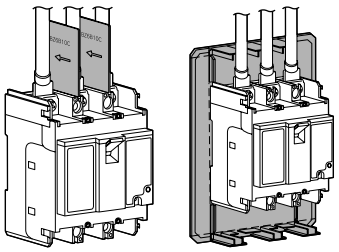
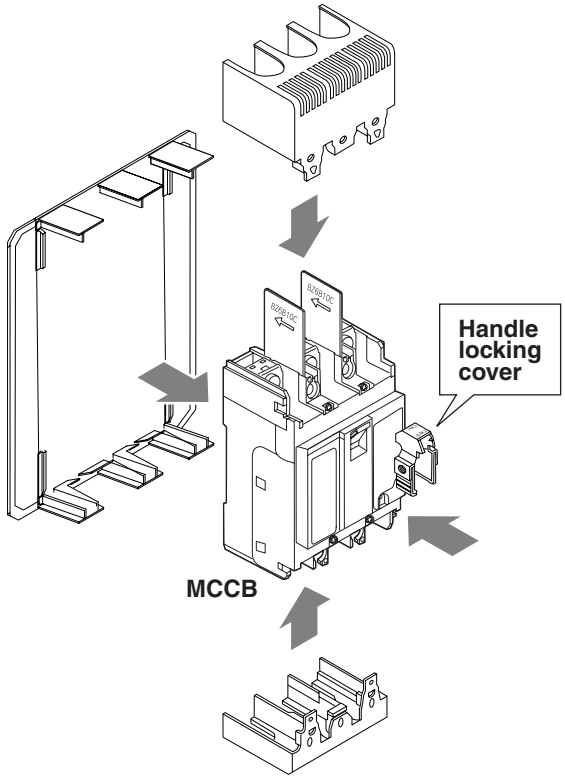
Variation of external accessory

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

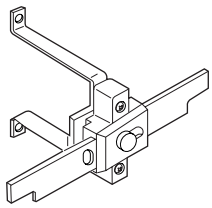


Interface barrier Earth barrier



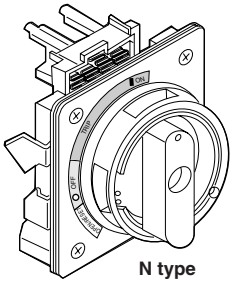
Mechanical interlock device

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

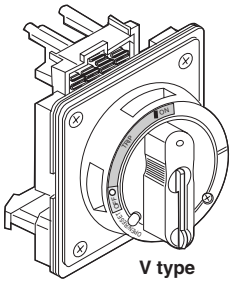


External operating handles

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



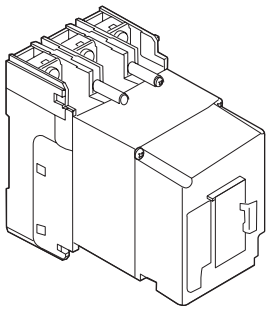
N type



V type

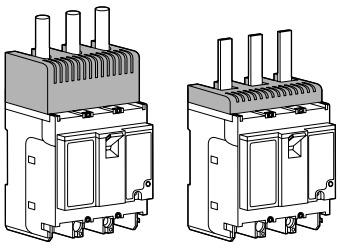
Motor-operating mechanism

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

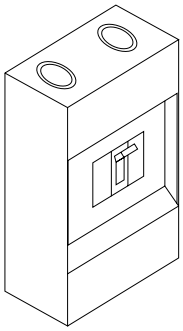
Finger protection guards against shock from accidentally touching live terminals.
Two types of terminal covers are available–long type and short type.
See page 06/128



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



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.

AF02-54

CP-1214

100 to 225AF

AF93-403

400 to 800AF

■ Types and ratings

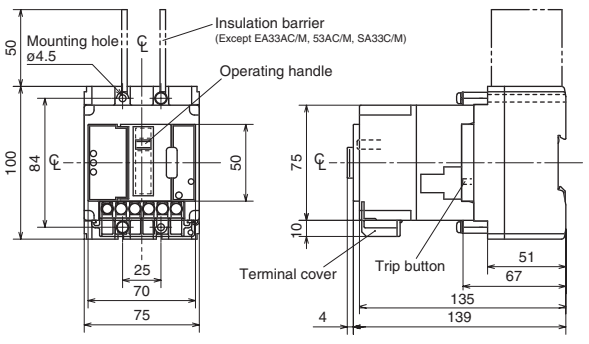
S series	E series	Motor rating			Power source capacity
		Operating voltage	Operating time	Time rating	
SA33C/M **SA53C/M, 53RC/M** **SA63C/M, 63RC/M**	**EA33AC/M** **EA53AC/M, 53C/M** **EA63C/M** **EA103AC/M, 103C/M**	100V DC 100/110V AC 200/220V AC	0.1s	15s per on-off operation	500VA
SA54B/M **SA103C/M** **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

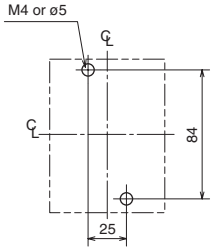
Specify the following:
1. Type number
2. Motor operating voltage

■ 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



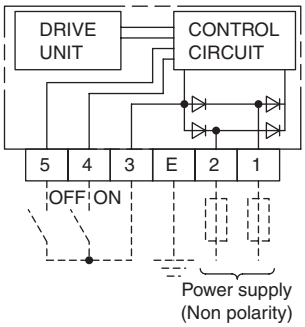
Panel drilling



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

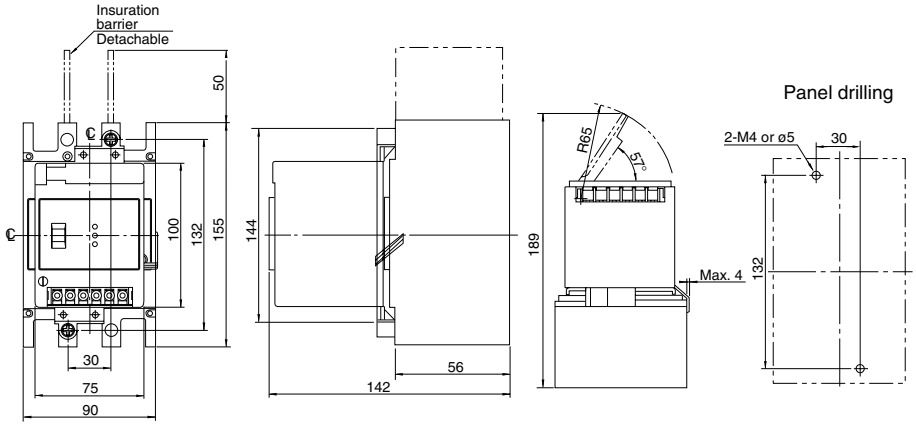
■ Wiring diagrams

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

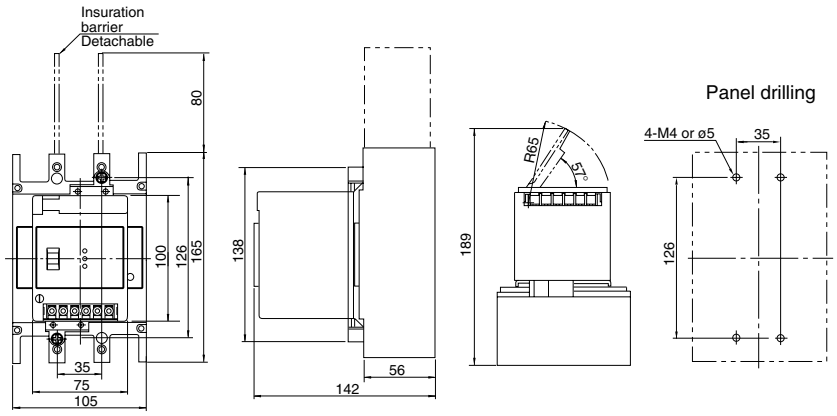


■ Dimensions, mm / Front mounting, front connection

SA102RC/M, SA103RC/M, SA103C/M



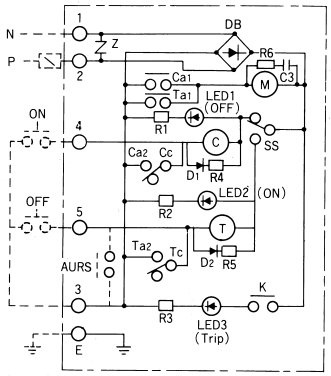
SA202C/M, SA203C/M, SA202RC/M, SA203RC/M
EA202C/M, EA203C/M



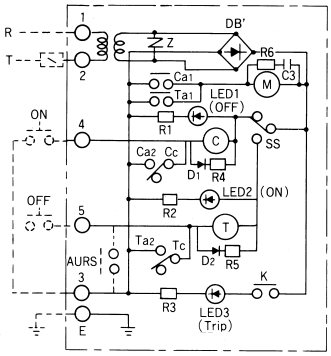
Note: Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF to 225AF.

■ Wiring diagrams

24V DC, 48V DC, 100V DC



100/110V AC, 200/220V AC



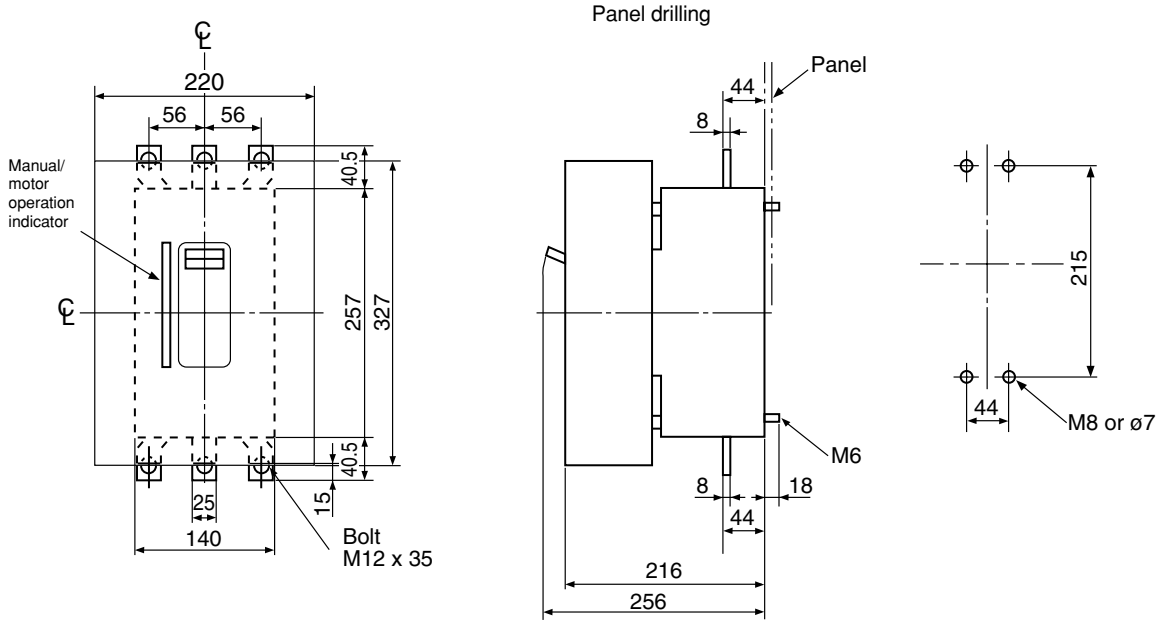
C : Control relay for breaker closing
T : Control relay for breaker open
M : Motor
Ca1-Cc : Relay terminal number for closing
Ta1-Tc : Relay terminal number for open
: Diode
Z : Z-trap (Surge absorber)
SS : ON/OFF changeover switch
E, 1-5 : Terminal number for external wire connection
: Resistor : LED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

06

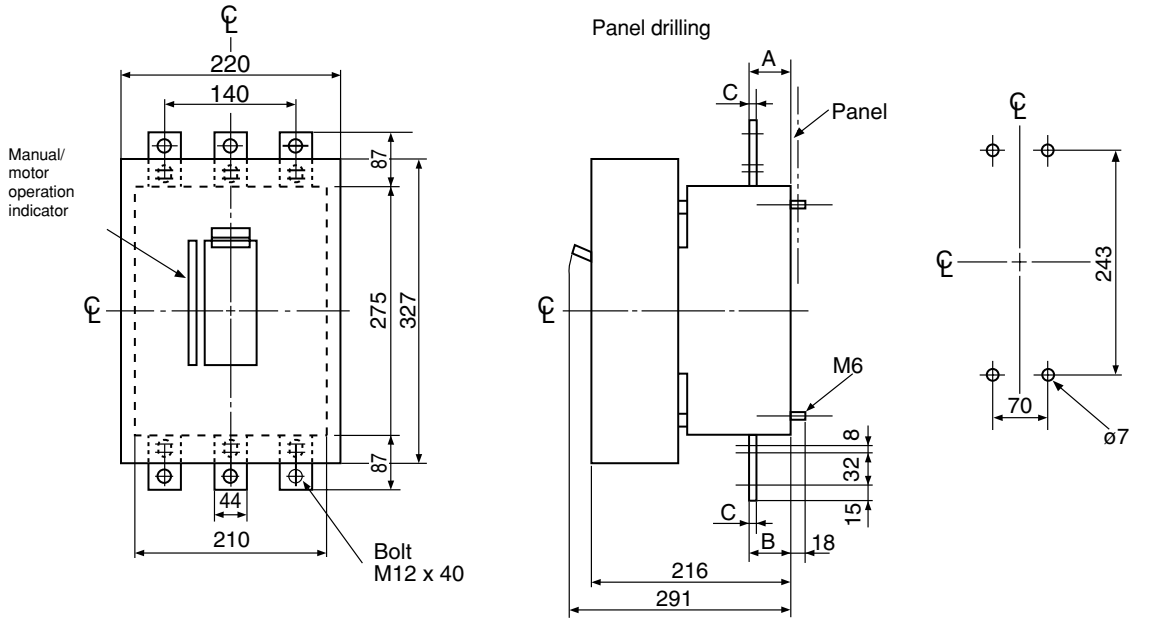
External accessories
Motor-operated breakers

■ 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



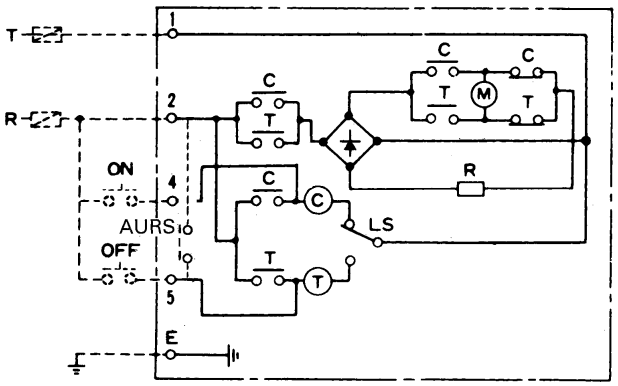
Amp. frame	A (line side)	B (load side)	C
600AF	38.5	41.5	7
800AF	41.5	44.5	10

Dimensions for reference only. Confirm before construction begins.

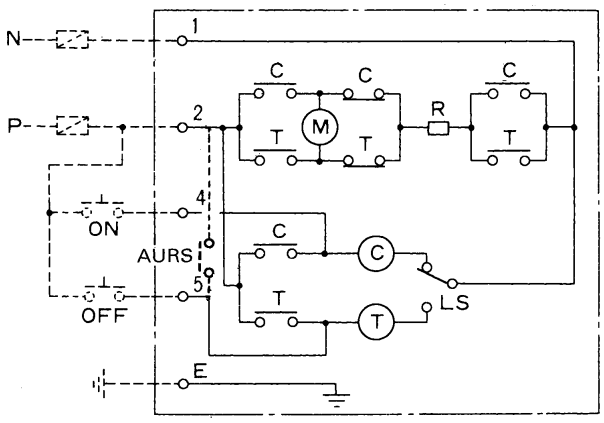
Type (MCCB with motor operating mechanism)	Mass (kg)
SA33C/M, SA53C/M, SA53RC/M EA33AC/M, EA53AC/M, EA53C/M	1.2
SA63C/M, SA63RC/M EA63C/M, EA103AC/M, EA103C/M	1.3
SA103C/M, SA102RC/M, SA202RC/M, SA202C/M EA202C/M	2.1
SA103RC/M	2.2
SA203C/M, SA203RC/M EA203C/M	2.3
SA402C/M, SA402RC/M EA402C/M	13.2
SA403C/M,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



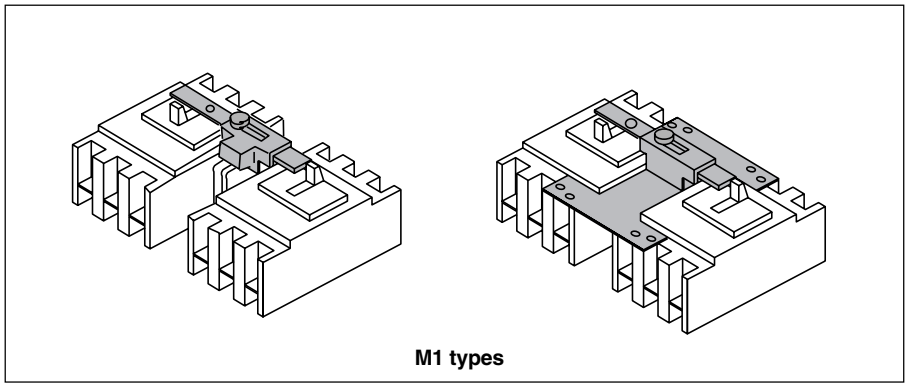
C : Control relay for breaker closing R : Resistor
T : Control relay for breaker open LS : Limit switch
M : Motor
AURS: Automatic reset switch
(supplied on request)

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.



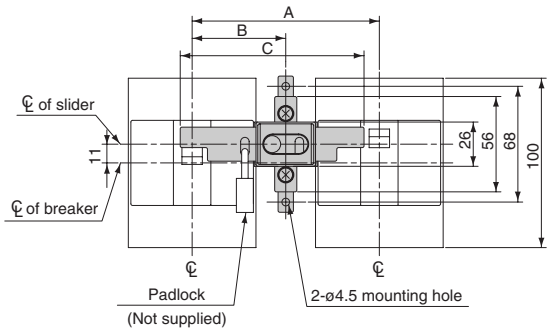
M1 types

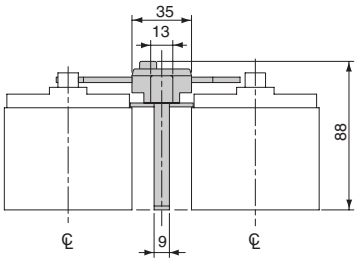
■ Types and applicable breakers

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**

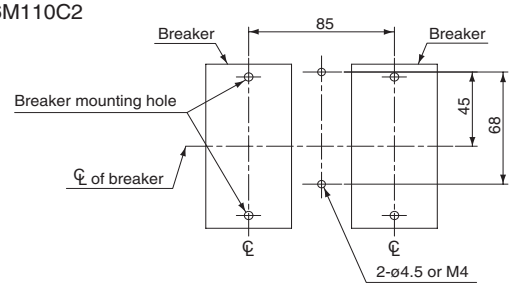
• **30AF to EA100AF**



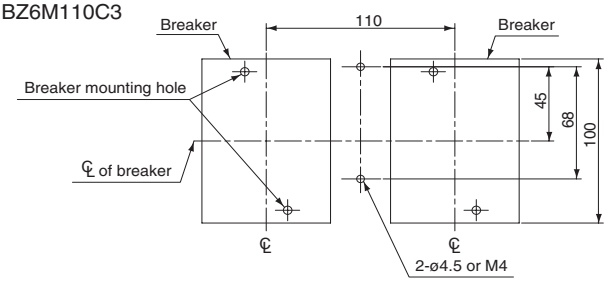


Panel drilling

BZ6M110C2

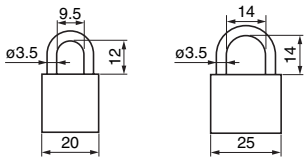


BZ6M110C3



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

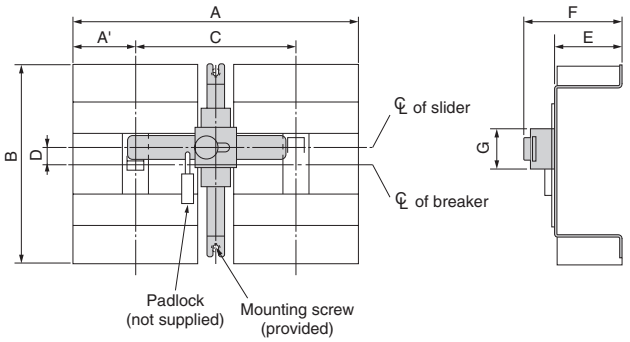


Dimensions for BZ-M120C-4, BZ-M135C-4, BZ-M150C-4: Contact FUJI

External accessories
Mechanical interlocking device

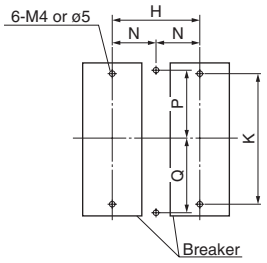
■ **Dimensions, mm**

• SA100AF to SA/EA225AF

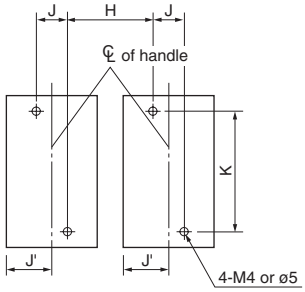


Panel drilling

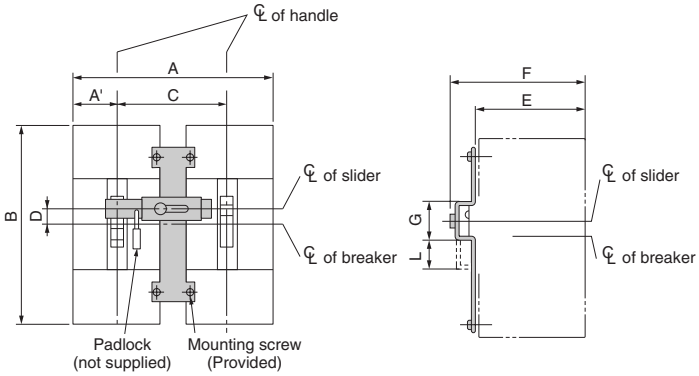
BZ6M130C2



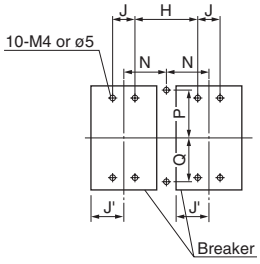
BZ6M130C3



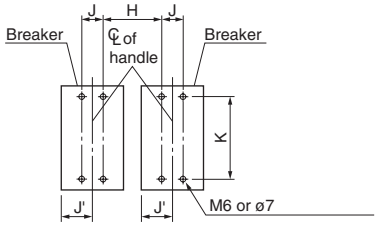
• 400AF to 800AF



BZ6M140C

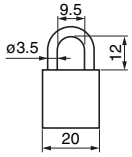


BZ-M160C, M170C, M16



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

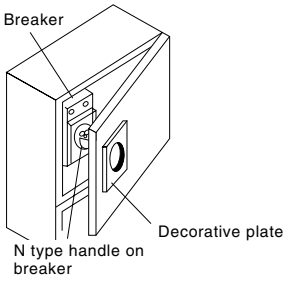
Molded case circuit breaker handles are generally directly manual-operated but when mounted in motor control centers or on control panels they are sometimes required to be operated externally. To meet such applications FUJI offers the following three types of handles.

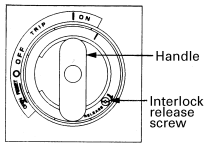
N type handle
This type has a knob handle directly attached to the breaker. It is easily fitted by cutting a hole in the panel, which is provided with a door interlock. They may be fitted to all breakers up to 1600 ampere frame sizes. N type handles for SA/EA30AF to EA100AF are approved by UL508.

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.

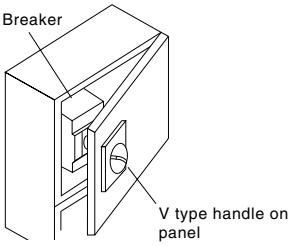
G type handle
The G type handle is mounted on the panel, and also has a door-interlock.
G type handle with a cylinder lock key is also available on request.
G type handle with a padlockable handle lock plate is standard provided for circuit breaker of up to 225AF, and is optional for 400AF and larger.

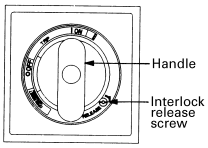
N type handles BZ-N□C



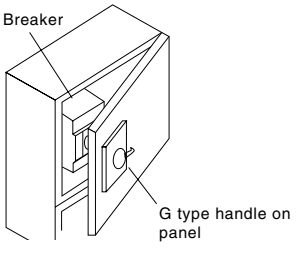


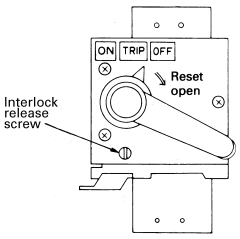
V type handles BZ6V□C





G type handles G-□A





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

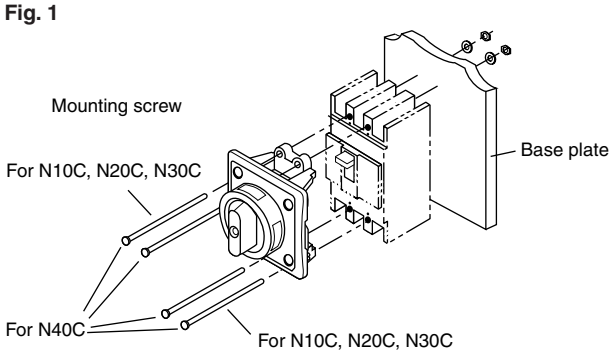


Fig. 2

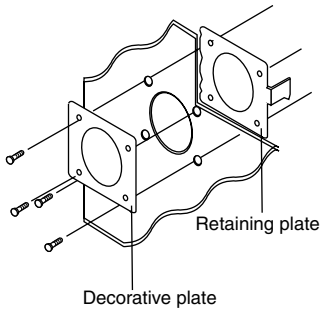


Fig. 3

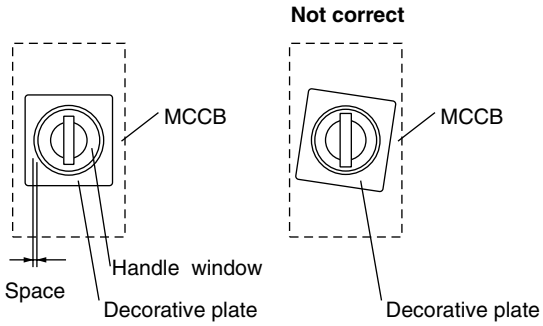
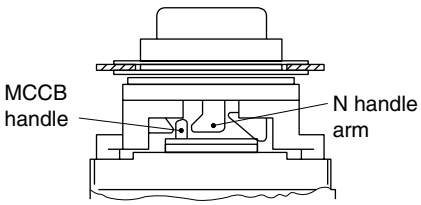


Fig. 4



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

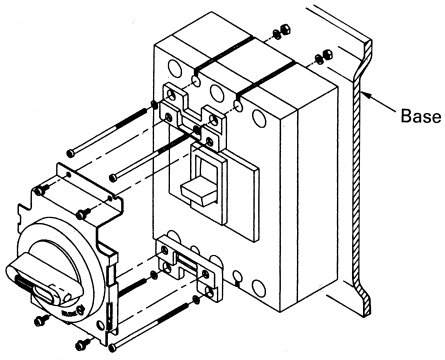


Fig. 2

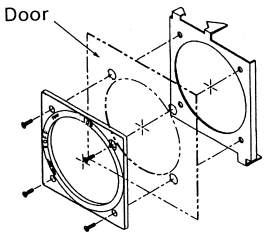


Fig. 3

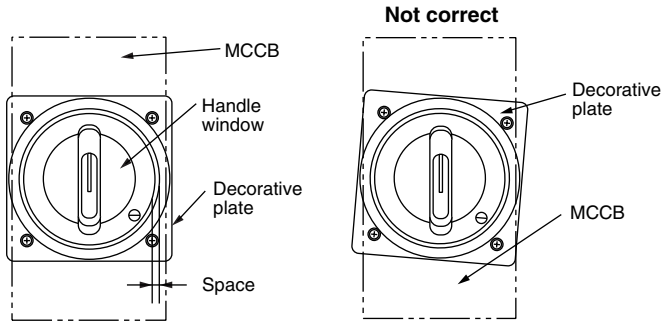
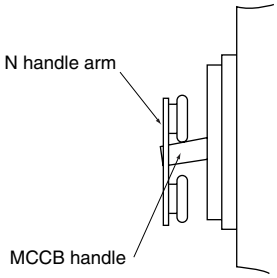


Fig. 4



■ Type number nomenclature

BZ – N□ C T – R

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

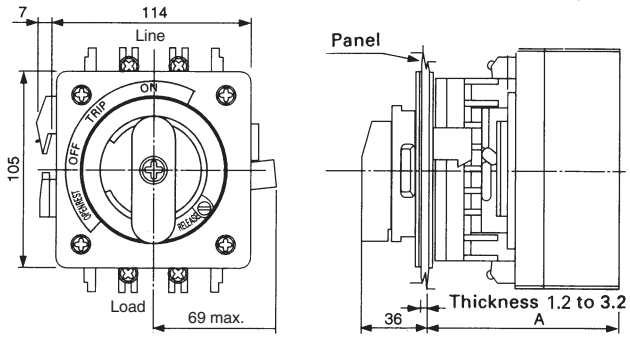
Door locking device
Blank: Provided
T: Not provided

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.

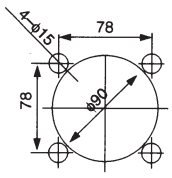
■ Dimensions, mm

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

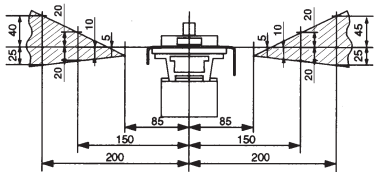


Breaker type	Handle type	A	Mounting Screw	Mass (kg)
SA30C, SA50C, 50RC, SA60C, 60RC SA50RCUL EA30AC, EA50AC, 50C, EA60C EA100AC, 100C, 100CUL	BZ6N10C	103	M4 × 80	0.47
LA53B	BZ-N20C	125	M4 × 110	0.56
SA100C, 100RC, 100CUL, 100RCUL H50BA, 100BA	BZ-N30C	103	M4 × 85	0.56

Door panel cutting



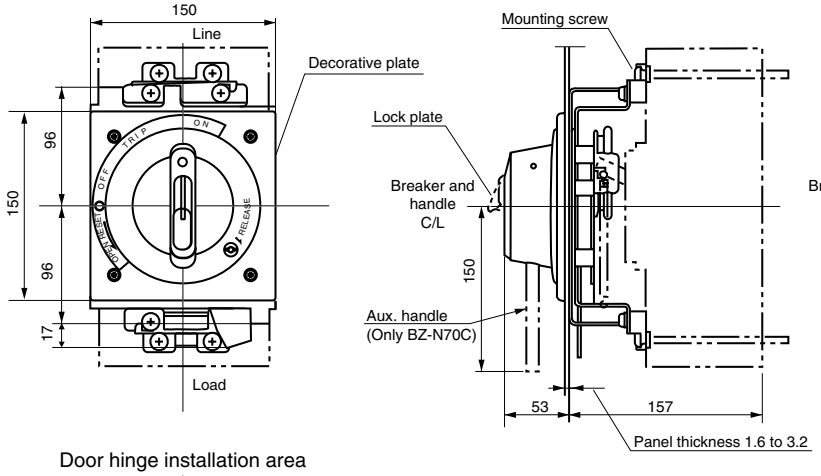
Door hinge installation area



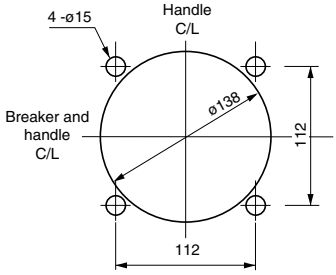
Install the door hinge in the shaded area.

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)

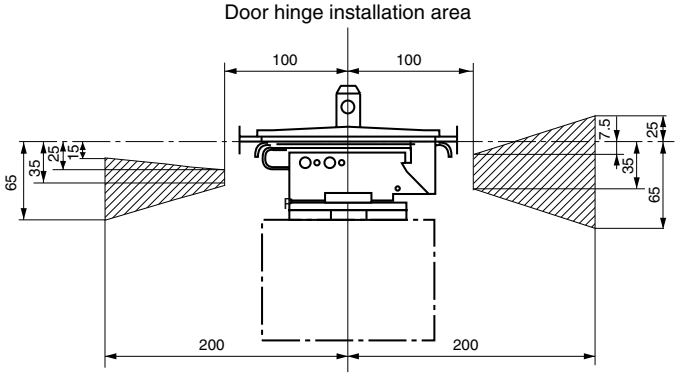


Door panel cutting



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.

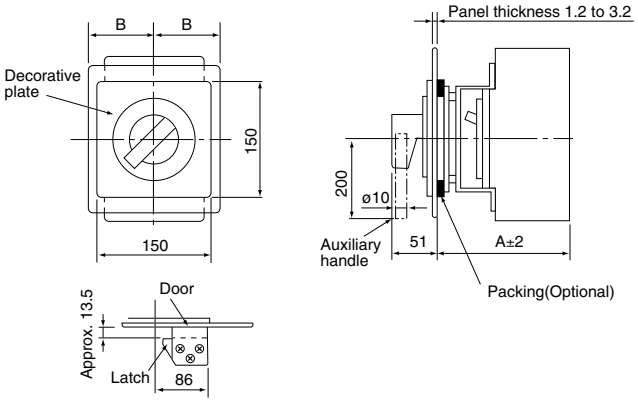
Notes:
1. The N type handles are used with front mounting front connection type breakers. They are normally installed vertically. However, it is possible to install them horizontally if required. In this case please specify so in your order.
(Example) Specify as follows:
BZ-N□C-R..... Installed horizontally,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

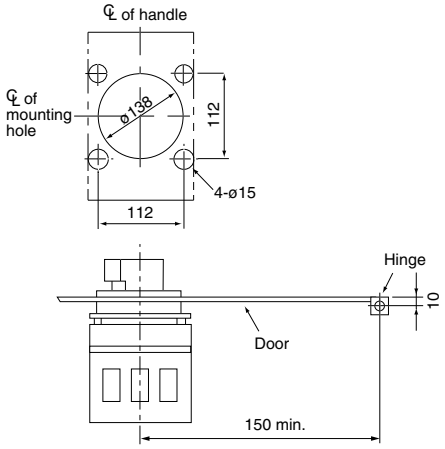
External accessories
N type operating handles

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



Door panel cutting

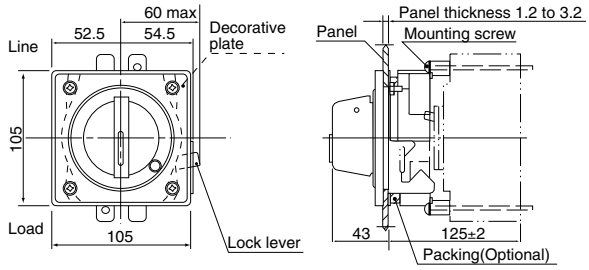
N-23A, 41A



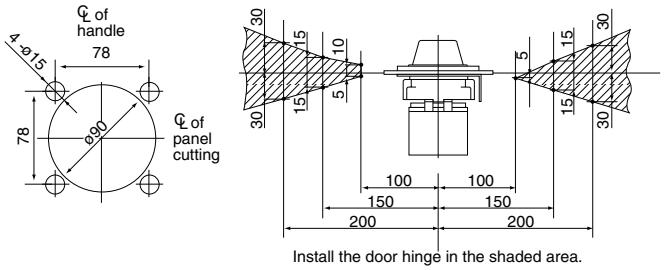
Breaker type	Handle type	Outline dimensions A	B	Mounting screw	Mass (kg)
SA404HA	N-23A	157	73.5	M5 x 60	1.8
SA604H, 804H	N-41A	168	109	M5 x 55	2.3

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

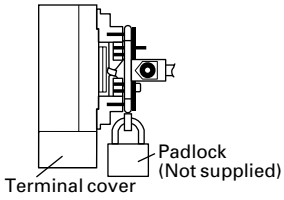


Fig. 2

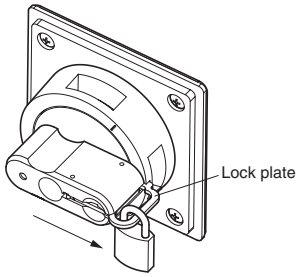


Fig. 3

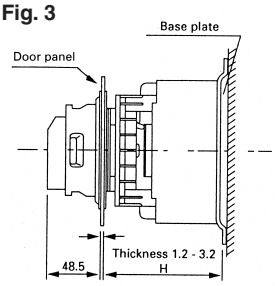


Fig.4

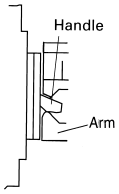


Fig. 5

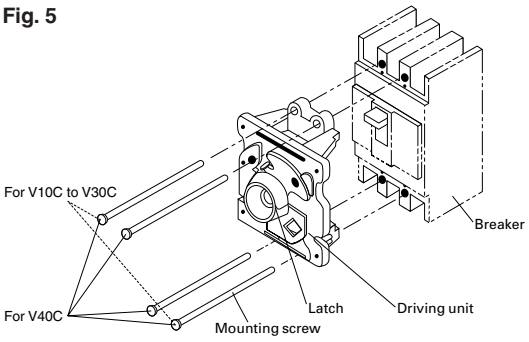


Fig. 6

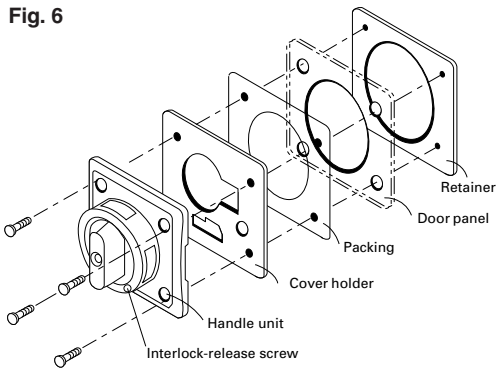


Fig. 7

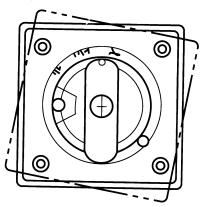
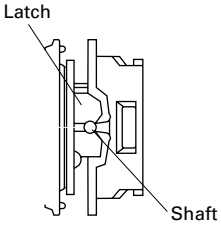


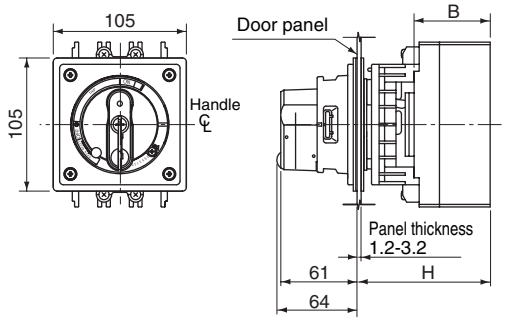
Fig. 8



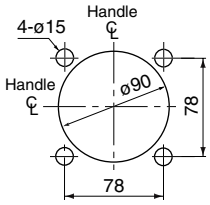
External accessories
V type operating handles

■ Dimensions, mm

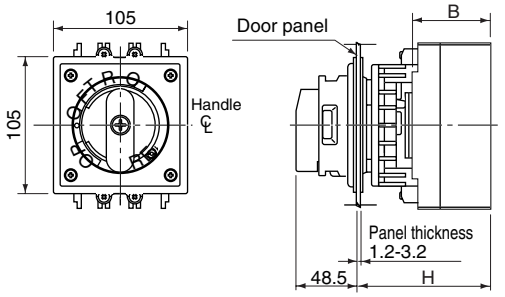
BZ6V10C, 6V30C, 6V40C



Door panel cutting

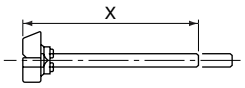


BZ-V20C, V30C, V40V, V50C



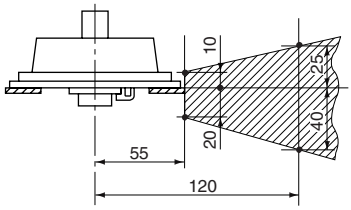
Optional shaft BZ-VS1

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)

Fig. 1

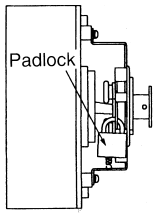


Fig. 2

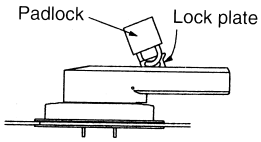


Fig. 3

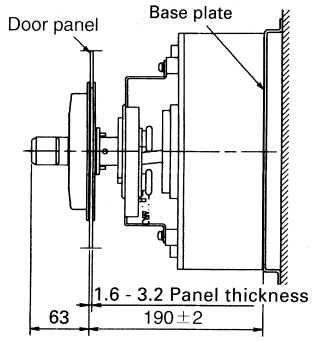


Fig. 4

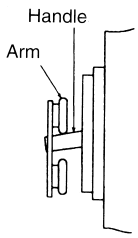


Fig. 5

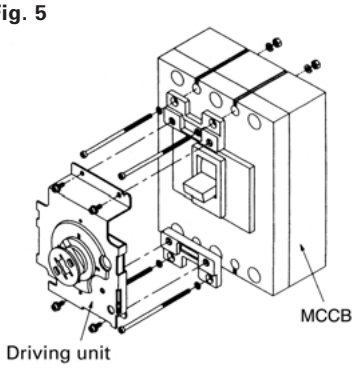


Fig. 6

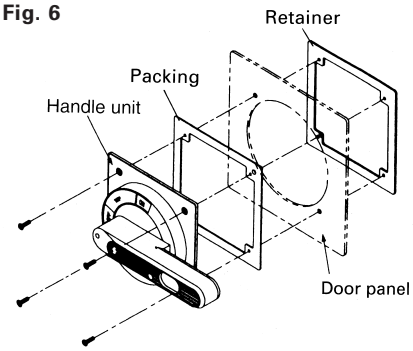


Fig. 7

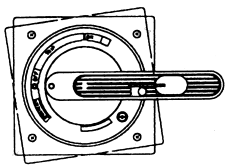
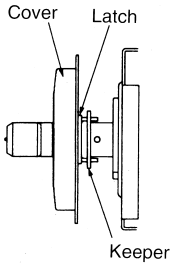


Fig. 8



■ Type number nomenclature

BZ6V ☐ C – ☐

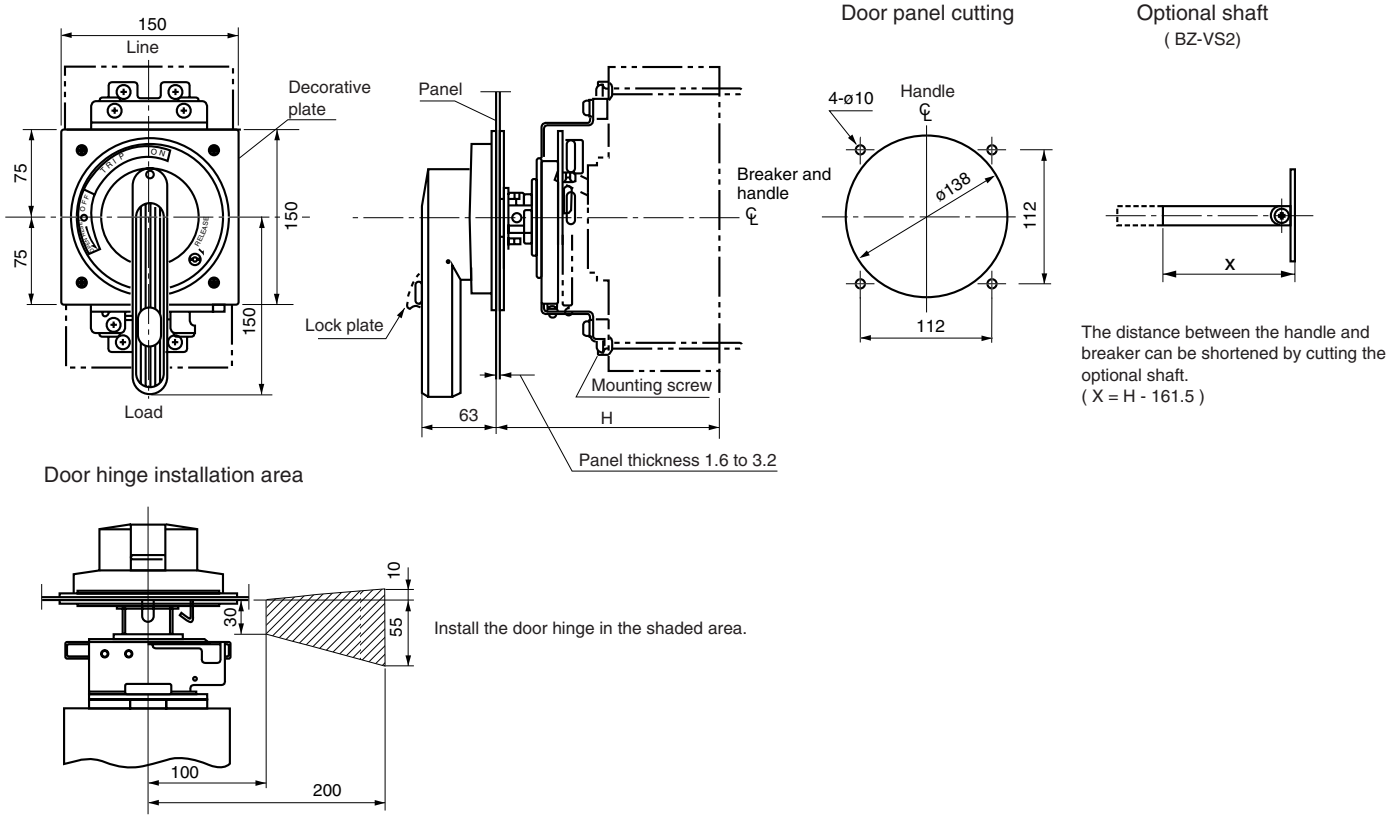
Mounting
Blank: Front mounting, front connection
X: Front mounting, rear connection
P: Plug-in mounting

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

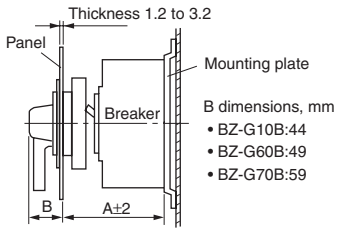
Basic type
BZ-G□C
G-□A

■ Installation

BZ–G□C

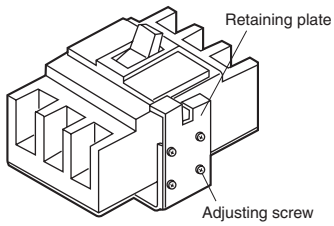
1. Drilling and cutting of the door panel
Drill and cut the door panel as shown in the drawing.

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.

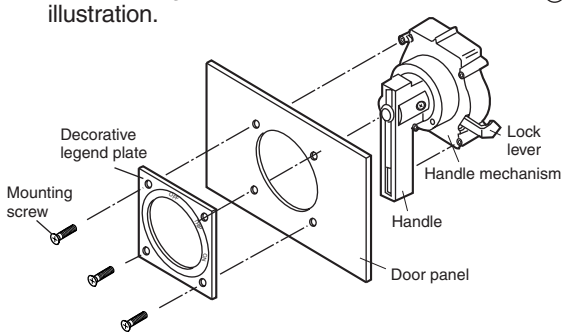


A dimensions, mm
- BZ-G10B : 103
- BZ-G60B, G70B: 157

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

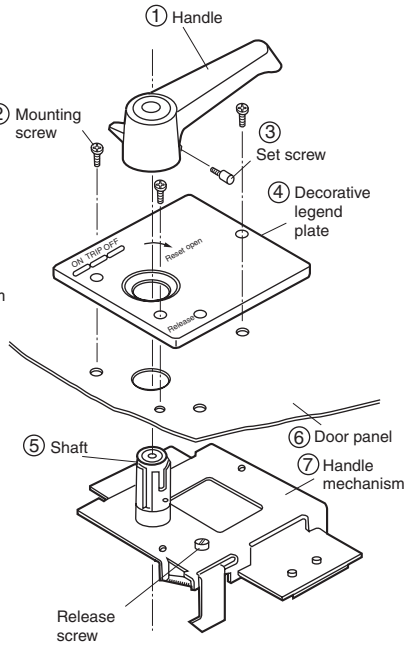
1. Drilling and cutting of the door panel
Drill and cut the panel as shown in the drawing.

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

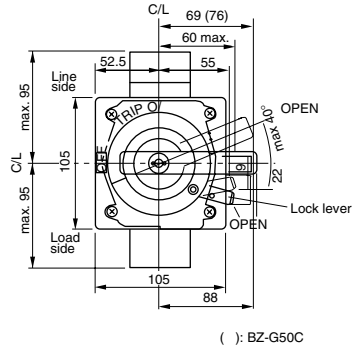
4. Adjust the height of the retaining plate (H-11) by means of the adjusting screws.

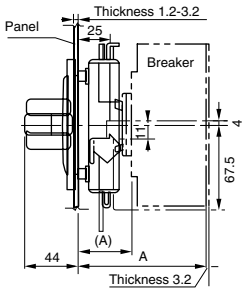
5. Check the door for play. Carry out the retaining plate adjustment once more taking up any endplay.

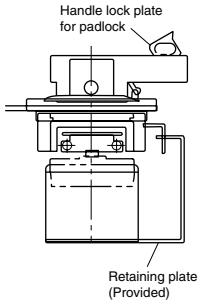


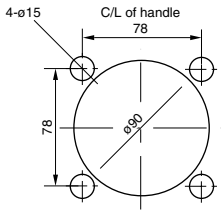
External accessories
G type operating handles

■ Dimensions, mm
BZ-G35C, BZ-G50C



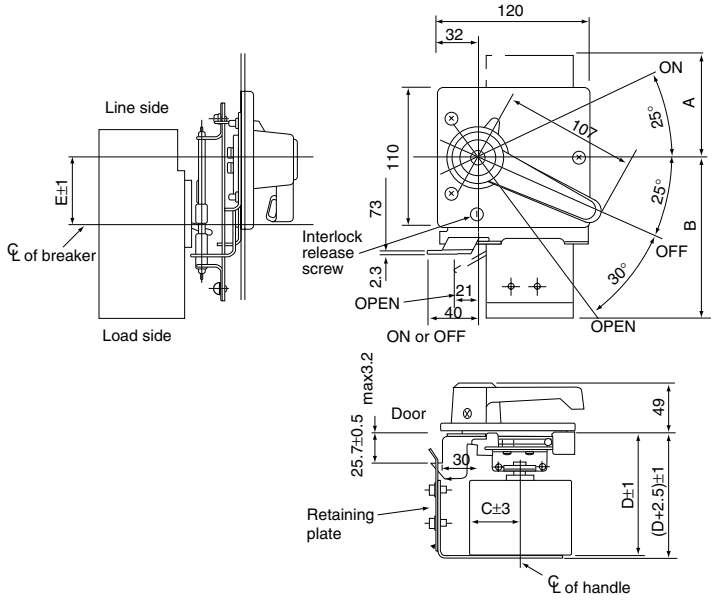




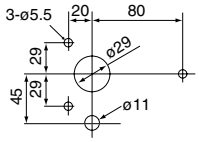


Breaker type	Handle type	A (A)	Mass (kg)
SA104R	**BZ-G35C, BZ-G35C-K**	125±2 (43)	1.2
SA204R	**BZ-G50C, BZ-G50C-K**	130±2 (47.5)	

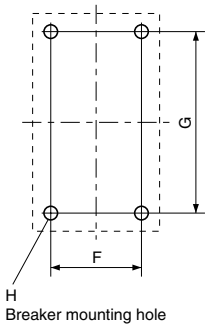
G-22A



Door panel drilling



Panel drilling



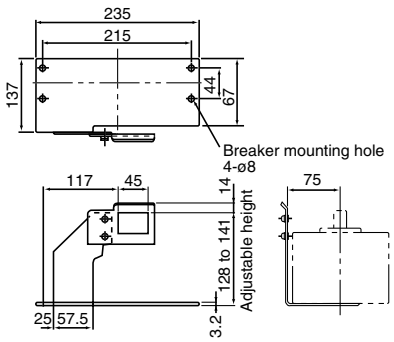
Dimensions for reference only. Confirm before construction begins.

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

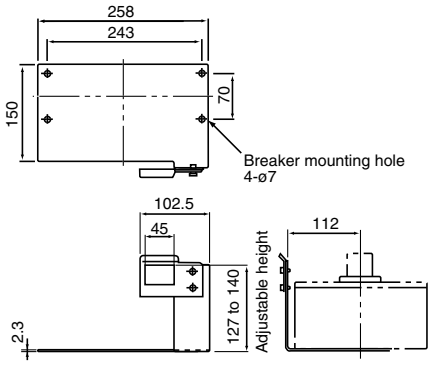
■ Dimensions, mm

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**	**–**

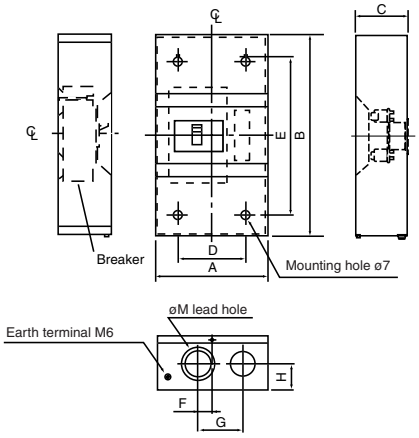
Notes: • Protection degree (IEC60529) *1: IP40 *2: IP54
• *3 BZ-CV40C and rainproof steel enclosures not available for the H series.

■ Ordering information

Specify the following:
1. Type number of enclosures

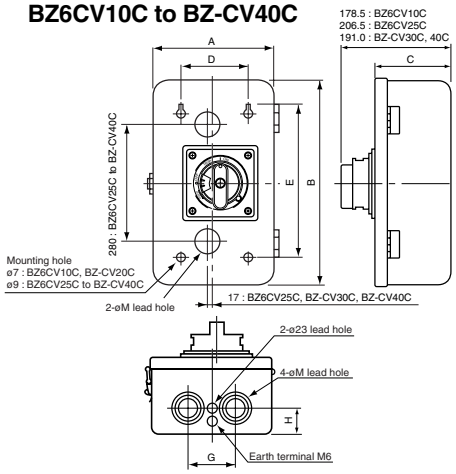
■ Dimensions, mm

Standard

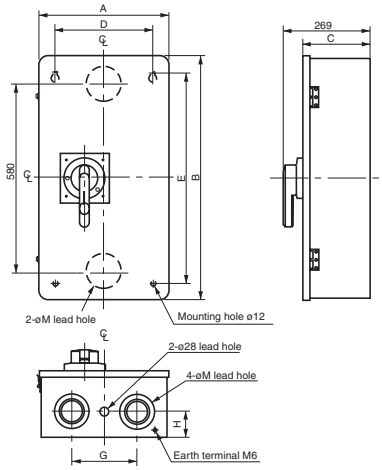


With V type handle

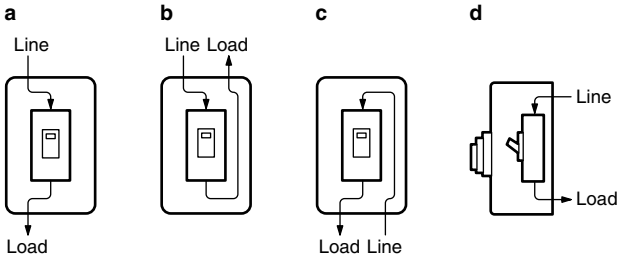
BZ6CV10C to BZ-CV40C



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

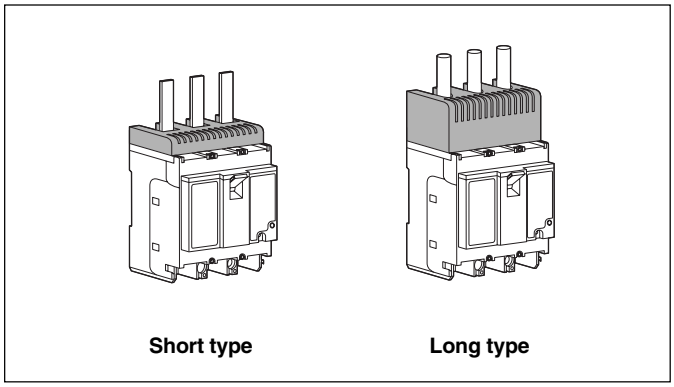
External accessories
Terminal covers

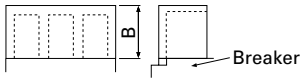
Terminal covers

■ **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





● **IEC and CE marking conformed**

Packing quantity : 2 pcs.

Breaker type S series	E series	H series	Terminal cover Short type	B dimension (mm)	Mass (g)	Terminal cover Long type	B dimension (mm)	Mass (g)
SA32C SA52C, SA52RC SA62C, SA62RC	EA32AC EA52C, EA52AC EA62C EA102C	–	**BZ6TS10C2** (Black) **BZ6TSH10C2** (Transparent)	10	25	**BZ6TB10C2** (Black) **BZ6TBH10C2** (Transparent)	40	68
SA33C SA53C, SA53RC SA63C, SA63RC	EA33AC EA53C, EA53AC EA63C EA103AC, EA103C	–	**BZ6TS10C3** (Black) **BZ6TSH10C3** (Transparent)	10	32	**BZ6TB10C3** (Black) **BZ6TBH10C3** (Transparent)	40	87
SA54B	EA104B	–	**BZ-TS20B-4**	10	41.3	**BZ-TB20B-4**	30	90
SA102C	–	–	**BZ-TS30B-2**	10	29	**BZ-TB30B-2**	40	64
SA102RC SA103C, SA103RC	–	H52BA, H53BA H102BA, H103BA	**BZ-TS30B-3**	10	43	**BZ-TB30B-3**	40	86
SA104R	–	–	**–**	–	–	**BZ-TB35B-4**	40	163
SA202C, SA202RC SA203C, SA203RC	EA202C EA203C	H202BA H203BA	**BZ-TS40B**	10	60	**BZ-TB40B**	50	107
SA204R	–	–	**–**	–	–	**BZ-TB45B-4**	50	204
–	–	H103R, H203R	**BZ-TS50B**	10	76	**BZ-TB50B**	40	175
SA402C, SA402RC SA403C, SA403RC	EA402C EA403C	H402B, H403B H403R	**–**	–	–	**BZ-TB60B**	116	549
SA603RC SA803RC	EA603C EA803C	H603B, H603R H803B, H803R	**–**	–	–	**BZ-TB70B**	135	568

● **UL Listed**

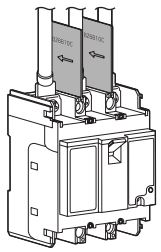
Breaker type S series	E series	Terminal cover Short type	Mass (g)	Terminal cover Long type	Mass (g)	Terminal cover For flat terminal	Mass (g)
SA52RCUL SA53RCUL	EA102CUL EA103CUL	**BZ6TS10C2U** (Black)* **BZ6TS10C3U** (Black)*	26.5 33.5	**BZ6TB10C2U** (Black) **BZ6TB10C3U** (Black)	69.5 88.5	**–**	–
SA102CUL, 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

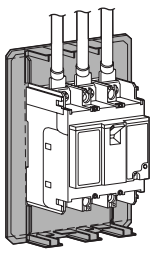
Insulation barriers

■ 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

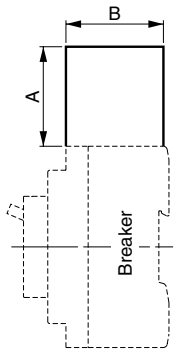


Earth barrier

● 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

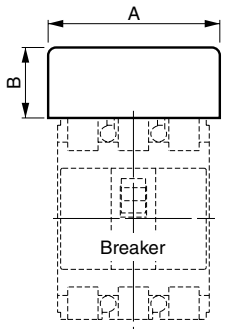
Interphase barrier



● 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.