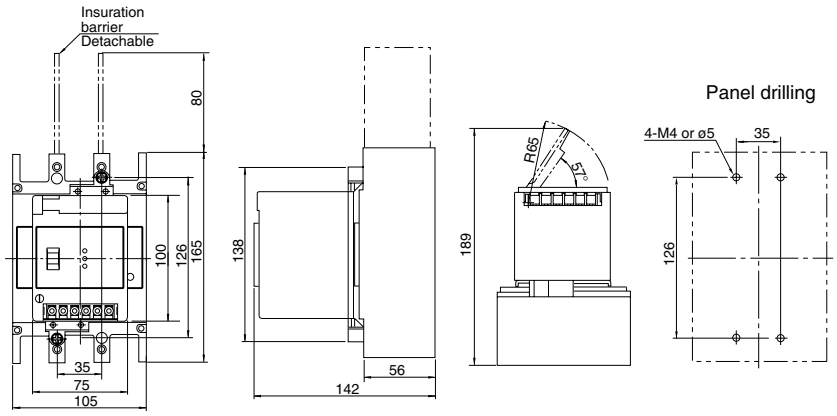


■ Dimensions, mm / Front mounting, front connection

SA102RC/M, SA103RC/M, SA103C/M



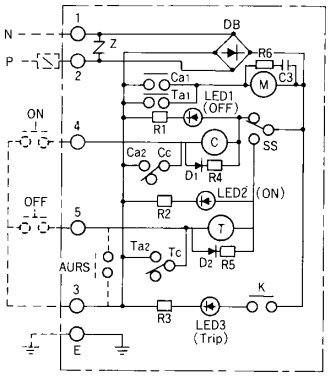
SA202C/M, SA203C/M, SA202RC/M, SA203RC/M
EA202C/M, EA203C/M



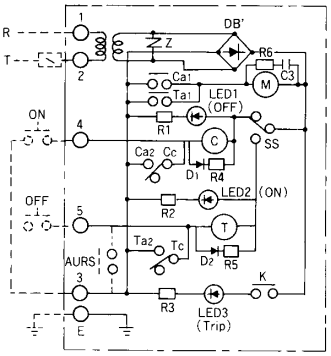
Note: Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF to 225AF.

■ Wiring diagrams

24V DC, 48V DC, 100V DC



100/110V AC, 200/220V AC



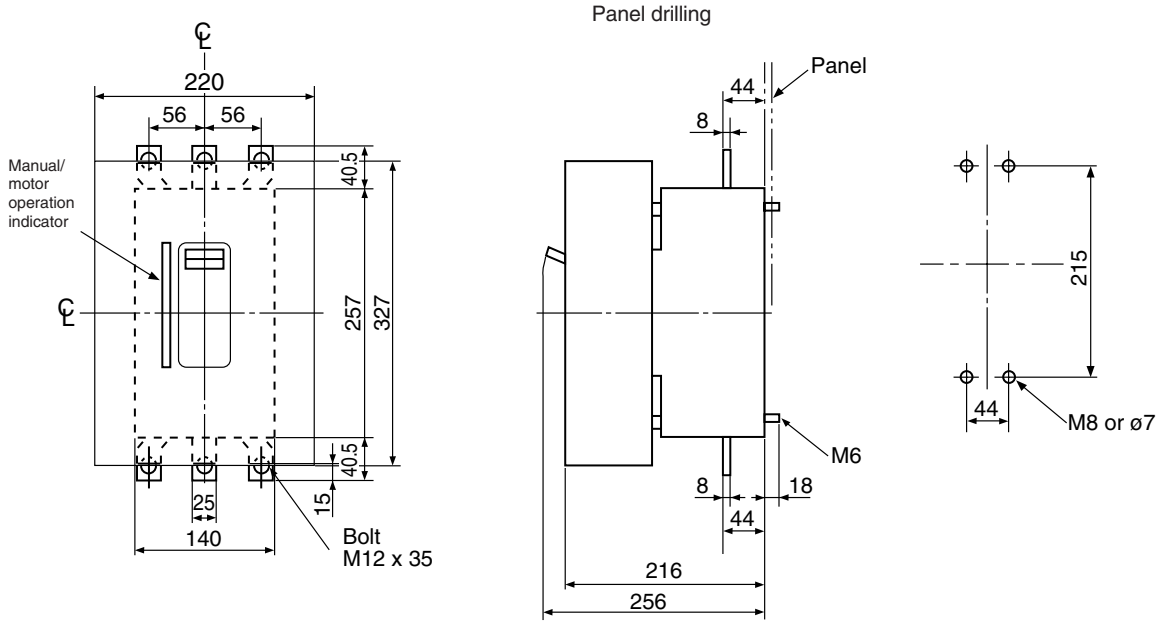
C : Control relay for breaker closing
T : Control relay for breaker open
M : Motor
Ca1-Cc : Relay terminal number for closing
Ta1-Tc : Relay terminal number for open
: Diode
Z : Z-trap (Surge absorber)
SS : ON/OFF changeover switch
E, 1-5 : Terminal number for external wire connection
: Resistor : LED
: DB (Silicon diode)
: Transformer
: Capacitor
AURS : Automatic reset switch (supplied on request)

06

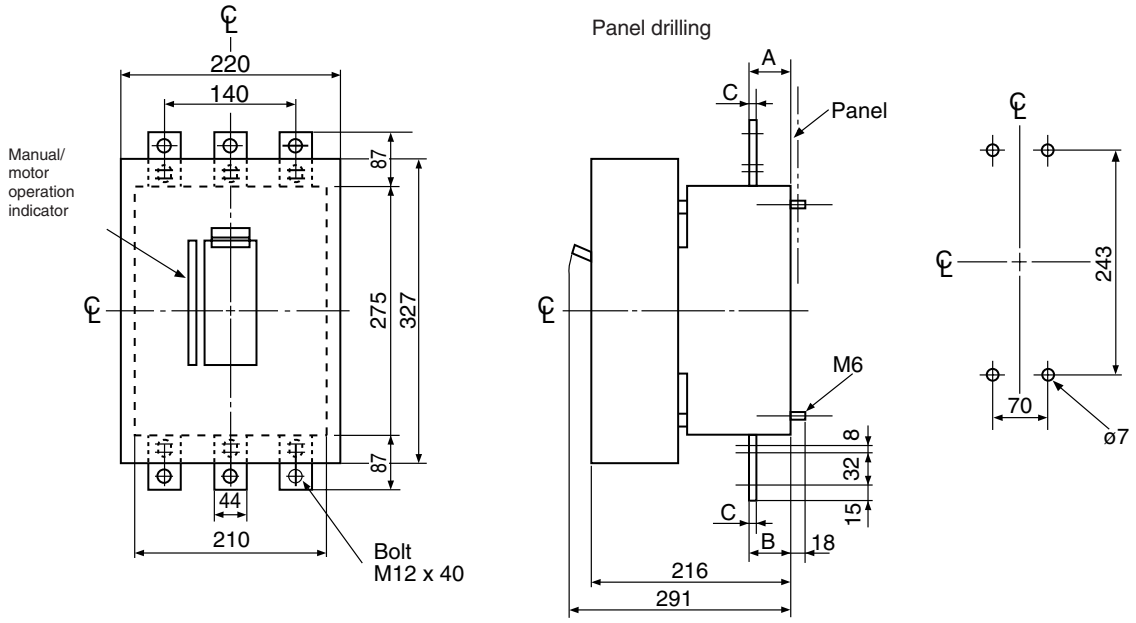
External accessories
Motor-operated breakers

■ Dimensions, mm/Front mounting, front connection

SA402C/M, SA403C/M, SA402RC/M, SA403RC/M
EA402C/M, EA403C/M



SA603RC/M, SA803RC/M, EA603C/M, EA803C/M



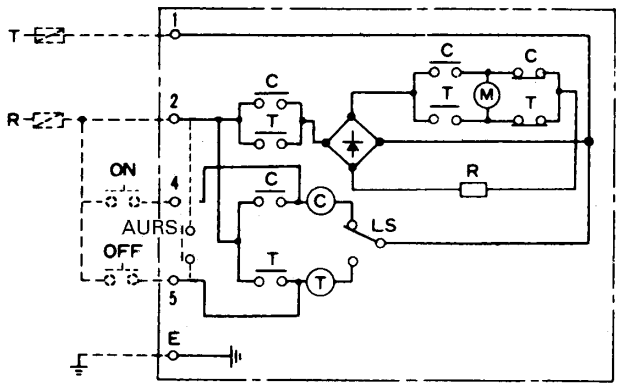
Amp. frame	A (line side)	B (load side)	C
600AF	38.5	41.5	7
800AF	41.5	44.5	10

Dimensions for reference only. Confirm before construction begins.

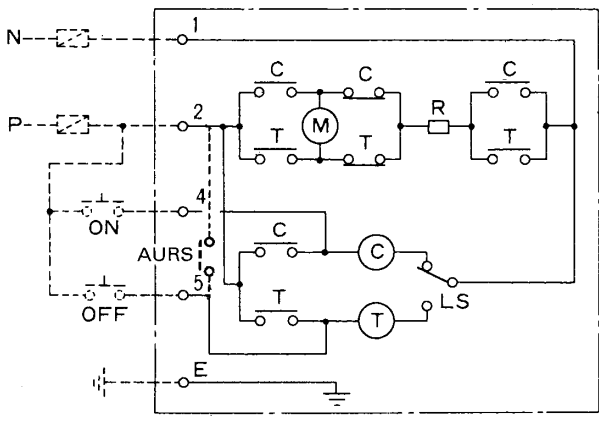
Type (MCCB with motor operating mechanism)	Mass (kg)
SA33C/M, SA53C/M, SA53RC/M EA33AC/M, EA53AC/M, EA53C/M	1.2
SA63C/M, SA63RC/M EA63C/M, EA103AC/M, EA103C/M	1.3
SA103C/M, SA102RC/M, SA202RC/M, SA202C/M EA202C/M	2.1
SA103RC/M	2.2
SA203C/M, SA203RC/M EA203C/M	2.3
SA402C/M, SA402RC/M EA402C/M	13.2
SA403C/M, SA403RC/M, EA403C/M	14.2
SA603RC/M, EA603C/M	17.5
SA803RC/M, EA803C/M	18.5

■ Wiring diagrams/400 to 800AF

100/110V AC, 200/220V AC, 50/60Hz



100/110V DC



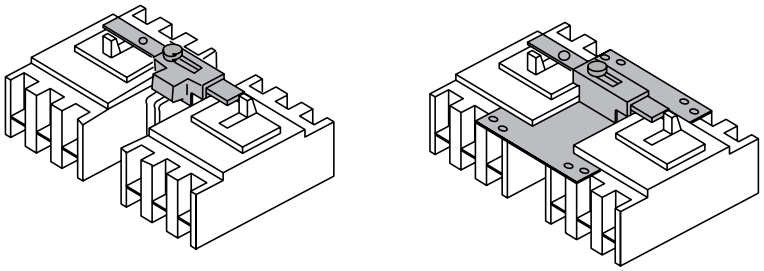
C : Control relay for breaker closing R : Resistor
T : Control relay for breaker open LS : Limit switch
M : Motor
AURS: Automatic reset switch
(supplied on request)

External accessories
Mechanical interlocking device

Mechanical interlocking devices

■ Description

These interlocking devices are mounted on the two separate breakers to prevent them from both being closed at the same time.
They employ a slide method and are operated manually.
These interlocking devices is possible to lock with a padlock (not supplied).
They are designed for use when changing over power supplies.
These can be mounted to 3 types of breakers: front-mounting front-connection type, front-mounting rear-connection type (type X), and plug-in mounting type (type P).
Interlock devices for flush mounting type breakers (type E, Y) are also available.



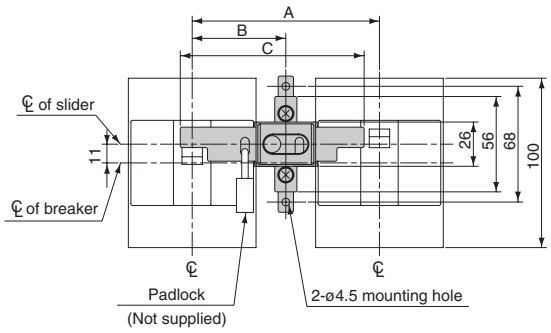
M1 types

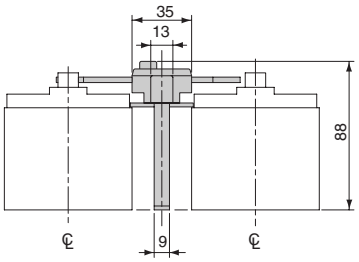
■ Types and applicable breakers

Type	Breaker type S series	E series
BZ6M110C2	SA32C, SA52C, SA52RC SA62C, SA62RC	EA32AC, EA52AC, EA52C EA62C, EA102C
BZ6M110C3	SA33C, SA53C, SA53RC SA63C, SA63RC	EA33AC, EA53AC, EA53C EA63C, EA103AC, EA103C
BZ-M120C-4	SA54B	EA104B
BZ6M130C2	SA102C	–
BZ6M130C3	SA103C SA102RC, SA103RC	–
BZ-M135C-4	SA104R	–
BZ6M140C	SA202C, SA203C SA202RC, SA203RC	EA202C, EA203C
BZ-M150C-4	SA204R	–
BZ-M160C	SA402C, SA403C SA402RC, SA403RC	EA402C, EA403C
BZ-M170C	SA603RC, SA803RC	EA603C, EA803C

■ **Dimensions, mm**

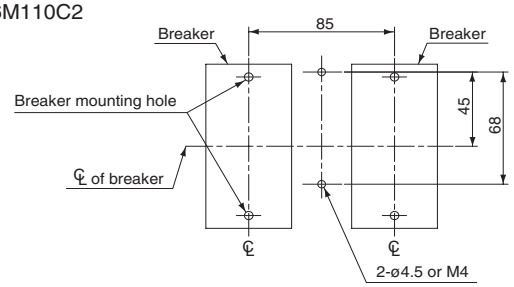
• **30AF to EA100AF**



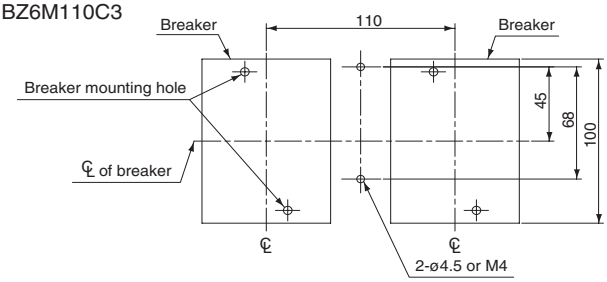


Panel drilling

BZ6M110C2

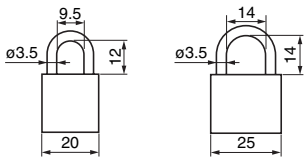


BZ6M110C3



Type	Breaker type S series	Breaker type E series	Dimensions, mm A	B	C	Mass (kg)
BZ6M110C2	SA32C SA52C SA62C SA52RC SA62RC	EA32AC EA52AC EA52C EA62C EA102C	85	42.5	83	0.11
BZ6M110C3	SA33C SA53C SA63C SA53RC SA63RC	EA33AC EA53AC EA103AC EA53C EA63C EA103C	110	55	108	0.12

Notes: • BZ6M110C2 is not available for padlock.
• Applicable padlock(ø3.5) dimensions, mm

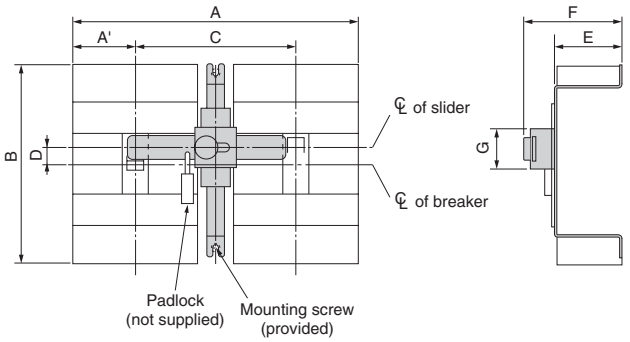


Dimensions for BZ-M120C-4, BZ-M135C-4, BZ-M150C-4: Contact FUJI

External accessories
Mechanical interlocking device

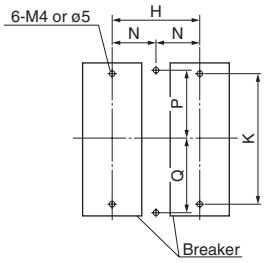
■ **Dimensions, mm**

• SA100AF to SA/EA225AF

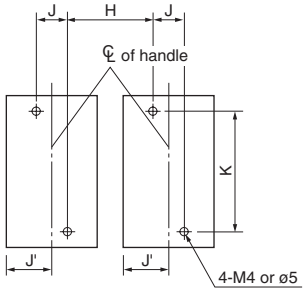


Panel drilling

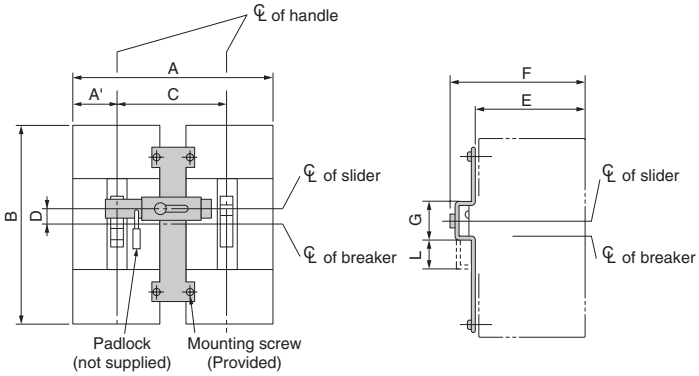
BZ6M130C2



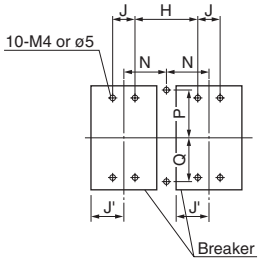
BZ6M130C3



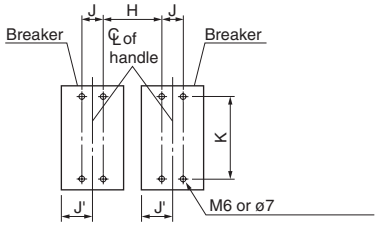
• 400AF to 800AF



BZ6M140C

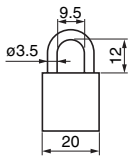


BZ-M160C, M170C, M16



Type	Breaker type S series	Breaker type E series	Dimensions, mm A (A')	B	C	D	E	F	G	H	J (J')	K	L	N	P	Q	Mass (kg)
BZ6M130C2	SA102C	–	150 (15)	155	90	9	57.5	85	35	90	–	132	–	45	70	75	0.167
BZ6M130C3	SA103C SA102RC SA103RC	–	210 (45)	155	120	9	57.5	85	35	90	30 (45)	132	–	60	70	75	0.177
BZ6M140C	SA202C SA203C SA202RC SA203RC	EA202C EA203C	240 (52.5)	165	135	14	57.5	85	35	100	35 (52.5)	126	–	67.5	76	69	0.188
BZ-M160C	SA402C SA403C SA402RC SA403RC	EA402C EA403C	355 (70)	257	215	0	94.5	126	54.5	171	44 (70)	215	38	–	–	–	0.56
BZ-M170C	SA603RC SA803RC	EA603C EA803C	500 (105)	275	290	20	94.5	126	54.5	220	70 (105)	243	38	–	–	–	0.64

Note: • Applicable padlock(ø3.5) dimensions, mm



External operating handles

■ Description

Molded case circuit breaker handles are generally directly manual-operated but when mounted in motor control centers or on control panels they are sometimes required to be operated externally. To meet such applications FUJI offers the following three types of handles.

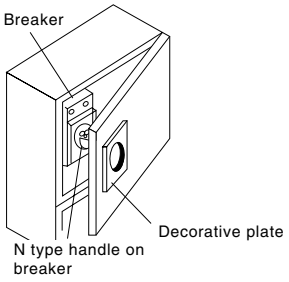
N type handle
This type has a knob handle directly attached to the breaker. It is easily fitted by cutting a hole in the panel, which is provided with a door interlock. They may be fitted to all breakers up to 1600 ampere frame sizes. N type handles for SA/EA30AF to EA100AF are approved by UL508.

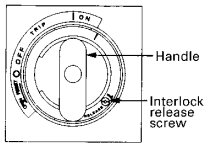
V type handle
The V type handle may be fitted to breakers of up to 800AF.
A separately sold extension shaft (BZ-VS1)provides distance adjustment between the handle and breaker.
Conformed to EN60947-1 isolation function.
Available for EN60204-1 power breaking device.

G type handle
The G type handle is mounted on the panel, and also has a door-interlock.
G type handle with a cylinder lock key is also available on request.
G type handle with a padlockable handle lock plate is standard provided for circuit breaker of up to 225AF, and is optional for 400AF and larger.

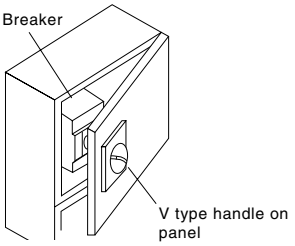
KK03-017 **BZ6N10C**
AF96-173 **BZ-N□C**
N type handles
KK03-015 **BZ6V10C**
V type handle
SG-602 **G-□A**
G type handle

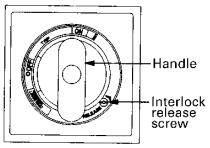
N type handles BZ-N□C



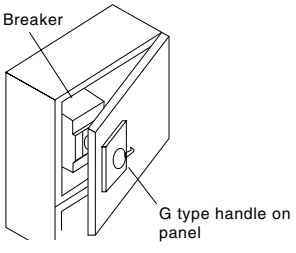


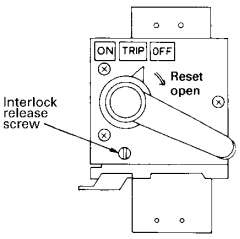
V type handles BZ6V□C





G type handles G-□A





06

External accessories
Operating handles

● For α-TWIN breakers up to 800AF

N type handles

S series	E series	N type handle
SA32C, 33C SA52C, 53C SA52RC, 53RC SA62C, 63C SA62RC, 63RC	EA32AC, 33AC EA52AC, 53AC EA52C, 53C EA62C, 63C EA103AC, 102C, 103C	**BZ6N10C** UL508 (File No. E216772)
SA102C, 103C SA102RC, 103RC	–	**BZ-N30C**
SA202C, 203C SA202RC, 203RC	EA202C, 203C	**BZ-N40C**
SA402C, 403C SA402RC, 403RC	EA402C, 403C	**BZ-N60C**
SA603RC, 803RC	EA603C, 803C	**BZ-N70C**

S series	E series	N type handle UL489 (File No. E93289)
SA52RCUL, 53RCUL	EA102CUL, 103CUL	**BZ6N10CP**
SA102CUL, 103CUL SA102RCUL, 103RCUL	–	**BZ6N30CP**
SA202CUL, 203CUL SA202RCUL, 203RCUL	–	**BZ6N40CP**
SA402CUL, 403CUL SA402RCUL, 403RCUL	–	**BZ6N60CP**
SA603RCUL, 803RCUL	–	**BZ6N70CP**

Note: N type handles for up to 800AF can be padloked. Padlock is not provided.
N type handles are not CE marked.

V type handles

S series	E series	V type handle
SA32C, 33C SA52C, 53C SA52RC, 53RC SA62C, 63C SA62RC, 63RC SA52RCUL, 53RCUL	EA32AC, 33AC EA52AC, 53AC EA52C, 53C EA62C, 63C EA103AC, 102C, 103C EA102CUL, 103CUL	**BZ6V10C** UL489 (File No. E93289)
SA102C, 103C SA102CUL, 103CUL SA102RC, 103RC SA102RCUL, 103RCUL		**BZ6V30C** UL489 (File No. E93289)
SA202C, 203C SA202CUL, 203CUL SA202RC, 203RC SA202RCUL, 203RCUL	EA202C, 203C	**BZ6V40C** UL489 (File No. E93289)
SA402C, 403C SA402CUL, 403CUL SA402RC, 403RC SA402RCUL, 403RCUL	EA402C, 403C	**BZ6V60C** UL489 (File No. E93289)
SA603RC, 803RC SA603RCUL, 803RCUL	EA603C, 803C	**BZ6V70C** UL489 (File No. E93289)

● For breakers other than α-TWIN series

N type handles

S series	E series	L, H series	N type handle
SA54B	EA104B	LA53B	**BZ-N20C**
		H52BA, 53BA H102BA, 103BA	**BZ-N30C**
SA104R			**BZ-N35B**
		H202BA, 203BA	**BZ-N40C**
		H103R, 203R	**BZ-N50C**
SA204R			**BZ-N50B**
		H402B, 403B, 403R	**BZ-N60C**
		H603B, 603R H803B, 803R	**BZ-N70C**
SA404HA			**N-23A**
SA604H, 804H			**N-41A**

V type handles

S series	E series	L, H series	V type handle
SA54B	EA104B	LA53B	**BZ-V20C**
		H52BA, 53BA H102BA, 103BA	**BZ-V30C**
		H202BA, 203BA	**BZ-V40C**
		H103R, 203R	**BZ-V50C**
		H402B, 403B, H403R	**BZ-V60C**
		H603B, 603R H803B, 803R	**BZ-V70C**

G type handles

Type	Standard	Cylinder key type
SA104R	**BZ-G35C**	**BZ-G35C-K**
SA204R	**BZ-G50C**	**BZ-G50C-K**
SA404HA	**G-22A**	**G-22A-K**
SA604H, 804H	**G-42A**	**G-42A-K**

N type operating handles

■ Operating instructions

1. MCCB operation

- Close the door with the handle in the OFF position. Turn the handle to the ON position and the MCCB will be ON.
- Turn the handle to the OFF position and MCCB will be OFF.
- When the breaker trips, the handle moves to the TRIP position. To reset, move the handle to the RESET position.

2. Door locking

- The door cannot be opened when the handle is in the ON, OFF or TRIP position, and can be opened only when the handle is in the OPEN position.
- The breaker cannot be ON when the door is open.
- If it is necessary to open the door with the breaker closed, turn the door lock release screw counterclockwise using a screwdriver.

3. Handle locking

The handle can be locked in either the ON or OFF position when a padlock (not supplied) is used . Pull out the handle lock plate and fit your padlock to the lock plate. If the breaker trips while it is locked in the ON position, the handle moves to the TRIP position.

■ Installation

● BZ6N10C, BZ-N20C, BZ-N30C, BZ-N40C

1. Drilling and cutting the door

Drill and cut the door. The dimensions for drilling and cutting are the same whether the MCCB is installed horizontally or vertically.

2. Preparing a base plate (Fig. 1)

Prepare a base plate to adjust breaker mounting position (base plate: not supplied). Front mounting, front connection type breakers can only be suitable for this handle. Drill the breaker mounting holes on the base plate.

3. Fitting the N-handle mechanism and MCCB to the base plate (Fig. 1)

Commonly tighten the N-handle body and MCCB to the base plate with the mounting screws. For N10C to N30C, tighten two mounting screws on a diagonal line, and for N40C, tighten four mounting screws. Assemble the driving unit so that the breaker handle engages the N handle arm. (Fig. 4)

4. Mounting the decorative plate

Mount the decorative plate and the retaining plate to the door with screws provided. (Fig. 2)

Adjust the position of the handle unit so that it does not tilt against the breaker. (Fig. 3)

Fig. 1

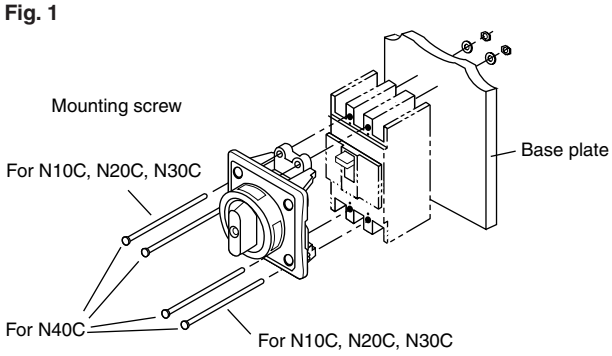


Fig. 2

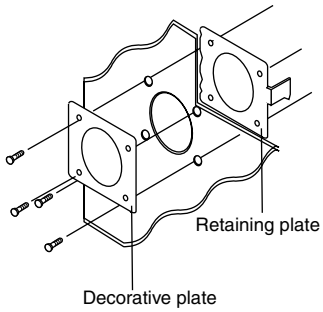


Fig. 3

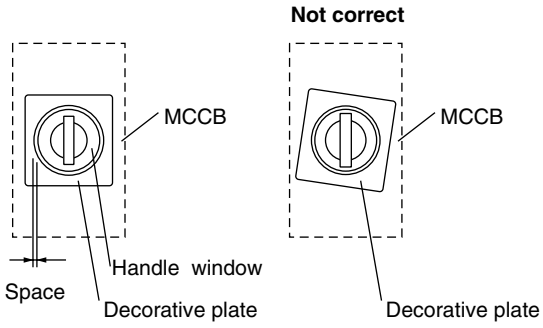
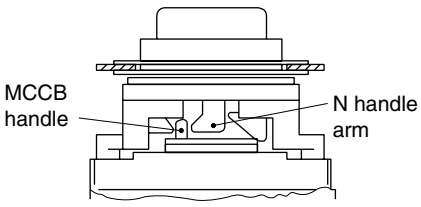


Fig. 4



External accessories
N type operating handles

■ Installation

● BZ-N60C, BZ-N70C

1. Drilling and cutting the door

Drill and cut the door. The dimensions for drilling and cutting are the same whether the MCCB is installed horizontally or vertically.

2. Preparing a base plate (Fig. 1)

Prepare a base plate to adjust breaker mounting position (base plate: not supplied). Front mounting, front connection type breakers can only be suitable for this handle. Drill the breaker mounting holes on the base plate.

3. Fitting the N-handle mechanism and MCCB to the base plate (Fig. 1)

Commonly tighten the N-handle body and MCCB to the base plate with the four mounting screws. Assemble the driving unit so that the breaker handle engages the N handle arm. (Fig. 4)

4. Mounting the decorative plate

Mount the decorative plate and the retaining plate to the door with screws provided. (Fig. 2)

Adjust the position of the handle unit so that it does not tilt against the breaker. (Fig. 3)

Fig. 1

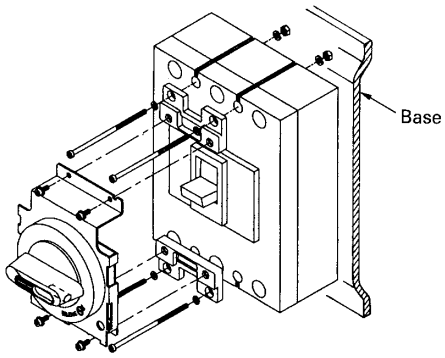


Fig. 2

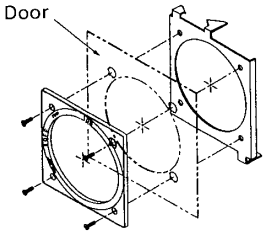


Fig. 3

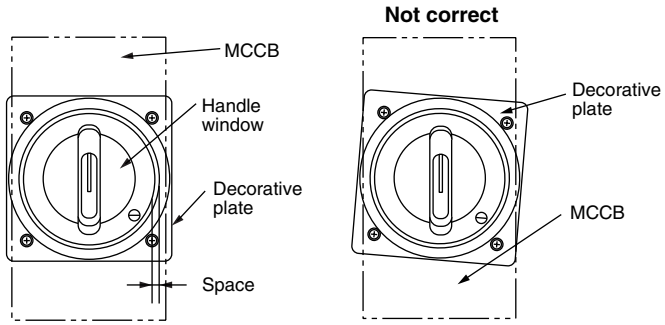
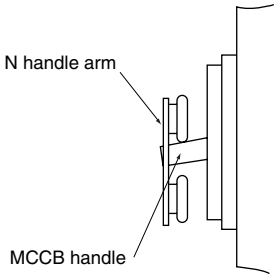


Fig. 4



■ Type number nomenclature

BZ – N□ C T – R

Installation
Blank: Vertically
R: Horizontally, right line side
L: Horizontally, left line side

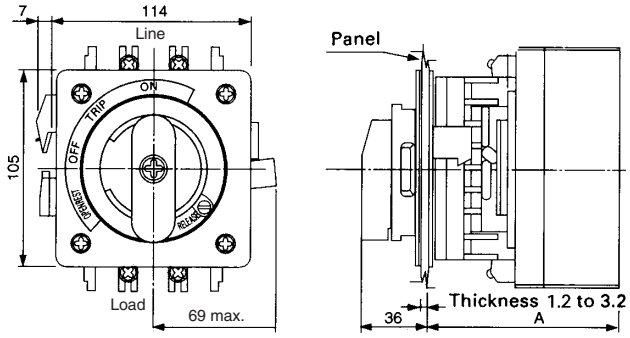
Door locking device
Blank: Provided
T: Not provided

Basic type
BZ6N10C
BZ-N□C
N-□A

Note:
To order an N handle for front-mounting rear connection breakers, add "-X" to the type number, for plug-in mounting breakers, add "-P" to the type number.

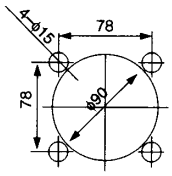
■ Dimensions, mm

BZ6N10C to BZ-N50C (Dust proof paking: BZ-NP-1C, optional)

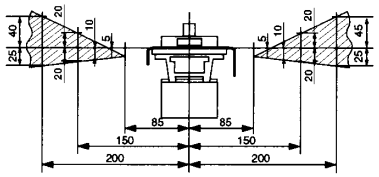


Breaker type	Handle type	A	Mounting Screw	Mass (kg)
SA30C, SA50C, 50RC, SA60C, 60RC SA50RCUL EA30AC, EA50AC, 50C, EA60C EA100AC, 100C, 100CUL	BZ6N10C	103	M4 × 80	0.47
LA53B	BZ-N20C	125	M4 × 110	0.56
SA100C, 100RC, 100CUL, 100RCUL H50BA, 100BA	BZ-N30C	103	M4 × 85	0.56

Door panel cutting



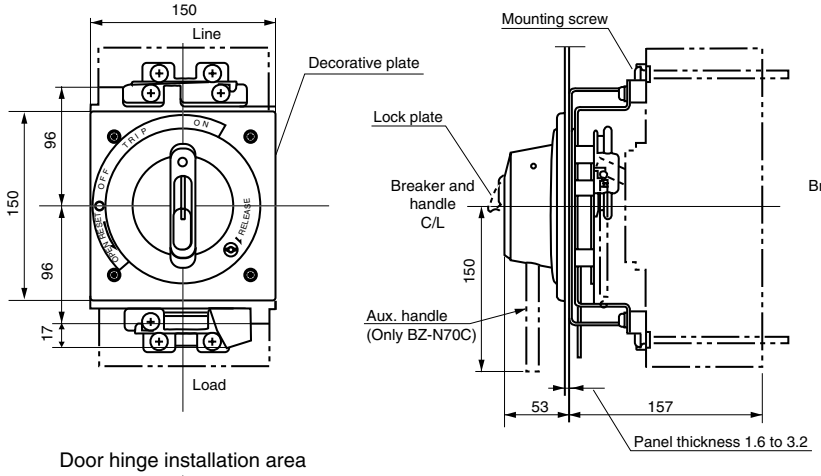
Door hinge installation area



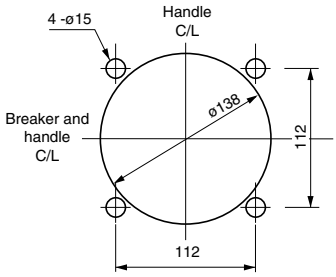
Install the door hinge in the shaded area.

Breaker type	Handle type	A	Mounting Screw	Mass (kg)
EA225C SA225C, 225RC, 225CUL, 225RCUL H225BA	BZ-N40C	103	M4 × 85	0.56
H100R, H225R	BZ-N50C	142	M4 × 125	0.62

BZ-N60C, BZ-N70C (Dust proof packing: BZ-NP-2, optional)

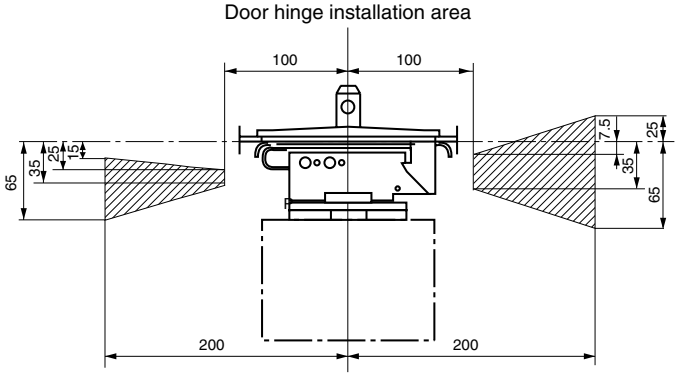


Door panel cutting



Note: • Handle protection degree IP50 (IEC60529, JIS C 0920) (with the optional dust-proof packing)
• The handle cannot hold the door.

Door hinge installation area



Install the door hinge in the shaded area.

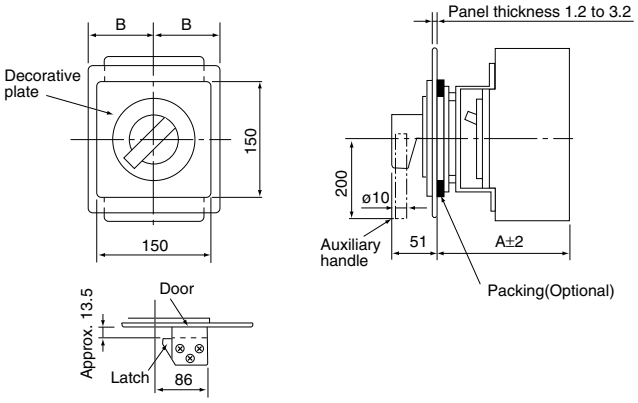
Notes:
1. The N type handles are used with front mounting front connection type breakers. They are normally installed vertically. However, it is possible to install them horizontally if required. In this case please specify so in your order.
(Example) Specify as follows:
BZ-N□C-R..... Installed horizontally, the line positioned on the right side.
BZ-N□C-L.....Installed horizontally, the line positioned on the left side.

2. Breakers use different size screws for the P-type (Plug-in) breakers

Breaker type	Handle type	Mounting screw	Mass (kg)
SA400C, SA400RC SA400CUL, SA400RCUL EA400C H400B, H400R	BZ-N60C	M6 x 110	1.9
SA600RC, SA800RC SA600RCUL SA800RCUL EA600C, EA800C H600B, H800B H600R, H800R	BZ-N70C	M6 x 110	1.9

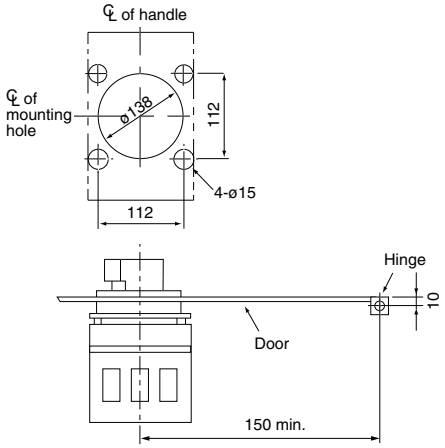
External accessories
N type operating handles

■ Dimensions, mm
N-23A, N-41A (Dust proof packing: BZ-NPB, optional)



Door panel cutting

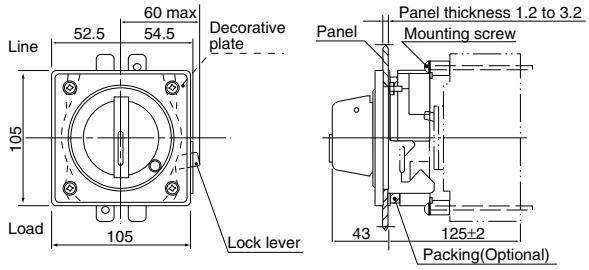
N-23A, 41A



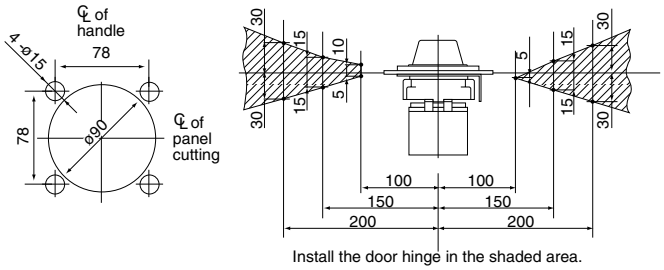
Breaker type	Handle type	Outline dimensions A	B	Mounting screw	Mass (kg)
SA404HA	N-23A	157	73.5	M5 x 60	1.8
SA604H, 804H	N-41A	168	109	M5 x 55	2.3

Notes:
1. "B" indicates the maximum dimensions of the N type handle fitting plate or the molded case of breaker.
2. The N type handles are used with front mounting front connection type breakers. They are normally installed vertically. However, it is possible to install them horizontally if required. In this case please specify so in your order.
   (Example) Specify as follows:
   N-□A-R ..... Installed horizontally, the line positioned on the right side.
   N-□A-L ..... Installed horizontally, the line positioned on the left side.
3. Breakers use different size screws for the X-type (rear connection) or P-type (Plug-in) breakers

BZ-N35B (Dust proof packing: BZ-NP-1, optional)



Door panel cutting



Mass: 0.45kg

Dimensions for refernce only. Confirm before construction begins.

V type operating handles, up to 225AF

■ Operating instructions

1. MCCB operation

- Close the door and turn the handle to the ON position and the breaker will be positioned at ON.
- When the breaker is interrupted automatically the handle will move to the TRIP position.
- To reset move the handle to the RESET position.

2. Door panel locking

- Turn the handle to the RESET position and the lock mechanism will be released thus allowing the door to be opened.
- The door cannot be opened when the breaker is positioned at ON.

3. Handle locking

The padlock can lock the handle in the OFF position.

- Locking MCCB with the door open : Fig.1
- Locking MCCB with the door closed : Fig.2

Pull out the lock plate and hook the padlock.

4. Interlock release

This type is provided with an interlock release screw. Turn this screw if it is necessary to open the door in the ON position. This release the lock and allows the door to be opened. When reclosing the door, make sure the handle of the breaker coincides with the position (ON or OFF) of the external handle position.

■ Installation

BZ6V10C to 50-VC

1. Drilling and cutting of the door panel

Drill and cut the door panel as shown in the drawing.

2. Mounting of the MCCB

The distance between the backside of the door panel and breaker mounting plate should be the dimension "H" shown in the drawing below.

H dimensions, mm (Fig.3)

- BZ6V10C, BZ-V20C: 105
  (127 for LA50B)
- BZ6V30C, BZ-V30C: 105
- BZ6V40C, BZ-V40C: 105
- BZ-V50C: 144

3. Mounting the driving unit

- Set the breaker handle to the OFF position. Assemble the driving unit so that the breaker handle engages the V handle arm. (Fig.4)
- Secure the driving unit and breaker together to the mounting plate by tightening the four attached mounting screws. (Fig.5)

4. Mounting the handle unit

- Put the handle unit, cover holder, packing, and retainer in front of and behind the panel and tighten the screws temporarily as shown in Fig.6. Adjust the position of the handle unit so that it does not tilt against the breaker. (Fig.7)
- Put the handle of the handle unit in the OFF position and close the door. Check that the shaft engages the latch when the door closes. (Fig.8)

Fig. 1

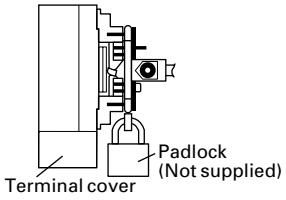


Fig. 2

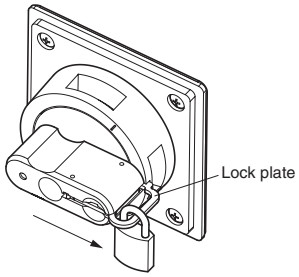


Fig. 3

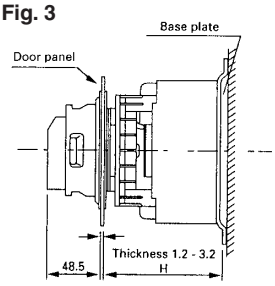


Fig.4

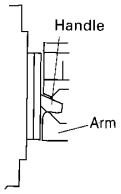


Fig. 5

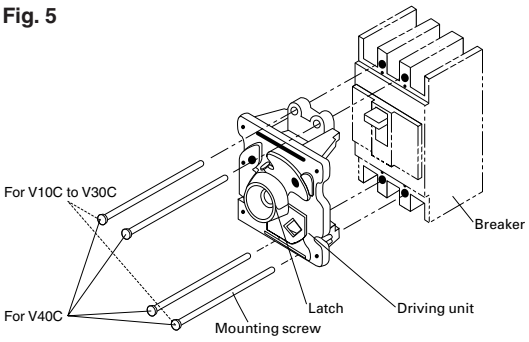


Fig. 6

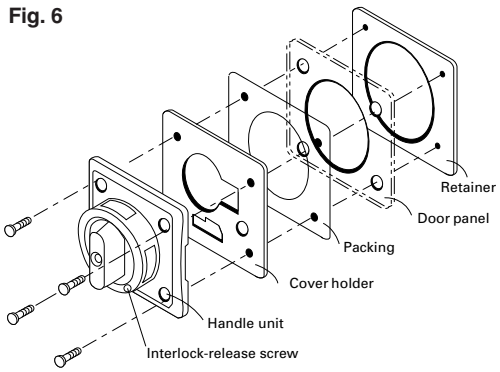


Fig. 7

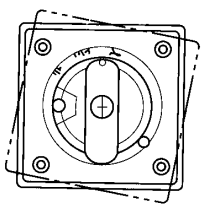
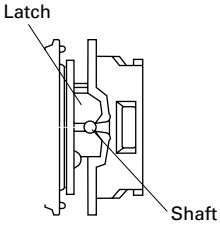


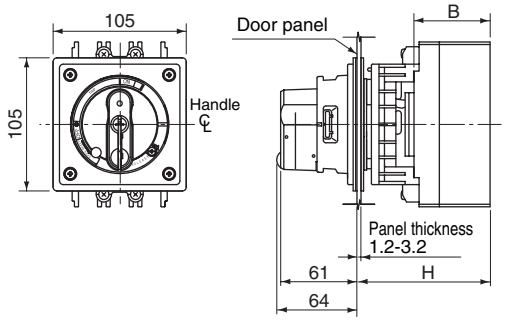
Fig. 8



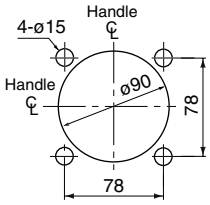
External accessories
V type operating handles

■ Dimensions, mm

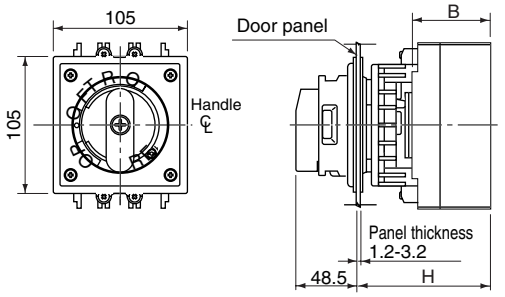
BZ6V10C, 6V30C, 6V40C



Door panel cutting

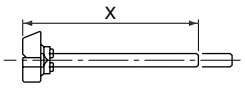


BZ-V20C, V30C, V40V, V50C



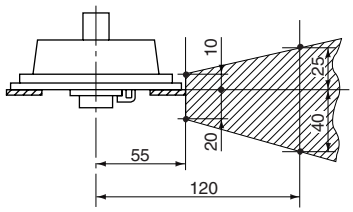
Optional shaft BZ-VS1

X = H - 96



The distance between the handle and breaker can be shortened by cutting the optional shaft.

Door hinge installation area



Install the door hinge in the shaded area.

Breaker type			Handle type	Standard type H	With the optional shaft (X=154)			Mounting screw	Mass (kg)
S series	E series	L, H series			H	Area in which the hinge with H can be installed	B		
SA30C SA50C SA50RC SA60C SA60RC SA50RCUL	EA30AC EA50AC EA50C EA60C EA100AC EA100C EA100CUL	–	**BZ6V10C**	105	250	142 to 250	60	M4 x 80	0.64
SA54B	EA104B	LA53B	**BZ-V20C**	127	272	164 to 272	82	M4 x 110	0.67
SA100C SA100RC SA100CUL SA100RCUL	–	–	**BZ6V30C**	105	250	142 to 250	60	M4 x 85	0.67
–	–	H50BA H100BA	**BZ-V30C**	105	250	142 to 250	60	M4 x 85	0.67
SA225C SA225RC SA225CUL SA225RCUL	EA225C	–	**BZ6V40C**	105	250	142 to 250	60	M4 x 85	0.67
–	–	H225BA	**BZ-V40C**	105	250	142 to 250	60	M4 x 85	0.67
–	–	H100R H225R	**BZ-V50C**	144	289	181 to 289	99	M4 x 125	0.67

Notes:
- Handle protection degree IP54 (IEC60529, JIS C 0920)
- The handle cannot hold the door.

V type operating handles, 400AF to 800AF

■ Operating instructions

1. MCCB operation

- Close the door and turn the handle to the ON position and the MCCB will be positioned at ON.
- When the MCCB is interrupted automatically the handle will move to the TRIP position.
- To reset move the handle to the RESET position.

2. Door panel locking

- Turn the handle to the RESET position and the lock mechanism will be released thus allowing the door to be opened.
- The door cannot be opened when the breaker is positioned at ON.

3. Handle locking

The padlock can lock the handle in the OFF position.

- Locking MCCB with the door open: Fig. 1
- Locking MCCB with the door closed: FIg. 2

4. Interlock release

This type is provided with an interlock release screw. Turn this screw if it is necessary to open the door at the ON position. This releases the lock and allows the door to be opened. When reclosing the door, make sure the handle of the breaker coincides with the position (ON or OFF) of the external handle position.

■ Installation

BZ6V60C, V70C

1. Drilling and cutting of the door panel

Drill and cut the door panel as shown in the drawing.

2. Mounting of the MCCB

The distance between the backside of the door panel and MCCB mounting plate should be the dimension as shown in Fig.3.

3. Mounting the driving unit

- Set the MCCB handle to the OFF position. Assemble the driving unit so that the MCCB handle engages the V handle arm. (Fig. 4)
- Secure the driving unit and MCCB together to the mounting plate by tightening the four attached mounting screws. (Fig. 5)

4. Mounting the handle unit

- Put the handle unit, packing and retainer in front of and behind the door panel and tighten the screws temporarily as shown in Fig.6. Adjust the position of the handle unit so that it does not tilt against the MCCB. (Fig. 7)
- Put the handle of the handle unit at OFF position and check the latch engages the keeper and close the door while holding the handle unit cover by hand.
  Final tightening the screws should be performed as keep the engaging position. (Fig. 8)

06

Fig. 1

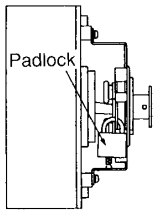


Fig. 2

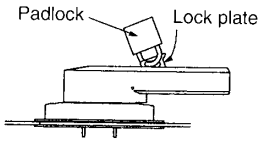


Fig. 3

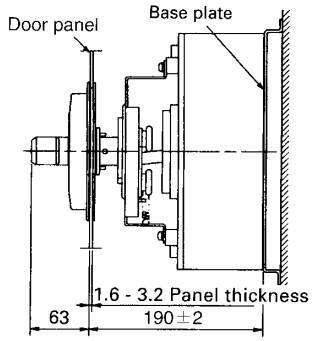


Fig. 4

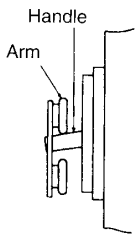


Fig. 5

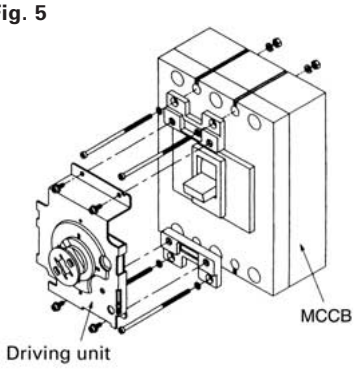


Fig. 6

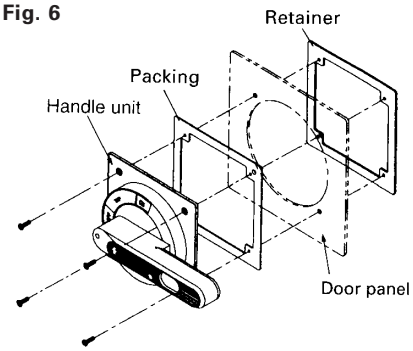


Fig. 7

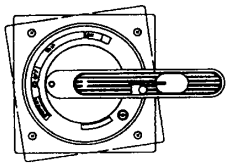
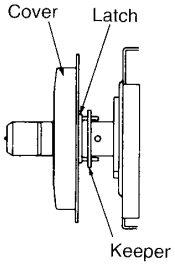


Fig. 8



■ Type number nomenclature

BZ6V ☐ C – ☐

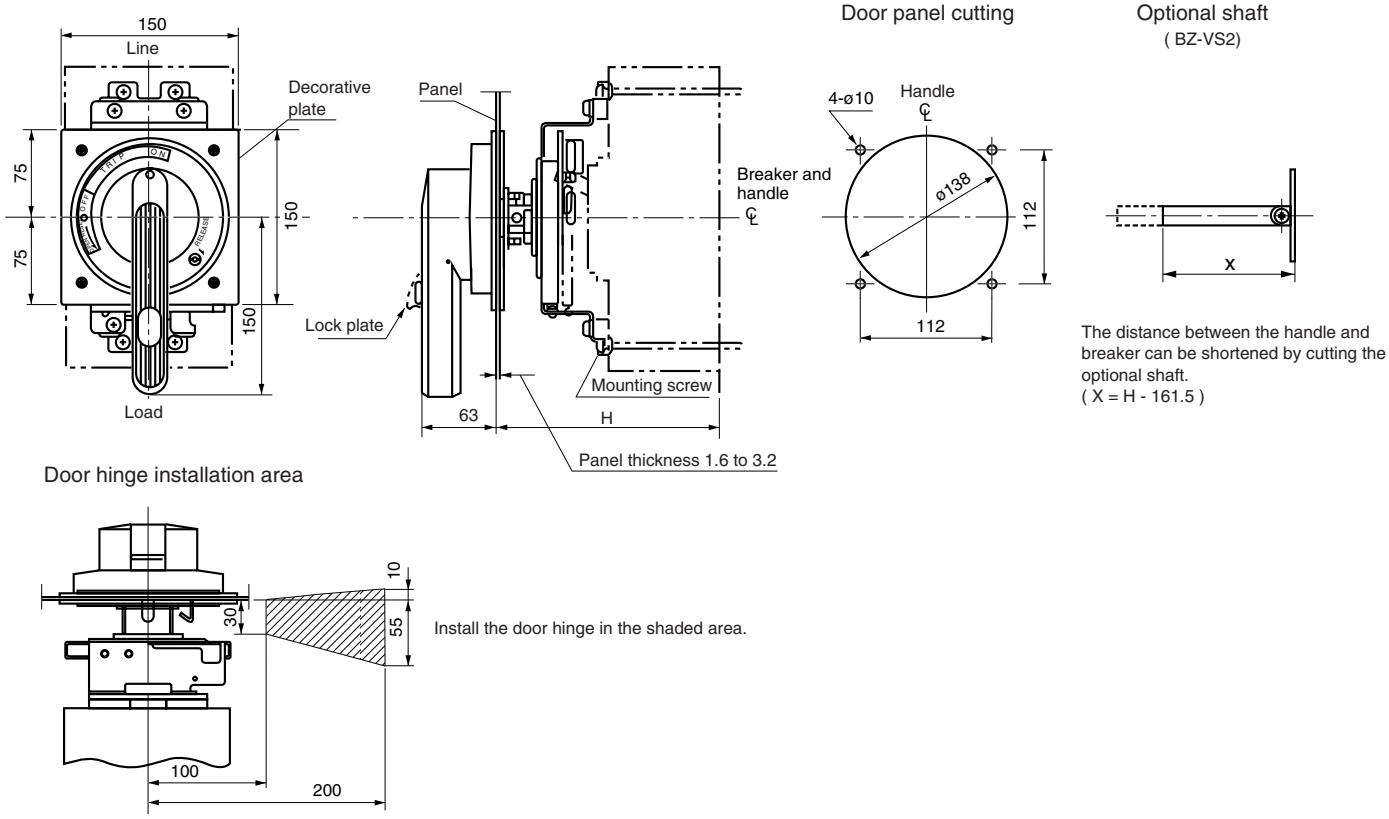
Mounting
Blank: Front mounting, front connection
X: Front mounting, rear connection
P: Plug-in mounting

Basic type
BZ6V ☐ C
BZ-V ☐ C

Note:
To order a V handle for front-mounting rear connection breakers, add "-X" to the type number; for plug-in mounting breakers, add "-P" to the type number.

External accessories
V type operating handles

■ Dimnsions, mm
BZ6V60C, 6V70C, BZ-V60C, V70C



Breaker			Handle type	Standard type H	With the optional shaft H		Mass (kg)
S series	E series	H series				Area in which the hinge with H can be installed	
SA400C SA400RC SA400CUL SA400RCUL	EA400C	–	**BZ6V60C**	190±2	250±2	202 to 250	2.2
–	–	H400B H400R	**BZ-V60C**				2.2
SA600RC SA600RCUL SA800RC SA800RCUL	EA600C EA800C	–	**BZ6V70C**				2.2
–	–	H600B H600R H800B H800R	**BZ-V70C**				2.2

Notes:
- Handle protection degree IP54 (IEC60529, JIS C0920).
- The handle cannot hold the door.
- Breakers use different size screws for the X type (rear connection) or P-type (Pulg-in) breakers.

G type operating handles

■ Operating instructions

1. MCCB operation
- Close the door and turn the handle to the ON position and the breaker will be positioned at ON.
- When the breaker is interrupted automatically the handle will move to the TRIP position.
- To reset move the handle to the RESET position.

2. Door panel locking
- Turn the handle to the OPEN position and the lock mechanism will be released thus allowing the door to be opened.
- The door cannot be opened when the breaker is positioned at ON.

3. Handle locking
The cylinder key can lock the handle in either the ON or OFF position. Even if it is locked at the ON position when the breaker trips, the handle will indicate TRIP.

4. Interlock release
This type is provided with an interlock release screw. Turn this screw if it is necessary to open the door at the ON position. This releases the lock and allows the door to be opened. When reclosing the door make sure the handle of the breaker coincides with the position (ON or OFF) of that of the external handle.

■ Type number nomenclature

BZ–G□C–K

Key
Blank: Without key
K: With cylinder key
Q: With padlocking device

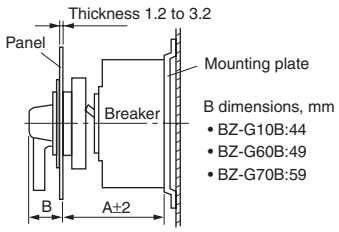
Basic type
BZ-G□C
G-□A

■ Installation

BZ–G□C

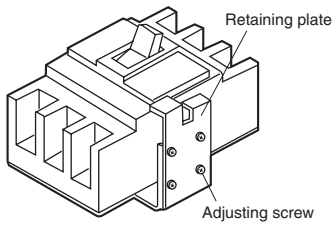
1. Drilling and cutting of the door panel
Drill and cut the door panel as shown in the drawing.

2. Mounting of the MCCB
The distance between the backside of the door panel and breaker mounting plate should be the dimension "A" as shown in the drawing below.

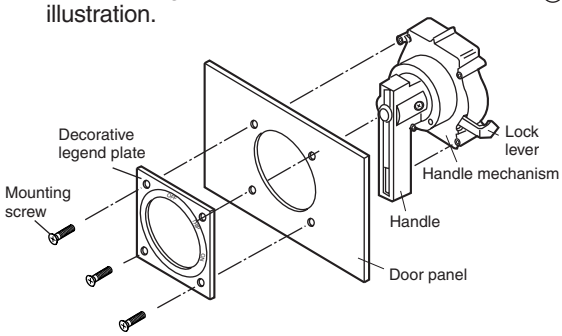


A dimensions, mm
- BZ-G10B : 103
- BZ-G60B, G70B: 157

Mount the breaker and the retaining plate commonly to the panel board.



3. Fit the decorative plate and handle mechanism to the door panel by means of the mounting screws as shown in the illustration.



4. Adjust the height of the retaining plate by means of adjusting screws.

G-120A, 160A

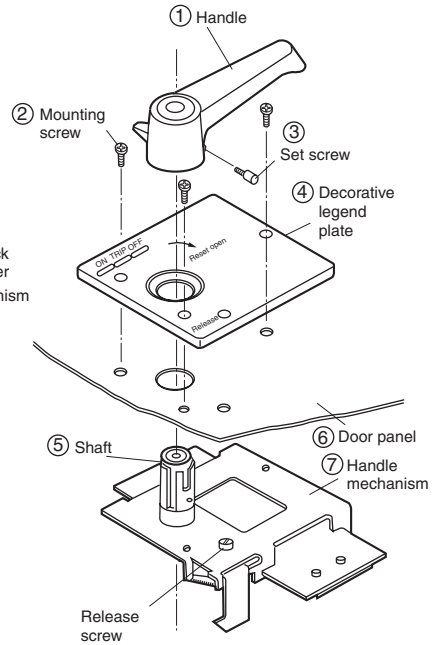
1. Drilling and cutting of the door panel
Drill and cut the panel as shown in the drawing.

2. Mounting of the MCCB
When mounting the MCCB to the panel board make sure that the retaining plate and the supporter (type H-11 separately sold) engage correctly.

3. Fitting the G type handle (Refer to the illustration.)
- First remove the set screw③and handle mounting screws②. Then remove handle①, decorative plate④and operating mechanism⑦.
- Fit the decorative plate④and handle mechanism⑦to the panel⑥by means of the mounting screws②as shown in the illustration.
- Insert the handle on the shaft⑤and secure by means of the set screw③

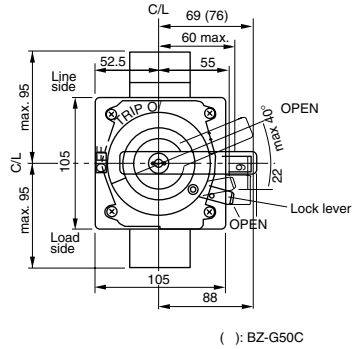
4. Adjust the height of the retaining plate (H-11) by means of the adjusting screws.

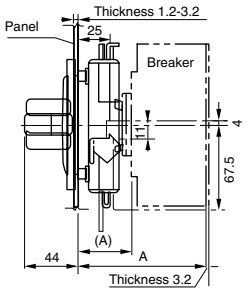
5. Check the door for play. Carry out the retaining plate adjustment once more taking up any endplay.

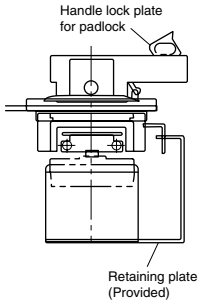


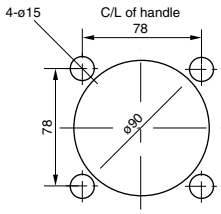
External accessories
G type operating handles

■ Dimensions, mm
BZ-G35C, BZ-G50C



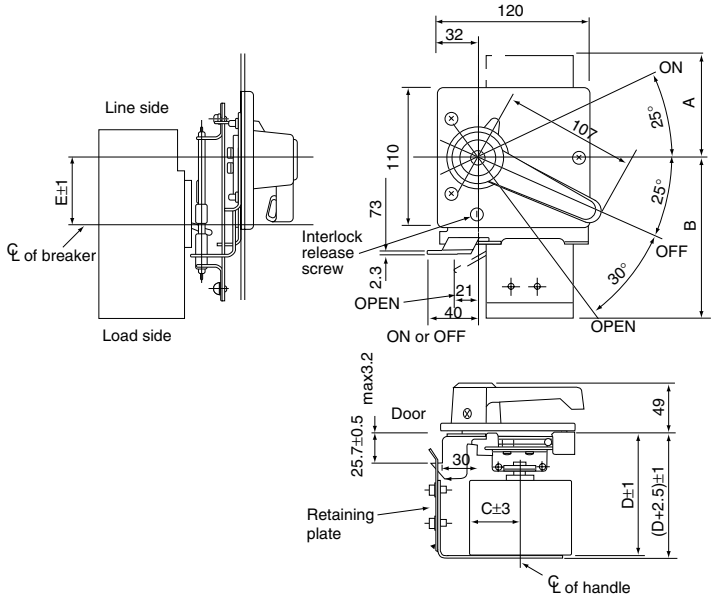




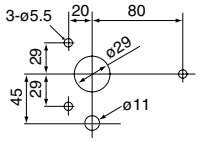


Breaker type	Handle type	A (A)	Mass (kg)
SA104R	**BZ-G35C, BZ-G35C-K**	125±2 (43)	1.2
SA204R	**BZ-G50C, BZ-G50C-K**	130±2 (47.5)	

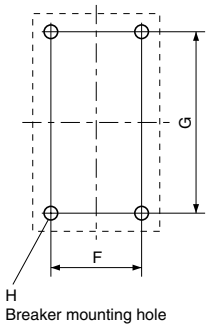
G-22A



Door panel drilling



Panel drilling



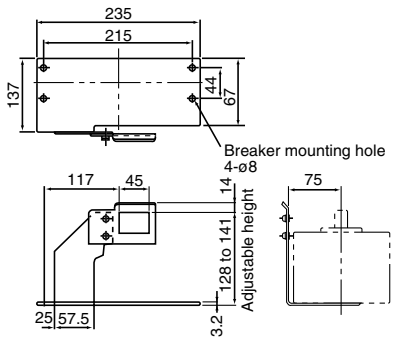
Dimensions for reference only. Confirm before construction begins.

Breaker type	Handle type	A	B	C	D	E	F	G	H	Retaining plate
SA404HA	**G-22A, G-22A-K**	111	152	40	150	36	44	215	M6 or ø7	H-2
SA604H SA804H	**G-42A, G-42A-K**	117	133	40	157	36	70	243	M6 or ø7	H-5

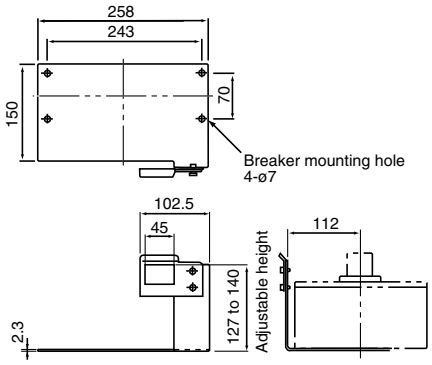
■ Dimensions, mm

Retaining plate and supporter (Sold separately)

H-2



H-5



06

External accessories
Steel enclosures

Pressed steel enclosures

■ Description

BZ-type enclosures are available in three types — two with V and G-type handle which allows the operation from the outside and other with the operating handle of the breaker extending from it to allow it to be directly switched ON or OFF from outside the enclosure.
Enclosures with V and G-type handles are provided with a door interlocking mechanism which prevents the door from being opened in the ON condition.
Knockout holes for wiring use are provided as shown in the diagram.
(For G-type handles, contact FUJI.)

Standard
AF90-780

Dustproof
AF96-175

Rainproof
CP97-2636

■ Type of enclosures

Breaker type			Enclosure		
S series	E series	H series	Standard	With V type handle Dustproof *1	Rainproof *2 *3
SA32C, SA52C, SA52RC SA62C, SA62RC	EA32AC, EA52AC EA52C, EA62C	–	**BZ6C10C2**	**BZ6CV10C**	**BZ6CW10C**
SA33C, SA53C, SA53RC SA63C, SA63RC	EA33AC, EA53AC EA53C, EA63C	–	**BZ6C10C3**	**BZ6CV10C**	**BZ6CW10C**
–	EA102C	–	**BZ6C25C2**	**BZ6CV25C**	**BZ6CW25C**
–	EA103C EA103AC	–	**BZ6C25C3**	**BZ6CV25C**	**BZ6CW25C**
SA102C	–	–	**BZ6C30C2**	**BZ-CV30C**	**BZ-CW30C**
SA102RC SA103C, SA103RC	–	–	**BZ6C30C3**	**BZ-CV30C**	**BZ-CW30C**
–	–	H52BA, H53BA H102BA, H103BA	**BZ-C30B-3**	**BZ-CV30C**	**BZ-CW30C**
SA202C, SA202RC SA203C, SA203RC	EA202C EA203C	H202BA, H203BA	**BZ-C40B**	**BZ-CV40C**	**BZ-CW40C**
–	–	H103R H203R	**BZ-C50B**	**–**	**–**
SA402C, SA402RC SA403C, SA403RC	EA402C EA403C	H402B, H403B H403R	**BZ-C60B**	**BZ-CV60C**	**BZ-CW60C**
SA603RC SA803RC	EA603C EA803C	H603B, H603R H803B, H803R	**BZ-C70B**	**BZ-CV70C**	**–**

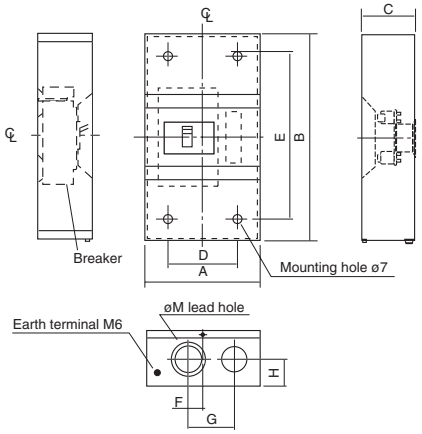
Notes: • Protection degree (IEC60529) *1: IP40 *2: IP54
• *3 BZ-CV40C and rainproof steel enclosures not available for the H series.
• The provided V type handles do not conform to EN and IEC standards.

■ Ordering information

Specify the following:
1. Type number of enclosures

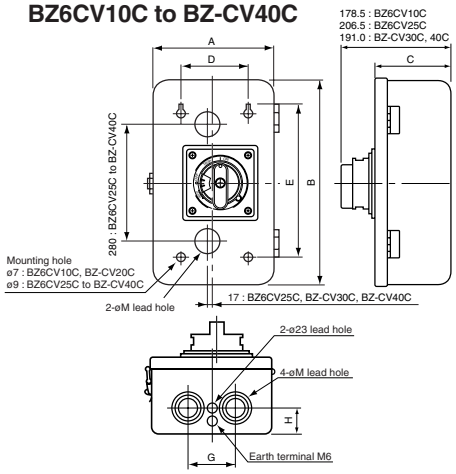
■ Dimensions, mm

Standard

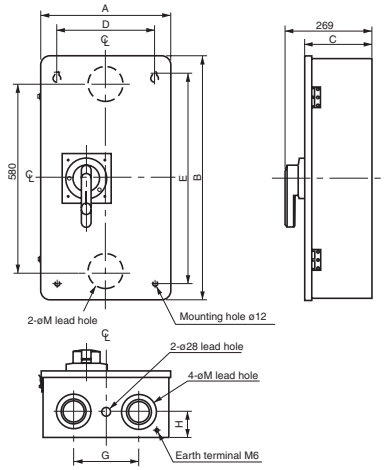


With V type handle

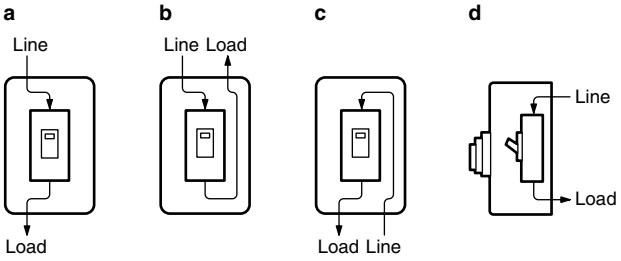
BZ6CV10C to BZ-CV40C



BZ-CV60C, 70C



■ Connection method diagrams



Type	Connection	A	B	C	D	E	F	G	H	M (Ø)	Mass (kg)
BZ6C10C2	a, b, c	135	225	95	90	170	25	65	40	22, 35	1.35
BZ6C10C3											
BZ6C25C2		200	320	95	120	240	25	80	40	30, 45	2.31
BZ6C25C3											
BZ6C30C2, BZ-C30B-2		200	320	95	120	240	25	80	40	30, 45	2.34
BZ6C30C3, BZ-C30B-3											2.37
BZ-C40B		200	360	95	120	280	25	80	45	40, 55	2.53
BZ-C50B		200	360	140	120	280	25	80	45	40, 55	3.09
BZ-C60B		400	750	175	300	650	100	200	80	63, 78, 106	19.3
BZ-C70B											19.3
BZ-C120		520	1150	200	400	950	100	200	80	63, 78, 106	19.3
BZ6CV10C		180	300	114	100	220	–	70	40	28, 35, 43	0.64
BZ-CV25C	a, b, c, d	250	400	142	170	320	–	110	50	35, 52, 63	6.40
BZ-CV30C											6.40
BZ-CV40C											6.53
BZ-CV60C		400	750	206	300	650	–	200	80	63, 78, 106	21.7
BZ-CV70C											21.7

External accessories
Terminal covers

Terminal covers

■ **Description**

These terminal covers are used as guards to prevent accidental touch with live line terminations.
These terminal covers can be fitted to either line or load side.

● **Up to 225AF**

Short type BZ-TS

- Snap-on fitting
- Transparent and black(BZ6TS10 only), sealing possible

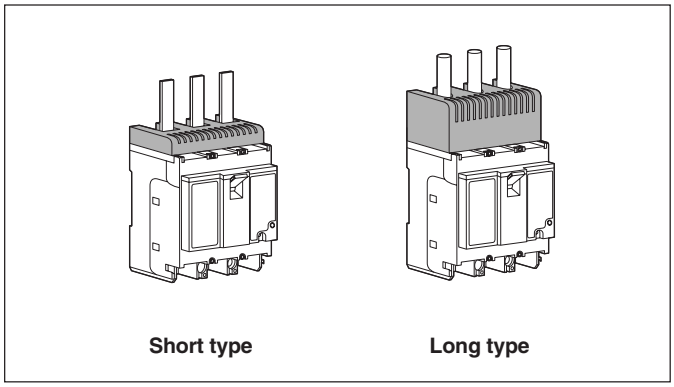
Long type BZ-TB

- Crimp connection use
- Transparent and black(BZ6TB10 only), sealing possible

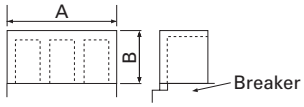
● **400AF and larger**

Long type BZ-TB

- Transparent



Short type **Long type**



● **IEC and CE marking conformed**

Packing quantity : 2 pcs.

Breaker type S series	E series	H series	Terminal cover Short type	A (mm)	B (mm)	Mass (g)	Terminal cover Long type	A (mm)	B (mm)	Mass (g)
SA32C SA52C, SA52RC SA62C, SA62RC	EA32AC EA52C, EA52AC EA62C EA102C	–	**BZ6TS10C2** (Black) **BZ6TSH10C2** (Transparent)	50	10	25	**BZ6TB10C2** (Black) **BZ6TBH10C2** (Transparent)	50	40	68
SA33C SA53C, SA53RC SA63C, SA63RC	EA33AC EA53C, EA53AC EA63C EA103AC, EA103C	–	**BZ6TS10C3** (Black) **BZ6TSH10C3** (Transparent)	75	10	32	**BZ6TB10C3** (Black) **BZ6TBH10C3** (Transparent)	75	40	87
SA54B	EA104B	–	**BZ-TS20B-4**	100	10	41.3	**BZ-TB20B-4**	100	30	90
SA102C	–	–	**BZ-TS30B-2**	60	10	29	**BZ-TB30B-2**	60	40	64
SA102RC SA103C, SA103RC	–	H52BA, H53BA H102BA, H103BA	**BZ-TS30B-3**	90	10	43	**BZ-TB30B-3**	90	40	86
SA104R	–	–	**–**	–	–	–	**BZ-TB35B-4**	123	40	163
SA202C, SA202RC SA203C, SA203RC	EA202C EA203C	H202BA H203BA	**BZ-TS40B**	105	10	60	**BZ-TB40B**	105	50	107
SA204R	–	–	**–**	–	–	–	**BZ-TB45B-4**	143	50	204
–	–	H103R, H203R	**BZ-TS50B**	105	10	76	**BZ-TB50B**	105	40	175
SA402C, SA402RC SA403C, SA403RC	EA402C EA403C	H402B, H403B H403R	**–**	–	–	–	**BZ-TB60B**	172	110	549
SA603RC SA803RC	EA603C EA803C	H603B, H603R H803B, H803R	**–**	–	–	–	**BZ-TB70B**	230	135	568

● **UL Listed**

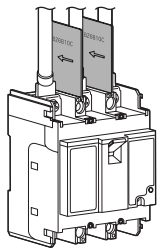
Breaker type S series	E series	Terminal cover Short type	Mass (g)	Terminal cover Long type	Mass (g)	Terminal cover For flat terminal	Mass (g)
SA52RCUL SA53RCUL	EA102CUL EA103CUL	**BZ6TS10C2U** (Black)* **BZ6TS10C3U** (Black)*	26.5 33.5	**BZ6TB10C2U** (Black) **BZ6TB10C3U** (Black)	69.5 88.5	**–**	–
SA102CUL, SA102RCUL SA103CUL, SA103RCUL	**–**	**BZ-TS30B-3**	43	**BZ-TB30B-3**	86	**BZ-TL30B-3**	45
SA202CUL, SA202RCUL SA203CUL, SA203RCUL	**–**	**BZ-TS40B**	60	**BZ-TB40B**	107	**BZ-TL40B**	60
SA402CUL, SA402RCUL SA403CUL, SA403RCUL	**–**	**–**	–	**BZ-TB60B**	549	**–**	–
SA602RCUL SA803RCUL	**–**	**–**	–	**BZ-TB70B**	568	**–**	–

Note: * Standard-provided

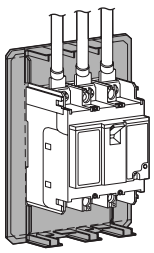
Insulation barriers

■ Description

The interphase barriers are provided on frame size of 30AF to 1200AF breakers for front mounting. The barriers are installed in the molded slots between terminals.
The earth barrier is used to increase the insulation with the mounting plate surface when two crimp terminals are wired. Installation of these barriers after wiring is possible even when an external accessory is installed.



Interphase barrier

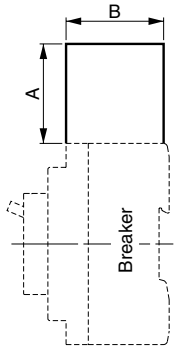


Earth barrier

● Interphase barrier

Breaker type			Interphase barrier Type	Dimensions, mm A	B	Packing quantity	Mass (g)
S series	E series	L and H series					
SA32C SA52C, 52RC SA62C, 62RC	EA32AC EA52AC, 52C EA62C EA102C	–	**BZ6B10C**	50	49	4	23
SA33C SA53C, 53RC SA63C, 63RC	EA33AC EA53AC, 53C EA63C EA103AC, 103C	–					
SA102C, 102RC, 102CUL, 102RCUL SA103C, 103RC, 103CUL, 103RCUL	–	LA53B(Line*1) H52BA, 53BA H102BA, 103BA	**BZ-B30B**	50	51	4	29
SA102CUL, 103CUL SA102RCUL, 103RCUL	–	–	**BZ6B30CU**	50 58	58 58	4 4	31
SA202C, 202RC SA203C, 203RC	EA202C EA203C	H202BA H203BA	**BZ-B40B**	80	52	4	48
SA202CUL, 203CUL SA202RCUL, 203RCUL	–	–	**BZ6B40CU**	80 90	58.5 58.5	4 4	52
–	–	H103R H203R	**BZ-B50B**	80	90.5	4	82
SA402C, 402RC, 402CUL, 402RCUL SA403C, 403RC, 403CUL, 403RCUL SA603RC, 603RCUL SA803RC, 803RCUL S1003, 1203	EA402C EA403C EA603C EA803C	H402B H403B, 403R H603B, 603R H803B, 803R	**B-43A**	105	95	4	131
SA404H SA604H, 804H	–	–	**B-44A**	105	95	6	195

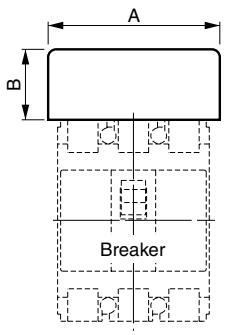
Interphase barrier



● Earth barrier

Breaker type			Earth barrier Type	Dimensions, mm*2 A	B	Packing quantity	Mass (g)
S series	E series	L and H series					
SA32C SA52C, 52RC SA62C, 62RC	EA32AC EA52AC, C EA62C EA102C	–	**BZ6BL10C2**	100 (50, 75)	43 (30)	2	33
SA33C SA53C, 53RC SA63C, 63RC	EA33AC EA53AC, C EA63C EA103AC, C	–	**BZ6BL10C3**	125 (75, 100)	43 (30)	2	41
–	–	LA53B	**BZ-BL20B-3**	125 (75, 100)	70 (30)	2	20
SA102C	–	–	**BZ-BL30B-2**	100 (60, 80)	70 (40)	2	11
SA102RC SA103C, 103RC	–	H52BA, 53BA H102BA, 103BA	**BZ-BL35B**	130 (90, 110)	70 (40)	2	16
SA202C, 202RC SA203C, 203RC	EA202C EA203C	H202BA H203BA	**BZ-BL40B**	190 (105, 147)	100 (50, 72)	2	48
–	–	H103R H203R	**BZ-BL50B**	190 (105, 147)	100 (50, 72)	2	48

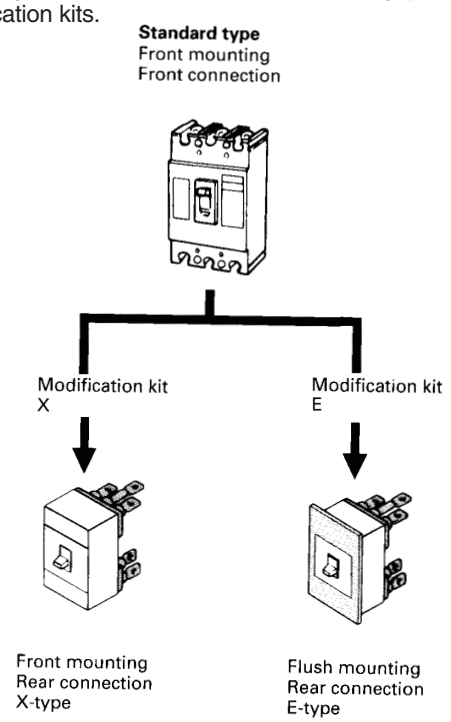
Earth barrier



Notes: *1 Barrier type for the load side is BZ-B35B.
Interphase barriers are standard provided for the front mounting type breaker.
4-pole types are available for interphase barrier only, and 2-sets are required.
*2 The value in parentheses is the dimensions after the barrier is cut.

Mounting modification kits

Standard type breakers are front mounting front connections. The standard breaker can easily be modified to become front mounting rear connection and flush mounting types by using the modification kits.



Modification kits

● **For front mounting, front connection** (Flat terminal)

Breaker type	Kit type For 2-pole	For 3-pole
SA30C, 50C, 50RC EA30AC, 50AC, 50C	**BZ6S10C502**	**BZ6S10C503**
SA60C, 60RC EA60C,100AC, 100C	**BZ6S10C1002**	**BZ6S10C1003**
LA53B	–	**BZ-S20B-503**
SA100C, 100RC	**BZ-S35B-1002**	**BZ-S35B-1003**
SA225C, 225RC EA225C	**BZ-S50B-2252**	**BZ-S50B-2253**
H50BA, 100BA	**BZ-S35B-1002**	**BZ-S35B-1003**
H225BA	**BZ-S50B-2252**	**BZ-S50B-2253**
H100R, 225R	–	**BZ-S50B-2253**

Note: • BZ6S10C502 for EA102C/50, BZ6S10C503 for EA103C/50

UL Listed / Flat terminal

Breaker type	Kit type
SA50RCUL	**BZ-SU20B**
EA100CUL	**BZ-SU25B**
SA100CUL SA100RCUL	**BZ6SU35B**
SA225CUL SA225RCUL	**BZ6SU50B**
SA400CUL SA400RCUL	**BZ-SU60B**
SA600RCUL	**BZ-SU70B-600**
SA800RCUL	**BZ-SU70B-800**

Black terminal: *See page 06/29 "Quick reference guide"*

● **For front mounting, rear connection** (X type)

Breaker type	Kit type For 2-pole	For 3-pole
SA30C, 50C, 50RC EA30AC, 50AC, 50C	**BZ6X10C502**	**BZ6X10C503**
SA60C, 60RC EA60C,100AC, 100C	**BZ6X10C1002**	**BZ6X10C1003**
SA100C, 103RC	**BZ-X30C-1002**	**BZ-X30C-1003**
SA102RC	**BZ-X31C-1002**	
SA225C, 225RC EA225C H225BA	**BZ-X40B-2252**	**BZ-X40B-2253**
SA400C, 400RC EA400C	**BZ-X60B-4002**	**BZ-X60B-4003**
H50BA, 100BA	**BZ-X31C-1002**	**BZ-X30C-1003**
H100R, 225R	–	**BZ-X50B-2253**
H400B, 400R	**BZ-X60B-4002**	**BZ-X60B-4003**

Note: • BZ6X10C502 for EA102C/50, BZ6X10C503 for EA103C/50

● **For flush mounting, rear connection** (E type)

Breaker type	Kit type For 2-pole	For 3-pole
SA30C, 50C, 50RC EA30AC, 50AC, 50C	**BZ6E10C502**	**BZ6E10C503**
SA60C, 60RC EA60C,100AC, 100C	**BZ6E10C1002**	**BZ6E10C1003**
SA100C	**BZ6E30C1002**	**BZ6E30C1003**
SA102RC	**BZ6E31C1002**	–
SA103RC	–	**BZ6E30C1003**
SA225C, 225RC EA225C	**BZ6E40B2252**	**BZ6E40B2253**
H50BA, 100BA	**BZ-E31C-1002**	**BZ-E30C-1003**
H225BA	**BZ-E40B-2252**	**BZ-E40B-2253**
H100R, 225R	–	**BZ-E50B-2253**
SA400C, 400RC EA400C H400B, 400R	**BZ-E60B-4002**	**BZ-E60B-4003**

● **For flush mounting, top and buttom connection** (Y type)

Breaker type	Kit type For 2-pole	For 3-pole
SA30C, 50C, 50RC EA30AC, 50AC, 50C	**BZ6Y10C502**	**BZ6Y10C503**
SA60C, 60RC EA60C, 100AC, 100C	**BZ6Y10C1002**	**BZ6Y10C1003**

■ Mass

For front mounting, front connection		For front mounting, rear connection (X type)		For flush mounting, rear connection (E type)	
Kit type	Mass (kg)	Kit type	Mass (kg)	Kit type (g)	Mass (kg)
BZ6S10C502	0.1	BZ6X10C502	0.3	BZ6E10C502	0.44
BZ6S10C503	0.15	BZ6X10C503	0.43	BZ6E10C503	0.59
BZ6S10C1002	0.25	BZ6X10C1002	0.30	BZ6E10C1002	0.44
BZ6S10C1003	0.35	BZ6X10C1003	0.43	BZ6E10C1003	0.59
BZ-S20B-503	0.1	BZ-X30C-1002	0.46	BZ6E30C1002	0.91
BZ-S35B-1002	0.25	BZ-X30C-1003	0.63	BZ6E30C1003	1.33
BZ-S35B-1003	0.35	BZ-X31C-1002	0.39	BZ6E31C1002	1.06
BZ-S50B-2252	0.35	BZ-X40B-2252	0.52	BZ6E40B2252	1.17
BZ-S50B-2253	0.5	BZ-X40B-2253	0.77	BZ6E40B2253	1.42
		BZ-X50B-2253	0.80	BZ-E31C-1002	0.86
				BZ-E30C-1003	1.11
		BZ-X60B-4002	1.98		
		BZ-X60B-4003	2.71	BZ-E40B-2252	0.97
				BZ-E40B-2253	1.22
				BZ-E50B-2253	1.27
				BZ-E60B-4002	3.40
				BZ-E60B-4003	3.67

06

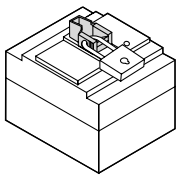
■ **Padlocking device** (UL not approved)

Breaker handles can be fitted with locks. The handle can be locked at either the ON or OFF position. If an overcurrent flows, the breaker trips even when the handle is kept locking. Add the suffix Q1 or Q2 to the ELCB type number to order the padlocking device (not sold separately).

Q1 : Cap type, Q2 :Plate type

Applicable padlocking device

S series	E series	L•H series
SA30C	EA30AC	LA50B
SA50C	EA50C	
SA50RC	EA50AC	H50BA
SA60C	EA60C	
SA60RC	EA100C	H100BA
SA100C		
SA100RC	EA225C	
		H225BA
SA225C		
SA225RC	EA400C	
		H400B
SA400C	EA600C	H400R
SA400RC		
	EA800C	H600B
SA600RC		H600R
SA800RC		H800B
		H800R



Cap type Q1*(400 to 800AF)

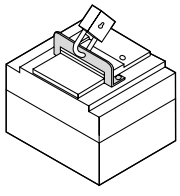


Plate type Q2
A padlock is not provided.

■ Handle locking covers/30 to 225AF

Breaker type Handle locking cover	Handle locking cover
EA30AC, 50AC, 50C	**BZ6L10C**
SA30C, 50C, 50RC, 50RCUL, 60C, 60RC EA60C, 100C, 100AC, 100CUL	
SA100C, 100RC, 100CUL, 100RCUL	**BZ6L30C**
SA225C, 225RC, 225CUL, 225RCUL EA225C H225BA	**BZ6L40C**

Distribution breakers: F series

■ Features

This breaker is used for protection of lighting and heating branch circuits.

- Compact and light in weight
- Large breaking capacity

Breaker ampere frame	Ampere rating	1-pole 240 volts AC Type	2-pole 240 volts AC Type	3-pole 240 volts AC Type
50	15	**F51B/15**	**F52B/15**	**F53B/15**
	20	**F51B/20**	**F52B/20**	**F53B/20**
	30	**F51B/30**	**F52B/30**	**F53B/30**
	40	**F51B/40**	**F52B/40**	**F53B/40**
	50	**F51B/50**	**F52B/50**	**F53B/50**
100	60	—	**F102B/60**	**F103B/60**
	75	—	**F102B/75**	**F103B/75**
	100	—	**F102B/100**	**F103B/100**

AF93-257 AF93-256 AF93-255

F51B **F52B** **F53B**

■ Ordering information

Specify the following:

1. Type number

■ Type number nomenclature

F 5 1B / 15

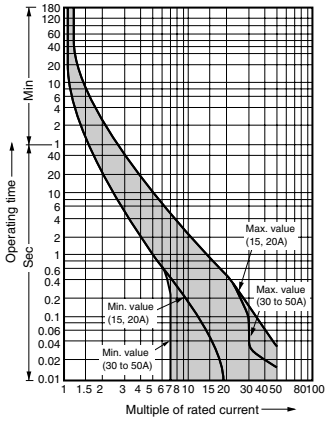
- Ampere rating (A)
- No. of poles
- Ampere frame
  5: 50A 10: 100A
- Basic type

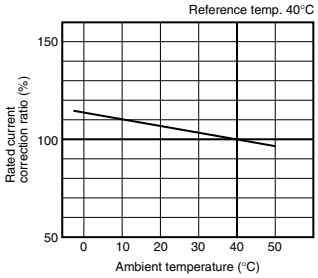
■ breaking capacities

Type			Distribution breaker F51B	F52B	F53B	F102B	F103B
Short-circuit breaking capacity (kA)	JIS C8370	265V AC	2.5	2.5	–	2.5	–
		220V AC	–	–	2.5	–	2.5
		110/220V AC	–	5	5	5.5	5.5
		110V AC	5	–	–	–	–
	BS	240/415V AC	3	3	–	–	–
		240V AC	3	3	3	3	3
Mass (kg)			0.18	0.35	0.55	0.41	0.65

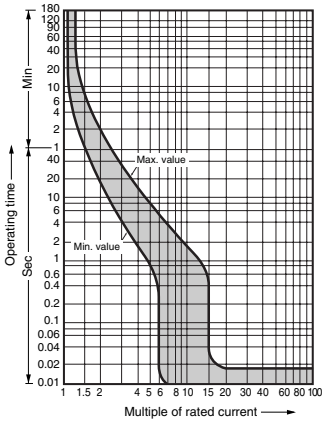
■ Characteristic curves

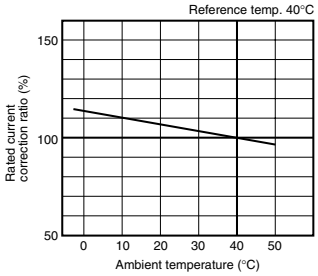
F50B





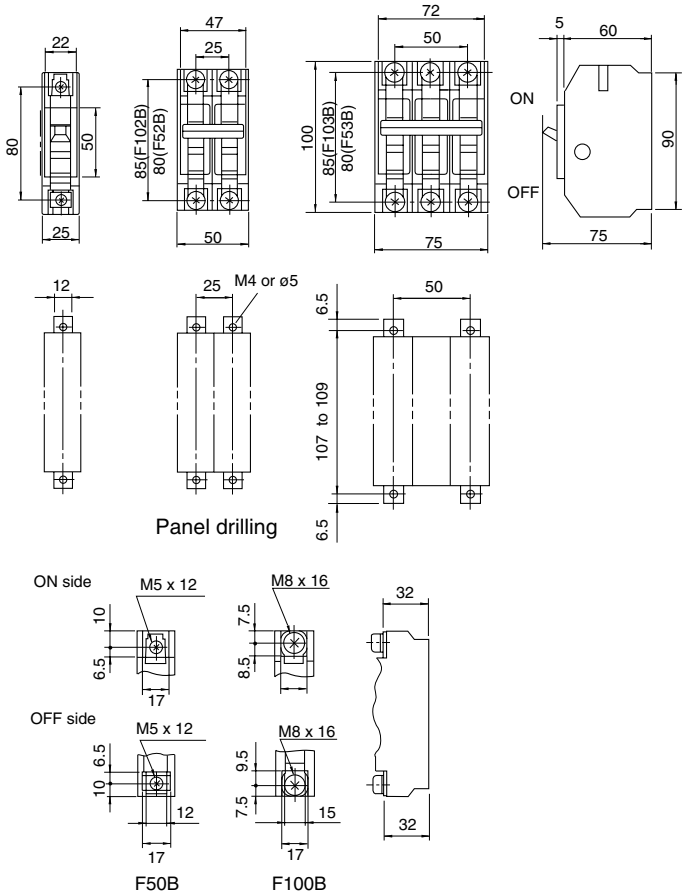
F100B





■ Dimensions, mm

F51B **F52B, F102B** **F53B, F103B**



F50B F100B

Solid-state trip types, SA1000E, 1200E, 1600E

■ Features

- **Equipped with a load current pre-trip alarm**
  Constantly monitors the load current, and outputs an alarm when the set current is exceeded.
- **Adjustable rated current**
  The rated current is easy to vary in 5 to 6 steps using an adjustment dial.
- **Wide-range-adjustable trip characteristics**
  The current and time for instantaneous tripping and short-/long-time delay tripping can be set by the user.
- Adjustable ground fault tripping determinate and set a current level for ground fault detection in the ranging between 10% to 40% of the rated CT current.

■ Type number nomenclature

SA1203E / 1200 X M WF K F=AC200V I I=AC100V

Basic type

Rated current

Mounting and connection
Blank: Front mounting, front counection
X: Front mounting, rear counection
E: Flush mounting, rear counection
P: Plug-in mounting
D: Draw-out

Operating device
Blank: Manual operation
M: Motor operating

Internal accessory
W: Auxiliary switch
K: Alarm switch
F: Shunt trip
R: Undervoltage trip

Operating voltage for accessory
F= □ : Shunt trip device
R= □ : Undervoltage trip device
M= □ : Motor operating mechanism

Protection function
Adjustable pre-alarm
Adjustable ground fault current trip

Control voltage for protection function
I= □ : Adjustable pre-alarm
U= □ : Adjustable ground fault current trip

Rated voltage	Allowable voltage
100 to 120V AC	85 to 132V
200 to 240V AC	170 to 264V

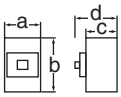
■ Ordering information

Specify the following:

1.Type number

Solid-state trip types

■ S series

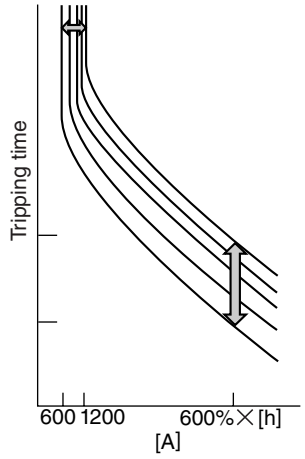
Frame			1000A		1200A		1600A	
Pole			3	4	3	4	3	4
Type			**SA1003E**	**SA1004E**	**SA1203E**	**SA1204E**	**SA1603E**	**SA1604E**
Rated current(A)			Adjustable 500—600—700—800—900—1000		Adjustable 600—700—800—1000—1200		Adjustable 800—900—1000—1200—1400—1600	
Rated insulation voltage(V)		AC	690		690		690	
		DC	—		—		—	
Rated breaking capacity (kA)	IEC 60947-2 (Icu/Ics)	690V AC	25/19		25/19		45/34	
		660V AC	25/19		25/19		45/34	
		600V AC	25/19		25/19		45/34	
		500V AC	45/34		45/34		65/49	
		440V AC	65/49		65/49		85/64	
		400V AC	65/49		65/49		85/64	
		230V AC	100/75		100/75		125/94	
		250V DC	—		—		—	
Dimensions (mm)		a	210	280	210	280	210	280
		b	370		370		370	
		c	120		120		140	
		d	171		171		191	
Protection function	Long-time delay tripping time (s)		5-30 (at 6In) (Adjustable)					
	Short-time delay tripping current (A)		2In-10In (Adjustable)					
	Short-time delay tripping time (s)		0.1-0.3 (Adjustable)					
	Instantaneous tripping current (kA)		3.0-12 (Adjustable)		3.75-15 (Adjustable)		4.8-19.2 (Adjustable)	
	Ground fault current tripping or pre-alarm		●		●		●	
Mass(kg) Front mounting, front connection			22	28	22	28	27	35
Tripping device			Solid-state		Solid-state		Solid-state	
Trip button			Provided		Provided		Provided	
Mounting								
Front mounting, front connection		No marrk	●		● Bar stud		●	
Front mounting, rear connection		X	● Bar Stud		● Bar stud		● Bar stud	
Flush mounting, rear connection		E	● Bar Stud		●		● Bar stud	
Plug-in mounting		P	—		—		—	
Internal accessories								
Auxiliary switch		W	●		●		●	
Alarm switch		K	●		●		●	
Shunt trip		F	●		●		●	
Undervoltage trip		R	●		●		●	
External accessories								
Motor operating mechanism		M	●		●		●	
Lead-wire terminal block		—	●		●		●	

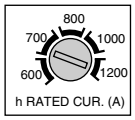
Note: * For SA1200E and SA1600E

● Available – Not available

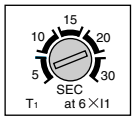
Protection function

• Long-time delay tripping (Rated current adjustable)



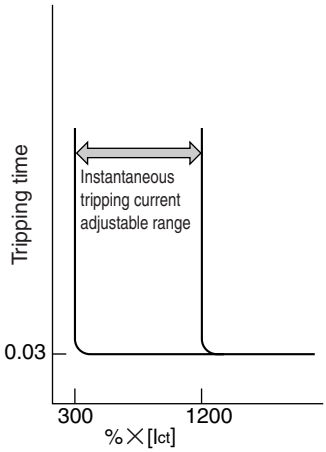


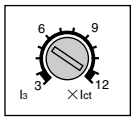
Current setting range



Time setting range, 5 to 30s at 600% of the rated current I_1

• Adjustable instantaneous tripping

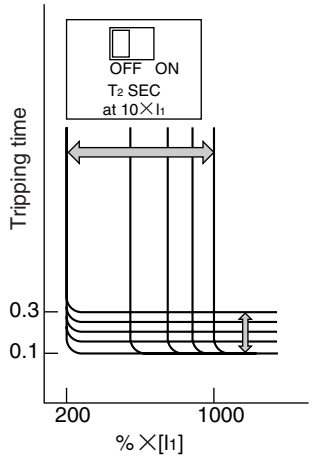


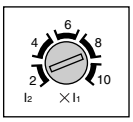


Current setting range, 300 to 1200% of rated primary current I_{ct}

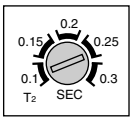
• Adjustable short-time delay tripping

Coordination with solid-state trip type MCCB



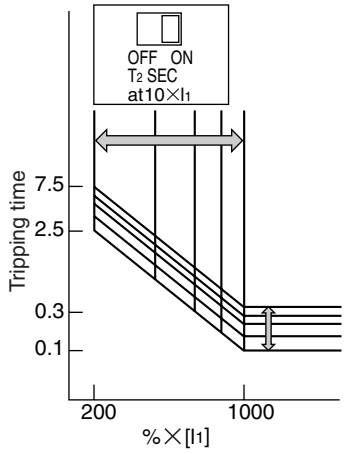


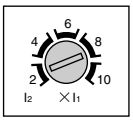
Current setting range, 200 to 1000% of the rated current I_1



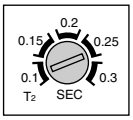
Time setting range, 100 to 300ms

Coordination with thermal-magnetic trip type MCCB



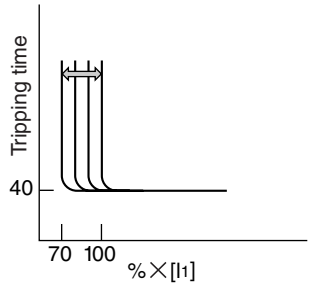


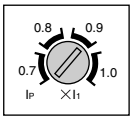
Current setting range, 200 to 1000% of the rated current I_1



Time setting range, 100 to 300ms. ramp characteristic

• Adjustable pre-trip alarm

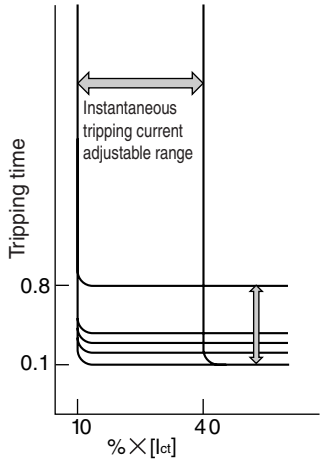


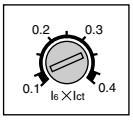


Pre-alarm current setting range, 70 to 100% of the rated current I_1.

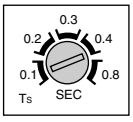
Pre-trip alarm operating time, 40s constant.

• Adjustable ground fault tripping





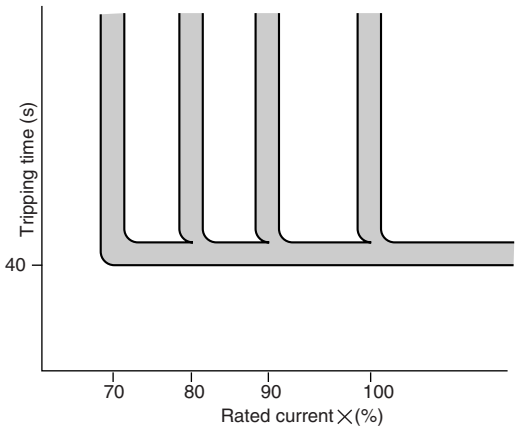
Current setting range, 10 to 40% of the rated primary current



Time setting range, 100 to 800ms

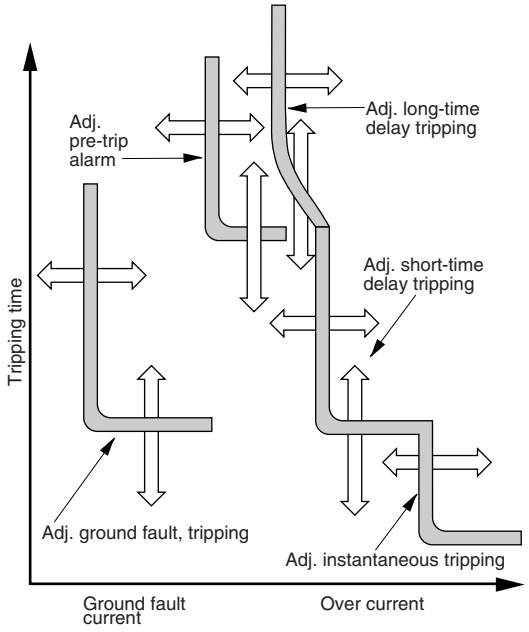
■ Pre-trip alarm function

Constantly monitors the load current, and outputs an alarm when it exceeds the set current. Helpful for preventive maintenance and power management.
The pre-trip alarm operates via an LED on the breaker surface and a contact output. Separate power supply is necessary.
The pre-trip alarm setting range allows adjustment to 70, 80, 90, or 100% of the rated current.

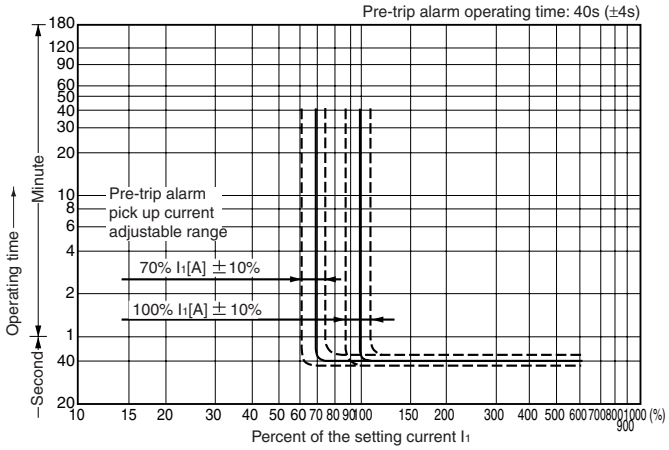


■ Multi protection function

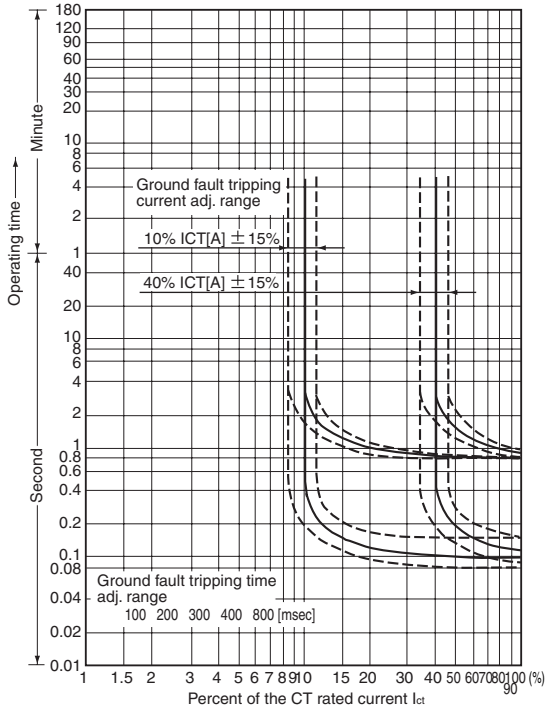
Wide-range-adjustable trip characteristics with high precision. Either ground fault tripping or the pre-trip alarm can be selected as an option (not both).



• Pre-trip alarm characteristics

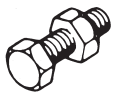


• Ground fault tripping characteristics



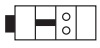
■ **Terminal Connection/Front mounting, Front Connection**

• MCCBs and cables according to the screw size and tightening torque as shown in the table below.

MCCB type	Screw and Bolt	Size [mm]	Tightening torque [N m]
SA1003E, SA1004E SA1203E, SA1204E	 Hexagonal head bolt	M12 x 55	40.2 to 65.7
SA1603E, SA1604E	Not supplied	–	–

Solid-state trip types

■ Available configurations

	SA1003E SA1203E SA1603E	SA1004E SA1204E SA1604E
Auxiliary switch SPDT W		
Alarm switch SPDT K		
Shunt trip F		
Under voltage trip R		
W+K		
W+F		
W+R		
K+F		
K+R		
W+K+F		
W+K+R		
W2		
W2+K		
W2+F		
W2+R		
W2+K+F		
W2+K+R		

■ Auxiliary switch and alarm switch

These devices indicate the MCCB's operation status electrically.

- Auxiliary switch (W)
  Auxiliary switch indicates the ON/OFF status of MCCB.
- Alarm switch (K)
  Alarm switch indicates the trip status of MCCB. MCCB trips at the time when the following condition occurs:
  · Overcurrent
  · Short-circuit current

■ Ratings of auxiliary switch (W) and alarm switch (K)

• Standard type

AC			DC			Minimum load
Voltage (V)	Current (A)		Voltage (V)	Current (A)		
	Resistive load	Inductive load		Resistive load	Inductive load	
480	3	2	250	0.3	0.3	30V DC 26.7mA
250	5	5	125	0.3	0.6	5V DC 160mA
125	5	5	30	5	4	

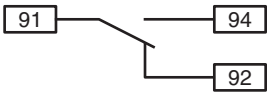
Note: Inductive load condition: Power factor 0.4 or more (AC), time constant 7ms or less (DC)

• For low level circuit

AC		DC		Minimum load
Voltage (V)	Current (A)	Voltage (V)	Current (A)	
	Resistive load		Resistive load	
125	0.1	30	0.1	30V DC 1mA 5V DC 1mA

Note 1: When ordering, specify WD, KD.

• Operation of auxiliary switch and alarm switch

Type of Accessory	Handle position		
	ON	OFF	TRIP
Auxiliary switch (W)			
Alarm switch (K)			

06

■ Shunt trip (F) and undervoltage trip device (R)

• Shunt trip (F)
The purpose of the shunt trip device is to trip the MCCB remotely.

• Undervoltage trip device (R)
The undervoltage trip device trips the MCCB when the MCCB primary voltage is lower than the specified voltage.

• Ratings of shunt trip device (F)

Rated voltage	Coil energized current (A) *1	Allowable voltage fluctuation (V)	Maximum operating time (ms) *2
100-115V AC	1.1	85-126.5	30
200-480V AC	0.93	170-528	
24V DC	2.52	18-26.4	
48V DC	1.55	36-52.8	
100-115V DC	0.67	75-126.5	
200-230V DC	0.35	150-253	

Note *1: The current value at rated voltage maximum value (60Hz AC)
*2: The time period from when the rated voltage is applied to the shunt trip coil until the MCCB main contact opens.
• : The shunt trip device operation is short-time rating. To prevent the device from burning, continuous signal to the device should not be applied.

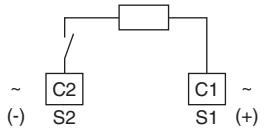
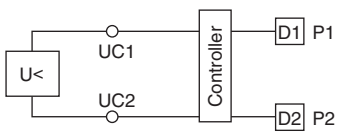
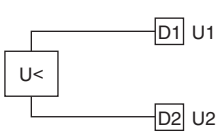
• Ratings of undervoltage trip device (R)

Rated voltage	Coli power consumption (VA)	Tripping voltage range (V)	Closing voltage (V)	Maximum applicable voltage (V)	Maximum operating time (ms) *2
100-120V AC	5 or more	70-20	85 or more	132 or less	30
200-240V AC		140-40	170 or more	264 or less	
380-450V AC		266-76	323 or more	495 or less	

Rated voltage	Coil energized current (A) *1	Tripping voltage range (V)	Closing voltage (V)	Maximum applicable voltage (V)	Maximum operating time (ms) *2
24V DC	22.7	16.8-4.8	20.4 or more	26.4 or less	30
100-115V DC	6.0	70-20	85 or more	126.5 or less	

Note *1: The current value at rated voltage maximum value
*2: The time period from when the rated voltage is applied to the shunt trip coil until the MCCB main contact opens.
• : When you turn on the tripped MCCB, perform the reset operation first and then turn ON the MCCB.

• Wiring diagram and terminal symbol

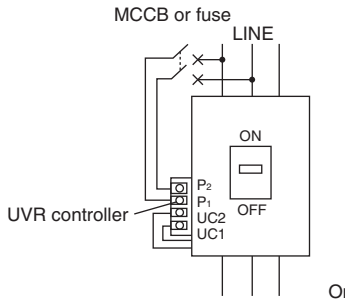
Type of accessory		Wiring diagram and terminal symbol
Shunt trip device	F	With burn-out-preventive contact 
Undervoltage trip device	R	With UVR controller  Without UVR controller 

■ UVR controller

- When using AC type undervoltage trip device (R), be sure to use a UVR controller.
- UVR controllers are equipped with standard type MCCBs at factory shipment. Separately installed type controllers are also available.

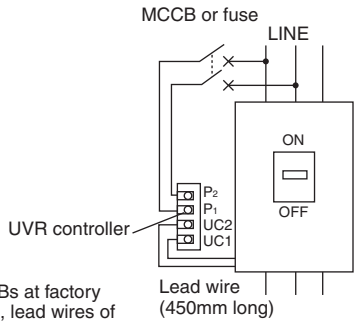
• UVR controller wiring diagram

Installing UVR controller on MCCB

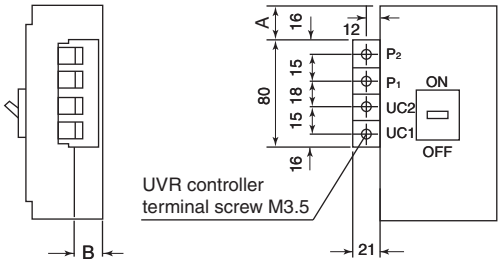


On MCCBs at factory shipment, lead wires of terminals UC1 and UC2 are provided.

Installing UVR controller separately



• Installing position of UVR controller on MCCB and terminal arrangement

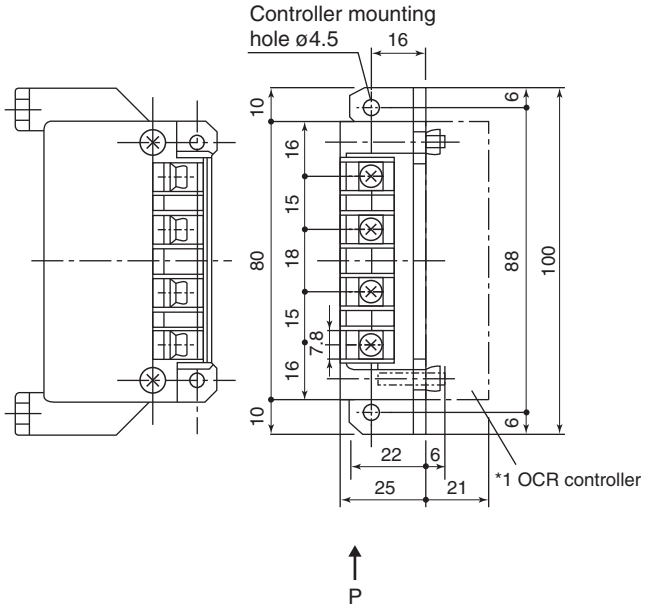


Unit: mm

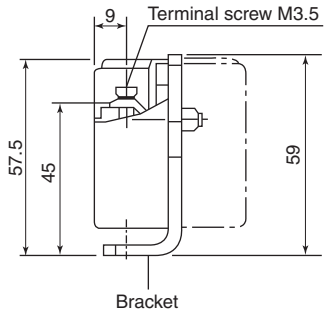
Frame size	MCCB type	A	B
1000, 1200	SA1003E, SA1004E	114(138)	72
	SA1203E, SA1204E		
1600	SA1603E, SA1604E	114(138)	92

Notes: • Terminal screw tightening torque: M3.5 screw, 0.88-1.18N m
• Applicable wire size 2.0mm² max.

• UVR controller outline dimensions, mm



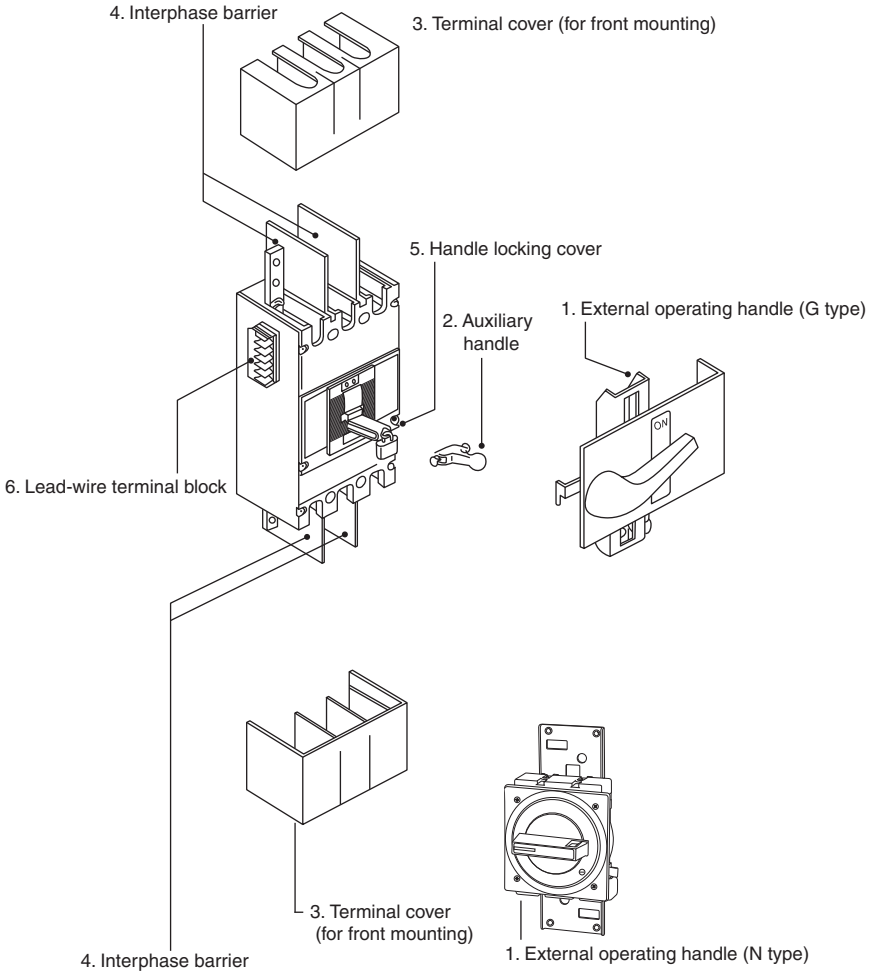
View from P



*1: For separate installation, install an OCR controller together with the UVR controller

06

■ Variation of external accessory



1. External operating handle
   Mounted on the control panel or switchboard to externally operate MCCB installed inside control panel or switchboard. The following 3 type handles are available.
   · Panel front mounted type (G type)
   The external operating handle is mounted on the control pane or switchboard doors.
   · MCCB mounted type (N type)
   This external operating handle is directly mounted to the MCCB installed inside the panels.

2. Auxiliary handle
   Reduce the required force to turn ON/OFF/RESET the MCCB.

3. Terminal cover (TB)
   Used to protect fingers touching live parts.
   · For front mounting MCCBs

4. Interphase barrier (B)
   The interphase barrier reinforces the insulation between terminals to prevent accidents.

5. Handle padlocking device (L)
   MCCB handles can be locked at either the ON or OFF position with this device. Prepare padlocks commercially available.

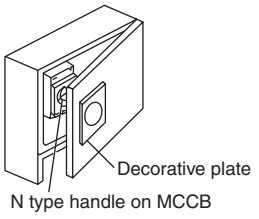
6. Lead-wire terminal block (A)
   MCCB side mounted lead-wire terminal block.

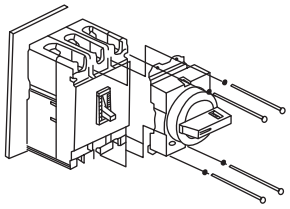
■ Operating handle (N type)

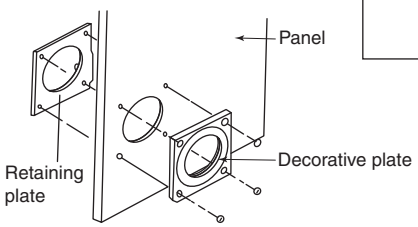
• The N type operating handle is directly mounted on the MCCBs.

• N type

MCCB type	Type	Dust-proof packing
SA1003E, SA1004E SA1203E, SA1204E SA1603E, SA1604E	**BZ6N101C**	**BZ-NPC**



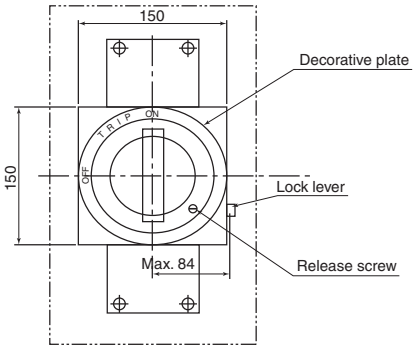


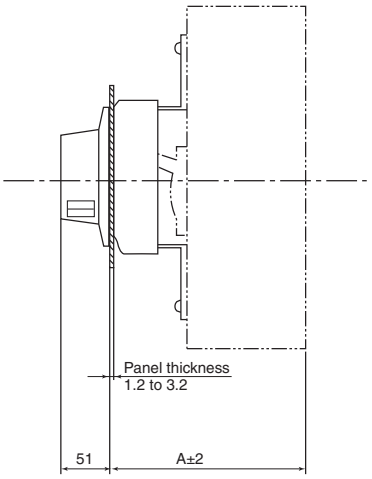


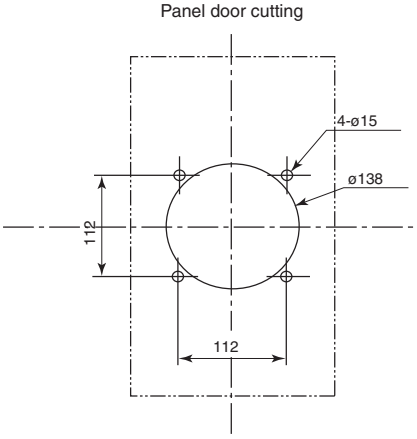
• Operating method

· The MCCB ON, OFF, and RESET operation can be made by turning the handle. When the MCCB trips, the handle moves to the TRIP position.
· If you turn the RELEASE screw with a screwdriver, the door can be opened while the MCCB is closed.
· The handle can be locked using a padlock to hold MCCB at either ON or OFF position. Prepare a commercially available padlock. Recommended padlock shackle size is ϕ 3.5-6mm.

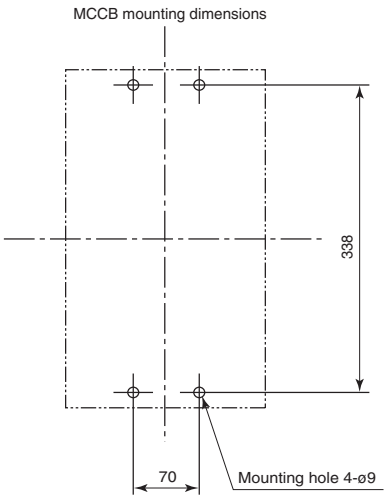
• Dimensions, mm

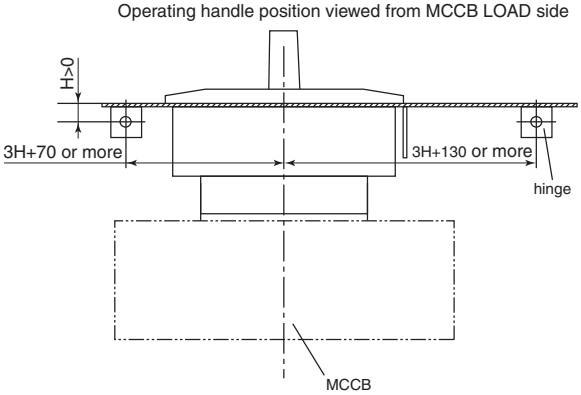






Applicable MCCB type	A
SA1003E, SA1004E SA1203E, SA1204E	197
SA1603E, SA1604E	217



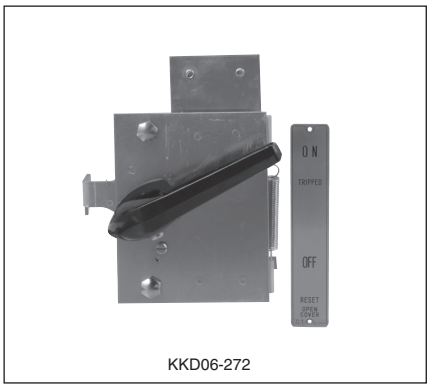


■ Ordering information

Specify the type number.

■ Operating handle (G type)

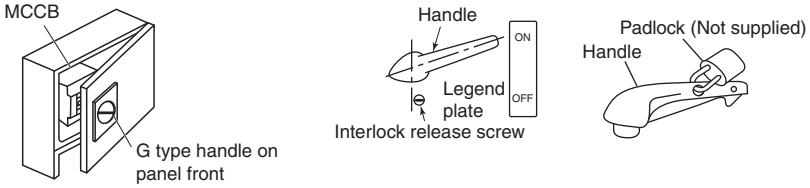
• The G type operating handle is mounted on the panel front.



KKD06-272

• G type

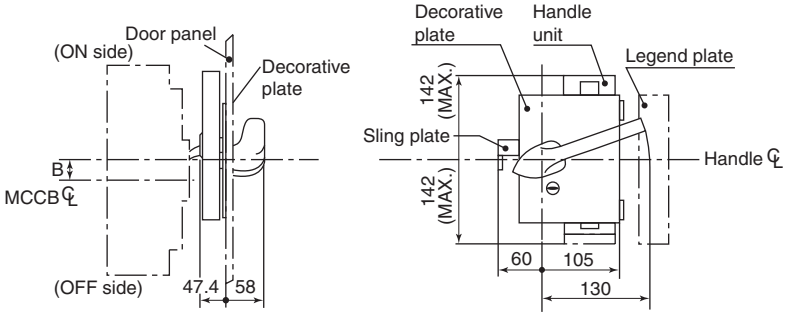
MCCB type	Type
SA1003E, SA1004E SA1203E, SA1204E SA1603E, SA1604E	**BZ6G101C**

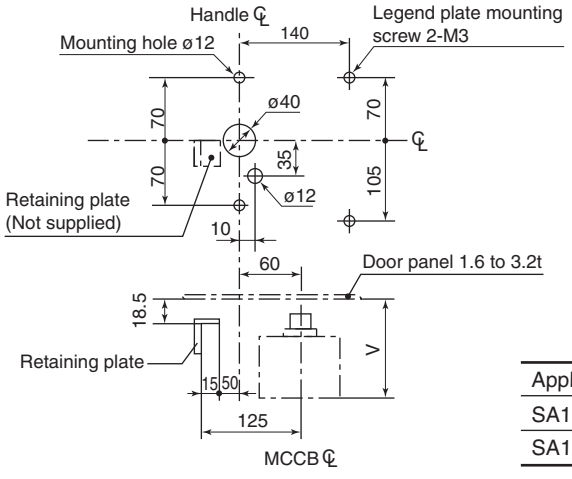


• Operating method

- The MCCB ON, OFF, and RESET operation can be made by turning the handle. When the MCCB trips, the handle moves to the TRIP position.
- If you turn the RELEASE screw with a screwdriver, the door can be opened while the MCCB is closed.
- The handle can be locked using a padlock to hold MCCB at OFF position. Prepare a commercially available padlock. Recommended padlock shackle size is ø8mm.

• Dimensions, mm





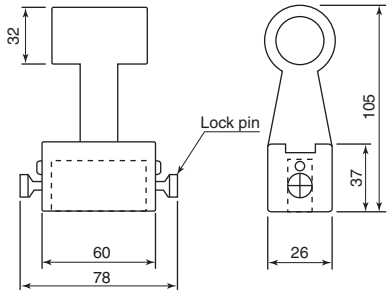
Applicable MCCB type	A	B
SA1000E, SA1200E	199.4	3
SA1600E	219.4	

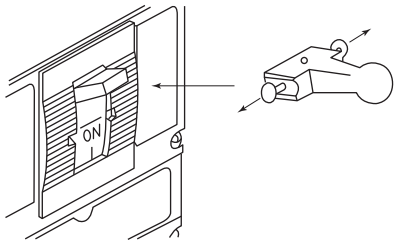
■ Ordering information

Specify the type number.

■ Auxiliary handle

- Reduce the required force to turn ON/OFF/RESET the MCCB.
- One auxiliary handle is supplied with one MCCB as standard.





Attaching and removing handle
Pull out the lock pins on both right and left sides in the direction of the arrows, and put the auxiliary handle onto the handle of the MCCB. The auxiliary handle is fixed with spring force. When removing, pull out the lock pins the same way in the direction of arrows and take off the auxiliary handle.

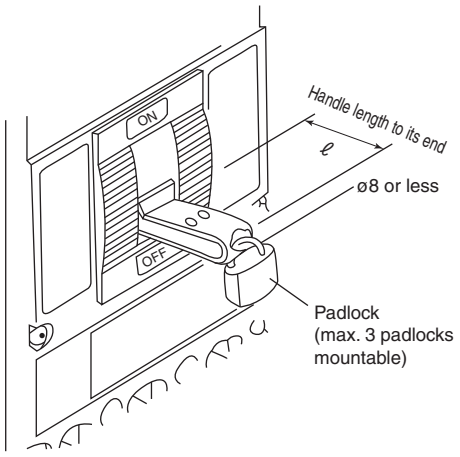
Applicable MCCB type	Type
SA1003E, SA1004E SA1203E, SA1203E SA1603E, SA1603E	Supplied as standard

■ Handle padlocking device

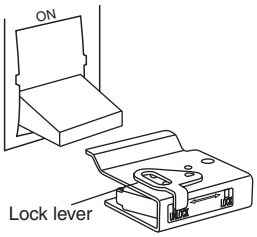
- When the handle padlocking device is locked, the MCCB handle can be locked in the OFF (open) position.
- Use the commercially available padlocks with shackle of diameter 4-8mm.

Applicable MCCB type	Type
SA1003E, SA1004E SA1203E, SA1203E SA1603E, SA1603E	**BZ6L101C**

KKD06-275



Use of handle padlocking device
Put the handle padlocking device's lock lever at UNLOCK (lock release) position and attach the padlocking device to the MCCB handle. Once the lock lever is turned to the LOCK (locked) position, the MCCB handle ON (closed) operation and OFF (open) operation are prohibited. When using the MCCB with the handle being locked, lock with the padlock(s) in this state.



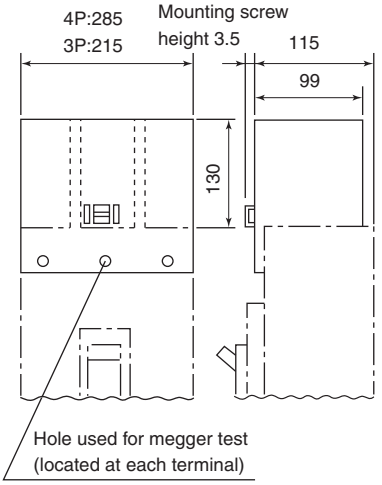
■ Ordering information

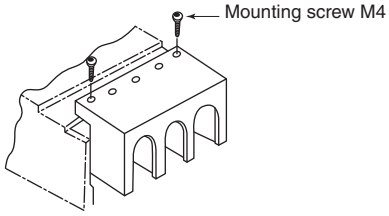
Specify the type number.

■ Terminal cover

• Finger protection guards against electric shock from accidentally touching live terminals.
• Specify when you order the main unit of the MCCB.

Applicable MCCB type	Type	Quantity supplied
SA1003E, SA1203E	**BZ6TB101C**	2 pieces
SA1004E, SA1204E		





*1: Use wire of size 100m² or less. When using wire of 150mm², please cusult with Fuji.
*2: Not applicable to 3-pole MCCBs with terminal block (option)

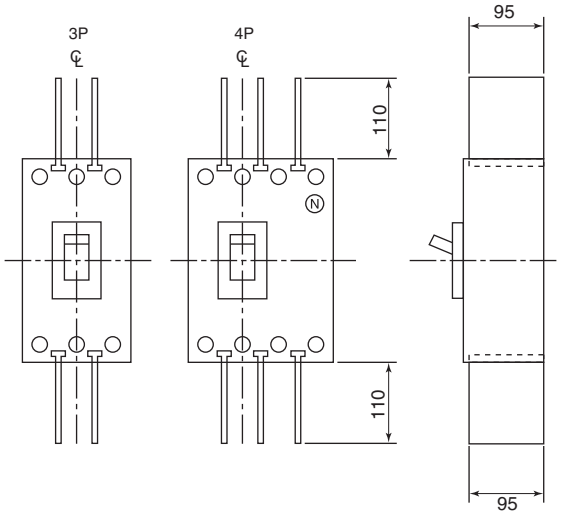
■ Ordering information

Specify the type number.

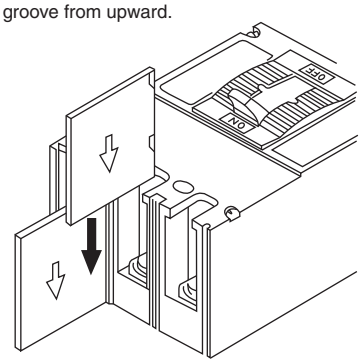
■ Interphase barrier

• The interphase barrier reinforces the insulation between terminals to prevent accidents.

Applicable MCCB type	Type	Quantity supplied
SA1003E, SA1203E, SA1603E	**BZ6B101C3**	2 pieces
SA1004E, SA1204E, SA1604E	**BZ6B101C4**	3 pieces



When mounting the interphase barrier to the MCCB, insert the barrier into the MCCB's groove from upward.



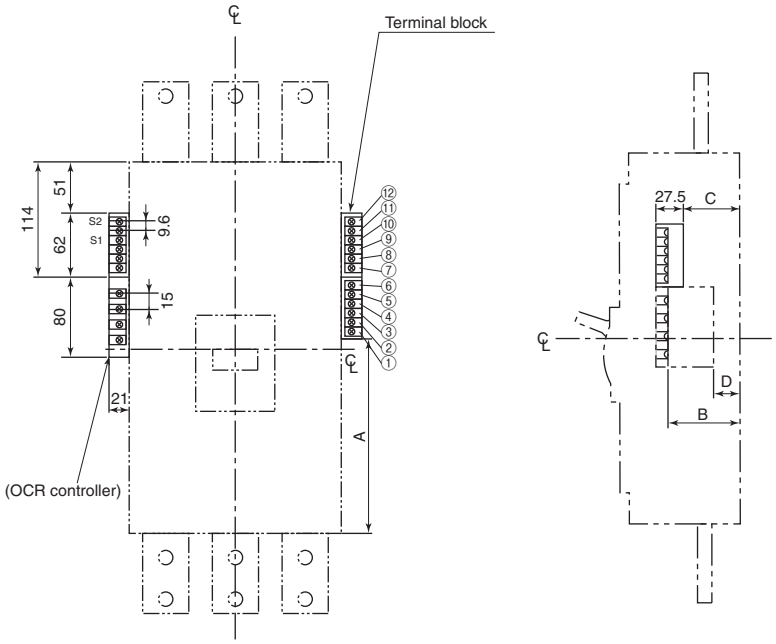
■ Ordering information

Specify the type number.

■ Lead-wire terminal block

The lead-wire terminal blocks are applicable to front-mounting or rear-mounting MCCBs with internal accessories. The lead-wire from internal accessories are already connected to terminals. One terminal block consists of 6 pairs of terminals. The mountable accessories are determined according to the types and quantity of internal accessories.

Mounting position and standard terminal arrangement



Indication	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
Terminal number	91	94	92	11	14	12	21	24	22			
Terminal symbol	ALc1	ALa1	ALb1	AXc1	AXa1	AXb1	AXc2	AXa2	AXb2	PALc	PALa	
Accessories	K			W1			W2					

Dimensions, mm

MCCB type	A	B	C	D
SA1003E, SA1203E	194	72	57	27
SA1004E, SA1204E	184	72	57	27
SA1603E	194	92	77	47
SA1604E	184	92	77	47

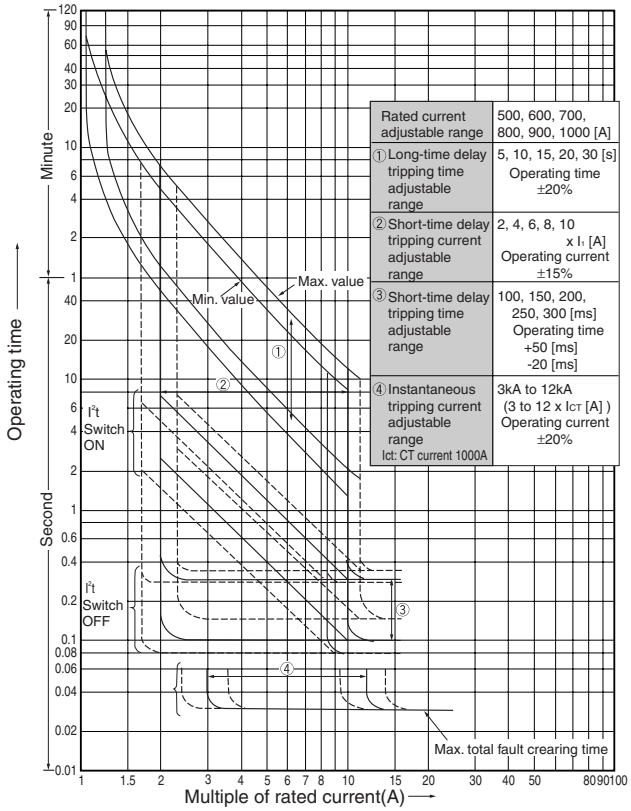
Notes: 1. Terminal screw M3.5
2. Terminal screw tightening torque 0.88-1.18N m
3. Applicable wire size 2.0mm² (Max.) x 2 wires

■ Ordering information

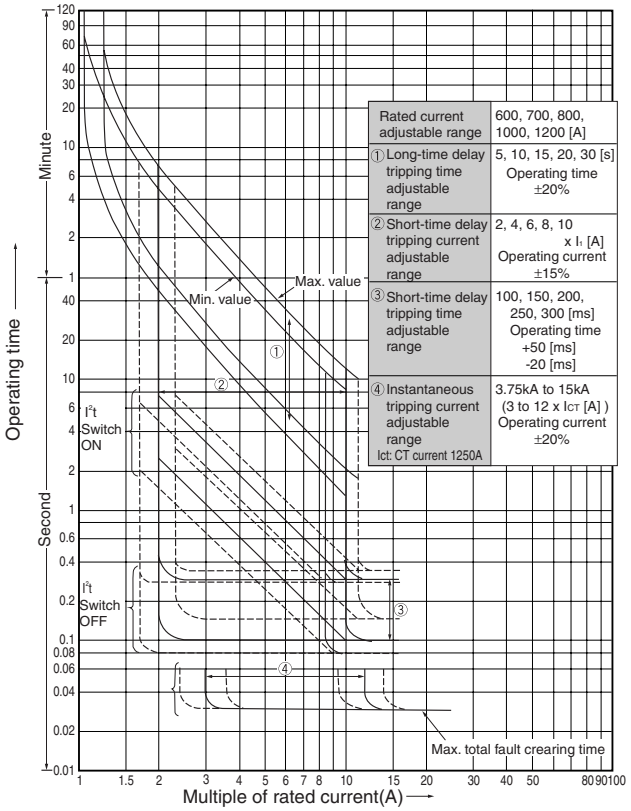
Specify the type number.

■ Operating characteristic

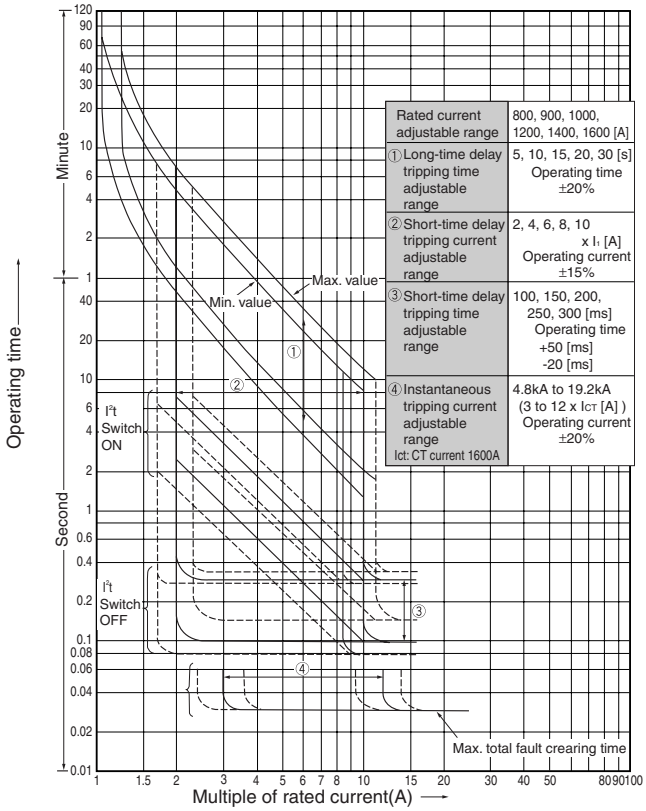
SA1000E



SA1200E



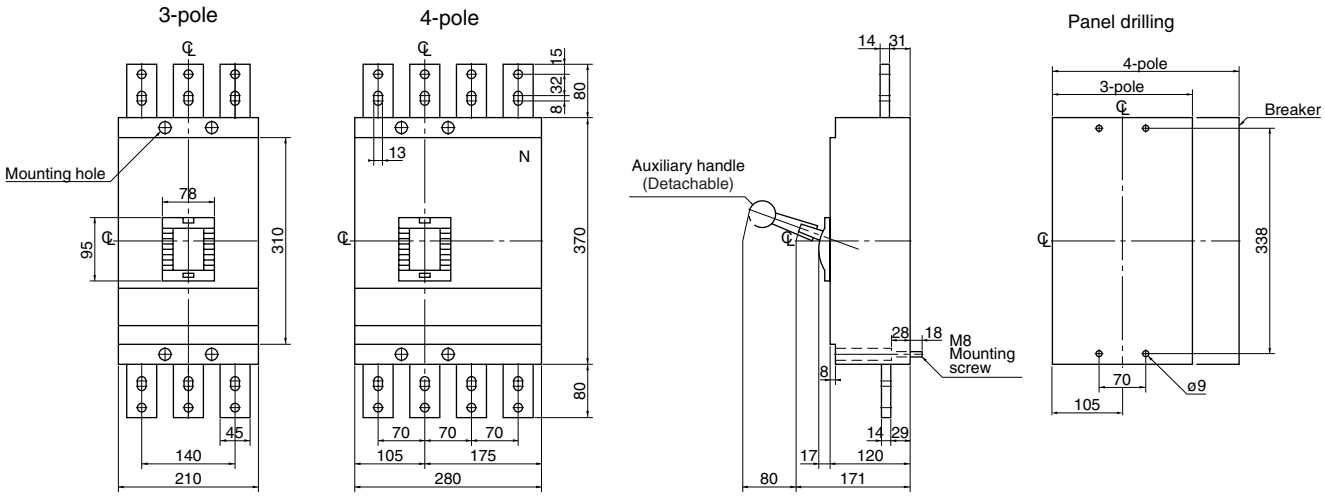
SA1600E



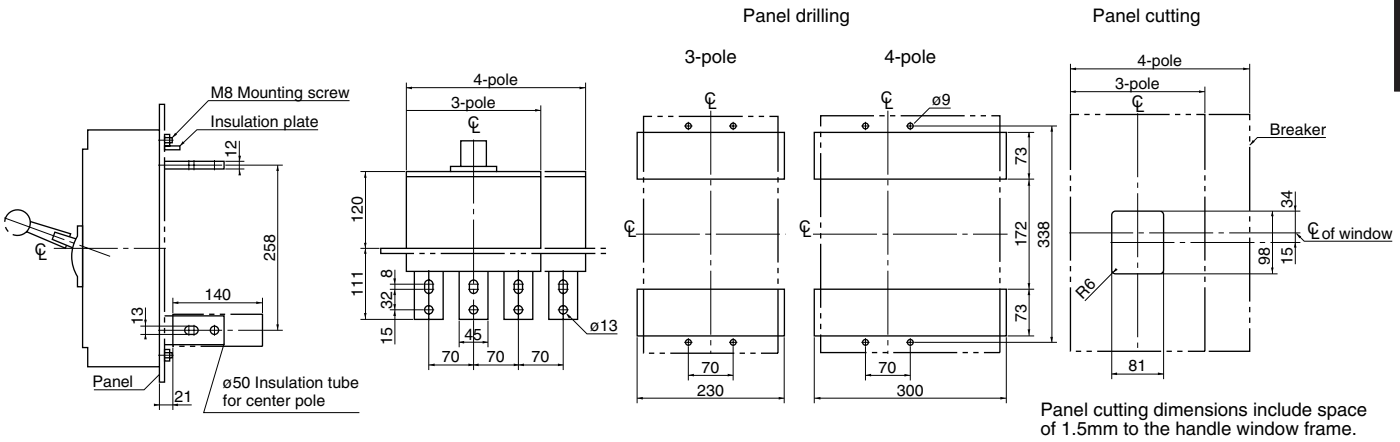
■ Dimensions, mm

SA1000E, 1200E

Front mounting, front connection



Front mounting, rear connection



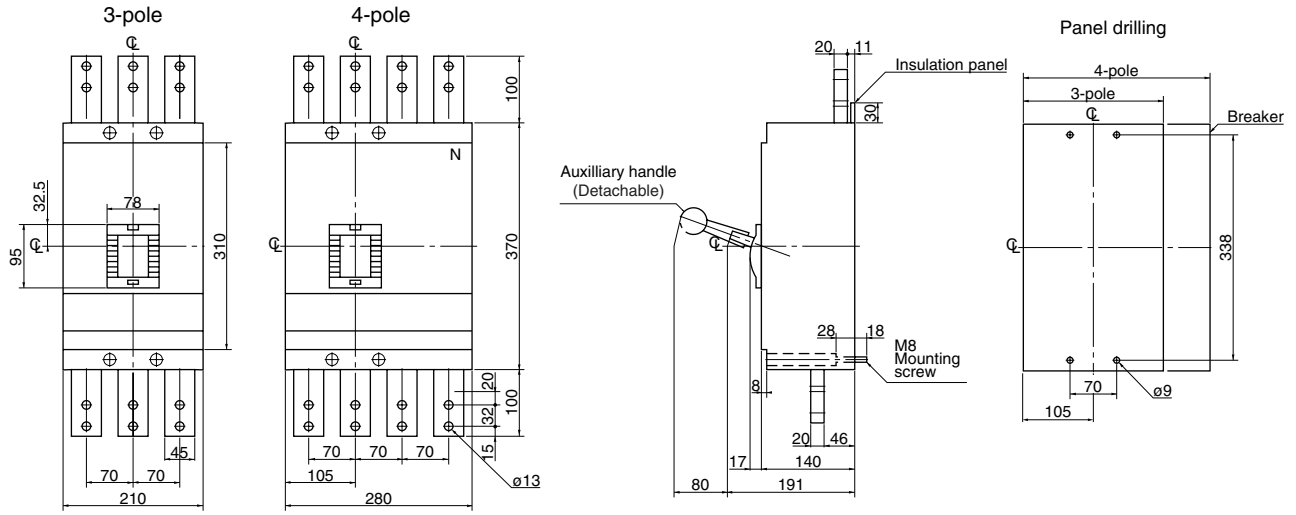
Panel cutting dimensions include space of 1.5mm to the handle window frame.

06

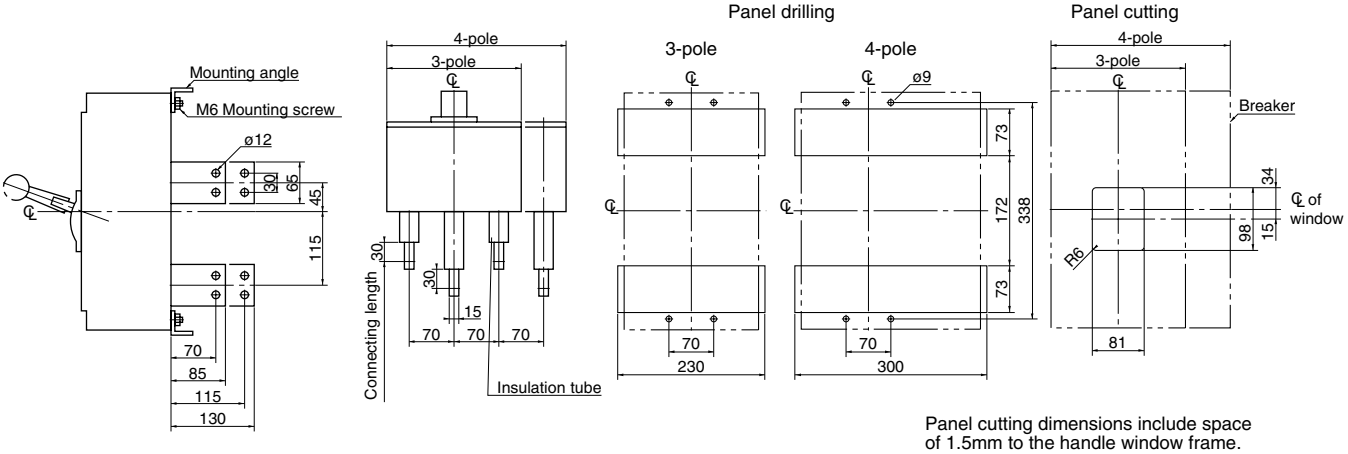
■ Dimensions, mm

SA1600E

Front mounting, front connection



Front mounting, rear connection



Panel cutting dimensions include space of 1.5mm to the handle window frame.

■ CCC approved

• MCCB types

Series	AF	2-poles	3-poles	Rated breaking current (Icu/Ics) [kA] *1			Certificate No.
				Ue: 230V AC	Ue: 400V AC	Ue: 440V AC	
S	30	SA32C	SA33C, SA33CM	5/3	2.5/2	2.5/2	2003010307063635
	50	SA52C	SA53C, SA53CM	10/5	7.5/4	7.5/4	2003010307063640
		SA52RC	SA53RC, SA53RCM	25/13	10/5	10/5	2003010307063643
	60	SA62C	SA63C, SA63CM	10/5	7.5/4	7.5/4	2003010307063646
		SA62RC	SA63RC	25/13	10/5	10/5	2003010307063647
	100	SA102C	SA103C	50/25	25/7	–	2004010307116286
		–	SA103CM	50/25	25/7	–	2004010307116286
		SA102RC	SA103RC	100/50	50/13	–	2004010307116286
		–	SA103RCM	100/50	50/13	–	2004010307116286
	225	SA202C	SA203C	50/25	25/7	–	2004010307116273
		–	SA203CM	50/25	25/7	–	2004010307116273
		SA202RC	SA203RC	100/50	50/13	–	2004010307116273
		–	SA203RCM	100/50	50/13	–	2004010307116273
	400	SA402C	SA403C	50/25	35/18	–	2003010307063390
		SA402RC	SA403RC	85/43	50/25	–	2003010307063390
	600	–	SA603RC	85/43	50/25	–	2003010307063391
	800	–	SA803RC	85/43	50/25	–	2003010307063391
E	30	EA32AC	EA33AC, EA33ACM	2.5/2	1.5/1	1.5/1	2003010307063433
	50	EA52AC	EA53AC	2.5/2	1.5/1	1.5/1	2003010307063433
		EA52C	EA53C, EA53CM	5/3	2.5/2	2.5/2	2003010307063635
	60	EA62C	EA63C, EA63CM	5/3	2.5/2	2.5/2	2003010307063385
	100	–	EA103AC	5/3	1.5/1	–	2003010307063440
		EA102C	EA103C, EA103CM	25/13	10/5	10/5	2003010307063647
	225	EA202C	EA203C	35/18	15/4	–	2004010307116273
		–	EA203CM	35/18	15/4	–	2004010307116273
	400	EA402C	EA403C	35/18	25/13	–	2003010307063390
	600	–	EA603C	50/25	35/18	–	2003010307063391
	800	–	EA803C	50/25	35/18	–	2003010307063391

Note: *1 For rated breaking current and rated voltage, the values in this table are approved.

• Internal accessories

SA30AF to 60AF / EA30AF to 100AF

• 2-pole

Available accessory	Type of breaker with accessory	Certificate No.
W (Auxiliary)	SA32C/ □■	2003010307063635
K (Alarm)	SA52C/ □■	2003010307063640
F (Shunt trip)	SA52RC/ □■	2003010307063643
R (Undervoltage trip)	SA62C/ □■	2003010307063646
W + K	SA62RC/ □■	2003010307063647
W + R	EA32AC/ □■	2003010307063433
K + R	EA52AC/ □■	2003010307063433
W + K + R	EA52C/ □■	2003010307063635
	EA62C/ □■	2003010307063385
	EA102C/ □■	2003010307063647

• 3-pole

Available accessory	Type of breaker with accessory	Certificate No.
W (Auxiliary)	SA33C/ □■	2003010307063635
K (Alarm)	SA53C/ □■	2003010307063640
F (Shunt trip)	SA53RC/ □■	2003010307063643
R (Undervoltage trip)	SA63C/ □■	2003010307063646
W2	SA63RC/ □■	2003010307063647
W + K	EA33AC/ □■	2003010307063433
K2	EA53AC/ □■	2003010307063433
W + K2	EA53C/ □■	2003010307063635
W2 + K2	EA63C/ □■	2003010307063385
W + F	EA103AC/ □■	2003010307063440
W + R	EA103C/ □■	2003010307063647
W2 + R		
K + F		
K + R		
K2 + R		
W + K + F		
W + K + R		
W2 + K + R		
W + K2 + R		
W2 + K2 + R		

Notes: • Replace the □ mark by the rated current code.
• Replace the ■ mark by required accessory code.
Example Breaker: SA52C with W, K and R
Rated current: 50A
→ Type number: SA52C/50WKR

SA100AF and 225AF / EA225F

• 2-pole / 3-pole

Available accessory	Type of breaker with accessory	Certificate No.
W (Auxiliary)	SA102C/ □■	2004010307116286
K (Alarm)	SA103C/ □■	
F (Shunt trip)	SA103CM/ □■	
R (Undervoltage trip)	SA102RC/ □■	2004010307116286
W2	SA103RC/ □■	
W + K	SA103RCM/ □■	
K2	SA202C/ □■	2004010307116273
W + K2	SA203C/ □■	
W2 + K2	SA203CM/ □■	
W + F	SA202RC/ □■	
W + R	SA203RC/ □■	
K + F	SA203RCM/ □■	
K + R	EA202C/ □■	2004010307116278
K2 + R	EA203C/ □■	
W + K + F	EA203CM/ □■	
W + K + R		

400, 600, 800AF

2-pole / 3-pole

Available accessory	Type of breaker with accessory	Certificate No.
W (Auxiliary)	SA402RC/ □■	2003010307063390
K (Alarm)	SA403RC/ □■	
F (Shunt trip)	SA603RC/ □■	
R (Undervoltage trip)	SA803RC/ □■	
W2	EA402C/ □■	2003010307063391
W + K	EA403C/ □■	
W2 + K	EA603C/ □■	
K2	EA803C/ □■	
W + K2		
W2 + K2		
W + F		
W + R		
W2 + R		
K + F		
K + R		
K2 + R		
W + K + F		
W + K + R		
K2 + F		
K2 + R		
W2 + K + F		
W2 + K + R		
W + K2 + F		
W + K2 + R		
W2 + K2 + F		
W2 + K2 + R		

• Exrernal operating handle (optional equipment)

Handle		Applicable type	Certificate No.
N type	V type		
BZ6N10C	BZ6V10C	All type of α-TWIN Series	Certified according to an applicable main body
BZ6N30C	BZ6V30C	SA102C SA103C SA103CM SA102RC SA103RC SA103RCM	2004010307116286
BZ6N40C	BZ6V40C	SA202C SA203C SA203CM SA202RC SA203RC SA203RCM	2004010307116273
BZ6N40C	BZ6V40C	EA202C EA203C EA203CM	2004010307116273
BZ-N60C	BZ6V60C	SA402C SA403C SA402RC SA403RC EA402C EA403C	2003010307063390
BZ-N70C	BZ6V70C	SA603RC SA803RC EA603C EA803C	2003010307063391

MEMO

Catalog Disclaimer
The information contained in this catalog does not constitute an express or implied warranty of quality, any warranty of merchantability of fitness for a particular purpose is hereby disclaimed.

Since the user's product information, specific use application, and conditions of use are all outside of Fuji Electric FA Components & Systems'control, **it shall be the responsibility of the user to determine the suitability of any of the products mentioned for the user's application.**

One Year Limited Warranty
The products identified in this catalog shall be sold pursuant to the terms and conditions identified in the "Conditions of Sale" issued by Fuji Electric FA with each order confirmation.

Except to the extent otherwise provided for in the Conditions of Sale issued by Fuji Electric FA, Fuji Electric FA warrants that the Fuji Electric FA products identified in this catalog shall be free from significant defects in materials and workmanship provided the product has not been: 1) repaired or altered by others than Fuji Electric FA; 2) subjected to negligence, accident, misuse, or damage by circumstances beyond Fuji Electric FA's control; 3) improperly operated, maintained or stored; or 4) used in other than normal use or service. This warranty shall apply only to defects appearing within one (1) year from the date of shipment by Fuji Electric FA, and in such case, only if such defects are reported to Fuji Electric FA within thirty (30) days of discovery by purchaser. Such notice should be submitted in writing to Fuji Electric FA at 5-7, Nihonbashi Odemma-cho, Chuo-ku, Tokyo, Japan. The sole and exclusive remedy with respected to the above warranty whether such claim is based on warranty, contract, negligence, strict liability or any other theory, is limited to the repair or replacement of such product or, at Fuji Electric FA's option reimbursement by Fuji Electric FA of the purchase price paid to Fuji Electric FA for the particular product. **Fuji Electric FA does not make any other representations or warranties, whether oral or in writing, expressed or implied, including but not limited to any warranty regarding merchantability or fitness for a particular purpose.** Except as provided in the Conditions of Sale, no agent or representative of Fuji Electric FA is authorized to modify the terms of this warranty in writing or orally.

In no event shall Fuji Electric FA be liable for special, indirect or consequential damages, including but not limited to, loss of use of the product, other equipment, plant and power system which is installed with the product, loss of profits or revenues, cost of capital, or claims against the purchaser or user of the product by its customers resulting from the use of information, recommendations and descriptions contained herein. The purchaser agrees to pass on to its customers and users, in writing at the time inquiries and orders are received by buyer, Fuji Electric FA's warranty as set forth above.

⚠ Caution "Safety precautions"
- Operate (keep) in the environment specified in the operating instructions and manual. High temperature, high humidity, condensation, dust, corrosive gases, oil, organic solvents, excessive vibration or shock might cause electric shock, fire, erratic operation or failure.
- Follow the regulations of industrial wastes when the product is to be discarded.
- The products covered in this catalogs have not been designed or manufactured for use in equipment or systems which, in the event of failure, can lead to loss of human life.
- If you intend to use the products covered in this catalog for special applications, such as for nuclear energy control, aerospace, medical, or transportation, please consult tour Fuji Electric FA agent.
- Be sure to provide protective measures when using the product covered in these catalogs in equipment which, in the event of failure, may lead to loss of human life or other grave results.
- Follow the directions of the operating instructions when mounting the product.

06 INDIVIDUAL CATALOG

from D&C CATALOG 19th Edition Revised

Fuji Electric FA Components & Systems Co., Ltd.

5-7, Nihonbashi Odemma-cho, Chuo-ku, Tokyo, 103-0011, Japan

URL http://www.fujielectric.co.jp/fcs/eng

Printed in Japan 2008-3 FIS DEC1906b