

DISTRIBUTION

Molded Case Circuit Breakers & Earth Leakage Circuit Breakers

G-TWIN Series





Molded case circuit breaker / Earth leakage circuit breaker

G-TWIN Series

Downsized, modular and multi-standard Breakers








G-TWIN
Global series



G-TWIN
Standard series

G-TWIN series

Icu at 400VAC [kA]	In [A]																	
	15	32	40	50	63	100	125	160	250	400	500	630	800					
1.5	32 ~ 100AF																	
2.5																		
7.5																		
10																		
18							250AF											
30	125AF								400AF		630/800AF							
36																		
50																		
65																		
70																		

Conforming to IEC & local Standards

Conforming to certifications and standards in major world markets
Expanded frame sizes in G-TWIN Global Series

G-TWIN Standard series



- IEC 60947-2
- EN 60947-2 (CE marking)
- GB 14048.2 (CCC)
- JIS C 8201-2-1
- JIS C 8201-2-2



G-TWIN Global series

- IEC 60947-2
- EN 60947-2 (CE marking)
- GB 14048.2 (CCC)
- JIS C 8201-2-1
- JIS C 8201-2-2
- UL 489
- CAN/CSA C22.2 NO.5
- NEMA AB1

Compact & High performance

Compact size meeting UL489 480V requirements & same dimensions for MCCB and ELCB.

MCCB (250AF)

Rated voltage 480V

(W105 × H181 × D68 mm)



ELCB (250AF)

Rated voltage 480V

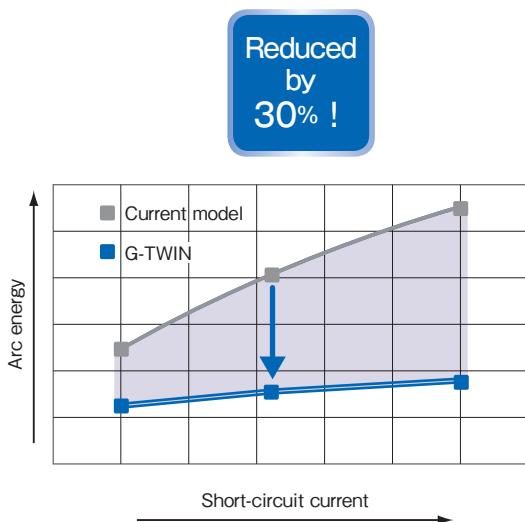
(W105 × H181 × D68 mm)



Same
Dimensions

Effect of "ablation breaking technology"

- Short-circuit arc energy reduced by 30%

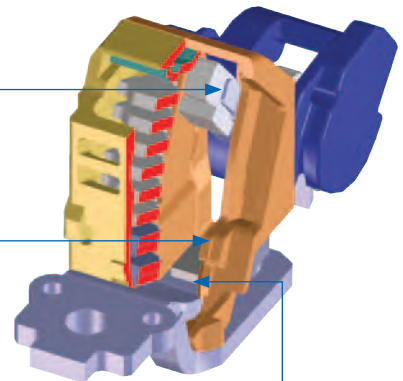


Moving contact cover

- Arcing prevention at the bottom of moving contact

Narrow slit resin

- Increased arc voltage due to narrow slit effect
- Increased arc voltage and high-speed moving contact opening by ablation effect
- Suppression of internal pressure rise by adjusting the narrow slit width



Magnetic yoke arrangement

- An increase in the repulsion force of the moving contact at initiation of contact opening

Ecology

Lower environmental impact

Advanced green engineering and energy-saving support

Recycling

- For easier recycling, all major parts are marked with the names of the materials used.

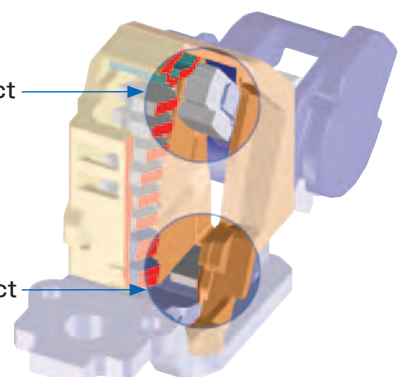
Conforming to the RoHS Directive

- Lead-free (Pb-free) solder is used.
- Free of hexavalent chromium (Cr⁶⁺-free)

Moving contact

Cadmium-free
contact
material

Stationary contact



Usefulness

A wider range of customer-mountable electrical accessories.

32 ~ 100AF



Shunt trip device
(MCCB)



Shunt trip device (ELCB)
Undervoltage trip device
(MCCB/ELCB)

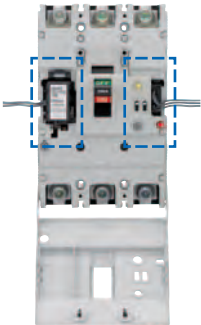


Auxiliary switch
(MCCB/ELCB)



Alarm switch
(MCCB/ELCB)

125 ~ 250AF



Shunt trip device
(MCCB/ELCB)



Undervoltage trip device
(MCCB/ELCB)



Auxiliary switch
(MCCB/ELCB)



Alarm switch
(MCCB/ELCB)



Earth alarm switch
(ELCB)

400 ~ 800AF



Shunt trip device
(MCCB/ELCB)



Undervoltage trip device
(MCCB/ELCB)



Auxiliary switch
(MCCB/ELCB)



Alarm switch
(MCCB/ELCB)

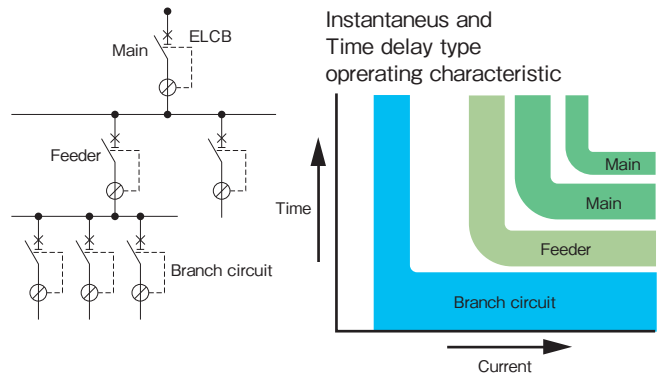


Newly developed ELCB

Ground fault current protection coordination can be taken easily.

Four-step changeover switch(I_{Δn} and tripping time setting)

I _{Δn} (Change over type)	Maximum tripping time
100/200/500/1000mA	0.1/0.4/1/2second (changeover)

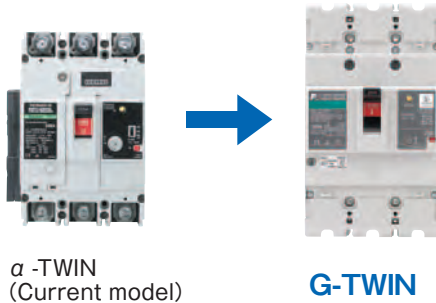


New three-phase power supply circuit functions in phase-loss state

The revised IEC60947-2 stipulates that the ELCB should trip when earth-leakage occurs even in phase loss state in three-phase system. The G-TWIN Series meets this requirement.

Adoption of changeover switch for dielectric test

High workability can be obtained since the removal of ELCB wiring is not required at dielectric test during inspection (Adopted for 125AF or more).

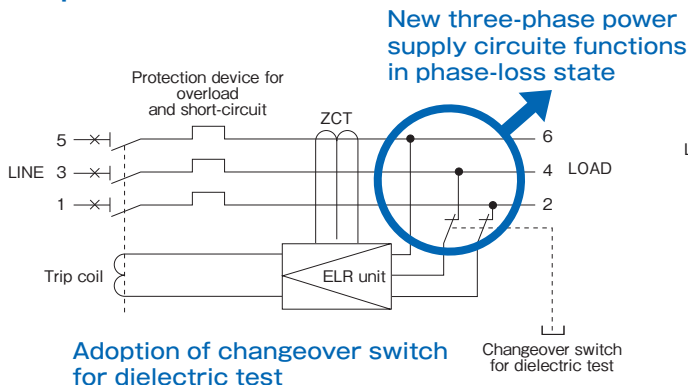


World first!

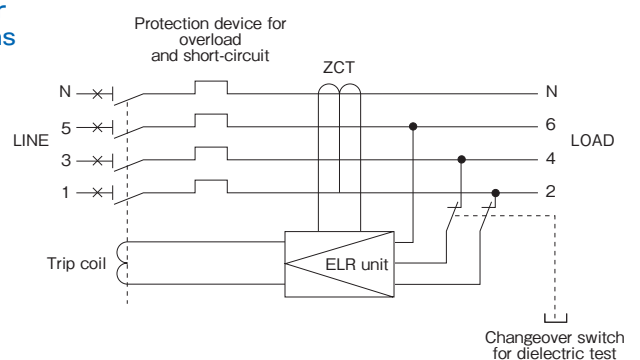


ELCB internal wiring diagram

3-pole



4-pole



Why ELCB?

Purpose of ELCB installation

Prevention of hazards and damage (such as electrical shock, electrical fire, and device damage) that may occur in electrical equipment (as stipulated in IEC 60364).

Measures of protection against electrical shock

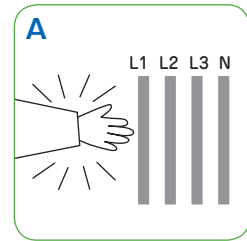
Protection against electric shock

(Protective measures are specified in IEC60364-4-41)

A. Protection against direct contact

Protection of persons from hazards (i.e., electrical shock) that may occur due to touching charged parts of electrical equipment.

Use of ELCB with rated sensitive current not exceeding 30mA is recommended as the additional protective device.

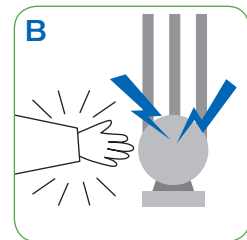


B. Protection against indirect contact

Protection of persons from electrical shock that may occur due to touching exposed conductive parts (such as metal frame of the device) when a fault occurs in electrical equipment.

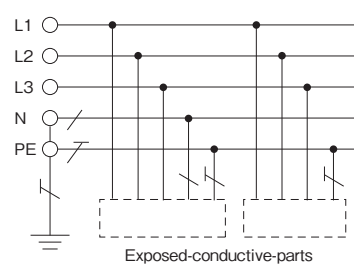
As one of the protective measures, depending on the condition in TT or TN-S system, the automatic cutoff of power supply with ELCB is specified in IEC60364-4-41.

For the details of the installation systems and how to apply ELCB, please refer to the following chart and flowchart.

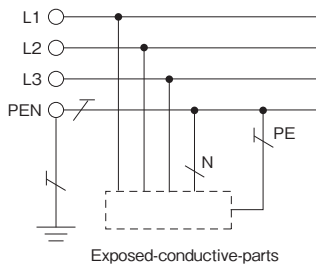


Types of installation systems in IEC 60364

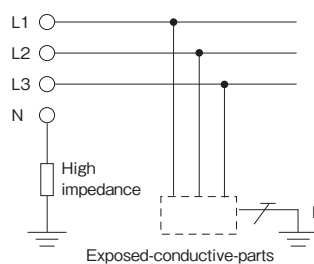
TN-S System



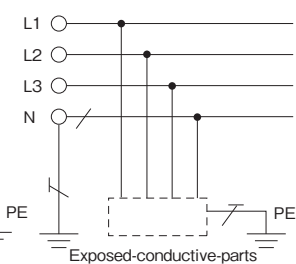
TN-C System



IT System



TT System



L1, L2, L3: Voltage poles, N: Neutral line, PE: Protective conductor

1: A TN-C system has a PEN conductor installed that combines neutral line N and protective conductor PE, and so ELCB cannot be used. (Ground faults cannot be detected.)

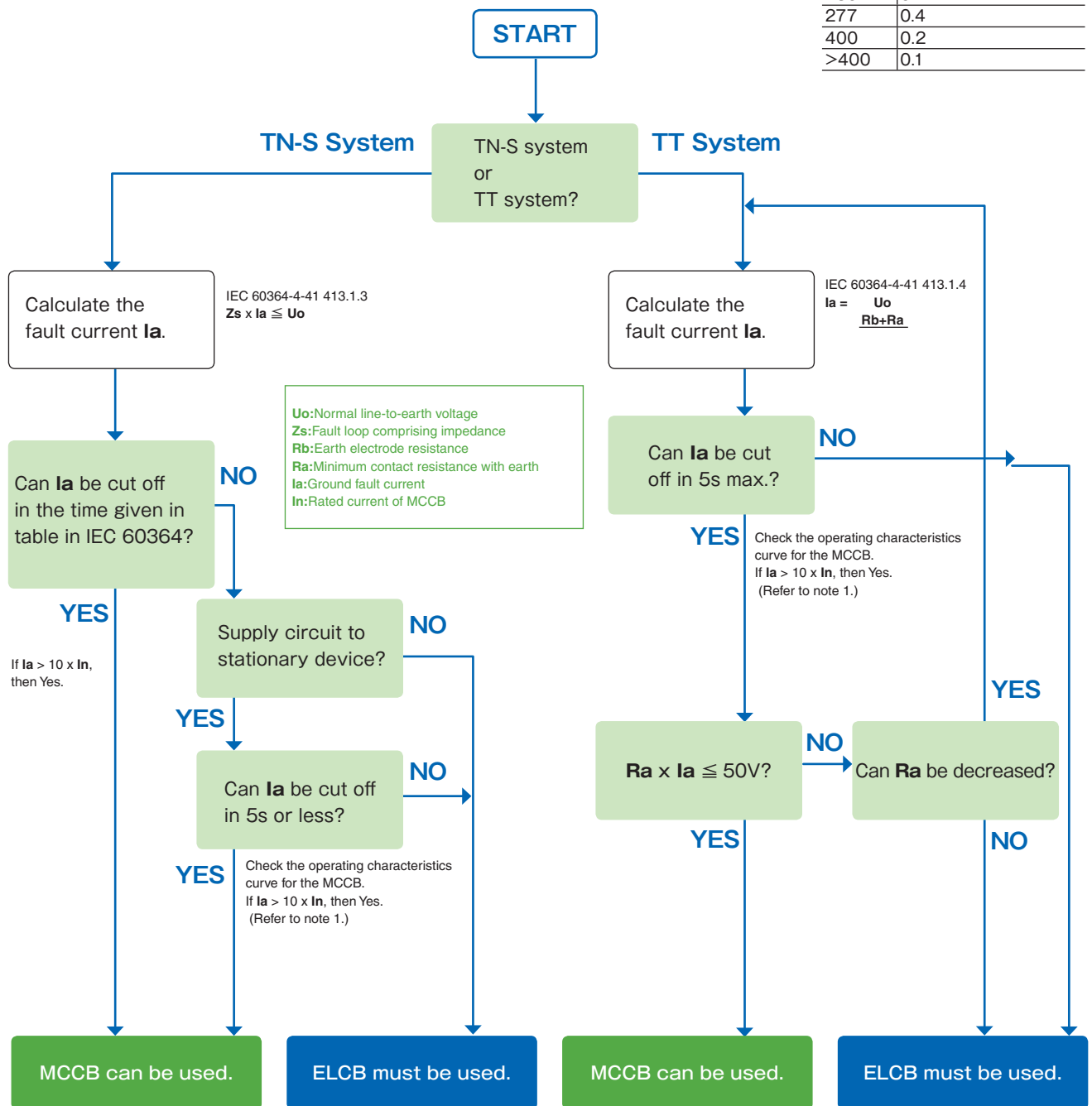
2: An IT system is a non-grounded system, and so ELCB cannot be used. (Ground faults cannot be detected.)



Flowchart for considering protection against indirect contact using automatic cutoff of power supply

Max. breaking time in TN system (IEC 60364, table 41A)

U _o (V)	Breaking time (s)
120	0.8
230	0.4
277	0.4
400	0.2
>400	0.1



ELCB is not applicable for TN-C.

Note 1: The formula $10 \times I_n$ is a rough guide to the current value for the overcurrent trip device to automatically cut off in 5s or less.

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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.**

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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.

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- 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.
- For safe operation, before using the product read the instruction manual or user manual that comes with the product carefully or consult the Fuji sales representative from which you purchased the product.
- Products introduced in this catalog have not been designed or manufactured for such applications in a system or equipment that will affect human bodies or lives.
- Customers, who want to use the products introduced in this catalog for special systems or devices such as for atomic-energy control, aerospace use, medical use, passenger vehicle, and traffic control, are requested to consult with Fuji Electric FA.
- Customers are requested to prepare safety measures when they apply the products introduced in this catalog to such systems or facilities that will affect human lives or cause severe damage to property if the products become faulty.
- For safe operation, wiring should be conducted only by qualified engineers who have sufficient technical knowledge about electrical work or wiring.
- Follow the regulations of industrial wastes when the product is to be discarded.
- For further questions, please contact your Fuji sales representative or Fuji Electric FA.

G-TWIN series



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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.



Molded Case Circuit Breakers

List of products

■ G-TWIN Standard Series (IEC/EN/GB/JIS conformed)

Line protection

AC415V Icu	BW32	BW50	BW63	BW100	BW125	BW160	BW250	BW400	BW630	BW800
1.5kA	AAG	AAG		AAG						
2.5kA	SAG	EAG	EAG							
7.5kA		SAG	SAG							
10kA		RAG	RAG	EAG						
18kA						EAG	EAG			
30kA					JAG	JAG	JAG	EAG		
36kA					SAG	SAG	SAG	SAG	EAG	EAG
50kA					RAG	RAG	RAG	RAG	RAG	RAG
65kA		HAG*			HAG*		HAG*			
70kA								HAG	HAG	HAG

Note: * There are no performance indications for GB standards for the BW50HAG, BW125HAG, and BW250HAG.

■ G-TWIN Global Series (IEC/EN/GB/JIS/UL/CSA conformed)

Line protection

AC415V Icu	BW50	BW100	BW125	BW250	BW400	BW630	BW800
10kA	RAGU	EAGU					
18kA				EAGU			
30kA			JAGU	JAGU	EAGU		
36kA					SAGU		
50kA			RAGU	RAGU	RAGU	RAGU	RAGU
70kA					HAGU	HAGU	HAGU

Motor protection

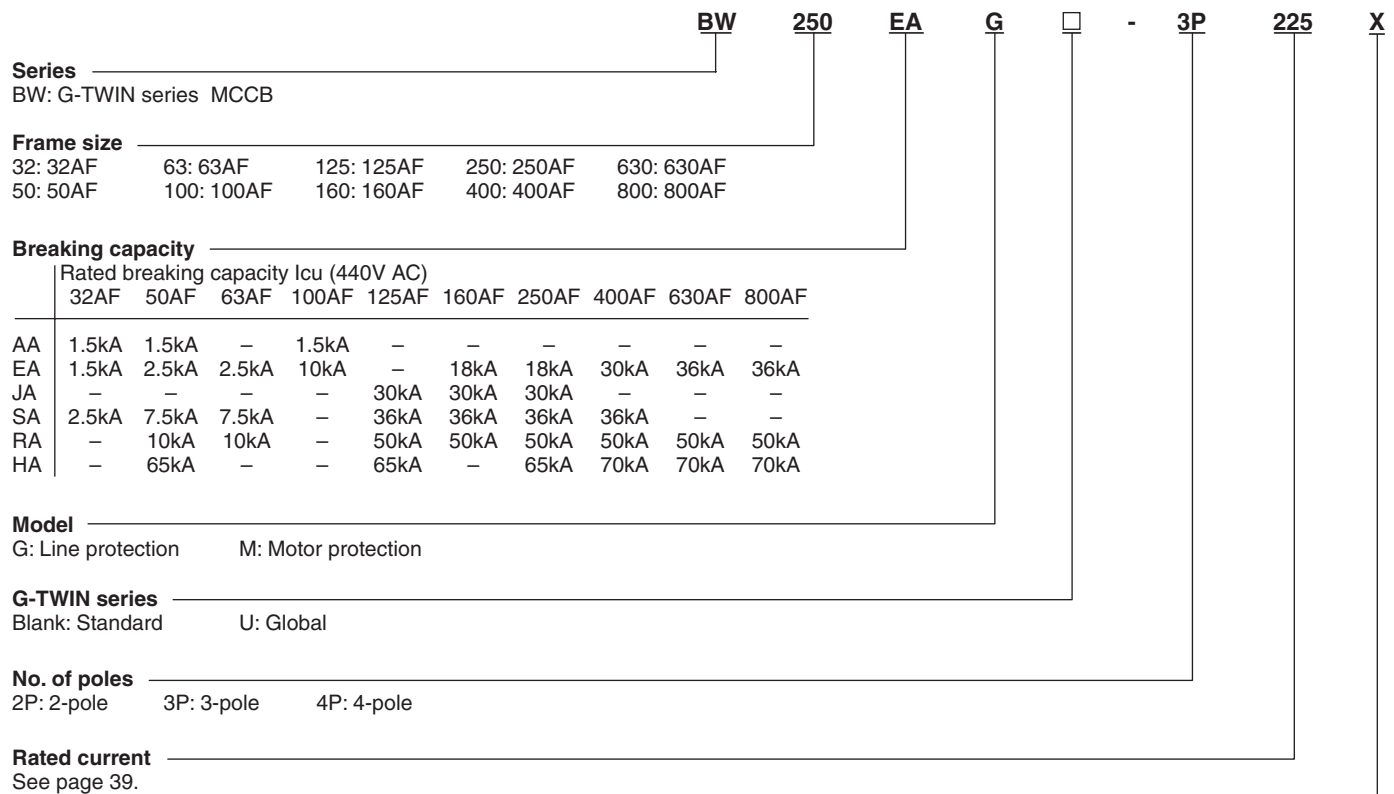
AC415V Icu	BW32	BW50	BW63	BW100	BW125	BW250
1.5kA	AAM					
2.5kA	SAM	EAM	EAM			
7.5kA		SAM	SAM			
10kA		RAM		EAM		
18kA						EAM
30kA					JAM	JAM
50kA					RAM	RAM



Molded Case Circuit Breakers

Type number nomenclature

■ Type number nomenclature



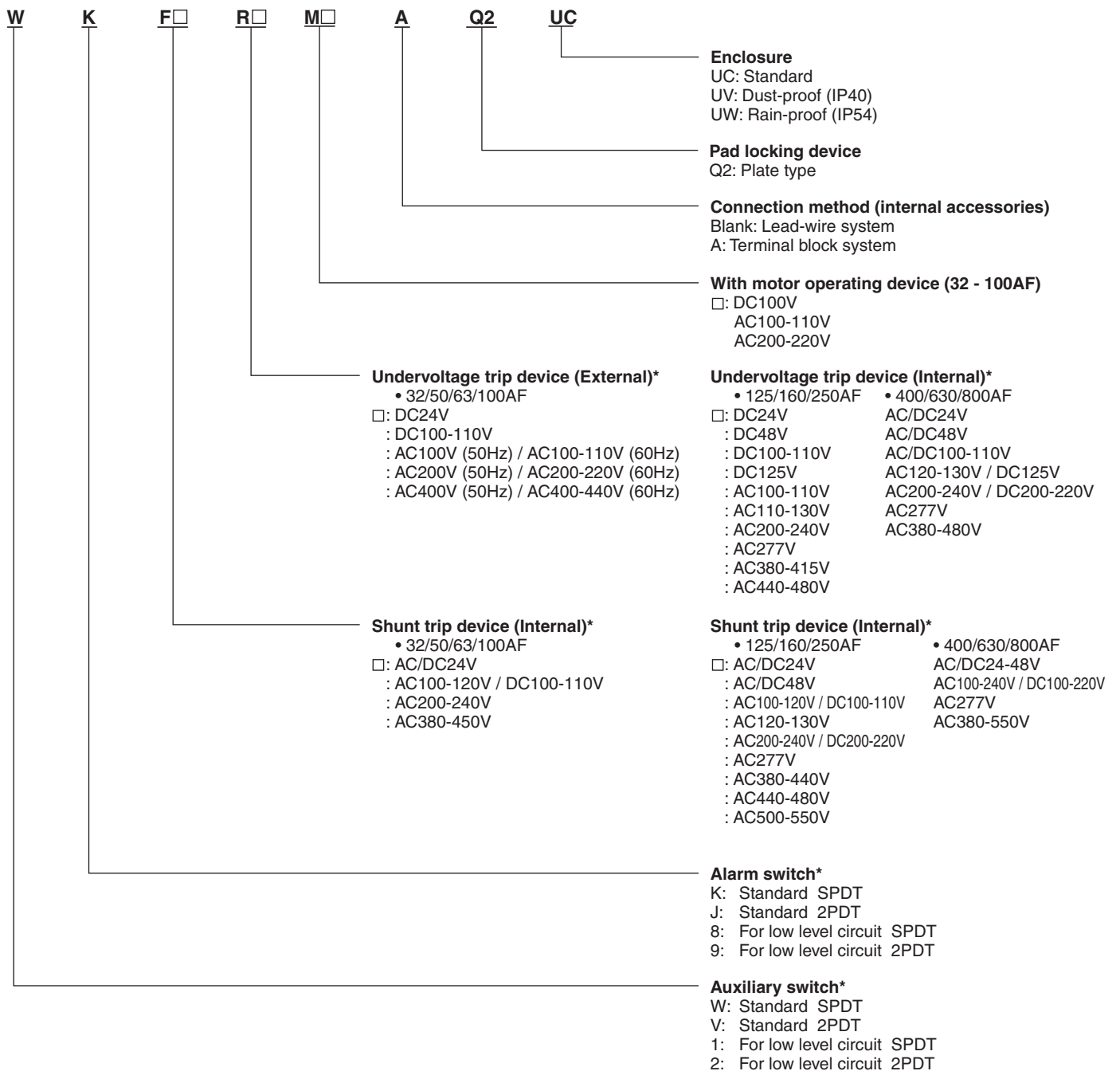
Terminal combination (Global type)

Code	Terminal position		Applicable breaker type		
	Line	Load	BW50	BW100, 125, 250	BW400, 630, 800
Blank	Screw	Screw	●	●	—
Blank	Flat terminal	Flat terminal	—	—	●
SB	Block terminal	Block terminal	—	●	●
SF	Flat terminal	Flat terminal	●	●	—
S3	Screw	Flat terminal	●	●	—
S4	Flat terminal	Screw	●	●	—
S5	Screw	Block terminal	—	●	—
S6	Block terminal	Screw	—	●	—
S7	Flat terminal	Block terminal	—	●	●
S8	Block terminal	Flat terminal	—	●	●

Mounting and connection

• Standard type

- 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



* For the available configuration of accessory, see page 78.



Molded Case Circuit Breakers

Quick reference guide

■ G-TWIN Standard Series

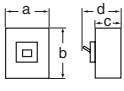
Ampere frame		32A					
Type		BW32AAG		BW32SAG			
Pole		2	3	2	3		
Rated current Reference amb. temp. (40°C)		In(A)					
Rated impulse withstand voltage		Uimp(kV)					
Isolation compliant		●		●			
Rated insulation voltage Ui (V)		AC		690			
		DC		250*1			
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	500V	-		1.5/1	
			440V	1.5/1		2.5/2	
			415V	1.5/1		2.5/2	
			400V	1.5/1		2.5/2	
			380V	1.5/1		2.5/2	
			240V	2.5/2		5/3	
		GB14048.2	AC	250V	-		2.5/2*1
				400V	1.5/1		2.5/2
				230V	2.5/2		5/3
				230V	2.5/2		5/3
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)		
	CCC certificate		●		●		
	Electrical Appliance and Material Safety Law <PS>E*2		●		●		
Dimensions (mm)			a	50	75	50	75
			b	100			
			c	60			
			d	84			
Mass (kg)		0.4	0.5	0.4	0.5		
Tripping device		Hydraulic-magnetic					
Front mounting, front connection		No-mark	○	○	○	○	
Front mounting, rear connection		X	○	○	○	○	
Flush mounting, front connection		E	○	○	○	○	
Flush mounting, top & bottom connection		Y	○	○	○	○	
Plug-in mounting		P	○	○	○	○	
IEC 35mm wide rail mounting		No-mark	○	○	○	○	
Internal accessories		Page 73					
Alarm switch		K	○	○	○	○	
Auxiliary switch		W	○	○	○	○	
Undervoltage trip		R	○	○	○	○	
Shunt trip		F	○	○	○	○	
External accessories		Page 76					
Handle padlocking device Cap type		QN	○	○	○	○	
Handle padlocking device Plate type		Q2	▲	▲	▲	▲	
Operating handle N-type		N	○	○	○	○	
Operating handle V-type		V	○	○	○	○	
Terminal cover Short		BT□S	○	○	○	○	
Terminal cover Long		BT□L	○	○	○	○	
Insulation barrier Interphase		BP	○	○	○	○	
Insulation barrier Earth		BL	○	○	○	○	
Handle locking cover		L1	○	○	○	○	
Flat terminal		SS	○	○	○	○	
Block terminal		SL	-	-	-	-	

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *1 Specify DC only when ordering circuit breakers for DC circuit.

*2 Electrical Appliance and Material Safety Law of Japan

■ G-TWIN Standard Series

Ampere frame		50A												
Type		BW50AAG		BW50EAG		BW50SAG		BW50RAG		BW50HAG				
Pole		2	3	2	3	2	3	2	3	2	3			
Rated current	Reference amb. temp. (40°C)	5, 10, 15, 20, 30, 32, 40, 50												
Rated impulse withstand voltage	Uimp(kV)	6		6		6		6		6				
Isolation compliant		●		●		●		●		●				
Rated insulation voltage Ui (V)		AC		500		690		690		690				
		DC		-		250*1		250*1		250*1				
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	500V	-		1.5/1		5/3		7.5/4		25/7		
			440V	1.5/1		2.5/2		7.5/4		10/5		65/17		
			415V	1.5/1		2.5/2		7.5/4		10/5		65/17		
			400V	1.5/1		2.5/2		7.5/4		10/5		65/17		
			380V	1.5/1		2.5/2		7.5/4		10/5		65/17		
			240V	2.5/2		5/3		10/5		25/13		125/63		
			230V	2.5/2		5/3		10/5		25/13		125/63		
		DC	250V		-		2.5/2*1		5/3*1		5/3*1		40/20	
		GB14048.2	AC	400V	1.5/1		2.5/2		7.5/4		10/5		-	
				230V	2.5/2		5/3		10/5		25/13		-	
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)		● (TÜV)		● (TÜV)		●			
	CCC certificate		●		●		●		●		-			
	Electrical Appliance and Material Safety Law <PS>E ²		●		●		●		●		●			
Dimensions (mm)			a	50	75	50	75	50	75	50	75	90		
			b	100		100		100		100		155		
			c	60		60		60		60		68		
			d	84		84		84		84		95		
			Mass (kg)		0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5	1.0	1.2
Tripping device		Hydraulic-magnetic										Thermal-magnetic		
Front mounting, front connection	No-mark	○	○	○	○	○	○	○	○	○	○	○		
Front mounting, rear connection	X	○	○	○	○	○	○	○	○	○	○	○		
Flush mounting, front connection	E	○	○	○	○	○	○	○	○	○	○	○		
Flush mounting, top & bottom connection	Y	○	○	○	○	○	○	○	○	○	-	-		
Plug-in mounting	P	○	○	○	○	○	○	○	○	○	○	○		
IEC 35mm wide rail mounting	No-mark	○	○	○	○	○	○	○	○	○	-	-		
Internal accessories		Page 73												
Alarm switch	K	○	○	○	○	○	○	○	○	○	○	○		
Auxiliary switch	W	○	○	○	○	○	○	○	○	○	○	○		
Undervoltage trip	R	○	○	○	○	○	○	○	○	○	○	○		
Shunt trip	F	○	○	○	○	○	○	○	○	○	○	○		
External accessories		Page 76												
Handle padlocking device	Cap type	Q1/QN	○	○	○	○	○	○	○	○	○	○		
Handle padlocking device	Plate type	Q2	▲	▲	▲	▲	▲	▲	▲	▲	▲	○		
Operating handle	N-type	N	○	○	○	○	○	○	○	○	○	○		
Operating handle	V-type	V	○	○	○	○	○	○	○	○	○	○		
Terminal cover	Short	BT□S	○	○	○	○	○	○	○	○	○	○		
Terminal cover	Long	BT□L	○	○	○	○	○	○	○	○	○	○		
Insulation barrier	Interphase	BP	○	○	○	○	○	○	○	○	○	○		
	Earth	BL	○	○	○	○	○	○	○	○	-	-		
Handle locking cover		L1	○	○	○	○	○	○	○	○	○	○		
Flat terminal		SS	○	○	○	○	○	○	○	○	○	○		
Block terminal		SL	-	-	-	-	-	-	-	-	○	○		

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *1 Specify DC only when ordering circuit breakers for DC circuit.

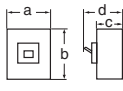
*2 Electrical Appliance and Material Safety Law of Japan



Molded Case Circuit Breakers

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■ G-TWIN Standard Series

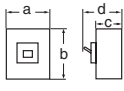
Ampere frame		63A							
Type		BW63EAG		BW63SAG		BW63RAG			
Pole		2	3	2	3	2	3		
Rated current	Reference amb. temp. (40°C)	In(A) 60, 63							
Rated impulse withstand voltage		Uimp(kV) 6		6		6			
Isolation compliant		●		●		●			
Rated insulation voltage Ui (V)		AC		690		690			
		DC		250* ¹		250* ¹			
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	500V	1.5/1	5/3	7.5/4			
			440V	2.5/2	7.5/4	10/5			
			415V	2.5/2	7.5/4	10/5			
			400V	2.5/2	7.5/4	10/5			
			380V	2.5/2	7.5/4	10/5			
			240V	5/3	10/5	25/13			
			230V	5/3	10/5	25/13			
	GB14048.2	AC	250V	2.5/2* ¹	5/3* ¹	5/3* ¹			
			400V	2.5/2	7.5/4	10/5			
			230V	5/3	10/5	25/13			
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)		● (TÜV)		
	CCC certificate		●		●		●		
	Electrical Appliance and Material Safety Law <PS>E ²		●		●		●		
Dimensions (mm)			a	50	75	50	75	50	75
			b	100					
			c	60					
			d	84					
Mass (kg)		0.4	0.5	0.4	0.5	0.4	0.5		
Tripping device		Hydraulic-magnetic							
Front mounting, front connection	No-mark	○	○	○	○	○	○		
Front mounting, rear connection	X	○	○	○	○	○	○		
Flush mounting, front connection	E	○	○	○	○	○	○		
Flush mounting, top & bottom connection	Y	○	○	○	○	○	○		
Plug-in mounting	P	○	○	○	○	○	○		
IEC 35mm wide rail mounting	No-mark	○	○	○	○	○	○		
Internal accessories		Page 73							
Alarm switch	K	○	○	○	○	○	○		
Auxiliary switch	W	○	○	○	○	○	○		
Undervoltage trip	R	○	○	○	○	○	○		
Shunt trip	F	○	○	○	○	○	○		
External accessories		Page 76							
Handle padlocking device	Cap type	QN	○	○	○	○	○		
Handle padlocking device	Plate type	Q2	▲	▲	▲	▲	▲		
Operating handle	N-type	N	○	○	○	○	○		
Operating handle	V-type	V	○	○	○	○	○		
Terminal cover	Short	BT□S	○	○	○	○	○		
Terminal cover	Long	BT□L	○	○	○	○	○		
Insulation barrier	Interphase	BP	○	○	○	○	○		
	Earth	BL	○	○	○	○	○		
Handle locking cover		L1	○	○	○	○	○		
Flat terminal		SS	○	○	○	○	○		
Block terminal		SL	-	-	-	-	-		

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *¹ Specify DC only when ordering circuit breakers for DC circuit.

*² Electrical Appliance and Material Safety Law of Japan

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Ampere frame		100A					
Type		BW100AAG		BW100EAG			
Pole		2	3	2	3		
Rated current	Reference amb. temp. (40°C)	In(A)		50, 60, 63, 75, 100			
Rated impulse withstand voltage		Uimp(kV)		6			
Isolation compliant		●		●			
Rated insulation voltage Ui (V)		AC	500		690		
		DC	-		250* ¹		
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	500V	-		7.5/4	
			440V	-		10/5	
			415V	-		10/5	
			400V	1.5/1		10/5	
			380V	1.5/1		10/5	
			240V	5/3		25/13	
			230V	5/3		25/13	
		DC	250V		-		5/3* ¹
		GB14048.2	AC	400V	1.5/1		10/5
				230V	5/3		25/13
Conforming to standards	CE Marking	● (TÜV)		● (TÜV)			
	CCC certificate	●		●			
	Electrical Appliance and Material Safety Law <PS>E ²	●		●			
Dimensions (mm)		a	50	75	50	75	
		b	100				
		c	60				
		d	84				
		Mass (kg)	0.4	0.5	0.4	0.5	
Tripping device		Thermal -magnetic					
Front mounting, front connection	No-mark	○	○	○	○		
Front mounting, rear connection	X	○	○	○	○		
Flush mounting, front connection	E	○	○	○	○		
Flush mounting, top & bottom connection	Y	○	○	○	○		
Plug-in mounting	P	○	○	○	○		
IEC 35mm wide rail mounting	No-mark	○	○	○	○		
Internal accessories		Page 73					
Alarm switch	K	○	○	○	○		
Auxiliary switch	W	○	○	○	○		
Undervoltage trip	R	○	○	○	○		
Shunt trip	F	○	○	○	○		
External accessories		Page 76					
Handle padlocking device	Cap type	QN	○	○	○		
Handle padlocking device	Plate type	Q2	▲	▲	▲		
Operating handle	N-type	N	○	○	○		
Operating handle	V-type	V	○	○	○		
Terminal cover	Short	BT□S	○	○	○		
Terminal cover	Long	BT□L	○	○	○		
Insulation barrier	Interphase	BP	○	○	○		
	Earth	BL	○	○	○		
Handle locking cover		L1	○	○	○		
Flat terminal		SS	○	○	○		
Block terminal		SL	-	-	-		

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *¹ Specify DC only when ordering circuit breakers for DC circuit.

*² Electrical Appliance and Material Safety Law of Japan



Molded Case Circuit Breakers

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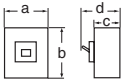
■ G-TWIN Standard Series

Ampere frame		125A												
Type		BW125JAG			BW125SAG			BW125RAG			BW125HAG			
Pole		2	3	4	2	3	4	2	3	4	2	3		
Rated current Reference amb. temp. (40°C) In(A)		15, 20, 30, 40, 50, 60, 75, 100, 125												
Rated impulse withstand voltage Uimp(kV)		6			6			6			6			
Isolation compliant		●			●			●			●			
Rated insulation voltage Ui (V)		AC		690			690			690		690		
		DC		250			250			250		250		
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	–	–	–	–	–	–	–	–	–		
			500V	5/3	8/4	10/5	10/5	10/5	10/5	25/7				
			440V	30/15	30/15	36/18	36/18	50/25	65/17					
			415V	30/15	30/15	36/18	50/25	65/17						
			400V	30/15	30/15	36/18	50/25	65/17						
			380V	30/15	30/15	36/18	50/25	65/17						
			240V	50/25	50/25	85/43	100/50	125/63						
		230V	50/25	50/25	85/43	100/50	125/63							
		GB14048.2	AC	400V	30/15	30/15	36/18	50/25	–					
				230V	50/25	50/25	85/43	100/50	–					
Conforming to standards				CE Marking			● (TÜV)			● (TÜV)			● (TÜV)	
		CCC certificate			●			●			–			
		Electrical Appliance and Material Safety Law <PS>E ²			● (except for 125A)			● (except for 125A)			● (except for 125A)			
Dimensions (mm)			a	60	90	120	90	90	120	90	90	120	90	
			b	155			155			155			155	
			c	68			68			68			68	
			d	95			95			95			95	
Mass (kg)		0.8	1.2	1.6	1.0	1.2	1.6	1.0	1.2	1.6	1.0	1.2		
Tripping device		Thermal-magnetic												
Front mounting, front connection		No-mark	○	○	○	○	○	○	○	○	○	○	○	
Front mounting, rear connection		X	○	○	○	○	○	○	○	○	○	○	○	
Flush mounting, front connection		E	○	○	○	○	○	○	○	○	○	○	○	
Plug-in mounting		P	○	○	–	○	○	–	○	○	–	○	○	
Internal accessories		Page 74												
Alarm switch		K	○	○	○	○	○	○	○	○	○	○	○	
Auxiliary switch		W	○	○	○	○	○	○	○	○	○	○	○	
Undervoltage trip		R	–	○	○	○	○	○	○	○	○	○	○	
Shunt trip		F	○	○	○	○	○	○	○	○	○	○	○	
External accessories		Page 76												
Handle padlocking device Cap type		Q1	○	○	○	○	○	○	○	○	○	○	○	
Handle padlocking device Plate type		Q2	–	○	○	○	○	○	○	○	○	○	○	
Operating handle N-type		N	○	○	○	○	○	○	○	○	○	○	○	
Operating handle V-type		V	○	○	○	○	○	○	○	○	○	○	○	
Terminal cover Short		BTCS	○	○	○	○	○	○	○	○	○	○	○	
Terminal cover Long		BTCL	○	○	○	○	○	○	○	○	○	○	○	
Insulation barrier Interphase		BP	○	○	○	○	○	○	○	○	○	○	○	
Handle locking cover		L1	○	○	○	○	○	○	○	○	○	○	○	
Flat terminal		SS	○	○	○	○	○	○	○	○	○	○	○	
Block terminal		SL	○	○	○	○	○	○	○	○	○	○	○	

●: Approved ○: Available –: Not available

Note: * Electrical Appliance and Material Safety Law of Japan

■ G-TWIN Standard Series

Ampere frame		160A														
Type		BW160EAG			BW160JAG			BW160SAG			BW160RAG					
Pole		2	3	2	3	4	2	3	4	2	3	4				
Rated current	Reference amb. temp. (40°C)	In(A) 125, 150, 160														
Rated impulse withstand voltage		Uimp(kV) 6			6			6			6					
Isolation compliant		●														
Rated insulation voltage Ui (V)		AC		690			690			690			690			
		DC		250			250			250			250			
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	-			-			-			-			
			500V	5/3			8/4			10/5			10/5			
			440V	18/9			30/15			36/18			50/25			
			415V	18/9			30/15			36/18			50/25			
			400V	18/9			30/15			36/18			50/25			
			380V	18/9			30/15			36/18			50/25			
			240V	36/18			50/25			85/43			100/50			
		230V	36/18			50/25			85/43			100/50				
		GB14048.2	AC	250V	10/5			20/10			30/15			30/15		
				400V	18/9			30/15			36/18			50/25		
230V	36/18			50/25			85/43			100/50						
Conforming to standards	CE Marking		● (TÜV)			● (TÜV)			● (TÜV)			● (TÜV)				
	CCC certificate		●			●			●			●				
	Electrical Appliance and Material Safety Law <PS>E*		-			-			-			-				
Dimensions (mm)			a	105	105	105	105	140	105	105	140	105	105	140		
			b	165			165			165			165			
			c	68			68			68			68			
			d	95			95			95			95			
Mass (kg)		1.4	1.6	1.4	1.6	2.2	1.4	1.6	2.2	1.4	1.6	2.2				
Tripping device		Thermal-magnetic														
Front mounting, front connection	No-mark	○	○	○	○	○	○	○	○	○	○	○	○			
Front mounting, rear connection	X	○	○	○	○	○	○	○	○	○	○	○	○			
Flush mounting, front connection	E	○	○	○	○	○	○	○	○	○	○	○	○			
Plug-in mounting	P	○	○	○	○	-	○	○	-	○	○	-	○			
Internal accessories		Page 74														
Alarm switch	K	○	○	○	○	○	○	○	○	○	○	○	○			
Auxiliary switch	W	○	○	○	○	○	○	○	○	○	○	○	○			
Undervoltage trip	R	○	○	○	○	○	○	○	○	○	○	○	○			
Shunt trip	F	○	○	○	○	○	○	○	○	○	○	○	○			
External accessories		Page 76														
Handle padlocking device	Cap type Q1	○	○	○	○	○	○	○	○	○	○	○	○			
Handle padlocking device	Plate type Q2	○	○	○	○	○	○	○	○	○	○	○	○			
Operating handle	N-type N	○	○	○	○	○	○	○	○	○	○	○	○			
Operating handle	V-type V	○	○	○	○	○	○	○	○	○	○	○	○			
Terminal cover	Short BT□S	○	○	○	○	○	○	○	○	○	○	○	○			
Terminal cover	Long BT□L	○	○	○	○	○	○	○	○	○	○	○	○			
Insulation barrier	Interphase BP	○	○	○	○	○	○	○	○	○	○	○	○			
Handle locking cover	L1	○	○	○	○	○	○	○	○	○	○	○	○			
Flat terminal	SS	○	○	○	○	○	○	○	○	○	○	○	○			
Block terminal	SL	○	○	○	○	○	○	○	○	○	○	○	○			

●: Approved ○: Available -: Not available

Note: * Electrical Appliance and Material Safety Law of Japan



Molded Case Circuit Breakers

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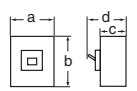
■ G-TWIN Standard Series

Ampere frame		250A																
Type		BW250EAG			BW250JAG			BW250SAG			BW250RAG			BW250HAG				
Pole		2	3	2	3	4	2	3	4	2	3	4	2	3				
Rated current	Reference amb. temp. (40°C)	175, 200, 225, 250												125,150,160,175 200,225,250				
Rated impulse withstand voltage	Uimp(kV)	6			6			6			6			6				
Isolation compliant		●																
Rated insulation voltage Ui (V)	AC	690			690			690			690			690				
	DC	250			250			250			250			250				
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	-			-			-			-			-		
			500V	5/3			8/4			10/5			10/5			25/7		
			440V	18/9			30/15			36/18			50/25			65/17		
			415V	18/9			30/15			36/18			50/25			65/17		
			400V	18/9			30/15			36/18			50/25			65/17		
			380V	18/9			30/15			36/18			50/25			65/17		
			240V	36/18			50/25			85/43			100/50			125/63		
		230V	36/18			50/25			85/43			100/50			125/63			
		GB14048.2	AC	400V	18/9			30/15			36/18			50/25			-	
				230V	36/18			50/25			85/43			100/50			-	
Conforming to standards	CE Marking	● (TÜV)																
	CCC certificate	●																
	Electrical Appliance and Material Safety Law <PSE>	-																
Dimensions (mm)		a	105	105	105	105	140	105	105	140	105	105	140	105	105			
		b	165			165			165			165			165			
		c	68			68			68			68			68			
		d	95			95			95			95			95			
Mass (kg)		1.4	1.6	1.4	1.6	2.2	1.4	1.6	2.2	1.4	1.6	2.2	1.4	1.6				
Tripping device		Thermal-magnetic																
Front mounting, front connection	No-mark	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Front mounting, rear connection	X	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Flush mounting, front connection	E	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Plug-in mounting	P	○	○	○	○	-	○	○	-	○	○	-	○	○	○			
Internal accessories	Page 74																	
Alarm switch	K	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Auxiliary switch	W	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Undervoltage trip	R	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Shunt trip	F	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
External accessories	Page 76																	
Handle padlocking device Cap type	Q1	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Handle padlocking device Plate type	Q2	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Operating handle N-type	N	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Operating handle V-type	V	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Terminal cover Short	BTCS	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Terminal cover Long	BTCL	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Insulation barrier Interphase	BP	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Handle locking cover	L1	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Flat terminal	SS	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
Block terminal	SL	○	○	○	○	○	○	○	○	○	○	○	○	○	○			

●: Approved ○: Available -: Not available

Note: * Electrical Appliance and Material Safety Law of Japan

■ G-TWIN Standard Series

Ampere frame		400A																		
Type		BW400EAG			BW400SAG		BW400RAG			BW400HAG										
Pole		2	3	2	3	2	3	4	2	3	4									
Rated current	Reference amb. temp. (40°C)	In(A) 250, 300, 350, 400																		
Rated impulse withstand voltage		Uimp(kV) 8			8		8			8										
Isolation compliant		●																		
Rated insulation voltage Ui (V)		AC	690			690		690			690									
		DC	250			250		250			250									
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	-			10/5		15/8			15/8								
			500V	18/9			20/10		36/18			42/21								
			440V	30/15			36/18		50/25			70/35								
			415V	30/15			36/18		50/25			70/35								
			400V	30/15			36/18		50/25			70/35								
			380V	30/15			36/18		50/25			70/35								
			240V	50/25			85/43		100/50			125/63								
		230V	50/25			85/43		100/50			125/63									
		GB14048.2	AC	250V	20/10			20/10		40/20			40/20							
				400V	30/15			36/18		50/25			70/35							
Conforming to standards	CE Marking	● (TÜV)			● (TÜV)		● (TÜV)			● (TÜV)										
	CCC certificate	●			●		●			●										
	Electrical Appliance and Material Safety Law <PS>E ^{*1}	-			-		-			-										
Dimensions (mm)		a	140	140	140	140	140	140	185	140	140	185								
		b	257			257		257			257									
		c	103			103		103			103									
		d	146			146		146			146									
Mass (kg)	4.6		5.6		4.6		5.6		4.6		5.6		7.4		4.6		5.6		7.4	
Tripping device		Thermal-magnetic																		
Front mounting, front connection	No-mark	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Front mounting, rear connection	X	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Flush mounting, front connection	E	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Plug-in mounting	P	○	○	○	○	○	○	○	○	○	○	-	○	○	○	○	○	○	○	-
Internal accessories		Page 75																		
Alarm switch	K	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Auxiliary switch	W	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Undervoltage trip	R	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Shunt trip	F	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
External accessories		Page 76																		
Handle padlocking device	Cap type QN	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Handle padlocking device	Plate type Q2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Operating handle	N-type N	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Operating handle	V-type V	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Terminal cover	Short BT□S	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Terminal cover	Long BT□L	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Insulation barrier	Interphase BP	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Handle locking cover	L1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Flat terminal	SS	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}	○ ^{*2}
Block terminal	SL	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

●: Approved ○: Available -: Not available

Note: ^{*1} Electrical Appliance and Material Safety Law of Japan

^{*2} Standard provided



Molded Case Circuit Breakers

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■ G-TWIN Standard Series

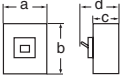
Ampere frame		630A						800A												
Type		BW630EAG		BW630RAG		BW630HAG		BW800EAG		BW800RAG		BW800HAG								
Pole		3		3		4		3		3		4								
Rated current Reference amb. temp. (40°C)		In(A)		500, 600, 630						700, 800										
Rated impulse withstand voltage		Uimp(kV)		8		8		8		8		8								
Isolation compliant		●		●		●		●		●		●								
Rated insulation voltage Ui (V)		AC		690		690		690		690		690								
		DC		250		250		250		250		250								
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	-		15/8		15/8		-		15/8		15/8						
			600V	-		-		-		-		-		-						
			500V	18/9		36/18		42/21		18/9		36/18		42/21						
			440V	36/18		50/25		70/35		36/18		50/25		70/35						
			415V	36/18		50/25		70/35		36/18		50/25		70/35						
			400V	36/18		50/25		70/35		36/18		50/25		70/35						
			380V	36/18		50/25		70/35		36/18		50/25		70/35						
			240V	50/25		100/50		125/63		50/25		100/50		125/63						
			230V	50/25		100/50		125/63		50/25		100/50		125/63						
			230V	50/25		100/50		125/63		50/25		100/50		125/63						
		GB14048.2	AC	400V	36/18		50/25		70/35		36/18		50/25		70/35					
				230V	50/25		100/50		125/63		50/25		100/50		125/63					
			DC	250V	20/10		40/20		40/20		20/10		40/20		40/20					
				230V	20/10		40/20		40/20		20/10		40/20		40/20					
Conforming to standards	CE Marking	● (TÜV)		● (TÜV)		● (TÜV)		● (TÜV)		● (TÜV)		● (TÜV)								
	CCC certificate	●		●		●		●		●		●								
	Electrical Appliance and Material Safety Law <PS>E ¹	-		-		-		-		-		-								
Dimensions (mm)		a	210		210		280		210		280		210		280					
		b	275		275		275		275		275		275		275					
		c	103		103		103		103		103		103		103					
		d	146		146		146		146		146		146		146					
Mass (kg)	7.8		7.8		10.3		7.8		10.3		8.3		8.3		11		8.3		11	
Tripping device	Thermal-magnetic																			
Front mounting, front connection	No-mark	○		○		○		○		○		○		○		○		○		
Front mounting, rear connection	X	○		○		○		○		○		○		○		○		○		
Flush mounting, front connection	E	○		○		○		○		○		○		○		○		○		
Plug-in mounting	P	○		○		-		○		-		○		○		-		○		
Internal accessories	Page 75																			
Alarm switch	K	○		○		○		○		○		○		○		○		○		
Auxiliary switch	W	○		○		○		○		○		○		○		○		○		
Undervoltage trip	R	○		○		○		○		○		○		○		○		○		
Shunt trip	F	○		○		○		○		○		○		○		○		○		
External accessories	Page 76																			
Handle padlocking device Cap type	QN	○		○		○		○		○		○		○		○		○		
Handle padlocking device Plate type	Q2	○		○		○		○		○		○		○		○		○		
Operating handle N-type	N	○		○		○		○		○		○		○		○		○		
Operating handle V-type	V	○		○		○		○		○		○		○		○		○		
Terminal cover Long	BTCL	○		○		○		○		○		○		○		○		○		
Insulation barrier Interphase	BP	○		○		○		○		○		○		○		○		○		
Handle locking cover	L1	○		○		○		○		○		○		○		○		○		
Flat terminal	SS	○ ^{*2}		○ ^{*2}		○ ^{*2}		○ ^{*2}		○ ^{*2}		○ ^{*2}		○ ^{*2}		○ ^{*2}		○ ^{*2}		
Block terminal	SL	○		○		○		○		○		○		○		○		○		

●: Approved ○: Available -: Not available

Note: ^{*1} Electrical Appliance and Material Safety Law of Japan

^{*2} Standard provided

■ G-TWIN Global Series

Ampere frame		50A				100A					
Type		BW50RAGU				BW100EAGU					
Pole		2		3		2		3			
Rated current	Reference amb. temp. (40°C)	In(A)		3, 5	10, 15, 20, 30, 32, 40, 50	3, 5	10, 15, 20, 30, 32, 40, 50	60, 63, 70, 75, 80, 90, 100			
Rated impulse withstand voltage		Uimp(kV)		6				6			
Isolation compliant		●				●					
Rated insulation voltage Ui (V)		AC		690				690			
Rated breaking capacity	IEC 60947-2 EN 60947-2 JIS C 8201-2-1 Icu/Ics (kA)	AC	500V	7.5/4				7.5/4			
			440V	10/5				10/5			
			415V	10/5				10/5			
			400V	10/5				10/5			
			380V	10/5				10/5			
			240V	25/13				25/13			
	230V	25/13				25/13					
	GB14048.2 Icu/Ics(kA)	AC	400V	7/4	10/5	7/4	10/5	10/5			
			230V	14/7	25/13	14/7	25/13	25/13			
UL489 CAN/CSA C22.2 NO.5 (kA)	AC	240V	14		-		14				
Conforming to standards	CE Marking		● (TÜV)				● (TÜV)				
	CCC certificate		●				●				
	UL Listed (NEMA AB1)		●				●				
	Electrical Appliance and Material Safety Law <PS>E*1		●				●				
Dimensions (inch(mm))			a	1.969 (50)		2.953 (75)		1.969 (50)		2.953 (75)	
			b	4.724 (120)				4.724 (120)			
			c	2.362 (60)				2.362 (60)			
			d	3.307 (84)				3.307 (84)			
Mass (kg)		0.5		0.6		0.5		0.6			
Tripping device		Hydraulic-magnetic									
Connecting terminal		Page 36									
Screw		S□		○	○		○		○		
Flat				○	○		○		○		
Block		-		-	-		○		○		
Internal accessories		Page 73									
Alarm switch		K		○	○		○		○		
Auxiliary switch		W		○	○		○		○		
Undervoltage trip		R		○	○		○		○		
Shunt trip		F		○	○		○		○		
External accessories		Page 76									
Handle padlocking device Cap type		QN		○	○		○		○		
Operating handle N-type		N		○	○		○		○		
Operating handle V-type		V		○	○		○		○		
Terminal cover Short		BT□S		○*2	○		○		○		
Terminal cover Long		BT□L		○	○		○		○		
Insulation barrier Interphase		BP		○	○		○		○		
Handle locking cover		L1		○	○		○		○		

●: Approved ○: Available -: Not available

Note: *1 Electrical Appliance and Material Safety Law of Japan

*2 Standard provided



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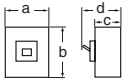
■ G-TWIN Global Series

Ampere frame		125A					
Type		BW125JAGU		BW125RAGU			
Pole		2		3			
Rated current	Reference amb. temp. (40°C)	In(A)	15, 20, 30, 40, 50, 60, 70, 75, 80, 90, 100, 125				
Rated impulse withstand voltage		Uimp(kV)	6				
Isolation compliant		●					
Rated insulation voltage Ui (V)		AC	690		690		
		DC	250		250		
Rated breaking capacity	IEC 60947-2 EN 60947-2 JIS C 8201-2-1 Icu/lcs (kA)	AC	690V	-		5/3	
			500V	15/8		36/18	
			440V	30/15		50/25	
			415V	30/15		50/25	
			400V	30/15		50/25	
			380V	30/15		50/25	
			240V	50/25		100/50	
			230V	50/25		100/50	
			DC	250V	15/8		40/20
			GB14048.2 Icu/lcs(kA)	AC	400V	30/15	
	230V	50/25			100/50		
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC		600V/Y	10	10	18
				480V/Δ	-	30	50
	DC	480V/Y	30	30	50		
240V		50	50	100			
DC	125/250V	10	10	10			
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)		
	CCC certificate		●		●		
	UL Listed (NEMA AB1)		●		●		
	Electrical Appliance and Material Safety Law <PS>E*		● (except for 125A)		● (except for 125A)		
Dimensions (inch(mm))							
		a	2.362 (60)	3.543 (90)	3.543 (90)		
		b	6.732 (171)		6.732 (171)		
		c	2.677 (68)		2.677 (68)		
		d	3.740 (95)		3.740 (95)		
Mass (kg)		0.8		1.2	1.0		
Tripping device		Thermal-magnetic					
Connecting terminal		Page 36					
Screw		○		○	○		
Flat		○		○	○		
Block		○		○	○		
Internal accessories		Page 74					
Alarm switch		K	○	○	○		
Auxiliary switch		W	○	○	○		
Undervoltage trip		R	-	○	○		
Shunt trip		F	○	○	○		
External accessories		Page 76					
Handle padlocking device Cap type		Q1	○	○	○		
Handle padlocking device Plate type		Q2	○	○	○		
Operating handle N-type		N	-	○	○		
Operating handle V-type		V	-	○	○		
Operating handle F-type		F	-	○	○		
Terminal cover Short		BT□S	○	○	○		
Terminal cover Long		BT□L	○	○	○		
Insulation barrier Interphase		BP	○	○	○		
Handle locking cover		L1	○	○	○		

●: Approved ○: Available -: Not available

Note: * Electrical Appliance and Material Safety Law of Japan

■ G-TWIN Global Series

Ampere frame		250A					
Type		BW250EAGU		BW250JAGU		BW250RAGU	
Pole		2	3	2	3	2	3
Rated current	Reference amb. temp. (40°C)	In(A) 125, 150, 160, 175, 200, 225, 250					
Rated impulse withstand voltage		Uimp(kV) 6		6		6	
Isolation compliant		●		●		●	
Rated insulation voltage Ui (V)		AC 690		690		690	
		DC 250		250		250	
Rated breaking capacity	IEC 60947-2 EN 60947-2 JIS C 8201-2-1 Icu/Ics (kA)	AC	690V	–	–	5/3	
			500V	10/5	18/9	36/18	
			440V	18/9	30/15	50/25	
			415V	18/9	30/15	50/25	
			400V	18/9	30/15	50/25	
			380V	18/9	30/15	50/25	
			240V	36/18	50/25	100/50	
			230V	36/18	50/25	100/50	
	DC	250V	10/5	20/10	40/20		
		400V	18/9	30/15	50/25		
	GB14048.2 Icu/Ics(kA)	AC	230V	36/18	50/25	100/50	
			400V	18/9	30/15	50/25	
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC	600V/Y	–	10	25	
			480V/Δ	–	30	50	
480V/Y			–	30	50		
240V			22	50	100		
DC		125/250V	10	10	10		
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)		
	CCC certificate		●		●		
	UL Listed (NEMA AB1)		●		●		
	Electrical Appliance and Material Safety Law <PS>E*		–		–		
Dimensions (inch(mm))			a	4.134 (105)	4.134 (105)	4.134 (105)	
			b	7.126 (181)	7.126 (181)	7.126 (181)	
			c	2.677 (68)	2.677 (68)	2.677 (68)	
			d	3.740 (95)	3.740 (95)	3.740 (95)	
Mass (kg)		1.4	1.6	1.4	1.6	1.4	1.6
Tripping device		Thermal-magnetic					
Connecting terminal		Page 36					
Screw		○	○	○	○	○	○
Flat		○	○	○	○	○	○
Block		○	○	○	○	○	○
Internal accessories		Page 74					
Alarm switch		K	○	○	○	○	○
Auxiliary switch		W	○	○	○	○	○
Undervoltage trip		R	○	○	○	○	○
Shunt trip		F	○	○	○	○	○
External accessories		Page 76					
Handle padlocking device Cap type		Q1	○	○	○	○	○
Handle padlocking device Plate type		Q2	○	○	○	○	○
Operating handle N-type		N	○	○	○	○	○
Operating handle V-type		V	○	○	○	○	○
Operating handle F-type		F	○	○	○	○	○
Terminal cover Short		BT□S	○	○	○	○	○
Terminal cover Long		BT□L	○	○	○	○	○
Insulation barrier Interphase		BP	○	○	○	○	○
Handle locking cover		L1	○	○	○	○	○

●: Approved ○: Available –: Not available

Note: * Electrical Appliance and Material Safety Law of Japan



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■ G-TWIN Global Series

Ampere frame		400A							
Type		BW400EAGU		BW400SAGU		BW400RAGU		BW400HAGU	
Pole		2	3	2	3	2	3	2	3
Rated current Reference amb. temp. (40°C)		In(A) 250, 300, 350, 400							
Rated impulse withstand voltage		Uimp(kV) 8							
Isolation compliant		●							
Rated insulation voltage Ui (V)		AC		690		690		690	
		DC		250		250		250	
Rated breaking capacity	IEC 60947-2 EN 60947-2 JIS C 8201-2-1 Icu/Ics (kA)	AC	690V	–	10/5	15/8	15/8	15/8	15/8
			500V	18/9	20/10	36/18	42/21	42/21	
			440V	30/15	36/18	50/25	70/35	70/35	
			415V	30/15	36/18	50/25	70/35	70/35	
			400V	30/15	36/18	50/25	70/35	70/35	
			380V	30/15	36/18	50/25	70/35	70/35	
			240V	50/25	85/43	100/50	125/63	125/63	
	GB14048.2 Icu/Ics(kA)	AC	250V	20/10	20/10	40/20	40/20	40/20	
			400V	30/15	36/18	50/25	70/35	70/35	
			230V	50/25	85/43	100/50	125/63	125/63	
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC	600V/Δ	–	–	–	25	25	
			600V/Y	–	–	–	25	25	
			480V/Δ	–	35	50	65 (With block terminal:50)	65 (With block terminal:50)	
			480V/Y	–	35	50	65 (With block terminal:50)	65 (With block terminal:50)	
240V			22	50	100	125	125		
DC	125/250V	10	10	10	10	10	10		

Conforming to standards	CE Marking	● (TÜV)	● (TÜV)	● (TÜV)	● (TÜV)
	CCC certificate	●	●	●	●
	UL Listed (NEMA AB1)	●	●	●	●
	Electrical Appliance and Material Safety Law «PS»E*	–	–	–	–

Dimensions (inch(mm))		a	5.512 (140)	5.512 (140)	5.512 (140)	5.512 (140)
		b	10.12 (257)	10.12 (257)	10.12 (257)	10.12 (257)
		c	4.055 (103)	4.055 (103)	4.055 (103)	4.055 (103)
		d	5.748 (146)	5.748 (146)	5.748 (146)	5.748 (146)

Mass (kg)	4.6	5.6	4.6	5.6	4.6	5.6	4.6	5.6
-----------	-----	-----	-----	-----	-----	-----	-----	-----

Tripping device	Thermal-magnetic							
-----------------	------------------	--	--	--	--	--	--	--

Connecting terminal	Page 36							
Flat	○	○	○	○	○	○	○	○
Block	○	○	○	○	○	○	○	○

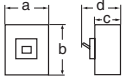
Internal accessories	Page 75							
Alarm switch	K	○	○	○	○	○	○	○
Auxiliary switch	W	○	○	○	○	○	○	○
Undervoltage trip	R	○	○	○	○	○	○	○
Shunt trip	F	○	○	○	○	○	○	○

External accessories	Page 76							
Handle padlocking device	Cap type	QN	○	○	○	○	○	○
Handle padlocking device	Plate type	Q2	○	○	○	○	○	○
Operating handle	N-type	N	○	○	○	○	○	○
Operating handle	V-type	V	○	○	○	○	○	○
Operating handle	F-type	F	○	○	○	○	○	○
Terminal cover	Short	BT□S	○	○	○	○	○	○
Terminal cover	Long	BT□L	○	○	○	○	○	○
Insulation barrier	Interphase	BP	○	○	○	○	○	○
Handle locking cover		L1	○	○	○	○	○	○

●: Approved ○: Available –: Not available

Note: * Electrical Appliance and Material Safety Law of Japan

■ G-TWIN Global Series

Ampere frame		630A		800A		
Type		BW630RAGU		BW800RAGU		
Pole		3		3		
Rated current	Reference amb. temp. (40°C)	In(A)		700, 800*2		
Rated impulse withstand voltage		Uimp(kV)		8		
Isolation compliant		●		●		
Rated insulation voltage Ui (V)	AC	690		690		
	DC	250		250		
Rated breaking capacity	IEC 60947-2 EN 60947-2 JIS C 8201-2-1 Icu/Ics (kA)	AC	690V	15/8	15/8	15/8
			500V	36/18	42/21	36/18
			440V	50/25	70/35	50/25
			415V	50/25	70/35	50/25
			400V	50/25	70/35	50/25
			380V	50/25	70/35	50/25
			240V	100/50	125/63	100/50
	230V	100/50	125/63	100/50		
	GB14048.2 Icu/Ics(kA)	AC	400V	50/25	70/35	50/25
			230V	100/50	125/63	100/50
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC	600V/Δ	–	25	–
			600V/Y	–	25	–
			480V/Δ	50	65 (With block terminal:50)	50
			480V/Y	–	65 (With block terminal:50)	50
			240V	100	125	100
DC			125/250V	10	10	10
Conforming to standards	CE Marking	● (TÜV)		● (TÜV)		
	CCC certificate	●		●		
	UL Listed (NEMA AB1)	●		●		
	Electrical Appliance and Material Safety Law <PS>E*3	–		–		
Dimensions (inch(mm))		a	8.268 (210)	8.268 (210)	8.268 (210)	
		b	10.83 (275)	10.83 (275)	10.83 (275)	
		c	4.055 (103)	4.055 (103)	4.055 (103)	
		d	5.748 (146)	5.748 (146)	5.748 (146)	
Mass (kg)		8.9	8.9	9.4	9.4	
Tripping device		Thermal-magnetic				
Connecting terminal	Page 36					
Flat		○	○	○	○	
Block		○	○	○	○	
Internal accessories	Page 75					
Alarm switch	K	○	○	○	○	
Auxiliary switch	W	○	○	○	○	
Undervoltage trip	R	○	○	○	○	
Shunt trip	F	○	○	○	○	
External accessories	Page 76					
Handle padlocking device Cap type	QN	○	○	○	○	
Handle padlocking device Plate type	Q2	○	○	○	○	
Operating handle N-type	N	○	○	○	○	
Operating handle V-type	V	○	○	○	○	
Terminal cover	BT□L	○	○	○	○	
Insulation barrier Interphase	BP	○	○	○	○	
Handle locking cover	L1	○	○	○	○	

●: Approved ○: Available –: Not available

Note: *1 Breakers for 630A cannot be manufactured with block terminals.

*2 Block terminals are standard for Breakers for 800A.

*3 Electrical Appliance and Material Safety Law of Japan



Molded Case Circuit Breakers

Quick reference guide

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.

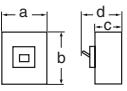
■ G-TWIN Standard Series / Motor protection

Ampere frame		32A					
Type		BW32AAM		BW32SAM			
Pole		3		2			
Rated current Reference amb. temp. (40°C)		In(A)	1.4, 2.6, 4, 8, 10, 16, 24, 32	(2), (4), 5, 8, 10, 16	0.7, 1.4, 2, 2.6, 4, 5, 8, 10, 12, 16, 24, 32		
Rated impulse withstand voltage		Uimp(kV)	6	6	6		
Isolation compliant		●					
Rated insulation voltage Ui (V)		AC	500	690	690		
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	–	–		
			500V	–	1.5/1		
			440V	1.5/1	2.5/2		
			415V	1.5/1	2.5/2		
			400V	1.5/1	2.5/2		
			380V	1.5/1	2.5/2		
			240V	2.5/2	5/3		
			230V	2.5/2	5/3		
			GB14048.2	AC	400V	1.5/1	2.5/2
					230V	2.5/2	5/3
Conforming to standards	CE Marking	●	●	●			
	CCC certificate	●	●	●			
	Electrical Appliance and Material Safety Law <PS>E ^{*1}	●	●	●			
Dimensions (mm)		a	75	50	75		
		b	100	100	100		
		c	60	60	60		
		d	84	84	84		
		Mass (kg)	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, front connection	E	○	○	○			
Flush mounting, top & bottom connection	Y	○	○	○			
Plug-in mounting	P	○	○	○			
IEC 35mm wide rail mounting		○	○	○			
Internal accessories		Page 73					
Alarm switch	K	○	○	○			
Auxiliary switch	W	○	○	○			
Undervoltage trip	R	○	○	○			
Shunt trip	F	○	○	○			
External accessories		Page 76					
Handle padlocking device	Cap type	QN	○	○			
Handle padlocking device	Plate type	Q2	▲	▲			
Operating handle	N-type	N	○	○			
Operating handle	V-type	V	○	○			
Terminal cover	Short	BTCS	○	○			
Terminal cover	Long	BTCL	○	○			
Insulation barrier	Interphase	BP	○	○			
Insulation barrier	Earth	BL	○	○			
Handle locking cover		L1	○	○			
Flat terminal		SS	○	○			
Block terminal		SL	–	–			

●: Approved ○: Available –: Not available ▲: Factory-mounted accessory

Note: *1 Electrical Appliance and Material Safety Law of Japan

■ G-TWIN Standard Series / Motor protection

Ampere frame		50A			
Type		BW50EAM		BW50SAM	BW50RAM
Pole		3		3	3
Rated current	Reference amb. temp. (40°C)	In(A)	24, 32, 40, 45	0.7, 1.4, 2, 2.6, 4, 5, 8, 10, 12, 16, 24, 32, 40, 45	10, 12, 16, 24, 32, 40, 45
Rated impulse withstand voltage		Uimp(kV)	6	6	6
Isolation compliant			●	●	●
Rated insulation voltage Ui (V)		AC	500	690	690
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	—	—
			500V	1.5/1	5/3
			440V	2.5/2	7.5/4
			415V	2.5/2	7.5/4
			400V	2.5/2	7.5/4
			380V	2.5/2	7.5/4
			240V	5/3	10/5
	GB14048.2	AC	400V	2.5/2	7.5/4
			230V	5/3	10/5
			230V	5/3	25/13
Conforming to standards	CE Marking		●	●	●
	CCC certificate		●	●	●
	Electrical Appliance and Material Safety Law <PS>E ^{*1}		●	●	●
Dimensions (mm)		a	75	75	75
		b	100	100	100
		c	60	60	60
		d	84	84	84
		Mass (kg)			0.5
Tripping device		Hydraulic-magnetic		Hydraulic-magnetic	Hydraulic-magnetic
Front mounting, front connection	No-mark	○	○	○	○
Front mounting, rear connection	X	○	○	○	○
Flush mounting, front connection	E	○	○	○	○
Flush mounting, top & bottom connection	Y	○	○	○	○
Plug-in mounting	P	○	○	○	○
IEC 35mm wide rail mounting		○	○	○	○
Internal accessories		Page 73			
Alarm switch	K	○	○	○	○
Auxiliary switch	W	○	○	○	○
Undervoltage trip	R	○	○	○	○
Shunt trip	F	○	○	○	○
External accessories		Page 76			
Handle padlocking device	Cap type	QN	○	○	○
Handle padlocking device	Plate type	Q2	▲	▲	▲
Operating handle	N-type	N	○	○	○
Operating handle	V-type	V	○	○	○
Terminal cover	Short	BT□S	○	○	○
Terminal cover	Long	BT□L	○	○	○
Insulation barrier	Interphase	BP	○	○	○
Insulation barrier	Earth	BL	○	○	○
Handle locking cover		L1	○	○	○
Flat terminal		SS	○	○	○
Block terminal		SL	—	—	—

●: Approved ○: Available —: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan



Molded Case Circuit Breakers

Quick reference guide

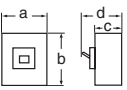
■ G-TWIN Standard Series / Motor protection

Ampere frame		63A		100A				
Type		BW63EAM		BW63SAM		BW100EAM		
Pole		3		3		3		
Rated current	Reference amb. temp. (40°C)	In(A)	63	63	63	75, 90		
Rated impulse withstand voltage		Uimp(kV)	6	6	6			
Isolation compliant			●	●	●			
Rated insulation voltage Ui (V)		AC	690	690	690			
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	–	–	–		
			500V	1.5/1	5/3	7.5/4		
			440V	2.5/2	7.5/4	10/5		
			415V	2.5/2	7.5/4	10/5		
			400V	2.5/2	7.5/4	10/5		
			380V	2.5/2	7.5/4	10/5		
			240V	5/3	10/5	25/13		
			230V	5/3	10/5	25/13		
			GB14048.2	AC	400V	2.5/2	7.5/4	10/5
					230V	5/3	10/5	25/13
Conforming to standards	CE Marking		●	●	●			
	CCC certificate		●	●	●			
	Electrical Appliance and Material Safety Law <PS>E ^{*1}		●	●	●			
Dimensions (mm)			a	75	75	75		
			b	100	100	100		
			c	60	60	60		
			d	84	84	84		
Mass (kg)			0.6	0.6	0.6			
Tripping device			Hydraulic-magnetic	Hydraulic-magnetic	Hydraulic-magnetic			
Front mounting, front connection		No-mark	○	○	○			
Front mounting, rear connection		X	○	○	○			
Flush mounting, front connection		E	○	○	○			
Flush mounting, top & bottom connection		Y	○	○	○			
Plug-in mounting		P	○	○	○			
IEC 35mm wide rail mounting			○	○	○			
Internal accessories		Page 73						
Alarm switch		K	○	○	○			
Auxiliary switch		W	○	○	○			
Undervoltage trip		R	○	○	○			
Shunt trip		F	○	○	○			
External accessories		Page 76						
Handle padlocking device	Cap type	QN	○	○	○			
Handle padlocking device	Plate type	Q2	▲	▲	▲			
Operating handle	N-type	N	○	○	○			
Operating handle	V-type	V	○	○	○			
Terminal cover	Short	BT□S	○	○	○			
Terminal cover	Long	BT□L	○	○	○			
Insulation barrier	Interphase	BP	○	○	○			
Insulation barrier	Earth	BL	○	○	○			
Handle locking cover		L1	○	○	○			
Flat terminal		SS	○	○	○			
Block terminal		SL	○	○	○			

●: Approved ○: Available –: Not available ▲: Factory-mounted accessory

Note: *1 Electrical Appliance and Material Safety Law of Japan

■ G-TWIN Standard Series / Motor protection

Ampere frame		125A		250A					
Type		BW125JAM	BW125RAM	BW250EAM	BW250JAM	BW250RAM			
Pole		3	3	3	3	3			
Rated current	Reference amb. temp. (40°C)	In(A)	16, 24, 32, 40, 45, 60, 75, 90		125, 150, 175, 225				
Rated impulse withstand voltage		Uimp(kV)	6	6	6	6			
Isolation compliant			●	●	●	●			
Rated insulation voltage	Ui (V)	AC	690	690	690	690			
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	690V	–	–	–	–		
			500V	8/4	10/5	5/3	8/4	10/5	
			440V	30/15	50/25	18/9	30/15	50/25	
			415V	30/15	50/25	18/9	30/15	50/25	
			400V	30/15	50/25	18/9	30/15	50/25	
			380V	30/15	50/25	18/9	30/15	50/25	
			240V	50/25	100/50	36/18	50/25	100/50	
			230V	50/25	100/50	36/18	50/25	100/50	
		GB14048.2	AC	400V	30/15	50/25	18/9	30/15	50/25
				230V	50/25	100/50	36/18	50/25	100/50
Conforming to standards	CE Marking		●	●	●	●			
	CCC certificate		●	●	●	●			
	Electrical Appliance and Material Safety Law <PS>E ^{*1}		●	●	–	–			
Dimensions (mm)		a	90	90	105	105	105		
		b	155	155	165	165	165		
		c	68	68	68	68	68		
		d	95	95	95	95	95		
		Mass (kg)		1.2	1.2	1.6	1.6	1.6	
Tripping device		Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic			
Front mounting, front connection	No-mark	○	○	○	○	○			
Front mounting, rear connection	X	○	○	○	○	○			
Flush mounting, front connection	E	○	○	○	○	○			
Flush mounting, top & bottom connection	Y	○	○	○	○	○			
Plug-in mounting	P	○	○	○	○	○			
IEC 35mm wide rail mounting		○	○	○	○	○			
Internal accessories	Page 74								
Alarm switch	K	○	○	○	○	○			
Auxiliary switch	W	○	○	○	○	○			
Undervoltage trip	R	○	○	○	○	○			
Shunt trip	F	○	○	○	○	○			
External accessories	Page 76								
Handle padlocking device Cap type	Q1	○	○	○	○	○			
Handle padlocking device Plate type	Q2	○	○	○	○	○			
Operating handle N-type	N	○	○	○	○	○			
Operating handle V-type	V	○	○	○	○	○			
Terminal cover Short	BT□S	○	○	○	○	○			
Terminal cover Long	BT□L	○	○	○	○	○			
Insulation barrier Interphase	BP	○	○	○	○	○			
Handle locking cover	L1	○	○	○	○	○			
Flat terminal	SS	○	○	○	○	○			
Block terminal	SL	○	○	○	○	○			

●: Approved ○: Available –: Not available ▲: Factory-mounted accessory
 Note: *¹ Electrical Appliance and Material Safety Law of Japan



■ Mounting modifications

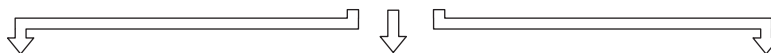
• Standard series

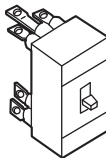
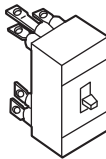
Standard type FUJI breakers are front mounting with front connections. The standard breaker can easily be modified to become front mounting rear connection type, flush mounting type and plug-in type. The additional parts such as insulation bases, barriers, covers and similar parts are added as required.

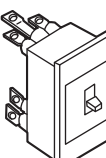
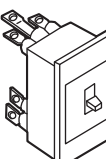
Front mounting
Front connection

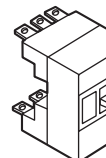
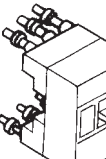
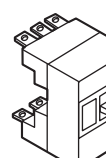


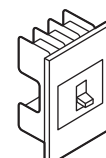
BASIC DESIGN



Additional main parts	Front mounting Rear connection (X type)
Bar stud terminal 	BW32 BW50 BW63 BW100
Bar stud terminal 	BW50HAG BW125 BW160 BW250 BW400 BW630 BW800 Each stud can be turned by 90°

Additional main parts	Flush mounting Rear connection (E type)
Bar stud terminal 	BW32 BW50 BW63 BW100
Bar stud terminal 	BW50HAG BW125 BW160 BW250 BW400 BW630 BW800 Each stud can be turned by 90°

Additional main parts	Plug-in mounting (P type)
Bar stud terminal 	BW32 BW50 BW63 BW100
Round stud terminal 	BW50HAG BW125
Bar stud terminal 	BW160 BW250 BW400 BW630 BW800 Each stud can be turned by 90°

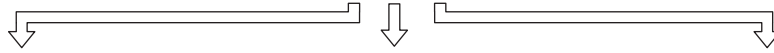
Additional main parts	Flush mounting Top and bottom connection (Y type)
Decorative flush plate 	BW32 BW50 BW63 BW100

- Global series

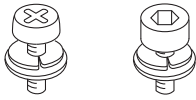
Front mounting
Front connection



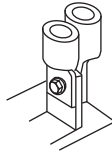
BASIC DESIGN



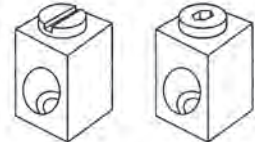
Screw



Flat terminal



Block terminal



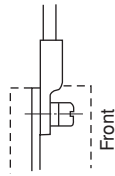
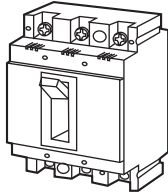


Molded Case Circuit Breakers

Terminal connection

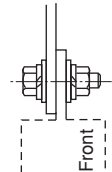
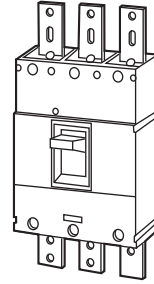
Terminal connection/Front mounting, front connection

• 32AF to 100AF

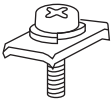


Flat terminal



• 400AF to 800AF



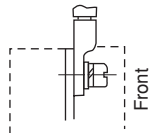
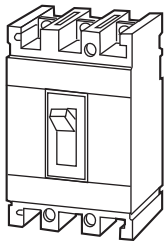
Flat terminal

Self lifting screw	Breaker type	Tightening torque (N·m)	Size
	BW32 BW50 BW100*	2.3 to 2.8	M5 × 14
Pan-head screw	BW63 BW100	5.5 to 7.5	M8 × 15


* Breaker of rated current : 50A

Hexagonal head bolt	Breaker type	Tightening torque (N·m)	Size (mm)
	BW400	40 to 50	M12 × 35
	BW630 BW800	40 to 50	M12 × 40

• 125AF to 250AF

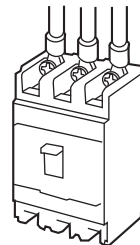
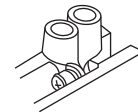


Front

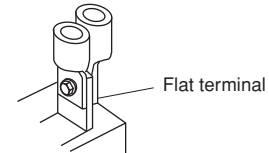
Pan-head screw	Breaker type	Tightening torque (N·m)	Size (mm)
	BW50HAG BW125	5.5 to 7.5	M8 × 16
Hexagonal socket head bolt	BW160 BW250	8.0 to 13.0	M8 × 16

Type of connection/up to 250AF Front mounting front connection

Direct connection



Flat terminal connection Flat terminals are required.



Flat terminal

Flat bar studs/1-hole type

Breaker type	Pole	Type of flat terminal
BW32 BW50	2 3	BZ6S10C502 BZ6S10C503
BW63 BW100*	2 3	BZ6S10C1002 BZ6S10C1003
BW50HAG BW125	2 3 4	BW9SS0CA-2 BW9SS0CA-3 BW9SS0CA-4
BW160 BW250	2 3 4	BZ-S50B-2252 BZ-S50B-2253 BW9SS0GA-4

* BW100 breaker of rated current 50A: BZ6S10C502 or 503.



Molded Case Circuit Breakers

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.

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
32	BW32	R2-5	R5.5-5	R8-5	R14-5							
50	BW50AAG,EAG,SAG	R2-5	R5.5-5	R8-5	R14-5							
	BW50HAG	R2-8	R5.5-8	R8-8	R14-8	R22-8	JST38-S8	CB60-8				
63	BW63	R2-8	R5.5-8	R8-8	R14-8	JST22-S8						
100	BW100	R2-8	R5.5-8	R8-8	R14-8	JST22-S8	JST38-S8					
125	BW125	R2-8	R5.5-8	R8-8	R14-8	R22-8	JST38-S8	CB60-8				
160	BW160					R22-8	R38-8	R60-8	CB100-8			
250	BW250											
400	BW400						R38-12	R60-12	R100-12	R150-12	R200-12	JST325-12
630	BW630								R100-12	R150-12	R200-12	JST325-12
800	BW800								R100-12	R150-12	R200-12	JST325-12

■ Breaker termination

• Standard

MCCB type	Front connection	Rear connection X	Flush mounting E	Y	Plug-in mounting P
BW32 BW50	 Self-lifting terminal				
BW63 BW100					
BW50HAG BW125	 Flat terminal				
BW160 BW250	 Flat terminal				
BW400 BW630 BW800	 Flat terminal	90° rotational stud	90° rotational stud		 90° rotational stud



Molded Case Circuit Breakers

Wire size and terminal

Notes on wiring (global series)

Notes on connecting wires (conductors)

- Connect wires to the UL breaker according to NEC (National Electric Code) or CEC (Canadian Electrical Code) Part 1.
- Use 75°C copper wires for wiring. UL-certified or CSA-certified wires are recommended.
- If a large current (for example, a short-circuit current) flows, it causes a huge electromagnetic force between wires. Therefore, be sure to secure the wires sufficiently.
- Re-tighten terminal screws periodically.

Code	Terminal position		Applicable breaker type		
	Line	Load	BW50	BW100, 125, 250	BW400, 630, 800
Blank	Screw	Screw	●	●	—
Blank	Flat terminal	Flat terminal	—	—	●
SB	Block terminal	Block terminal	—	●	●
SF	Flat terminal	Flat terminal	●	●	—
S3	Screw	Flat terminal	●	●	—
S4	Flat terminal	Screw	●	●	—
S5	Screw	Block terminal	—	●	—
S6	Block terminal	Screw	—	●	—
S7	Flat terminal	Block terminal	—	●	●
S8	Block terminal	Flat terminal	—	●	●

Block terminal connection

- Choose from the stranded wires shown in Table.

Wire size: AWG or MCM [mm ²]	No. of wires stranded
14 to 2 [2.1 to 33.6]	7
1 to 4/0 [42.4 to 107.2]	19
250 to 500 [127 to 250]	37

Values in [] are those converted from AWG or MCM sizes to mm².

- * See the instruction manual that comes with the breaker for more details.

Precautions

- Two wires of different sizes cannot be connected to the same block terminal.
- Be sure to use stranded wires according to Table "Number of wires stranded."
- Multi-conductor wires cannot be connected.
- Do not solder wires together.

Wire size and crimp terminal

• Crimp terminal connection

MCCB	Rated current (A)	Applicable crimp terminal 75°C wire			Connectable wire size (AWG)	Tightening torque (N•m)	Type of screw head and size (mm)
		J.S.T Mfg. Co., Ltd.	Nichifu Co., Ltd.	Daido Solderless Terminal Mfg. Co., Ltd.			
BW50RAGU	3	R2-5	R2-5M	2-S5, 2-5	14AWG	2.3-2.8	Cross/straight slotted pan-head screw M5 x 14
	5						
	10						
	15	R5.5-5	R3.5-5S, R3.5-5L, 5.5-6N, R5.5-5S, R5.5-5	3.5-5, 5.5-S5, 5.5-5, 5.5-L5	12AWG		
	20						
	30						
40	R8-5	R8-5S, R8-5	8-S5, 8-5	8AWG			
50							
BW100EAGU	60	R14-8	R14-8S, R14-8	R14-S8, R14-8	6AWG	5.5-7.5	Cross/straight slotted pan-head screw M8 x 15
	75	22-S8	R22-8S, R22-8	R22-S8, 22-8	4AWG		
	100	38-S8	R38-8S	38-S8	3AWG		
BW125JAGU	15	R2-8	R2-8	2-8, 2-B8	14AWG	5.8 (5.3-6.4)	Cross/straight slotted pan-head screw M8 x 16
BW125RAGU	20	5.5-S8, R5.5-8	R3.5-8, R5.5-8	3.5-8, 5.5-8	12AWG		
	30						
40	8-8NS, R8-8	R8-8	8-8	8AWG			
50							
60	14-8NS, 14-S8, R14-8	R14-8S, R14-8	14-S8, 14-8	6AWG			
70	22-S8, R22-8, CB22-S8	R22-8S, R22-8, CB22-8S	22-S8, 22-8, CB22-8	4AWG			
75	38-S8	R38-8S	38-S8	3AWG			
80							
90							
100	38-S8, R38-8	R38-8S, R38-8	38-S8, 38-8	1AWG			
125							
BW250EAGU	125	38-S8, R38-8	R38-8S, R38-8	38-S8, 38-8	1AWG	10.5 (8-13)	Hexagon socket head bolt M8 x 16
BW250JAGU	150	60-S8, R60-8	R60-8, CB60-8, CB60-8S	60-8, CB60-8	1/0AWG		
BW250RAGU	175	70-8	R70-8	70-8	2/0AWG		
	200	CB80-S8		CB80-8	3/0AWG		
	225	CB100-S8		CB100-8	4/0AWG		
	250	CB150-S8	CB150-8	CB150-8	250MCM		

Notes: • AWG/MCM is the UL approved wire unit.

- The allowable temperature of wire is 75°C. (UL CSA approved)
- Be sure to use UL-certified or CSA-certified crimp tools commercially available.

• Flat terminal connection

MCCB	Rated current (A)	Applicable crimp terminal 75°C wire			Connectable wire size (AWG) 75°C wire	Tightening torque (N•m)		Type of screw head and size (mm)
		J.S.T Mfg. Co., Ltd.	Nichifu Co., Ltd.	Daido Solderless Terminal Mfg. Co., Ltd.		Wire side	MCCB side	
BW50RAGU	3	R2-5	R2-5M R2-5	2-S5, 2-5	14AWG	3.5 to 4.5	2.3 to 2.8	Hexagon socket head bolt M5 x 16
	5							
	10							
	15	R5.5-5	R3.5-5S, R3.5-5L, 5.5-6N. R5.5-5S, R5.5-5	3.5-5, 5.5-S5 5.5-5, 5.5-L5	12AWG 10AWG			
	20							
	30	R8-5	R8-5S, R8-5	8-S5, 8-5	8AWG			
40								
50								
BW100EAGU	60	R14-8	R14-8S, R14-8	R14-S8, R14-8	6AWG	8 to 10	5.5 to 7.5	Hexagon socket head bolt M8 x 22
	75	22-S8	R22-8S, R22-8	R22-S8, 22-8	4AWG			
	100	38-S8	R38-8S	38-S8	3AWG			
BW125JAGU	15	R2-8	R2-8	2-8, 2-B8	14AWG	9 (8 to 10)	5.8 (5.3 to 6.4)	Cross/straight slotted pan-head screw M8 x 16
BW125RAGU	20	5.5-S8, R5.5-8	R3.5-8, R5.5-8	3.5-8, 5.5-8	12AWG			
	30		R5.5-8	5.5-8	10AWG			
40	8-8NS, R8-8	R8-8	8-8	8AWG				
50	14-8NS, 14-S8, R14-8	R14-8S, R14-8	14-S8, 14-8	6AWG				
60								
70					22-S8, R22-8, CB22-S8			
75	38-S8	R38-8S	38-S8	3AWG				
80								
90								
100	1AWG							
125								
BW250EAGU	125	38-S8, R38-8	R38-8S, R38-8	38-S8, 38-8	1AWG	9 (8 to 10)	10.5 (8 to 13)	Hexagon socket head bolt M8 x 16
BW250JAGU	150	60-S8, R60-8	R60-8, CB60-8, CB60-8S	60-8, CB60-8	1/0AWG			
BW250RAGU	175	70-8	R70-8	70-8	2/0AWG			
	200	CB80-S8		CB80-8	3/0AWG			
	225	CB100-S8		CB100-8	4/0AWG			
	250	CB150-S8	CB150-8	CB150-8	250MCM			
BW400EAGU	250	150-12	R150-12		250MCM	45 (40 to 50)	43.5 (39.2 to 48)	Hexagon head bolt M12 x 35
BW400SAGU	300	180-12	R180-12		350MCM			
BW400RAGU	350	325-12	R325-12N		500MCM			
BW400HAGU	400	325-12	R325-12N		500MCM			
		R80-12	R80-12		3/0AWG(x2)			
BW630RAGU	500	R150-12		R150-12	250MCM(x2)	47.04	47.04	Hexagon head bolt M12 x 40
BW630HAGU	600	180-12		R180-12	350MCM(x2)	(42.4 to 51.7)	(42.4 to 51.7)	
	630	325-12	R325-12N	R325-12 □	500MCM(x2)			
BW800RAGU	700	325-12		R325-12 □	500MCM(x2)	47.04	47.04	Hexagon head bolt M12 x 40
BW800HAGU						(42.4 to 51.7)	(42.4 to 51.7)	

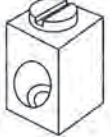
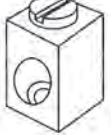
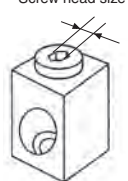
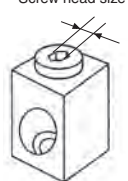
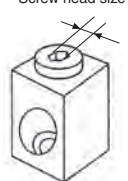
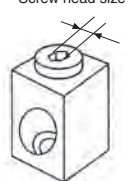
Notes: • AWG/MCM is the UL approved wire unit.
• The allowable temperature of wire is 75°C. (UL CSA approved)



Molded Case Circuit Breakers

Wire size and terminal

• Block terminal connection

MCCB	Rated current (A)	Connectable wire size (AWG)	Tightening torque (N•m)	Type of screw head and size (mm)	Figure
BW100EAGU	60	6AWG	5.8 (5.5 to 6.5)	Slotted set screw	
	70	4AWG			
	75				
	80				
	90	3AWG			
	100				
BW125JAGU BW125RAGU	15	14AWG	5.8 (5.8 to 6.4)	Slotted set screw	
	20	12AWG			
	30	10AWG			
	40	8AWG			
	50				
	60	6AWG			
	70	4AWG			
	75				
	80				
	90	3AWG			
	100				
	125	1AWG			
BW250EAGU BW250JAGU BW250RAGU	125	1AWG	23 (23 to 25.3)	Hexagon socket head setscrew: 8 mm (5/16 inch)	
	150	1/0AWG			
	175	2/0AWG			
	200	3/0AWG			
	225	4/0AWG			
	250	250MCM			
BW400EAGU BW400SAGU BW400RAGU BW400HAGU	250	250MCM	43.5 (43.5 to 48)	Hexagon socket head setscrew: 9.53 mm (3/8 inch)	
	300	350MCM			
	350	500MCM			
	400	3/0AWG(x2)			
BW630RAGU BW630HAGU	500	250MCM(x2)	31.1 (31.1 to 34.2)	Hexagon socket head setscrew: 8 mm (5/16 inch)	
	600	350MCM(x2)			
BW800RAGU BW800HAGU	700	500MCM(x2)	31.1 (31.1 to 34.2)	Hexagon socket head setscrew: 8 mm (5/16 inch)	
	800	300MCM(x3)			

Notes: • AWG/MCM is the UL approved wire unit.
 • The allowable temperature of wire is 75°C. (UL CSA approved)



Molded Case Circuit Breakers

Type number/Line protection

■ Type number, Standard series (Line protection)

• AAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
32	3	BW32AAG-2P003 <input type="checkbox"/>	Blank, X, E, Y, P
	5	BW32AAG-2P005 <input type="checkbox"/>	
	10	BW32AAG-2P010 <input type="checkbox"/>	
	15	BW32AAG-2P015 <input type="checkbox"/>	
	20	BW32AAG-2P020 <input type="checkbox"/>	
	30	BW32AAG-2P030 <input type="checkbox"/>	
50	32	BW32AAG-2P032 <input type="checkbox"/>	Blank, X, E, Y, P
	5	BW50AAG-2P005 <input type="checkbox"/>	
	10	BW50AAG-2P010 <input type="checkbox"/>	
	15	BW50AAG-2P015 <input type="checkbox"/>	
	20	BW50AAG-2P020 <input type="checkbox"/>	
	30	BW50AAG-2P030 <input type="checkbox"/>	
	32	BW50AAG-2P032 <input type="checkbox"/>	
40	BW50AAG-2P040 <input type="checkbox"/>		
50	BW50AAG-2P050 <input type="checkbox"/>		

Mounting	Connection	<input type="checkbox"/>
Front	Front	Blank
Front	Rear	X
Flush	Rear	E
Flush	Top and bottom	Y
Plug-in		P

• EAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection		
50	5	BW50EAG-2P005 <input type="checkbox"/>	Blank, X, E, Y, P		
	10	BW50EAG-2P010 <input type="checkbox"/>			
	15	BW50EAG-2P015 <input type="checkbox"/>			
	20	BW50EAG-2P020 <input type="checkbox"/>			
	30	BW50EAG-2P030 <input type="checkbox"/>			
	32	BW50EAG-2P032 <input type="checkbox"/>			
	40	BW50EAG-2P040 <input type="checkbox"/>			
	50	BW50EAG-2P050 <input type="checkbox"/>			
	63	60		BW63EAG-2P060 <input type="checkbox"/>	Blank, X, E, Y, P
		63		BW63EAG-2P063 <input type="checkbox"/>	
100	50	BW100EAG-2P050 <input type="checkbox"/>	Blank, X, E, Y, P		
	60	BW100EAG-2P060 <input type="checkbox"/>			
	63	BW100EAG-2P063 <input type="checkbox"/>			
	75	BW100EAG-2P075 <input type="checkbox"/>			
160	100	BW100EAG-2P100 <input type="checkbox"/>	Blank, X, E, P		
	125	BW160EAG-2P125 <input type="checkbox"/>			
	150	BW160EAG-2P150 <input type="checkbox"/>			
250	160	BW160EAG-2P160 <input type="checkbox"/>	Blank, X, E, P		
	175	BW250EAG-2P175 <input type="checkbox"/>			
	200	BW250EAG-2P200 <input type="checkbox"/>			
	225	BW250EAG-2P225 <input type="checkbox"/>			
400	250	BW250EAG-2P250 <input type="checkbox"/>	Blank, X, E, P		
	300	BW400EAG-2P300 <input type="checkbox"/>			
	350	BW400EAG-2P350 <input type="checkbox"/>			
	400	BW400EAG-2P400 <input type="checkbox"/>			

• JAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
125	15	BW125JAG-2P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW125JAG-2P020 <input type="checkbox"/>	
	30	BW125JAG-2P030 <input type="checkbox"/>	
	40	BW125JAG-2P040 <input type="checkbox"/>	
	50	BW125JAG-2P050 <input type="checkbox"/>	
	60	BW125JAG-2P060 <input type="checkbox"/>	
	75	BW125JAG-2P075 <input type="checkbox"/>	
	100	BW125JAG-2P100 <input type="checkbox"/>	
	125	BW125JAG-2P125 <input type="checkbox"/>	
	160	125	
150		BW160JAG-2P150 <input type="checkbox"/>	
160		BW160JAG-2P160 <input type="checkbox"/>	
250	175	BW250JAG-2P175 <input type="checkbox"/>	Blank, X, E, P
	200	BW250JAG-2P200 <input type="checkbox"/>	
	225	BW250JAG-2P225 <input type="checkbox"/>	
	250	BW250JAG-2P250 <input type="checkbox"/>	



Molded Case Circuit Breakers

Type number/Line protection

• SAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
32	3	BW32SAG-2P003 <input type="checkbox"/>	Blank, X, E, Y, P
	5	BW32SAG-2P005 <input type="checkbox"/>	
	10	BW32SAG-2P010 <input type="checkbox"/>	
	15	BW32SAG-2P015 <input type="checkbox"/>	
	20	BW32SAG-2P020 <input type="checkbox"/>	
	30	BW32SAG-2P030 <input type="checkbox"/>	
50	5	BW50SAG-2P005 <input type="checkbox"/>	Blank, X, E, Y, P
	10	BW50SAG-2P010 <input type="checkbox"/>	
	15	BW50SAG-2P015 <input type="checkbox"/>	
	20	BW50SAG-2P020 <input type="checkbox"/>	
	30	BW50SAG-2P030 <input type="checkbox"/>	
	32	BW50SAG-2P032 <input type="checkbox"/>	
63	60	BW63SAG-2P060 <input type="checkbox"/>	Blank, X, E, Y, P
	63	BW63SAG-2P063 <input type="checkbox"/>	
125	15	BW125SAG-2P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW125SAG-2P020 <input type="checkbox"/>	
	30	BW125SAG-2P030 <input type="checkbox"/>	
	40	BW125SAG-2P040 <input type="checkbox"/>	
	50	BW125SAG-2P050 <input type="checkbox"/>	
	60	BW125SAG-2P060 <input type="checkbox"/>	
	75	BW125SAG-2P075 <input type="checkbox"/>	
	100	BW125SAG-2P100 <input type="checkbox"/>	
160	125	BW160SAG-2P125 <input type="checkbox"/>	Blank, X, E, P
	150	BW160SAG-2P150 <input type="checkbox"/>	
	160	BW160SAG-2P160 <input type="checkbox"/>	
250	175	BW250SAG-2P175 <input type="checkbox"/>	Blank, X, E, P
	200	BW250SAG-2P200 <input type="checkbox"/>	
	225	BW250SAG-2P225 <input type="checkbox"/>	
	250	BW250SAG-2P250 <input type="checkbox"/>	
400	250	BW400SAG-2P250 <input type="checkbox"/>	Blank, X, E, P
	300	BW400SAG-2P300 <input type="checkbox"/>	
	350	BW400SAG-2P350 <input type="checkbox"/>	
	400	BW400SAG-2P400 <input type="checkbox"/>	

• HAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
400	250	BW400HAG-2P250 <input type="checkbox"/>	Blank, X, E, P
	300	BW400HAG-2P300 <input type="checkbox"/>	
	350	BW400HAG-2P350 <input type="checkbox"/>	
	400	BW400HAG-2P400 <input type="checkbox"/>	

* See page 39.

• RAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
50	10	BW50RAG-2P010 <input type="checkbox"/>	Blank, X, E, Y, P
	15	BW50RAG-2P015 <input type="checkbox"/>	
	20	BW50RAG-2P020 <input type="checkbox"/>	
	30	BW50RAG-2P030 <input type="checkbox"/>	
	32	BW50RAG-2P032 <input type="checkbox"/>	
	40	BW50RAG-2P040 <input type="checkbox"/>	
	40	BW50RAG-2P050 <input type="checkbox"/>	
	50	BW50RAG-2P050 <input type="checkbox"/>	
63	60	BW63RAG-2P060 <input type="checkbox"/>	Blank, X, E, Y, P
	63	BW63RAG-2P063 <input type="checkbox"/>	
125	15	BW125RAG-2P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW125RAG-2P020 <input type="checkbox"/>	
	30	BW125RAG-2P030 <input type="checkbox"/>	
	40	BW125RAG-2P040 <input type="checkbox"/>	
	50	BW125RAG-2P050 <input type="checkbox"/>	
	60	BW125RAG-2P060 <input type="checkbox"/>	
	75	BW125RAG-2P075 <input type="checkbox"/>	
	100	BW125RAG-2P100 <input type="checkbox"/>	
160	125	BW160RAG-2P125 <input type="checkbox"/>	Blank, X, E, P
	150	BW160RAG-2P150 <input type="checkbox"/>	
	160	BW160RAG-2P160 <input type="checkbox"/>	
250	175	BW250RAG-2P175 <input type="checkbox"/>	Blank, X, E, P
	200	BW250RAG-2P200 <input type="checkbox"/>	
	225	BW250RAG-2P225 <input type="checkbox"/>	
	250	BW250RAG-2P250 <input type="checkbox"/>	
	250	BW250RAG-2P250 <input type="checkbox"/>	
400	250	BW400RAG-2P250 <input type="checkbox"/>	Blank, X, E, P
	300	BW400RAG-2P300 <input type="checkbox"/>	
	350	BW400RAG-2P350 <input type="checkbox"/>	
	350	BW400RAG-2P350 <input type="checkbox"/>	
	400	BW400RAG-2P400 <input type="checkbox"/>	

• HAG series, 2-pole IEC/EN/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
50	15	BW50HAG-2P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW50HAG-2P020 <input type="checkbox"/>	
	30	BW50HAG-2P030 <input type="checkbox"/>	
	40	BW50HAG-2P040 <input type="checkbox"/>	
	50	BW50HAG-2P050 <input type="checkbox"/>	
125	15	BW125HAG-2P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW125HAG-2P020 <input type="checkbox"/>	
	30	BW125HAG-2P030 <input type="checkbox"/>	
	40	BW125HAG-2P040 <input type="checkbox"/>	
	50	BW125HAG-2P050 <input type="checkbox"/>	
	60	BW125HAG-2P060 <input type="checkbox"/>	
	75	BW125HAG-2P075 <input type="checkbox"/>	
	100	BW125HAG-2P100 <input type="checkbox"/>	
250	125	BW250HAG-2P125 <input type="checkbox"/>	Blank, X, E, P
	150	BW250HAG-2P150 <input type="checkbox"/>	
	160	BW250HAG-2P160 <input type="checkbox"/>	
	175	BW250HAG-2P175 <input type="checkbox"/>	
	200	BW250HAG-2P200 <input type="checkbox"/>	
	225	BW250HAG-2P225 <input type="checkbox"/>	
	250	BW250HAG-2P250 <input type="checkbox"/>	

• AAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
32	3	BW32AAG-3P003 <input type="checkbox"/>	Blank, X, E, Y, P
	5	BW32AAG-3P005 <input type="checkbox"/>	
	10	BW32AAG-3P010 <input type="checkbox"/>	
	15	BW32AAG-3P015 <input type="checkbox"/>	
	20	BW32AAG-3P020 <input type="checkbox"/>	
	30	BW32AAG-3P030 <input type="checkbox"/>	
	32	BW32AAG-3P032 <input type="checkbox"/>	
50	5	BW50AAG-3P005 <input type="checkbox"/>	Blank, X, E, Y, P
	10	BW50AAG-3P010 <input type="checkbox"/>	
	15	BW50AAG-3P015 <input type="checkbox"/>	
	20	BW50AAG-3P020 <input type="checkbox"/>	
	30	BW50AAG-3P030 <input type="checkbox"/>	
	32	BW50AAG-3P032 <input type="checkbox"/>	
	40	BW50AAG-3P040 <input type="checkbox"/>	
100	60	BW100AAG-3P060 <input type="checkbox"/>	Blank, X, E, Y, P
	63	BW100AAG-3P063 <input type="checkbox"/>	
	75	BW100AAG-3P075 <input type="checkbox"/>	
	100	BW100AAG-3P100 <input type="checkbox"/>	

• EAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*		
50	5	BW50EAG-3P005 <input type="checkbox"/>	Blank, X, E, Y, P		
	10	BW50EAG-3P010 <input type="checkbox"/>			
	15	BW50EAG-3P015 <input type="checkbox"/>			
	20	BW50EAG-3P020 <input type="checkbox"/>			
	30	BW50EAG-3P030 <input type="checkbox"/>			
	32	BW50EAG-3P032 <input type="checkbox"/>			
	40	BW50EAG-3P040 <input type="checkbox"/>			
	50	BW50EAG-3P050 <input type="checkbox"/>			
	63	60		BW63EAG-3P060 <input type="checkbox"/>	Blank, X, E, Y, P
		63		BW63EAG-3P063 <input type="checkbox"/>	
100	50	BW100EAG-3P050 <input type="checkbox"/>	Blank, X, E, Y, P		
	60	BW100EAG-3P060 <input type="checkbox"/>			
	63	BW100EAG-3P063 <input type="checkbox"/>			
	75	BW100EAG-3P075 <input type="checkbox"/>			
160	125	BW160EAG-3P125 <input type="checkbox"/>	Blank, X, E, P		
	150	BW160EAG-3P150 <input type="checkbox"/>			
	160	BW160EAG-3P160 <input type="checkbox"/>			
250	175	BW250EAG-3P175 <input type="checkbox"/>	Blank, X, E, P		
	200	BW250EAG-3P200 <input type="checkbox"/>			
	225	BW250EAG-3P225 <input type="checkbox"/>			
	250	BW250EAG-3P250 <input type="checkbox"/>			
400	250	BW400EAG-3P250 <input type="checkbox"/>	Blank, X, E, P		
	300	BW400EAG-3P300 <input type="checkbox"/>			
	350	BW400EAG-3P350 <input type="checkbox"/>			
	400	BW400EAG-3P400 <input type="checkbox"/>			
630	500	BW630EAG-3P500 <input type="checkbox"/>	Blank, X, E, P		
	600	BW630EAG-3P600 <input type="checkbox"/>			
	630	BW630EAG-3P630 <input type="checkbox"/>			
800	700	BW800EAG-3P700 <input type="checkbox"/>	Blank, X, E, P		
	800	BW800EAG-3P800 <input type="checkbox"/>			

• JAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
125	15	BW125JAG-3P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW125JAG-3P020 <input type="checkbox"/>	
	30	BW125JAG-3P030 <input type="checkbox"/>	
	40	BW125JAG-3P040 <input type="checkbox"/>	
	50	BW125JAG-3P050 <input type="checkbox"/>	
	60	BW125JAG-3P060 <input type="checkbox"/>	
	75	BW125JAG-3P075 <input type="checkbox"/>	
	100	BW125JAG-3P100 <input type="checkbox"/>	
	125	BW125JAG-3P125 <input type="checkbox"/>	
	160	125	
150		BW160JAG-3P150 <input type="checkbox"/>	
160		BW160JAG-3P160 <input type="checkbox"/>	
250	175	BW250JAG-3P175 <input type="checkbox"/>	Blank, X, E, P
	200	BW250JAG-3P200 <input type="checkbox"/>	
	225	BW250JAG-3P225 <input type="checkbox"/>	
	250	BW250JAG-3P250 <input type="checkbox"/>	

* See page 39.



• SAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
32	3	BW32SAG-3P003 <input type="checkbox"/>	Blank, X, E, Y, P
	5	BW32SAG-3P005 <input type="checkbox"/>	
	10	BW32SAG-3P010 <input type="checkbox"/>	
	15	BW32SAG-3P015 <input type="checkbox"/>	
	20	BW32SAG-3P020 <input type="checkbox"/>	
	30	BW32SAG-3P030 <input type="checkbox"/>	
	32	BW32SAG-3P032 <input type="checkbox"/>	
50	5	BW50SAG-3P005 <input type="checkbox"/>	Blank, X, E, Y, P
	10	BW50SAG-3P010 <input type="checkbox"/>	
	15	BW50SAG-3P015 <input type="checkbox"/>	
	20	BW50SAG-3P020 <input type="checkbox"/>	
	30	BW50SAG-3P030 <input type="checkbox"/>	
	32	BW50SAG-3P032 <input type="checkbox"/>	
	40	BW50SAG-3P040 <input type="checkbox"/>	
63	60	BW63SAG-3P060 <input type="checkbox"/>	Blank, X, E, Y, P
	63	BW63SAG-3P063 <input type="checkbox"/>	
125	15	BW125SAG-3P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW125SAG-3P020 <input type="checkbox"/>	
	30	BW125SAG-3P030 <input type="checkbox"/>	
	40	BW125SAG-3P040 <input type="checkbox"/>	
	50	BW125SAG-3P050 <input type="checkbox"/>	
	60	BW125SAG-3P060 <input type="checkbox"/>	
	75	BW125SAG-3P075 <input type="checkbox"/>	
	100	BW125SAG-3P100 <input type="checkbox"/>	
	125	BW125SAG-3P125 <input type="checkbox"/>	
160	125	BW160SAG-3P125 <input type="checkbox"/>	Blank, X, E, P
	150	BW160SAG-3P150 <input type="checkbox"/>	
	160	BW160SAG-3P160 <input type="checkbox"/>	
250	175	BW250SAG-3P175 <input type="checkbox"/>	Blank, X, E, P
	200	BW250SAG-3P200 <input type="checkbox"/>	
	225	BW250SAG-3P225 <input type="checkbox"/>	
	250	BW250SAG-3P250 <input type="checkbox"/>	
400	250	BW400SAG-3P250 <input type="checkbox"/>	Blank, X, E, P
	300	BW400SAG-3P300 <input type="checkbox"/>	
	350	BW400SAG-3P350 <input type="checkbox"/>	
	400	BW400SAG-3P400 <input type="checkbox"/>	

• RAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
50	10	BW50RAG-3P010 <input type="checkbox"/>	Blank, X, E, Y, P
	15	BW50RAG-3P015 <input type="checkbox"/>	
	20	BW50RAG-3P020 <input type="checkbox"/>	
	30	BW50RAG-3P030 <input type="checkbox"/>	
	32	BW50RAG-3P032 <input type="checkbox"/>	
	40	BW50RAG-3P040 <input type="checkbox"/>	
	40	BW50RAG-3P040 <input type="checkbox"/>	
	50	BW50RAG-3P050 <input type="checkbox"/>	
63	60	BW63RAG-3P060 <input type="checkbox"/>	Blank, X, E, Y, P
	63	BW63RAG-3P063 <input type="checkbox"/>	
125	15	BW125RAG-3P015 <input type="checkbox"/>	Blank, X, E, P
	20	BW125RAG-3P020 <input type="checkbox"/>	
	30	BW125RAG-3P030 <input type="checkbox"/>	
	40	BW125RAG-3P040 <input type="checkbox"/>	
	50	BW125RAG-3P050 <input type="checkbox"/>	
	60	BW125RAG-3P060 <input type="checkbox"/>	
	75	BW125RAG-3P075 <input type="checkbox"/>	
	100	BW125RAG-3P100 <input type="checkbox"/>	
160	125	BW160RAG-3P125 <input type="checkbox"/>	Blank, X, E, P
	150	BW160RAG-3P150 <input type="checkbox"/>	
	160	BW160RAG-3P160 <input type="checkbox"/>	
250	175	BW250RAG-3P175 <input type="checkbox"/>	Blank, X, E, P
	200	BW250RAG-3P200 <input type="checkbox"/>	
	225	BW250RAG-3P225 <input type="checkbox"/>	
	250	BW250RAG-3P250 <input type="checkbox"/>	
	250	BW250RAG-3P250 <input type="checkbox"/>	
400	250	BW400RAG-3P250 <input type="checkbox"/>	Blank, X, E, P
	300	BW400RAG-3P300 <input type="checkbox"/>	
	350	BW400RAG-3P350 <input type="checkbox"/>	
	400	BW400RAG-3P400 <input type="checkbox"/>	
630	500	BW630RAG-3P500 <input type="checkbox"/>	Blank, X, E, P
	600	BW630RAG-3P600 <input type="checkbox"/>	
	630	BW630RAG-3P630 <input type="checkbox"/>	
800	700	BW800RAG-3P700 <input type="checkbox"/>	Blank, X, E, P
	800	BW800RAG-3P800 <input type="checkbox"/>	

• HAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
400	250	BW400HAG-3P250 <input type="checkbox"/>	Blank, X, E, P
	300	BW400HAG-3P300 <input type="checkbox"/>	
	350	BW400HAG-3P350 <input type="checkbox"/>	
	400	BW400HAG-3P400 <input type="checkbox"/>	
630	500	BW630HAG-3P500 <input type="checkbox"/>	Blank, X, E, P
	600	BW630HAG-3P600 <input type="checkbox"/>	
	630	BW630HAG-3P630 <input type="checkbox"/>	
800	700	BW800HAG-3P700 <input type="checkbox"/>	Blank, X, E, P
	800	BW800HAG-3P800 <input type="checkbox"/>	

* See page 39.

• **JAG series, 4-pole IEC/EN/GB/JIS conformed**

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
125	15	BW125JAG-4P015 <input type="checkbox"/>	Blank, X, E
	20	BW125JAG-4P020 <input type="checkbox"/>	
	30	BW125JAG-4P030 <input type="checkbox"/>	
	40	BW125JAG-4P040 <input type="checkbox"/>	
	50	BW125JAG-4P050 <input type="checkbox"/>	
	60	BW125JAG-4P060 <input type="checkbox"/>	
	75	BW125JAG-4P075 <input type="checkbox"/>	
	100	BW125JAG-4P100 <input type="checkbox"/>	
160	125	BW160JAG-4P125 <input type="checkbox"/>	Blank, X, E
	150	BW160JAG-4P150 <input type="checkbox"/>	
	160	BW160JAG-4P160 <input type="checkbox"/>	
250	175	BW250JAG-4P175 <input type="checkbox"/>	Blank, X, E
	200	BW250JAG-4P200 <input type="checkbox"/>	
	225	BW250JAG-4P225 <input type="checkbox"/>	
	250	BW250JAG-4P250 <input type="checkbox"/>	

• **SAG series, 4-pole IEC/EN/GB/JIS conformed**

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
125	15	BW125SAG-3P015 <input type="checkbox"/>	Blank, X, E
	20	BW125SAG-3P020 <input type="checkbox"/>	
	30	BW125SAG-3P030 <input type="checkbox"/>	
	40	BW125SAG-3P040 <input type="checkbox"/>	
	50	BW125SAG-3P050 <input type="checkbox"/>	
	60	BW125SAG-3P060 <input type="checkbox"/>	
	75	BW125SAG-3P075 <input type="checkbox"/>	
	100	BW125SAG-3P100 <input type="checkbox"/>	
	125	BW125SAG-3P125 <input type="checkbox"/>	
160	125	BW160SAG-3P125 <input type="checkbox"/>	Blank, X, E
	150	BW160SAG-3P150 <input type="checkbox"/>	
	160	BW160SAG-3P160 <input type="checkbox"/>	
250	175	BW250SAG-3P175 <input type="checkbox"/>	Blank, X, E
	200	BW250SAG-3P200 <input type="checkbox"/>	
	225	BW250SAG-3P225 <input type="checkbox"/>	
	250	BW250SAG-3P250 <input type="checkbox"/>	

• **RAG series, 4-pole IEC/EN/GB/JIS conformed**

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
125	15	BW125RAG-4P015 <input type="checkbox"/>	Blank, X, E
	20	BW125RAG-4P020 <input type="checkbox"/>	
	30	BW125RAG-4P030 <input type="checkbox"/>	
	40	BW125RAG-4P040 <input type="checkbox"/>	
	50	BW125RAG-4P050 <input type="checkbox"/>	
	60	BW125RAG-4P060 <input type="checkbox"/>	
	75	BW125RAG-4P075 <input type="checkbox"/>	
	100	BW125RAG-4P100 <input type="checkbox"/>	
160	125	BW160RAG-4P125 <input type="checkbox"/>	Blank, X, E
	150	BW160RAG-4P150 <input type="checkbox"/>	
	160	BW160RAG-4P160 <input type="checkbox"/>	
250	175	BW250RAG-4P175 <input type="checkbox"/>	Blank, X, E
	200	BW250RAG-4P200 <input type="checkbox"/>	
	225	BW250RAG-4P225 <input type="checkbox"/>	
	250	BW250RAG-4P250 <input type="checkbox"/>	
400	250	BW400RAG-4P250 <input type="checkbox"/>	Blank, X, E
	300	BW400RAG-4P300 <input type="checkbox"/>	
	350	BW400RAG-4P350 <input type="checkbox"/>	
	400	BW400RAG-4P400 <input type="checkbox"/>	
630	500	BW630RAG-4P500 <input type="checkbox"/>	Blank, X, E
	600	BW630RAG-4P600 <input type="checkbox"/>	
	630	BW630RAG-4P630 <input type="checkbox"/>	
800	700	BW800RAG-4P700 <input type="checkbox"/>	Blank, X, E
	800	BW800RAG-4P800 <input type="checkbox"/>	

• **HAG series, 4-pole IEC/EN/GB/JIS conformed**

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
400	250	BW400HAG-4P250 <input type="checkbox"/>	Blank, X, E
	300	BW400HAG-4P300 <input type="checkbox"/>	
	350	BW400HAG-4P350 <input type="checkbox"/>	
	400	BW400HAG-4P400 <input type="checkbox"/>	
630	500	BW630HAG-4P500 <input type="checkbox"/>	Blank, X, E
	600	BW630HAG-4P600 <input type="checkbox"/>	
	630	BW630HAG-4P630 <input type="checkbox"/>	
800	700	BW800HAG-4P700 <input type="checkbox"/>	Blank, X, E
	800	BW800HAG-4P800 <input type="checkbox"/>	

* See page 39.



Molded Case Circuit Breakers

Type number/Line protection

■ Type number, Global series (Line protection)

• EAGU series, 2-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
100	60	BW100EAGU-2P060	Blank, SB, SF, S3 S4, S5, S6, S7, S8
	63	BW100EAGU-2P063	
	70	BW100EAGU-2P070	
	75	BW100EAGU-2P075	
	80	BW100EAGU-2P080	
	90	BW100EAGU-2P090	
	100	BW100EAGU-2P100	
250	125	BW250EAGU-2P125	Blank, SB, SF, S3 S4, S5, S6, S7, S8
	150	BW250EAGU-2P150	
	160	BW250EAGU-2P160	
	175	BW250EAGU-2P175	
	200	BW250EAGU-2P200	
	225	BW250EAGU-2P225	
	250	BW250EAGU-2P250	
400	250	BW400EAGU-2P250	Blank, SB, S7, S8
	300	BW400EAGU-2P300	
	350	BW400EAGU-2P350	
	400	BW400EAGU-2P400	

• JAGU series, 2-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
125	15	BW125JAGU-2P015	Blank, SB, SF, S3 S4, S5, S6, S7, S8
	20	BW125JAGU-2P020	
	30	BW125JAGU-2P030	
	40	BW125JAGU-2P040	
	50	BW125JAGU-2P050	
	60	BW125JAGU-2P060	
	70	BW125JAGU-2P070	
	75	BW125JAGU-2P075	
	80	BW125JAGU-2P080	
	90	BW125JAGU-2P090	
	100	BW125JAGU-2P100	
	125	BW125JAGU-2P125	
	250	125	
150		BW250JAGU-2P150	
160		BW250JAGU-2P160	
175		BW250JAGU-2P175	
200		BW250JAGU-2P200	
225		BW250JAGU-2P225	
250		BW250JAGU-2P250	

Terminal combination

Code	Terminal position		Breaker type		
	Line	Load	BW50	BW100,125,250	BW400,630,800
Blank	Screw	Screw	●	●	—
Blank	Flat terminal	Flat terminal	—	—	●
SB	Block terminal	Block terminal	—	●	●
SF	Flat terminal	Flat terminal	●	●	—
S3	Screw	Flat terminal	●	●	—
S4	Flat terminal	Screw	●	●	—
S5	Screw	Block terminal	—	●	—
S6	Block terminal	Screw	—	●	—
S7	Flat terminal	Block terminal	—	●	●
S8	Block terminal	Flat terminal	—	●	●

• SAGU series, 2-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
400	250	BW400SAGU-2P250	Blank, SB, S7, S8
	300	BW400SAGU-2P300	
	350	BW400SAGU-2P350	
	400	BW400SAGU-2P400	

• RAGU series, 2-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection		
50	3	BW50RAGU-2P003	Blank, SF, S3, S4		
	5	BW50RAGU-2P005			
	10	BW50RAGU-2P010			
	15	BW50RAGU-2P015			
	20	BW50RAGU-2P020			
	30	BW50RAGU-2P030			
	32	BW50RAGU-2P032			
	40	BW50RAGU-2P040			
	50	BW50RAGU-2P050			
	125	15		BW125RAGU-2P015	Blank, SB, SF, S3 S4, S5, S6, S7, S8
		20		BW125RAGU-2P020	
30		BW125RAGU-2P030			
40		BW125RAGU-2P040			
50		BW125RAGU-2P050			
60		BW125RAGU-2P060			
70		BW125RAGU-2P070			
75		BW125RAGU-2P075			
80		BW125RAGU-2P080			
90		BW125RAGU-2P090			
100		BW125RAGU-2P100			
125		BW125RAGU-2P125			
250		125	BW250RAGU-2P125	Blank, SB, SF, S3 S4, S5, S6, S7, S8	
	150	BW250RAGU-2P150			
	160	BW250RAGU-2P160			
	175	BW250RAGU-2P175			
	200	BW250RAGU-2P200			
	225	BW250RAGU-2P225			
	250	BW250RAGU-2P250			
400	250	BW400RAGU-2P250	Blank, SB, S7, S8		
	300	BW400RAGU-2P300			
	350	BW400RAGU-2P350			
	400	BW400RAGU-2P400			

• HAGU series, 2-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
400	250	BW400HAGU-2P250	Blank, SB, S7, S8
	300	BW400HAGU-2P300	
	350	BW400HAGU-2P350	
	400	BW400HAGU-2P400	

• EAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
100	60	BW100EAGU-3P060 <input type="checkbox"/>	Blank, SB, SF, S3 S4, S5, S6, S7, S8
	63	BW100EAGU-3P063 <input type="checkbox"/>	
	70	BW100EAGU-3P070 <input type="checkbox"/>	
	75	BW100EAGU-3P075 <input type="checkbox"/>	
	80	BW100EAGU-3P080 <input type="checkbox"/>	
	90	BW100EAGU-3P090 <input type="checkbox"/>	
	100	BW100EAGU-3P100 <input type="checkbox"/>	
250	125	BW250EAGU-3P125 <input type="checkbox"/>	Blank, SB, SF, S3 S4, S5, S6, S7, S8
	150	BW250EAGU-3P150 <input type="checkbox"/>	
	160	BW250EAGU-3P160 <input type="checkbox"/>	
	175	BW250EAGU-3P175 <input type="checkbox"/>	
	200	BW250EAGU-3P200 <input type="checkbox"/>	
	225	BW250EAGU-3P225 <input type="checkbox"/>	
	250	BW250EAGU-3P250 <input type="checkbox"/>	
400	250	BW400EAGU-3P250 <input type="checkbox"/>	Blank, SB, S7, S8
	300	BW400EAGU-3P300 <input type="checkbox"/>	
	350	BW400EAGU-3P350 <input type="checkbox"/>	
	400	BW400EAGU-3P400 <input type="checkbox"/>	

• JAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*		
125	15	BW125JAGU-3P015 <input type="checkbox"/>	Blank, SB, SF, S3 S4, S5, S6, S7, S8		
	20	BW125JAGU-3P020 <input type="checkbox"/>			
	30	BW125JAGU-3P030 <input type="checkbox"/>			
	40	BW125JAGU-3P040 <input type="checkbox"/>			
	50	BW125JAGU-3P050 <input type="checkbox"/>			
	60	BW125JAGU-3P060 <input type="checkbox"/>			
	70	BW125JAGU-3P070 <input type="checkbox"/>			
	75	BW125JAGU-3P075 <input type="checkbox"/>			
	80	BW125JAGU-3P080 <input type="checkbox"/>			
	90	BW125JAGU-3P090 <input type="checkbox"/>			
	100	BW125JAGU-3P100 <input type="checkbox"/>			
	125	BW125JAGU-3P125 <input type="checkbox"/>			
	250	125		BW250JAGU-3P125 <input type="checkbox"/>	Blank, SB, SF, S3 S4, S5, S6, S7, S8
		150		BW250JAGU-3P150 <input type="checkbox"/>	
160		BW250JAGU-3P160 <input type="checkbox"/>			
175		BW250JAGU-3P175 <input type="checkbox"/>			
200		BW250JAGU-3P200 <input type="checkbox"/>			
225		BW250JAGU-3P225 <input type="checkbox"/>			
250		BW250JAGU-3P250 <input type="checkbox"/>			

• SAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
400	250	BW400SAGU-3P250 <input type="checkbox"/>	Blank, SB, S7, S8
	300	BW400SAGU-3P300 <input type="checkbox"/>	
	350	BW400SAGU-3P350 <input type="checkbox"/>	
	400	BW400SAGU-3P400 <input type="checkbox"/>	

• RAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*		
50	3	BW50RAGU-3P003 <input type="checkbox"/>	Blank, SB, S3, S4		
	5	BW50RAGU-3P005 <input type="checkbox"/>			
	10	BW50RAGU-3P010 <input type="checkbox"/>			
	15	BW50RAGU-3P015 <input type="checkbox"/>			
	20	BW50RAGU-3P020 <input type="checkbox"/>			
	30	BW50RAGU-3P030 <input type="checkbox"/>			
	32	BW50RAGU-3P032 <input type="checkbox"/>			
	40	BW50RAGU-3P040 <input type="checkbox"/>			
	50	BW50RAGU-3P050 <input type="checkbox"/>			
	125	15		BW125RAGU-3P015 <input type="checkbox"/>	Blank, SB, SF, S3 S4, S5, S6, S7, S8
		20		BW125RAGU-3P020 <input type="checkbox"/>	
30		BW125RAGU-3P030 <input type="checkbox"/>			
40		BW125RAGU-3P040 <input type="checkbox"/>			
50		BW125RAGU-3P050 <input type="checkbox"/>			
60		BW125RAGU-3P060 <input type="checkbox"/>			
70		BW125RAGU-3P070 <input type="checkbox"/>			
75		BW125RAGU-3P075 <input type="checkbox"/>			
80		BW125RAGU-3P080 <input type="checkbox"/>			
90		BW125RAGU-3P090 <input type="checkbox"/>			
100		BW125RAGU-3P100 <input type="checkbox"/>			
125		BW125RAGU-3P125 <input type="checkbox"/>			
250	125	BW250RAGU-3P125 <input type="checkbox"/>	Blank, SB, SF, S3 S4, S5, S6, S7, S8		
	150	BW250RAGU-3P150 <input type="checkbox"/>			
	160	BW250RAGU-3P160 <input type="checkbox"/>			
	175	BW250RAGU-3P175 <input type="checkbox"/>			
	200	BW250RAGU-3P200 <input type="checkbox"/>			
	225	BW250RAGU-3P225 <input type="checkbox"/>			
400	250	BW400RAGU-3P250 <input type="checkbox"/>	Blank, SB, S7, S8		
	300	BW400RAGU-3P300 <input type="checkbox"/>			
	350	BW400RAGU-3P350 <input type="checkbox"/>			
	400	BW400RAGU-3P400 <input type="checkbox"/>			
630	500	BW630RAGU-3P500 <input type="checkbox"/>	Blank, SB, S7, S8		
	600	BW630RAGU-3P600 <input type="checkbox"/>			
	630	BW630RAGU-3P630 <input type="checkbox"/>			
800	700	BW800RAGU-3P700 <input type="checkbox"/>	Blank, SB, S7, S8		
	800	BW800RAGU-3P800 <input type="checkbox"/>			

• HAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
400	250	BW400HAGU-3P250 <input type="checkbox"/>	Blank, SB, S7, S8
	300	BW400HAGU-3P300 <input type="checkbox"/>	
	350	BW400HAGU-3P350 <input type="checkbox"/>	
	400	BW400HAGU-3P400 <input type="checkbox"/>	
630	500	BW630HAGU-3P500 <input type="checkbox"/>	Blank, SB, S7, S8
	600	BW630HAGU-3P600 <input type="checkbox"/>	
	630	BW630HAGU-3P630 <input type="checkbox"/>	
800	700	BW800HAGU-3P700 <input type="checkbox"/>	Blank, SB, S7, S8
	800	BW800HAGU-3P800 <input type="checkbox"/>	

* See page 44.



Molded Case Circuit Breakers

Type number/Motor protection

■ Type number, Standard series (Motor protection)

• SAM series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
32	0.7	BW32SAM-2P0P7 <input type="checkbox"/>	Blank, X, E, Y, P
	1.4	BW32SAM-2P1P4 <input type="checkbox"/>	
	2.6	BW32SAM-2P2P6 <input type="checkbox"/>	
	4	BW32SAM-2P004 <input type="checkbox"/>	
	8	BW32SAM-2P008 <input type="checkbox"/>	
	10	BW32SAM-2P010 <input type="checkbox"/>	
	16	BW32SAM-2P016 <input type="checkbox"/>	
	24	BW32SAM-2P024 <input type="checkbox"/>	
	32	BW32SAM-2P032 <input type="checkbox"/>	

• AAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
32	1.4	BW32AAM-3P1P4 <input type="checkbox"/>	Blank, X, E, Y, P
	2.6	BW32AAM-3P2P6 <input type="checkbox"/>	
	4	BW32AAM-3P004 <input type="checkbox"/>	
	8	BW32AAM-3P008 <input type="checkbox"/>	
	10	BW32AAM-3P010 <input type="checkbox"/>	
	16	BW32AAM-3P016 <input type="checkbox"/>	
	24	BW32AAM-3P024 <input type="checkbox"/>	
	32	BW32AAM-3P032 <input type="checkbox"/>	

• EAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
50	24	BW50EAM-3P024 <input type="checkbox"/>	Blank, X, E, Y, P
	32	BW50EAM-3P032 <input type="checkbox"/>	
	40	BW50EAM-3P040 <input type="checkbox"/>	
	45	BW50EAM-3P045 <input type="checkbox"/>	
63	63	BW63EAM-3P063 <input type="checkbox"/>	Blank, X, E, Y, P
100	63	BW100EAM-3P063 <input type="checkbox"/>	Blank, X, E, Y, P
	75	BW100EAM-3P075 <input type="checkbox"/>	
	90	BW100EAM-3P090 <input type="checkbox"/>	
250	125	BW250EAM-3P125 <input type="checkbox"/>	Blank, X, E, P
	150	BW250EAM-3P150 <input type="checkbox"/>	
	175	BW250EAM-3P175 <input type="checkbox"/>	
	225	BW250EAM-3P225 <input type="checkbox"/>	

• JAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection
125	16	BW125JAM-3P016 <input type="checkbox"/>	Blank, X, E, P
	24	BW125JAM-3P024 <input type="checkbox"/>	
	32	BW125JAM-3P032 <input type="checkbox"/>	
	40	BW125JAM-3P040 <input type="checkbox"/>	
	60	BW125JAM-3P060 <input type="checkbox"/>	
	75	BW125JAM-3P075 <input type="checkbox"/>	
	90	BW125JAM-3P090 <input type="checkbox"/>	
250	125	BW250JAM-3P125 <input type="checkbox"/>	Blank, X, E, P
	150	BW250JAM-3P150 <input type="checkbox"/>	
	175	BW250JAM-3P175 <input type="checkbox"/>	
	225	BW250JAM-3P225 <input type="checkbox"/>	

Mounting	Connection	<input type="checkbox"/>
Front	Front	Blank
Front	Rear	X
Flush	Rear	E
Flush	Top and bottom	Y
Plug-in		P

• SAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
32	0.7	BW32SAM-3P0P7 <input type="checkbox"/>	Blank, X, E, Y, P
	1.4	BW32SAM-3P1P4 <input type="checkbox"/>	
	2.6	BW32SAM-3P2P6 <input type="checkbox"/>	
	4	BW32SAM-3P004 <input type="checkbox"/>	
	8	BW32SAM-3P008 <input type="checkbox"/>	
	10	BW32SAM-3P010 <input type="checkbox"/>	
	16	BW32SAM-3P016 <input type="checkbox"/>	
	24	BW32SAM-3P024 <input type="checkbox"/>	
	32	BW32SAM-3P032 <input type="checkbox"/>	
50	0.7	BW50SAM-3P0P7 <input type="checkbox"/>	Blank, X, E, Y, P
	1.4	BW50SAM-3P1P4 <input type="checkbox"/>	
	2	BW50SAM-3P002 <input type="checkbox"/>	
	2.6	BW50SAM-3P2P6 <input type="checkbox"/>	
	4	BW50SAM-3P004 <input type="checkbox"/>	
	5	BW50SAM-3P005 <input type="checkbox"/>	
	8	BW50SAM-3P008 <input type="checkbox"/>	
	10	BW50SAM-3P010 <input type="checkbox"/>	
	12	BW50SAM-3P012 <input type="checkbox"/>	
	16	BW50SAM-3P016 <input type="checkbox"/>	
	24	BW50SAM-3P024 <input type="checkbox"/>	
	32	BW50SAM-3P032 <input type="checkbox"/>	
	40	BW50SAM-3P040 <input type="checkbox"/>	
45	BW50SAM-3P045 <input type="checkbox"/>		
63	63	BW63SAM-3P063 <input type="checkbox"/>	Blank, X, E, Y, P

• RAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	<input type="checkbox"/> : Available mounting and connection*
50	0.7	BW50RAM-3P0P7 <input type="checkbox"/>	Blank, X, E, Y, P
	1.4	BW50RAM-3P1P4 <input type="checkbox"/>	
	2	BW50RAM-3P002 <input type="checkbox"/>	
	2.6	BW50RAM-3P2P6 <input type="checkbox"/>	
	4	BW50RAM-3P004 <input type="checkbox"/>	
	5	BW50RAM-3P005 <input type="checkbox"/>	
	8	BW50RAM-3P008 <input type="checkbox"/>	
	10	BW50RAM-3P010 <input type="checkbox"/>	
	12	BW50RAM-3P012 <input type="checkbox"/>	
	16	BW50RAM-3P016 <input type="checkbox"/>	
	24	BW50RAM-3P024 <input type="checkbox"/>	
	32	BW50RAM-3P032 <input type="checkbox"/>	
	40	BW50RAM-3P040 <input type="checkbox"/>	
	45	BW50RAM-3P045 <input type="checkbox"/>	
125	16	BW125RAM-3P016 <input type="checkbox"/>	Blank, X, E, P
	24	BW125RAM-3P024 <input type="checkbox"/>	
	32	BW125RAM-3P032 <input type="checkbox"/>	
	40	BW125RAM-3P040 <input type="checkbox"/>	
	60	BW125RAM-3P060 <input type="checkbox"/>	
	75	BW125RAM-3P075 <input type="checkbox"/>	
250	90	BW125RAM-3P090 <input type="checkbox"/>	Blank, X, E, P
	125	BW250RAM-3P125 <input type="checkbox"/>	
	150	BW250RAM-3P150 <input type="checkbox"/>	
	175	BW250RAM-3P175 <input type="checkbox"/>	
	225	BW250RAM-3P225 <input type="checkbox"/>	

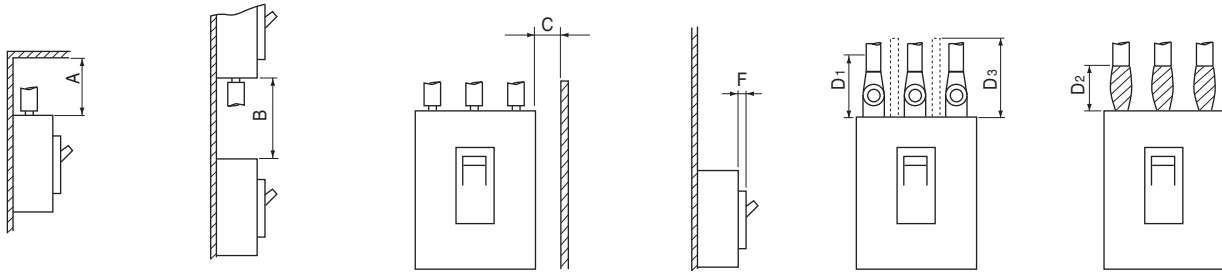
* See page 46.



Molded Case Circuit Breakers

Arc space

■ Arc space, mm



Frame size	MCCB basic type	Ceiling distance		Vertical distance		Side plate distance		Front plate distance				Taping		Barrier
		A		B		C		Painted F		No painted F		Crimp type terminal lug D1	Bus-bar D2	
		440V	230V	440V	230V	440V	230V	440V	230V	440V	230V			
32A	BW32A	–	10	–	10	–	10	–	0	–	0	Exposed live part dimension +20	10	10
	BW32S	10	10	30	30	20	15	0	0	0	0		30	30
50A	BW50A	–	10	–	10	–	10	–	0	–	0		10	10
	BW50E	10	10	30	30	25	15	0	0	0	0		30	30
	BW50S	30	10	40	40	25	15	0	0	0	0		30	30
	BW50R	50	25	50	50	25	15	0	0	10	5		50	50
	BW50H	60	60	80	80	50	20	5	0	10	5		80	80
63A	BW63E	10	10	30	30	25	15	0	0	0	0		30	30
	BW63S	30	10	40	40	25	15	0	0	0	0		30	30
	BW63R	50	25	50	50	25	15	0	0	10	5		50	50
100A	BW100A	–	10	–	20	–	15	–	0	–	0		50	50
	BW100E	50	25	50	50	25	15	0	0	10	5		50	50
125A	BW125J	40	40	50	50	25	20	0	0	10	5		50	50
	BW125S	40	40	60	60	25	20	5	0	10	5		50	50
	BW125R	40	40	60	60	25	20	5	0	10	5		50	50
	BW125H	60	60	80	80	50	20	5	0	10	5		80	80
160A	BW160E	40	40	50	50	50	15	0	0	10	5		80	80
	BW160J	40	40	60	60	50	20	0	0	10	5		80	80
	BW160S	40	40	80	80	50	20	5	0	10	10		80	80
	BW160R	40	40	80	80	50	20	5	0	10	10		80	80
250A	BW250E	40	40	50	50	50	15	0	0	10	5	80	80	
	BW250J	40	40	60	60	50	20	0	0	10	5	80	80	
	BW250S	40	40	80	80	50	20	5	0	10	10	80	80	
	BW250R	40	40	80	80	50	20	5	0	10	10	80	80	
	BW250H	60	60	80	80	60	60	5	0	10	10	80	80	
400A	BW400E	100	80	100	80	50	20	0	0	10	5	100	100	
	BW400S	100	80	100	80	50	20	0	0	10	5	100	100	
	BW400R	100	80	100	80	80	40	5	0	20	10	100	100	
	BW400H	100	80	100	80	80	40	5	0	20	10	100	100	
630A	BW630E	100	80	100	80	80	40	0	0	10	5	100	100	
	BW630R	100	80	100	80	80	40	5	0	20	10	100	100	
	BW630H	120	100	120	100	80	40	5	0	20	10	120	120	
800A	BW800E	100	80	100	80	80	40	0	0	10	5	100	100	
	BW800R	100	80	100	80	80	40	5	0	20	10	100	100	
	BW800H	120	100	120	100	80	40	5	0	20	20	120	120	



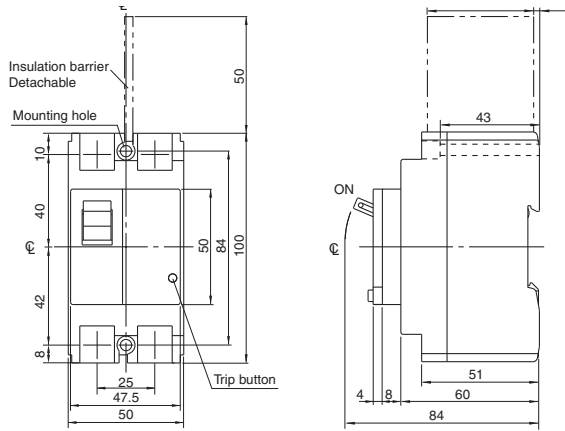
Molded Case Circuit Breakers

Dimensions / Standard

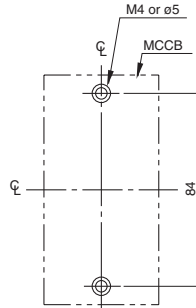
■ Dimensions, mm

● Front mounting, front connection

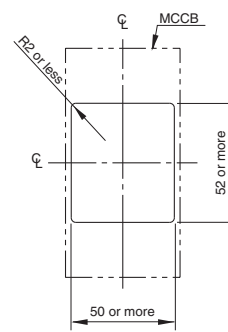
BW32□-2P, BW50□-2P



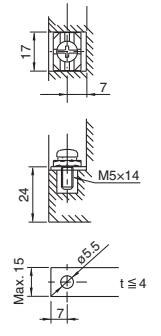
Panel drilling



Front panel cutting

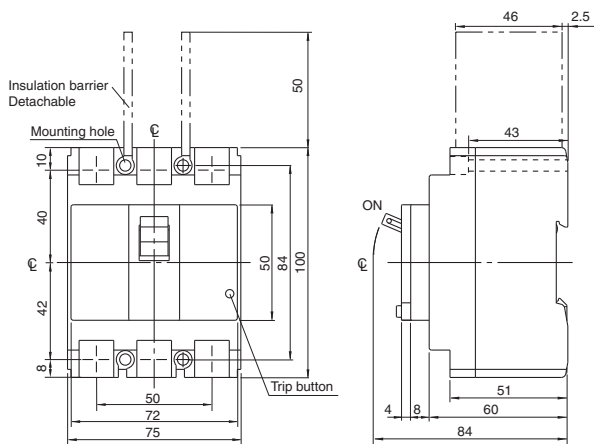


Terminal section

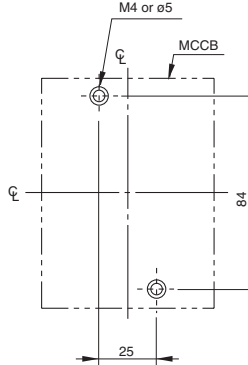


Insulation barriers
Standard provided: BW50SAG, BW50RAG
Optional: BW32AAG, BW32SAG, BW50EAG

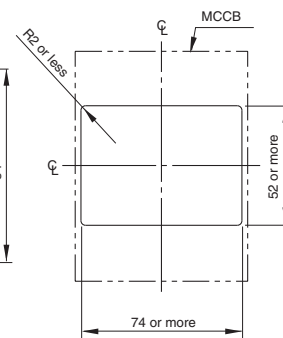
BW32□-3P, BW50□-3P



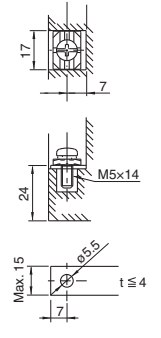
Panel drilling



Front panel cutting

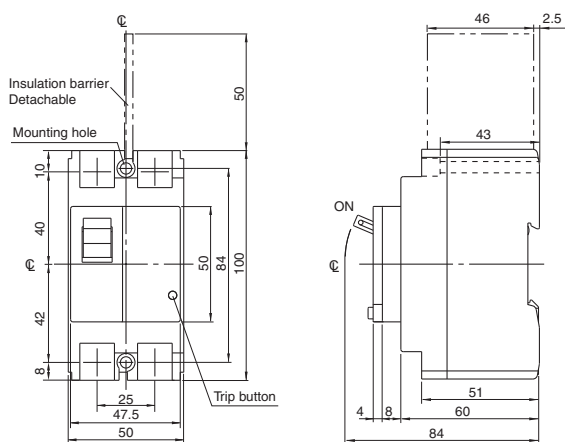


Terminal section

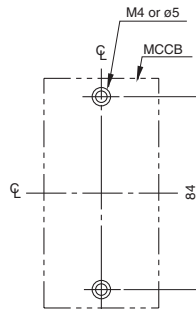


Insulation barriers
Standard provided: BW50SAG, BW50RAG
Optional: BW32AAG, BW32SAG, BW50EAG

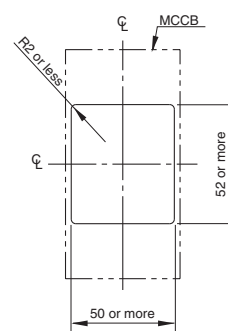
BW63□-2P



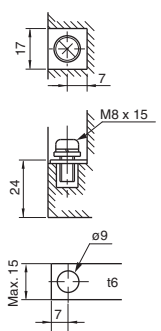
Panel drilling



Front panel cutting



Terminal section





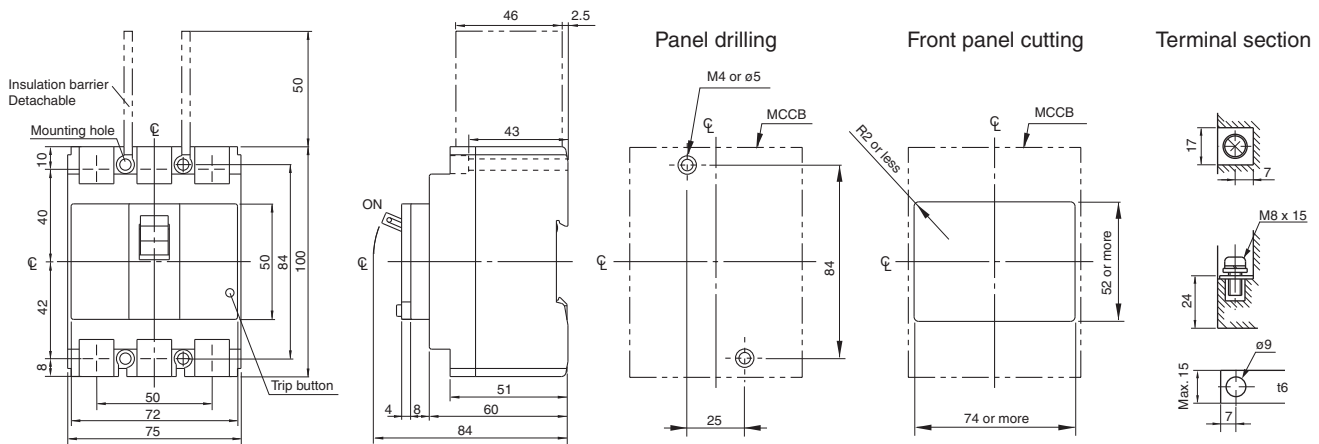
Molded Case Circuit Breakers

Dimensions / Standard

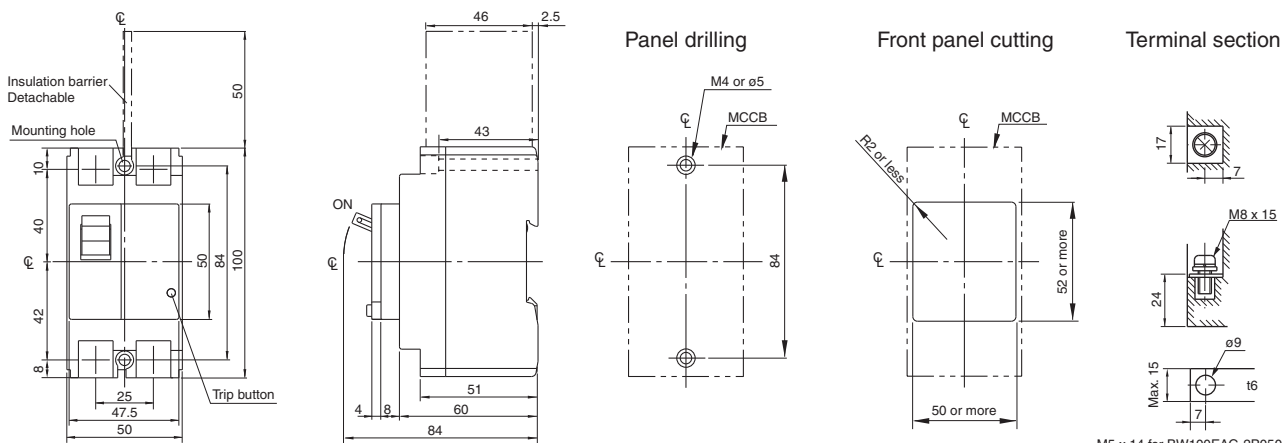
■ Dimensions, mm

● Front mounting, front connection

BW63□-3P

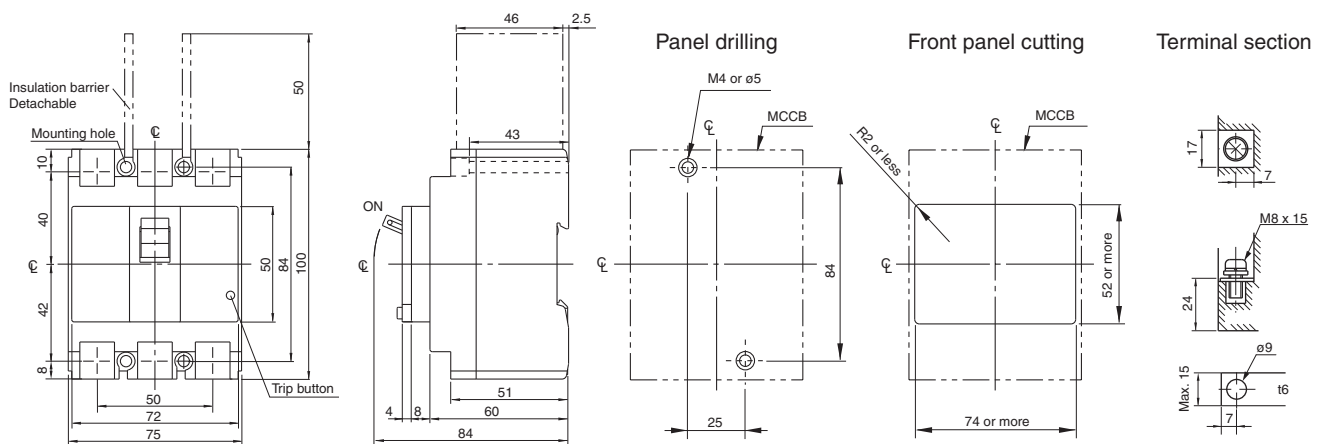


BW100□-2P



M5 x 14 for BW100EAG-2P050

BW100□-3P



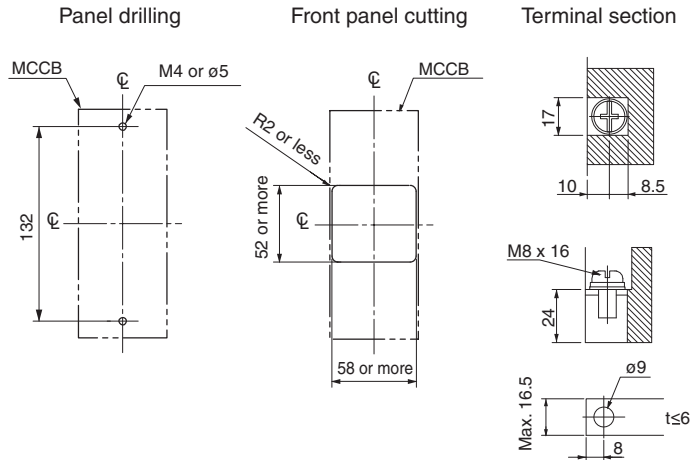
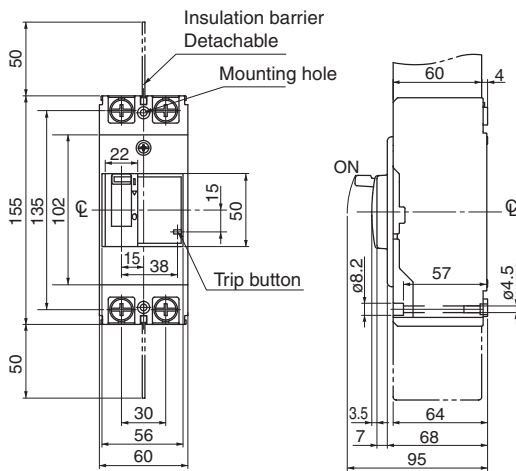
Insulation barriers
Standard provided: BW100EAG
Optional: BW100AAG

M5 x 14 for BW100EAG-3P050

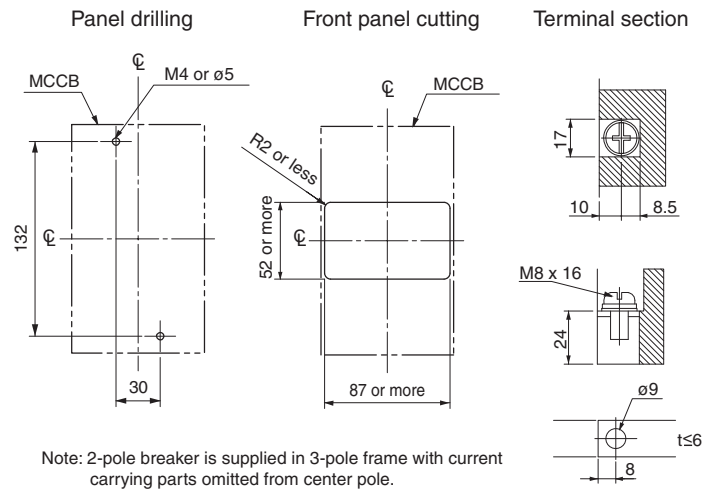
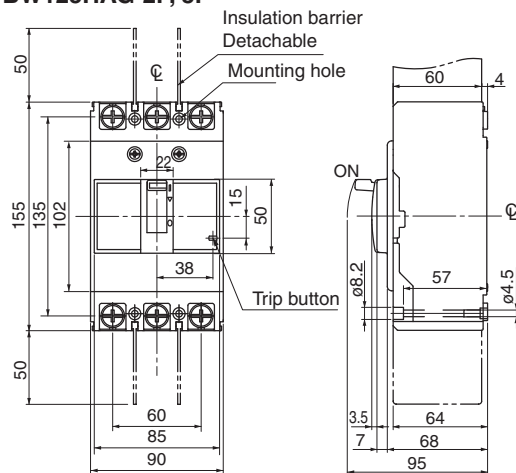
■ Dimensions, mm

● Front mounting, front connection

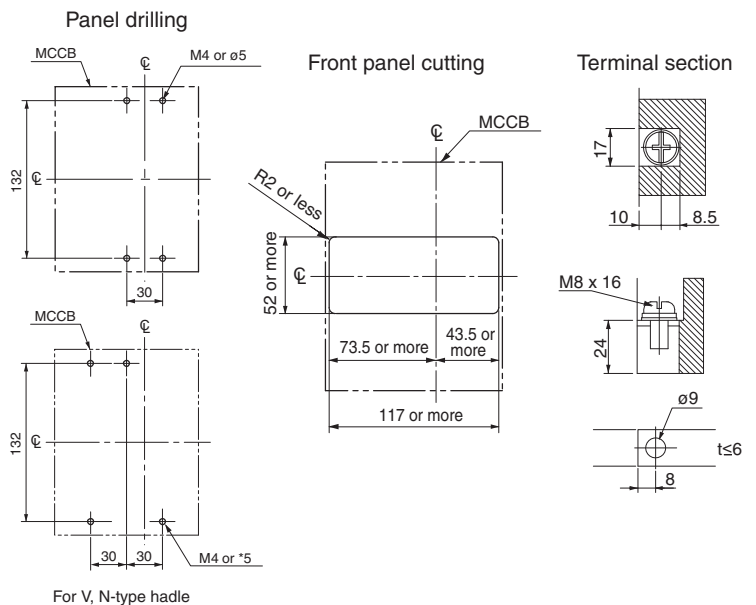
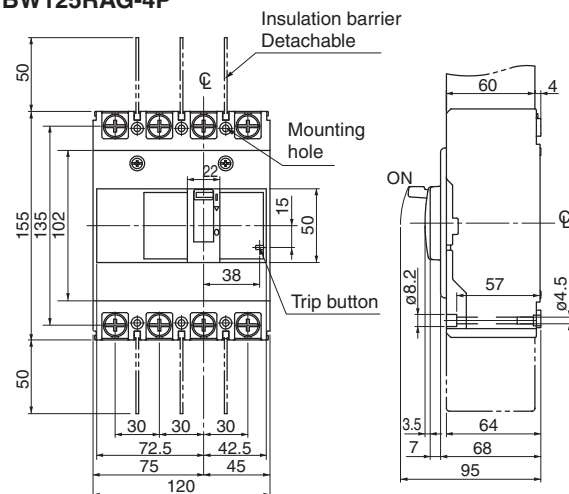
BW125JAG-2P



**BW50HAG-2P, 3P, BW125JAG-3P,
BW125SAG-2P, 3P, BW125RAG-2P, 3P
BW125HAG-2P, 3P**



**BW125JAG-4P
BW125SAG-4P
BW125RAG-4P**





Molded Case Circuit Breakers

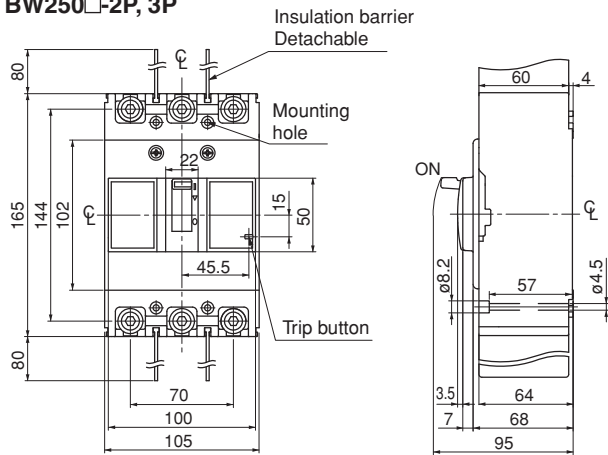
Dimensions / Standard

■ Dimensions, mm

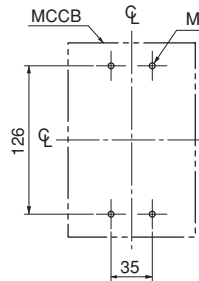
● Front mounting, front connection

BW160□-2P, 3P

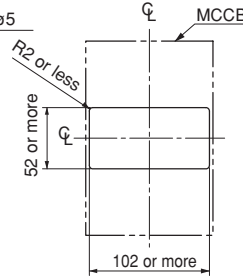
BW250□-2P, 3P



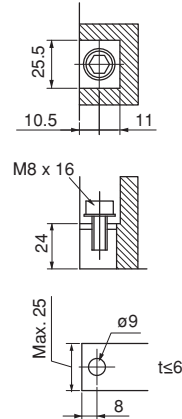
Panel drilling



Front panel cutting



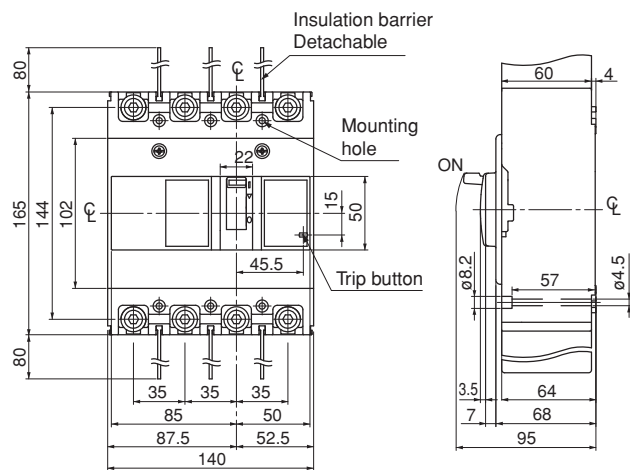
Terminal section



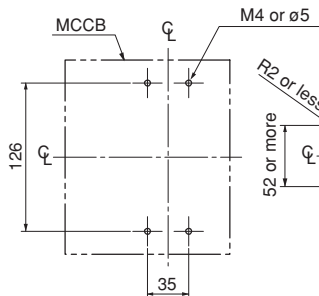
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

BW160□-4P

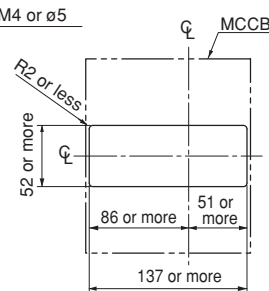
BW250□-4P



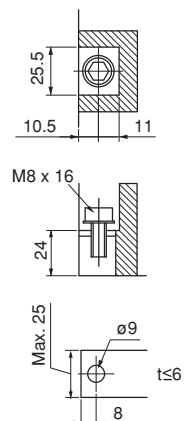
Panel drilling



Front panel cutting



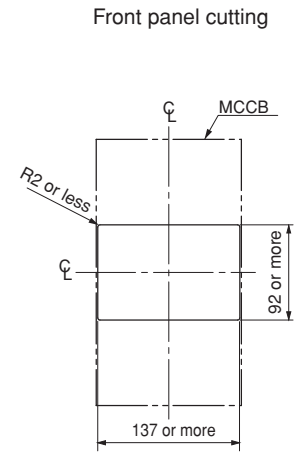
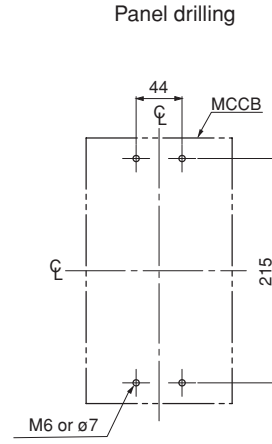
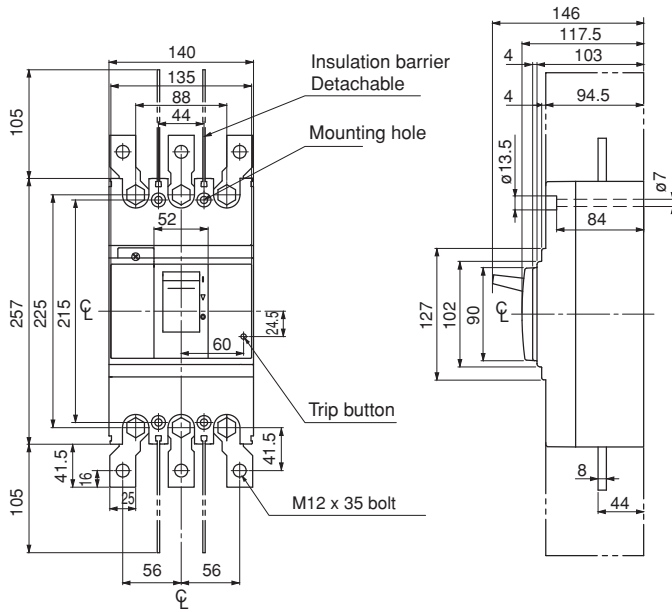
Terminal section



■ Dimensions, mm

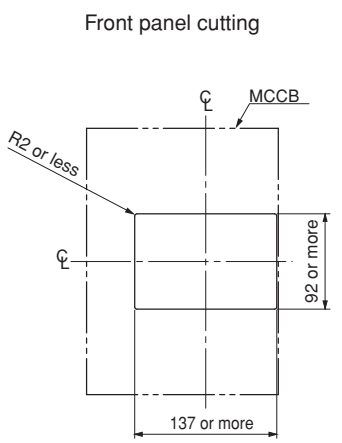
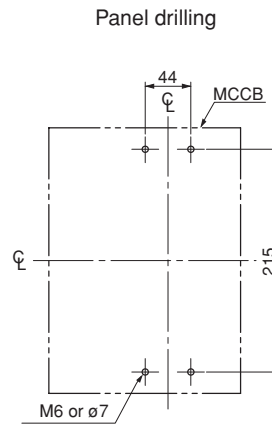
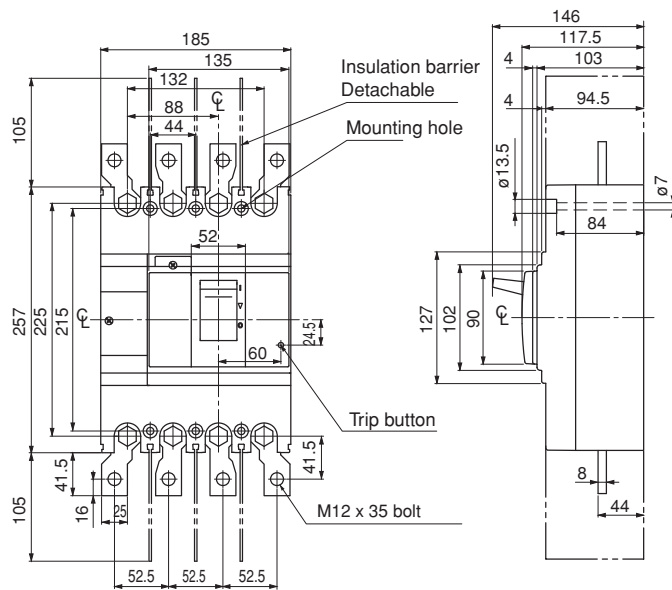
● Front mounting, front connection

BW400□-2P, 3P



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

BW400□-4P





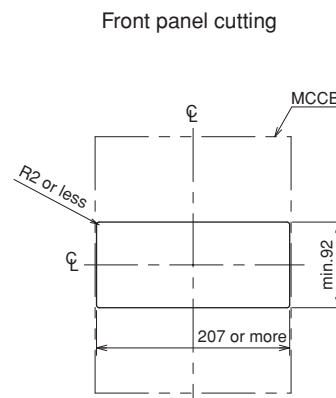
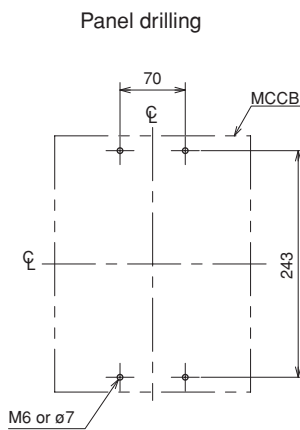
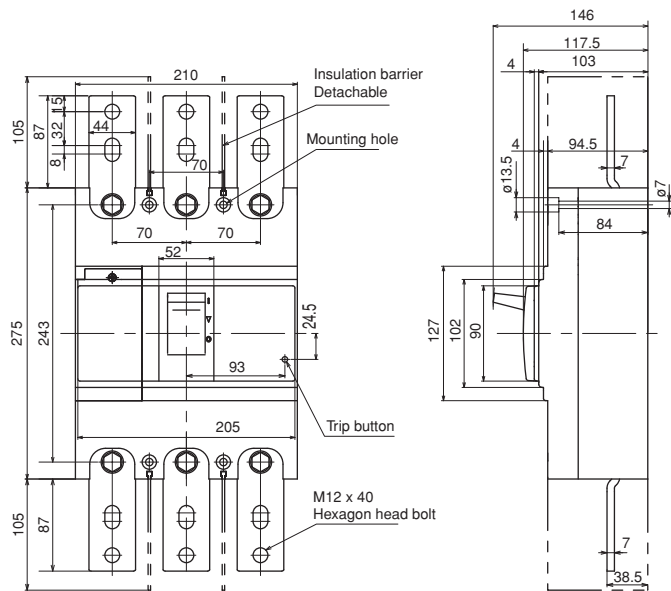
Molded Case Circuit Breakers

Dimensions / Standard

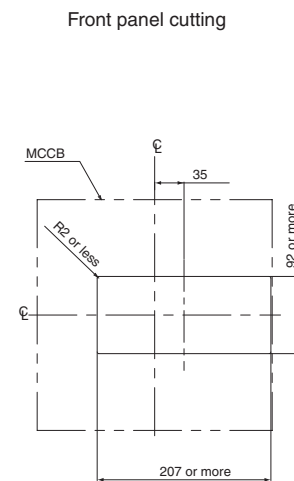
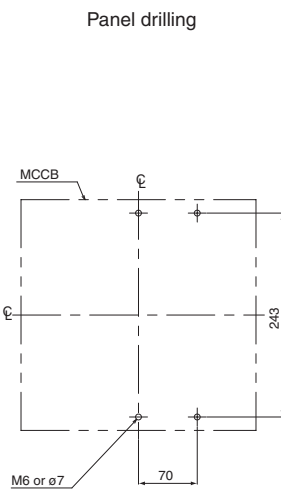
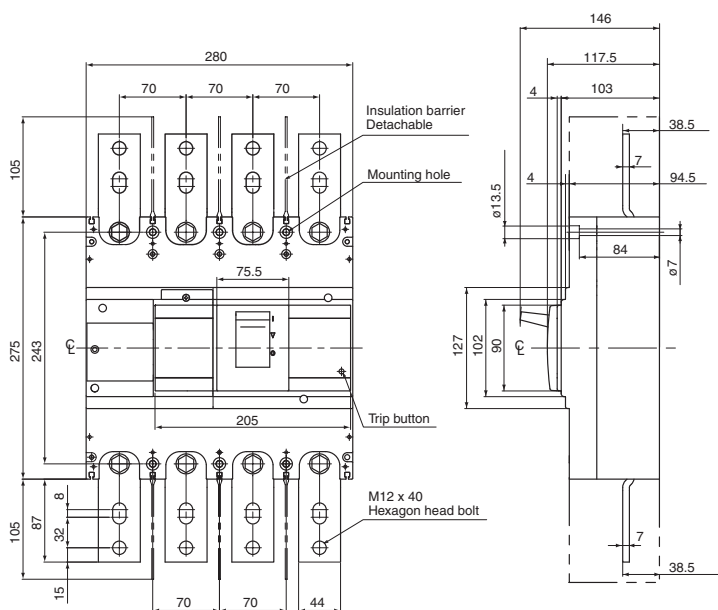
■ Dimensions, mm

● Front mounting, front connection

BW630□-3P

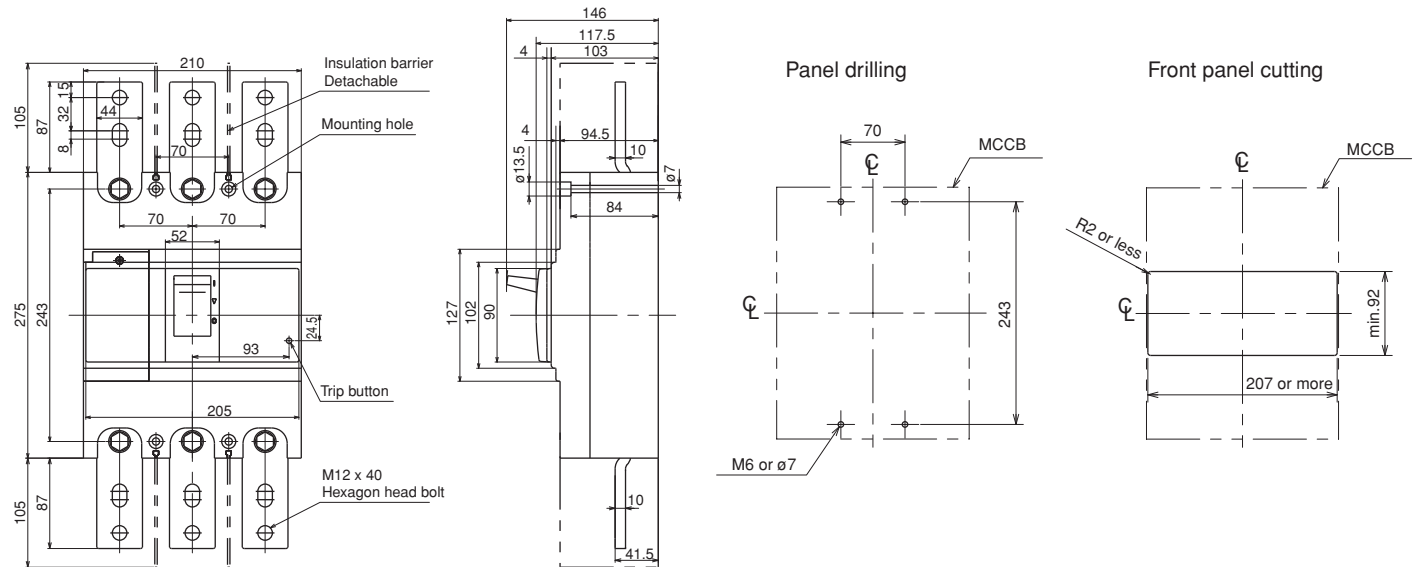


BW630□-4P

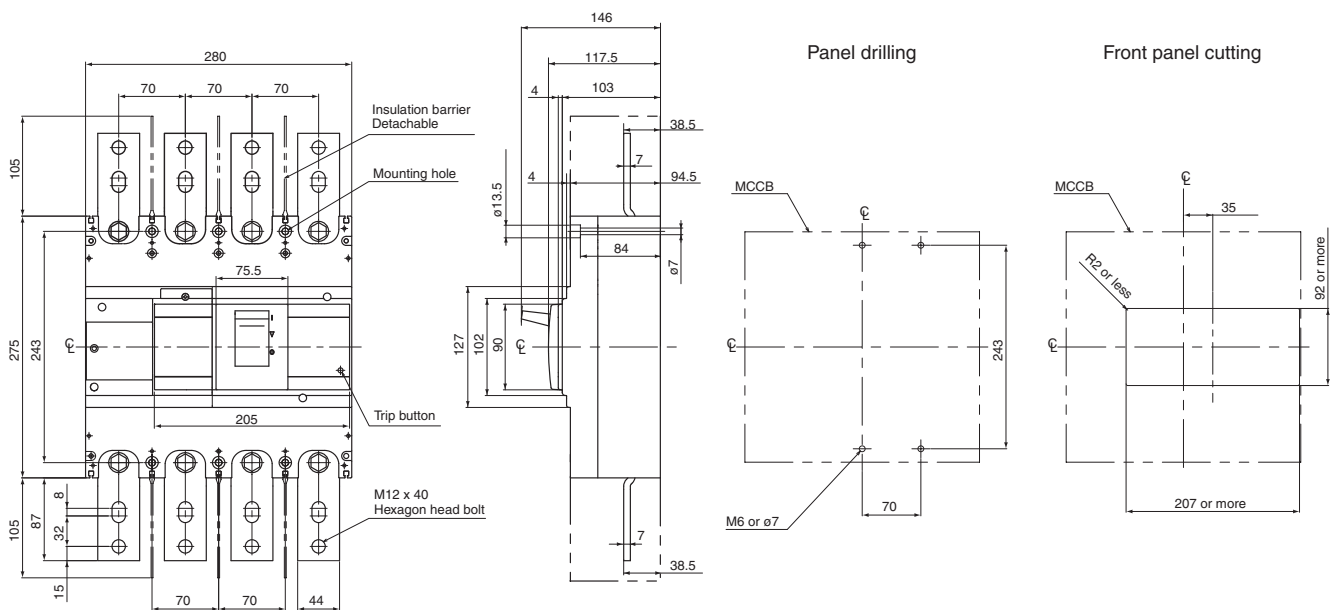


- Dimensions, mm
- Front mounting, front connection

BW800□-3P



BW800□-4P





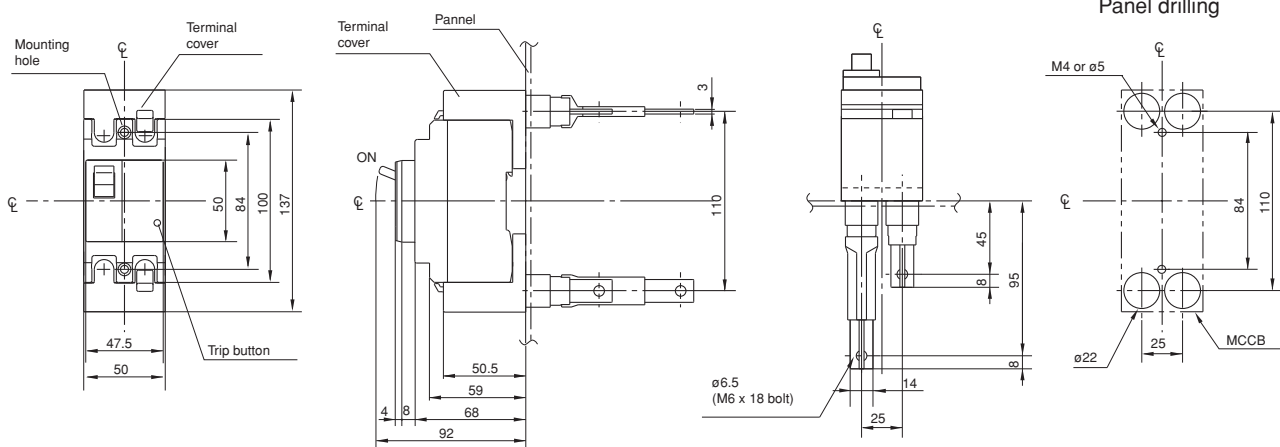
Molded Case Circuit Breakers

Dimensions / Standard

■ Dimensions, mm

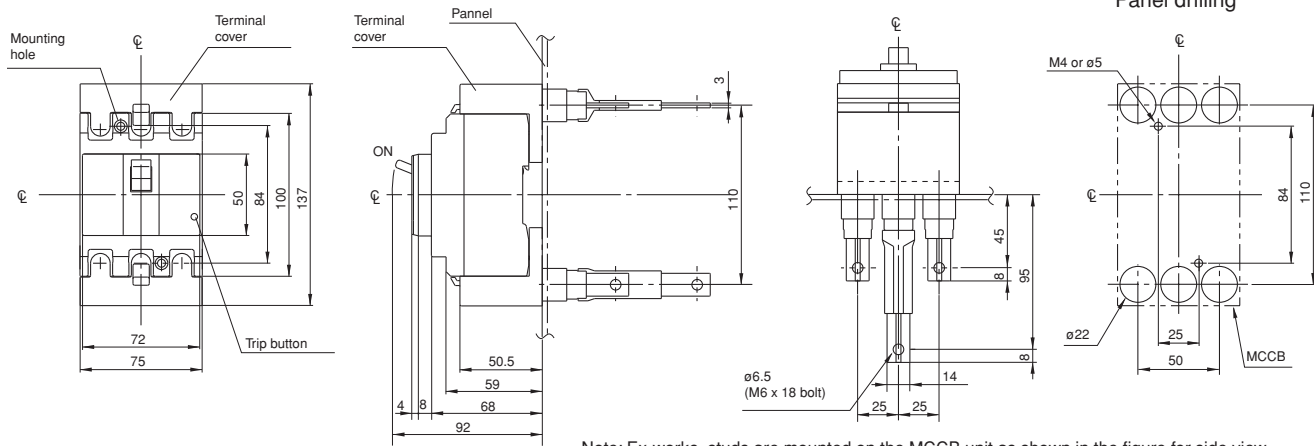
● Front mounting, rear connection (type X)

BW32□-2P, BW50□-2P



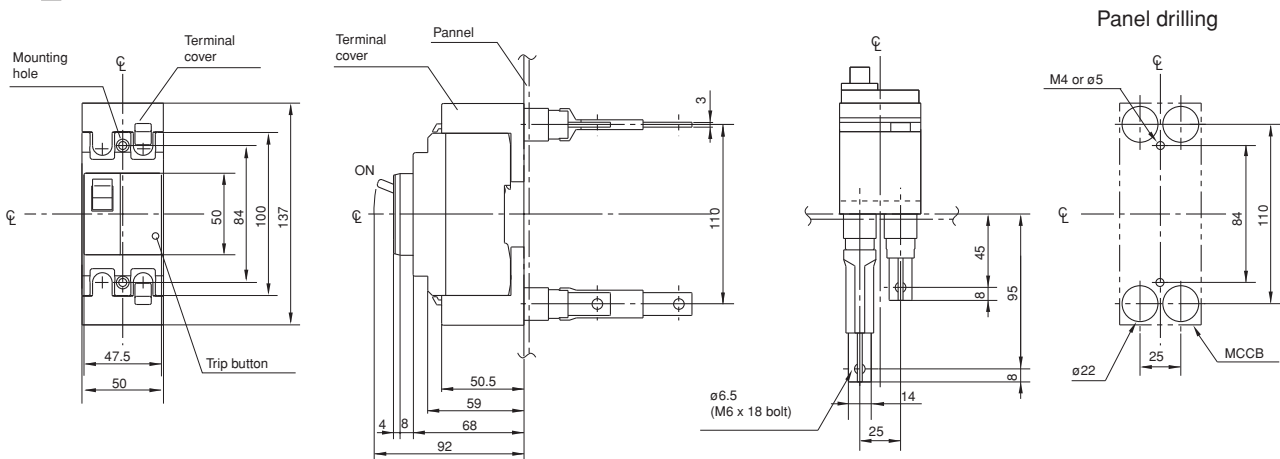
Note: Ex-works, studs are mounted on the MCCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.

BW32□-3P, BW50□-3P



Note: Ex-works, 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.

BW63□-2P

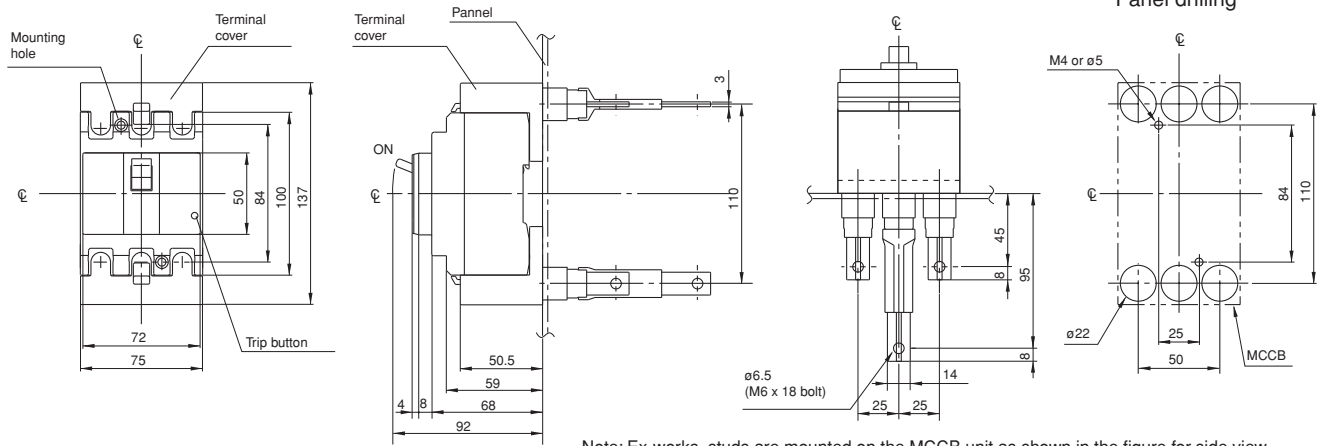


Note: Ex-works, studs are mounted on the MCCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.

■ Dimensions, mm

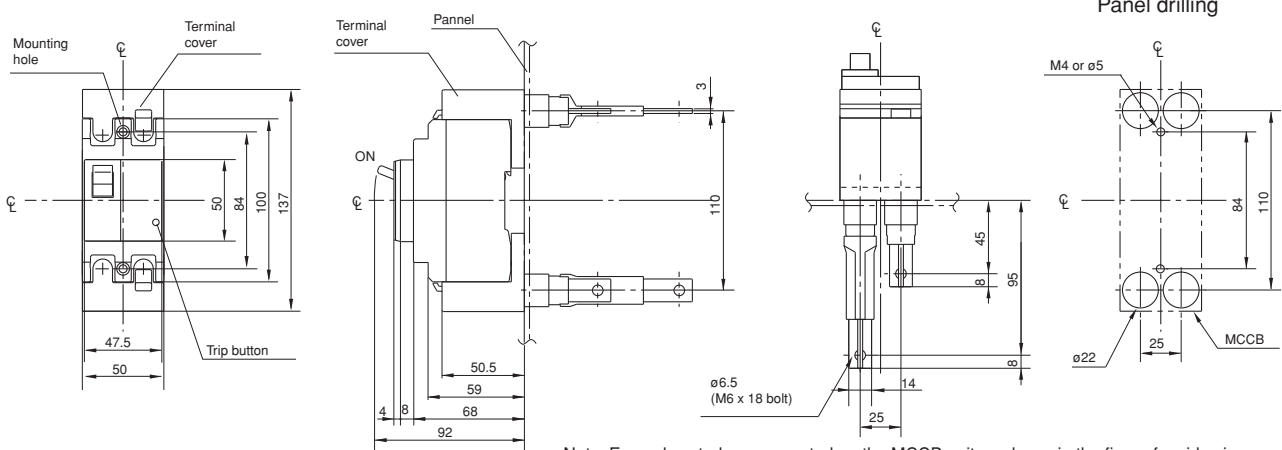
● Front mounting, rear connection (type X)

BW63□-3P



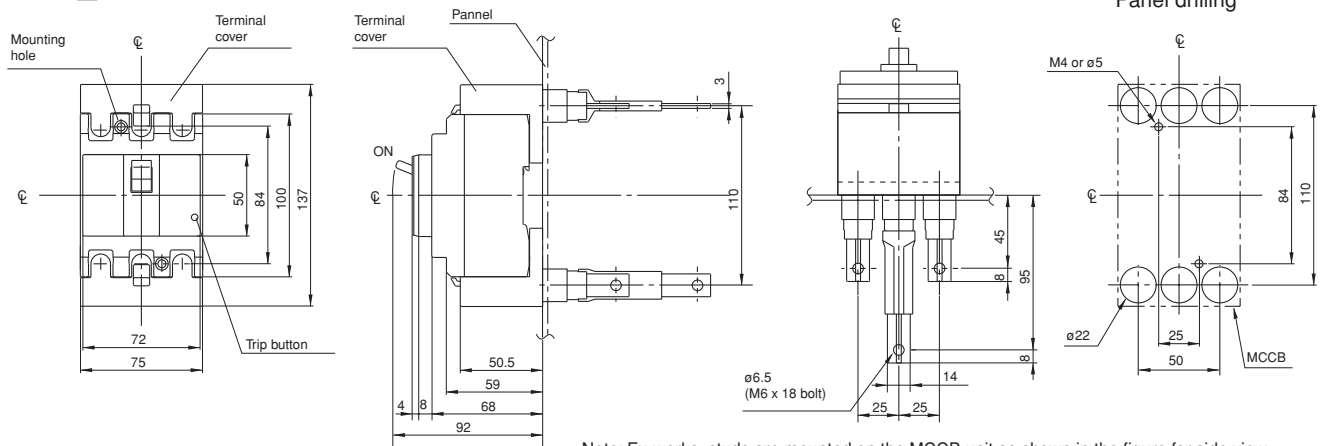
Note: Ex-works, studs are mounted on the MCCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.
 2-pole breaker is supplied in 3-pole frame with current carrying parts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

BW100□-2P



Note: Ex-works, 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°.

BW100□-3P



Note: Ex-works, 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.



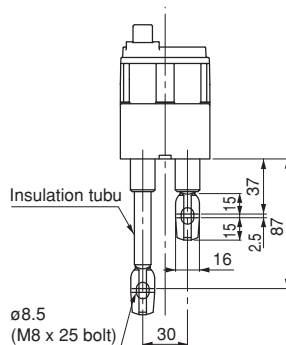
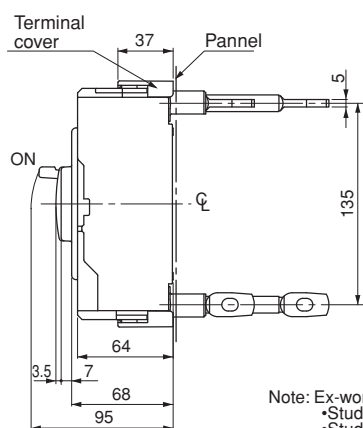
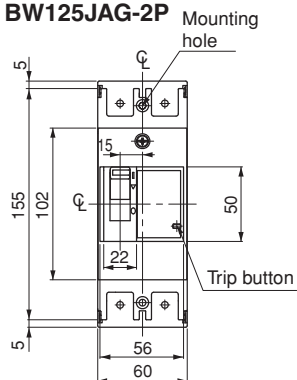
Molded Case Circuit Breakers

Dimensions / Standard

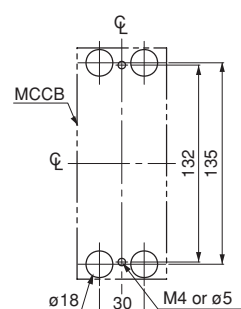
■ Dimensions, mm

● Front mounting, rear connection (type X)

BW125JAG-2P

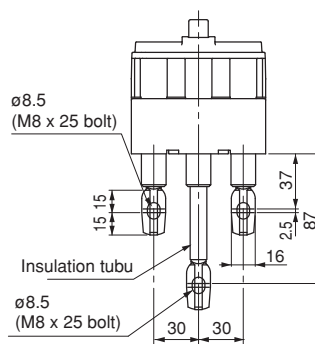
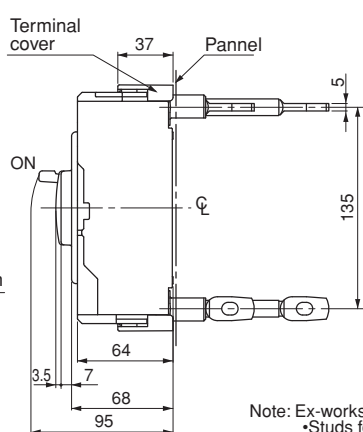
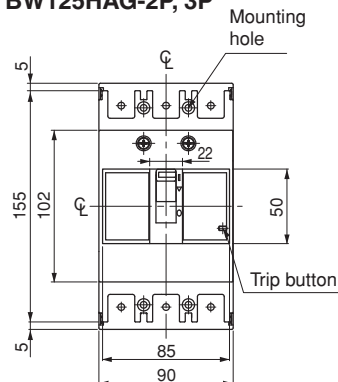


Panel drilling

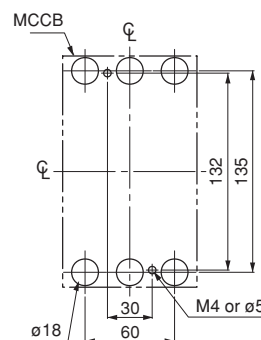


Note: Ex-works, studs are mounted on the MCCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.

BW50HAG-2P, 3P, BW125JAG-3P BW125SAG-2P, 3P, BW125RAG-2P, 3P BW125HAG-2P, 3P

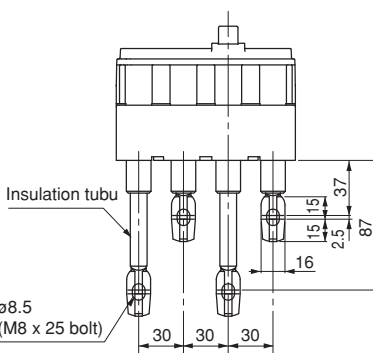
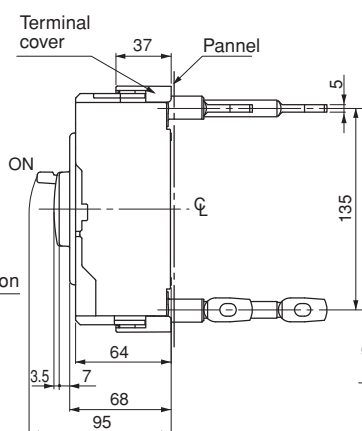
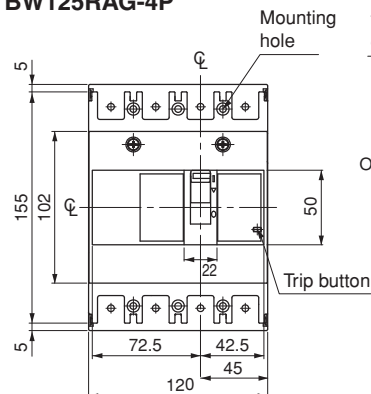


Panel drilling

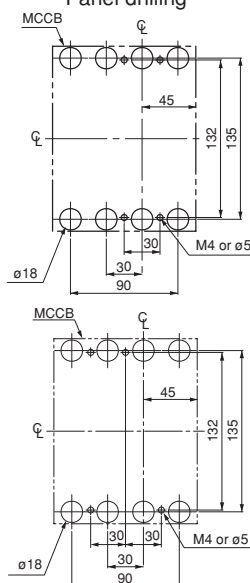


Note: Ex-works, studs are mounted on the MCCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.
 2-pole breaker is supplied in 3-pole frame with current carrying parts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

BW125JAG-4P BW125SAG-4P BW125RAG-4P



Panel drilling



Note: Ex-works, 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°.

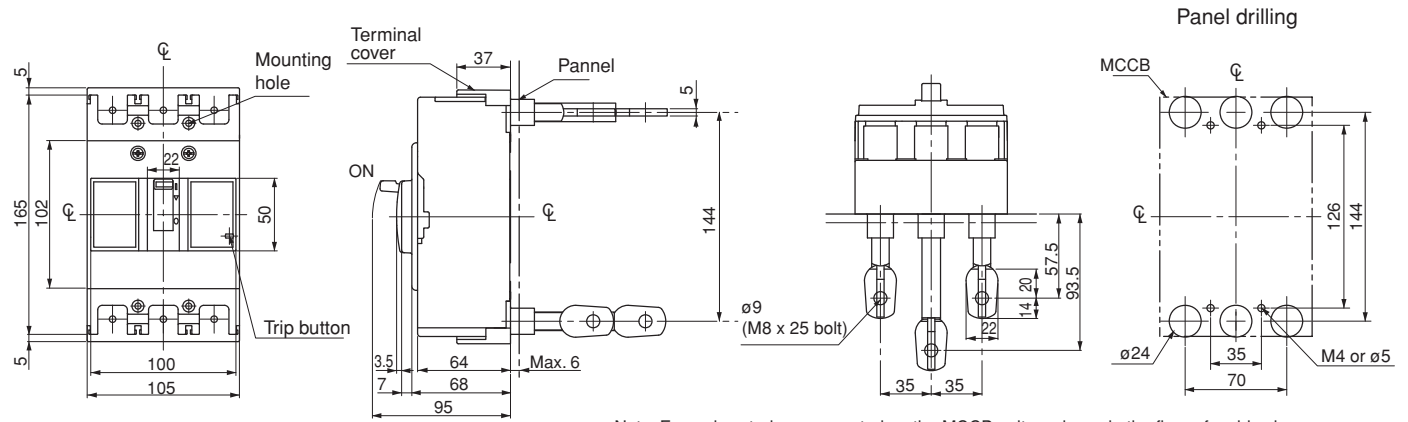
For V, N-type handle

■ Dimensions, mm

● Front mounting, rear connection (type X)

BW160□-2P, 3P

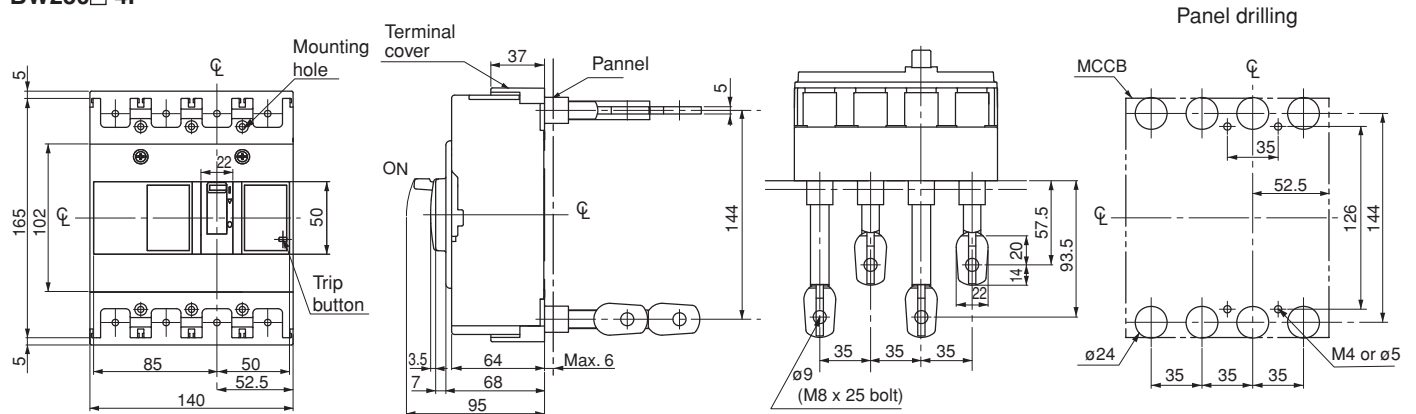
BW250□-2P, 3P



Note: Ex-works, 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.

BW160□-4P

BW250□-4P



Note: Ex-works, 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°.



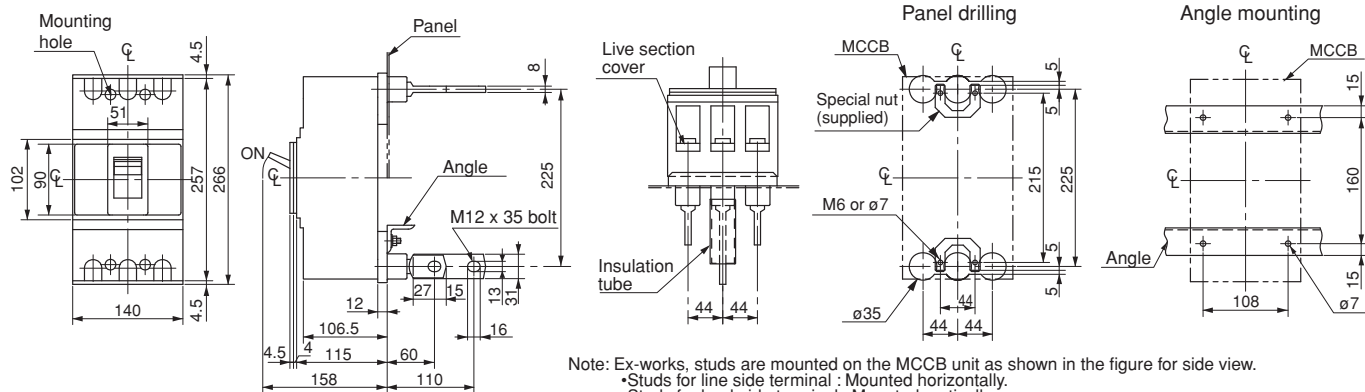
Molded Case Circuit Breakers

Dimensions / Standard

■ Dimensions, mm

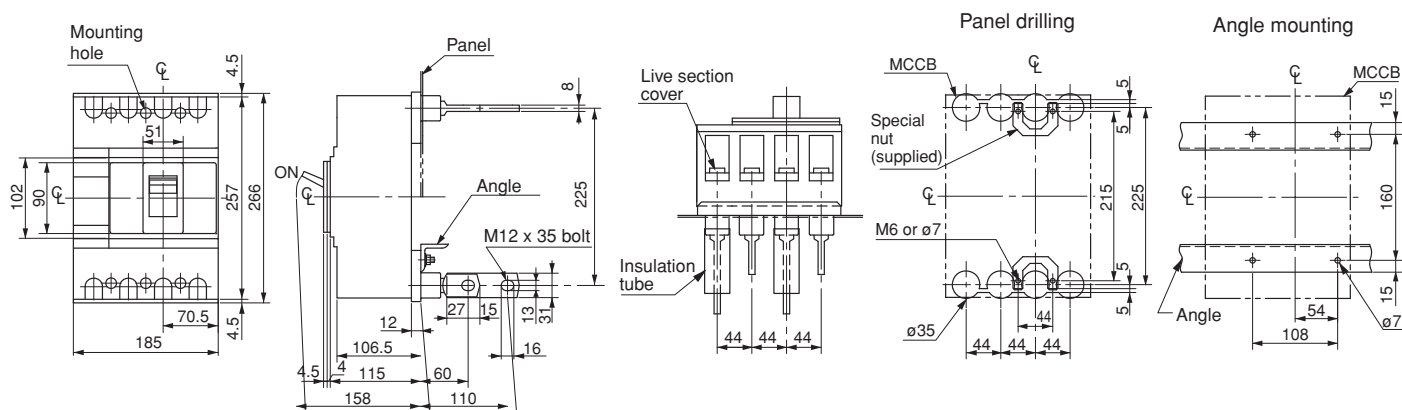
● Front mounting, rear connection (type X)

BW400□-2P, 3P



Note: Ex-works, 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.

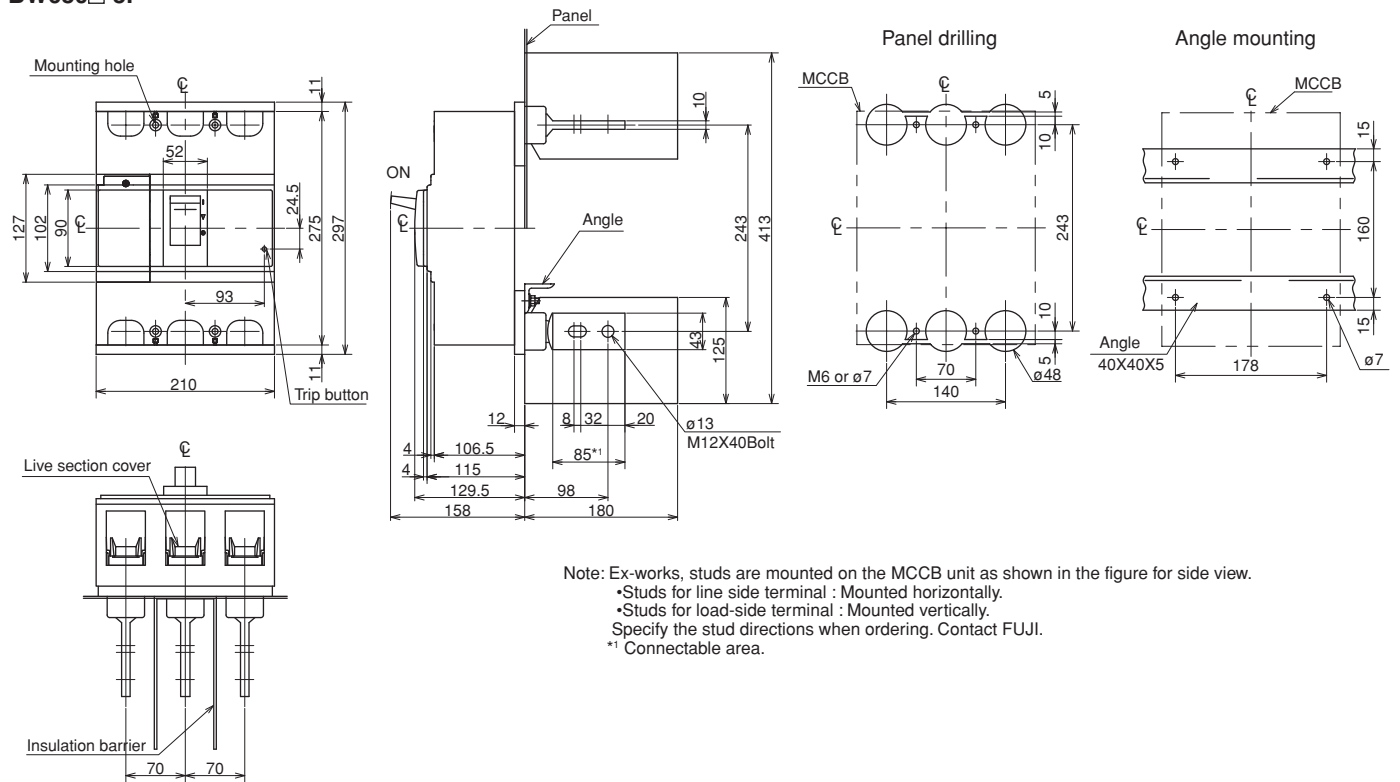
BW400□-4P



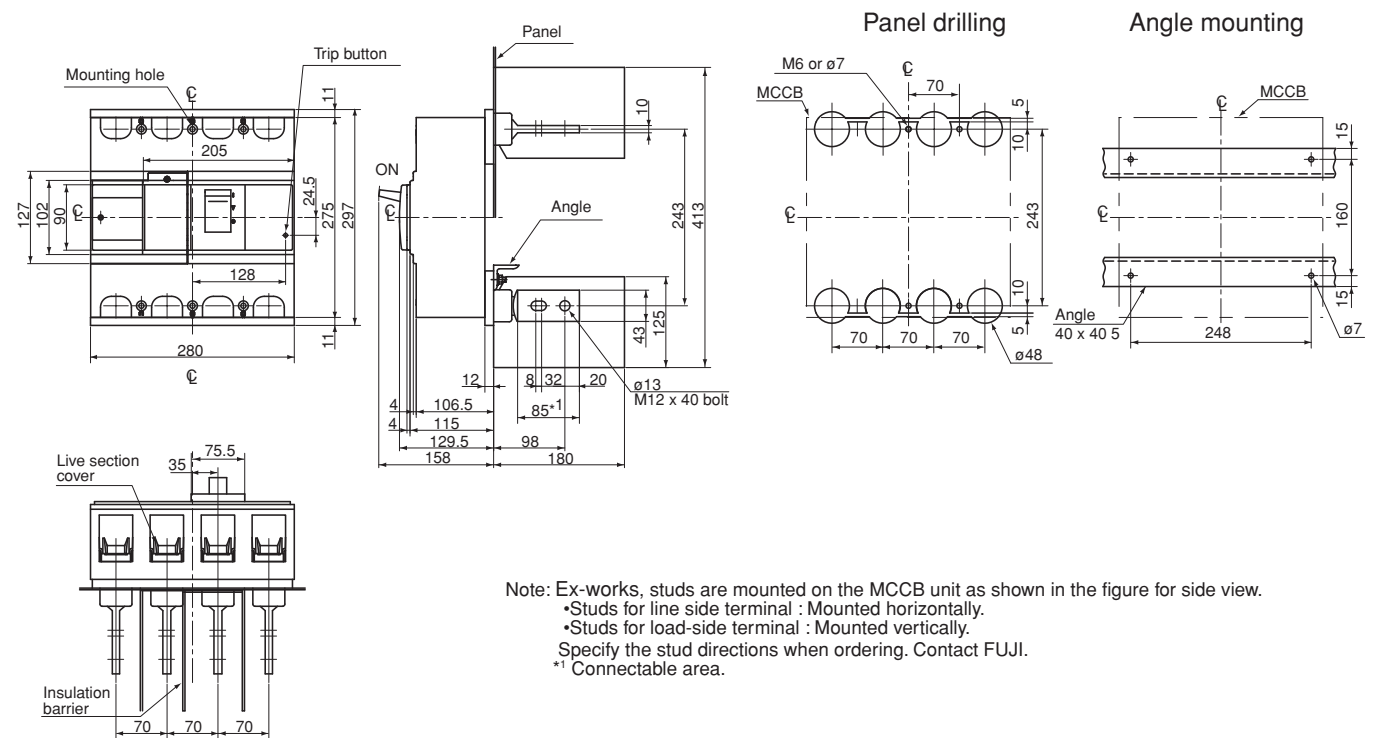
Note: Ex-works, studs are mounted on the MCCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.

- Dimensions, mm
- Front mounting, rear connection (type X)

BW630□-3P



BW630□-4P





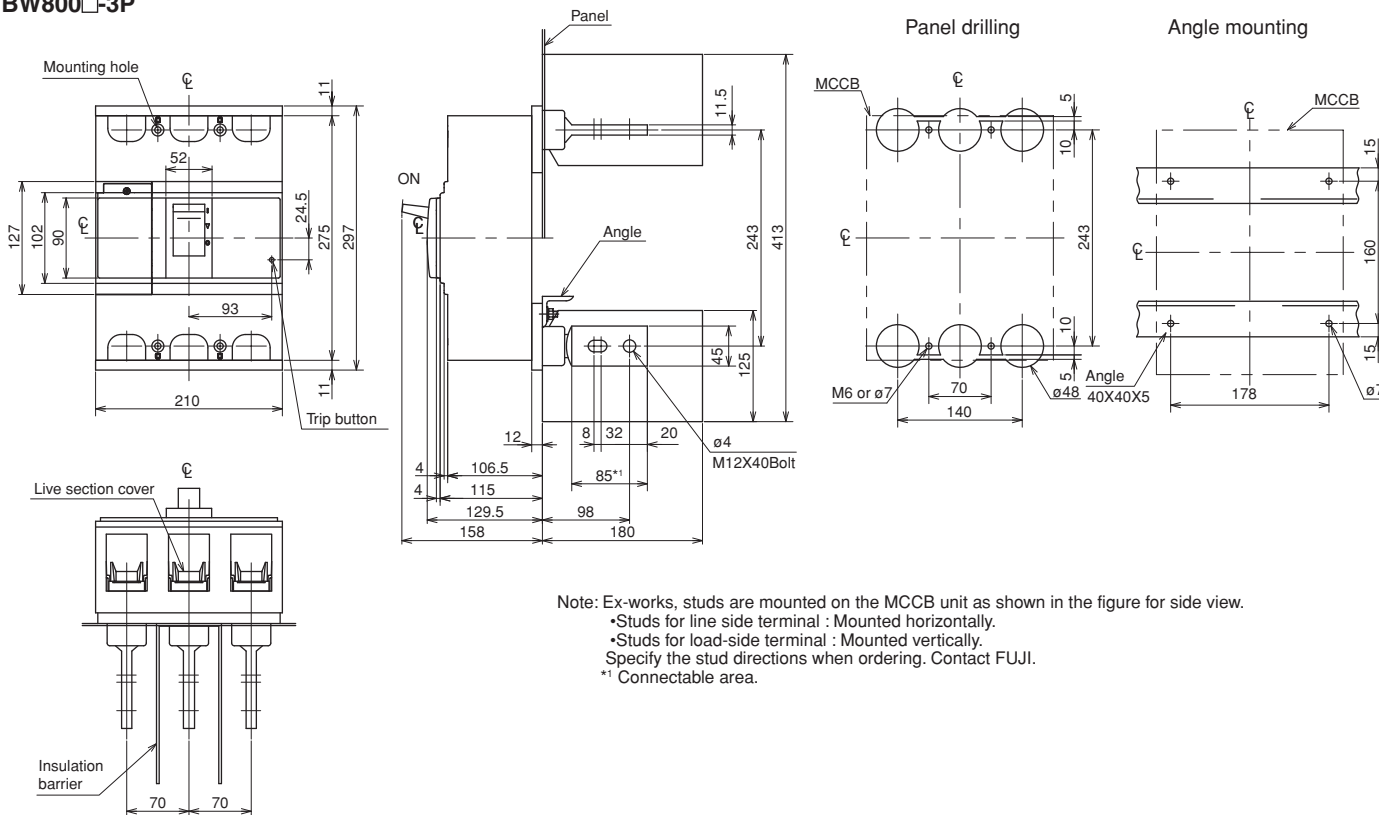
Molded Case Circuit Breakers

Dimensions / Standard

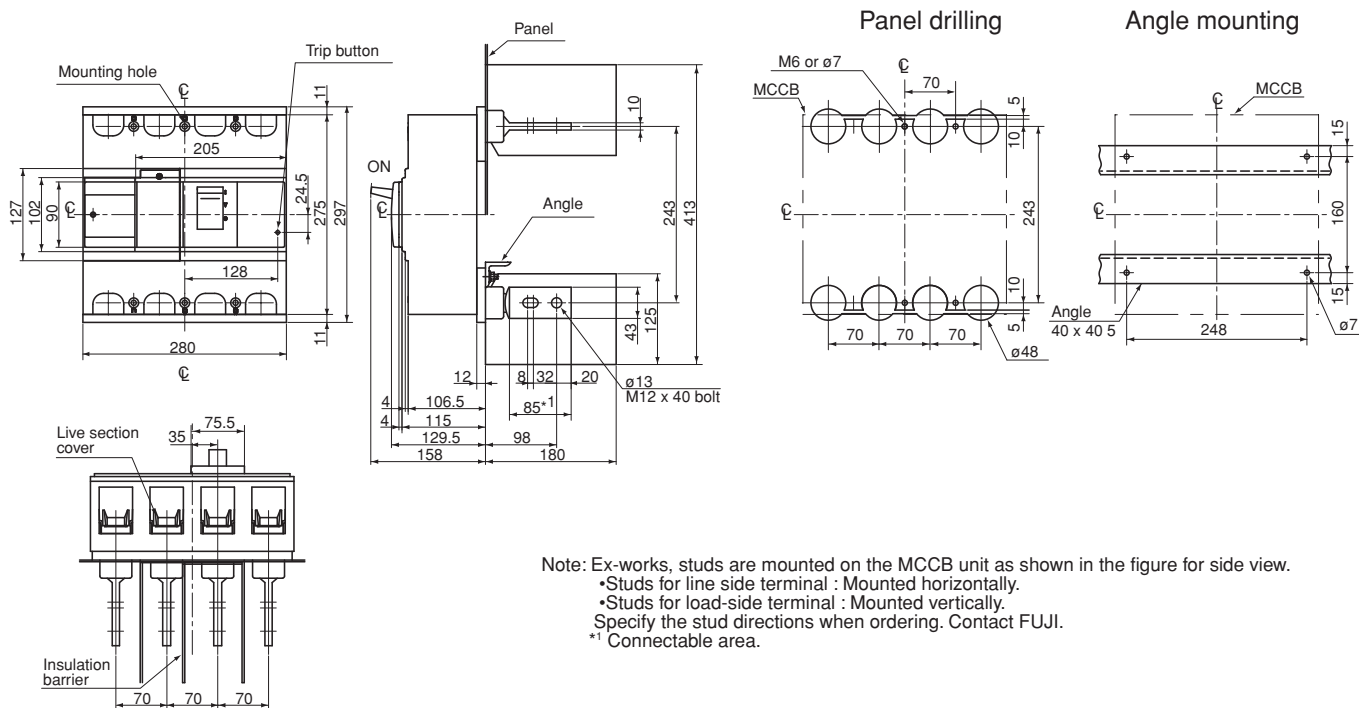
■ Dimensions, mm

● Front mounting, rear connection (type X)

BW800□-3P



BW800□-4P





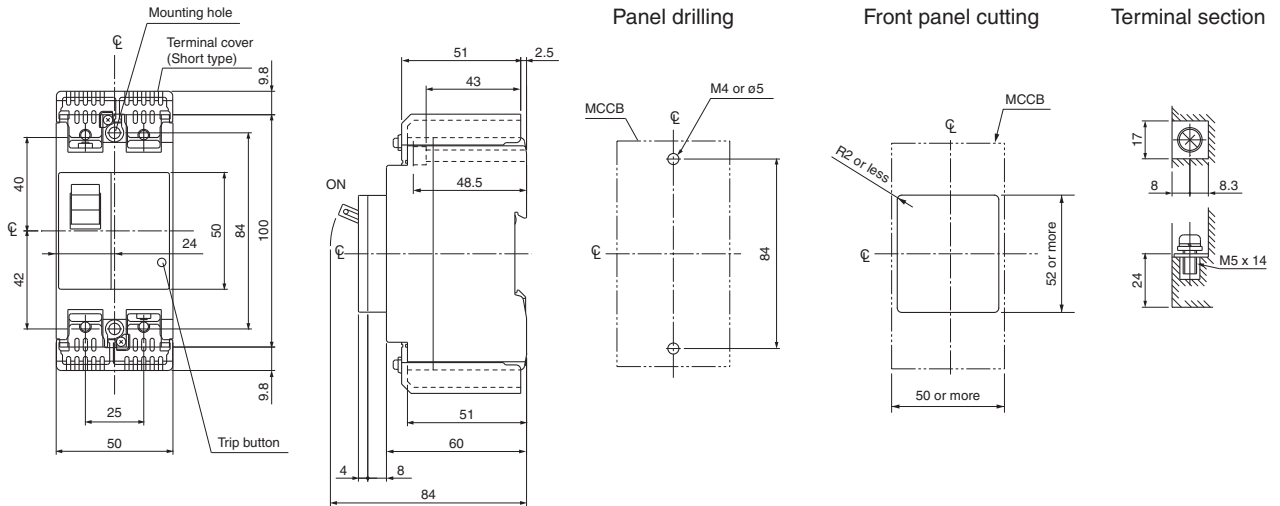
Molded Case Circuit Breakers

Dimensions / Global

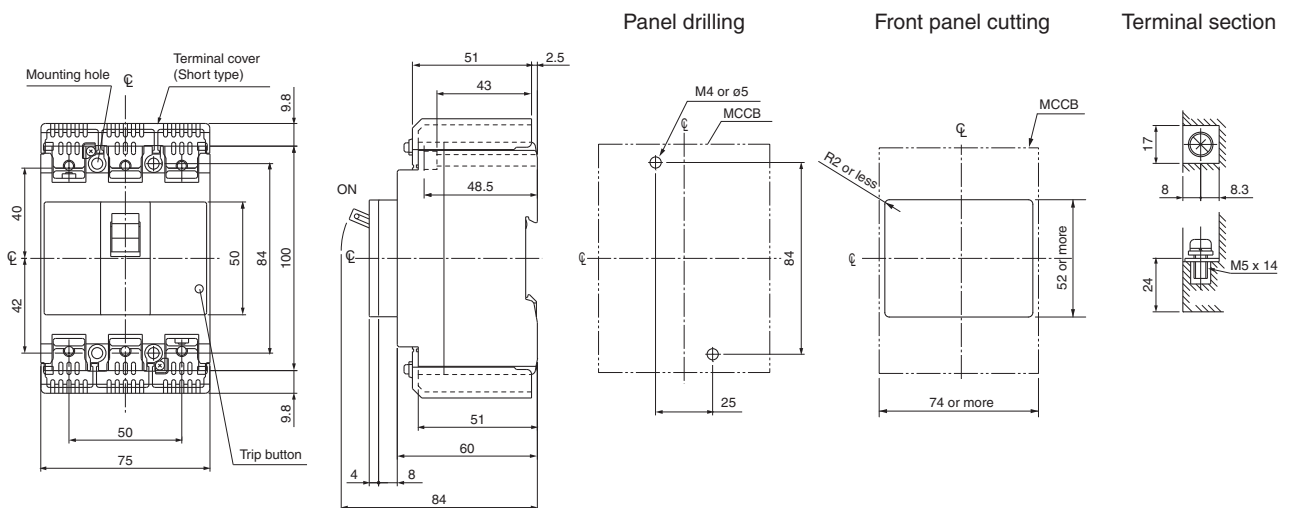
■ Dimensions, mm

● Front mounting, front connection

BW50RAGU-2P



BW50RAGU-3P





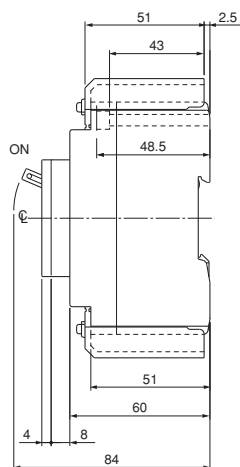
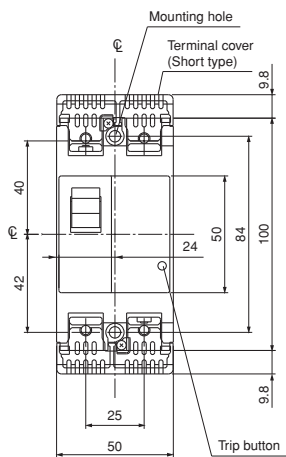
Molded Case Circuit Breakers

Dimensions / Global

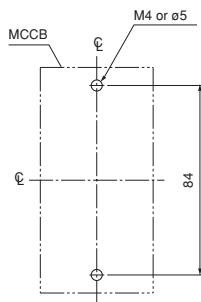
■ Dimensions, mm

● Front mounting, front connection

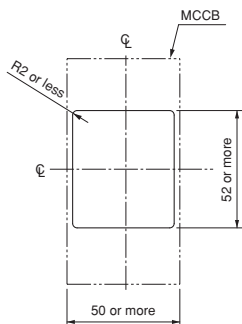
BW100EAGU-2P



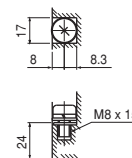
Panel drilling



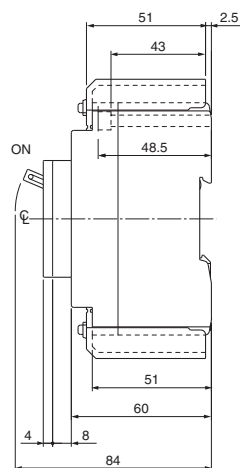
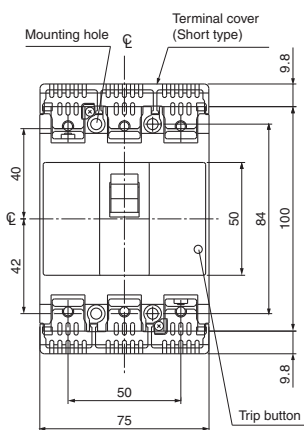
Front panel cutting



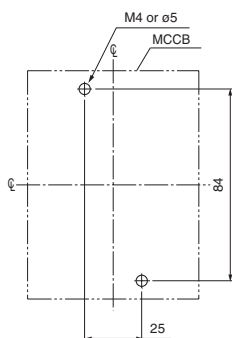
Terminal section



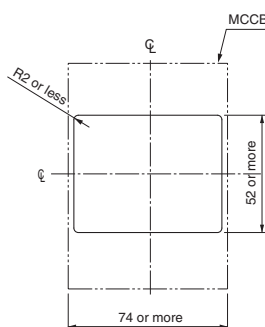
BW100EAGU-3P



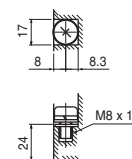
Panel drilling



Front panel cutting



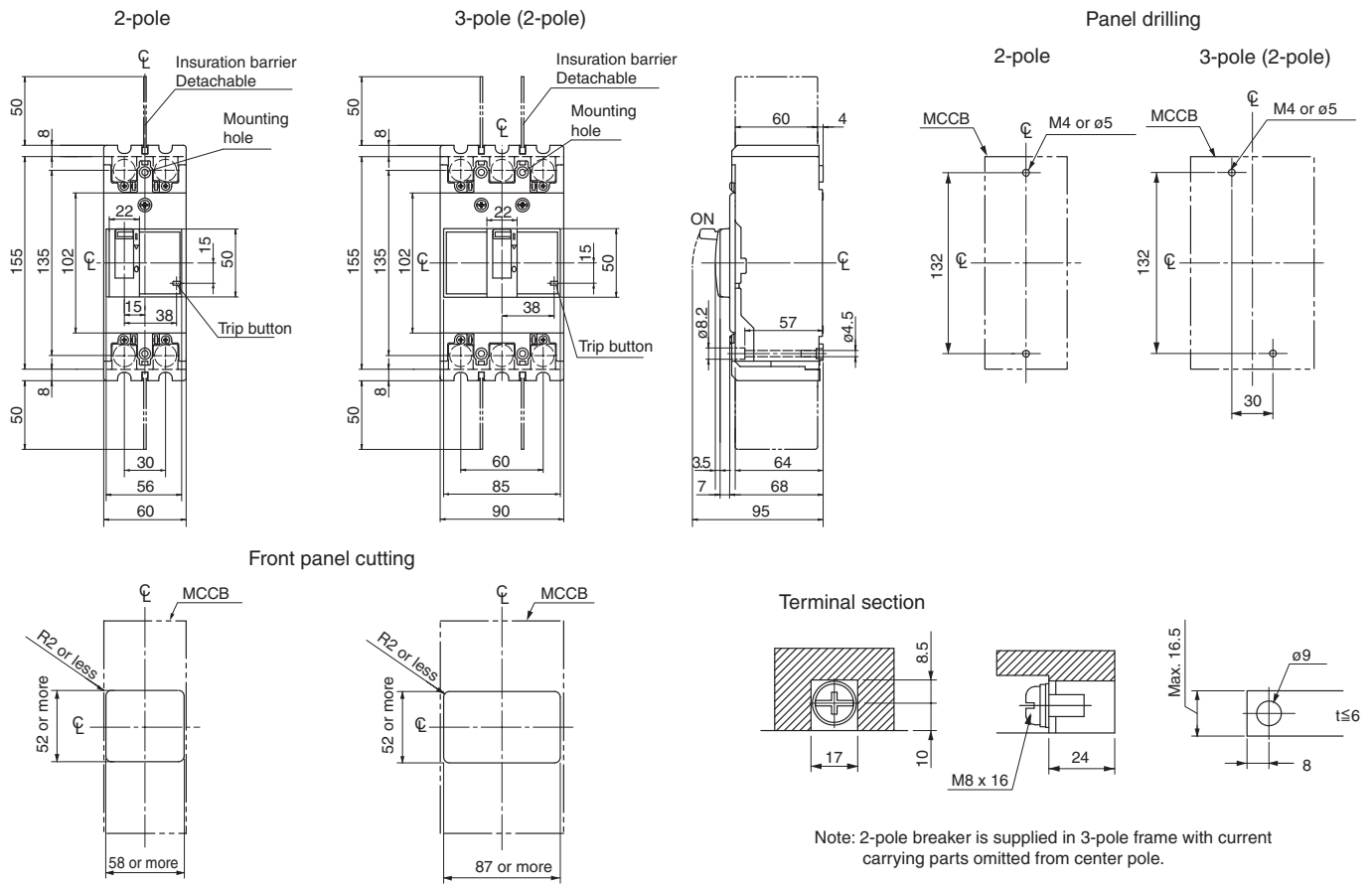
Terminal section



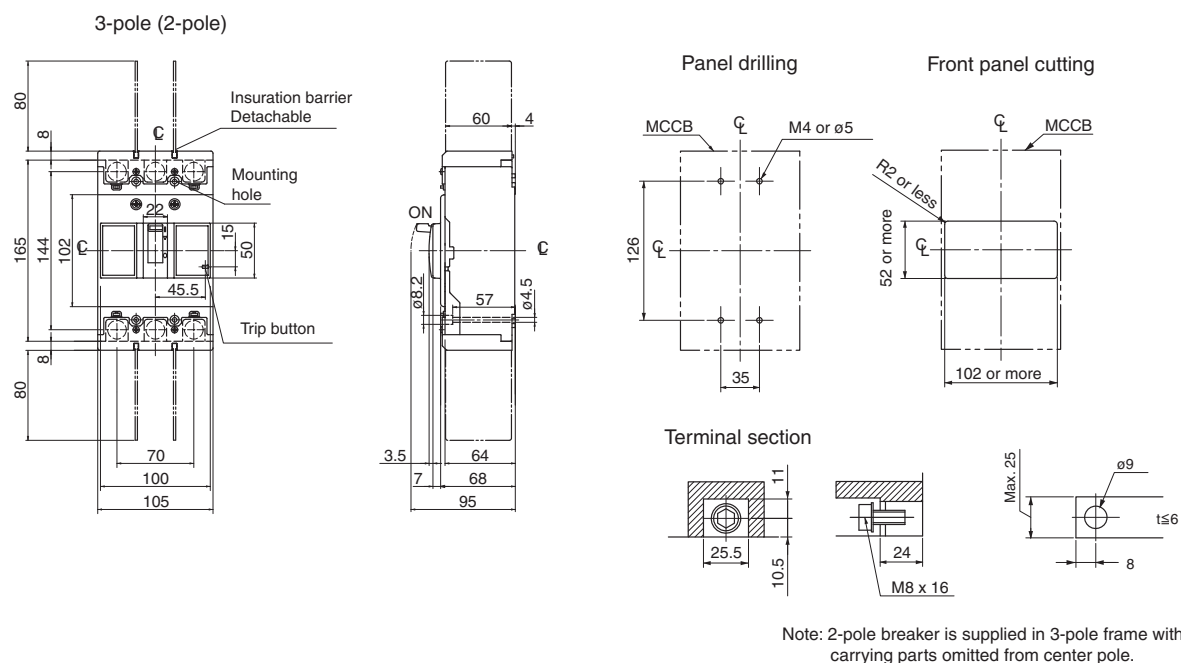
■ Dimensions, mm

● Front mounting, front connection

BW125□U-2P, 3P



BW250□U-2P, 3P





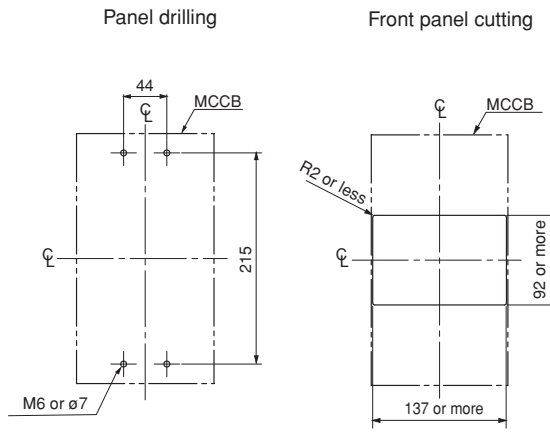
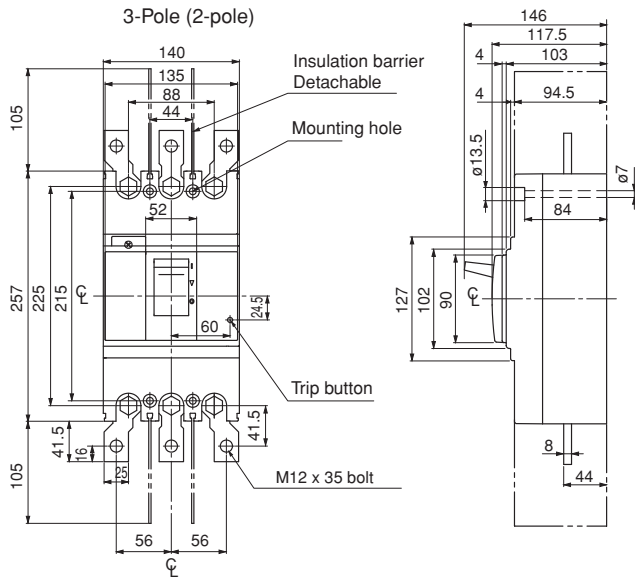
Molded Case Circuit Breakers

Dimensions / Global

■ Dimensions, mm

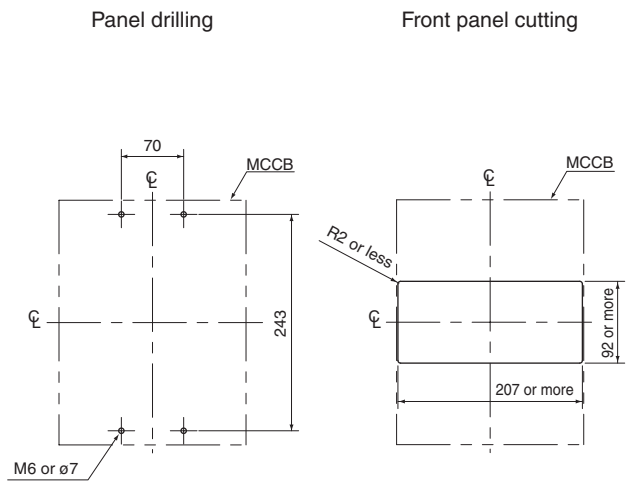
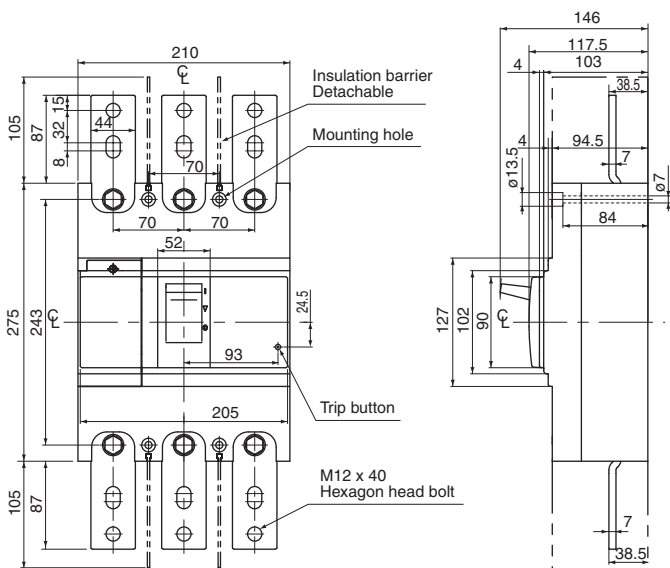
● Front mounting, front connection

BW400□U-2P, 3P



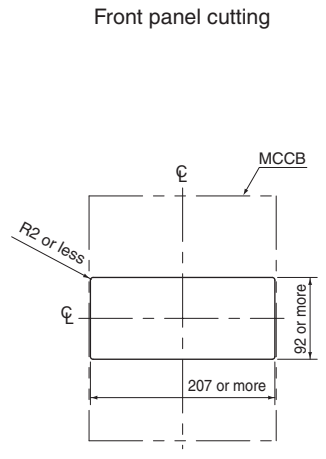
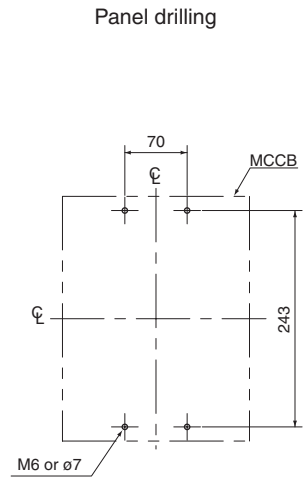
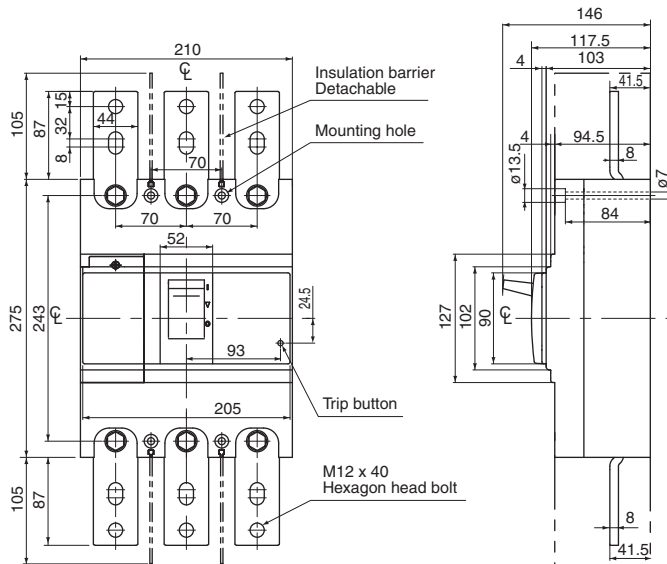
Note: 2-pole breaker is supplied in 3-pole frame with current carrying parts omitted from center pole.

BW630□U-3P



- Dimensions, mm
- Front mounting, front connection

BW800□U-3P



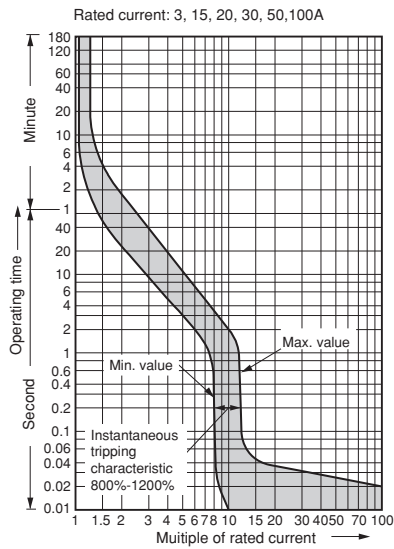
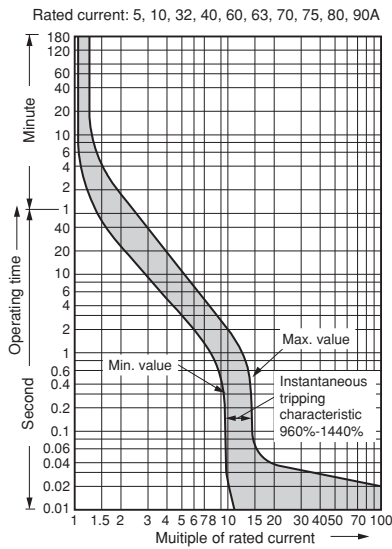


Molded Case Circuit Breakers

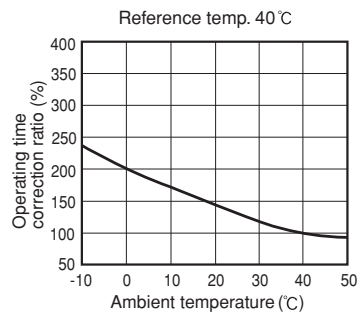
Characteristic curves

■ Characteristic curves / Line protection

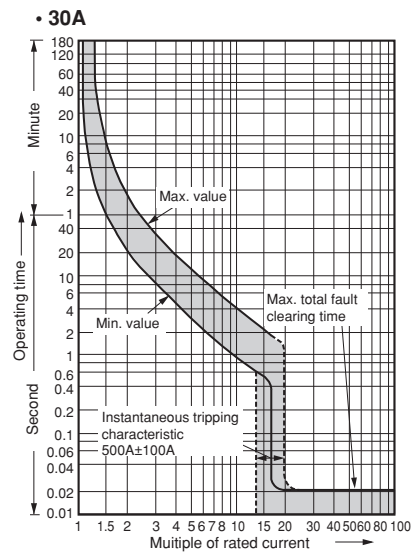
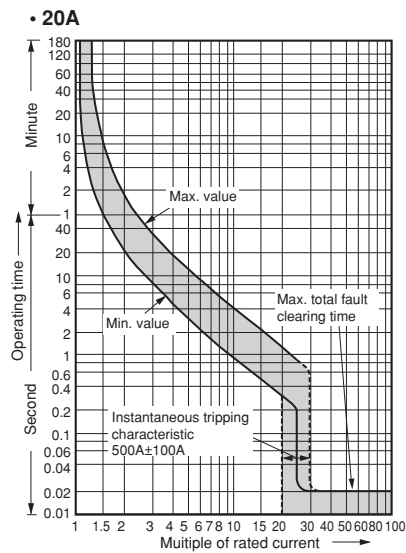
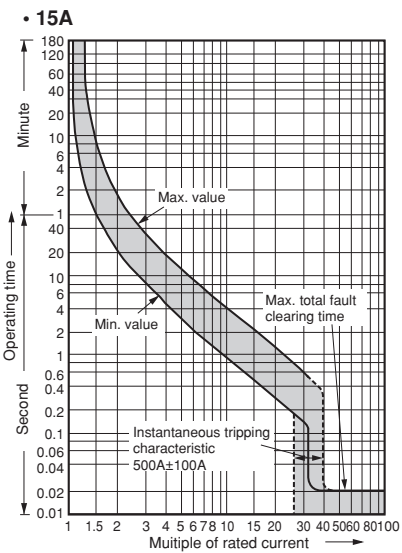
BW32, 50, 63, 100



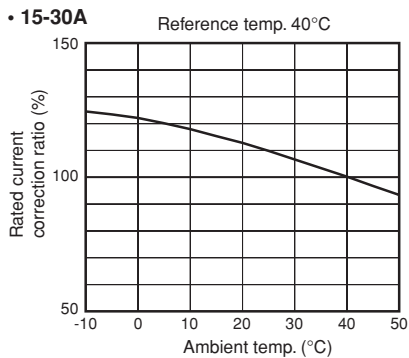
Temperature correction curve



BW50HAG, BW125



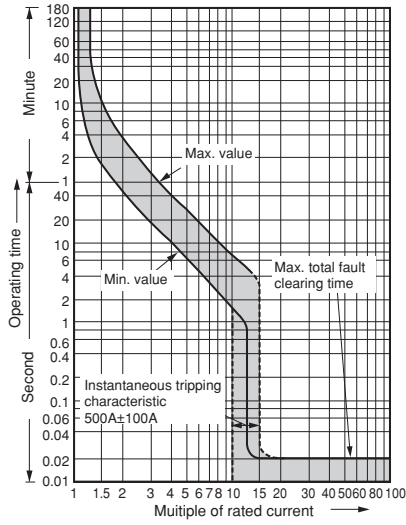
Temperature correction curve



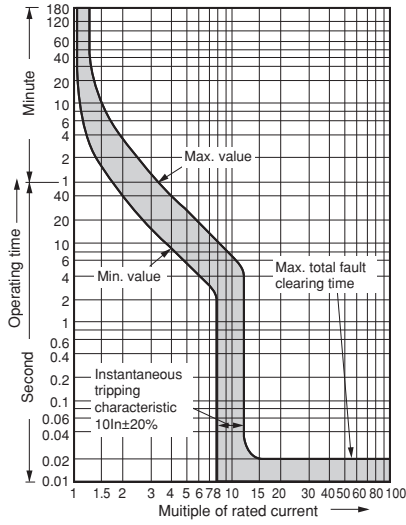
■ Characteristic curves / Line protection

BW50HAG, BW125

• 40A

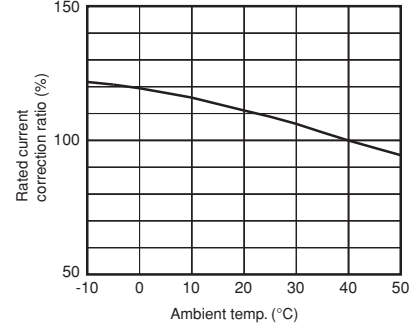


• 50-125A

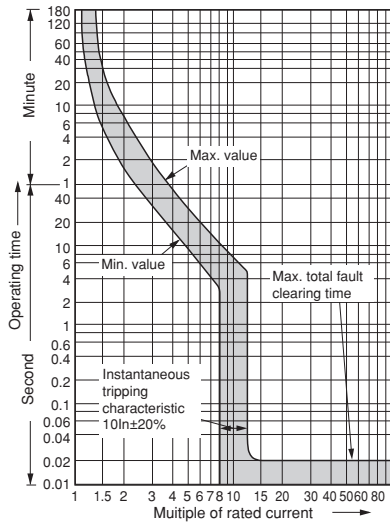


Temperature correction curve

• 40-125A Reference temp. 40°C

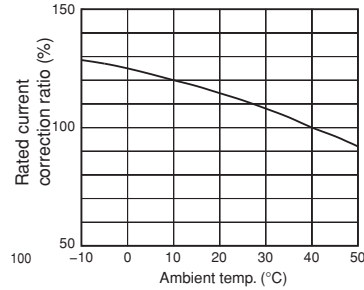


BW160, 250

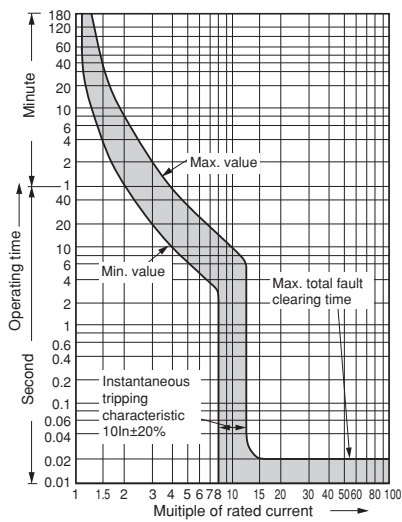


Temperature correction curve

Reference temp. 40°C

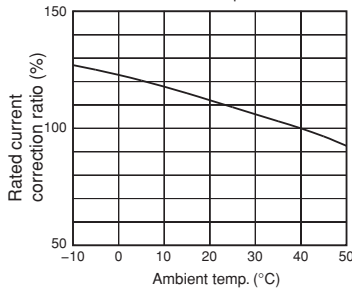


BW400



Temperature correction curve

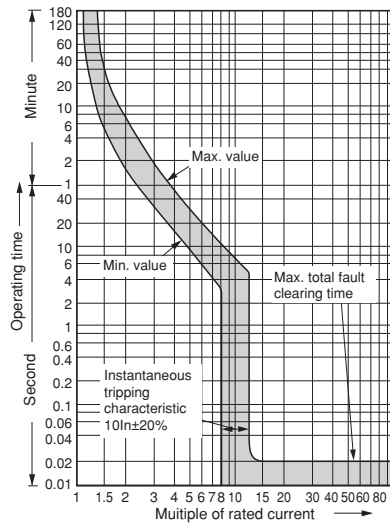
Reference temp. 40°C



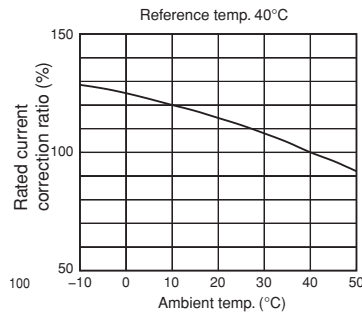


■ Characteristic curves / Line protection

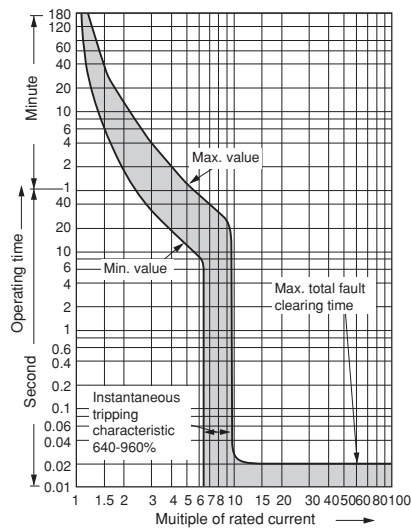
BW630



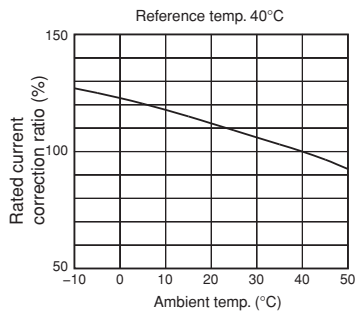
Temperature correction curve



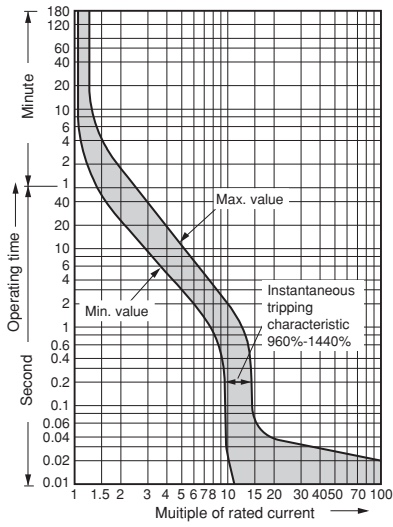
BW800



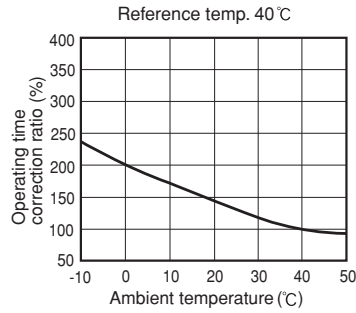
Temperature correction curve



■ Characteristic curves / Motor protection BW32, 50, 63, 100

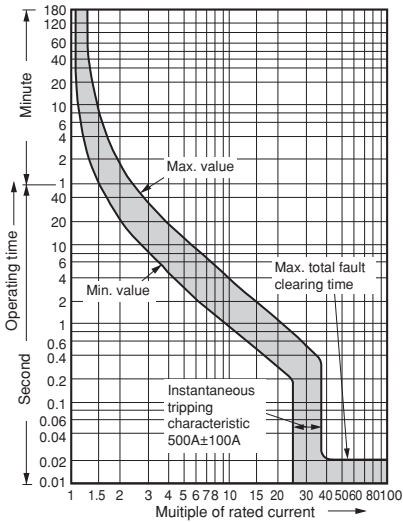


Temperature correction curve

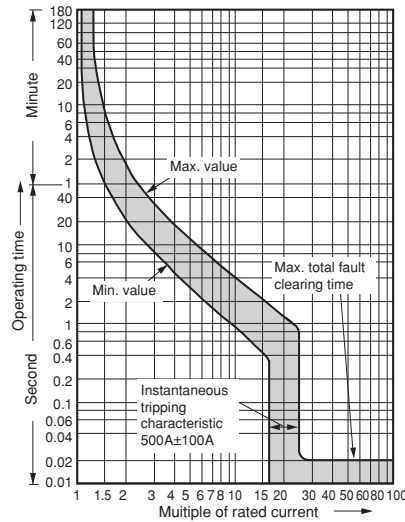


BW125

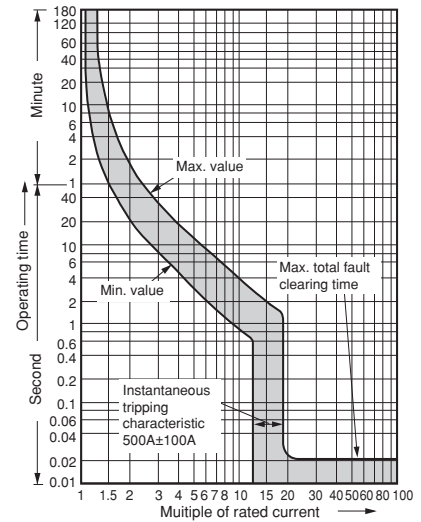
• 16A



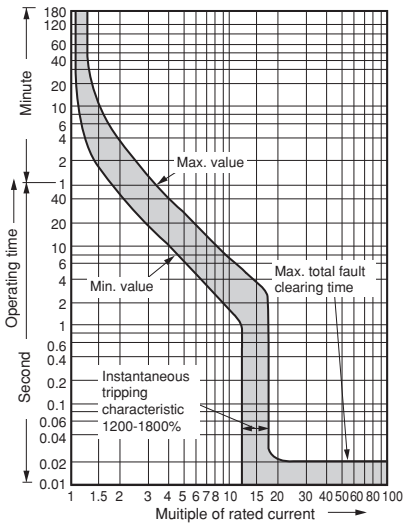
• 24A



• 32A

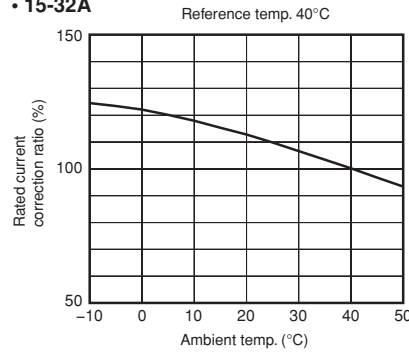


• 40-90A

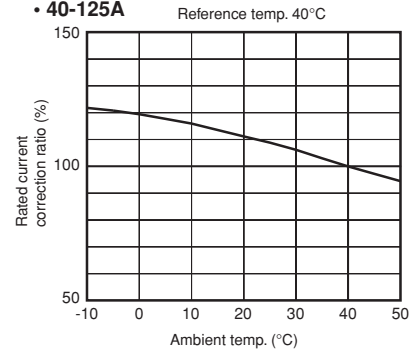


Temperature correction curve

• 15-32A



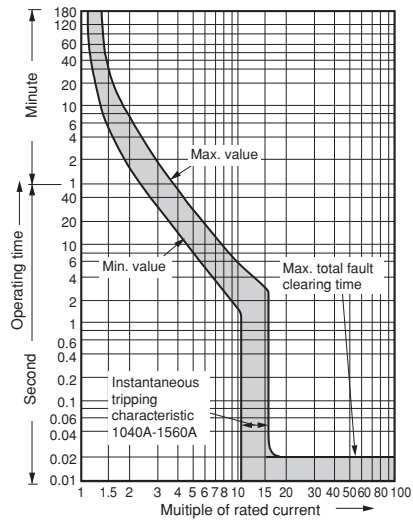
• 40-125A



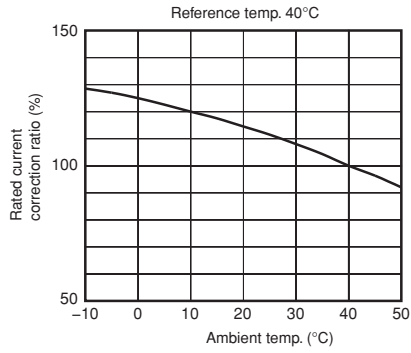


■ Characteristic curves / Motor protection

BW250



Temperature correction curve





Molded Case Circuit Breakers

Accessories

■ Variation of internal accessory

• 32 to 100AF

Auxiliary switch (Type W)



This switch is used for indicator lamp or control circuit.
See page 79.

Alarm switch (Type K)

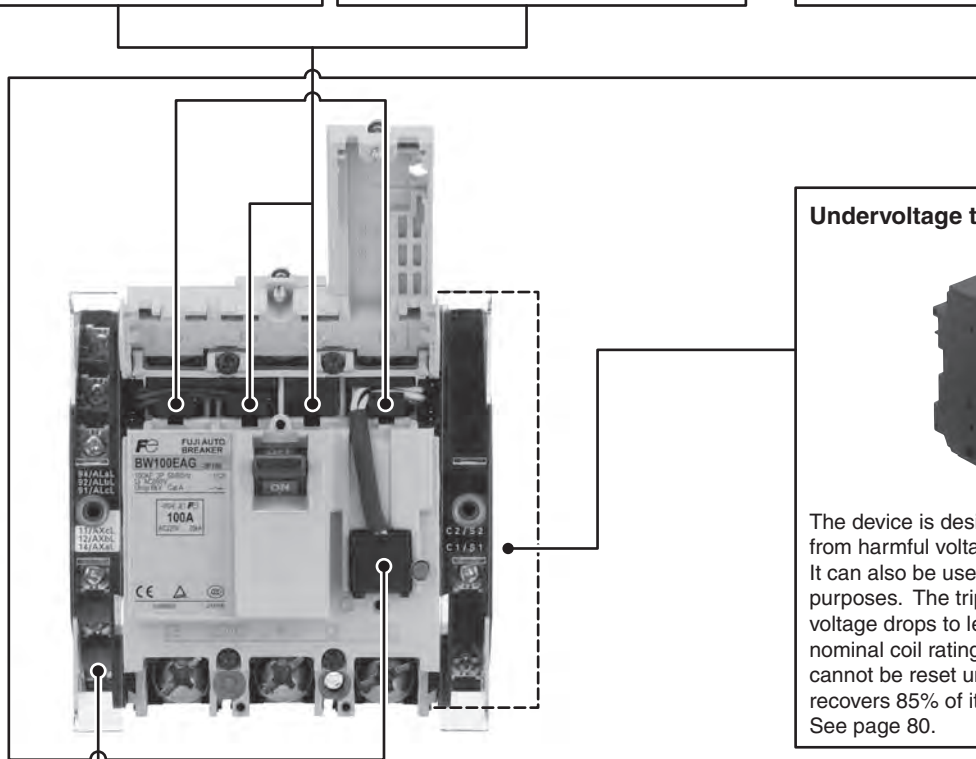


This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped.
See page 79.

Shunt trip device (Type F)



The purpose of this accessory is to trip the breaker from a distance.
See page 80.



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.
See page 80.

Terminal block (Type A)



A wiring terminal for internal accessories
(Order with W, K or F)
See page 81.



Molded Case Circuit Breakers

Accessories

■ Variation of internal accessory

• 125 to 250AF

Auxiliary switch (Type W)



This switch is used for indicator lamp or control circuit. See page 79.

Alarm switch (Type K)



This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped. See page 79.

Shunt trip device (Type F)

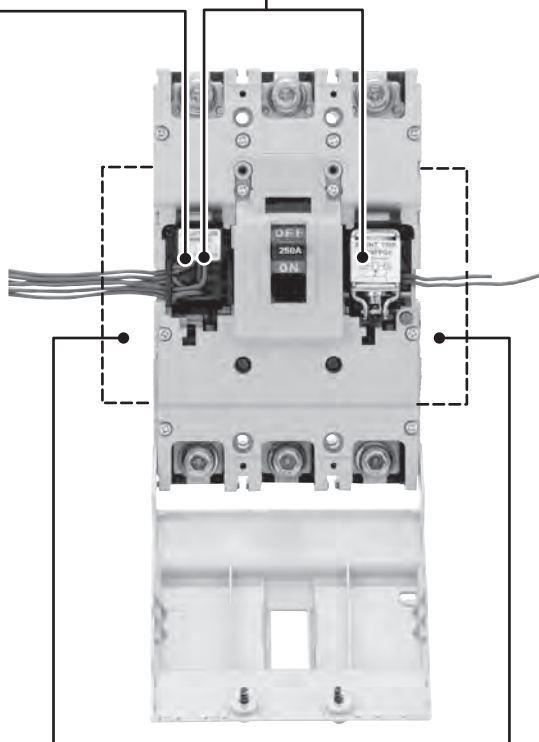


The purpose of this accessory is to trip the breaker from a distance. See page 80.

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. See page 80.



Terminal block (Type A)



A wiring terminal for internal accessories (Factory-mounted) See page 81.

■ Variation of internal accessory

• 400 to 800AF

Alarm switch (Type K)



This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped. See page 79.

Shunt trip device (Type F)



The purpose of this accessory is to trip the breaker from a distance. See page 80.

Terminal block (Type A)

A wiring terminal for internal accessories (Factory-mounted)
See page 81.

Undervoltage trip device (Type R)

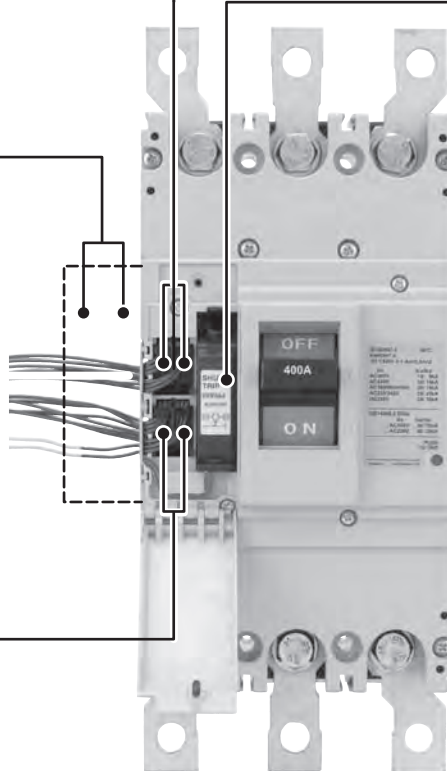


The device is designed to protect circuits from harmful voltage drops. It can also be used for remote control purposes. The trip operates when the voltage drops to less than 70% of nominal coil rating, and the breaker cannot be reset until the voltage recovers 85% of its normal rating. See page 80.

Auxiliary switch (Type W)



This switch is used for indicator lamp or control circuit. See page 79.

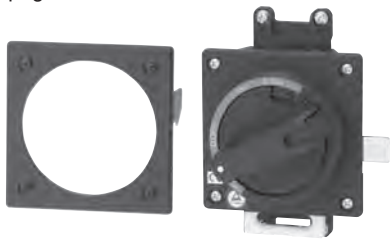




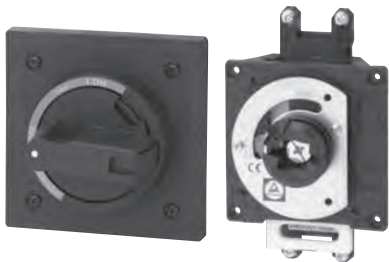
■ Variation of external accessory

External operating handles

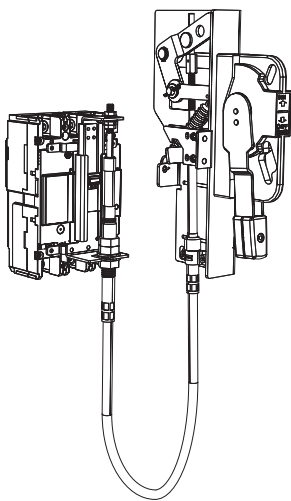
- N-type
See page 89.



- V-type
See page 89.



- F-type
See page 89.



**Terminal cover
Long type**
See page 100.



Interphase barrier
See page 102.

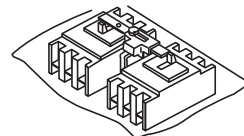


**Terminal cover
Short type**
See page 101.

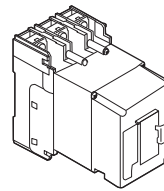
Steel enclosures
See page 98.



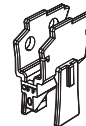
Mechanical interlock device
See page 85.



Motor-operating mechanism
See page 84.

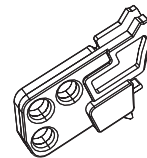


Handle locking cover (L1)
See page 103.

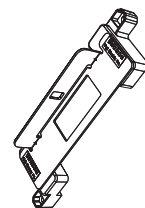


Padlocking device
See page 103.

- Cap type (Q1, QN)



- Plate type (Q2)



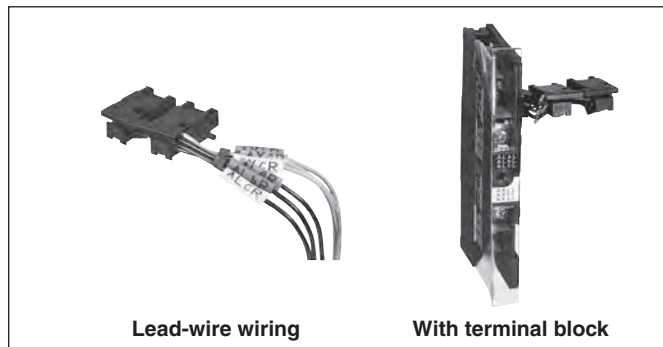


Molded Case Circuit Breakers

Internal accessories

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.
- For the available configuration of internal accessory, see page 73.



Terminal number of internal accessory

Accessory		32 – 250AF		400 – 800AF
		Left side mounting	Right side mounting	Left side mounting
Auxiliary switch	SPDT: W (1)*			
	2PDT: V (2)*			
Alarm switch	SPDT: K (8)*			
	2PDT: J (9)*			
Shunt trip device : F	With 1NO contact to prevent coil burn-out			—
	Continuous rating	—		
Undervoltage trip device : R				

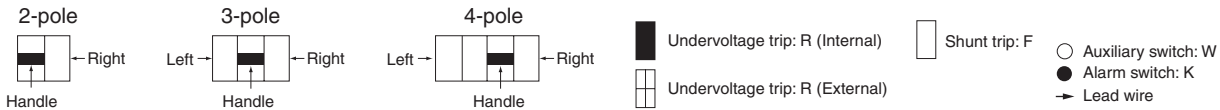
Note: * () Code of Low level circuit



Molded Case Circuit Breakers

Internal accessories

Available configurations



MCCB	BW32□-2P BW50□-2P BW63□-2P BW100□-2P	BW32□-3P BW50□-3P BW63□-3P BW100□-3P	BW125JAG-2P BW125JAGU-2P	BW125 BW160 BW250 (Except for BW125JAG-2P, BW125JAGU-2P)	BW400 BW630 BW800	
Pole	2	3	2	2, 3	4	2, 3, 4
Auxiliary switch SPDT: W (1)*						
Alarm switch SPDT: K (8)*						
Shunt trip: F						
Undervoltage trip: R	*2	*2				
W+K (1+8)						
Auxiliary switch 2PDT: V (2)						
Alarm switch 2PDT: J (9)						
V+K (2+8)						
W+J (1+9)						
V+J (2+9)						
W+F (1+F)						
W+R (1+R)	*2	*2				
K+F (8+F)						
K+R (8+R)	*2	*2				
W+K+F (1+8+F)						
W+K+R (1+8+R)	*2	*2				
V+F (2+F)						
V+R (2+R)		*2				
J+F (9+F)						
J+R (9+R)		*2				
V+K+F (2+8+F)						
V+K+R (2+8+R)		*2				
W+J+F (1+9+F)						
W+J+R (1+9+R)		*2				
V+J+F (2+9+F)				*1		
V+J+R (2+9+R)		*2		*1		

Notes: •The above table is applied to front mounting type, rear mounting type, flush mounting type, and plug-in mounting type.

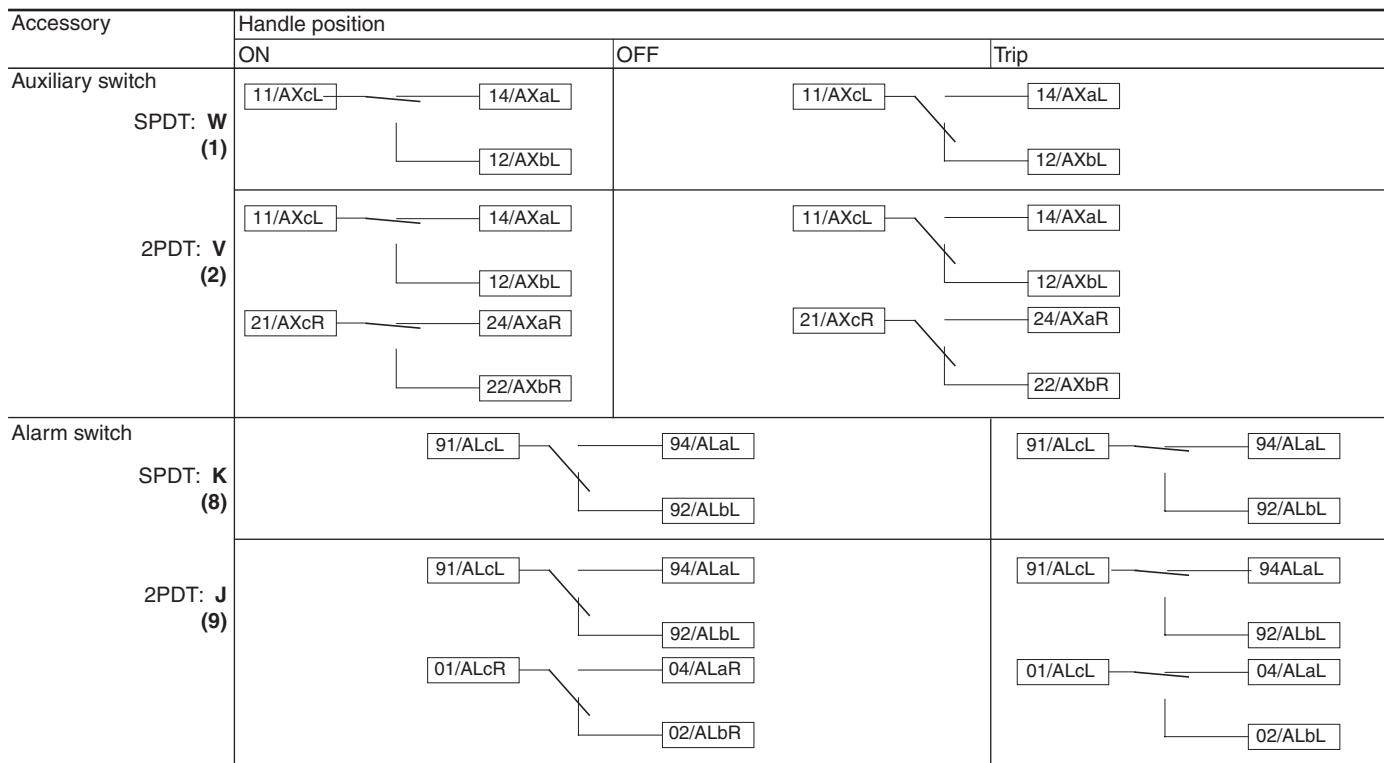
• Terminal block is attached on the same side of the accessory.

• () Code of low level circuit □: See page 12.

*1 Configurations with terminal block are not available.

*2 Flush mounting, rear connection type breakers of 100AF or less are not available.

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



Note: Ring mark indication
 () Code of low level circuit

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

• 32-100AF

	IEC60947-5-1		NECA C4505		Minimum load current	
	Voltage (V)	Make/break current (A)	Voltage (V)	Make/break current (A)		
		AC 15	DC 13	Res. load		
Standard type	125 AC	5	–	125 AC	5	5V DC 160mA 30V DC 30mA
	250 AC	5	–	250 AC	3	
	–	–	–	30 DC	4	
	125 DC	–	0.6	125 DC	0.4	
	250 DC	–	0.3	250 DC	0.2	
Low level circuit	–	–	–	30 DC	0.1	5V DC 1mA

• 125-800AF

	Rated thermal current (A)	Rated operational current (A)						Minimum load current
		AC			DC			
		Rated operational Voltage (V)	Res. load	Ind. load	Rated operational Voltage (V)	Res. load	Ind. load	
Standard type	5	24	5	5	24	4	3	5V DC 160mA 30V DC 30mA
		48	5	5	48	2.5	1	
		125	5	3	125	0.4	0.4	
		250	3	2	250	0.2	0.2	
Low level circuit	0.1	30	0.1	–	30	0.1	–	5V DC 1mA



Molded Case Circuit Breakers

Internal accessories

■ Rating of shunt trip (F)

MCCB type	AC		DC		Code	Time rating of coil	Opening time (ms)
	V	VA	V	W			
BW32 BW50 BW63 BW100	100-120	150	100-110	150	FAC100-120V/ DC100-110V	Continuous (With 1NO contact to prevent coil burn-out)	7-13
	200-240	150	–	–	FAC200-240V		
	380-450	200	–	–	FAC380-450V		
	24	150	24	150	FAC/DC24V		
BW125 BW160 BW250	24	50	24	50	FAC/DC24V		13-21
	48	50	48	50	FAC/DC48V		
	100-120	50	100-110	50	FAC100-120V/ DC100-110V		
	120-130	50	–	–	FAC120-130V		
	200-240	50	200-220	50	FAC200-240V/ DC200-220V		
	277	50	–	–	FAC277V		
	380-440	50	–	–	FAC380-440V		
BW400 BW630 BW800	24-48	2	24-48	2	FAC/DC24-48V	Continuous	8-20
	100-240	3	100-220	3	FAC100-240V DC100-220V		
	277	3	–	–	FAC277V		
	380-550	4	–	–	FAC380-550V		

Note: The operating tripping voltage range for shunt trip devices is 70% to 110% of the rated operating voltage.

■ Rating of undervoltage trip (R)

MCCB type	Installation	AC		DC		Code
		V	VA	V	W	
BW32 *2 BW50 *2 BW63 *2 BW100 *2	External	100 (50Hz)/ 100-110(60Hz)	2.8	–	–	RAC100(50Hz)/ 100-110V(60Hz)
		200 (50Hz)/ 200-220 (60Hz)	3.4	–	–	RAC200(50Hz)/ 200-220V(60Hz)
		400 (50Hz)/ 400-440 (60Hz)	4.4	–	–	RAC400(50Hz)/ 400-440V(60Hz)
		–	–	24 100-110	40	RDC24V RDC100-110V
BW125 *1 BW160 *1 BW250 *1	Internal	–	–	24	5	RDC24V
		–	–	48	5	RDC48V
		–	–	100-110	5	RDC100-110V
		–	–	125	5	RDC125V
		100-110	5	–	–	RAC100-110V
		110-130	5	–	–	RAC110V-130V
		200-240	5	–	–	RAC200-240V
		277	5	–	–	RAC277V
		380-415	5	–	–	RAC380-415V
440-480	5	–	–	RAC440V-480V		
BW400 *2 BW630 *2 BW800 *2	Internal	24	2	24	2	RAC/DC24V
		48	2	48	2	RAC/DC48V
		100-110	3	100-110	3	RAC/DC100-110V
		120-130	3	125	3	RAC120-130V/DC125V
		200-240	3	200-220	3	RAC200-240V/DC200-220V
		277	3	–	–	RAC277V
		380-480	4	–	–	RAC380-480V

Notes: • The operating voltages of undervoltage tripping devices are as follows:

Tripping voltage: 35% to 70% of rated voltage, closing voltage: 85% to 110% of rated voltage.

*1 Reset-allowed type: When the breaker handle is in the OFF or RESET state, tripping does not occur even if the R coil is not energized. Turning ON with the R coil not energized causes normal tripping.

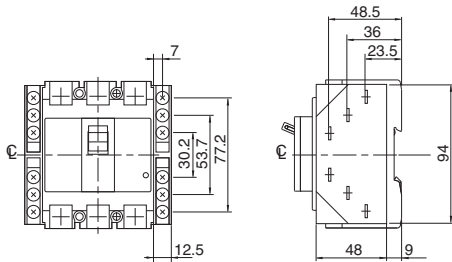
*2 Reset-prohibited type: When the R coil is not energized, reset operation cannot reset the tripped breaker to the OFF state.

Lead wire specification

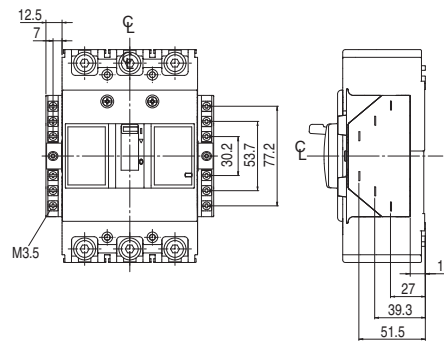
AF	Pole	wire size	Wire length
32 to 100AF	—	0.4mm ² (AWG22)	Ca 500mm
125 to 250AF	2P, 3P 4P	0.5mm ² (AWG20)	
400 to 800AF	2P, 3P 4P	0.5mm ²	Ca 500mm Ca 400 to 450mm

Terminal blocks

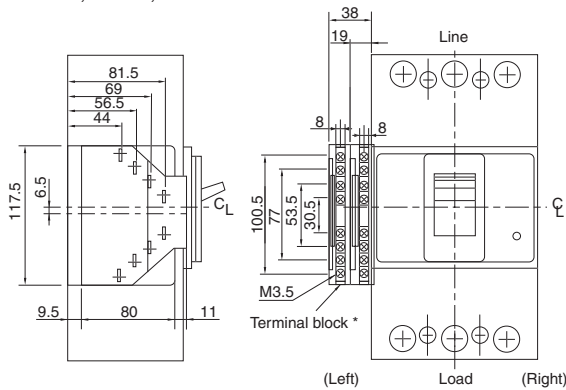
32AF, 50AF, 63AF, 100AF



125AF, 160AF, 250AF



400AF, 630AF, 800AF

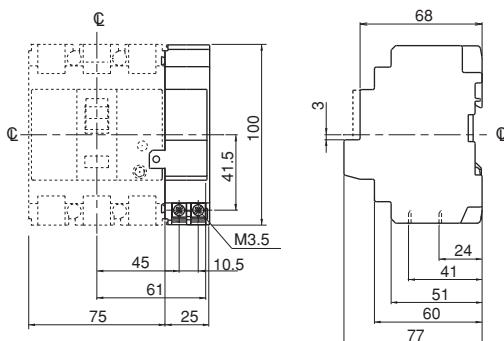


Notes:

- * If the chosen combination has more than 8 terminals, 2 terminal blocks are mounted.
- Mount the terminal block on the surface on which the accessories are mounted. See the table of the combinations of internal accessories on pages 80. for information on the accessory mounting position.
- Available wire: Solid wire: 1.6ø Stranded wire: 2mm²
- Terminal blocks are available as factory mounted only.

Undervoltage trip device

32AF, 50AF, 63AF, 100AF



Mass: 0.15kg



Molded Case Circuit Breakers

Internal accessories

■ Type number

Internal accessories (Sold separately)

• 32, 50, 63, 100AF IEC/EN/GB/JIS conformed

Accessory	Type				Operating voltage
	Lead wire system		Terminal block system		
	Left side	Right side	Left side	Right side	
Auxiliary switch	BZ6WL10C	BZ6WR10C	BZ6WL10CA	BZ6WR10CA	/
Auxiliary switch (low level circuit)	BZ6WDL10C	BZ6WDR10C	BZ6WDL10CA	BZ6WDR10CA	
Alarm switch	BZ6KL10C	BZ6KR10C	BZ6KL10CA	BZ6KR10CA	
Alarm switch (low level circuit)	BZ6KDL10C	BZ6KDR10C	BZ6KDL10CA	BZ6KDR10CA	
Auxiliary switch + Alarm switch	BZ6WKL10C	BZ6WKR10C	BZ6WKL10CA	BZ6WKR10CA	
Auxiliary switch + Alarm switch (low level circuit)	BZ6WDKDL10C	BZ6WDKDR10C	BZ6WDKDL10CA	BZ6WDKDR10CA	
Shunt trip device	-	BZ6FA10C	-	BZ6FA10CA	100-120V AC/100-110V DC
	-	BZ6FK10C	-	BZ6FK10CA	200-240V AC
	-	BZ6FP10C	-	BZ6FP10CA	380-450V AC
	-	BZ6FR10C	-	BZ6FR10CA	24V AC/DC
Undervoltage trip device	-	-	-	BZ6R210C	100V AC 50Hz/100-110V AC 60Hz
	-	-	-	BZ6R110C	110V AC 50Hz/110-127V AC 60Hz
	-	-	-	BZ6RW10C	200V AC 50Hz/200-220V AC 60Hz
	-	-	-	BZ6R410C	220V AC 50Hz/220-240V AC 60Hz
	-	-	-	BZ6R510C	230V AC 50Hz/230-240V AC 60Hz
	-	-	-	BZ6R810C	240V AC 50Hz
	-	-	-	BZ6R010C	380V AC 50Hz 380-415V AC 60Hz
	-	-	-	BZ6R910C	400V AC 50Hz 400-440V AC 60Hz
	-	-	-	BZ6RF10C	24V DC
	-	-	-	BZ6RT10C	100-110V DC

• 50, 100AF IEC/EN/GB/JIS/UL/CSA conformed

Accessory	Type				Operating voltage
	Lead wire system		Terminal block system		
	Left side	Right side	Left side	Right side	
Auxiliary switch	BZ6WL10CU	BZ6WR10CU	BZ6WL10CAU	BZ6WR10CAU	/
Auxiliary switch (low level circuit)	BZ6WDL10CU	BZ6WDR10CU	BZ6WDL10CAU	BZ6WDR10CAU	
Alarm switch	BZ6KL10CU	BZ6KR10CU	BZ6KL10CAU	BZ6KR10CAU	
Alarm switch (low level circuit)	BZ6KDL10CU	BZ6KDR10CU	BZ6KDL10CAU	BZ6KDR10CAU	
Auxiliary switch + Alarm switch	BZ6WKL10CU	BZ6WKR10CU	BZ6WKL10CAU	BZ6WKR10CAU	
Auxiliary switch + Alarm switch (low level circuit)	BZ6WDKDL10CU	BZ6WDKDR10CU	BZ6WDKDL10CAU	BZ6WDKDR10CAU	
Shunt trip device	-	BZ6FA10CU	-	BZ6FA10CAU	100-120V AC/100-110V DC
	-	BZ6FK10CU	-	BZ6FK10CAU	200-240V AC
	-	BZ6FP10CU	-	BZ6FP10CAU	380-450V AC
Undervoltage trip device	-	-	-	BZ6R210CAU	100V AC 50Hz/100-110V AC 60Hz
	-	-	-	BZ6RW10CAU	110V AC 50Hz/110-127V AC 60Hz
	-	-	-	BZ6R910CAU	200V AC 50Hz/200-220V AC 60Hz

• 125, 160, 250AF IEC/EN/GB/JIS/UL/CSA conformed

Accessory	Type				Operating voltage
	Lead wire system		Terminal block system		
	Left side	Right side	Left side	Right side *	
Auxiliary switch	BW9W1SG0	BW9W1SG0-R	BW9W1SG0-A	-	-
Auxiliary switch (low level circuit)	BW9W1DG0	BW9W1DG0-R	- *		
Alarm switch	BW9K1SG0	BW9K1SG0-R	BW9K1SG0-A		
Alarm switch (low level circuit)	BW9K1DG0	BW9K1DG0-R	- *		
Auxiliary switch + Alarm switch	BW9WKSG0	BW9WK1SG0-R	BW9WKSG0-A		
Auxiliary switch + Alarm switch (low level circuit)	BW9WKDG0	BW9WK1DG0-R	- *		
Shunt trip device	BW9FRG0	BW9FRG0	BW9FRG0-A		24V AC/DC
	BW9FSG0	BW9FSG0	BW9FSG0-A		48V AC/DC
	BW9FAG0	BW9FAG0	BW9FAG0-A		100-120V AC/100-110V DC
	BW9F1G0	BW9F1G0	BW9F1G0-A		120-130V AC
	BW9FKG0	BW9FKG0	BW9FKG0-A		200-240V AC/200-220V DC
	BW9FBG0	BW9FBG0	BW9FBG0-A		277V AC
	BW9FPG0	BW9FPG0	BW9FPG0-A		380-440V AC
	BW9FHG0	BW9FHG0	BW9FHG0-A		440-480V AC
	BW9FJG0	BW9FJG0	BW9FJG0-A		500-550V AC
Undervoltage trip devices	BW9RGAR	-	BW9RGAR-A		24V DC
	BW9RGAS		BW9RGAS-A		48V DC
	BW9RGAL		BW9RGAL-A		100-110V DC
	BW9RGA5		BW9RGA5-A		125V DC
	BW9RGAA		BW9RGAA-A		100-110V AC
	BW9RGAT		BW9RGAT-A		110-130V AC
	BW9RGAK		BW9RGAK-A		200-240V AC
	BW9RGAB		BW9RGAB-A		277V AC
	BW9RGAP		BW9RGAP-A		380-415V AC
	BW9RGAH		BW9RGAH-A		440-480V AC

Note: * Factory-mounted

• 400, 630, 800AF IEC/EN/GB/JIS/UL/CSA conformed

Accessory	Type		Operating voltage
	Lead wire system	Terminal block system *	
	Left side		
Auxiliary switch x 1	BW9W1SHA	-	-
Auxiliary switch x 2	BW9W2SHA		
Auxiliary switch (low level circuit) x 1	BW9W1DHA		
Auxiliary switch (low level circuit) x 2	BW9W2DHA		
Alarm switch x 1	BW9K1SHA		
Alarm switch x 2	BW9K2SHA		
Alarm switch (low level circuit) x 1	BW9K1DHA		
Alarm switch (low level circuit) x 2	BW9K2DHA		
Shunt trip device	BW9FHA-R		24-48V AC/DC
	BW9FHA-A		100-240V AC/100-220V DC
	BW9FHA-B		277V AC
	BW9FHA-P		380-550V AC
Undervoltage trip devices	BW9RHA-R		24V AC/DC
	BW9RHA-S		48V AC/DC
	BW9RHA-A		100-110 AC/DC
	BW9RHA-1		120-130V AC/125V DC
	BW9RHA-K		200-240V AC/200-220V DC
	BW9RHA-B		277V AC
	BW9RHA-P		380-480V AC

Note: * Factory-mounted



Molded Case Circuit Breakers

External accessories

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.

The breakers do not conform to IEC and EN standard.



■ Type and ratings

MCCB type	Motor rating			Power source capacity	Mass (kg)
	Operating voltage	Operating time	Time rating		
BW32□-3P□M, BW50□-3P□M, BW63□-3P□M, BW100□-3P□M	100V DC	0.1s	15s per on-off operation	500VA	1.2
	100/110V AC				1.3
200/220V AC					

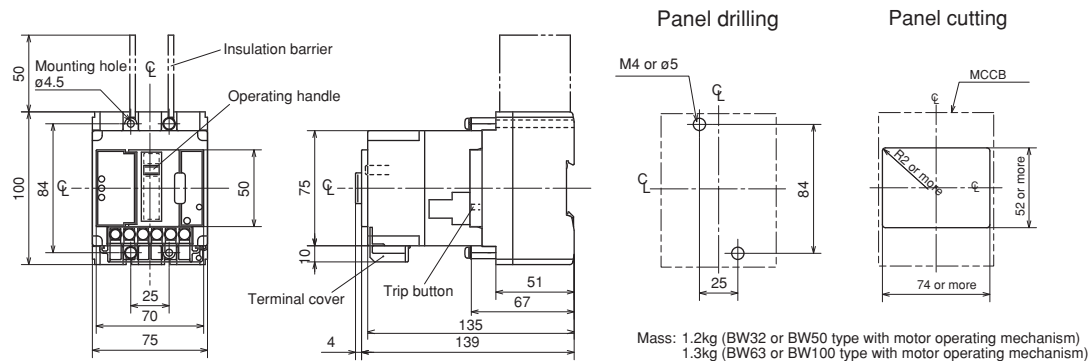
■ Ordering information

Specify the following:

1. Type number
2. Motor operating voltage

■ Dimensions, mm / Front mounting, front connection

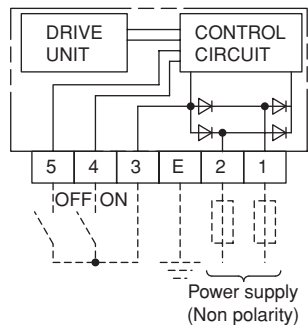
BW32□-3P, BW50□-3P, BW63□-3P, BW100□-3P,



- 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



Mechanical interlocking devices

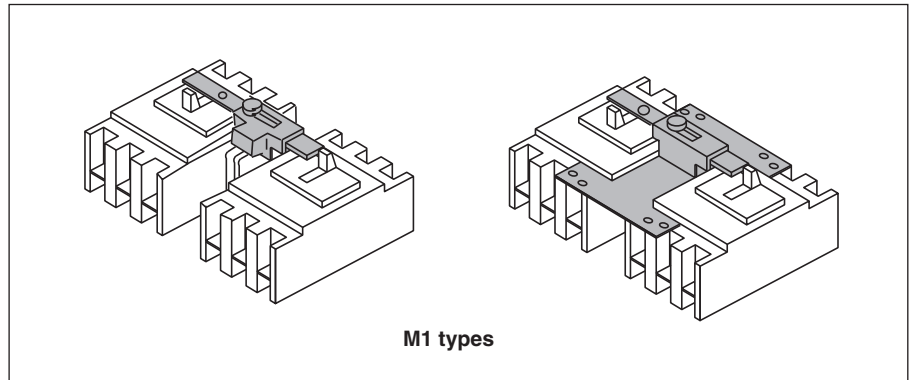
■ Description

These interlocking devices are mounted on the two separate breakers to prevent them from both being closed at the same time. A sliding mechanism that can be locked with a padlock is used. (The padlock is not included.)

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.



■ Type and applicable breakers

Type	Breaker type
BZ6M110C2	BW32AAG-2P, BW32SAG-2P BW50AAG-2P, BW50EAG-2P, BW50SAG-2P, BW50RAG-2P BW63EAG-2P, BW63SAG-2P, BW63RAG-2P BW100EAG-2P
BZ6M110C3	BW32AAG-3P, BW32SAG-3P BW50AAG-3P, BW50EAG-3P, BW50SAG-3P, BW50RAG-3P BW63EAG-3P, BW63SAG-3P, BW63RAG-3P BW100AAG-3P, BW100EAG-3P
BW9M1CA-2	BW125JAG-2P
BW9M1CA-3	BW125JAG-3P, BW125SAG-2P, BW125SAG-3P, BW125RAG-2P, BW125RAG-3P
BW9M1CA-4	BW125JAG-4P, BW125SAG-4P, BW125RAG-4P
BW9M1GA-3	BW160EAG-2P, BW160EAG-3P, BW160JAG-2P, BW160JAG-3P BW160SAG-2P, BW160SAG-3P, BW160RAG-2P, BW160RAG-3P BW250EAG-2P, BW250EAG-3P, BW250JAG-2P, BW250JAG-3P BW250SAG-2P, BW250SAG-3P, BW250RAG-2P, BW250RAG-3P
BW9M1GA-4	BW160JAG-4P, BW160SAG-4P, BW160RAG-4P BW250JAG-4P, BW250SAG-4P, BW250RAG-4P
BW9M1HA-3	BW400EAG-2P, BW400EAG-3P, BW400SAG-2P, BW400SAG-3P BW400RAG-2P, BW400RAG-3P, BW400HAG-2P, BW400HAG-3P
BW9M1HA-4	BW400RAG-4P, BW400HAG-4P
BW9M1JA-3	BW630EAG-3P, BW630RAG-3P, BW630HAG-3P BW800EAG-3P, BW800RAG-3P, BW800HAG-3P

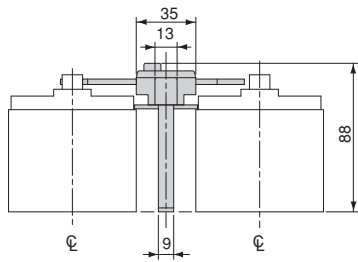
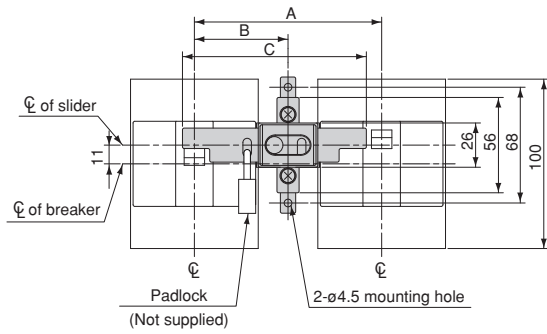


Molded Case Circuit Breakers

External accessories

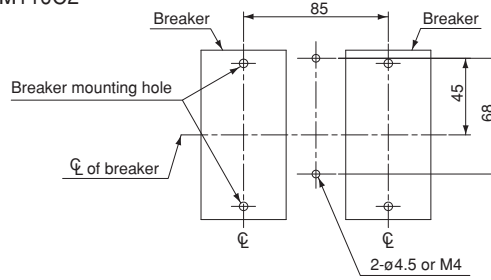
■ Dimensions, mm

• 32AF to 100AF

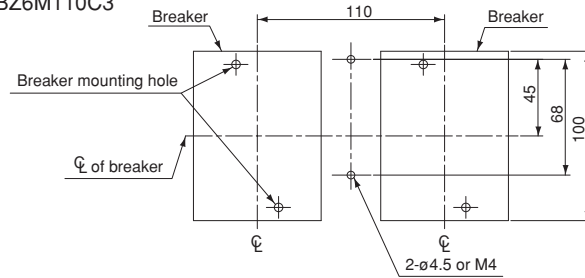


Panel drilling

BZ6M110C2

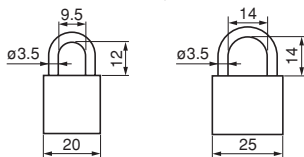


BZ6M110C3



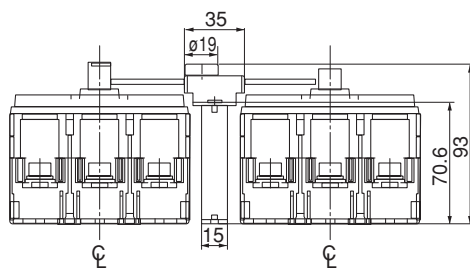
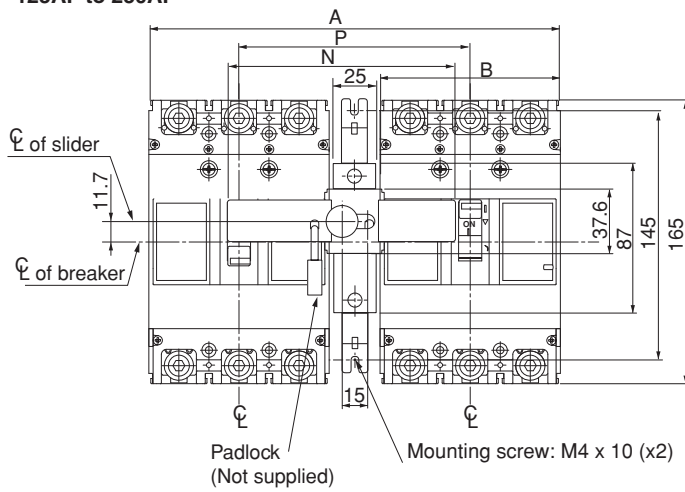
Type	Dimensions, mm			Mass (kg)
	A	B	C	
BZ6M110C2	85	42.5	83	0.11
BZ6M110C3	110	55	108	0.12

- Notes:
- BZ6M110C2 is not available for padlock.
 - Applicable padlock(ø3.5) dimensions, mm
 - External installation forms F and R are not applicable to the MCCB on the left of the diagram.



■ Dimensions, mm

• 125AF to 250AF



Panel drilling

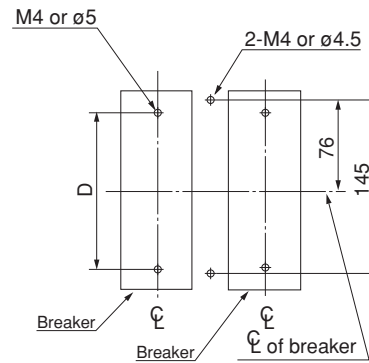


Fig.1

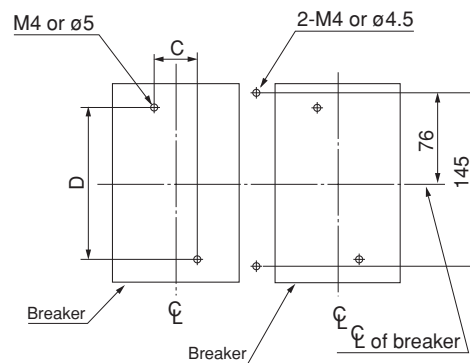


Fig.2

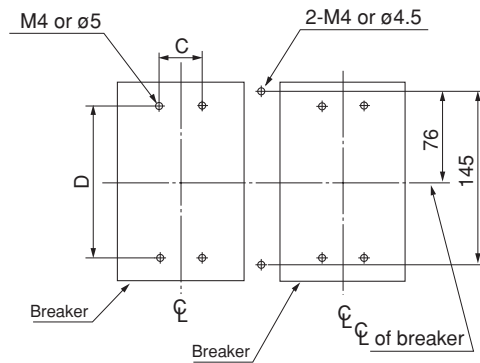


Fig.3

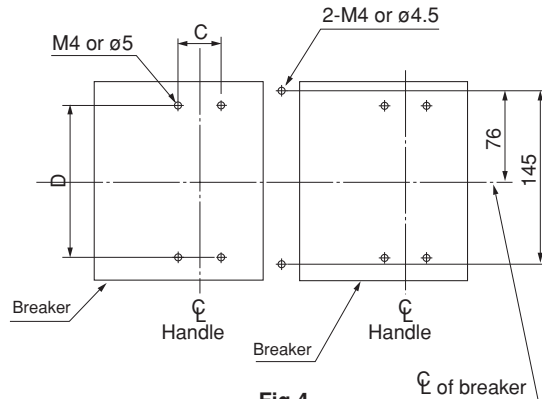
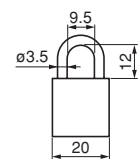


Fig.4

Type	Dimensions, mm						Panel Drilling	Mass(Kg)
	P	N	A	B	C	D		
BW9M1CA-2	90	88	150	60	—	132	Fig.1	
BW9M1CA-3	120	118	210	90	30	132	Fig.2	
BW9M1CA-4	150	148	270	102	30	132	Fig.4	
BW9M1GA-3	135	133	240	105	35	126	Fig.3	
BW9M1GA-4	170	168	310	140	35	126	Fig.4	

- Notes:
- The dimensions and Breaker mounting holes for back surface mounting are different from those given above. Inquire for details.
 - If a padlock is required, use a commercially available padlock with the dimensions shown in the diagram at the right.
 - External installation forms F and R are not applicable to the MCCB on the left of the diagram.



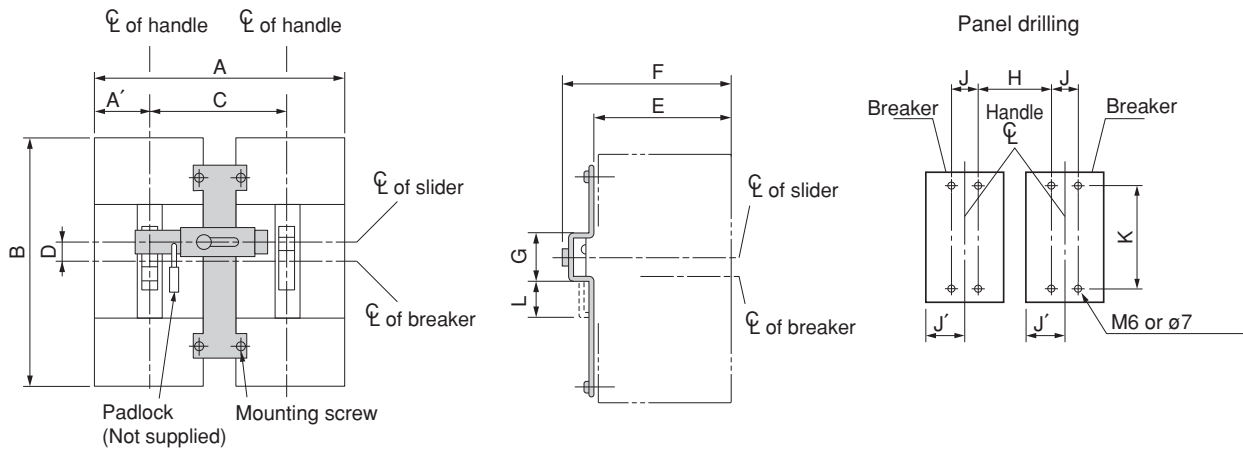


Molded Case Circuit Breakers

External accessories

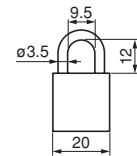
■ Dimensions, mm

• 400AF to 800AF



Type	Dimensions, mm											Mass(Kg)
	A (A')	B	C	D	E	F	G	H	J (J')	K	L	
BW9M1HA-3	355 (70)	257	215	20	94.5	132.5	54.5	171	44 (70)	215	38	
BW9M1HA-4	470 (140)	257	260	20	94.5	132.5	54.5	216	44 (140)	215	38	
BW9M1JA-3	500 (105)	275	290	20	94.5	132.5	54.5	220	70 (105)	243	38	

- Notes:
- The dimensions and Breaker mounting holes for back surface mounting are different from those given above. Inquire for details.
 - If a padlock is required, use a commercially available padlock with the dimensions shown in the diagram at the right.
 - External installation forms F and R are not applicable to the MCCB on the left of the diagram.



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 800 ampere frame sizes. Conformed to EN60947-1 isolation function. Available for EN60204-1 power breaking device. Conformed to UL489 (File No.E93289)

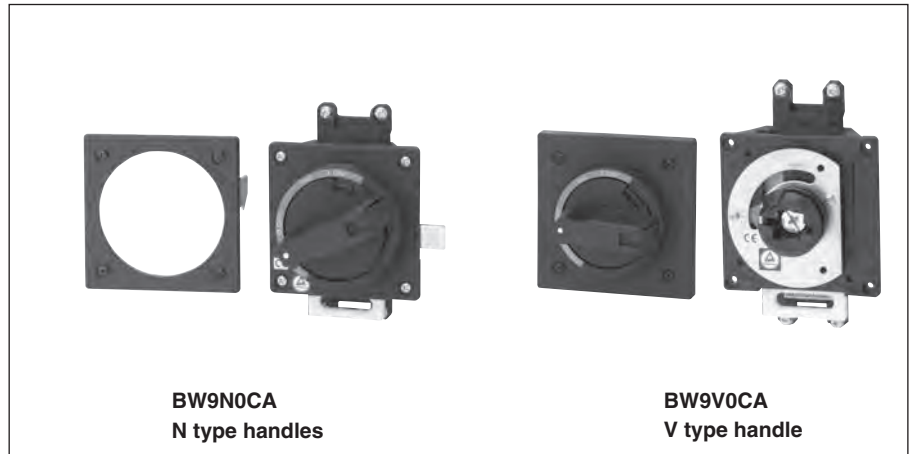
V type handle

The V type handle may be fitted to breakers of up to 800AF. A separately sold extension shaft provides distance adjustment between the handle and breaker. Conformed to EN60947-1 isolation function. Available for EN60204-1 power breaking device. Conformed to UL489 (File No.E93289)

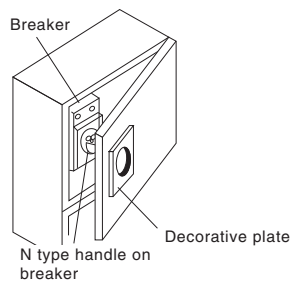
F type handle

The F type handle may be fitted to breakers of 125 to 400AF. It is a flange type handle, which is commonly used in the North American market. The drive section of the breaker and the external operating handle are connected with an optional cable. Positioning between the breaker and the external operating handle is not required.

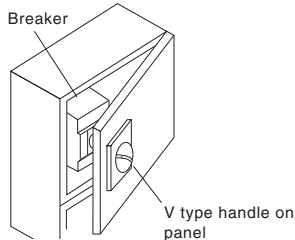
Conformed to UL489 (File No.E93289)



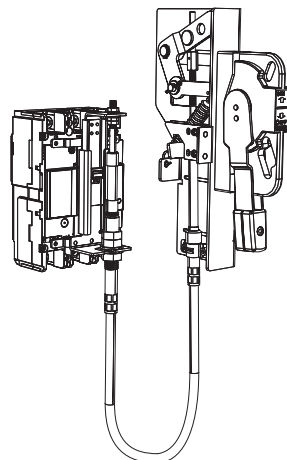
N type handles



V type handles



F type handles





Molded Case Circuit Breakers

External accessories

N type handles

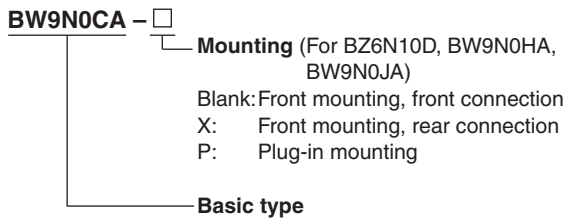
MCCB	N type handle
BW32	BZ6N10D
BW50	
BW63	
BW100	
BW125	BW9N0CA
BW160	BW9N0GA
BW250	
BW400	BW9N0HA
BW630	BW9N0JA
BW800	

V type handles

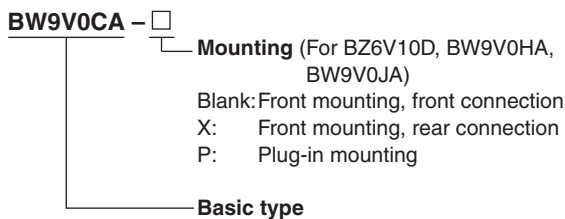
MCCB	V type handle
BW32	BZ6V10D
BW50	
BW63	
BW100	
BW125	BW9V0CA
BW160	BW9V0GA
BW250	
BW400	BW9V0HA
BW630	BW9V0JA
BW800	

■ Type number nomenclature

• N type handle



• V type handle

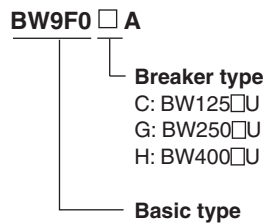


Note:
 To order a V handle for front-mounting rear connection breakers, add "-X" to the type number; for plug-in mounting breakers, add "-P" to the type number.

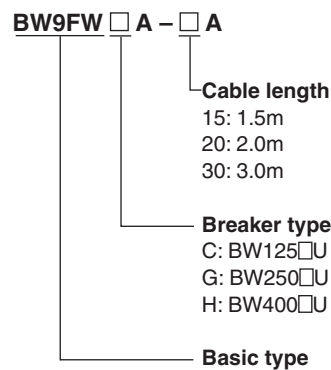
F type handles

MCCB	N type handle
BW125	BW9F0CA
BW250	BW9F0GA
BW400	BW9F0HA

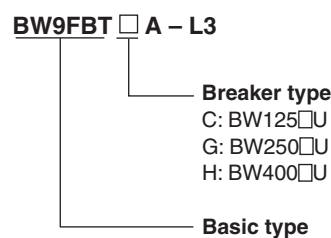
• F type handle



Cable (For F type)



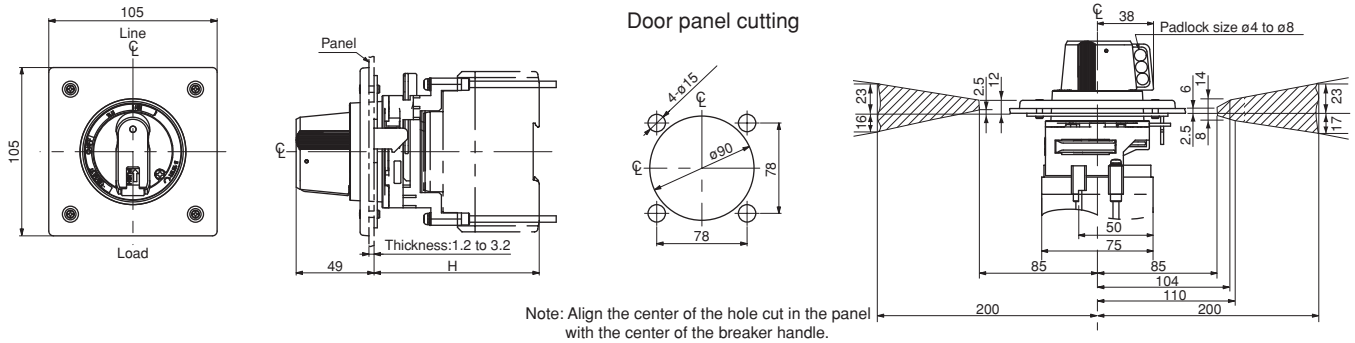
Terminal cover (For F type)



■ Dimensions, mm

N type handle

• BZ6N10D

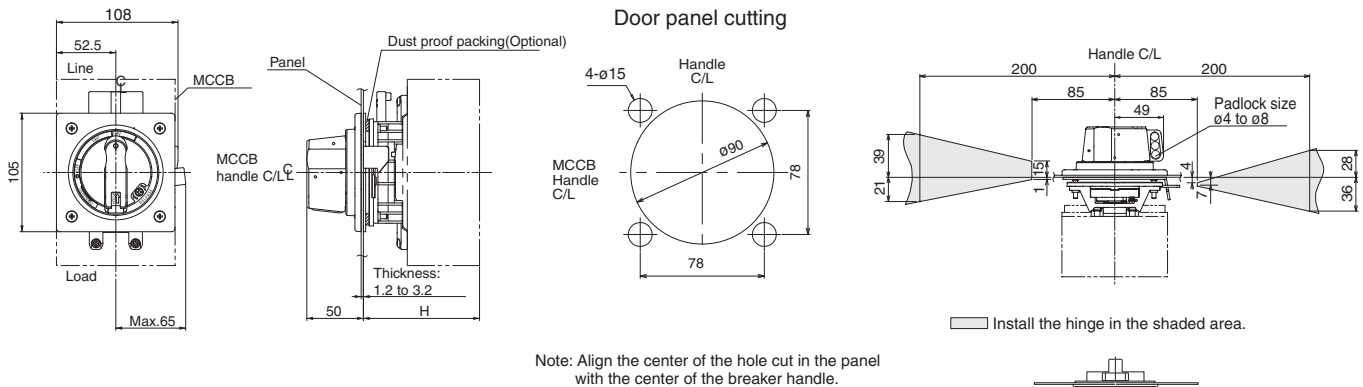


Note: Align the center of the hole cut in the panel with the center of the breaker handle.

Install the hinge in the shaded area.

MCCB	Handle type	Dust proof packing	Mounting screw	H (mm)	Mass (kg)
BW32	BZ6N10D	Provided	M4 x 85	103	0.47
BW50	BZ6N10D-X	Provided	Contact FUJI.	111	
BW63	BZ6N10D-P			111	
BW100					

• BW9N0CA, BW9N0GA



Note: Align the center of the hole cut in the panel with the center of the breaker handle.

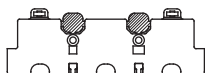
Install the hinge in the shaded area.

MCCB	Handle type	Dust proof packing	Mounting screw	H (mm)	Mass (kg)
BW125	BW9N0CA *1	BZ-NP-1C	M4 x 85	103±2	0.56
BW160	BW9N0GA *2	BZ-NP-1C	M4 x 85	103±2	0.56
BW250					

- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.) The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.

*1 The Terminal Cover and Handle cannot be attached at the same time for the BW125JAG-2P or BW125RAGU-2P. Select the BW125JAG-3P or BW125RAGU-3P to use a Handle.

*2 The terminal cover will cover the mounting screws for the Breaker. When attaching the terminal cover, a portion of the terminal cover will need to be removed. Remove portion A in the following diagram.

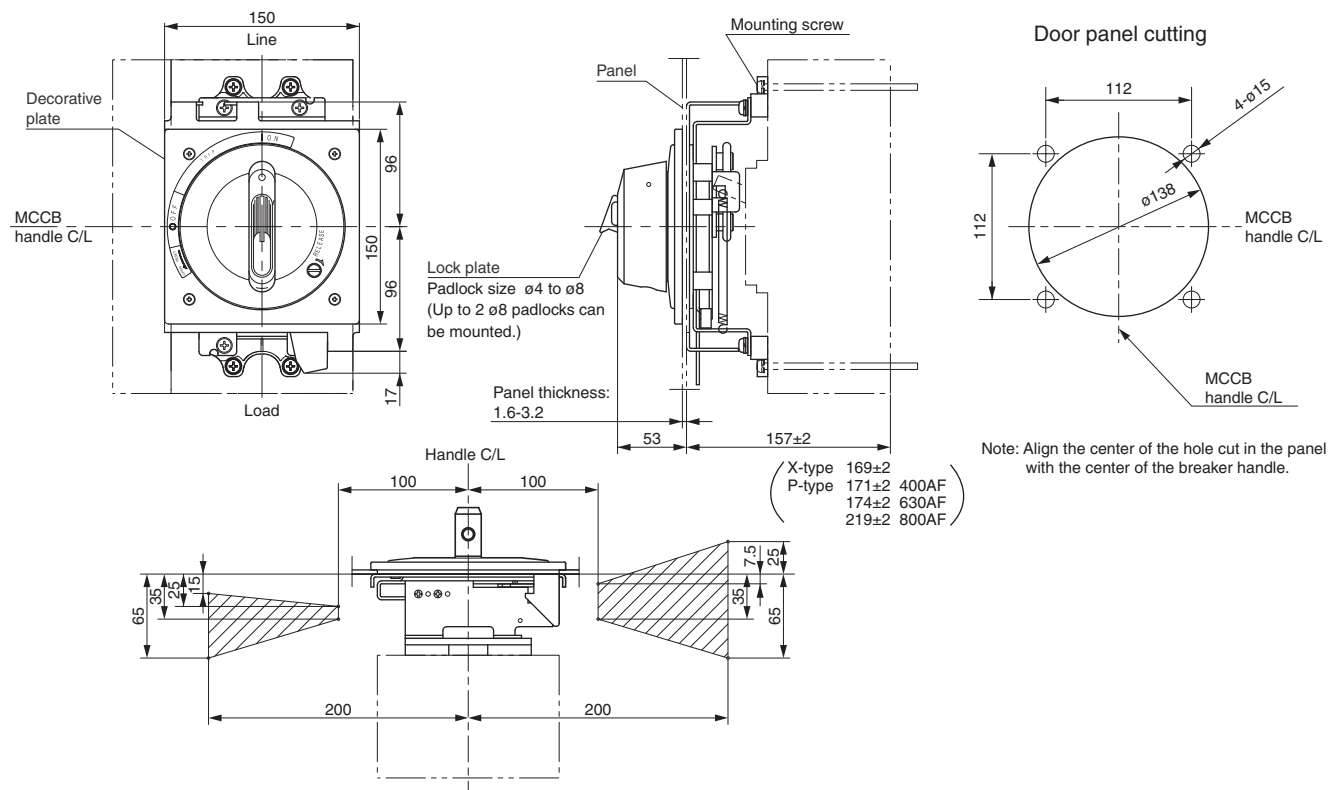




Molded Case Circuit Breakers

External accessories

• BW9N0HA, BW9N0JA

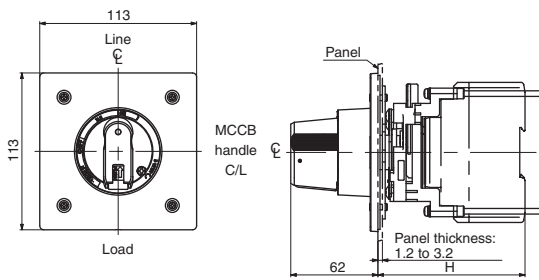


Install the door hinge in the shaded area.

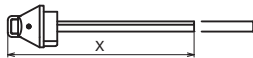
MCCB	Handle type	Dust proof packing	Mounting screw	Mass (kg)
BW400	BW9N0HA BW9N0HA-X BW9N0HA-P	BZ-NP-2	M6 x 110 M6 x 115 Contact FUJI.	1.9
BW630 BW800	BW9N0JA BW9N0JA-X BW9N0JA-P	BZ-NP-2	M6 x 110 M6 x 115 Contact FUJI.	1.9

- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.)
The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.
 - Not available for side mounting.

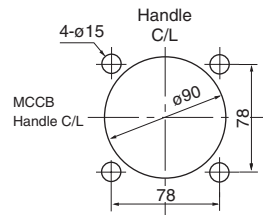
■ Dimensions, mm
V type handle
 • BZ6V10D



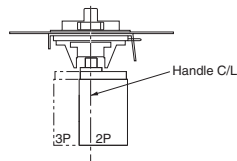
Optional shaft BZ6VS1D
 $X = H - 105$



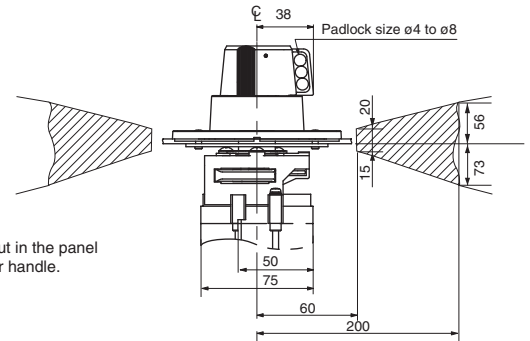
Door panel cutting



Note: Align the center of the hole cut in the panel with the center of the breaker handle.

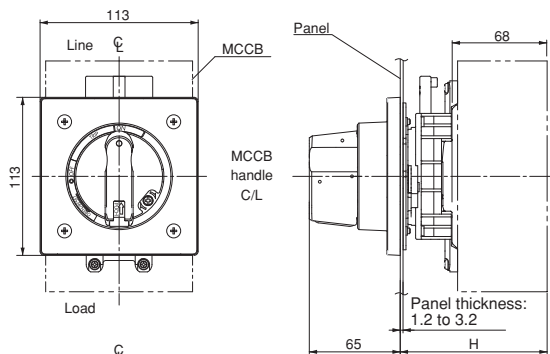


Door hinge installation area

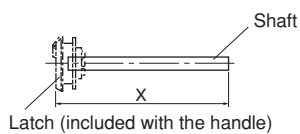


Install the door hinge in the shaded area.

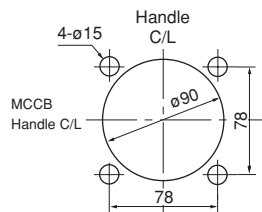
• BW9V0CA, BW9V0GA



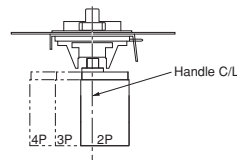
Optional shaft BW9VSG0
 $X = H - 95$



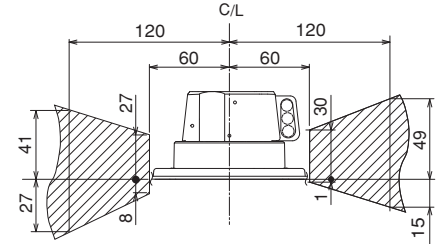
Door panel cutting



Note: Align the center of the hole cut in the panel with the center of the breaker handle.



Door hinge installation area



Install the door hinge in the shaded area.

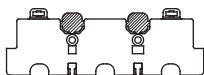


Molded Case Circuit Breakers

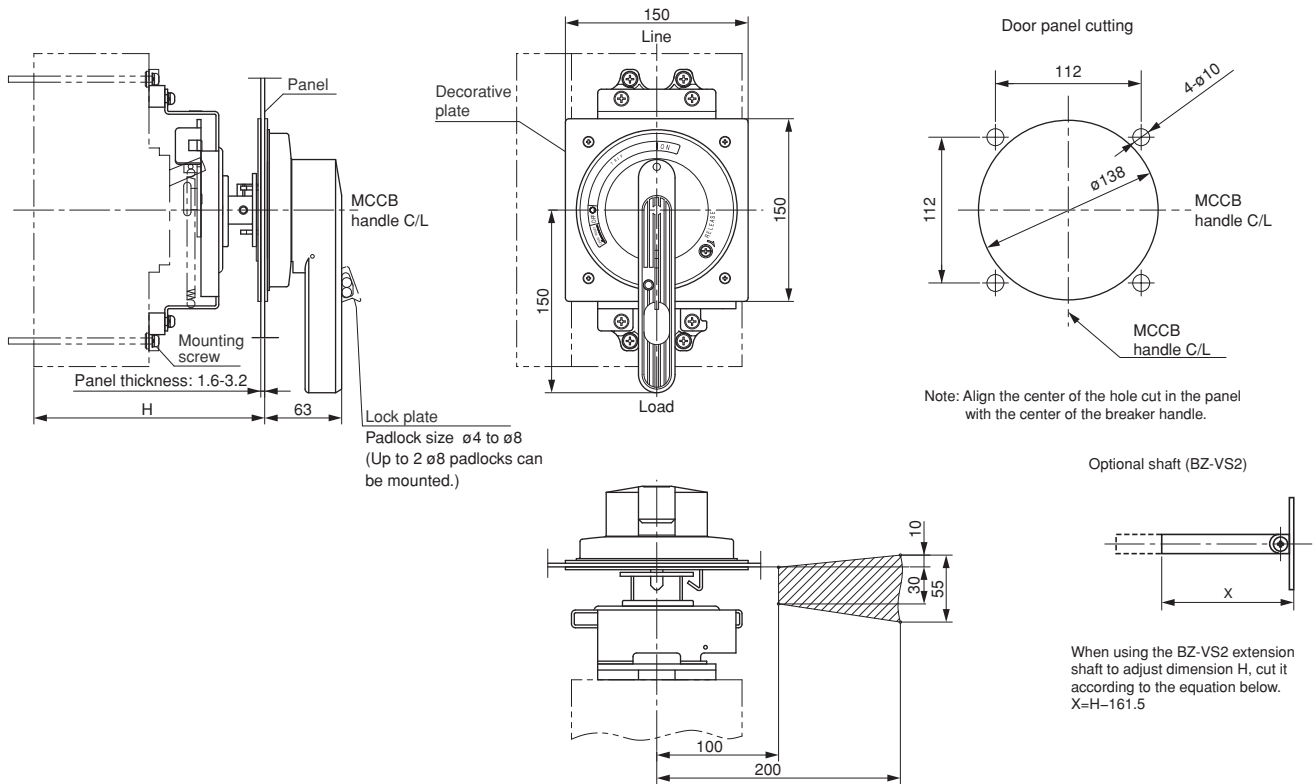
External accessories

MCCB	Handle type	Optional shaft	Standard type H	With the optional shaft (X=154)		Mounting screw	Mass (kg)
				H	Area in which the hinge with H can be installed		
BW32 BW50 BW63 BW100	BZ6V10D	BZ6VS1D	105±2	250±2	140 to 250	M4 x 80	0.64
	BZ6V10D-X		113±2	258±2	150 to 258	Contact FUJI.	0.64
	BZ6V10D-P		113±2	258±2	150 to 258	Contact FUJI.	0.64
BW125	BW9V0CA	BW9VSG0	105±2	250±2	140 to 250	M4 x 85	0.67
BW160* ² BW250* ²	BW9V0GA		105±2	250±2	140 to 250	M4 x 85	0.67

- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.)
The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.
 - Not available for side mounting.
- *¹ The Terminal Cover and Handle cannot be attached at the same time for the BW125JAG-2P or BW125RAGU-2P. Select the BW125JAG-3P or BW125RAGU-3P to use a Handle.
- *² The terminal cover will cover the mounting screws for the Breaker. When attaching the terminal cover, a portion of the terminal cover will need to be removed. Remove portion A in the following diagram.



• BW9V0HA, BW9V0JA



Install the door hinge in the shaded area.

MCCB	Handle type	Optional shaft	Standard type H	With the optional shaft (X=154)		Mass (kg)
				H	Area in which the hinge with H can be installed	
BW400	BW9V0HA	BZ-VS2	190±2	250±2	202 to 250	2.2
	BW9V0HA-X		202±2	262±2	214 to 262	
	BW9V0HA-P		204±2	264±2	216 to 264	
BW630	BW9V0JA		190±2	250±2	202 to 250	
	BW9V0JA-X		202±2	262±2	214 to 262	
	BW9V0JA-P		207±2	267±2	219 to 269	
BW800	BW9V0JA		190±2	250±2	202 to 250	
	BW9V0JA-X		202±2	262±2	214 to 262	
	BW9V0JA-P		252±2	312±2	264 to 312	

- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.) The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.
 - Not available for side mounting.



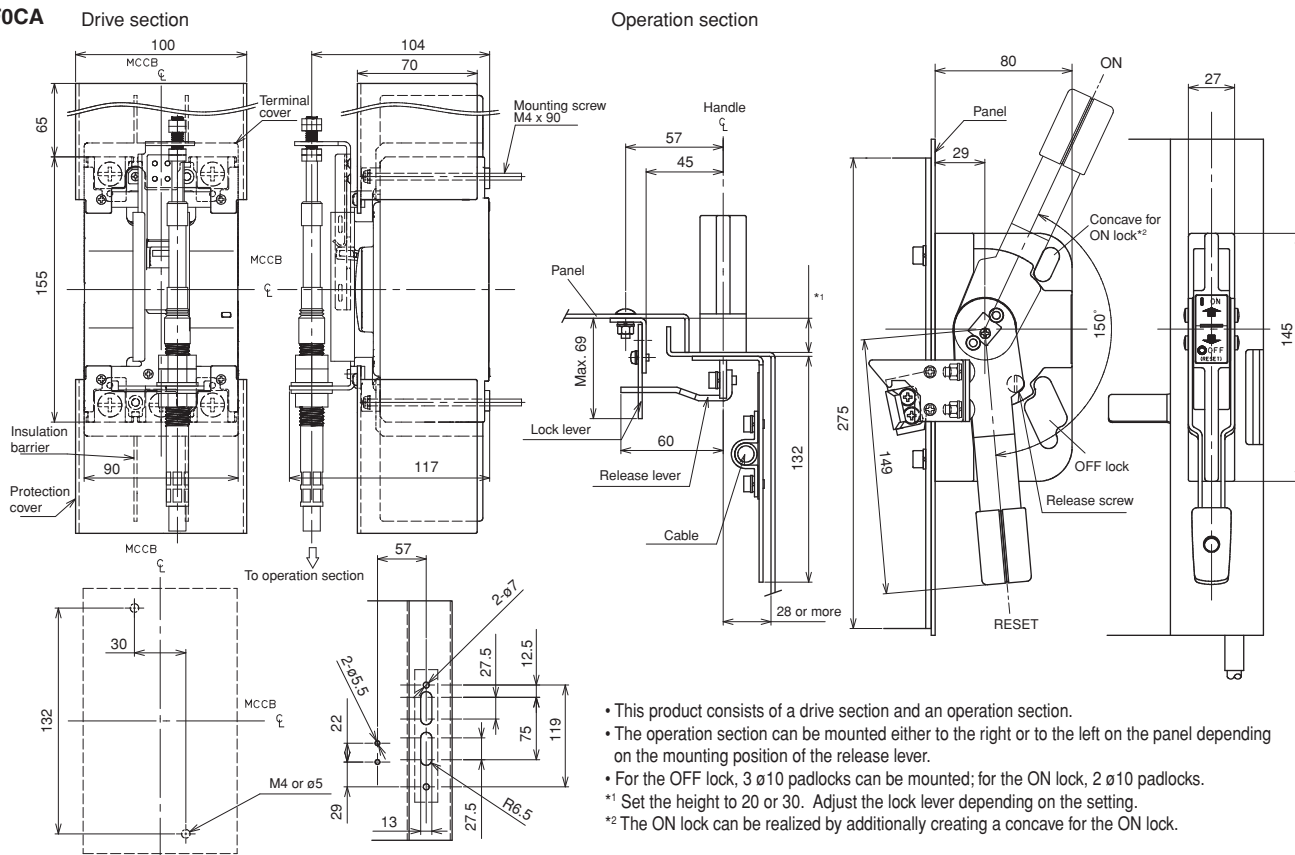
Molded Case Circuit Breakers

External accessories

■ Dimensions, mm

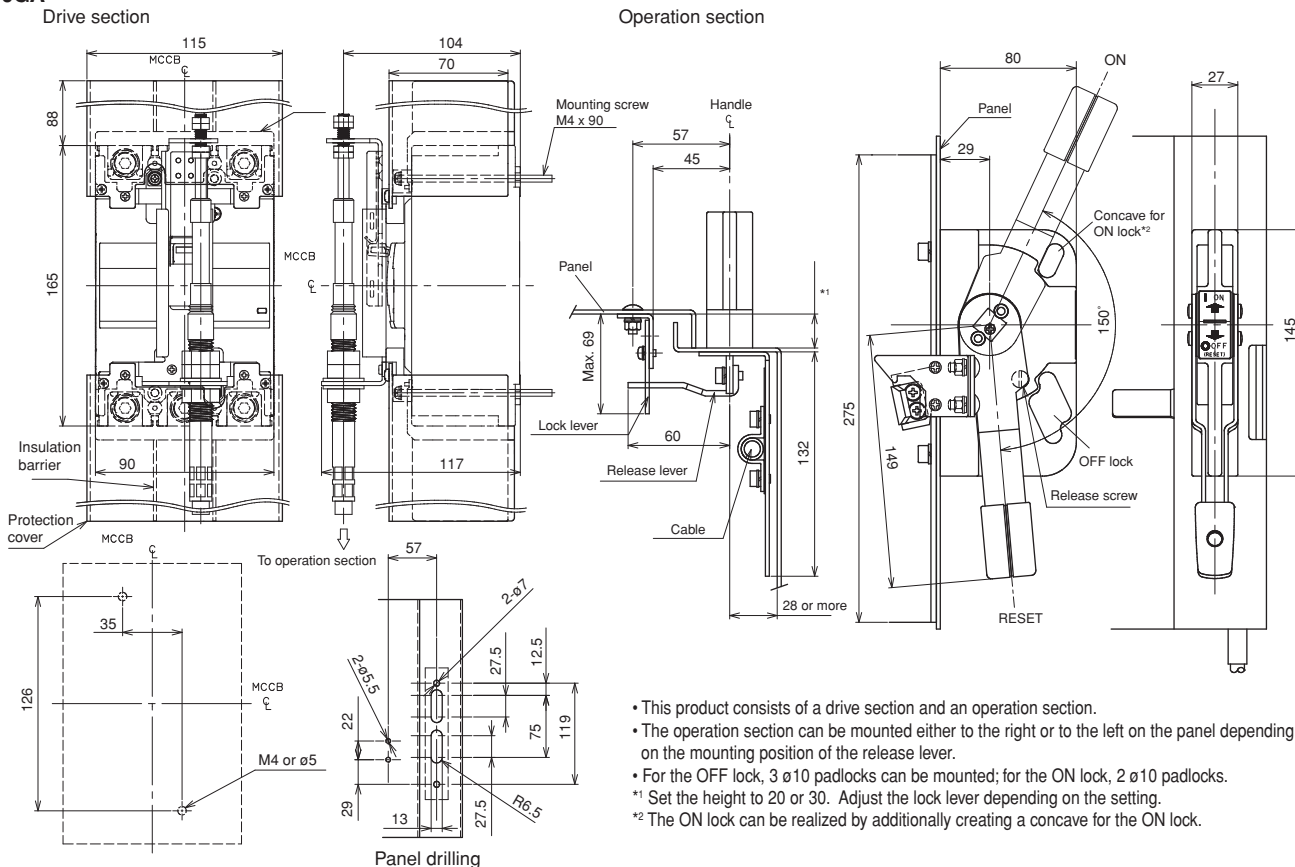
F type handle

• BW9F0CA



- This product consists of a drive section and an operation section.
- The operation section can be mounted either to the right or to the left on the panel depending on the mounting position of the release lever.
- For the OFF lock, 3 $\varnothing 10$ padlocks can be mounted; for the ON lock, 2 $\varnothing 10$ padlocks.
- *1 Set the height to 20 or 30. Adjust the lock lever depending on the setting.
- *2 The ON lock can be realized by additionally creating a concave for the ON lock.

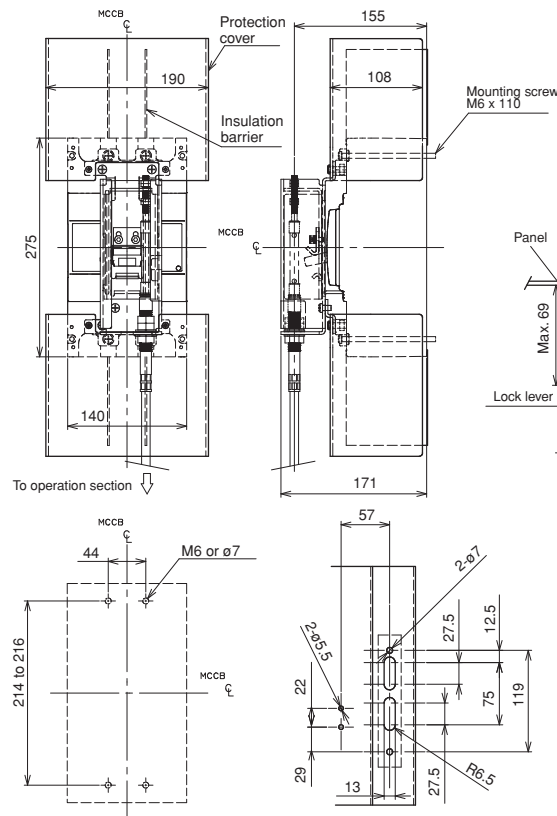
• BW9F0GA



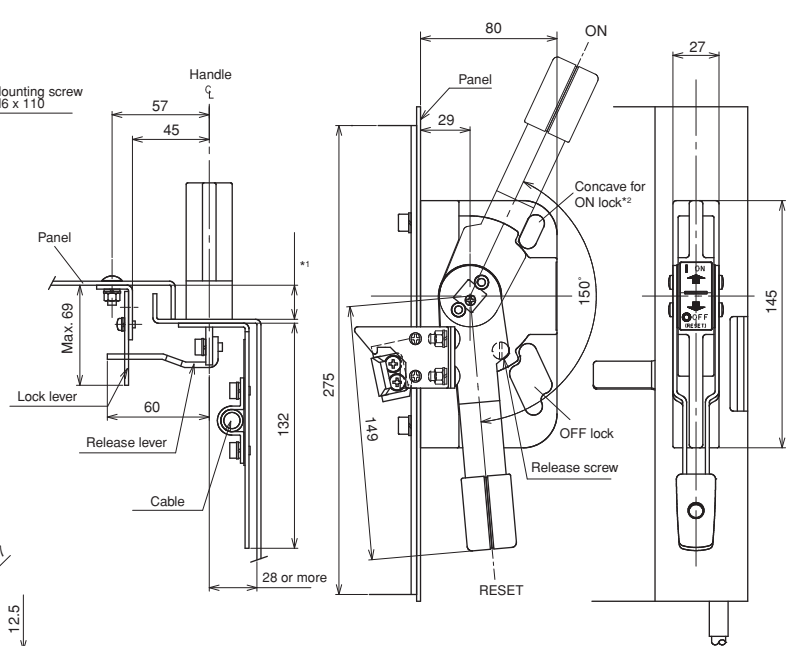
- This product consists of a drive section and an operation section.
- The operation section can be mounted either to the right or to the left on the panel depending on the mounting position of the release lever.
- For the OFF lock, 3 $\varnothing 10$ padlocks can be mounted; for the ON lock, 2 $\varnothing 10$ padlocks.
- *1 Set the height to 20 or 30. Adjust the lock lever depending on the setting.
- *2 The ON lock can be realized by additionally creating a concave for the ON lock.

• **BW9F0HA**

Drive section



Operation section



Panel drilling

- This product consists of a drive section and an operation section.
- The operation section can be mounted either to the right or to the left on the panel depending on the mounting position of the release lever.
- For the OFF lock, 3 ø10 padlocks can be mounted; for the ON lock, 2 ø10 padlocks.
- *1 Set the height to 20 or 30. Adjust the lock lever depending on the setting.
- *2 The ON lock can be realized by additionally creating a concave for the ON lock.

MCCB *	Handle type	Cable		Terminal cover
		Type	Length (m)	
BW125JAGU-3P BW125RAGU-2P BW125RAGU-3P	BW9F0CA	BW9FWCA-15A BW9FWCA-20A BW9FWCA-30A	1.5 2.0 3.0	BW9FBTCA-L3
BW250EAGU-2P BW250EAGU-3P BW250JAGU-2P BW250JAGU-3P BW250RAGU-2P BW250RAGU-3P	BW9F0GA	BW9FWGA-15A BW9FWGA-20A BW9FWGA-30A	1.5 2.0 3.0	BW9FBTGA-L3
BW400EAGU-2P BW400EAGU-3P BW400SAGU-2P BW400SAGU-3P BW400RAGU-2P BW400RAGU-3P BW400HAGU-2P BW400HAGU-3P	BW9F0HA	BW9FWHA-15A BW9FWHA-20A BW9FWHA-30A	1.5 2.0 3.0	BW9FBTHA-L3

Note: * Not available for BW125JAGU-2P



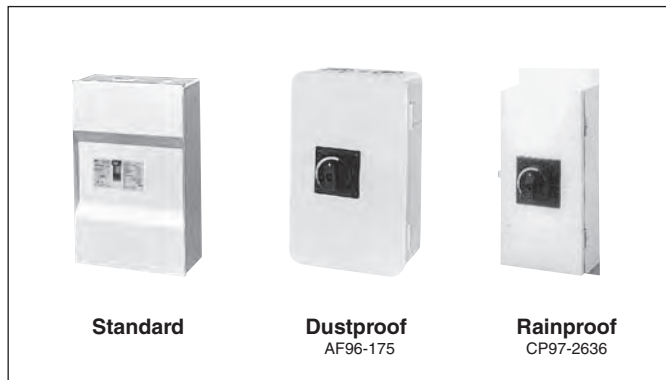
Steel enclosures

■ Description

Steel enclosures are available in three types — two with V-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-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.



■ Type of enclosures

MCCB	Enclosure		
	Standard *1	With V-type handle Dustproof *1*2	Rainproof *1*2
BW32 BW50 BW63	BZ6C10C2 *3 BZ6C10C3	BW9UVBA-3A *3	BW9UWBA-3A *3
BW100	BZ6C25C2 *3 BZ6C25C3 *3	BW9UVBA-3B *3	BW9UWBA-3B *3
BW125	BW9UCCA-2 BW9UCCA-3	BW9UVCA-3	BW9UWCA-3
BW250	BW9UCGA-3	BW9UVGA-3	BW9UWGA-3
BW400	BZ-C60B	BW9UVHA-3	BW9UWHA-3
BW630 BW800	BZ-C70B	BW9UVJA-3	—

*1 No models are available for four-pole products.

*2 The appearance of dust-proof and rain-proof models differs from the photograph (400A frames and higher).

*3 Combination with external accessories(R) is not possible.

■ Ordering information

Specify the following:

1. Type number of enclosures

■ Dimensions, mm

Fig.1 Standard

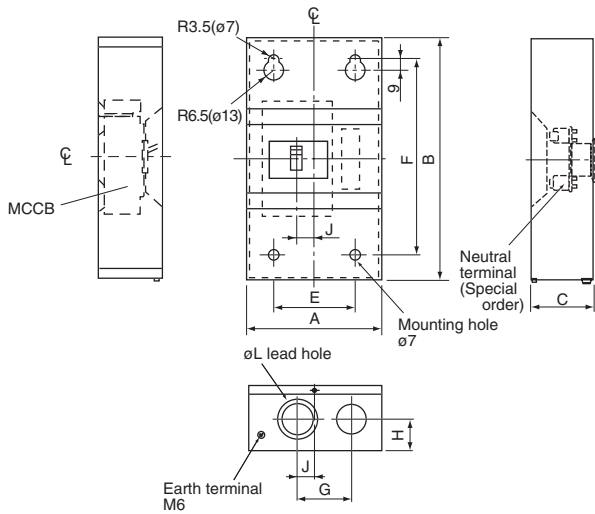


Fig.2 With V type handle
BW9UVBA-3A, BW9UVBA-3B
BW9UVCA-3, BW9UVGA-3

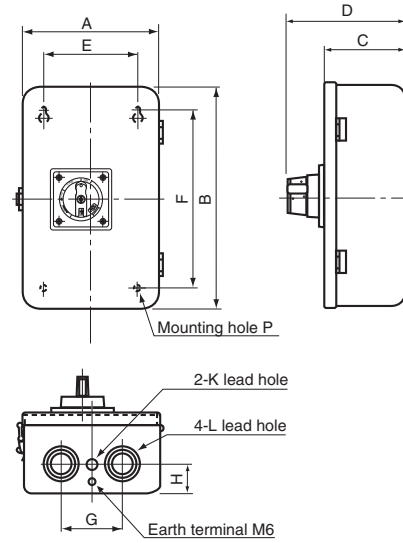
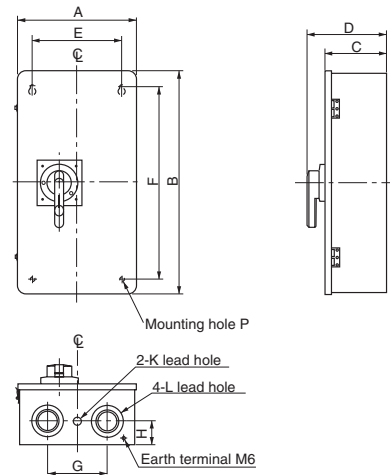
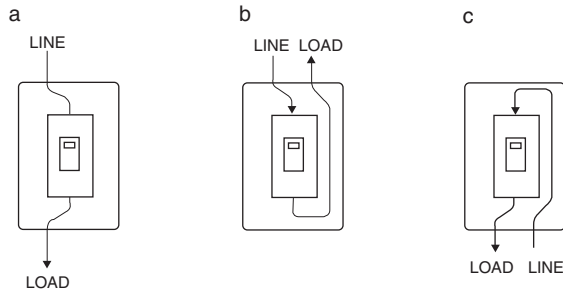


Fig.3 With V type handle
BW9UVHA-3, BW9UVJA-3



■ Connection method diagrams



Type	Connection	Fig.	A	B	C	D	E	F	G	H	J	K	L	P		
BZ6C10C2	a, b, c	1	135	225	95	-	90	170	65	40	25	-	ø35, ø22	-		
BZ6C10C3			200	320	95	-	120	240	80	40	25	-	ø45, ø30	-		
BZ6C25C2			200	320	103	-	120	240	80	40	25	-	ø45, ø30	-		
BZ6C25C3																
BW9UCCA-2			400	750	175	-	300	650	200	80	100	-	ø106, ø78, ø63	-		
BW9UCCA-3																
BW9UCGA-3																
BZ-C60B			2	3	400	750	206	269	300	650	200	80	-	ø28	ø63, ø78, ø106	ø12
BZ-C70B					180	300	114	178.5	100	220	70	40	-	-	ø28, ø35, ø43	ø7
BW9UVBA-3A	250	400			142	206.5	170	320	110	50	-	ø23	ø35, ø52, ø63	ø9		
BW9UVBA-3B						207										
BW9UVCA-3	3	400			750	206	269	300	650	200	80	-	ø28	ø63, ø78, ø106	ø12	
BW9UVGA-3																
BW9UVHA-3																
BW9UVJA-3																



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 400AF

Short type: BW9BT A-S

- Snap-on fitting

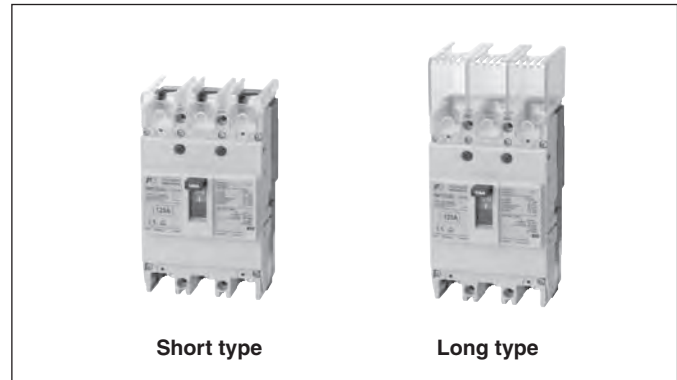
Long type: BW9BT A-L

- Crimp connection use


● 630, 800AF

Long type: BW9BTJA-L

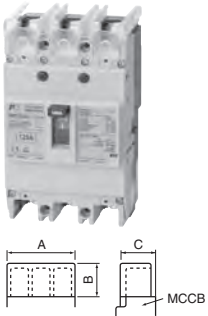
- Transparent




Long type

Type		No. of poles	MCCB	Dimensions (mm)			Packing quantity	Appearance
Transparent	Gray			A	B	C		
BW9BTAA-L2	BW9BTAA-L2W	2	BW32□-2P BW50□-2P BW63□-2P BW100□-2P	50	40	53	2	<ul style="list-style-type: none"> • Preventing exposure of live section when amplifier's terminals are connected • Snap-on mounting 
BW9BTAA-L3	BW9BTAA-L3W	2, 3	BW32□-3P BW50□-3P BW63□-3P BW100□-3P	75	40	53	2	
BW9BTCA-L2	BW9BTCA-L2W	2	BW125JAG-2P	60	40	66.5	2	
BW9BTCA-L3	BW9BTCA-L3W	2, 3	BW50HAG-2P BW50HAG-3P BW125RAG-2P BW125HAG-2P BW125□-3P	90	40	66.5	2	
BW9BTCA-C3	—	2, 3	BW125RAG-2P BW125□-3P	90	60	66.5	2	
BW9BTCA-L4	BW9BTCA-L4W	4	BW125JAG-4P BW125RAG-4P	120	40	66.5	2	
BW9BTGA-L3 *1	BW9BTGA-L3W *1	2, 3	BW160□-2P BW160□-3P	105	50	66.5	2	
BW9BTGA-L4 *1	BW9BTGA-L4W *1	4	BW160□-4P	140	50	66.5	2	
BW9BTGA-C3	—	2, 3	BW250□-2P BW250□-3P	105	75	66.5	2	
BW9BTGA-L3 *1	BW9BTGA-L3W *1	2, 3	BW250□-2P BW250□-3P	105	50	66.5	2	
BW9BTGA-L4 *1	BW9BTGA-L4W *1	4	BW250□-4P	140	50	66.5	2	
BW9BTGA-L3 *2	BW9BTGA-L3W *1	2, 3	BW400□-2P BW400□-3P	172	110	98	2	
BW9BTGA-L4 *2	—	4	BW400□-4P	220	110	98	2	
BW9BTJA-L3	BW9BTJA-L3W	3	BW630□-3P BW800□-3P	230	135	97.5	2	
BW9BTJA-L4	BW9BTJA-L4W	4	BW630□-4P BW800□-4P	280	155	98	2	

Short type

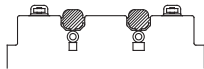
Type		No. of poles	MCCB	Dimensions (mm)			Packing quantity	Appearance
Transparent	Gray			A	B	C		
BW9BTAA-S2	BW9BTAA-S2W	2	BW32□-2P BW50□-2P BW63□-2P BW100□-2P	50	10	53	2	<ul style="list-style-type: none"> Preventing exposure of live section when amplifier's terminals are connected Snap-on mounting 
BW9BTAA-S3	BW9BTAA-S3W	2, 3	BW32□-3P BW50□-3P BW63□-3P BW100□-3P	75	10	53	2	
BW9BTCA-S2	BW9BTCA-S2W	2	BW125JAG-2P	60	8	66.5	2	
BW9BTCA-S3	BW9BTCA-S3W	2, 3	BW50HAG-2P BW50HAG-3P BW125RAG-2P BW125HAG-2P BW125□-3P	90	8	66.5	2	
BW9BTCA-S4	BW9BTCA-S4W	4	BW125JAG-4P BW125RAG-4P	120	8	66.5	2	
BW9BTGA-S3 * ¹	BW9BTGA-S3W * ¹	2, 3	BW160□-2P BW160□-3P BW250□-2P BW250□-3P	105	8	66.5	2	
BW9BTGA-S4 * ¹	BW9BTGA-S4W * ¹	4	BW160□-4P BW250□-4P	140	8	66.5	2	
BW9BTHA-S3 * ³	BW9BTHA-S3W * ²	2, 3	BW400□-2P BW400□-3P	140	65	98	2	
BW9BTHA-S4 * ³	BW9BTHA-S4W * ²	4	BW400□-4P	185	65	98	2	

Notes: • A gray-white terminal cover comes standard with the Global Series 125AF and 250AF.

*¹ When using the external operating handle, part of the terminal cover () must be cut away.

*² Crimp terminals for 325 mm² are not available.

*³ This type of cover can be mounted on the 400AF when flat terminals are not used.



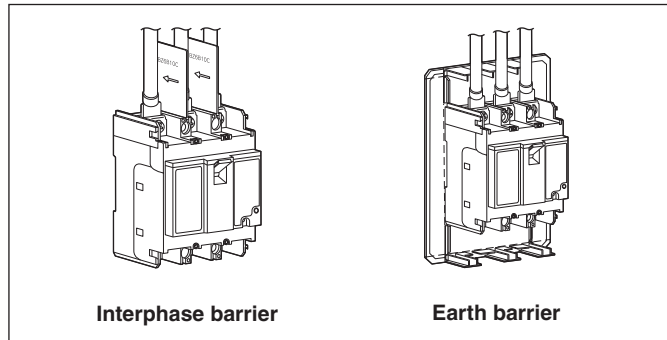


Insulation barriers

■ Description

The interphase barriers are provided on frame size of 32AF to 800AF 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.



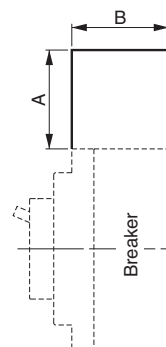
Interphase barrier

Earth barrier

Interphase barrier

MCCB	Interphase barrier				Mass (g)
	Type	Dimensions (mm)		Packing quantity	
		A	B		
BW32 BW50AAG, EAG BW50SAG, RAG BW63 BW100	BZ6B10C	50	49	4	23
BW50HAG, BW125	BW9BPCA	50	60	2	15
BW160 BW250	BW9BPGA	80	60	2	25
BW400 BW630 BW800	B-43A	105	95	4	130

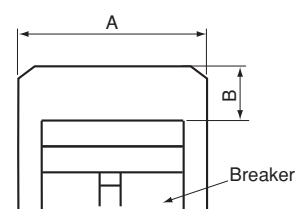
Interphase barrier



Earth barrier

MCCB	Earth barrier				Mass (g)
	Type	Dimensions (mm)		Packing quantity	
		A	B		
BW32□-2P BW50□-2P BW63□-2P BW100□-2P	BZ6BL10C2	100 (50, 75) ^{*1}	43 (30) ^{*1}	1	33
BW32□-3P BW50□-3P BW63□-3P BW100□-3P	BZ6BL10C3	125 (75, 100) ^{*1}	43 (30) ^{*1}	1	41

Earth barrier



Note: ^{*1} Can be cut to dimensions

Padlocking device and handle locking cover

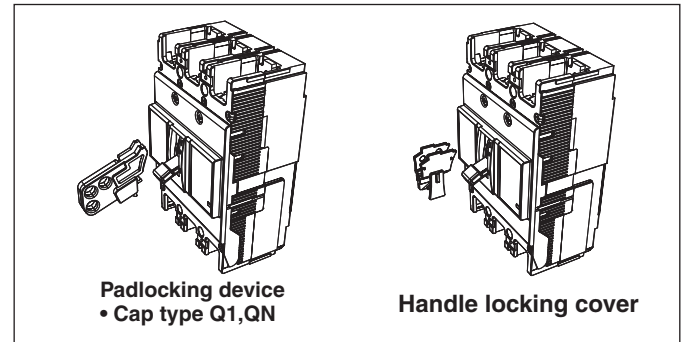
■ Description

• Padlocking device

These padlocking device lock the Breaker handle in the OFF position. Use a commercially available padlock with a shackle diameter of 3.5 to 5mm (5mm for the BZ6L10CA).

• Handle locking covers (Order Separately)

These simple handle locking covers can be easily installed by the user. Tripping is possible while the Breaker is locked ON.



MCCB	Padlocking device			Handle locking cover
	Q1: Cap type	QN: Scissors type	Q2: Plate type	
BW32	BZ6L10CA	-	▲ *1*4	BZ6L10C
BW50AAG, EAG, SAG, RAG				
BW63				
BW100				
BW50HAG, BW125	BW9Q1CA *5		BW9Q2CA *3 BW9Q2GA	BW9L1CA
BW160				
BW250				
BW400	▲ *1	BW9QNHA *2	BW9Q2HA BW9Q2JA	BW9L1HA
BW630				
BW800				

Notes:

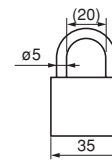
*1 Specify Locks when ordering the Breaker. (▲: Factory-mounted)

*2 ON and OFF locking is possible.

*3 Not applicable to the BW125JA□-2P (models with a width of 60 mm).

*4 If a padlock is required, use a commercially available padlock with the dimensions shown in the diagram at the right.

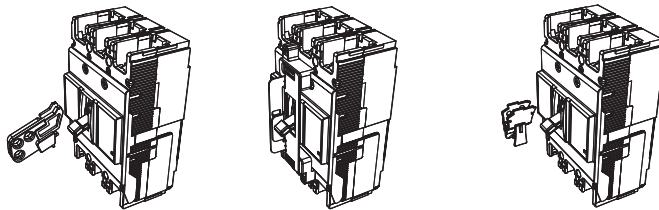
*5 Three padlocks with shackles from 3.5 to 8 mm in diameter can be attached.



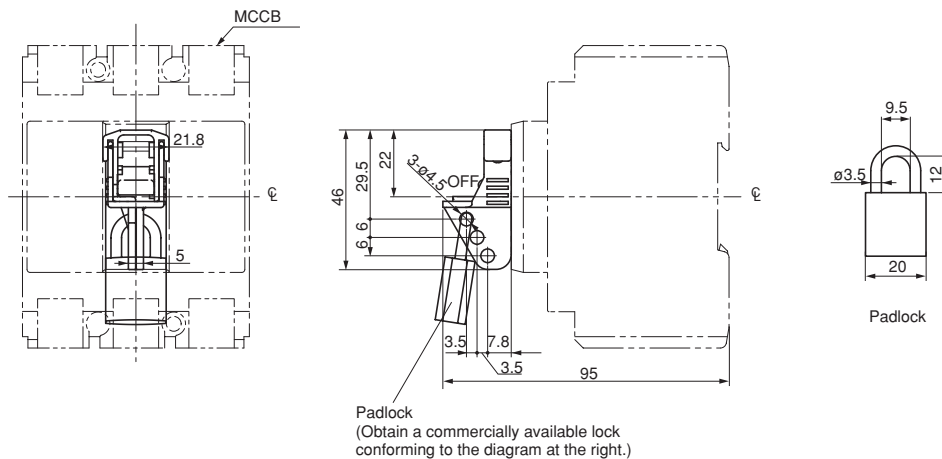
Padlocking device • Cap type Q1

• Plate type Q2

Handle locking cover



Q1: BZ6L10CA (OFF-locking Padlocking device)





Memo



Earth Leakage Circuit Breakers

List of products

■ G-TWIN Standard Series (IEC/EN/GB/JIS conformed)

Line protection

• 2-pole

AC230V (Icu)	EW32	EW50	EW100
2.5kA	AAG-2P	AAG-2P	
10kA			EAG-2P

• 3-pole

AC415V (Icu)	EW32	EW50	EW63	EW100	EW125	EW160	EW250	EW400	EW630	EW800
1.5kA	EAG-3P									
2.5kA	SAG-3P	EAG-3P	EAG-3P							
7.5kA		SAG-3P	SAG-3P							
10kA		RAG-3P	RAG-3P	EAG-3P						
18kA						EAG-3P	EAG-3P			
30kA					JAG-3P	JAG-3P	JAG-3P	EAG-3P		
36kA					SAG-3P	SAG-3P	SAG-3P	SAG-3P	EAG-3P	EAG-3P
50kA					RAG-3P	RAG-3P	RAG-3P	RAG-3P	RAG-3P	RAG-3P
70kA								HAG-3P	HAG-3P	HAG-3P

• 4-pole

AC415V (Icu)	EW125	EW160	EW250	EW400
30kA	JAG-4P	JAG-4P	JAG-4P	
36kA	SAG-4P	SAG-4P	SAG-4P	
50kA	RAG-4P	RAG-4P	RAG-4P	RAG-4P
70kA				HAG-4P

Motor protection

• 3-pole

AC415V (Icu)	EW32	EW50	EW63	EW100	EW125	EW250
1.5kA	EAM-3P					
2.5kA	SAM-3P	EAM-3P	EAM-3P			
7.5kA		SAM-3P	SAM-3P			
10kA				EAM-3P		
18kA						EAM-3P
30kA					JAM-3P	JAM-3P
50kA					RAM-3P	RAM-3P

■ G-TWIN Global Series (IEC/EN/GB/JIS/UL/CSA conformed)

Line protection

• 2-pole

AC230V (Icu)	EW100
10kA	EAGU-2P

• 3-pole

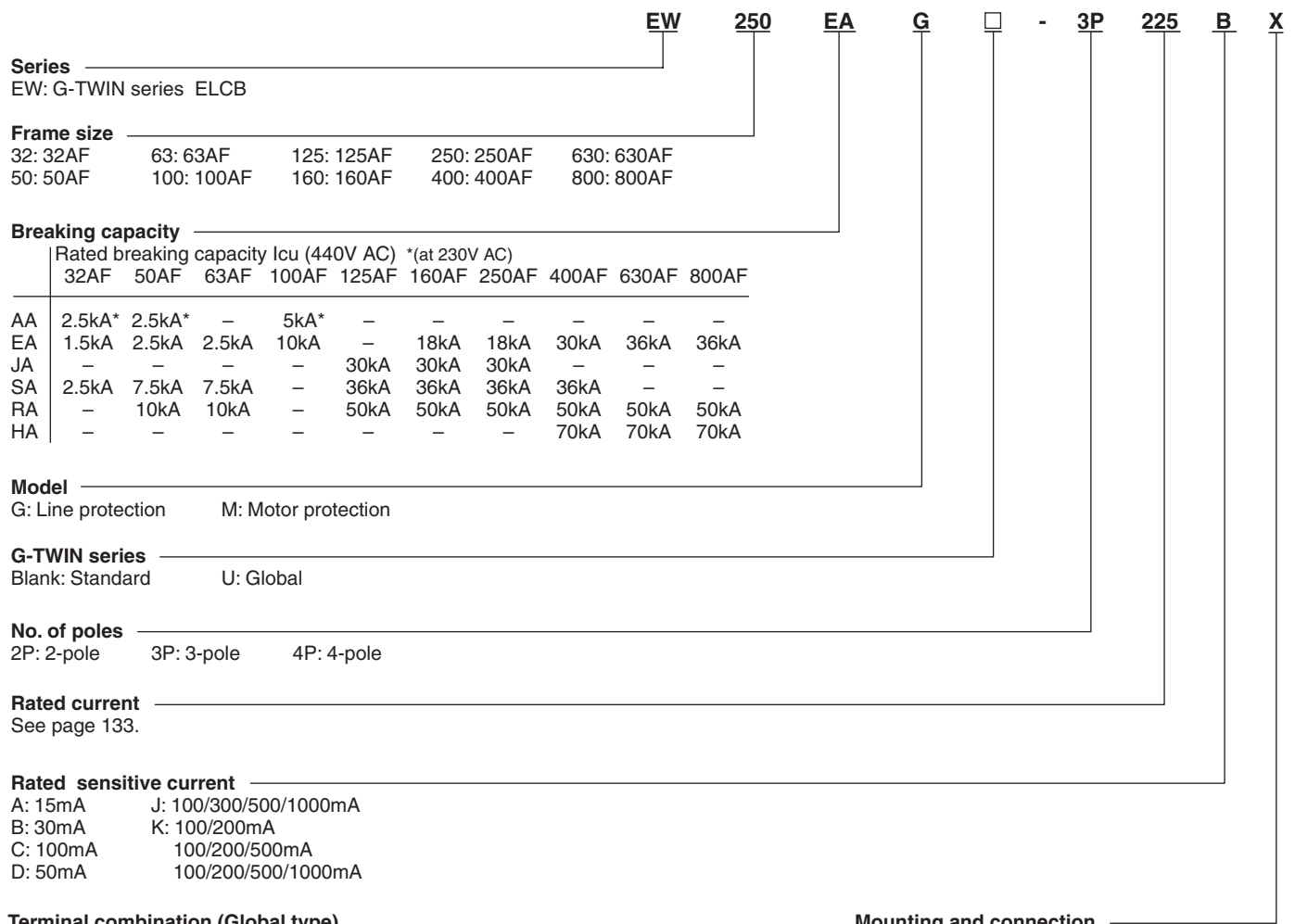
AC415V (Icu)	EW50	EW100	EW125	EW250	EW400	EW630
10kA	RAGU-3P	EAGU-3P				
30kA			JAGU-3P	JAGU-3P		
36kA					SAGU-3P	
50kA			RAGU-3P	RAGU-3P	RAGU-3P	RAGU-3P
70kA					HAGU-3P	



Earth Leakage Circuit Breakers

Type number nomenclature

■ Type number nomenclature



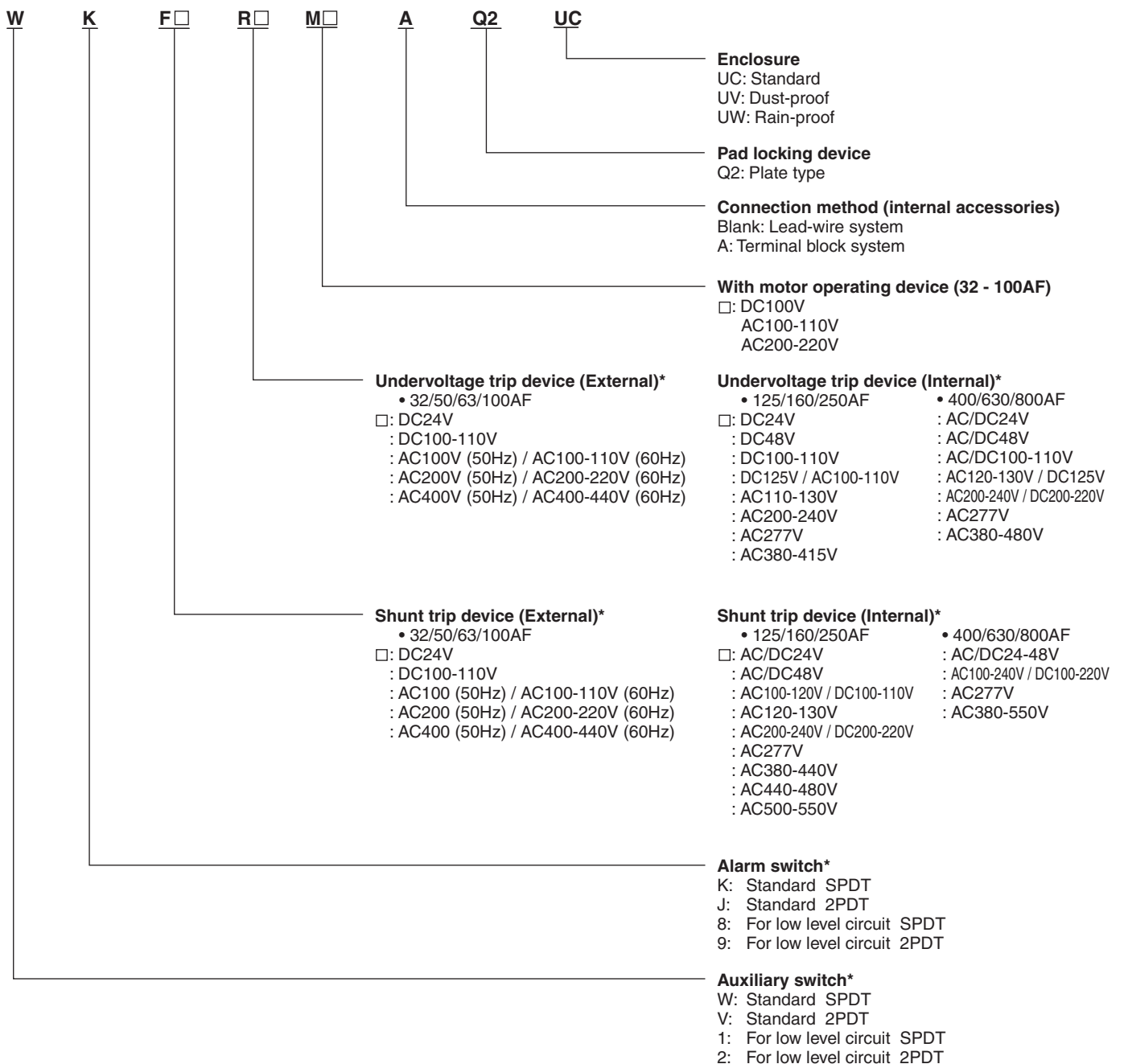
Terminal combination (Global type)

Code	Terminal position		Applicable breaker type		
	Line	Load	EW50, 100	EW125, 250	EW400, 630
Blank	Screw	Screw	●	●	—
Blank	Flat terminal	Flat terminal	—	—	●
SB	Block terminal	Block terminal	—	●	●
SF	Flat terminal	Flat terminal	●	●	—
S3	Screw	Flat terminal	●	●	—
S4	Flat terminal	Screw	●	●	—
S5	Screw	Block terminal	—	●	—
S6	Block terminal	Screw	—	●	—
S7	Flat terminal	Block terminal	—	●	●
S8	Block terminal	Flat terminal	—	●	●

Mounting and connection

• Standard type

- 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



* For the available configuration of accessory, see page 166.



Earth Leakage Circuit Breakers

Quick reference guide

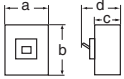
■ G-TWIN Standard Series

Ampere frame		32A					
Type		EW32AAG		EW32EAG	EW32SAG		
Pole		2	3	3	3		
Rated current	Reference amb. temp. (40°C)	In(A)	5, 10, 15, 20, 30, 32	5, 10, 15, 20, 30, 32	5, 10, 15, 20, 30, 32		
Rated impulse withstand voltage		Uimp(kV)	2.5	4	4		
Isolation compliant		●	●	●	●		
Rated voltage Ue (AC V)		100-230	100-230	100-230-440	100-230-440		
Rated sensitive current (mA)		15, 30, 100	15, 30, 100	15, 30, 100	30, 100/200/500 changeover		
Tripping time (s)		0.1 or less	0.1 or less	0.1 or less	0.1 or less		
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	–	–	1.5/1	2.5/2
			415V	–	–	1.5/1	2.5/2
			400V	–	–	1.5/1	2.5/2
			380V	–	–	1.5/1	2.5/2
		230V	2.5/2	2.5/2	2.5/2	5/3	
		200V	2.5/2	2.5/2	2.5/2	5/3	
		100V	2.5/2	5/3	5/3	5/3	
	GB14048.2	AC	400V	–	–	1.5/1	2.5/2
230V	2.5/2		2.5/2	2.5/2	5/3		
Conforming to standards	CE Marking		● (TÜV)	● (TÜV)	● (TÜV)	● (TÜV)	
	CCC certificate		●	●	●	●	
	Electrical Appliance and Material Safety Law *1		●	●	●	●	
Dimensions (mm)			a	50	75	75	75
			b	100		100	100
			c	60		60	60
			d	84		84	84
Mass (kg)			0.4	0.5	0.5	0.6	
Tripping device		Hydraulic-magnetic					
Front mounting, front connection	No-mark	○	○	○	○		
Front mounting, rear connection	X	○	○	○	○		
Flush mounting, front connection	E	○	○	○	○		
Flush mounting, top & bottom connection	Y	○	○	○	○		
Plug-in mounting	P	○	○	○	○		
IEC 35mm wide rail mounting	No-mark	○	○	○	○		
Internal accessories		Page 161					
Alarm switch	K	○	○	○	○		
Auxiliary switch	W	○	○	○	○		
Undervoltage trip	R	○	○	○	○		
Shunt trip	F	○	○	○	○		
Earth alarm switch	L	–	–	–	–		
External accessories		Page 164					
Handle padlocking device	Cap type	QN	○	○	○	○	
Handle padlocking device	Plate type	Q2	▲	▲	▲	▲	
Operating handle	N-type	N	○	○	○	○	
Operating handle	V-type	V	○	○	○	○	
Terminal cover	Short	BT□S	○	○	○	○	
Terminal cover	Long	BT□L	○	○	○	○	
Insulation barrier	Interphase	BP	○	○	○	○	
	Earth	BL	○	○	○	○	
Handle locking cover		L1	○	○	○	○	
Flat terminal		SS	○	○	○	○	
Block terminal		SL	–	–	–	–	

●: Approved ○: Available –: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100–230	80–264
100–230–440	80–484

■ G-TWIN Standard Series

Ampere frame		50A						
Type		EW50AAG		EW50EAG	EW50SAG	EW50RAG		
Pole		2	3	3	3	3		
Rated current	Reference amb. temp. (40°C)	In(A)		5, 10, 15, 20, 30, 32, 40, 50		10, 15, 20, 30, 32, 40, 50		
Rated impulse withstand voltage		Uimp(kV)		6	6	6		
Isolation compliant		●		●	●	●		
Rated voltage Ue (AC V)		100-230		100-230-440	100-230-440	100-230-440		
Rated sensitive current (mA)		15, 30, 100		15, 30, 100/200 changeover	30, 100/200/500 changeover	30, 100/200/500 changeover		
Tripping time (s)		0.1 or less		0.1 or less	0.1 or less	0.1 or less		
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	-		2.5/2	7.5/4	10/5
			415V	-		2.5/2	7.5/4	10/5
			400V	-		2.5/2	7.5/4	10/5
			380V	-		2.5/2	7.5/4	10/5
			230V	2.5/2		5/3	10/5	25/13
			200V	2.5/2		5/3	10/5	25/13
			100V	2.5/2	5/3	5/3	10/5	25/13
	GB14048.2	AC	400V	-		2.5/2	7.5/4	10/5
230V	2.5/2		5/3	10/5	25/13			
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)	● (TÜV)	● (TÜV)	
	CCC certificate		●		●	●	●	
	Electrical Appliance and Material Safety Law *1		●		●	●	●	
Dimensions (mm)		a	50	75	75	75	75	
		b	100		100	100	100	
		c	60		60	60	60	
		d	84		84	84	84	
		Mass (kg)	0.4		0.6	0.6	0.6	0.6
Tripping device		Hydraulic-magnetic						
Front mounting, front connection	No-mark	○		○	○	○		
Front mounting, rear connection	X	○		○	○	○		
Flush mounting, front connection	E	○		○	○	○		
Flush mounting, top & bottom connection	Y	○		○	○	○		
Plug-in mounting	P	○		○	○	○		
IEC 35mm wide rail mounting	No-mark	○		○	○	○		
Internal accessories		Page 161						
Alarm switch	K	○		○	○	○		
Auxiliary switch	W	○		○	○	○		
Undervoltage trip	R	○		○	○	○		
Shunt trip	F	○		○	○	○		
Earth alarm switch	L	-		-	-	-		
External accessories		Page 164						
Handle padlocking device	Cap type	QN	○		○	○		
Handle padlocking device	Plate type	Q2	▲		▲	▲		
Operating handle	N-type	N	○		○	○		
Operating handle	V-type	V	○		○	○		
Terminal cover	Short	BT□S	○		○	○		
Terminal cover	Long	BT□L	○		○	○		
Insulation barrier	Interphase	BP	○		○	○		
	Earth	BL	○		○	○		
Handle locking cover		L1	○		○	○		
Flat terminal		SS	○		○	○		
Block terminal		SL	-		-	-		

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230	80-264
100-230-440	80-484



Earth Leakage Circuit Breakers

Quick reference guide

■ G-TWIN Standard Series

Ampere frame				63A		
Type				EW63EAG	EW63SAG	EW63RAG
Pole				3		
Rated current		Reference amb. temp. (40°C)	In(A)	60, 63		
Rated impulse withstand voltage		Uimp(kV)		6		
Isolation compliant				●	●	●
Rated voltage Ue (AC V)				100-230-440		
Rated sensitive current (mA)				15, 30, 100/200 changeover		
Tripping time (s)				0.1 or less		
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	2.5/2	7.5/4	10/5
			415V	2.5/2	7.5/4	10/5
			400V	2.5/2	7.5/4	10/5
			380V	2.5/2	7.5/4	10/5
			230V	5/3	10/5	25/13
			200V	5/3	10/5	25/13
			100V	5/3	10/5	25/13
	GB14048.2	AC	400V	2.5/2	7.5/4	10/5
			230V	5/3	10/5	25/13
Conforming to standards	CE Marking		● (TÜV)	● (TÜV)	● (TÜV)	
	CCC certificate		●	●	●	
	Electrical Appliance and Material Safety Law *1		●	●	●	
Dimensions (mm)			a	75	75	75
			b	100	100	100
			c	60	60	60
			d	84	84	84
			Mass (kg)			0.6
Tripping device				Hydraulic-magnetic		
Front mounting, front connection		No-mark	○	○	○	
Front mounting, rear connection		X	○	○	○	
Flush mounting, front connection		E	○	○	○	
Flush mounting, top & bottom connection		Y	○	○	○	
Plug-in mounting		P	○	○	○	
IEC 35mm wide rail mounting		No-mark	○	○	○	
Internal accessories Page 161						
Alarm switch		K	○	○	○	
Auxiliary switch		W	○	○	○	
Undervoltage trip		R	○	○	○	
Shunt trip		F	○	○	○	
Earth alarm switch		L	-	-	-	
External accessories Page 164						
Handle padlocking device Cap type		QN	○	○	○	
Handle padlocking device Plate type		Q2	▲	▲	▲	
Operating handle N-type		N	○	○	○	
Operating handle V-type		V	○	○	○	
Terminal cover Short		BT□S	○	○	○	
Terminal cover Long		BT□L	○	○	○	
Insulation barrier Interphase		BP	○	○	○	
Insulation barrier Earth		BL	○	○	○	
Handle locking cover		L1	○	○	○	
Flat terminal		SS	○	○	○	
Block terminal		SL	-	-	-	

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230	80-264
100-230-440	80-484

■ G-TWIN Standard Series

Ampere frame			100A		
Type			EW100AAG		EW100EAG
Pole			3	2	3
Rated current	Reference amb. temp. (40°C)	In(A)	60, 63, 75, 100		50, 60, 63, 75, 100
Rated impulse withstand voltage		Uimp(kV)	4	4	6
Isolation compliant			●	●	●
Rated voltage Ue (AC V)			100-230	100-230	100-230-400
Rated sensitive current (mA)			30, 100/200/500 changeover		30, 100/200 changeover
Tripping time (s)			0.1 or less		0.1 or less
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	–	–
			415V	–	–
			400V	–	–
			380V	–	–
			230V	5/3	10/5
			200V	5/3	10/5
			100V	5/3	10/5
	GB14048.2	AC	400V	–	–
			230V	5/3	10/5
Conforming to standards	CE Marking		● (TÜV)	● (TÜV)	● (TÜV)
	CCC certificate		●	●	●
	Electrical Appliance and Material Safety Law *1		●	●	●
Dimensions (mm)			a	75	75
			b	100	100
			c	60	60
			d	84	84
			Mass (kg)		
Tripping device			Thermal -magnetic		
Front mounting, front connection	No-mark	○	○	○	○
Front mounting, rear connection	X	○	○	○	○
Flush mounting, front connection	E	○	○	○	○
Flush mounting, top & bottom connection	Y	○	○	○	○
Plug-in mounting	P	○	○	○	○
IEC 35mm wide rail mounting	No-mark	○	○	○	○
Internal accessories Page 161					
Alarm switch	K	○	○	○	○
Auxiliary switch	W	○	○	○	○
Undervoltage trip	R	○	○	○	○
Shunt trip	F	○	○	○	○
Earth alarm switch	L	–	–	–	–
External accessories Page 164					
Handle padlocking device	Cap type	QN	○	○	○
Handle padlocking device	Plate type	Q2	▲	▲	▲
Operating handle	N-type	N	○	○	○
Operating handle	V-type	V	○	○	○
Terminal cover	Short	BT□S	○	○	○
Terminal cover	Long	BT□L	○	○	○
Insulation barrier	Interphase	BP	○	○	○
	Earth	BL	○	○	○
Handle locking cover		L1	○	○	○
Flat terminal		SS	○	○	○
Block terminal		SL	–	–	–

●: Approved ○: Available –: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100–230	80–264
100–230–440	80–484



Earth Leakage Circuit Breakers

Quick reference guide

■ G-TWIN Standard Series

Ampere frame		125A						
Type		EW125JAG		EW125SAG		EW125RAG		
Pole		3	4	3	4	3	4	
Rated current	Reference amb. temp. (40°C)	In(A) 15, 20, 30, 40, 50, 60, 75, 100, 125						
Rated impulse withstand voltage	Uimp(kV)	6		6		6		
Isolation compliant		●		●		●		
Rated voltage Ue (AC V)		100-230-440						
Type of earth leakage trip action		AC type						
Instantaneous trip type	Rated sensitive current (mA)	30						
	Tripping time (s)	0.1 or less						
Instantaneous/time-delay trip type	Rated sensitive current (mA)	100/300/500/1000 changeover						
	Tripping time (s)	0.1/0.4/1/2 changeover						
	Inertia non-tripping time (s) (2IΔn)	0/0.2/0.5/1						
Rated breaking capacity Icu/Ics (kA)	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	30/15	36/18	50/25		
			415V	30/15	36/18	50/25		
			400V	30/15	36/18	50/25		
			380V	30/15	36/18	50/25		
			230V	50/25	85/43	100/50		
			200V	50/25	85/43	100/50		
			100V	50/25	85/43	100/50		
	GB14048.2	AC	400V	30/15	36/18	50/25		
			230V	50/25	85/43	100/50		
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)			
	CCC certificate		●		●			
	Electrical Appliance and Material Safety Law *1		● (except for 125A)		● (except for 125A)			
Dimensions (mm)		a	90	120	90	120	90	120
		b	155		155		155	
		c	68		68		68	
		d	95		95		95	
		Mass (kg)		1.3	1.7	1.2	1.6	1.3
Tripping device		Thermal-magnetic						
Front mounting, front connection	No-mark	○	○	○	○	○	○	
Front mounting, rear connection	X	○	○	○	○	○	○	
Flush mounting, front connection	E	○	○	○	○	○	○	
Plug-in mounting	P	○	-	○	-	○	-	
Internal accessories		Page 162						
Alarm switch	K	○	○	○	○	○	○	
Auxiliary switch	W	○	○	○	○	○	○	
Undervoltage trip	R	○	○	○	○	○	○	
Shunt trip	F	○	○	○	○	○	○	
Earth alarm switch	L	○	○	○	○	○	○	
External accessories		Page 164						
Handle padlocking device	Cap type	Q1	○	○	○	○	○	
Handle padlocking device	Plate type	Q2	○	○	○	○	○	
Operating handle	N-type	N	○	○	○	○	○	
Operating handle	V-type	V	○	○	○	○	○	
Terminal cover	Short	BTCS	○	○	○	○	○	
Terminal cover	Long	BTCL	○	○	○	○	○	
Insulation barrier	Interphase	BP	○	○	○	○	○	
Handle locking cover		L1	○	○	○	○	○	
Flat terminal		SS	○	○	○	○	○	
Block terminal		SL	○	○	○	○	○	

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484

■ G-TWIN Standard Series

Ampere frame			160A							
Type			EW160EAG		EW160JAG		EW160SAG		EW160RAG	
Pole			3	3	4	3	4	3	4	
Rated current	Reference amb. temp. (40°C)	In(A)	125, 150, 160							
Rated impulse withstand voltage		Uimp(kV)	6	6		6		6		
Isolation compliant			●	●		●		●		
Rated voltage Ue (AC V)			100-230-440							
Type of earth leakage trip action			AC type							
Instantaneous trip type	Rated sensitive current (mA)		30							
	Tripping time (s)		0.1 or less							
Instantaneous/time-delay trip type	Rated sensitive current (mA)		100/300/500/1000 changeover							
	Tripping time (s)		0.1/0.4/1/2 changeover							
	Inertia non-tripping time (s) (2IΔn)		0/0.2/0.5/1							
Rated breaking capacity Icu/Ics (kA)	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	18/9		30/15		36/18		50/25
			415V	18/9		30/15		36/18		50/25
			400V	18/9		30/15		36/18		50/25
			380V	18/9		30/15		36/18		50/25
			230V	36/18		50/25		85/43		100/50
			200V	36/18		50/25		85/43		100/50
	GB14048.2	AC	400V	18/9		30/15		36/18		50/25
			230V	36/18		50/25		85/43		100/50

Conforming to standards	CE Marking certified (TÜV)	● (TÜV)	● (TÜV)	● (TÜV)	● (TÜV)
	CCC certificate	●	●	●	●

Dimensions (mm)		a	105	105	140	105	140	105	140
		b	165	165		165		165	
		c	68	68		68		68	
		d	95	95		95		95	

Mass (kg)	1.8	1.8	2.3	1.8	2.3	1.8	2.3
Tripping device	Thermal-magnetic						

Front mounting, front connection	No-mark	○	○	○	○	○	○	○
Front mounting, rear connection	X	○	○	○	○	○	○	○
Flush mounting, front connection	E	○	○	○	○	○	○	○
Plug-in mounting	P	○	○	—	○	—	○	—

Internal accessories		Page 162						
Alarm switch	K	○	○	○	○	○	○	○
Auxiliary switch	W	○	○	○	○	○	○	○
Undervoltage trip	R	○	○	○	○	○	○	○
Shunt trip	F	○	○	○	○	○	○	○
Earth alarm switch	L	○	○	○	○	○	○	○

External accessories		Page 164						
Handle padlocking device	Cap type	Q1	○	○	○	○	○	○
Handle padlocking device	Plate type	Q2	○	○	○	○	○	○
Operating handle	N-type	N	○	○	○	○	○	○
Operating handle	V-type	V	○	○	○	○	○	○
Terminal cover	Short	BT□S	○	○	○	○	○	○
Terminal cover	Long	BT□L	○	○	○	○	○	○
Insulation barrier	Interphase	BP	○	○	○	○	○	○
Handle locking cover		L1	○	○	○	○	○	○
Flat terminal		SS	○	○	○	○	○	○
Block terminal		SL	○	○	○	○	○	○

●: Approved ○: Available —: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484



Earth Leakage Circuit Breakers

Quick reference guide

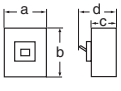
■ G-TWIN Standard Series

Ampere frame		250A													
Type		EW250EAG		EW250JAG		EW250SAG		EW250RAG							
Pole		3		3		4		3		4					
Rated current		Reference amb. temp. (40°C)		In(A)		175, 200, 225, 250		175,200,225		175,200,225,250					
Rated impulse withstand voltage		Uimp(kV)		6		6		6		6					
Isolation compliant		●		●		●		●		●					
Rated voltage Ue (AC V)		100-230-440													
Type of earth leakage trip action		AC type													
Instantaneous trip type		Rated sensitive current (mA)		30											
		Tripping time (s)		0.1 or less											
Instantaneous/time-delay trip type		Rated sensitive current (mA)		100/300/500/1000 changeover											
		Tripping time (s)		0.1/0.4/1/2 changeover											
		Inertia non-tripping time (s) (2IΔn)		0/0.2/0.5/1											
Rated breaking capacity Icu/Ics (kA)		IEC60947-2 EN60947-2 JISC8201-2-2		AC		440V		18/9		30/15		36/18		50/25	
				415V		18/9		30/15		36/18		50/25			
				400V		18/9		30/15		36/18		50/25			
				380V		18/9		30/15		36/18		50/25			
				230V		36/18		50/25		85/43		100/50			
				200V		36/18		50/25		85/43		100/50			
				100V		36/18		50/25		85/43		100/50			
		GB14048.2		AC		400V		18/9		30/15		36/18		50/25	
				230V		36/18		50/25		85/43		100/50			

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484

■ G-TWIN Standard Series

Ampere frame		400A								
Type		EW400EAG		EW400SAG		EW400RAG		EW400HAG		
Pole		3		3		3		4		
Rated current Reference amb. temp. (40°C)		In(A)		250, 300, 350, 400						
Rated impulse withstand voltage		Uimp(kV)		6		6		6		
Isolation compliant		●		●		●		●		
Rated voltage Ue (AC V)		IEC		100-230-440						
Type of earth leakage trip action		AC type								
Instantaneous trip type	Rated sensitive current (mA)		30							
	Tripping time (s)		0.1 or less							
Instantaneous/time-delay trip type	Rated sensitive current (mA)		100/300/500/1000 changeover							
	Tripping time (s)		0.1/0.4/1/2 changeover							
	Inertia non-tripping time (s) (2IΔn)		0/0.2/0.5/1							
Rated breaking capacity Icu/Ics (kA)	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	30/15	36/18	50/25	70/35			
			415V	30/15	36/18	50/25	70/35			
			400V	30/15	36/18	50/25	70/35			
			380V	30/15	36/18	50/25	70/35			
			230V	50/25	85/43	100/50	125/63			
			200V	50/25	85/43	100/50	125/63			
	GB14048.2	AC	400V	30/15	36/18	50/25	70/35			
			230V	50/25	85/43	100/50	125/63			
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)		● (TÜV)		● (TÜV)	
	CCC certificate		●		●		●		●	
Dimensions (mm)			a	140	140	140	185	140	185	
			b	257	257	257		257		
			c	103	103	103		103		
			d	146	146	146		146		
			e							
Mass (kg)		5.8		5.8		5.8		7.8		
Tripping device		Thermal-magnetic								
Front mounting, front connection		No-mark	○	○	○	○	○	○	○	
Front mounting, rear connection		X	○	○	○	○	○	○	○	
Flush mounting, front connection		E	○	○	○	○	○	○	○	
Plug-in mounting		P	○	○	○	—	○	—	○	
Internal accessories		Page 163								
Alarm switch		K	○	○	○	○	○	○	○	
Auxiliary switch		W	○	○	○	○	○	○	○	
Undervoltage trip		R	○	○	○	○	○	○	○	
Shunt trip		F	○	○	○	○	○	○	○	
Earth alarm switch		L	▲	▲	▲	▲	▲	▲	▲	
External accessories		Page 164								
Handle padlocking device Cap type		QN	○	○	○	○	○	○	○	
Handle padlocking device Plate type		Q2	○	○	○	○	○	○	○	
Operating handle N-type		N	○	○	○	○	○	○	○	
Operating handle V-type		V	○	○	○	○	○	○	○	
Terminal cover Short		BT□S	○	○	○	○	○	○	○	
Terminal cover Long		BT□L	○	○	○	○	○	○	○	
Insulation barrier Interphase		BP	○	○	○	○	○	○	○	
Handle locking cover		L1	○	○	○	○	○	○	○	
Flat terminal		SS	○*2	○*2	○*2	○*2	○*2	○*2	○*2	
Block terminal		SL	○	○	○	○	○	○	○	

●: Approved ○: Available —: Not available ▲: Factory-mounted accessory

Note: *1 Electrical Appliance and Material Safety Law of Japan

*2 Standard provided

Rated voltage (V)	Operational voltage range (V)
100–230–440	80–484



Earth Leakage Circuit Breakers

Quick reference guide

■ G-TWIN Standard Series

Ampere frame		630A			800A				
Type		EW630EAG	EW630RAG	EW630HAG	EW800EAG	EW800RAG	EW800HAG		
Pole		3	3	3	3	3	3		
Rated current	Reference amb. temp. (40°C) In(A)	500, 600, 630			700, 800				
Rated impulse withstand voltage	Uimp(kV)	6	6	6	6	6	6		
Isolation compliant		●	●	●	●	●	●		
Rated voltage Ue (AC V)		100-230-440							
Type of earth leakage trip action		AC type							
Instantaneous/time-delay trip type	Rated sensitive current (mA)	100/300/500/1000 changeover							
	Tripping time (s)	0.1/0.4/1/2 changeover							
	Inertia non-tripping time (s) (2IΔn)	0/0.2/0.5/1							
Rated breaking capacity Icu/Ics (kA)	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	36/18	50/25	70/35	36/18	50/25	70/35
			415V	36/18	50/25	70/35	36/18	50/25	70/35
			400V	36/18	50/25	70/35	36/18	50/25	70/35
			380V	36/18	50/25	70/35	36/18	50/25	70/35
			230V	50/25	100/50	125/63	50/25	100/50	125/63
			200V	50/25	100/50	125/63	50/25	100/50	125/63
			100V	50/25	100/50	125/63	50/25	100/50	125/63
	GB14048.2	AC	400V	36/18	50/25	70/35	36/18	50/25	70/35
			230V	50/25	100/50	125/63	50/25	100/50	125/63
Conforming to standards	CE Marking	● (TÜV)	● (TÜV)	● (TÜV)	● (TÜV)	● (TÜV)	● (TÜV)		
	CCC certificate	●	●	●	●	●	●		
Dimensions (mm)		a	210	210	210	210	210	210	
		b	275	275	275	275	275	275	
		c	103	103	103	103	103	103	
		d	146	146	146	146	146	146	
Mass (kg)		9.1	9.1	9.1	9.6	9.6	9.6		
Tripping device		Thermal-magnetic							
Front mounting, front connection	No-mark	○	○	○	○	○	○		
Front mounting, rear connection	X	○	○	○	○	○	○		
Flush mounting, front connection	E	○	○	○	○	○	○		
Plug-in mounting	P	○	○	○	○	○	○		
Internal accessories	Page 163								
Alarm switch	K	○	○	○	○	○	○		
Auxiliary switch	W	○	○	○	○	○	○		
Undervoltage trip	R	○	○	○	○	○	○		
Shunt trip	F	○	○	○	○	○	○		
Earth alarm switch	L	▲	▲	▲	▲	▲	▲		
External accessories	Page 164								
Handle padlocking device Cap type	QN	○	○	○	○	○	○		
Handle padlocking device Plate type	Q2	○	○	○	○	○	○		
Operating handle N-type	N	○	○	○	○	○	○		
Operating handle V-type	V	○	○	○	○	○	○		
Terminal cover Short	BTCS	○	○	○	○	○	○		
Terminal cover Long	BTCL	○	○	○	○	○	○		
Insulation barrier Interphase	BP	○	○	○	○	○	○		
Handle locking cover	L1	○	○	○	○	○	○		
Flat terminal	SS	○*2	○*2	○*2	○*2	○*2	○*2		
Block terminal	SL	○	○	○	○	○	○		

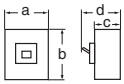
●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *1 Electrical Appliance and Material Safety Law of Japan

*2 Standard provided

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484

■ G-TWIN Global Series

Ampere frame		50A		100A		
Type		EW50RAGU		EW100EAGU		
Pole		3		3		
Rated current	Reference amb. temp. (40°C)	In(A)	3, 5, 10, 15, 20, 30, 32, 40, 50		60, 63, 70, 75, 80, 90, 100	
Rated impulse withstand voltage	Uimp(kV)	6		4	6	
Isolation compliant		●		●	●	
Rated voltage Ue (AC V)	IEC	100-230-440		100-230	100-230-440	
	UL	240		240	240	
Rated sensitive current (mA)		30, 50, 100/200/500 changeover		30, 100/200 changeover	30, 50, 100/200/500 changeover	
Tripping time (s)		0.1 or less		0.1 or less	0.1 or less	
Rated breaking capacity	IEC 60947-2 EN 60947-2 JIS C 8201-2-2 Icu/Ics (kA)	AC	440V	10/5	7.5/4	10/5
			415V	10/5	7.5/4	10/5
			400V	10/5	7.5/4	10/5
			380V	10/5	7.5/4	10/5
			230V	25/13	7.5/4	25/13
			200V	25/13	7.5/4	25/13
	GB14048.2 Icu/Ics(kA)	AC	400V	10/5	7.5/4	10/5
			230V	25/13	10/5	25/13
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC	480V/Δ	–	–	–
			480V/Y	–	–	–
240V			14	14	14	
Conforming to standards	CE Marking		● (TÜV)	● (TÜV)	● (TÜV)	
	CCC certificate		●	●	●	
	UL Listed (NEMA AB1)		●	●	●	
	Electrical Appliance and Material Safety Law *1		●	●	●	
Dimensions (inch(mm))		a	2.953 (75)	2.953 (75)	2.953 (75)	
		b	4.724 (120)	4.724 (120)	4.724 (120)	
		c	2.362 (60)	2.362 (60)	2.362 (60)	
		d	3.307 (84)	3.307 (84)	3.307 (84)	
		Mass (kg)	0.6		0.6	0.6
Tripping device		Hydraulic-magnetic				
Connecting terminal		Page 130				
Screw	S□	○	○	○		
Flat		○	○	○		
Block	–	–	–	–		
Internal accessories		Page 161				
Alarm switch	K	○	○	○		
Auxiliary switch	W	○	○	○		
Undervoltage trip	R	○	○	○		
Shunt trip	F	○	○	○		
Earth alarm switch	L	–	–	–		
External accessories		Page 164				
Operating handle N-type	N	○	○	○		
Operating handle V-type	V	○	○	○		
Terminal cover Short	BT□S	○*2	○	○		
Terminal cover Long	BT□L	○	○	○		
Insulation barrier Interphase	BP	○	○	○		

●: Approved ○: Available –: Not available

Note: *1 Electrical Appliance and Material Safety Law of Japan

*2 Standard provided

Rated voltage (V)	Operational voltage range (V)
100–230	80–264
240	80–264
100–230–440	80–484



Earth Leakage Circuit Breakers

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■ G-TWIN Global Series

Ampere frame		125A			
Type		EW125JAGU			
Pole		3			
Rated current Reference amb. temp. (40°C)	In(A)	15, 20, 30, 40, 50, 60, 75, 100, 125			
Rated impulse withstand voltage	Uimp(kV)	6	6		
Isolation compliant		●			
Rated voltage Ue (AC V)	IEC	100-230-440			
	UL	240-480			
Type of earth leakage trip action		AC type			
Instantaneous trip type	Rated sensitive current (mA)	30			
	Tripping time (s)	0.1 or less			
Instantaneous/time-delay trip type	Rated sensitive current (mA)	100/200/500/1000 changeover			
	Tripping time (s)	0.1/0.4/1/2 changeover			
	Inertia non-tripping time (s) (2IΔn)	0/0.2/0.5/1			
Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-2 Icu/lcs (kA)	AC	440V	30/15	50/25
			415V	30/15	50/25
			400V	30/15	50/25
			380V	30/15	50/25
			230V	50/25	100/50
			200V	50/25	100/50
	GB14048.2 Icu/lcs (kA)	AC	400V	30/15	50/25
			230V	50/25	100/50
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC	480V/Δ	30	50
			480V/Y	30	50
			240V	50	100
	Conforming to standards	CE Marking		● (TÜV)	● (TÜV)
CCC certificate		●	●		
UL Listed (NEMA AB1)		●	●		
Electrical Appliance and Material Safety Law *1		● (except for 125A)	● (except for 125A)		
Dimensions (inch(mm))		a	3.543 (90)	3.543 (90)	
		b	6.732 (171)	6.732 (171)	
		c	2.677 (68)	2.677 (68)	
		d	3.740 (95)	3.740 (95)	
Mass (kg)			1.3	1.3	
Tripping device		Thermal-magnetic			
Connecting terminal Page 130					
Screw	S□	○	○		
Flat		○	○		
Block		○	○		
Internal accessories Page 162					
Alarm switch	K	○	○		
Auxiliary switch	W	○	○		
Undervoltage trip	R	○	○		
Shunt trip	F	○	○		
Earth alarm switch	L	○	○		
External accessories Page 164					
Operating handle N-type	N	○	○		
Operating handle V-type	V	○	○		
Operating handle F-type	F	○	○		
Terminal cover Short	BT□S	○ *2	○ *2		
Terminal cover Long	BT□L	○	○		
Insulation barrier Interphase	BP	○	○		

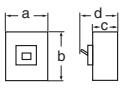
●: Approved ○: Available -: Not available

Note: *1 Electrical Appliance and Material Safety Law of Japan

*2 Standard provided

Rated voltage (V)	Operational voltage range (V)
240-480	80-504
100-230-440	80-484

■ G-TWIN Global Series

Ampere frame		250A			
Type		EW250JAGU	EW250RAGU		
Pole		3	3		
Rated current Reference amb. temp. (40°C)	In(A)	125, 150, 160, 175, 200, 225, 250			
Rated impulse withstand voltage	Uimp(kV)	6	6		
Isolation compliant		●	●		
Rated voltage Ue (AC V)	IEC	100-230-440			
	UL	240-480			
Type of earth leakage trip action		AC type			
Instantaneous trip type	Rated sensitive current (mA)	30			
	Tripping time (s)	0.1 or less			
Instantaneous/time-delay trip type	Rated sensitive current (mA)	100/200/500/1000 changeover			
	Tripping time (s)	0.1/0.4/1/2 changeover			
Inertia non-tripping time (s) (2IΔn)		0/0.2/0.5/1			
Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-2 Icu/Ics (kA)	AC	440V	30/15	50/25
			415V	30/15	50/25
			400V	30/15	50/25
			380V	30/15	50/25
			230V	50/25	100/50
			200V	50/25	100/50
	GB14048.2 Icu/Ics (kA)	AC	400V	30/15	50/25
			230V	50/25	100/50
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC	480V/Δ	30	50
			480V/Y	30	50
240V			50	100	
Conforming to standards	CE Marking		● (TÜV)	● (TÜV)	
	CCC certificate		●	●	
	UL Listed (NEMA AB1)		●	●	
Dimensions (inch(mm))		a	4.134 (105)	4.134 (105)	
		b	7.126 (181)	7.126 (181)	
		c	2.677 (68)	2.677 (68)	
		d	3.740 (95)	3.740 (95)	
Mass (kg)			1.8	1.8	
Tripping device		Thermal-magnetic			
Connecting terminal		Page 130			
Screw	S□	○	○		
Flat		○	○		
Block		○	○		
Internal accessories		Page 162			
Alarm switch	K	○	○		
Auxiliary switch	W	○	○		
Undervoltage trip	R	○	○		
Shunt trip	F	○	○		
Earth alarm switch	L	○	○		
External accessories		Page 164			
Operating handle N-type	N	○	○		
Operating handle V-type	V	○	○		
Operating handle F-type	F	○	○		
Terminal cover Short	BT□S	○*1	○*1		
Terminal cover Long	BT□L	○	○		
Insulation barrier Interphase	BP	○	○		

●: Approved ○: Available -: Not available
Note: *1 Standard provided

Rated voltage (V)	Operational voltage range (V)
240-480	80-504
100-230-440	80-484



Earth Leakage Circuit Breakers

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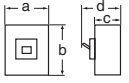
■ G-TWIN Global Series

Ampere frame		400A						
Type		EW400SAGU	EW400RAGU	EW400HAGU				
Pole		3	3	3				
Rated current	Reference amb. temp. (40°C)	In(A)	250, 300, 350, 400					
Rated impulse withstand voltage		Uimp(kV)	6	6				
Isolation compliant			●	●				
Rated voltage Ue (AC V)		IEC	100-230-440					
		UL	240-480					
Type of earth leakage trip action		AC type						
Instantaneous trip type	Rated sensitive current (mA)		30					
	Tripping time (s)		0.1 or less					
Instantaneous/time-delay trip type	Rated sensitive current (mA)		100/200/500/1000 changeover					
	Tripping time (s)		0.1/0.4/1/2 changeover					
	Inertia non-tripping time (s) (2IΔn)		0/0.2/0.5/1					
Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-2 Icu/Ics (kA)	AC	440V	36/18	50/25	70/35		
			415V	36/18	50/25	70/35		
			400V	36/18	50/25	70/35		
			380V	36/18	50/25	70/35		
			230V	85/43	100/50	125/63		
			200V	85/43	100/50	125/63		
	GB14048.2 Icu/Ics (kA)	AC	400V	36/18	50/25	70/35		
			230V	85/43	100/50	125/63		
			UL489 CAN/CSA C22.2 NO.5 (kA)	AC	480V/Δ	35	50	65 (with block terminal: 50)
					480V/Y	35	50	65 (with block terminal: 50)
					240V	50	100	100
			Conforming to standards	CE Marking		● (TÜV)	● (TÜV)	● (TÜV)
CCC certificate		●		●	●			
UL Listed (NEMA AB1)		●		●	●			
Dimensions (inch(mm))		a	5.512 (140)	5.512 (140)	5.512 (140)			
		b	10.12 (257)	10.12 (257)	10.12 (257)			
		c	4.055 (103)	4.055 (103)	4.055 (103)			
		d	5.748 (146)	5.748 (146)	5.748 (146)			
Mass (kg)			6.3	6.3	6.3			
Tripping device		Thermal-magnetic						
Connecting terminal		Page 130						
Screw		□	—	—	—			
Flat		○	○	○	○			
Block		○	○	○	○			
Internal accessories		Page 162						
Alarm switch		K	○	○	○			
Auxiliary switch		W	○	○	○			
Undervoltage trip		R	○	○	○			
Shunt trip		F	○	○	○			
Earth alarm switch		L	▲	▲	▲			
External accessories		Page 164						
Operating handle N-type		N	○	○	○			
Operating handle V-type		V	○	○	○			
Operating handle F-type		F	○	○	○			
Terminal cover Short		BT□S	○	○	○			
Terminal cover Long		BT□L	○	○	○			
Insulation barrier Interphase		BP	○	○	○			

●: Approved ○: Available —: Not available ▲: Factory-mounted accessory

Rated voltage (V)	Operational voltage range (V)
240-480	80-504
100-230-440	80-484

■ G-TWIN Global Series

Ampere frame		630A		
Type		EW630RAGU		
Pole		3		
Rated current	Reference amb. temp. (40°C)	In(A)	500, 600, 630*1	
Rated impulse withstand voltage		Uimp(kV)	6	
Isolation compliant		●		
Rated voltage Ue (AC V)		IEC	100-230-440	
		UL	240-480	
Instantaneous/time-delay trip type	Rated sensitive current (mA)		100/200/500/1000 changeover	
	Tripping time (s)		0.1/0.4/1/2 changeover	
	Inertia non-tripping time (s) (2IΔn)		0/0.2/0.5/1	
Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-2 Icu/Ics (kA)	AC	440V	50/25
			415V	50/25
			400V	50/25
			380V	50/25
			230V	100/50
			200V	100/50
	GB14048.2 Icu/Ics (kA)	AC	400V	50/25
			230V	100/50
	UL489 CAN/CSA C22.2 NO.5 (kA)	AC	480V/Δ	50
			480V/Y	50
240V			100	
Conforming to standards	CE Marking		● (TÜV)	
	CCC certificate		●	
	UL Listed (NEMA AB1)		●	
Dimensions (inch(mm))		a	8.268 (210)	
		b	10.83 (275)	
		c	4.055 (103)	
		d	5.748 (146)	
		Mass (kg)	10.2	
Tripping device		Thermal-magnetic		
Connecting terminal		Page 131		
Screw	S□	-		
Flat		○		
Block		○		
Internal accessories		Page 163		
Alarm switch	K	○*2		
Auxiliary switch	W	○*2		
Undervoltage trip	R	○*2		
Shunt trip	F	○*2		
Earth alarm switch	L	▲		
External accessories		Page 164		
Operating handle N-type	N	○		
Operating handle V-type	V	○		
Terminal cover Short	BT□S	○		
Terminal cover Long	BT□L	○		
Insulation barrier Interphase	BP	○		

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *1 Breakers for 630A cannot be manufactured with block terminals.

*2 Block terminals are not available.

Rated voltage (V)	Operational voltage range (V)
240-480	80-504
100-230-440	80-484



Earth Leakage Circuit Breakers

Quick reference guide

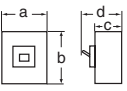
■ G-TWIN Standard Series / Motor protection

Ampere frame		32A			
Type		EW32EAM		EW32SAM	
Pole		3		3	
Rated current	Reference amb. temp. (40°C)	In(A)	1.4, 2.6, 4, 5, 8, 10, 16, 24, 32	0.7, 1.4, 2, 2.6, 4, 5, 8, 10, 12, 16, 24, 32	
Rated impulse withstand voltage		Uimp(kV)	4	4	
Isolation compliant			●	●	
Rated voltage Ue(AC V)		100-230-440		100-230-440	
Rated sensitive current (mA)		30, 100		30, 100/200/500 changeover	
Tripping time (s)		0.1 or less		0.1 or less	
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	1.5/1	2.5/2
			415V	1.5/1	2.5/2
			400V	1.5/1	2.5/2
			380V	1.5/1	2.5/2
			230V	2.5/2	5/3
			200V	2.5/2	5/3
			100V	5/3	5/3
	GB14048.2	AC	400V	1.5/1	2.5/2
			230V	2.5/2	5/3
Conforming to standards	CE Marking		●	●	
	CCC certificate		●	●	
	Electrical Appliance and Material Safety Law*1		●	●	
Dimensions (mm)		a	75	75	
		b	100	100	
		c	60	60	
		d	84	84	
		Mass (kg)	0.5	0.5	
Tripping device		Hydraulic-magnetic		Hydraulic-magnetic	
Front mounting, front connection	No-mark	○	○	○	
Front mounting, rear connection	X	○	○	○	
Flush mounting, front connection	E	○	○	○	
Flush mounting, top & bottom connection	Y	○	○	○	
Plug-in mounting	P	○	○	○	
IEC 35mm wide rail mounting	No-mark	○	○	○	
Internal accessories		Page 161			
Alarm switch	K	○	○	○	
Auxiliary switch	W	○	○	○	
Undervoltage trip	R	○	○	○	
Shunt trip	F	○	○	○	
Earth alarm switch	L	-	-	-	
External accessories		Page 164			
Handle padlocking device	Cap type	QN	○	○	
Handle padlocking device	Plate type	Q2	▲	▲	
Operating handle	N-type	N	○	○	
Operating handle	V-type	V	○	○	
Terminal cover	Short	BTCS	○	○	
Terminal cover	Long	BTCL	○	○	
Insulation barrier	Interphase	BP	○	○	
Insulation barrier	Earth	BL	○	○	
Handle locking cover		L1	○	○	
Flat terminal		SS	○	○	
Block terminal		SL	-	-	

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484

■ G-TWIN Standard Series / Motor protection

Ampere frame		50A			
Type		EW50EAM		EW50SAM	
Pole		3		3	
Rated current	Reference amb. temp. (40°C)	In(A)	45	0.7, 1.4, 2, 2.6, 4, 5, 8, 10, 12, 16, 24, 32, 40, 45	
Rated impulse withstand voltage		Uimp(kV)	4	6	
Isolation compliant		●		●	
Rated voltage Ue (AC V)		100-230-440		100-230-440	
Rated sensitive current (mA)		30, 100/200 changeover		30, 100/200/500 changeover	
Tripping time (s)		0.1 or less		0.1 or less	
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	2.5/2	7.5/4
			415V	2.5/2	7.5/4
			400V	2.5/2	7.5/4
			380V	2.5/2	7.5/4
			230V	5/3	10/5
			200V	5/3	10/5
			100V	5/3	10/5
	GB14048.2	AC	400V	2.5/2	7.5/4
			230V	5/3	10/5
	Conforming to standards	CE Marking		●	●
CCC certificate		●	●		
Electrical Appliance and Material Safety Law ^{*1}		●	●		
Dimensions (mm)			a	75	75
			b	100	100
			c	60	60
			d	84	84
			Mass (kg)		
Tripping device		Hydraulic-magnetic		Hydraulic-magnetic	
Front mounting, front connection	No-mark	○		○	
Front mounting, rear connection	X	○		○	
Flush mounting, front connection	E	○		○	
Flush mounting, top & bottom connection	Y	○		○	
Plug-in mounting	P	○		○	
IEC 35mm wide rail mounting	No-mark	○		○	
Internal accessories		Page 161			
Alarm switch	K	○		○	
Auxiliary switch	W	○		○	
Undervoltage trip	R	○		○	
Shunt trip	F	○		○	
Earth alarm switch	L	-		-	
External accessories		Page 164			
Handle padlocking device	Cap type	QN	○	○	
Handle padlocking device	Plate type	Q2	▲	▲	
Operating handle	N-type	N	○	○	
Operating handle	V-type	V	○	○	
Terminal cover	Short	BTCS	○	○	
Terminal cover	Long	BTCL	○	○	
Insulation barrier	Interphase	BP	○	○	
Insulation barrier	Earth	BL	○	○	
Handle locking cover		L1	○	○	
Flat terminal		SS	○	○	
Block terminal		SL	-	-	

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory
 Note: ^{*1} Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484



Earth Leakage Circuit Breakers

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■ G-TWIN Standard Series / Motor protection

Ampere frame		63A		100A		
Type		EW63EAM		EW63SAM		
Pole		3		3		
Rated current	Reference amb. temp. (40°C)	In(A)	63	63	63, 75, 90	
Rated impulse withstand voltage		Uimp(kV)	6	6	6	
Isolation compliant			●	●	●	
Rated voltage Ue (AC V)			100-230-440	100-230-440	100-230-440	
Rated sensitive current (mA)			30, 100/200 changeover	30, 100/200/500 changeover	30, 100/200/500 changeover	
Tripping time (s)			0.1 or less	0.1 or less	0.1 or less	
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	2.5/2	7.5/4	10/5
			415V	2.5/2	7.5/4	10/5
			400V	2.5/2	7.5/4	10/5
			380V	2.5/2	7.5/4	10/5
			230V	5/3	10/5	25/13
			200V	5/3	10/5	25/13
			100V	5/3	10/5	25/13
	GB14048.2	AC	400V	2.5/2	7.5/4	10/5
			230V	5/3	10/5	25/13
			230V	5/3	10/5	25/13
Conforming to standards	CE Marking		●	●	●	
	CCC certificate		●	●	●	
	Electrical Appliance and Material Safety Law*1		●	●	●	
Dimensions (mm)		a	75	75	75	
		b	100	100	100	
		c	60	60	60	
		d	84	84	84	
		Mass (kg)			0.6	0.6
Tripping device			Hydraulic-magnetic	Hydraulic-magnetic	Hydraulic-magnetic	
Front mounting, front connection	No-mark	○	○	○	○	
Front mounting, rear connection	X	○	○	○	○	
Flush mounting, front connection	E	○	○	○	○	
Flush mounting, top & bottom connection	Y	○	○	○	○	
Plug-in mounting	P	○	○	○	○	
IEC 35mm wide rail mounting	No-mark	○	○	○	○	
Internal accessories	Page 161					
Alarm switch	K	○	○	○	○	
Auxiliary switch	W	○	○	○	○	
Undervoltage trip	R	○	○	○	○	
Shunt trip	F	○	○	○	○	
Earth alarm switch	L	-	-	-	-	
External accessories	Page 164					
Handle padlocking device	Cap type	QN	○	○	○	
Handle padlocking device	Plate type	Q2	▲	▲	▲	
Operating handle	N-type	N	○	○	○	
Operating handle	V-type	V	○	○	○	
Terminal cover	Short	BTCS	○	○	○	
Terminal cover	Long	BTCL	○	○	○	
Insulation barrier	Interphase	BP	○	○	○	
Insulation barrier	Earth	BL	○	○	○	
Handle locking cover		L1	○	○	○	
Flat terminal		SS	○	○	○	
Block terminal		SL	-	-	-	

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory
 Note: *1 Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484

■ G-TWIN Standard Series / Motor protection

Ampere frame		125A		250A				
Type		EW125JAM		EW125RAM				
Pole		3		3				
Rated current	Reference amb. temp. (40°C)	In(A)		16, 24, 32, 40, 45, 60, 75, 90				
Rated impulse withstand voltage		Uimp(kV)		6				
Isolation compliant		●		●				
Rated voltage Ue (AC V)		100-230-440		100-230-440				
Type of earth leakage trip action		AC type		AC type				
Instantaneous trip type	Rated sensitive current (mA)	30		30				
	Tripping time (s)	0.1 or less		0.1 or less				
Instantaneous/ time-delay trip type	Rated sensitive current (mA)	100/200/500/1000 changeover		100/200/500/1000 changeover				
	Tripping time (s)	0.1/0.4/1/2 changeover		0.1/0.4/1/2 changeover				
	Inertia non-tripping time (s) (2IΔn)	0/0.2/0.5/1		0/0.2/0.5/1				
Rated breaking capacity Icu/lcs (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-2	AC	440V	30/15	50/25	18/9	30/15	50/25
			415V	30/15	50/25	18/9	30/15	50/25
			400V	30/15	50/25	18/9	30/15	50/25
			380V	30/15	50/25	18/9	30/15	50/25
			230V	50/25	100/50	36/18	50/25	100/50
			200V	50/25	100/50	36/18	50/25	100/50
			100V	50/25	100/50	36/18	50/25	100/50
	GB14048.2	AC	400V	30/15	50/25	18/9	30/15	50/25
			230V	50/25	100/50	36/18	50/25	100/50

Conforming to standards	CE Marking	●	●	●	●	●
	CCC certificate	●	●	●	●	●
	Electrical Appliance and Material Safety Law ^{*1}	●	●	-	-	-

Dimensions (mm)		a	90	90	105	105	105
		b	155	155	165	165	165
		c	68	68	68	68	68
		d	95	95	95	95	95

Mass (kg)	1.3	1.3	1.8	1.8	1.8
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Tripping device		Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic
Front mounting, front connection	No-mark	○	○	○	○	○
Front mounting, rear connection	X	○	○	○	○	○
Flush mounting, front connection	E	○	○	○	○	○
Flush mounting, top & bottom connection	Y	○	○	○	○	○
Plug-in mounting	P	○	○	○	○	○
Internal accessories	Page 162					
Alarm switch	K	○	○	○	○	○
Auxiliary switch	W	○	○	○	○	○
Undervoltage trip	R	○	○	○	○	○
Shunt trip	F	○	○	○	○	○
Earth alarm switch	L	○	○	○	○	○
External accessories	Page 164					
Handle padlocking device Cap type	Q1	○	○	○	○	○
Handle padlocking device Plate type	Q2	○	○	○	○	○
Operating handle N-type	N	○	○	○	○	○
Operating handle V-type	V	○	○	○	○	○
Terminal cover Short	BTCS	○	○	○	○	○
Terminal cover Long	BTCL	○	○	○	○	○
Insulation barrier Interphase	BP	○	○	○	○	○
Insulation barrier Earth	BL	○	○	○	○	○
Handle locking cover	L1	○	○	○	○	○
Flat terminal	SS	○	○	○	○	○
Block terminal	SL	-	-	-	-	-

●: Approved ○: Available -: Not available
 Note: ^{*1} Electrical Appliance and Material Safety Law of Japan

Rated voltage (V)	Operational voltage range (V)
100-230-440	80-484



■ Mounting modifications

• Standard series

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.

**Front mounting
Front connection**



BASIC DESIGN



Additional main parts	Front mounting Rear connection (X type)
Bar stud terminal	EW32 EW50 EW63 EW100
Bar stud terminal	EW125 EW160 EW250 EW400 EW630 EW800
	Each stud can be turned by 90°

Additional main parts	Flush mounting Rear connection (E type)
Bar stud terminal	EW32 EW50 EW63 EW100
Bar stud terminal	EW125 EW160 EW250 EW400 EW630 EW800
	Each stud can be turned by 90°

Additional main parts	Plug-in mounting (P type)
Bar stud terminal	EW32 EW50 EW63 EW100
Round stud terminal	EW125
Bar stud terminal	EW160 EW250 EW400 EW630 EW800
	Each stud can be turned by 90°

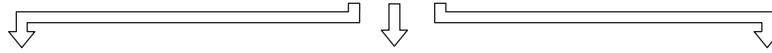
Additional main parts	Flush mounting Top and bottom connection (Y type)
Decorative flush plate	EW32 EW50 EW63 EW100

- Global series

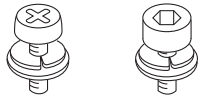
Front mounting
Front connection



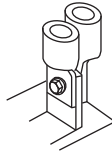
BASIC DESIGN



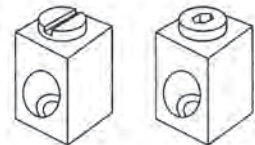
Screw



Flat terminal



Block terminal



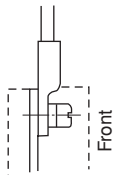
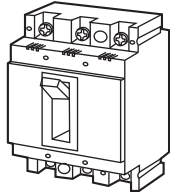


Earth Leakage Circuit Breakers

Terminal connection

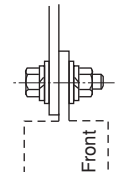
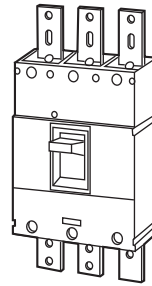
■ Terminal connection/Front mounting, front connection

• 32AF to 100AF

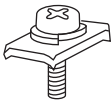


Flat terminal



• 400AF to 800AF



Flat terminal

Self lifting screw	Breaker type	Tightening torque (N·m)	Size
	EW32 EW50 EW100*	2.3 to 2.8	M5 × 14
	EW63 EW100	5.5 to 7.5	M8 × 15

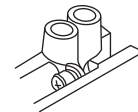
* Breaker of rated current : 50A

Hexagonal head bolt	Breaker type	Tightening torque (N·m)	Size (mm)
 	EW400	40 to 50	M12 × 35
	EW630 EW800	40 to 50	M12 × 40

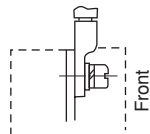
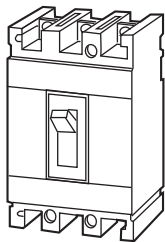
Type of connection/up to 250AF

Front mounting front connection

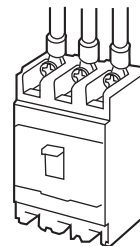
Direct connection



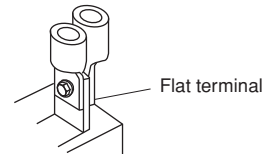
• 125AF to 250AF




Front



Flat terminal connection
Flat terminals are required.



Flat terminal

Pan-head screw	Breaker type	Tightening torque (N·m)	Size (mm)
	EW125	5.5 to 7.5	M8 × 16
	EW160 EW250	8.0 to 13.0	M8 × 16

Flat bar studs/1-hole type

Breaker type	Pole	Type of flat terminal
EW32 EW50	2 3	BZ6S10C502 BZ6S10C503
EW63 EW100*	2 3	BZ6S10C1002 BZ6S10C1003
EW125	3 4	BW9SS0CA-3 BW9SS0CA-4
EW160 EW250	3 4	BW9SS0GA-3 BW9SS0GA-4

* EW100 breaker of rated current 50A: BZ6S10C502 or 503.



Earth Leakage Circuit Breakers

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.

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
32	EW32	R2-5	R5.5-5	R8-5	R14-5							
50	EW50	R2-5	R5.5-5	R8-5	R14-5							
63	EW63	R2-8	R5.5-8	R8-8	R14-8	JST22-S8						
100	EW100	R2-8	R5.5-8	R8-8	R14-8	JST22-S8	JST38-S8					
125	EW125	R2-8	R5.5-8	R8-8	R14-8	R22-8	JST38-S8	CB60-8				
160 250	EW160 EW250					R22-8	R38-8	R60-8	CB100-8			
400	EW400						R38-12	R60-12	R100-12	R150-12	R200-12	JST325-12
630	EW630								R100-12	R150-12	R200-12	JST325-12
800	EW800								R100-12	R150-12	R200-12	JST325-12

■ Breaker termination

• Standard

ELCB type	Front connection	Rear connection X	Flush mounting E	Y	Plug-in mounting P
EW32 EW50	Self-lifting terminal 				
EW63 EW100					
EW125	Flat terminal 				
EW160 EW250	Flat terminal 				
EW400 EW630 EW800	Flat terminal 	90° rotational stud 	90° rotational stud 		90° rotational stud



Wire size and terminal

■ Notes on wiring (global series)

Notes on connecting wires (conductors)

- Connect wires to the UL breaker according to NEC (National Electric Code) or CEC (Canadian Electrical Code) Part 1.
- Use 75°C copper wires for wiring. UL-certified or CSA-certified wires are recommended.
- If a large current (for example, a short-circuit current) flows, it causes a huge electromagnetic force between wires. Therefore, be sure to secure the wires sufficiently.
- Re-tighten terminal screws periodically.

Code	Terminal position		Applicable breaker type		
	Line	Load	EW50, 100	EW125, 250	EW400, 630, 800
Blank	Screw	Screw	●	●	—
Blank	Flat terminal	Flat terminal	—	—	●
SB	Block terminal	Block terminal	—	●	●
SF	Flat terminal	Flat terminal	●	●	—
S3	Screw	Flat terminal	●	●	—
S4	Flat terminal	Screw	●	●	—
S5	Screw	Block terminal	—	●	—
S6	Block terminal	Screw	—	●	—
S7	Flat terminal	Block terminal	—	●	●
S8	Block terminal	Flat terminal	—	●	●

Block terminal connection

- Choose from the stranded wires shown in Table.

Wire size: AWG or MCM [mm ²]	No. of wires stranded
14 to 2 [2.1 to 33.6]	7
1 to 4/0 [42.4 to 107.2]	19
250 to 500 [127 to 250]	37

Values in [] are those converted from AWG or MCM sizes to mm².

- * See the instruction manual that comes with the breaker for more details.

Precautions

- Two wires of different sizes cannot be connected to the same block terminal.
- Be sure to use stranded wires according to Table "Number of wires stranded."
- Multi-conductor wires cannot be connected.
- Do not solder wires together.

Wire size and crimp terminal

• Crimp terminal connection

ELCB	Rated current (A)	Applicable crimp terminal 75°C wire			Connectable wire size (AWG)	Tightening torque (N•m)	Type of screw head and size (mm)
		J.S.T Mfg. Co., Ltd.	Nichifu Co., Ltd.	Daido Solderless Terminal Mfg. Co., Ltd.			
EW50RAGU	3	R2-5	R2-5M	2-S5, 2-5	14AWG	2.3-2.8	Cross/straight slotted pan-head screw M5 x 14
	5						
	10						
	15	R5.5-5	R3.5-5S, R3.5-5L, 5.5-6N, R5.5-5S, R5.5-5	3.5-5, 5.5-S5, 5.5-5, 5.5-L5	12AWG		
	20				10AWG		
	30				8AWG		
40	R8-5	R8-5S, R8-5	8-S5, 8-5	8AWG			
50							
EW100EAGU	60	R14-8	R14-8S, R14-8	R14-S8, R14-8	6AWG	5.5-7.5	Cross/straight slotted pan-head screw M8 x 15
	75	22-S8	R22-8S, R22-8	R22-S8, 22-8	4AWG		
	100	38-S8	R38-8S	38-S8	3AWG		
EW125JAGU EW125RAGU	15	R2-8	R2-8	2-8, 2-B8	14AWG	5.8 (5.3-6.4)	Cross/straight slotted pan-head screw M8 x 16
	20	5.5-S8, R5.5-8	R3.5-8, R5.5-8	3.5-8, 5.5-8	12AWG		
	30				10AWG		
	40	8-8NS, R8-8	R8-8	8-8	8AWG		
	50						
	60	14-8NS, 14-S8, R14-8	R14-8S, R14-8	14-S8, 14-8	6AWG		
	70	22-S8, R22-8, CB22-S8	R22-8S, R22-8, CB22-8S	22-S8, 22-8, CB22-8	4AWG		
	75						
	80						
	90	38-S8	R38-8S	38-S8	3AWG		
	100						
125	1AWG						
EW250JAGU EW250RAGU	125	38-S8, R38-8	R38-8S, R38-8	38-S8, 38-8	1AWG	10.5 (8-13)	Hexagon socket head bolt M8 x 16
	150	60-S8, R60-8	R60-8, CB60-8, CB60-8S	60-8, CB60-8	1/0AWG		
	175	70-8	R70-8	70-8	2/0AWG		
	200	CB80-S8		CB80-8	3/0AWG		
	225	CB100-S8		CB100-8	4/0AWG		
	250	CB150-S8	CB150-8	CB150-8	250MCM		

Notes: • AWG/MCM is the UL approved wire unit.

- The allowable temperature of wire is 75°C. (UL CSA approved)
- Be sure to use UL-certified or CSA-certified crimp tools commercially available.

• Flat terminal connection

ELCB	Rated current (A)	Applicable crimp terminal 75°C wire			Connectable wire size (AWG) 75°C wire	Tightening torque (N•m)		Type of screw head and size (mm)
		J.S.T Mfg. Co., Ltd.	Nichifu Co., Ltd.	Daido Solderless Terminal Mfg. Co., Ltd.		Wire side	MCCB side	
EW50RAGU	3	R2-5	R2-5M R2-5	2-S5, 2-5	14AWG	3.5 to 4.5	2.3 to 2.8	Hexagon socket head bolt M5 x 16
	5							
	10							
	15	R5.5-5	R3.5-5S, R3.5-5L, 5.5-6N. R5.5-5S, R5.5-5	3.5-5, 5.5-S5 5.5-5, 5.5-L5	12AWG 10AWG			
	20							
	30	R8-5	R8-5S, R8-5	8-S5, 8-5	8AWG			
40								
50								
EW100EAGU	60	R14-8	R14-8S, R14-8	R14-S8, R14-8	6AWG	8 to 10	5.5 to 7.5	Hexagon socket head bolt M8 x 22
	75	22-S8	R22-8S, R22-8	R22-S8, 22-8	4AWG			
	100	38-S8	R38-8S	38-S8	3AWG			
EW125JAGU EW125RAGU	15	R2-8	R2-8	2-8, 2-B8	14AWG	9 (8 to 10)	5.8 (5.3 to 6.4)	Cross/straight slotted pan-head screw M8 x 16
	20	5.5-S8, R5.5-8	R3.5-8, R5.5-8	3.5-8, 5.5-8	12AWG			
	40	8-8NS, R8-8	R8-8	8-8	8AWG			
	50	14-8NS, 14-S8, R14-8	R14-8S, R14-8	14-S8, 14-8	6AWG			
	60							
	75							
	100	38-S8	R38-8S	38-S8	3AWG			
125				1AWG				
EW250JAGU EW250RAGU	125	38-S8, R38-8	R38-8S, R38-8	38-S8, 38-8	1AWG	9 (8 to 10)	10.5 (8 to 13)	Hexagon socket head bolt M8 x 16
	150	60-S8, R60-8	R60-8, CB60-8, CB60-8S	60-8, CB60-8	1/0AWG			
	175	70-8	R70-8	70-8	2/0AWG			
	200	CB80-S8		CB80-8	3/0AWG			
	225	CB100-S8		CB100-8	4/0AWG			
	250	CB150-S8	CB150-8	CB150-8	250MCM			
EW400SAGU EW400RAGU EW400HAGU	250	150-12	R150-12		250MCM	45 (40 to 50)	43.5 (39.2 to 48)	Hexagon head bolt M12 x 35
	300	180-12	R180-12		350MCM			
	350	325-12	R325-12N		500MCM			
	400	325-12 R80-12	R325-12N R80-12		500MCM 3/0AWG(x2)			
EW630RAGU	500	R150-12		R150-12	250MCM(x2)	47.04 (42.4 to 51.7)	47.04 (42.4 to 51.7)	Hexagon head bolt M12 x 40
	600	180-12		R180-12	350MCM(x2)			
	630	325-12	R325-12N	R325-12 □	500MCM(x2)			

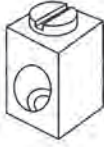




Notes: • AWG/MCM is the UL approved wire unit.
• The allowable temperature of wire is 75°C. (UL CSA approved)



Earth Leakage Circuit Breakers

Wire size and terminal

• Block terminal connection

ELCB	Rated current (A)	Connectable wire size (AWG)	Tightening torque (N•m)	Type of screw head and size (mm)	Figure
EW125JAGU	15	14AWG	5.8 (5.8 to 6.4)	Slotted set screw	
EW125RAGU	20	12AWG			
	30	10AWG			
	40	8AWG			
	50				
	60	6AWG			
	75	4AWG			
	100	3AWG			
	125	1AWG			
EW250JAGU	125	1AWG	23 (23 to 25.3)	Hexagon socket head setscrew: 8 mm (5/16 inch)	
EW250RAGU	150	1/0AWG			
	175	2/0AWG			
	200	3/0AWG			
	225	4/0AWG			
	250	250MCM			
EW400SAGU	250	250MCM	43.5 (43.5 to 48)	Hexagon socket head setscrew: 9.53 mm (3/8 inch)	
EW400RAGU	300	350MCM			
EW400HAGU	350	500MCM	31.9 (31.9 to 35.1)	Hexagon socket head setscrew: 8 mm (5/16 inch)	
	400	3/0AWG(x2)			
EW630RAGU	500	250MCM(x2)	31.1 (31.1 to 34.2)	Hexagon socket head setscrew: 8 mm (5/16 inch)	
	600	350MCM(x2)			

Notes: • AWG/MCM is the UL approved wire unit.

• The allowable temperature of wire is 75°C. (UL CSA approved)



Earth Leakage Circuit Breakers

Type number/Line protection

■ Type number, Standard series (Line protection)

● AAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
32	5	EW32AAG-2P005	■ □	A, B, C
	10	EW32AAG-2P010	■ □	Blank, X, E, Y, P
	15	EW32AAG-2P015	■ □	
	20	EW32AAG-2P020	■ □	
	30	EW32AAG-2P030	■ □	
	32	EW32AAG-2P032	■ □	
50	5	EW50AAG-2P005	■ □	
	10	EW50AAG-2P010	■ □	Blank, X, E, Y, P
	15	EW50AAG-2P015	■ □	
	20	EW50AAG-2P020	■ □	
	30	EW50AAG-2P030	■ □	
	32	EW50AAG-2P032	■ □	
	40	EW50AAG-2P040	■ □	
	50	EW50AAG-2P050	■ □	

● EAG series, 2-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
100	50	EW100EAG-2P050	■ □	B, K
	60	EW100EAG-2P060	■ □	Blank, X, E, Y, P
	63	EW100EAG-2P063	■ □	
	75	EW100EAG-2P075	■ □	
	100	EW100EAG-2P100	■ □	

● AAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
32	5	EW32AAG-3P005	■ □	A, B, C
	10	EW32AAG-3P010	■ □	Blank, X, E, Y, P
	15	EW32AAG-3P015	■ □	
	20	EW32AAG-3P020	■ □	
	30	EW32AAG-3P030	■ □	
	32	EW32AAG-3P032	■ □	
50	5	EW50AAG-3P005	■ □	
	10	EW50AAG-3P010	■ □	Blank, X, E, Y, P
	15	EW50AAG-3P015	■ □	
	20	EW50AAG-3P020	■ □	
	30	EW50AAG-3P030	■ □	
	32	EW50AAG-3P032	■ □	
	40	EW50AAG-3P040	■ □	
	50	EW50AAG-3P050	■ □	
100	60	EW100AAG-3P060	■ □	
	63	EW100AAG-3P063	■ □	Blank, X, E, Y, P
	75	EW100AAG-3P075	■ □	
	100	EW100AAG-3P100	■ □	

● JAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
125	15	EW125JAG-3P015	■ □	B, J
	20	EW125JAG-3P020	■ □	Blank, X, E, P
	30	EW125JAG-3P030	■ □	
	40	EW125JAG-3P040	■ □	
	50	EW125JAG-3P050	■ □	
	60	EW125JAG-3P060	■ □	
	75	EW125JAG-3P075	■ □	
	100	EW125JAG-3P100	■ □	
	125	EW125JAG-3P125	■ □	
160	125	EW160JAG-3P125	■ □	
	150	EW160JAG-3P150	■ □	Blank, X, E, P
	160	EW160JAG-3P160	■ □	
250	175	EW250JAG-3P175	■ □	
	200	EW250JAG-3P200	■ □	Blank, X, E, P
	225	EW250JAG-3P225	■ □	
	250	EW250JAG-3P250	■ □	

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

Rated sensitive current	■
15mA	A
30mA	B
100mA	C
50mA	D
100/300/500/1000mA changeover	J
100/200mA, 100/200/500mA changeover	K
100/200/500/1000mA changeover	K



Earth Leakage Circuit Breakers

Type number/Line protection

● EAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *
32	5	EW32EAG-3P005■□	A, B, C	Blank, X, E, Y, P
	10	EW32EAG-3P010■□		
	15	EW32EAG-3P015■□		
	20	EW32EAG-3P020■□		
	30	EW32EAG-3P030■□		
	32	EW32EAG-3P032■□		
50	5	EW50EAG-3P005■□	A, B, K	Blank, X, E, Y, P
	10	EW50EAG-3P010■□		
	15	EW50EAG-3P015■□		
	20	EW50EAG-3P020■□		
	30	EW50EAG-3P030■□		
	32	EW50EAG-3P032■□		
	40	EW50EAG-3P040■□		
50	EW50EAG-3P050■□			
63	60	EW63EAG-3P060■□	A, B, K	Blank, X, E, Y, P
	63	EW63EAG-3P063■□		
100	50	EW100EAG-3P050■□	B, K	Blank, X, E, Y, P
	60	EW100EAG-3P060■□		
	63	EW100EAG-3P063■□		
	75	EW100EAG-3P075■□		
	100	EW100EAG-3P100■□		
160	125	EW160EAG-3P125■□	B, J	Blank, X, E, P
	150	EW160EAG-3P150■□		
	160	EW160EAG-3P160■□		
250	175	EW250EAG-3P175■□	B, J	Blank, X, E, P
	200	EW250EAG-3P200■□		
	225	EW250EAG-3P225■□		
	250	EW250EAG-3P250■□		
400	250	EW400EAG-3P250■□	B, J	Blank, X, E, P
	300	EW400EAG-3P300■□		
	350	EW400EAG-3P350■□		
	400	EW400EAG-3P400■□		
630	500	EW630EAG-3P500■□	J	Blank, X, E, P
	600	EW630EAG-3P600■□		
	630	EW630EAG-3P630■□		
800	700	EW800EAG-3P700■□	J	Blank, X, E, P
	800	EW800EAG-3P800■□		

● SAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *	
32	3	EW32SAG-3P003■□	B, K	Blank, X, E, Y, P	
	5	EW32SAG-3P005■□			
	10	EW32SAG-3P010■□			
	15	EW32SAG-3P015■□			
	20	EW32SAG-3P020■□			
	30	EW32SAG-3P030■□			
	32	EW32SAG-3P032■□			
	50	5	EW50SAG-3P005■□	B, K	Blank, X, E, Y, P
10		EW50SAG-3P010■□			
15		EW50SAG-3P015■□			
20		EW50SAG-3P020■□			
30		EW50SAG-3P030■□			
32		EW50SAG-3P032■□			
40		EW50SAG-3P040■□			
50		EW50SAG-3P050■□			
63		60	EW63SAG-3P060■□	B, K	Blank, X, E, Y, P
		63	EW63SAG-3P063■□		
125	15	EW125SAG-3P015■□	B, J	Blank, X, E, P	
	20	EW125SAG-3P020■□			
	30	EW125SAG-3P030■□			
	40	EW125SAG-3P040■□			
	50	EW125SAG-3P050■□			
	60	EW125SAG-3P060■□			
	75	EW125SAG-3P075■□			
	100	EW125SAG-3P100■□			
160	125	EW160SAG-3P125■□	B, J	Blank, X, E, P	
	150	EW160SAG-3P150■□			
	160	EW160SAG-3P160■□			
250	175	EW250SAG-3P175■□	B, J	Blank, X, E, P	
	200	EW250SAG-3P200■□			
	225	EW250SAG-3P225■□			
	250	EW250SAG-3P250■□			
400	250	EW400SAG-3P250■□	B, J	Blank, X, E, P	
	300	EW400SAG-3P300■□			
	350	EW400SAG-3P350■□			
	400	EW400SAG-3P400■□			

* See page 133.

● RAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *
50	10	EW50RAG-3P010	B, K	Blank, X, E, Y, P
	15	EW50RAG-3P015		
	20	EW50RAG-3P020		
	30	EW50RAG-3P030		
	32	EW50RAG-3P032		
	40	EW50RAG-3P040		
63	60	EW63RAG-3P060	B, K	Blank, X, E, Y, P
	63	EW63RAG-3P063		
125	15	EW125RAG-3P015	B, J	Blank, X, E, P
	20	EW125RAG-3P020		
	30	EW125RAG-3P030		
	40	EW125RAG-3P040		
	50	EW125RAG-3P050		
	60	EW125RAG-3P060		
	75	EW125RAG-3P075		
	100	EW125RAG-3P100		
	125	EW125RAG-3P125		
160	125	EW160RAG-3P125	B, J	Blank, X, E, P
	150	EW160RAG-3P150		
	160	EW160RAG-3P160		
250	175	EW250RAG-3P175	B, J	Blank, X, E, P
	200	EW250RAG-3P200		
	225	EW250RAG-3P225		
	250	EW250RAG-3P250		
400	250	EW400RAG-3P250	B, J	Blank, X, E, P
	300	EW400RAG-3P300		
	350	EW400RAG-3P350		
	400	EW400RAG-3P400		
630	500	EW630RAG-3P500	J	Blank, X, E, P
	600	EW630RAG-3P600		
	630	EW630RAG-3P630		
800	700	EW800RAG-3P700	J	Blank, X, E, P
	800	EW800RAG-3P800		

● HAG series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *
400	250	EW400HAG-3P250	B, J	Blank, X, E, P
	300	EW400HAG-3P300		
	350	EW400HAG-3P350		
	400	EW400HAG-3P400		
630	500	EW630HAG-3P500	J	Blank, X, E, P
	600	EW630HAG-3P600		
	630	EW630HAG-3P630		
800	700	EW800HAG-3P700	J	Blank, X, E, P
	800	EW800HAG-3P800		

● JAG series, 4-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *
125	15	EW125JAG-4P015	B, J	Blank, X, E
	20	EW125JAG-4P020		
	30	EW125JAG-4P030		
	40	EW125JAG-4P040		
	50	EW125JAG-4P050		
	60	EW125JAG-4P060		
	75	EW125JAG-4P075		
	100	EW125JAG-4P100		
	125	EW125JAG-4P125		
	160	125		
150		EW160JAG-4P150		
160		EW160JAG-4P160		
250	175	EW250JAG-4P175	B, J	Blank, X, E
	200	EW250JAG-4P200		
	225	EW250JAG-4P225		
	250	EW250JAG-4P250		

● SAG series, 4-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *
125	15	EW125SAG-4P015	B, J	Blank, X, E
	20	EW125SAG-4P020		
	30	EW125SAG-4P030		
	40	EW125SAG-4P040		
	50	EW125SAG-4P050		
	60	EW125SAG-4P060		
	75	EW125SAG-4P075		
	100	EW125SAG-4P100		
	125	EW125SAG-4P125		
160	125	EW160SAG-4P125	B, J	Blank, X, E
	150	EW160SAG-4P150		
	160	EW160SAG-4P160		
250	175	EW250SAG-4P175	B, J	Blank, X, E
	200	EW250SAG-4P200		
	225	EW250SAG-4P225		

* See page 133.



Earth Leakage Circuit Breakers

Type number/Line protection

● RAG series, 4-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *
125	15	EW125RAG-4P015	■ □	Blank, X, E
	20	EW125RAG-4P020	■ □	
	30	EW125RAG-4P030	■ □	
	40	EW125RAG-4P040	■ □	
	50	EW125RAG-4P050	■ □	
	60	EW125RAG-4P060	■ □	
	75	EW125RAG-4P075	■ □	
	100	EW125RAG-4P100	■ □	
	125	EW125RAG-4P125	■ □	
160	125	EW160RAG-4P125	■ □	Blank, X, E
	150	EW160RAG-4P150	■ □	
	160	EW160RAG-4P160	■ □	
250	175	EW250RAG-4P175	■ □	Blank, X, E
	200	EW250RAG-4P200	■ □	
	225	EW250RAG-4P225	■ □	
400	250	EW400RAG-4P250	■ □	Blank, X, E
	300	EW400RAG-4P300	■ □	
	350	EW400RAG-4P350	■ □	
	400	EW400RAG-4P400	■ □	

● HAG series, 4-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection *
400	250	EW400HAG-4P250	■ □	Blank, X, E
	300	EW400HAG-4P300	■ □	
	350	EW400HAG-4P350	■ □	
	400	EW400HAG-4P400	■ □	

* See page 133.

■ Type number, Global series (Line protection)

● EAGU series, 2-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection
100	60	EW100EAGU-2P060	■ □	B, K Blank, SF, S3, S4
	63	EW100EAGU-2P063	■ □	
	70	EW100EAGU-2P070	■ □	
	75	EW100EAGU-2P075	■ □	
	80	EW100EAGU-2P080	■ □	
	90	EW100EAGU-2P090	■ □	
	100	EW100EAGU-2P100	■ □	

● EAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection	
100	60	EW100EAGU-3P060	■ □	B, D, K Blank, SF, S3, S4	
	63	EW100EAGU-3P063	■ □		
	70	EW100EAGU-3P070	■ □		
	75	EW100EAGU-3P075	■ □		
	80	EW100EAGU-3P080	■ □		
	90	EW100EAGU-3P090	■ □		
		100	EW100EAGU-3P100		■ □

● JAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection	
125	15	EW125JAGU-3P015	■ □	B, K Blank, SB, SF, S3 S4, S5, S6, S7, S8	
	20	EW125JAGU-3P020	■ □		
	30	EW125JAGU-3P030	■ □		
	40	EW125JAGU-3P040	■ □		
	50	EW125JAGU-3P050	■ □		
	60	EW125JAGU-3P060	■ □		
	75	EW125JAGU-3P075	■ □		
	100	EW125JAGU-3P100	■ □		
		125	EW125JAGU-3P125		■ □
	250	125	EW250JAGU-3P125		■ □
150		EW250JAGU-3P150	■ □		
160		EW250JAGU-3P160	■ □		
175		EW250JAGU-3P175	■ □		
200		EW250JAGU-3P200	■ □		
225		EW250JAGU-3P225	■ □		
		250	EW250JAGU-3P250	■ □	

● SAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection
400	250	EW400SAGU-3P250	■ □	B, K Blank, SB, S7, S8
	300	EW400SAGU-3P300	■ □	
	350	EW400SAGU-3P350	■ □	
	400	EW400SAGU-3P400	■ □	

* See page 133.

● RAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection	
50	3	EW50RAGU-3P003	■ □	B, D, K Blank, SF, S3, S4	
	5	EW50RAGU-3P005	■ □		
	10	EW50RAGU-3P010	■ □		
	15	EW50RAGU-3P015	■ □		
	20	EW50RAGU-3P020	■ □		
	30	EW50RAGU-3P030	■ □		
	32	EW50RAGU-3P032	■ □		
	40	EW50RAGU-3P040	■ □		
		50	EW50RAGU-3P050		■ □
	125	15	EW125RAGU-3P015		■ □
20		EW125RAGU-3P020	■ □		
30		EW125RAGU-3P030	■ □		
40		EW125RAGU-3P040	■ □		
50		EW125RAGU-3P050	■ □		
60		EW125RAGU-3P060	■ □		
75		EW125RAGU-3P075	■ □		
100		EW125RAGU-3P100	■ □		
250	125	EW250RAGU-3P125	■ □	B, K Blank, SB, SF, S3 S4, S5, S6, S7, S8	
	150	EW250RAGU-3P150	■ □		
	160	EW250RAGU-3P160	■ □		
	175	EW250RAGU-3P175	■ □		
	200	EW250RAGU-3P200	■ □		
	225	EW250RAGU-3P225	■ □		
		250	EW250RAGU-3P250		■ □
400	250	EW400RAGU-3P250	■ □	B, K Blank, SB, S7, S8	
	300	EW400RAGU-3P300	■ □		
	350	EW400RAGU-3P350	■ □		
	400	EW400RAGU-3P400	■ □		
630	500	EW630RAGU-3P500	■ □	K Blank, SB, S7, S8	
	600	EW630RAGU-3P600	■ □		
	630	EW630RAGU-3P630	■ □		

● HAGU series, 3-pole UL489 Listed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current *	□: Available mounting and connection
400	250	EW400HAGU-3P250	■ □	B, K Blank, SB, S7, S8
	300	EW400HAGU-3P300	■ □	
	350	EW400HAGU-3P350	■ □	
	400	EW400HAGU-3P400	■ □	

Terminal combination

□:	Terminal position		Breaker type		
	Line	Load	EW50, 100	EW125, 250	EW400, 630
Blank	Screw	Screw	●	●	-
Blank	Flat terminal	Flat terminal	-	-	●
SB	Block terminal	Block terminal	-	●	●
SF	Flat terminal	Flat terminal	●	●	-
S3	Screw	Flat terminal	●	●	-
S4	Flat terminal	Screw	●	●	-
S5	Screw	Block terminal	-	●	-
S6	Block terminal	Screw	-	●	-
S7	Flat terminal	Block terminal	-	●	●
S8	Block terminal	Flat terminal	-	●	●



Earth Leakage Circuit Breakers

Type number/Motor protection

■ Type number, Standard series (Motor protection)

● EAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
32	1.4	EW32EAM-3P1P4	B, C	Blank, X, E, Y, P
	2.6	EW32EAM-3P2P6		
	4	EW32EAM-3P004		
	5	EW32EAM-3P005		
	8	EW32EAM-3P008		
	10	EW32EAM-3P010		
	16	EW32EAM-3P016		
	24	EW32EAM-3P024		
32	EW32EAM-3P032			
50	45	EW50EAM-3P045	B, K	Blank, X, E, Y, P
63	63	EW63EAM-3P063	B, K	Blank, X, E, Y, P
100	63	EW100EAM-3P063	B, K	Blank, X, E, Y, P
	75	EW100EAM-3P075		
	90	EW100EAM-3P090		
	100	EW100EAM-3P100		
250	125	EW250EAM-3P125	B, K	Blank, X, E, P
	150	EW250EAM-3P150		
	175	EW250EAM-3P175		
	225	EW250EAM-3P225		

● JAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
125	75	EW125JAM-3P075	B, K	Blank, X, E, P
	90	EW125JAM-3P090		
250	125	EW250JAM-3P125	B, K	Blank, X, E, P
	150	EW250JAM-3P150		
	175	EW250JAM-3P175		
	225	EW250JAM-3P225		

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

● SAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
32	0.7	EW32SAM-3P0P7	B, K	Blank, X, E, Y, P
	1.4	EW32SAM-3P1P4		
	2	EW32SAM-3P002		
	2.6	EW32SAM-3P2P6		
	4	EW32SAM-3P004		
	5	EW32SAM-3P005		
	8	EW32SAM-3P008		
	10	EW32SAM-3P010		
	12	EW32SAM-3P012		
	16	EW32SAM-3P016		
	24	EW32SAM-3P024		
	32	EW32SAM-3P032		
	50	0.7		
1.4		EW50SAM-3P1P4		
2		EW50SAM-3P002		
2.6		EW50SAM-3P2P6		
4		EW50SAM-3P004		
5		EW50SAM-3P005		
8		EW50SAM-3P008		
10		EW50SAM-3P010		
12		EW50SAM-3P012		
16		EW50SAM-3P016		
63	24	EW63SAM-3P024	B, K	Blank, X, E, Y, P
	32	EW63SAM-3P032		
	40	EW63SAM-3P040		
	45	EW63SAM-3P045		
	63	EW63SAM-3P063		
	63	EW63SAM-3P063		
	63	EW63SAM-3P063		

● RAM series, 3-pole IEC/EN/GB/JIS conformed

Breaker ampere frame	Rated current (A)	Type	■: Rated sensitive current	□: Available mounting and connection
125	45	EW125RAM-3P045	B, K	Blank, X, E, P
	60	EW125RAM-3P060		
	75	EW125RAM-3P075		
	90	EW125RAM-3P090		
250	125	EW250RAM-3P125	B, K	Blank, X, E, P
	150	EW250RAM-3P150		
	175	EW250RAM-3P175		
	225	EW250RAM-3P225		

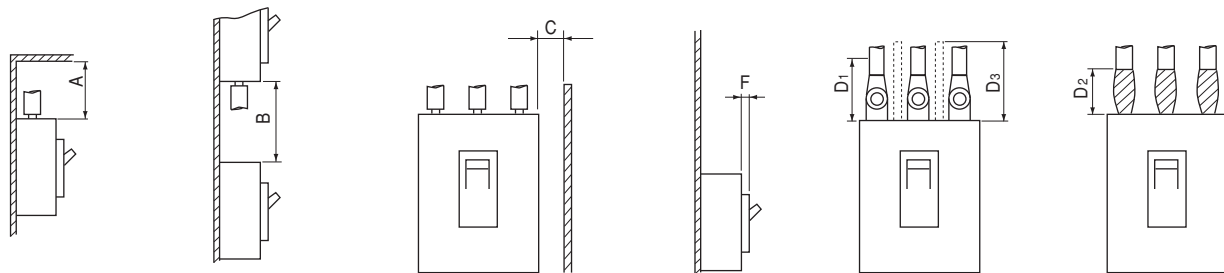
Rated sensitive current	■
30mA	B
100mA	C
100/200mA changeover	K
100/200/500mA changeover	K
100/200/500/1000mA changeover	K



Earth Leakage Circuit Breakers

Arc space

■ Arc space, mm



Frame size	ELCB basic type	Ceiling distance		Vertical distance		Side plate distance		Front plate distance				Taping			Barrier
		A		B		C		Painted F		No painted F		Crimp type terminal lug D1	Bus-bar		
		440V	230V	440V	230V	440V	230V	440V	230V	440V	230V		D2	D3	
32A	EW32A	–	10	–	10	–	10	–	0	–	0	Exposed live part dimension +20	10	10	
	EW32E	10	10	30	10	20	15	0	0	0	0		30	30	
	EW32S	10	10	30	30	20	15	0	0	0	0		30	30	
50A	EW50A	–	10	–	10	–	10	–	0	–	0		10	10	
	EW50E	10	10	30	30	25	15	0	0	0	0		30	30	
	EW50S	30	10	40	40	25	15	0	0	0	0		30	30	
	EW50R	50	25	50	50	25	15	0	0	10	5		50	50	
63A	EW63E	10	10	30	30	25	15	0	0	0	0		30	30	
	EW63S	30	10	40	40	25	15	0	0	0	0		30	30	
	EW63R	50	25	50	50	25	15	0	0	10	5		50	50	
100A	EW100A	–	10	–	20	–	15	–	0	–	0		50	50	
	EW100E	50	25	50	50	25	15	0	0	10	5		50	50	
125A	EW125J	40	40	50	50	25	20	0	0	10	5	50	50		
	EW125S	40	40	60	60	25	20	5	0	10	5	50	50		
	EW125R	40	40	60	60	25	20	5	0	10	5	50	50		
160A	EW160E	40	40	50	50	50	15	0	0	10	5	80	80		
	EW160J	40	40	60	60	50	20	0	0	10	5	80	80		
	EW160S	40	40	80	80	50	20	5	0	10	10	80	80		
	EW160R	40	40	80	80	50	20	5	0	10	10	80	80		
250A	EW250E	40	40	50	50	50	15	0	0	10	5	80	80		
	EW250J	40	40	60	60	50	20	0	0	10	5	80	80		
	EW250S	40	40	80	80	50	20	5	0	10	10	80	80		
	EW250R	40	40	80	80	50	20	5	0	10	10	80	80		
400A	EW400E	100	80	100	80	50	20	0	0	10	5	100	100		
	EW400S	100	80	100	80	50	20	0	0	10	5	100	100		
	EW400R	100	80	100	80	80	40	5	0	20	10	100	100		
	EW400H	100	80	100	80	80	40	5	0	20	10	100	100		
630A	EW630E	100	80	100	80	80	40	0	0	10	5	100	100		
	EW630R	100	80	100	80	80	40	5	0	20	10	100	100		
	EW630H	120	100	120	100	80	40	5	0	20	10	120	120		
800A	EW800E	100	80	100	80	80	40	0	0	10	5	100	100		
	EW800R	100	80	100	80	80	40	5	0	20	10	100	100		
	EW800H	120	100	120	100	80	40	5	0	20	20	120	120		



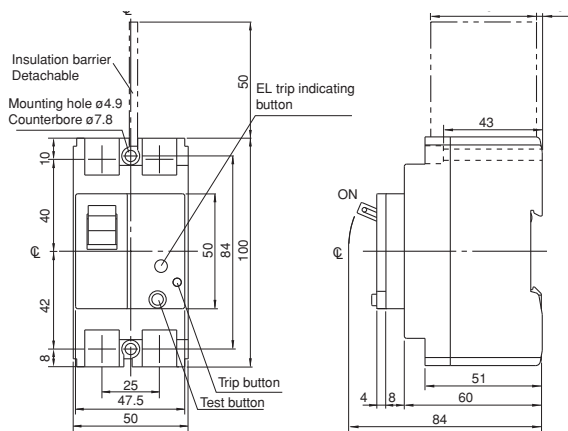
Earth Leakage Circuit Breakers

Dimensions / Standard

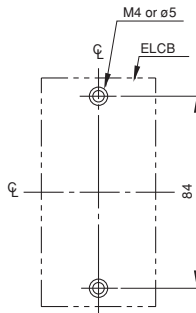
■ Dimensions, mm

● Front mounting, front connection

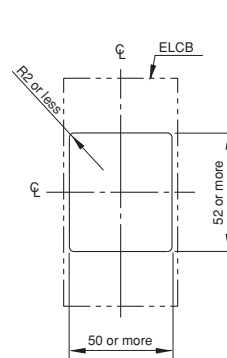
EW32□-2P, EW50□-2P



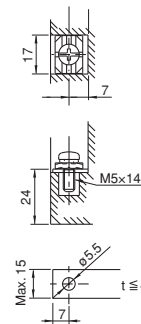
Panel drilling



Front panel cutting

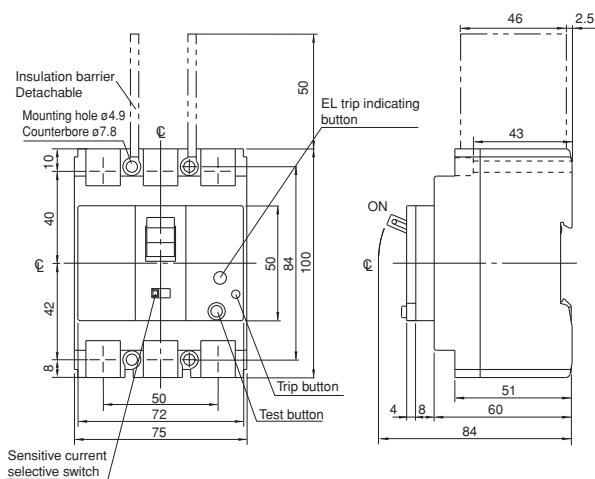


Terminal section

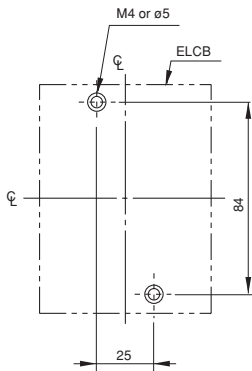


Insulation barriers
Standard provided: EW50SAG, EW50RAG
Optional: EW32AAG, EW50EAG

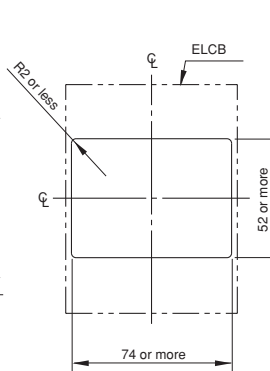
EW32□-3P, EW50□-3P



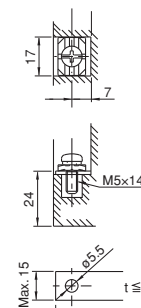
Panel drilling



Front panel cutting

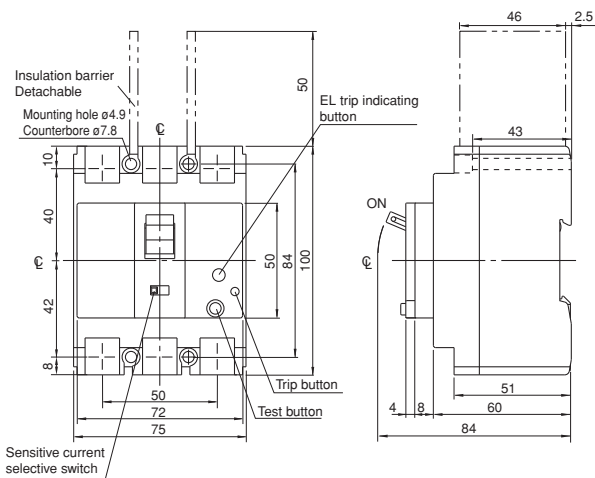


Terminal section

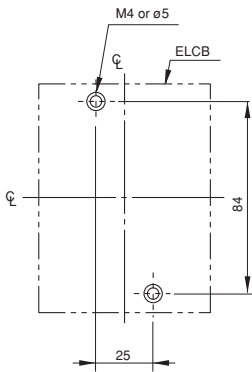


Insulation barriers
Standard provided: EW50SAG, EW50RAG
Optional: EW32AAG, EW32SAG, EW50EAG

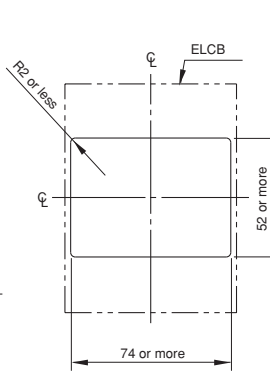
EW63□-3P



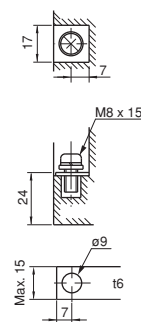
Panel drilling



Front panel cutting

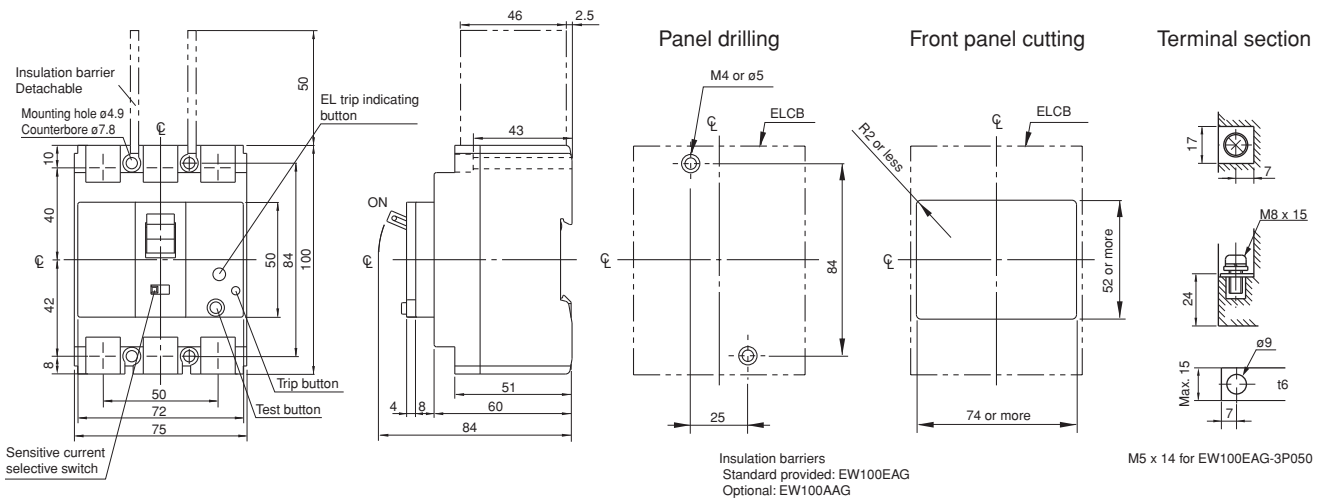


Terminal section

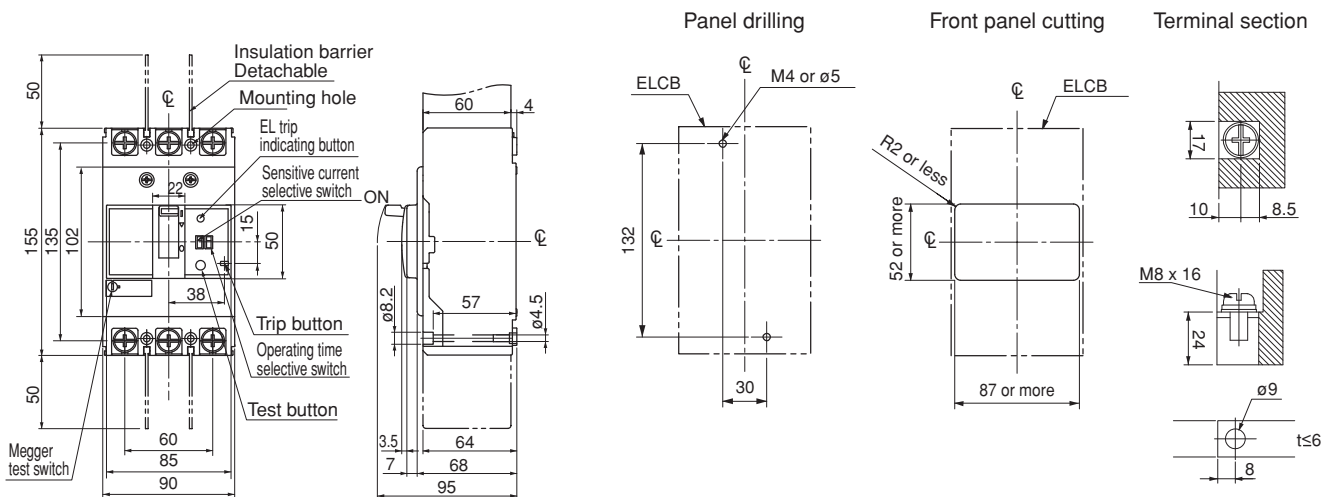


- Dimensions, mm
- Front mounting, front connection

EW100□-2P, 3P



EW125□-3P





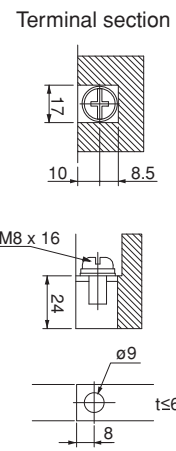
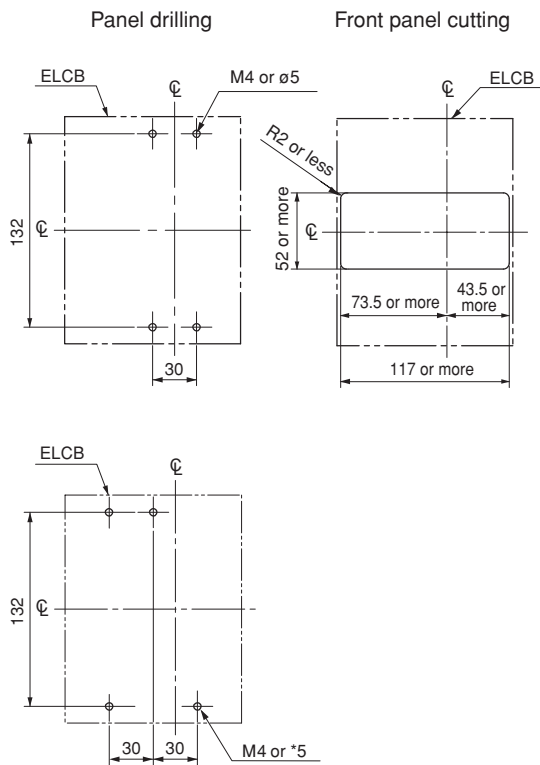
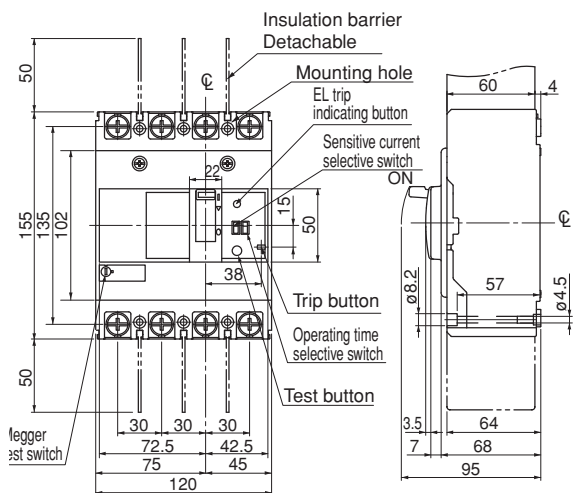
Earth Leakage Circuit Breakers

Dimensions / Standard

■ Dimensions, mm

● Front mounting, front connection

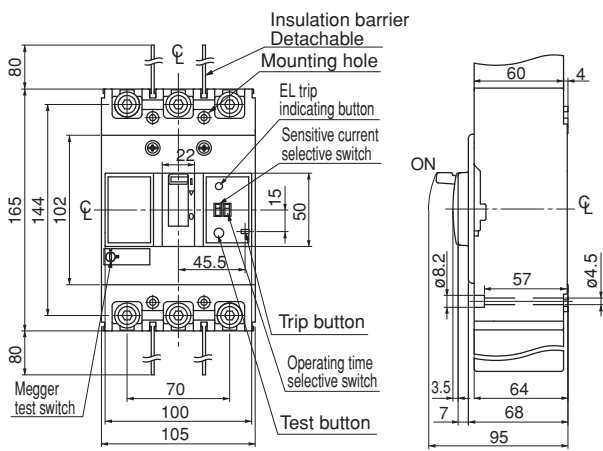
EW125□-4P



For N, V type handle

- Dimensions, mm
- Front mounting, front connection

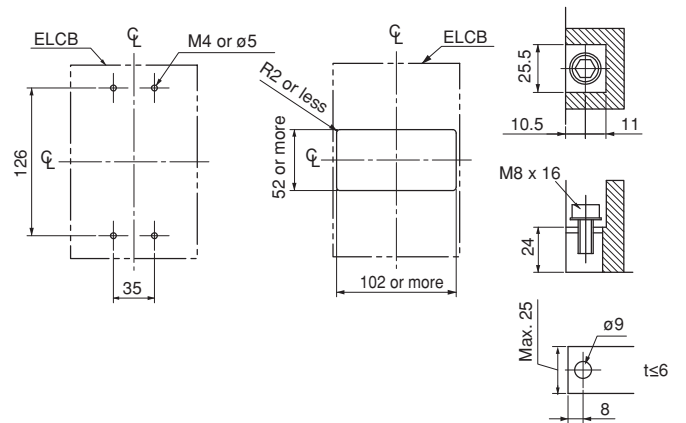
EW160□-3P
EW250□-3P



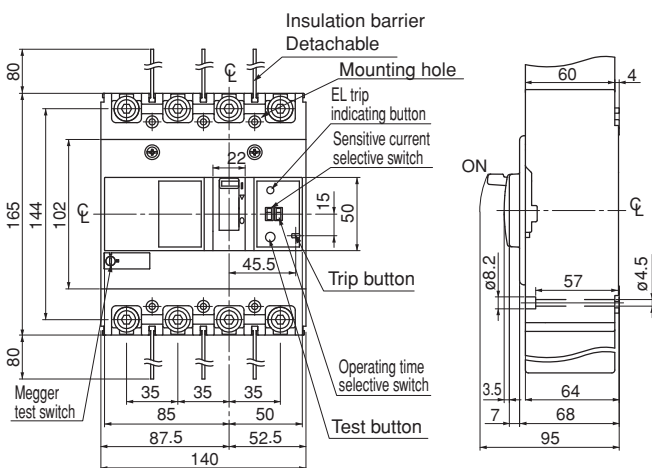
Panel drilling

Front panel cutting

Terminal section



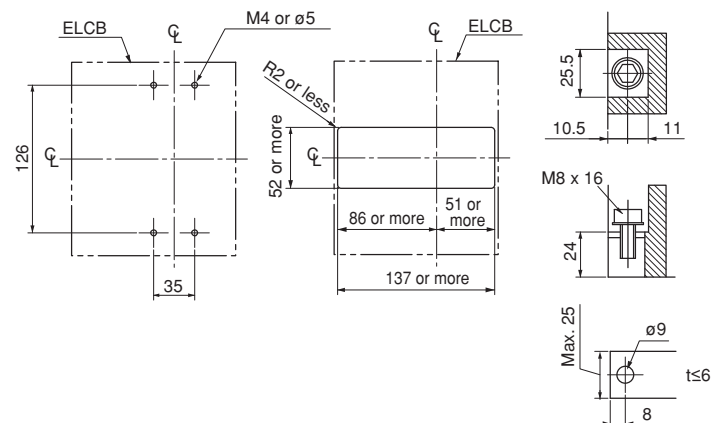
EW160□-4P
EW250□-4P



Panel drilling

Front panel cutting

Terminal section





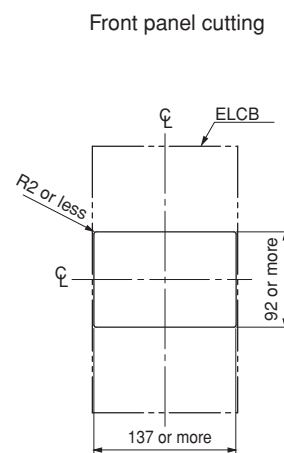
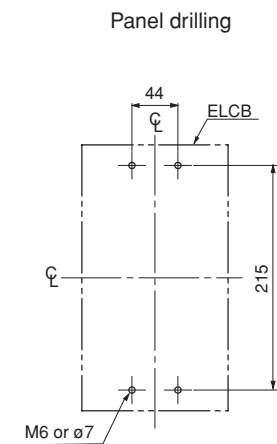
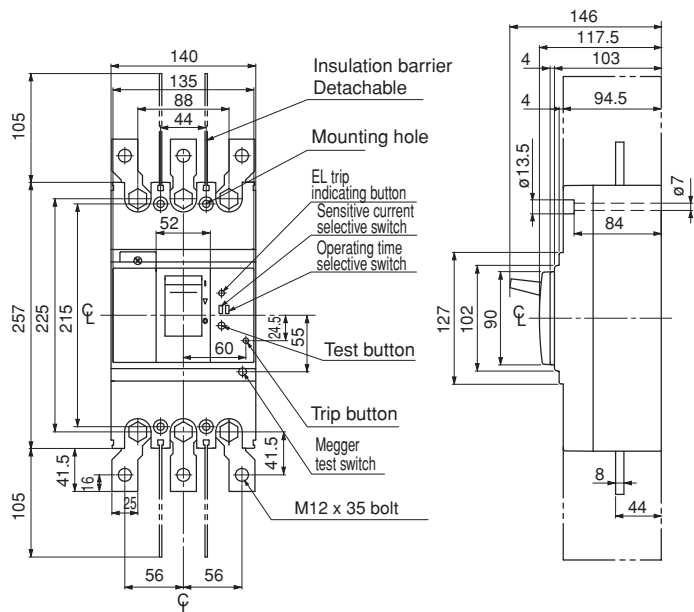
Earth Leakage Circuit Breakers

Dimensions / Standard

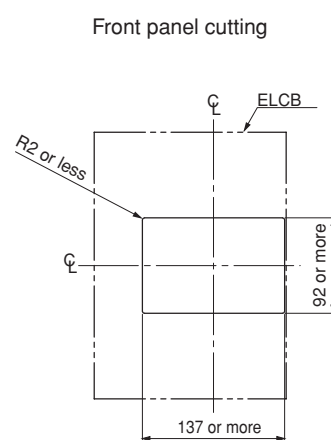
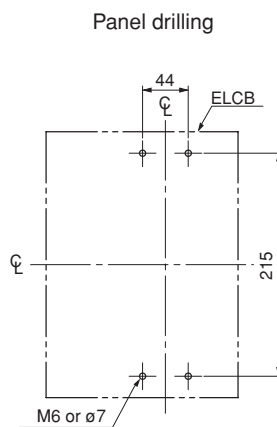
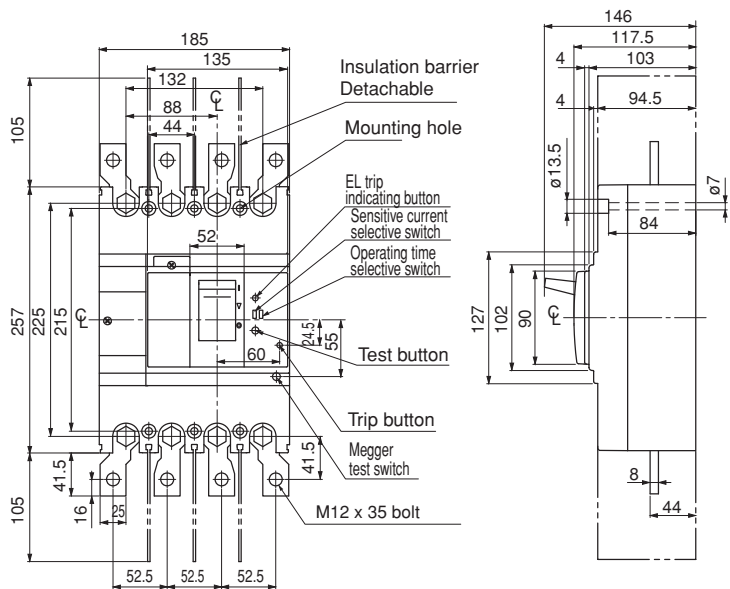
■ Dimensions, mm

● Front mounting, front connection

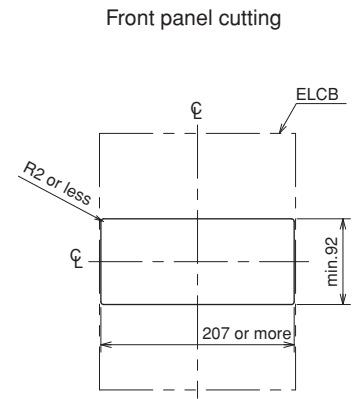
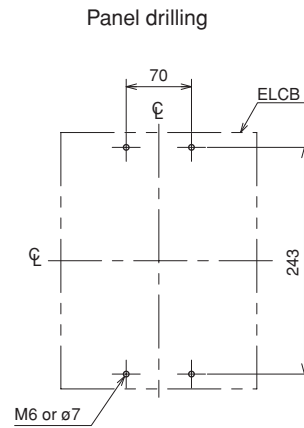
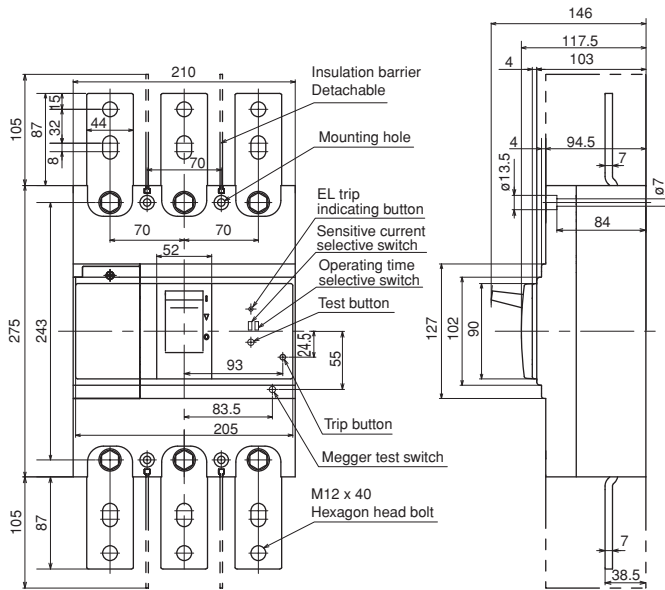
EW400□-3P



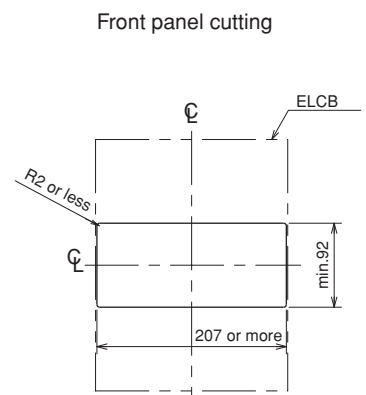
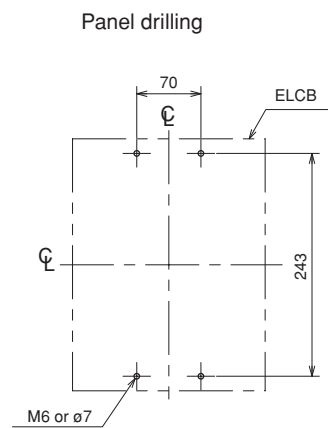
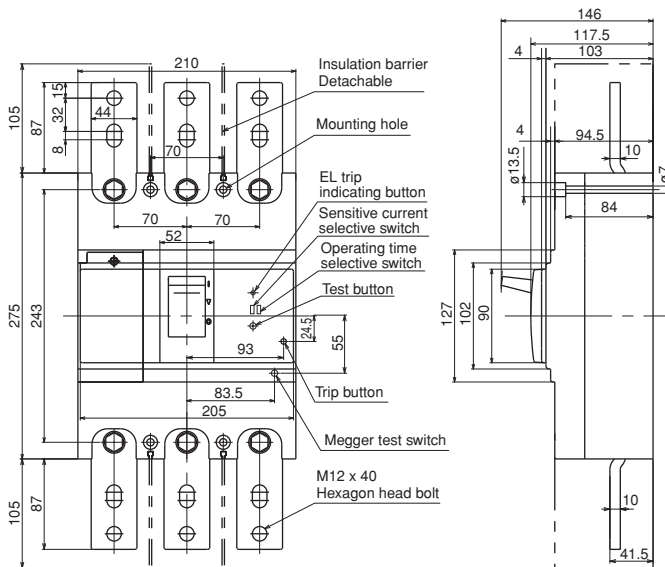
EW400□-4P



- Dimensions, mm
 - Front mounting, front connection
- EW630□-3P**



EW800□-3P





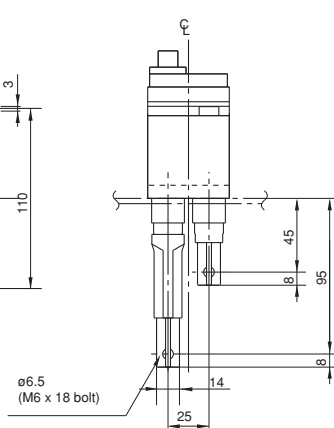
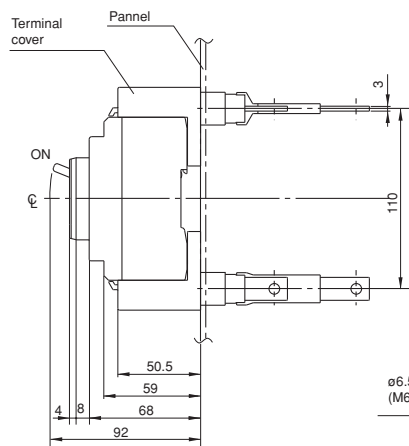
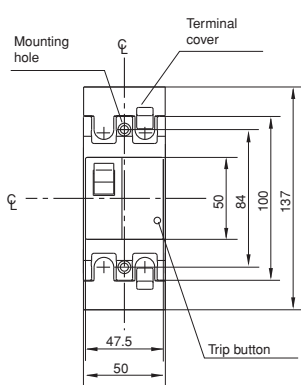
Earth Leakage Circuit Breakers

Dimensions / Standard

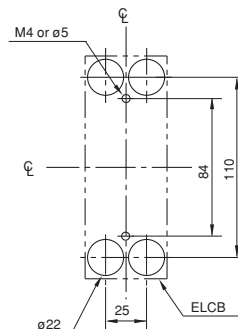
■ Dimensions, mm

● Front mounting, rear connection (type X)

EW32□-2P, EW50□-2P

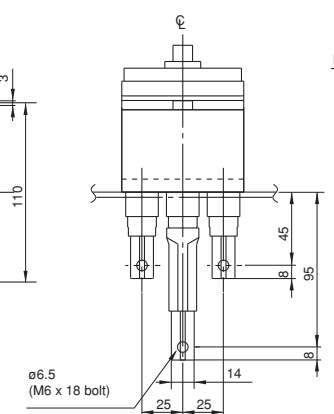
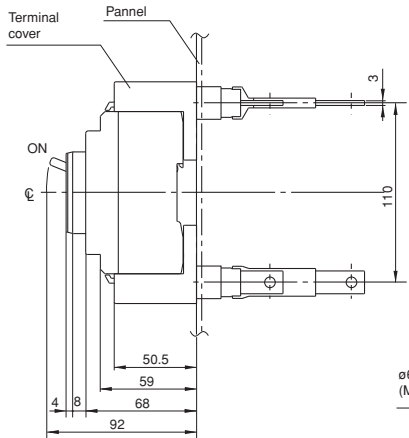
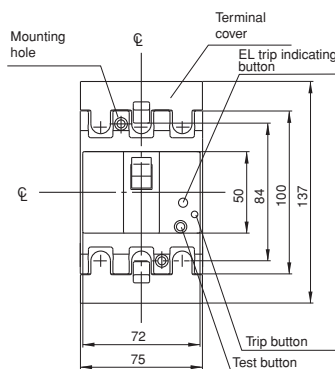


Panel drilling

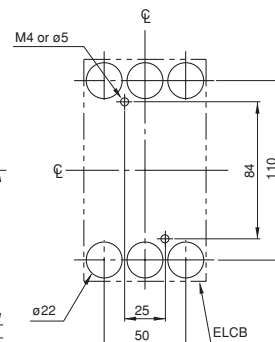


Note: Ex-works, studs are mounted on the ELCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.

EW32□-3P, EW50□-3P

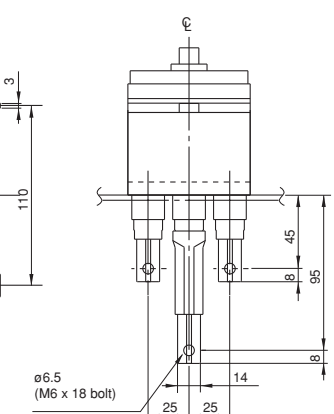
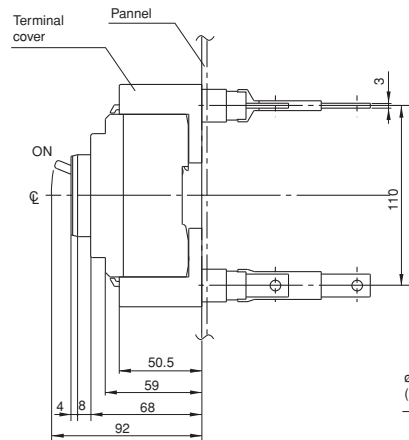
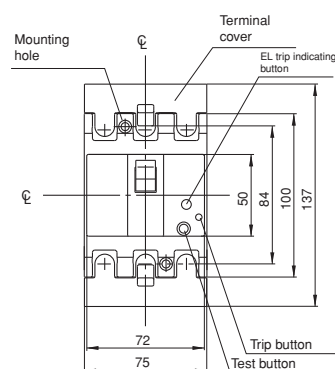


Panel drilling

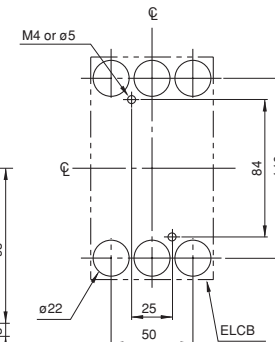


Note: Ex-works, studs are mounted on the ELCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.
 2-pole breaker is supplied in 3-pole frame with current carrying parts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

EW63□-3P



Panel drilling

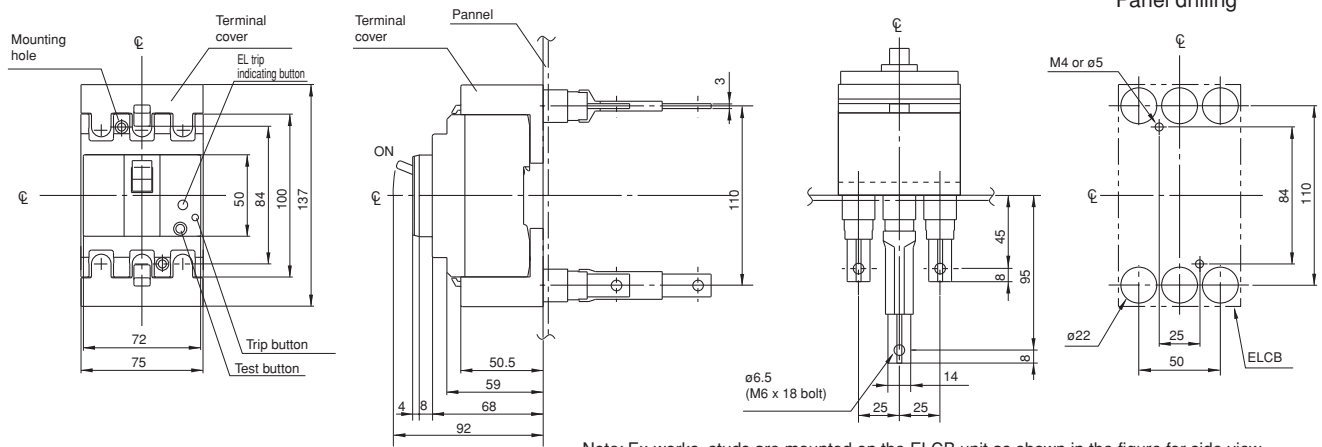


Note: Ex-works, studs are mounted on the ELCB unit as shown in the figure for side view.
 •Studs for line side terminal : Mounted horizontally.
 •Studs for load-side terminal : Mounted vertically.
 Each stud can be turned by 90°.
 2-pole breaker is supplied in 3-pole frame with current carrying parts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

■ Dimensions, mm

● Front mounting, rear connection (type X)

EW100□-2P,3P



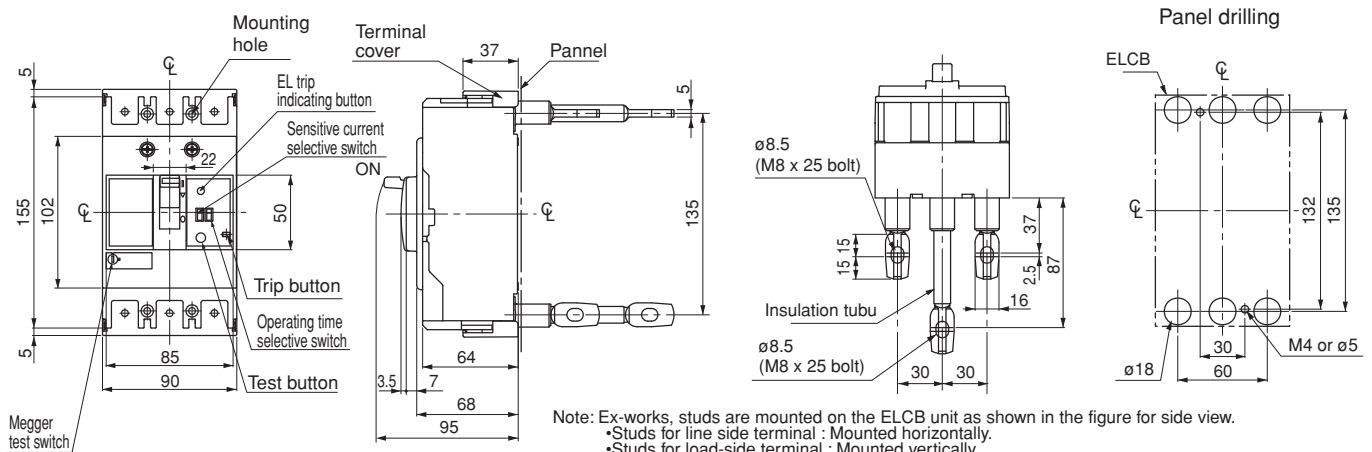
Note: Ex-works, studs are mounted on the ELCB unit as shown in the figure for side view.

- 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.

EW125□-3P



Note: Ex-works, studs are mounted on the ELCB 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°.



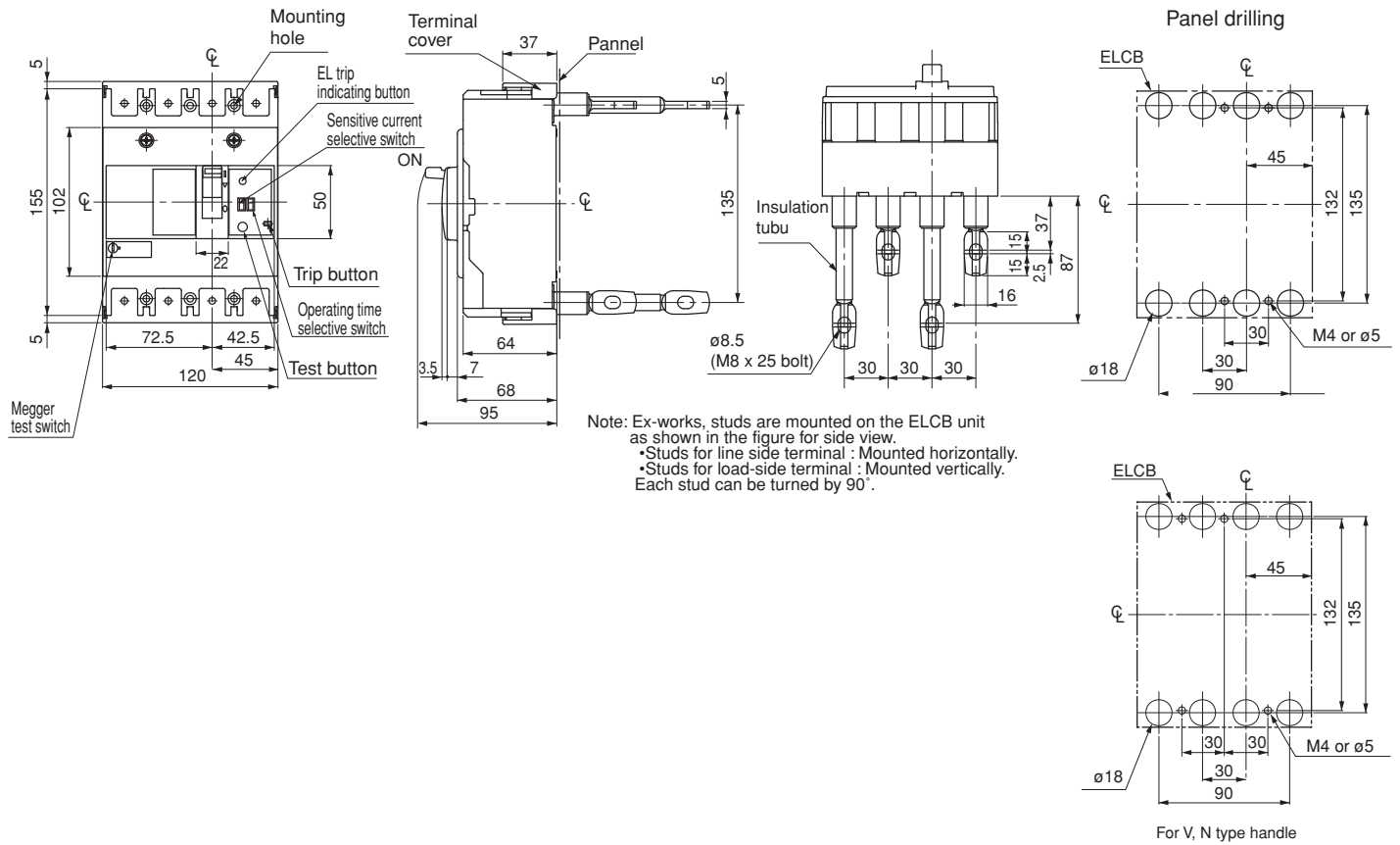
Earth Leakage Circuit Breakers

Dimensions / Standard

■ Dimensions, mm

● Front mounting, rear connection (type X)

EW125□-4P

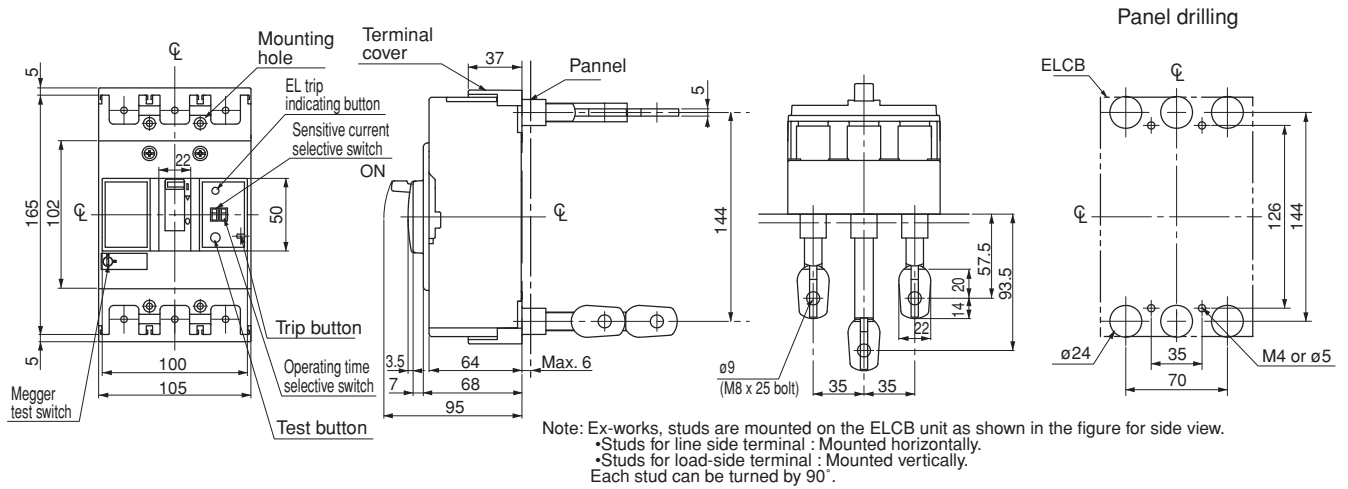


■ Dimensions, mm

● Front mounting, rear connection (type X)

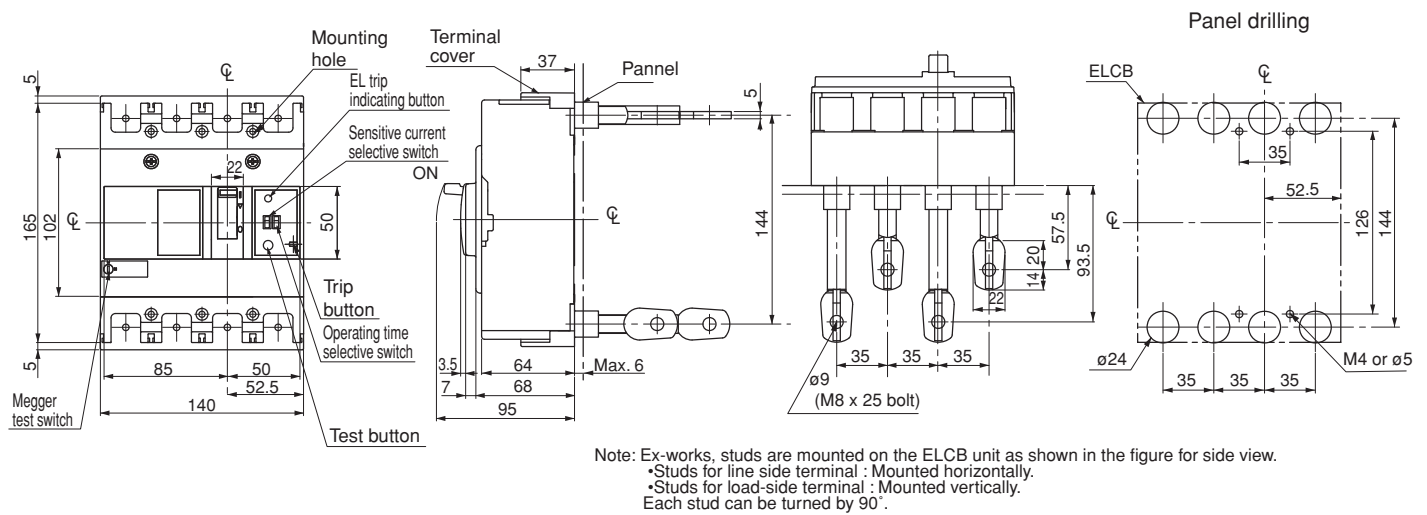
EW160□-3P

EW250□-3P



EW160□-4P

EW250□-4P





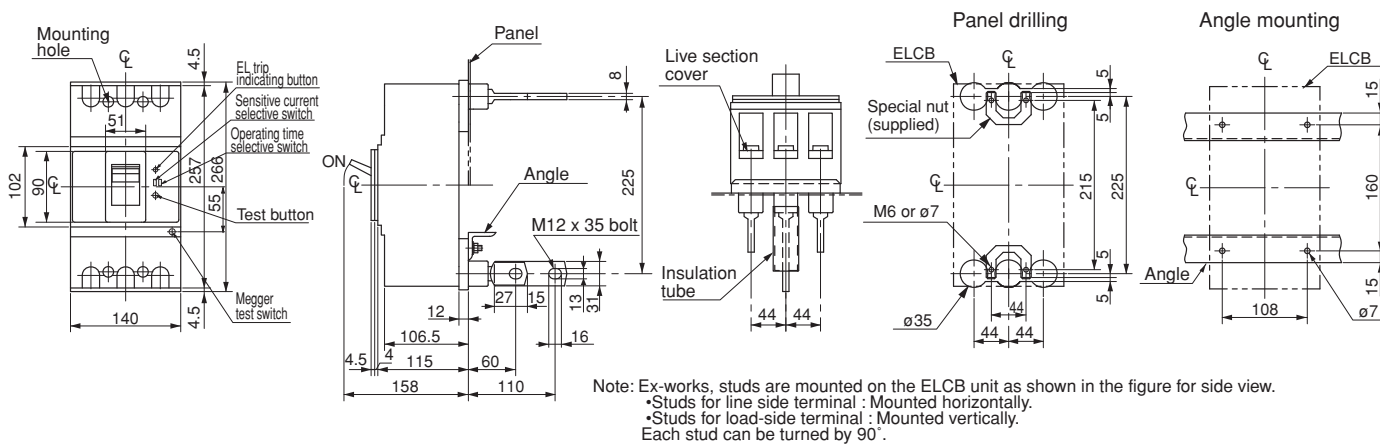
Earth Leakage Circuit Breakers

Dimensions / Standard

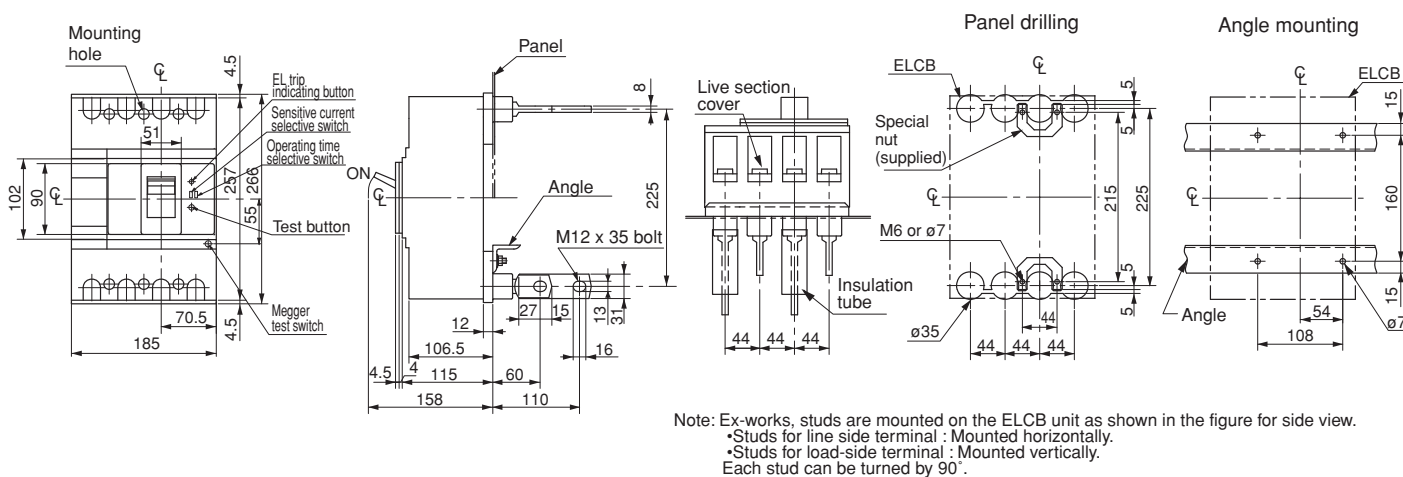
■ Dimensions, mm

● Front mounting, rear connection (type X)

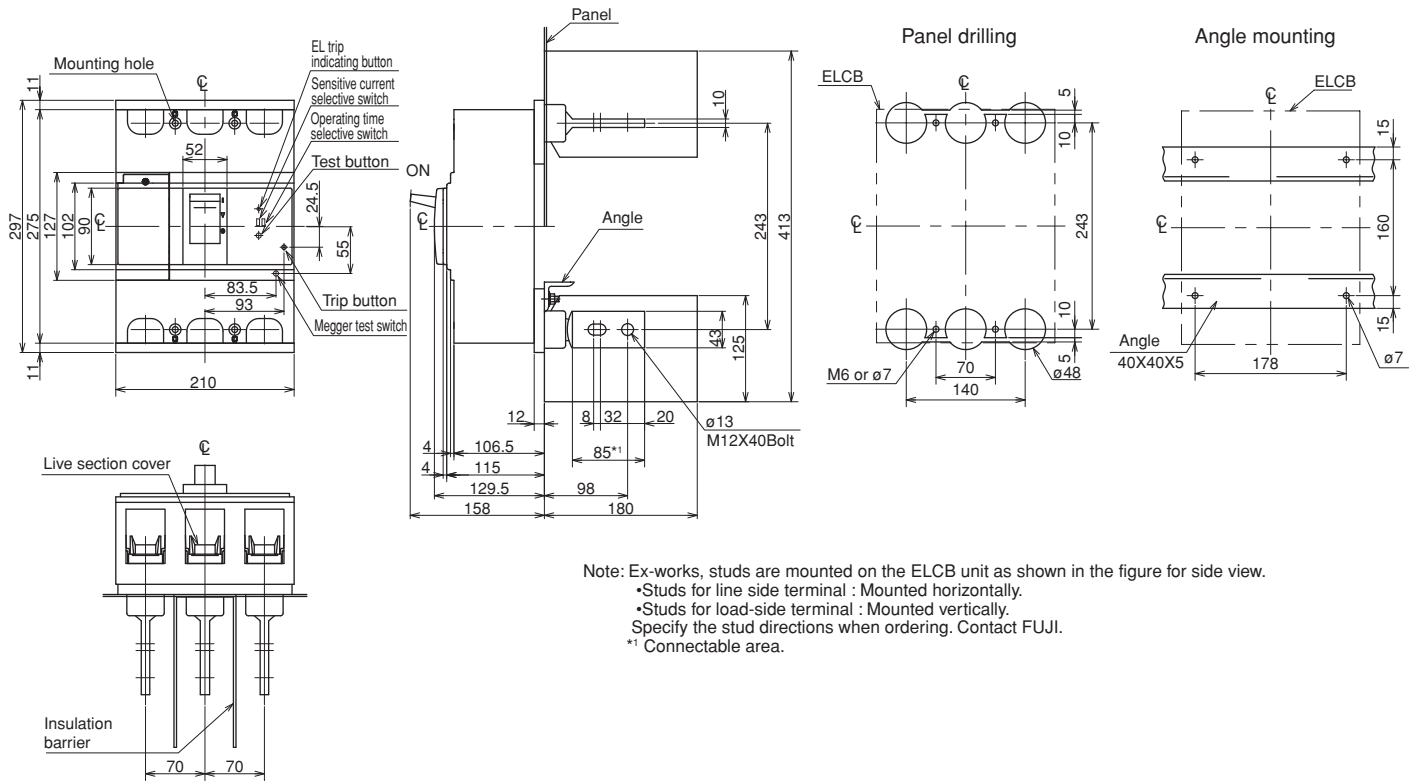
EW400□-3P



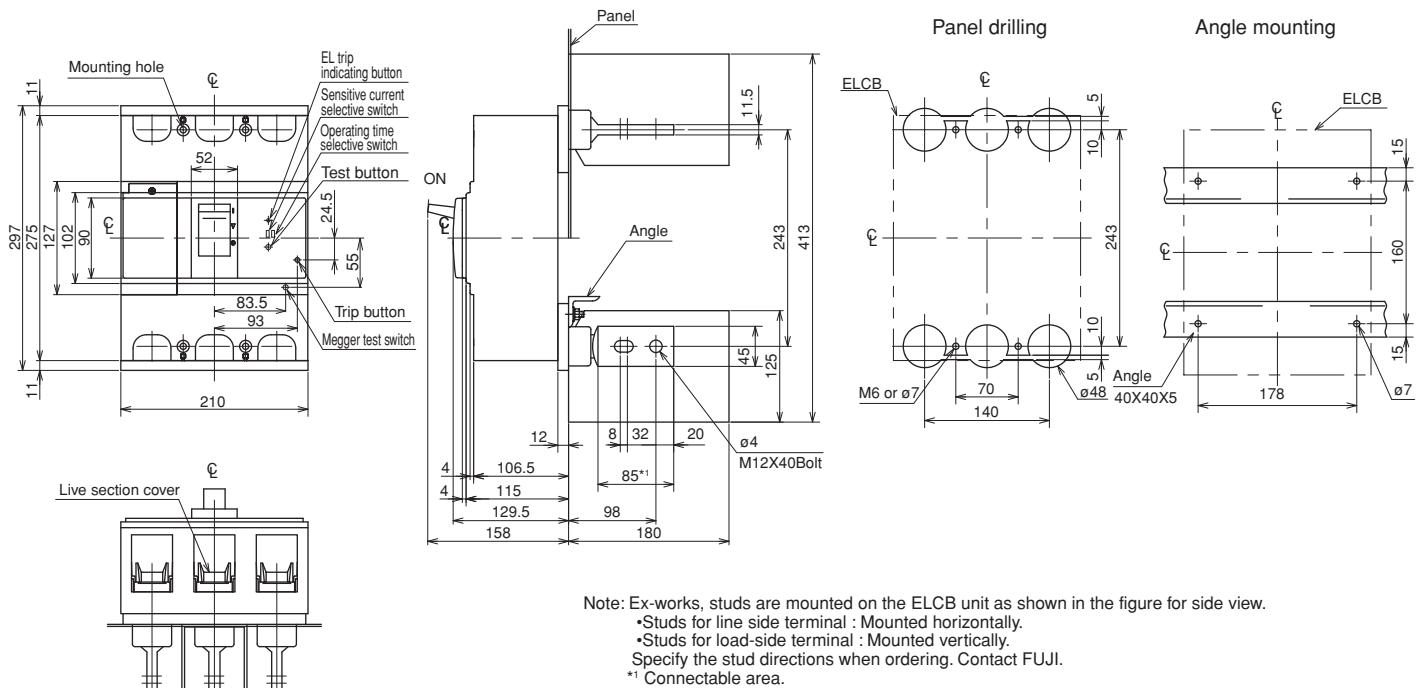
EW400□-4P



■ Dimensions, mm
● Front mounting, rear connection (type X)
EW630□-3P



EW800□-3P





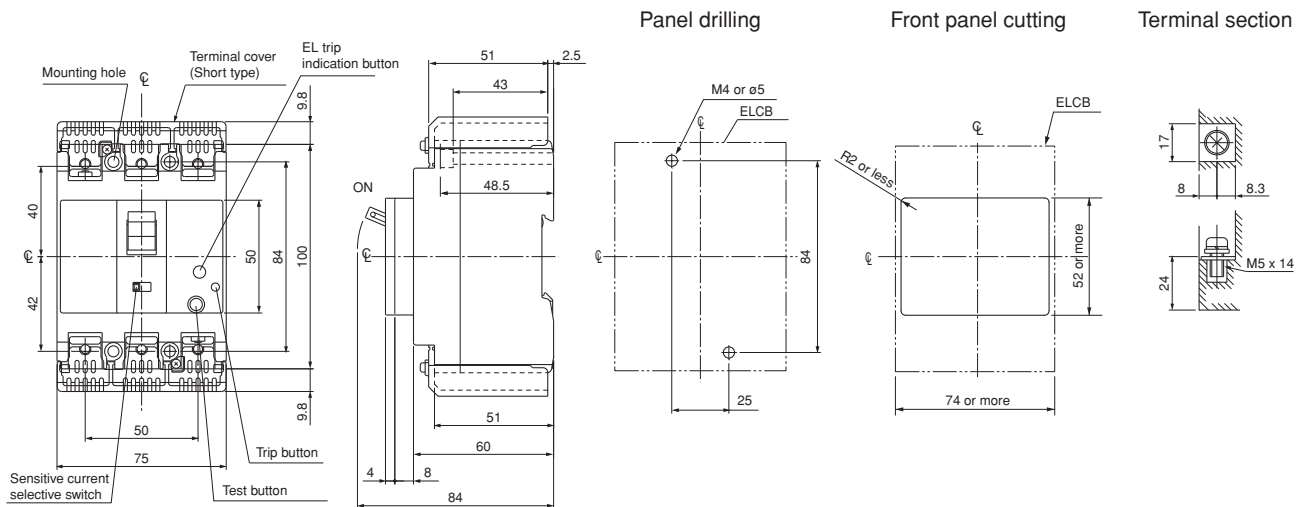
Earth Leakage Circuit Breakers

Dimensions / Global

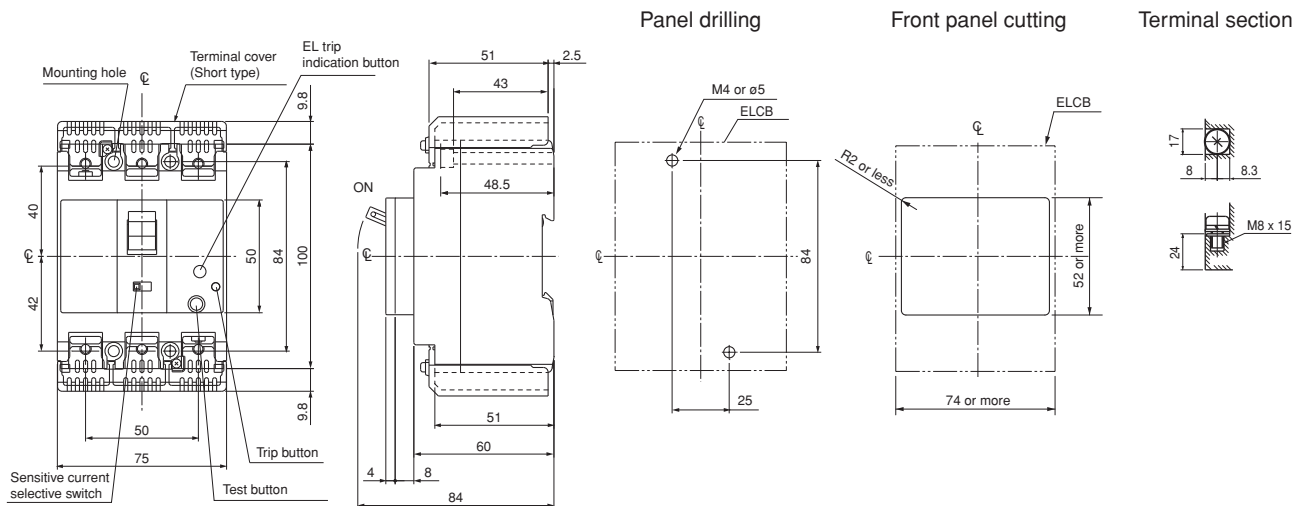
■ Dimensions, mm

● Front mounting, front connection

EW50RAGU-3P



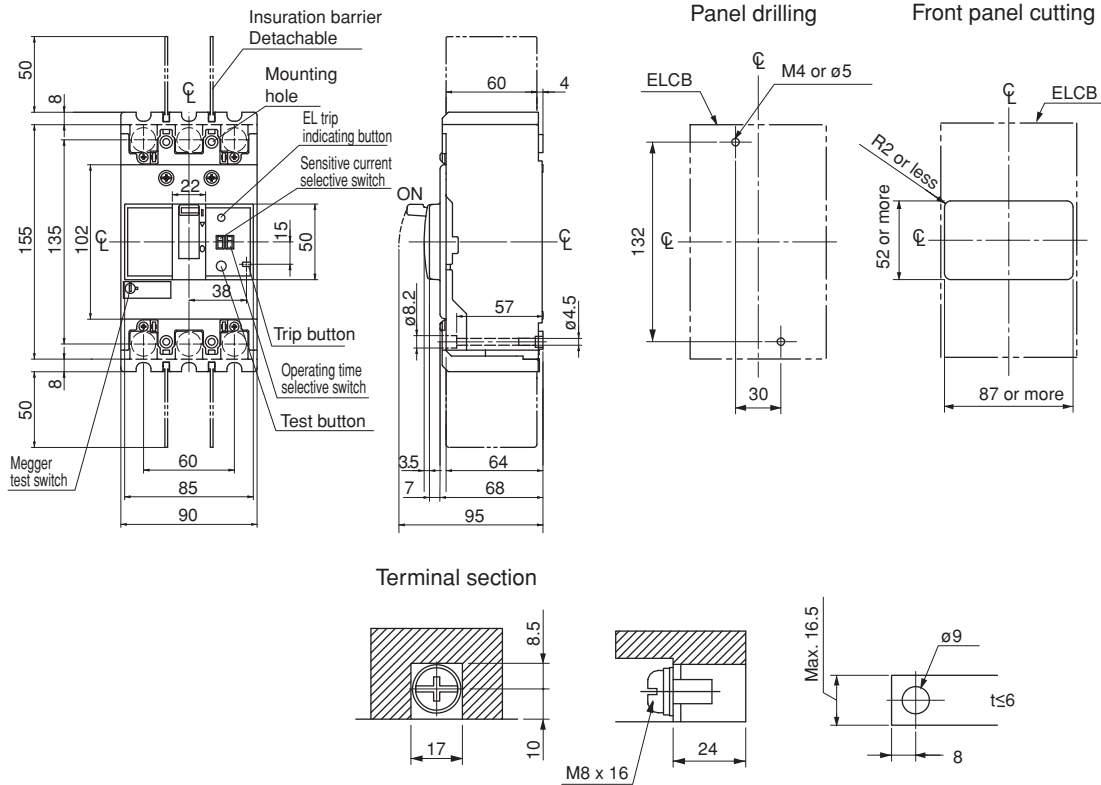
EW100EAGU-2P, -3P



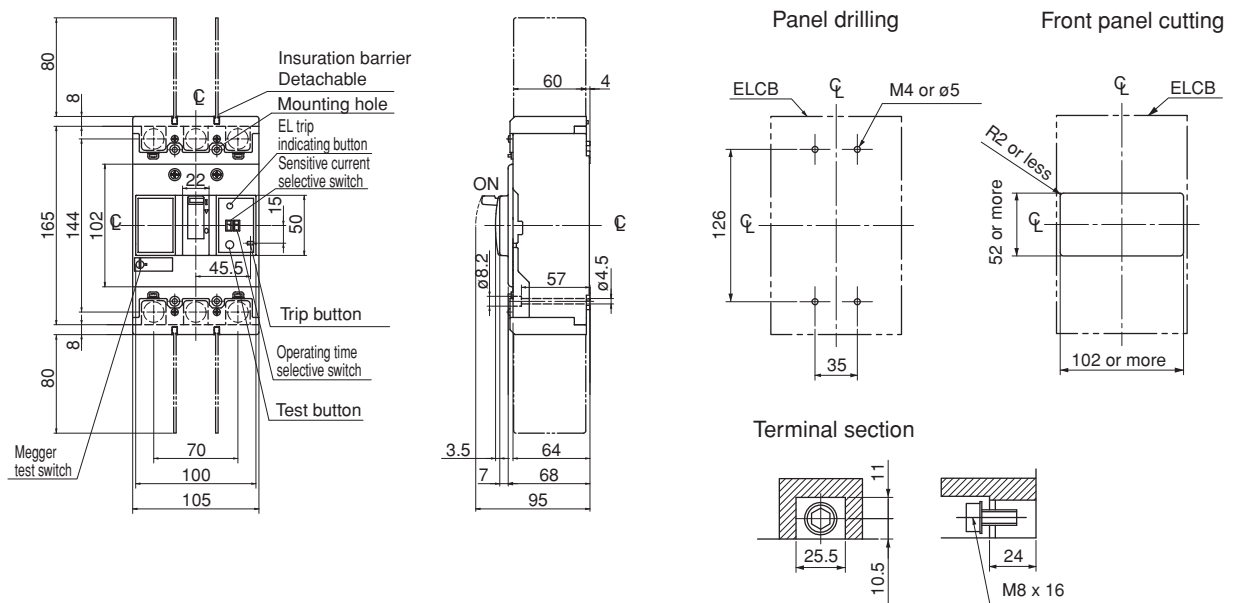
■ Dimensions, mm

● Front mounting, front connection

EW125□U-3P



EW250□U-3P





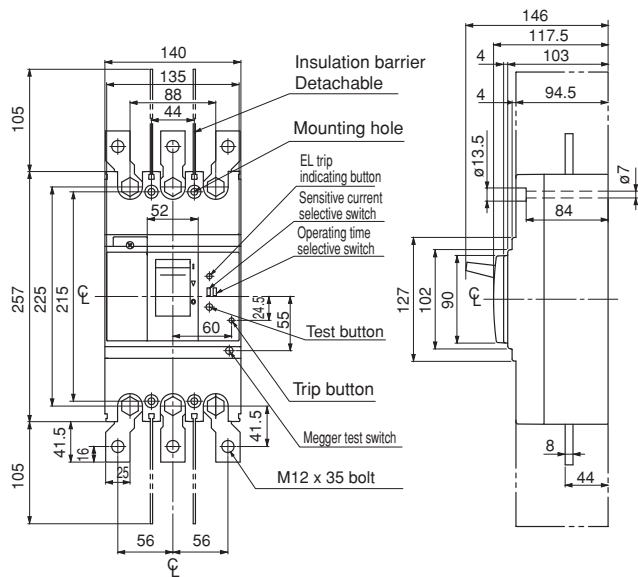
Earth Leakage Circuit Breakers

Dimensions / Global

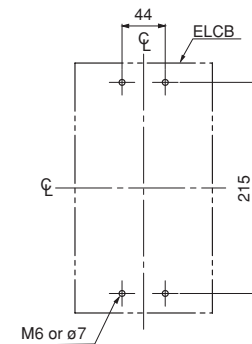
■ Dimensions, mm

● Front mounting, front connection

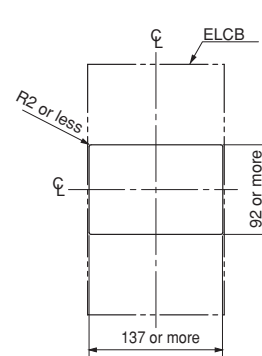
EW400□U-3P



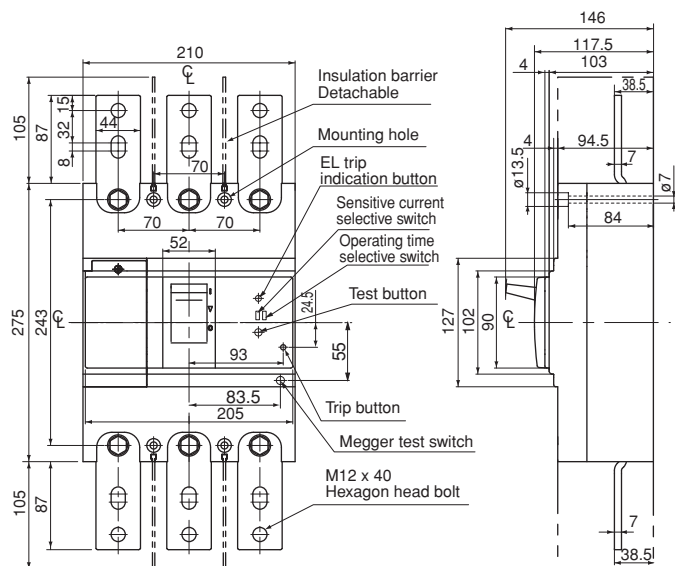
Panel drilling



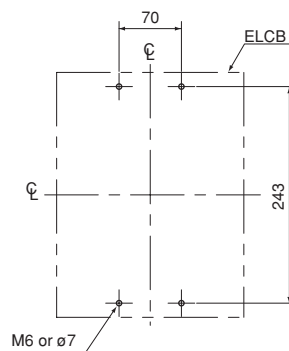
Front panel cutting



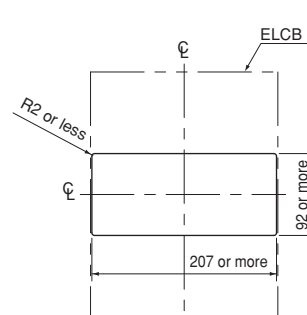
EW630□U-3P



Panel drilling



Front panel cutting



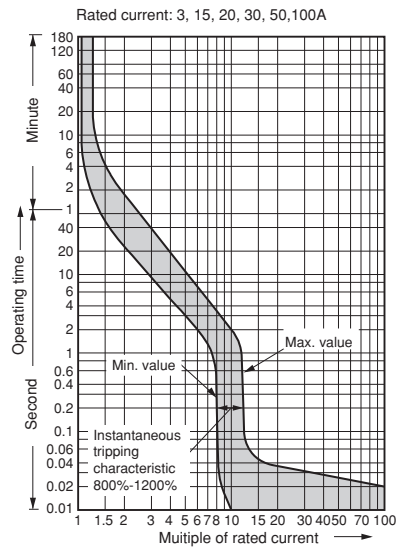
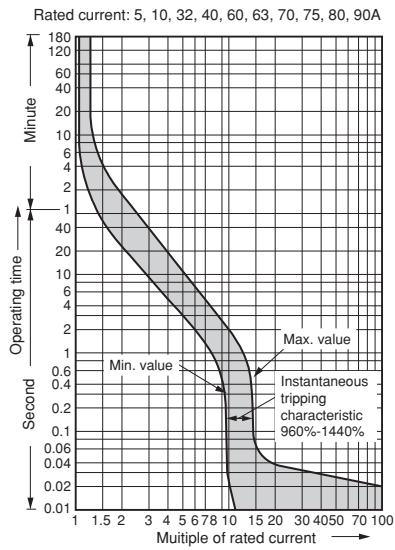


Earth Leakage Circuit Breakers

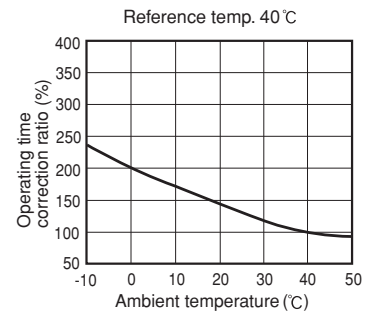
Characteristic curves

■ Characteristic curves / Line protection

EW32/50/63/100

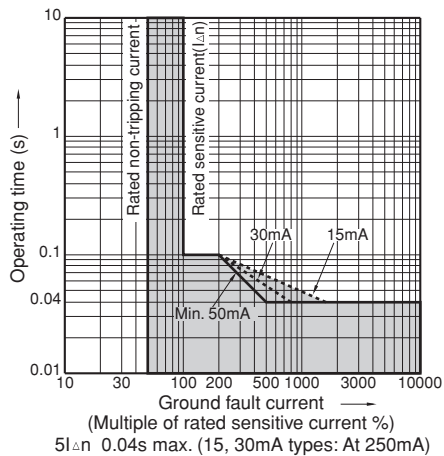


Temperature correction curve



Earth leakage tripping

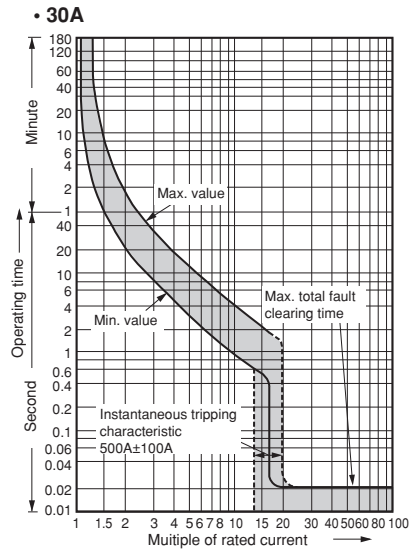
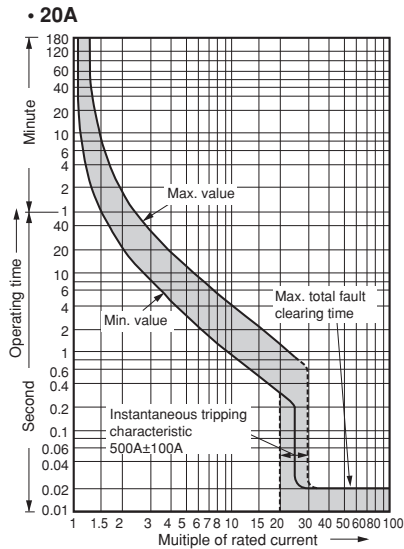
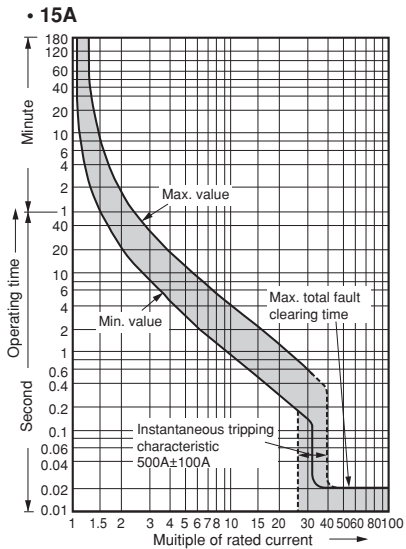
EW32/50/63/100A



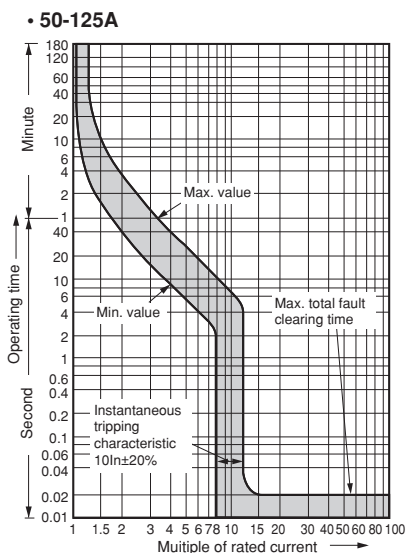
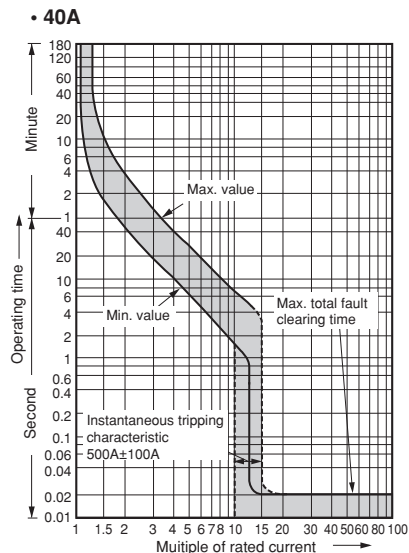
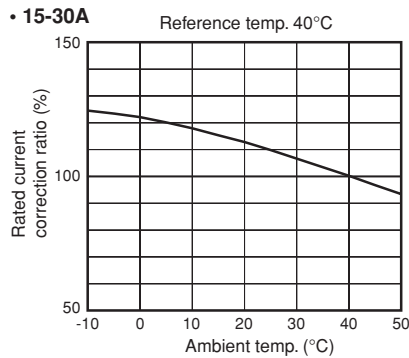


Characteristic curves / Line protection

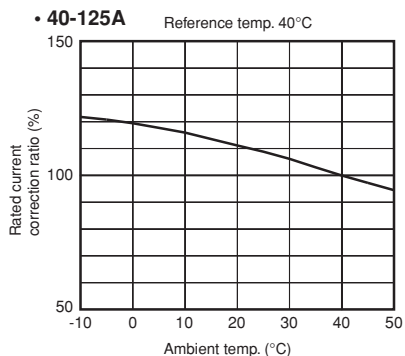
EW125



Temperature correction curve

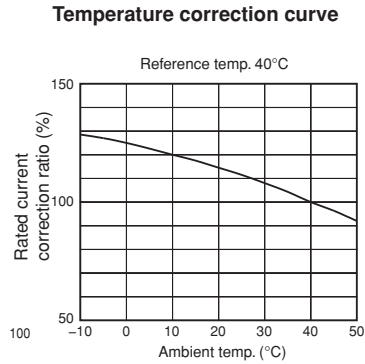
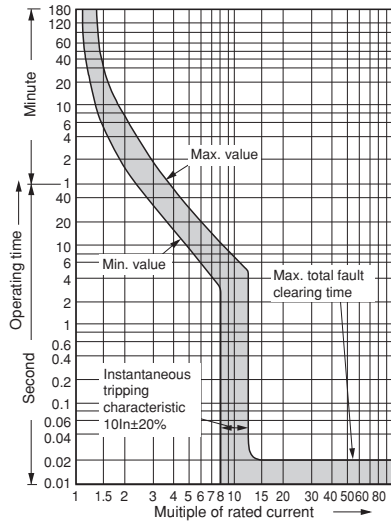


Temperature correction curve

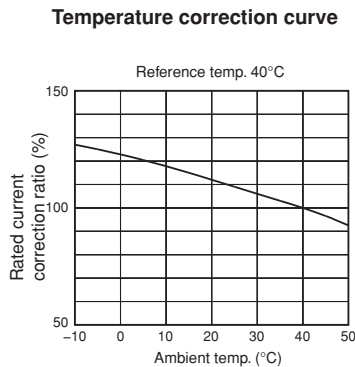
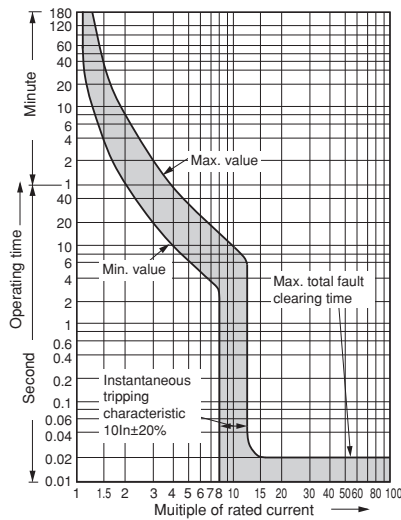


■ Characteristic curves / Line protection

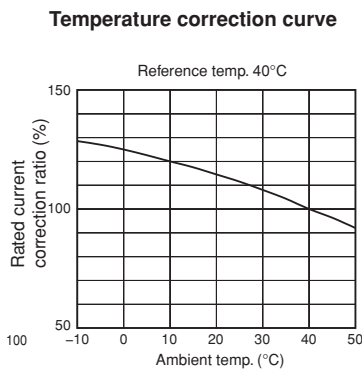
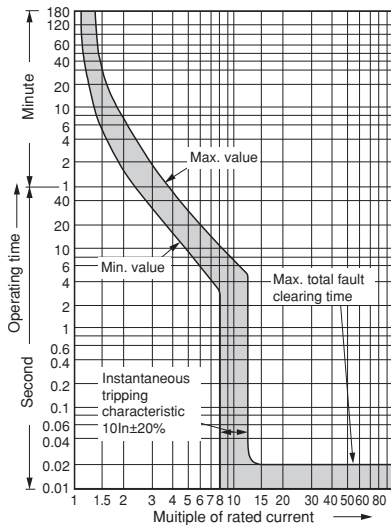
EW160/250



EW400



EW630



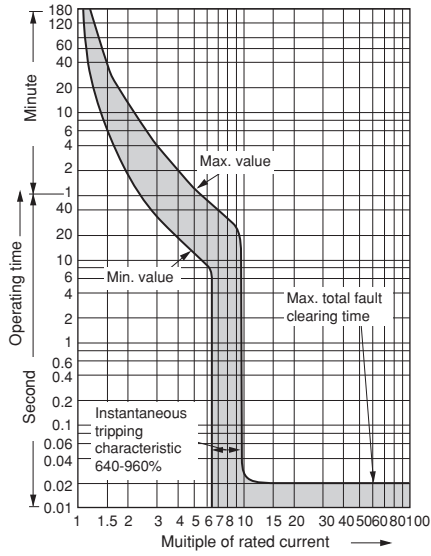


Earth Leakage Circuit Breakers

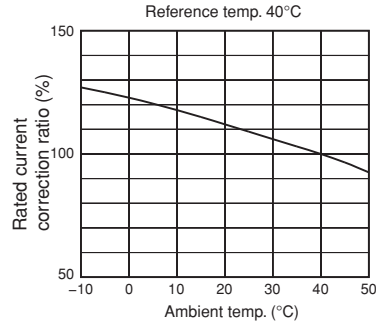
Characteristic curves

Characteristic curves / Line protection

EW800



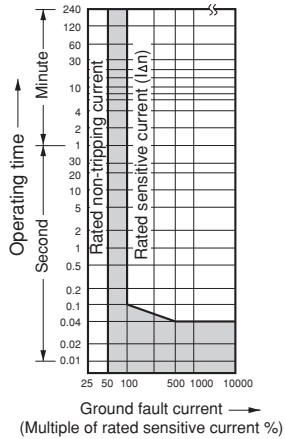
Temperature correction curve



Earth leakage tripping

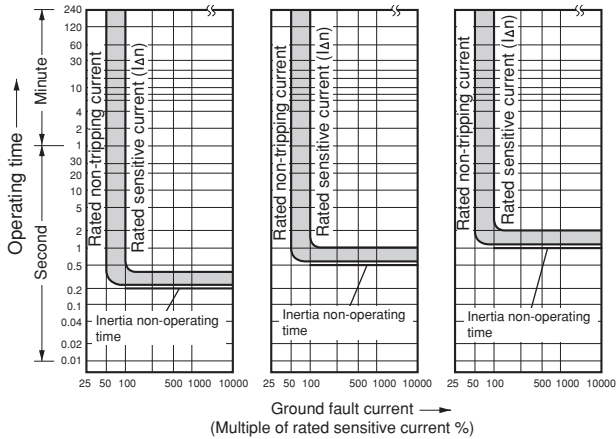
EW125/160/250/400/630/800

Instantaneous trip type



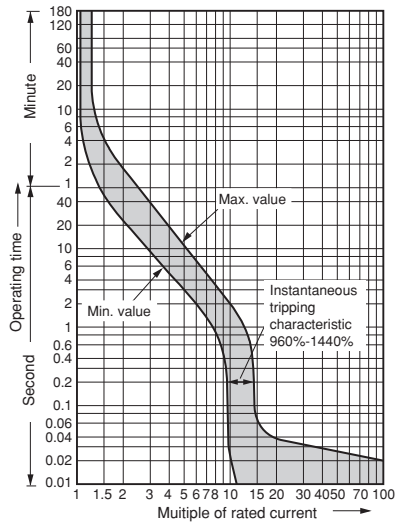
Time-delay trip type

Max. operating time: 0.4s Max. operating time: 1s Max. operating time: 2s

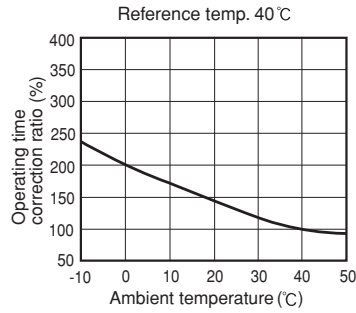


■ Characteristic curves / Motor protection

EW32/50/63/100

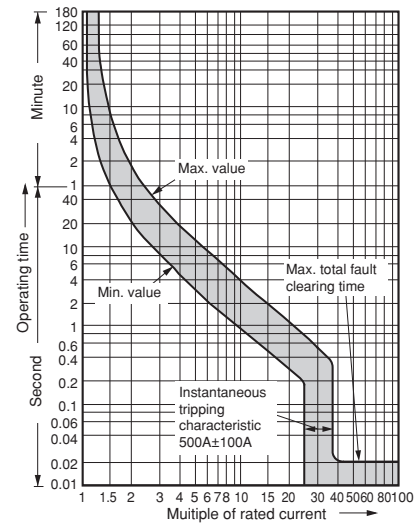


Temperature correction curve

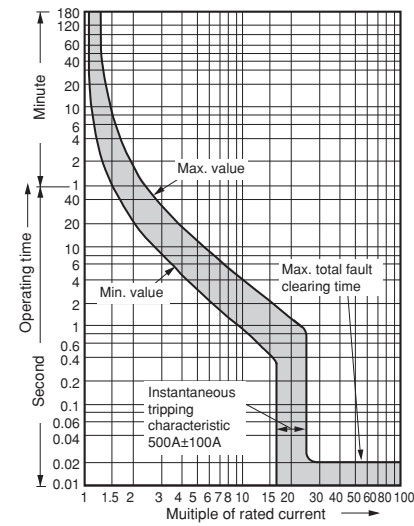


EW125

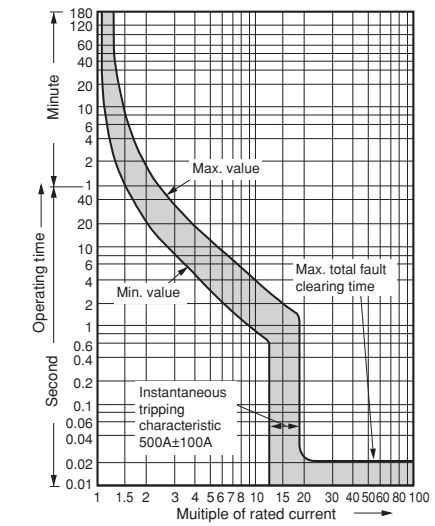
• 16A



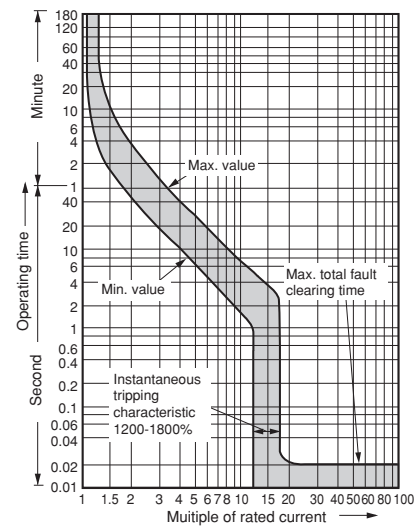
• 24A



• 32A

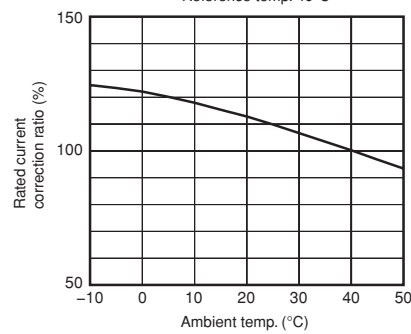


• 40-90A

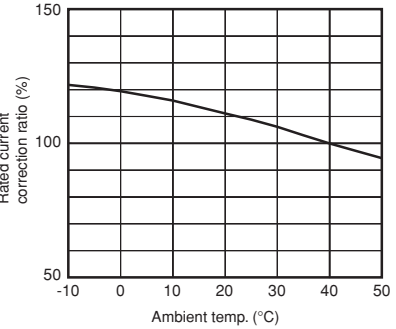


Temperature correction curve

• 15-32A



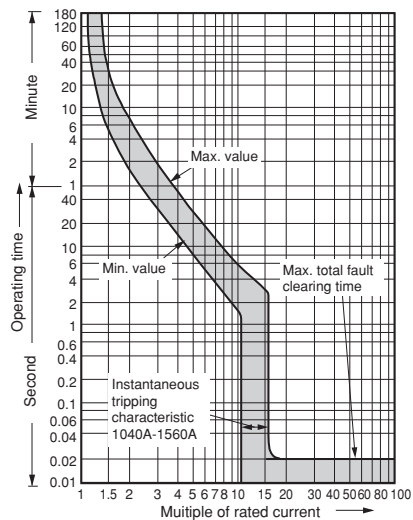
• 40-90A



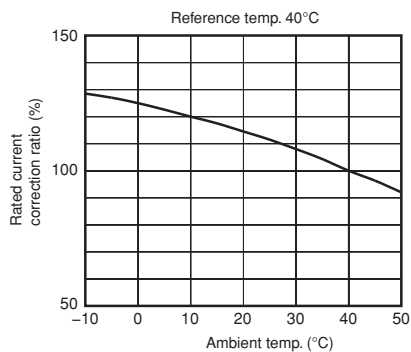


■ Characteristic curves / Motor protection

EW250

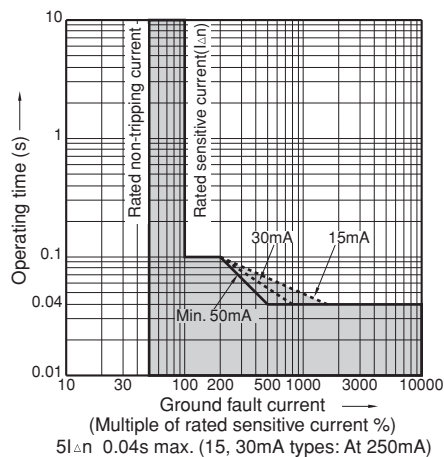


Temperature correction curve



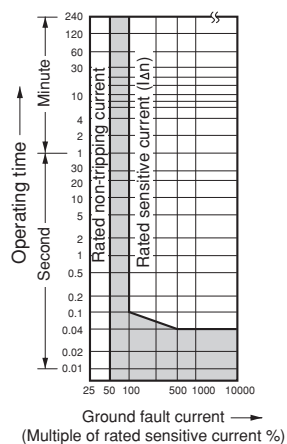
Earth leakage tripping

EW32/50/63



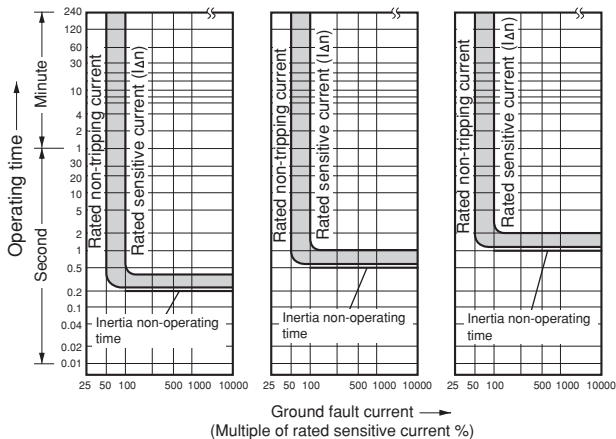
EW125/250

Instantaneous trip type



Time-delay trip type

Max. operating time: 0.4s Max. operating time: 1s Max. operating time: 2s





Earth Leakage Circuit Breakers

Accessories

■ Variation of internal accessory

• 32 to 100AF

Auxiliary switch (Type W)



This switch is used for indicator lamp or control circuit. See page 167.

Alarm switch (Type K)



This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped. See page 167.

Shunt trip device (Type F)



The purpose of this accessory is to trip the breaker from a distance. See page 168.

Undervoltage trip device (Type R)

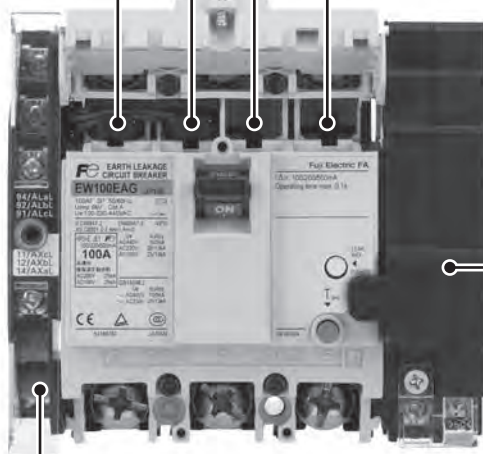


The device is designed to protect circuits from harmful voltage drops. It can also be used for remote control purposes. The trip operates when the voltage drops to less than 70% of nominal coil rating, and the breaker cannot be reset until the voltage recovers 85% of its normal rating. See page 169.

Terminal block (Type A)



A wiring terminal for internal accessories (Order with W, K or F) See page 170.





Earth Leakage Circuit Breakers

Accessories

■ Variation of internal accessory

• 125 to 250AF

Auxiliary switch (Type W)



This switch is used for indicator lamp or control circuit.
See page 167.

Alarm switch (Type K)



This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped.
See page 167.

Shunt trip device (Type F)

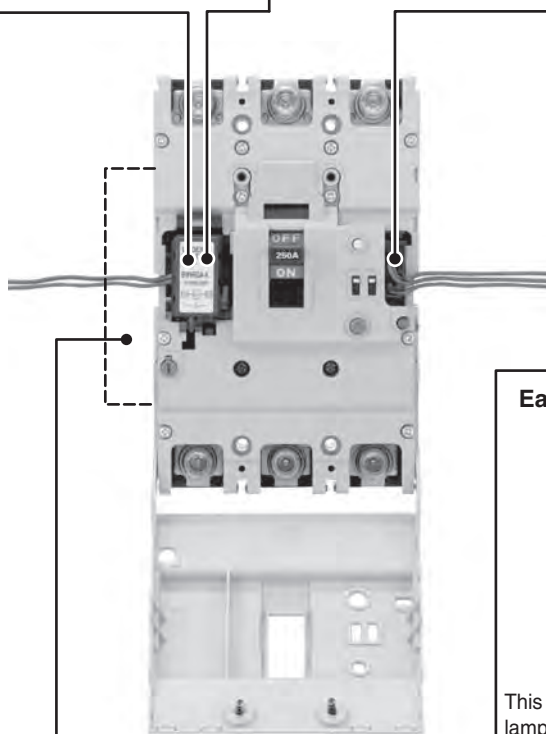


The purpose of this accessory is to trip the breaker from a distance.
See page 168.

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.
See page 169.



Earth alarm switch (Type L)



This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped by leakage current.
See page 167.

Terminal block (Type A)



A wiring terminal for internal accessories (Factory-mounted)
See page 170.

■ Variation of internal accessory

• 400 to 800AF

Alarm switch (Type K)



This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped. See page 167.

Shunt trip device (Type F)



The purpose of this accessory is to trip the breaker from a distance. See page 168.

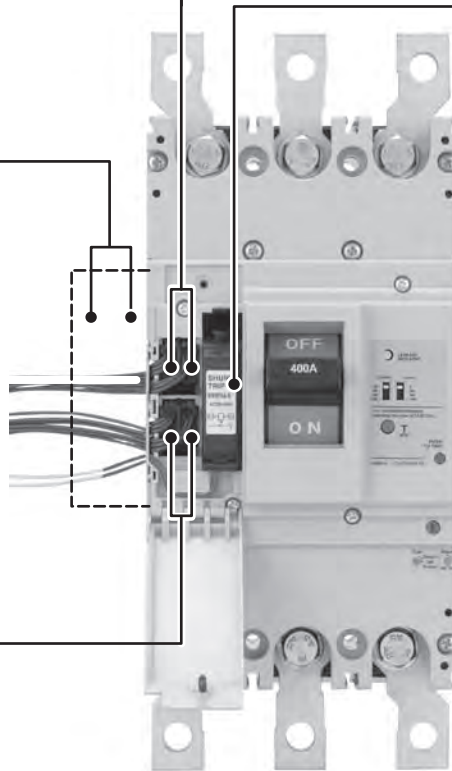
Terminal block (Type A)

A wiring terminal for internal accessories (Factory-mounted)
See page 172.

Auxiliary switch (Type W)



This switch is used for indicator lamp or control circuit. See page 167.



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. See page 169.

Earth alarm switch (Type L)

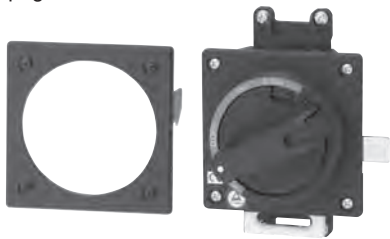
This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped by leakage current. See page 167. (Factory-mounted)



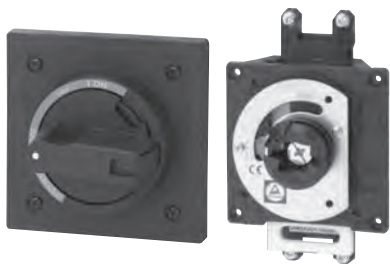
■ Variation of external accessory

External operating handles

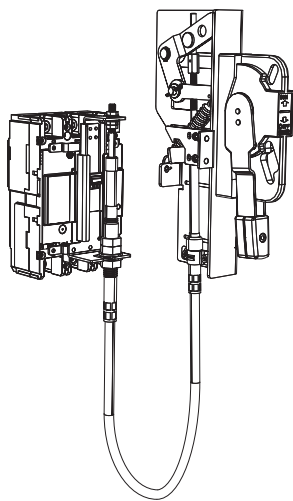
- N-type
See page 178.



- V-type
See page 178.



- F-type
See page 179.



**Terminal cover
Long type**
See page 189.



Interphase barrier
See page 190.

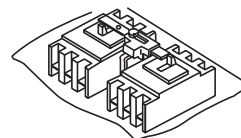


**Terminal cover
Short type**
See page 189.

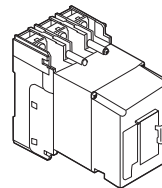
Steel enclosures
See page 189.



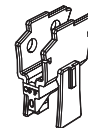
Mechanical interlock device
See page 174.



Motor-operating mechanism
See page 178.

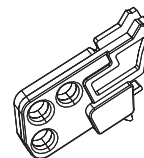


Handle locking cover (L1)
See page 191.

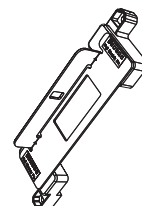


Padlocking device
See page 191.

- Cap type (Q1, QN)



- Plate type (Q2)



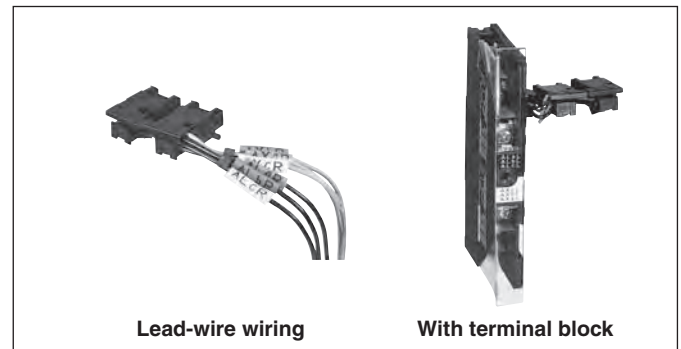


Earth Leakage Circuit Breakers

Internal accessories

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.
- For the available configuration of internal accessory, see page 166.



Terminal number of internal accessory

Accessory		32 – 250AF		400 – 800AF
		Left side mounting	Right side mounting	Left side mounting
Auxiliary switch	SPDT: W (1)*			
	2PDT: V (2)*			
Alarm switch	SPDT: K (8)*			
	2PDT: J (9)*			
Shunt trip device : F	With 1NO contact to prevent coil burn-out			—
	Continuous rating	—		
Undervoltage trip device : R				
Earth alarm switch (125 to 800AF)				

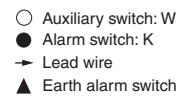
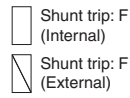
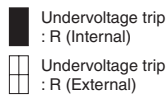
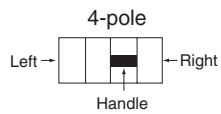
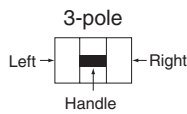
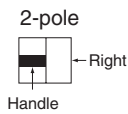
Note: * () Code of Low level circuit



Earth Leakage Circuit Breakers

Internal accessories

Available configurations



ECCB	EW32AAG-2P EW50AAG-2P	EW32□-3P EW50□-3P EW63□-3P EW100□-2P EW100□-3P	EW125 EW160 EW250	EW400 EW630 EW800
Pole	2	2, 3	3	4
Auxiliary switch SPDT: W (1)*				
Alarm switch SPDT: K (8)*				
Shunt trip: F				
Undervoltage trip: R				
W+K (1+8)				
Auxiliary switch 2PDT: V (2)				
Alarm switch 2PDT: J (9)				
V+K (2+8)				
W+J (1+9)				
V+J (2+9)				
W+F (1+F)				
W+R (1+R)				
K+F (8+F)				
K+R (8+R)				
W+K+F (1+8+F)				
W+K+R (1+8+R)				
V+F (2+F)				
V+R (2+R)				
J+F (9+F)				
J+R (9+R)				
V+K+F (2+8+F)				
V+K+R (2+8+R)				
W+J+F (1+9+F)				
W+J+R (1+9+R)				
V+J+F (2+9+F)				
V+J+R (2+9+R)				
L				

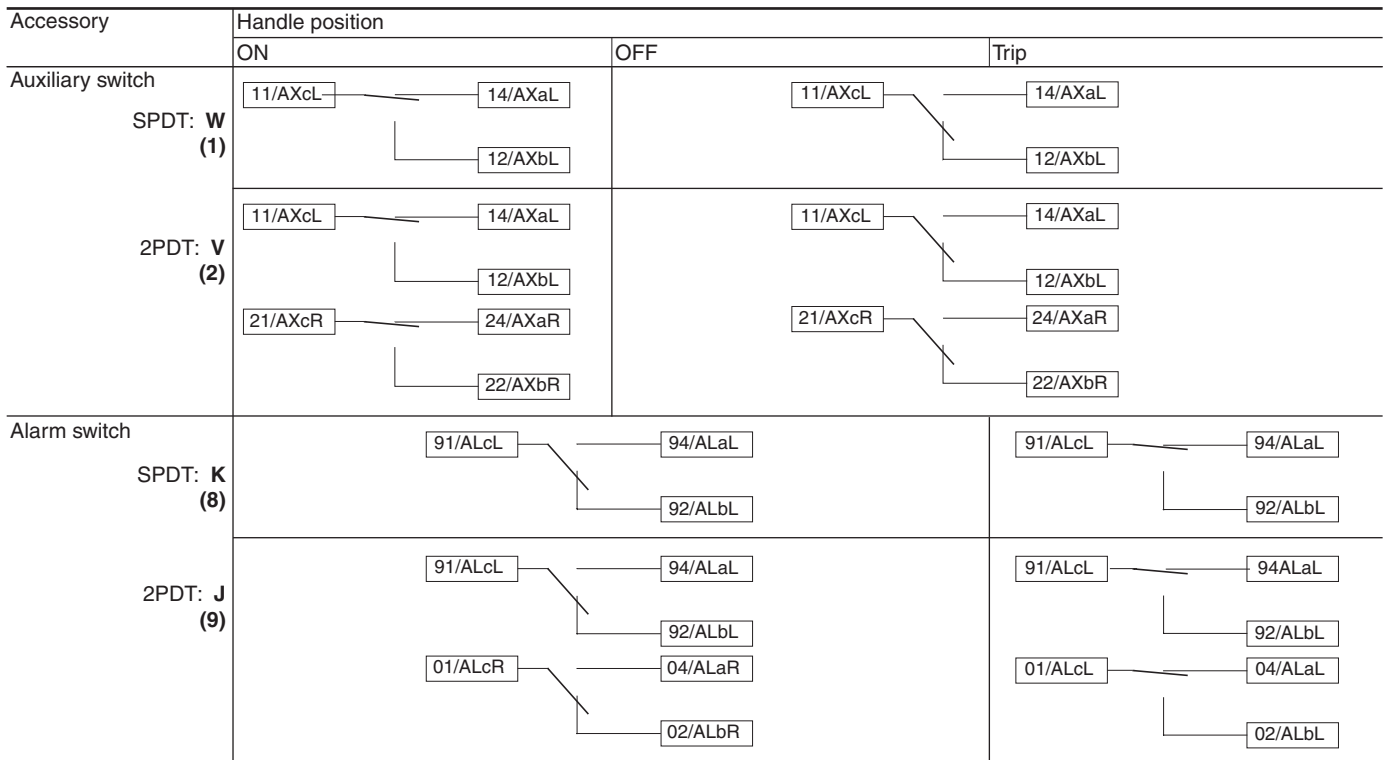
Notes: •The above table is applied to front mounting type, rear mounting type, flush mounting type, and plug-in mounting type.

• Terminal block is attached on the same side of the accessory.

• () Code of low level circuit

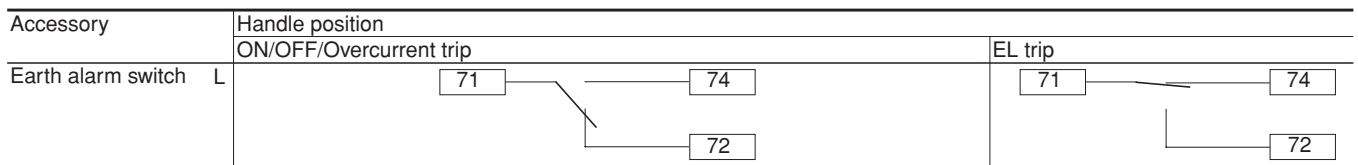
□:See page 168.

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



Note: Ring mark indication
 () Code of low level circuit

■ Operation of earth alarm switch (L)



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

• 32-100AF

	IEC60947-5-1			NECA C4505		Minimum load current
	Voltage (V)	Make/break current (A)		Voltage (V)	Make/break current (A)	
Standard type	125 AC	5	DC 13	125 AC	5	5V DC 160mA 30V DC 30mA
	250 AC	5	-	250 AC	3	
	-	-	-	30 DC	4	
	125 DC	-	0.6	125 DC	0.4	
Low level circuit	250 DC	-	0.3	250 DC	0.2	5V DC 1mA
	-	-	-	30 DC	0.1	

• 125-800AF

	Rated thermal current (A)	Rated operational current (A)						Minimum load current
		AC			DC			
		Rated operational Voltage (V)	Res. load	Ind. load	Rated operational Voltage (V)	Res. load	Ind. load	
Standard type	5	24	5	5	24	4	3	5V DC 160mA 30V DC 30mA
		48	5	5	48	2.5	1	
		125	5	3	125	0.4	0.4	
		250	3	2	250	0.2	0.2	
Low level circuit	0.1	30	0.1	-	30	0.1	-	5V DC 1mA



Earth Leakage Circuit Breakers

Internal accessories

■ Rating of shunt trip (F)

ELCB type	Installation	AC		DC		Code	Time rating of coil	Operating time (ms)
		V	VA	V	W			
EW32 EW50 EW63 EW100	External	100(50Hz)/ 100-110(60Hz)	16	—	—	FAC100V(50Hz)/ 100-110V(60Hz)	Continuous	7-13
		200(50Hz)/ 200-220(60Hz)	16	—	—	FAC200V(50Hz)/ 200-220V(60Hz)		
		400(50Hz)/ 400-440(60Hz)	22	—	—	FAC400V(50Hz)/ 400-440V(60Hz)		
		—	—	24	36	FDC24V		
		—	—	100-110	23	FDC100-110V		
EW125 EW160 EW250	Internal	24	50	24	50	FAC/DC24V	Continuous (With 1NO contact to prevent coil burn-out)	13-21
		48	50	48	50	FAC/DC48V		
		100-120	50	100-110	50	FAC100-120V/ DC100-110V		
		120-130	50	—	—	FAC120-130V		
		200-240	50	200-220	50	FAC200-240V/ DC200-220V		
		277	50	—	—	FAC277V		
		380-440	50	—	—	FAC380-440V		
		440-480	50	—	—	FAC440-480V		
500-550	50	—	—	FAC500-550V				
EW400 EW630 EW800	Internal	24-48	2	24-48	2	FAC/DC24-48V	Continuous	8-20
		100-240	3	100-220	3	FAC100-240V/ DC100-220V		
		277	3	—	—	FAC277V		
		380-550	4	—	—	FAC380-550V		

Note: The operating tripping voltage range for shunt trip devices is 70% to 110% of the rated operating voltage.

■ Rating of undervoltage trip (R)

ELCB type	Installation	AC		DC		Code
		V	VA	V	W	
EW32 *2 EW50 *2 EW63 *2 EW100 *2	External	100 (50Hz)/ 100-110(60Hz)	2.8	–	–	RAC100V(50Hz)/ 100-110V(60Hz)
		200 (50Hz)/ 200-220 (60Hz)	3.4	–	–	RAC200V(50Hz)/ 200-220V(60Hz)
		400 (50Hz)/ 400-440 (60Hz)	4.4	–	–	RAC400V(50Hz)/ 400-440V(60Hz)
		–	–	24 100-110	40	RDC24V RDC100-110V
EW125 *1 EW160 *1 EW250 *1	Internal	–	–	24	5	RDC24V
		–	–	48	5	RDC48V
		–	–	100-110	5	RDC100-110V
		–	–	125	5	RDC125V
		100-110	5	–	–	RAC100-110V
		110-130	5	–	–	RAC110V-130V
		200-240	5	–	–	RAC200-240V
		277	5	–	–	RAC277V
		380-415	5	–	–	RAC380-415V
440-480	5	–	–	RAC440V-480V		
EW400 *2 EW630 *2 EW800 *2	Internal	24	2	24	2	RAC/DC24V
		48	2	48	2	RAC/DC48V
		100-110	3	100-110	3	RAC/DC100-110V
		120-130	3	125	3	RAC120-130V/DC125V
		200-240	3	200-220	3	RAC200-240V/DC200-220V
		277	3	–	–	RAC277V
		380-480	4	–	–	RAC380-480V

Notes: • The operating voltages of undervoltage tripping devices are as follows:
Tripping voltage: 35% to 70% of rated voltage, closing voltage: 85% to 110% of rated voltage.

*1 Reset-allowed type: When the breaker handle is in the OFF or RESET state, tripping does not occur even if the R coil is not energized.
Turning ON with the R coil not energized causes normal tripping.

*2 Reset-prohibited type: When the R coil is not energized, reset operation cannot reset the tripped breaker to the OFF state.



Earth Leakage Circuit Breakers

Internal accessories

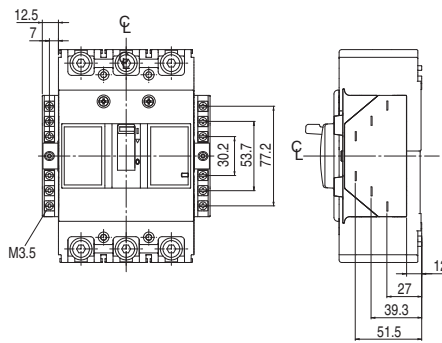
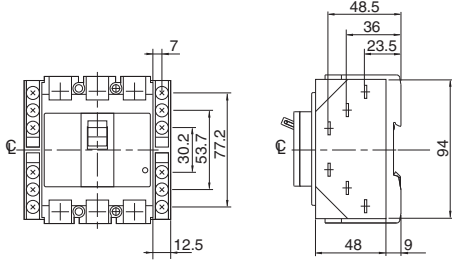
Lead wire specification

AF	Pole	wire size	Wire length
32 to 100AF	Standard	0.4mm ² (AWG22)	Ca 500mm
	Global	0.5mm ² (AWG20)	
125 to 250AF	2P, 3P	0.5mm ² (AWG20)	
	4P		
400 to 800AF	2P, 3P	0.5mm ² (AWG20)	Ca 500mm
	4P		Ca 400 to 450mm

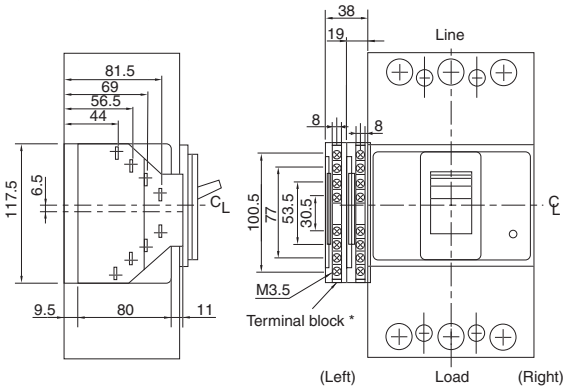
Terminal blocks

32AF, 50AF, 63AF, 100AF

125AF, 160AF, 250AF



400AF, 630AF, 800AF

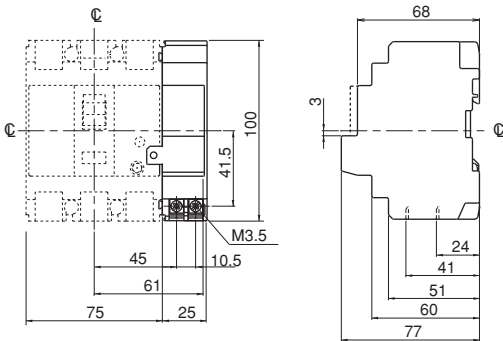


Notes:

- * If the chosen combination has more than 8 terminals, 2 terminal blocks are mounted.
- Mount the terminal block on the surface on which the accessories are mounted. See the table of the combinations of internal accessories on pages 166. for information on the accessory mounting position.
- Available wire: Solid wire: 1.6ø Stranded wire: 2mm²
- Terminal blocks are available as factory mounted only.

Undervoltage trip device, Shunt trip device

32AF, 50AF, 63AF, 100AF



Mass: 0.15kg

■ Type number

Internal accessories (Sold separately)

• 32, 50, 63, 100AF IEC/EN/GB/JIS conformed

Accessory	Type				Operating voltage						
	Lead wire system		Terminal block system								
	Left side	Right side	Left side	Right side							
Auxiliary switch	BZ6WL10C	BZ6WR10C	BZ6WL10CA	BZ6WR10CA							
Auxiliary switch (low level circuit)	BZ6WDL10C	BZ6WDR10C	BZ6WDL10CA	BZ6WDR10CA							
Alarm switch	BZ6KL10C	BZ6KR10C	BZ6KL10CA	BZ6KR10CA							
Alarm switch (low level circuit)	BZ6KDL10C	BZ6KDR10C	BZ6KDL10CA	BZ6KDR10CA							
Auxiliary switch + Alarm switch	BZ6WKL10C	BZ6WKR10C	BZ6WKL10CA	BZ6WKR10CA							
Auxiliary switch + Alarm switch (low level circuit)	BZ6WDKDL10C	BZ6WDKDR10C	BZ6WDKDL10CA	BZ6WDKDR10CA							
Shunt trip device					BZ6F210C	100V AC 50Hz/100-110V AC 60Hz					
					BZ6F110C	110V AC 50Hz/100-127V AC 60Hz					
					BZ6F710C	200V AC 50Hz/200-220V AC 60Hz					
					BZ6F410C	220V AC 50Hz/220-240V AC 60Hz					
					BZ6F510C	230V AC 50Hz/230-240V AC 60Hz					
					BZ6FB10C	240V AC 50Hz					
					BZ6F010C	380V AC 50Hz 380-415V AC 60Hz					
					BZ6F810C	400V AC 50Hz 400-440V AC 60Hz					
					Undervoltage trip device					BZ6R210C	100V AC 50Hz/100-110V AC 60Hz
										BZ6R110C	110V AC 50Hz/110-127V AC 60Hz
BZ6RW10C	200V AC 50Hz/200-220V AC 60Hz										
BZ6R410C	220V AC 50Hz/220-240V AC 60Hz										
BZ6R510C	230V AC 50Hz/230-240V AC 60Hz										
BZ6R810C	240V AC 50Hz										
BZ6R010C	380V AC 50Hz 380-415V AC 60Hz										
BZ6R910C	400V AC 50Hz 400-440V AC 60Hz										
BZ6RF10C	24V DC										
BZ6RT10C	100-110V DC										

• 32, 50, 63, 100AF IEC/EN/GB/JIS/UL/CSA conformed

Accessory	Type				Operating voltage	
	Lead wire system		Terminal block system			
	Left side	Right side	Left side	Right side		
Auxiliary switch	BZ6WL10CU	BZ6WR10CU	BZ6WL10CAU	BZ6WR10CAU		
Auxiliary switch (low level circuit)	BZ6WDL10CU	BZ6WDR10CU	BZ6WDL10CAU	BZ6WDR10CAU		
Alarm switch	BZ6KL10CU	BZ6KR10CU	BZ6KL10CAU	BZ6KR10CAU		
Alarm switch (low level circuit)	BZ6KDL10CU	BZ6KDR10CU	BZ6KDL10CAU	BZ6KDR10CAU		
Auxiliary switch + Alarm switch	BZ6WKL10CU	BZ6WKR10CU	BZ6WKL10CAU	BZ6WKR10CAU		
Auxiliary switch + Alarm switch (low level circuit)	BZ6WDKDL10CU	BZ6WDKDR10CU	BZ6WDKDL10CAU	BZ6WDKDR10CAU		
Shunt trip device					BZ6F210CAU	100V AC 50Hz/100-110V AC 60Hz
					BZ6F710CAU	200V AC 50Hz/200-220V AC 60Hz
					BZ6F810CAU	400V AC 50Hz/400-440V AC 60Hz
Undervoltage trip device					BZ6R210CAU	100V AC 50Hz/100-110V AC 60Hz
					BZ6RW10CAU	110V AC 50Hz/110-127V AC 60Hz
					BZ6R910CAU	200V AC 50Hz/200-220V AC 60Hz



Earth Leakage Circuit Breakers

Internal accessories

• 125, 160, 250AF IEC/EN/GB/JIS/UL/CSA conformed

Accessory	Type				Operating voltage
	Lead wire system		Terminal block system		
	Left side	Right side	Left side	Right side *	
Auxiliary switch	BW9W1SG0	BW9W1SG0-R	BW9W1SG0-A	-	-
Auxiliary switch (low level circuit)	BW9W1DG0	BW9W1DG0-R	- *		
Alarm switch	BW9K1SG0	BW9K1SG0-R	BW9K1SG0-A		
Alarm switch (low level circuit)	BW9K1DG0	BW9K1DG0-R	- *		
Auxiliary switch + Alarm switch	BW9WKSG0	BW9WK1SG0-R	BW9WKSG0-A		
Auxiliary switch + Alarm switch (low level circuit)	BW9WKDG0	BW9WK1DG0-R	- *		
Earth alarm switch	-	BW9L1SGA	-		
Shunt trip device	BW9FRG0	BW9FRG0	BW9FRG0-A		24V AC/DC
	BW9FSG0	BW9FSG0	BW9FSG0-A		48V AC/DC
	BW9FAG0	BW9FAG0	BW9FAG0-A		100-120V AC/100-110V DC
	BW9F1G0	BW9F1G0	BW9F1G0-A		120-130V AC
	BW9FKG0	BW9FKG0	BW9FKG0-A		200-240V AC/200-220V DC
	BW9FBG0	BW9FBG0	BW9FBG0-A		277V AC
	BW9FPG0	BW9FPG0	BW9FPG0-A		380-440V AC
	BW9FHG0	BW9FHG0	BW9FHG0-A		440-480V AC
	BW9FJG0	BW9FJG0	BW9FJG0-A		500-550V AC
	Undervoltage trip devices	BW9RGAR	-	BW9RGAR-A	
BW9RGAS			BW9RGAS-A		48V DC
BW9RGAL			BW9RGAL-A		100-110V DC
BW9RGA5			BW9RGA5-A		125V DC
BW9RGAA			BW9RGAA-A		100-110V AC
BW9RGAT			BW9RGAT-A		110-130V AC
BW9RGAK			BW9RGAK-A		200-240V AC
BW9RGAB			BW9RGAB-A		277V AC
BW9RGAP			BW9RGAP-A		380-415V AC
BW9RGAH			BW9RGAH-A		440-480V AC

Note: * Factory-mounted

• 400, 630, 800AF IEC/EN/GB/JIS/UL/CSA conformed

Accessory	Type		Operating voltage
	Lead wire system	Terminal block system *	
	Left side		
Auxiliary switch x 1	BW9W1SHA	-	-
Auxiliary switch x 2	BW9W2SHA		
Auxiliary switch (low level circuit) x 1	BW9W1DHA		
Auxiliary switch (low level circuit) x 2	BW9W2DHA		
Alarm switch x 1	BW9K1SHA		
Alarm switch x 2	BW9K2SHA		
Alarm switch (low level circuit) x 1	BW9K1DHA		
Alarm switch (low level circuit) x 2	BW9K2DHA		
Shunt trip device	BW9FHA-R		24-48V AC/DC
	BW9FHA-A		100-240V AC/100-220V DC
	BW9FHA-B		277V AC
	BW9FHA-P		380-550V AC
	BW9RHA-R		24V AC/DC
Undervoltage trip devices	BW9RHA-S		48V AC/DC
	BW9RHA-A		100-110 AC/DC
	BW9RHA-1		120-130V AC/125V DC
	BW9RHA-K		200-240V AC/200-220V DC
	BW9RHA-B		277V AC
	BW9RHA-P		380-480V AC

Note: * Factory-mounted



Earth Leakage Circuit Breakers

External accessories

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.

The breakers do not conform to IEC and EN standard.



■ Type and ratings

ELCB type	Motor rating			Power source capacity	Mass (kg)
	Operating voltage	Operating time	Time rating		
EW32□-3P□M, EW50□-3P□M, EW63□-3P□M, EW100□-2P□M, EW100□-3P□M	100V DC	0.1s	15s per on-off operation	500VA	1.2
	100/110V AC 200/220V AC			500VA	1.3

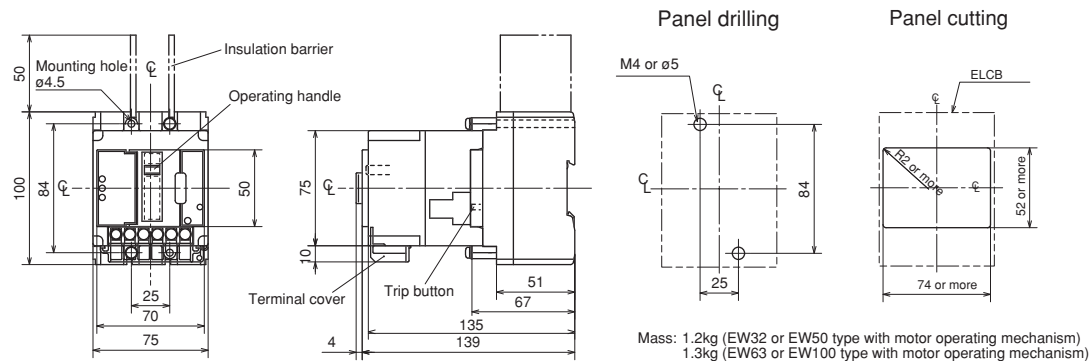
■ Ordering information

Specify the following:

1. Type number
2. Motor operating voltage

■ Dimensions, mm / Front mounting, front connection

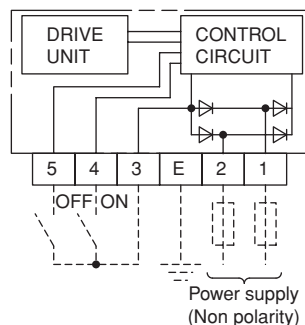
EW32□-3P, EW50□-3P, EW63□-3P, EW100□-2P, EW100□-3P



- 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





Mechanical interlocking devices

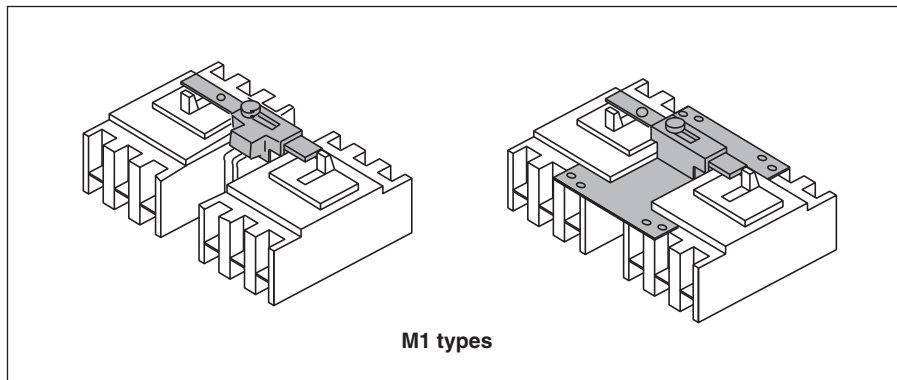
■ Description

These interlocking devices are mounted on the two separate breakers to prevent them from both being closed at the same time. A sliding mechanism that can be locked with a padlock is used. (The padlock is not included.)

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.

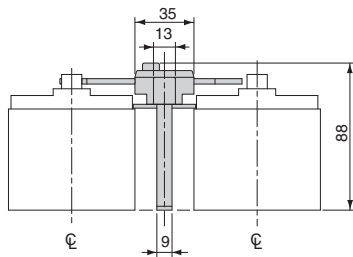
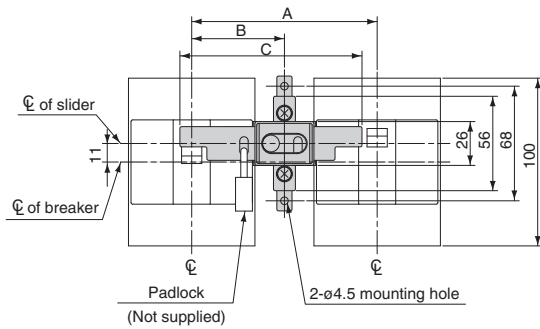


■ Type and applicable breakers

Type	Breaker type
BZ6M110C2	EW32AAG-2P, EW50AAG-2P
BZ6M110C3	EW32□-3P, EW50□-3P, EW63□-3P, EW100□-2P, EW100□-3P
BW9M1CA-3	EW125□-3P
BW9M1CA-4	EW125□-4P
BW9M1GA-3	EW250□-3P
BW9M1GA-4	EW250□-4P
BW9M1HA-3	EW400□-3P
BW9M1HA-4	EW400□-4P
BW9M1JA-3	EW630□-3P, EW800□-3P

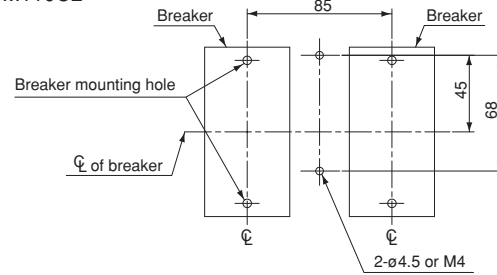
■ Dimensions, mm

• 32AF to 100AF

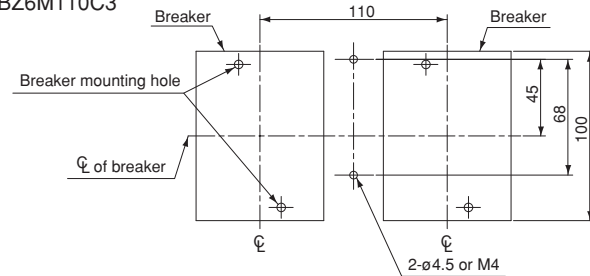


Panel drilling

BZ6M110C2

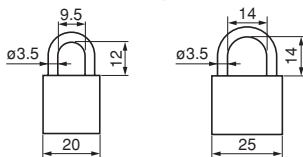


BZ6M110C3



Type	Dimensions, mm			Mass (kg)
	A	B	C	
BZ6M110C2	85	42.5	83	0.11
BZ6M110C3	110	55	108	0.12

Notes: • BZ6M110C2 is not available for padlock.
 • Applicable padlock(\varnothing 3.5) dimensions, mm
 • External installation forms F and R are not applicable to the ELCB on the left of the diagram.



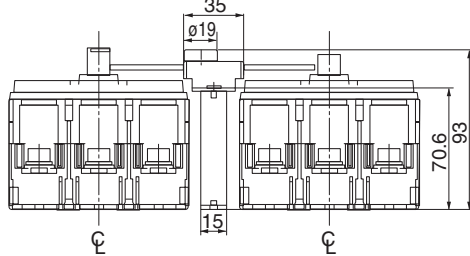
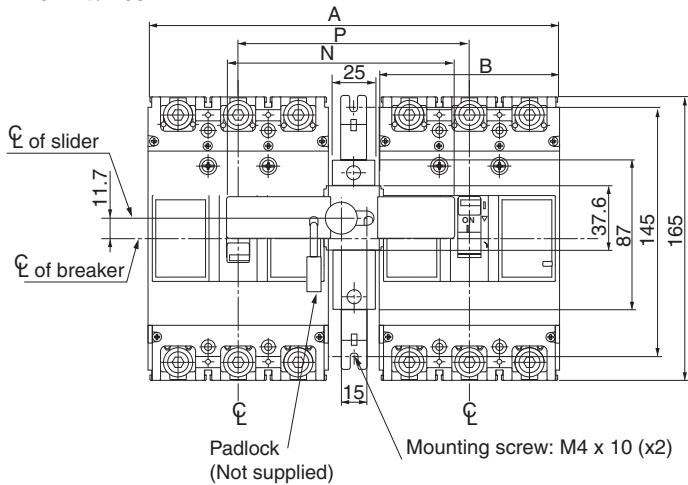


Earth Leakage Circuit Breakers

External accessories

■ Dimensions, mm

• 125AF to 250AF



Panel drilling

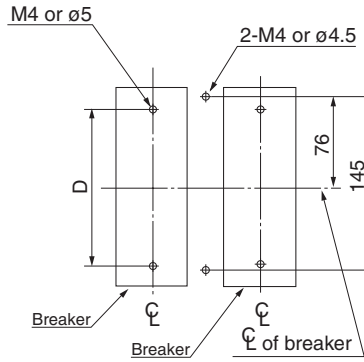


Fig.1

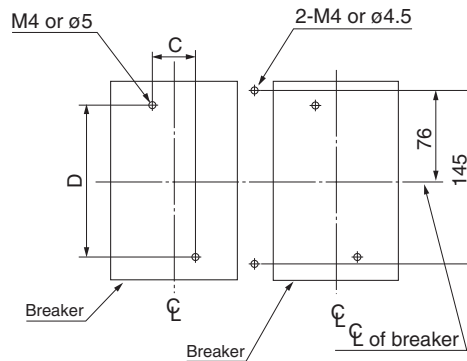


Fig.2

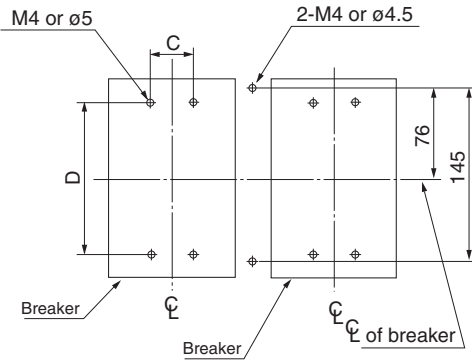


Fig.3

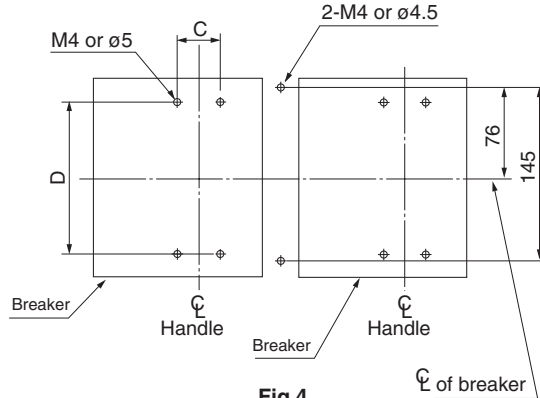


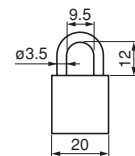
Fig.4

Type	Dimensions, mm						Panel Drilling	Mass(Kg)
	P	N	A	B	C	D		
BW9M1CA-2	90	88	150	60	—	132	Fig.1	
BW9M1CA-3	120	118	210	90	30	132	Fig.2	
BW9M1CA-4	150	148	270	102	30	132	Fig.4	
BW9M1GA-3	135	133	240	105	35	126	Fig.3	
BW9M1GA-4	170	168	310	140	35	126	Fig.4	

Notes: • The dimensions and Breaker mounting holes for back surface mounting are different from those given above. Inquire for details.

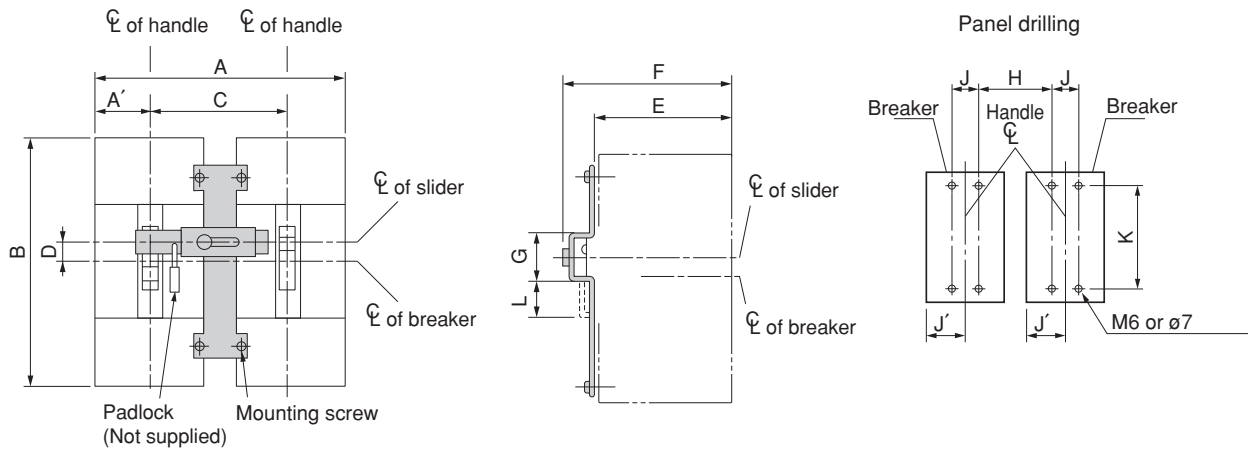
• If a padlock is required, use a commercially available padlock with the dimensions shown in the diagram at the right.

• External installation forms F and R are not applicable to the ELCB on the left of the diagram.



■ Dimensions, mm

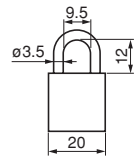
• 400AF to 800AF



Type	Dimensions, mm											Mass(Kg)
	A (A')	B	C	D	E	F	G	H	J (J')	K	L	
BW9M1HA-3	355 (70)	257	215	20	94.5	132.5	54.5	171	44 (70)	215	38	
BW9M1HA-4	470 (140)	257	260	20	94.5	132.5	54.5	216	44 (140)	215	38	
BW9M1JA-3	500 (105)	275	290	20	94.5	132.5	54.5	220	70 (105)	243	38	

Notes: • The dimensions and Breaker mounting holes for back surface mounting are different from those given above. Inquire for details.

- If a padlock is required, use a commercially available padlock with the dimensions shown in the diagram at the right.
- External installation forms F and R are not applicable to the ELCB on the left of the diagram.





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 800 ampere frame sizes.

Conformed to EN60947-1 isolation function.

Available for EN60204-1 power breaking device.

Conformed to UL489 (File No.E93289)

V type handle

The V type handle may be fitted to breakers of up to 800AF.

A separately sold extension shaft provides distance adjustment between the handle and breaker.

Conformed to EN60947-1 isolation function.

Available for EN60204-1 power breaking device.

Conformed to UL489 (File No.E93289)

F type handle

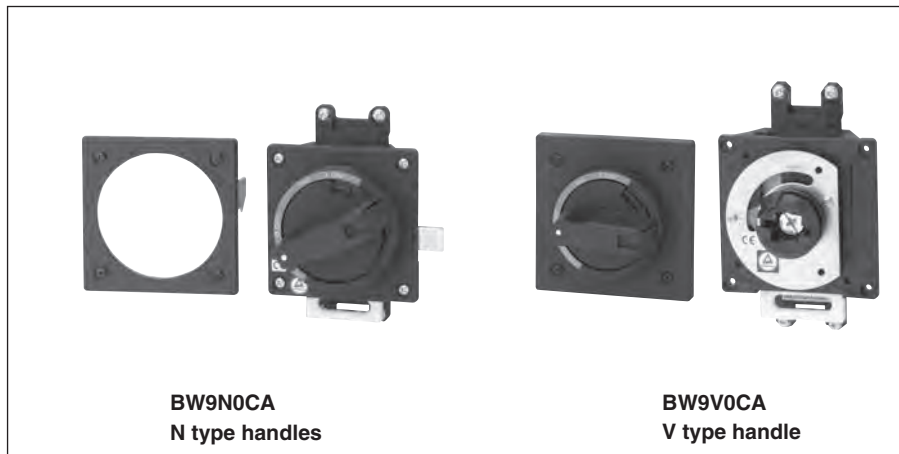
The F type handle may be fitted to breakers of 125 to 400AF.

It is a flange type handle, which is commonly used in the North American market.

The drive section of the breaker and the external operating handle are connected with an optional cable.

Positioning between the breaker and the external operating handle is not required.

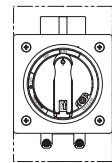
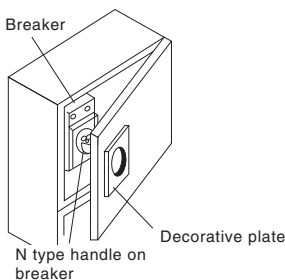
Conformed to UL489 (File No.E93289)



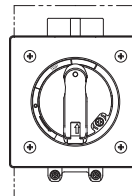
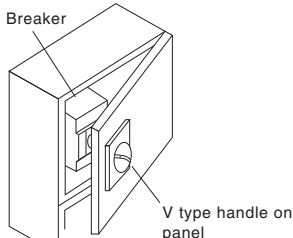
BW9N0CA
N type handles

BW9V0CA
V type handle

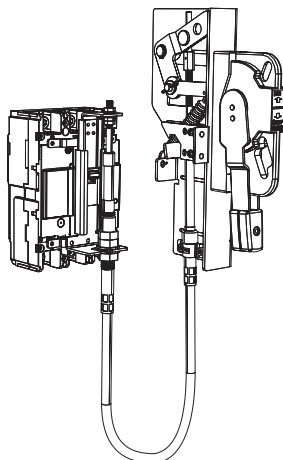
N type handles



V type handles



F type handles



N type handles

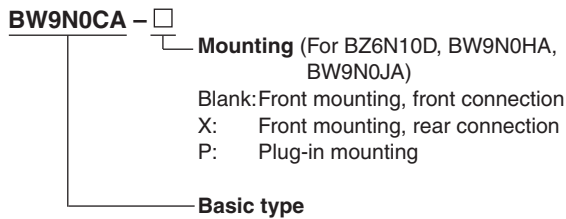
ELCB	N type handle
EW32	BZ6N10D
EW50	
EW63	
EW100	
EW125	BW9N0CA
EW160	BW9N0GA
EW250	
EW400	BW9N0HA
EW630	BW9N0JA
EW800	

V type handles

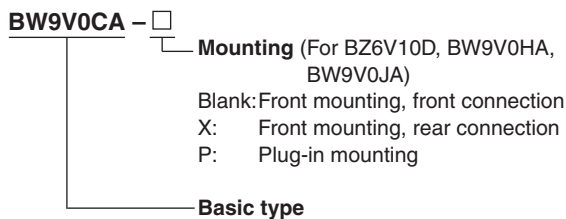
ELCB	V type handle
EW32	BZ6V10D
EW50	
EW63	
EW100	
EW125	BW9V0CA
EW160	BW9V0GA
EW250	
EW400	BW9V0HA
EW630	BW9V0JA
EW800	

■ Type number nomenclature

• N type handle



• V type handle



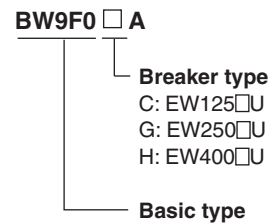
Note:

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.

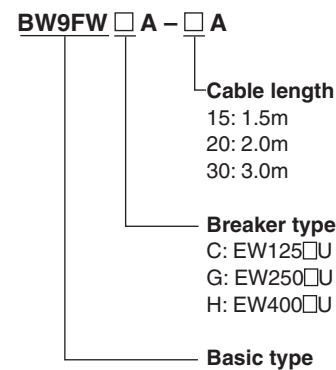
F type handles

ELCB	F type handle
EW125	BW9F0CA
EW250	BW9F0GA
EW400	BW9F0HA

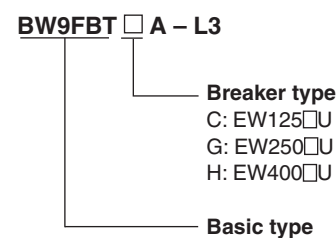
• F type handle



Cable (For F type)



Terminal cover (For F type)





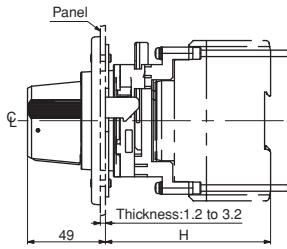
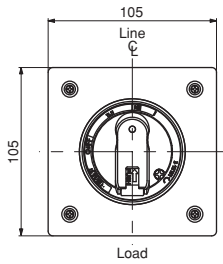
Earth Leakage Circuit Breakers

External accessories

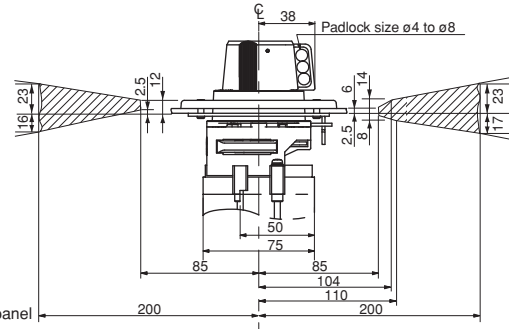
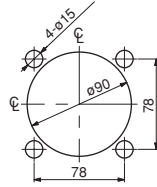
■ Dimensions, mm

N type handle

• BZ6N10D



Door panel cutting

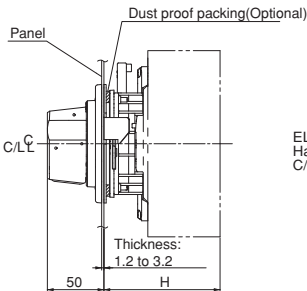
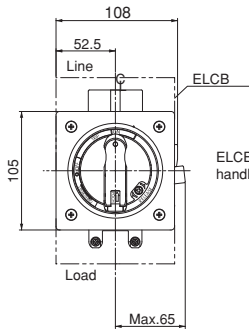


Note: Align the center of the hole cut in the panel with the center of the breaker handle.

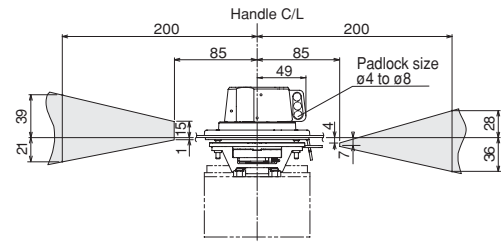
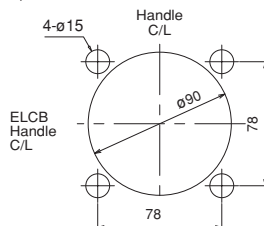
Install the hinge in the shaded area.

ELCB	Handle type	Dust proof packing	Mounting screw	H (mm)	Mass (kg)
EW32	BZ6N10D	Provided	M4 x 85	103±2	0.47
EW50	BZ6N10D-X	Provided	Contact FUJI.	111±2	
EW63	BZ6N10D-P			111±2	
EW100					

• BW9N0CA, BW9N0GA



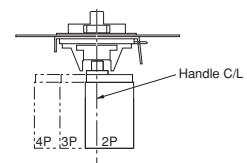
Door panel cutting



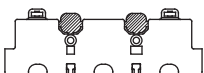
Note: Align the center of the hole cut in the panel with the center of the breaker handle.

Install the hinge in the shaded area.

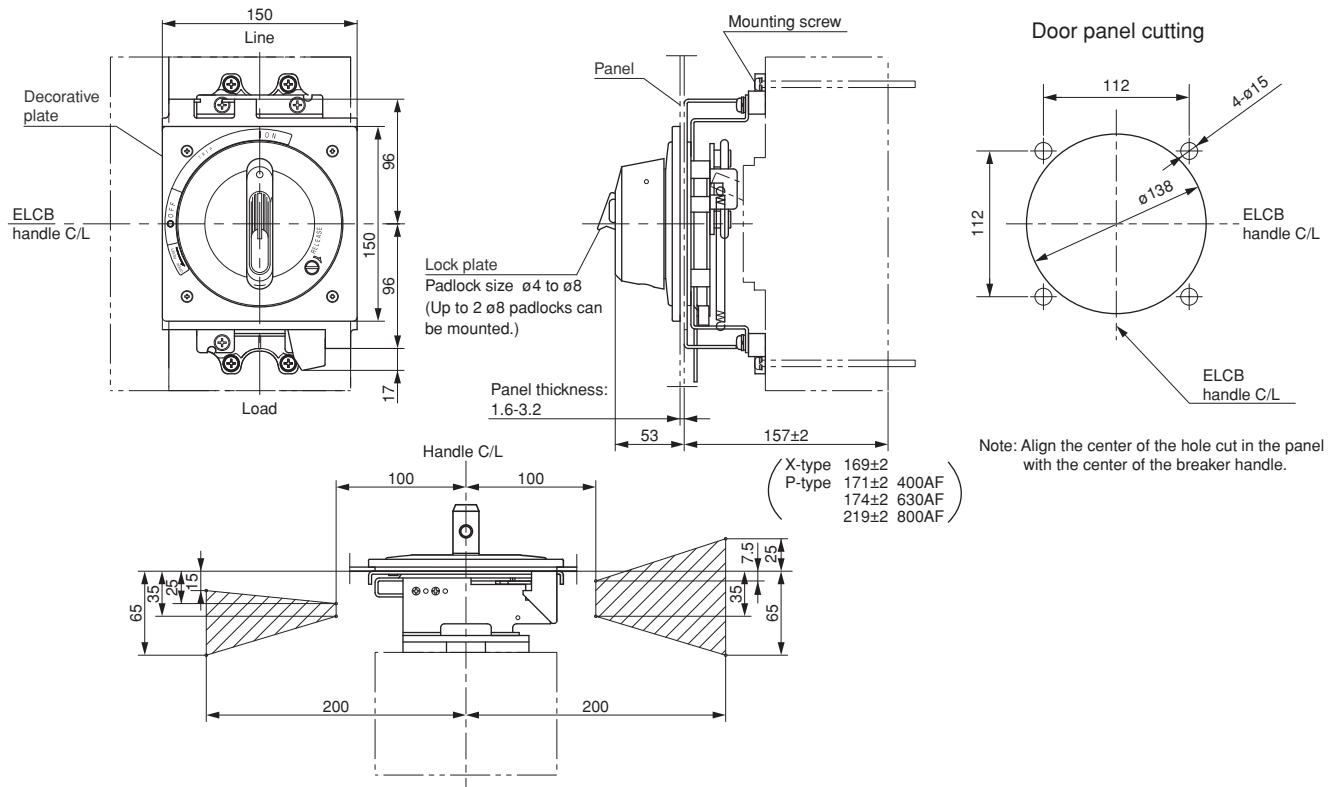
ELCB	Handle type	Dust proof packing	Mounting screw	H (mm)	Mass (kg)
EW125	BW9N0CA	BZ-NP-1C	M4 x 85	103±2	0.56
EW160	BW9N0GA *1	BZ-NP-1C	M4 x 85	103±2	0.56
EW250					



- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.)
The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.
 - *1 The terminal cover will cover the mounting screws for the Breaker. When attaching the terminal cover, a portion of the terminal cover will need to be removed.
Remove portion in the following diagram.



• BW9N0HA, BW9N0JA



Install the door hinge in the shaded area.

ELCB	Handle type	Dust proof packing	Mounting screw	Mass (kg)
EW400	BW9N0HA BW9N0HA-X BW9N0HA-P	BZ-NP-2	M6 x 110 M6 x 115 Contact FUJI.	1.9
EW630 EW800	BW9N0JA BW9N0JA-X BW9N0JA-P	BZ-NP-2	M6 x 110 M6 x 115 Contact FUJI.	1.9

- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.) The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.
 - Not available for side mounting.



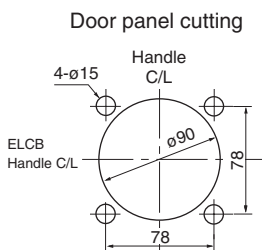
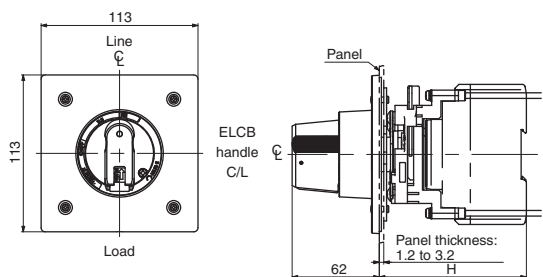
Earth Leakage Circuit Breakers

External accessories

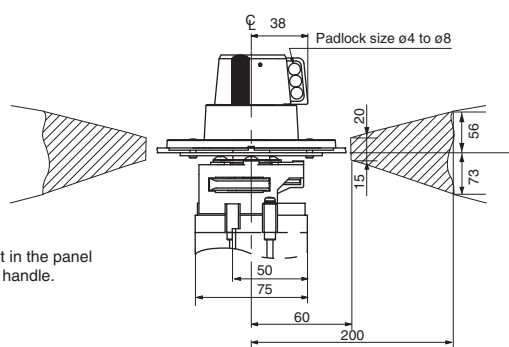
■ Dimensions, mm

V type handle

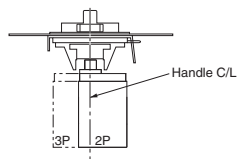
• BW6V10D



Door hinge installation area



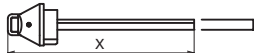
Note: Align the center of the hole cut in the panel with the center of the breaker handle.



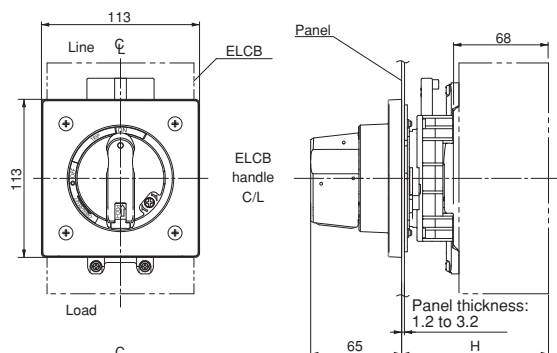
Install the door hinge in the shaded area.

Optional shaft BZ6VS1D

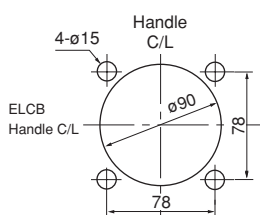
X = H - 105



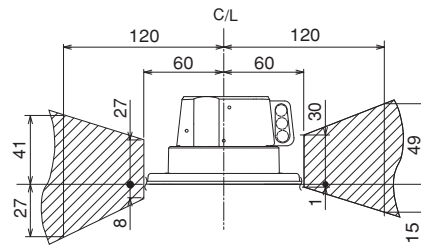
• BW9V0CA, BW9V0GA



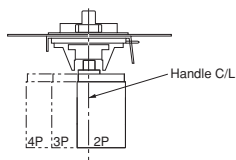
Door panel cutting



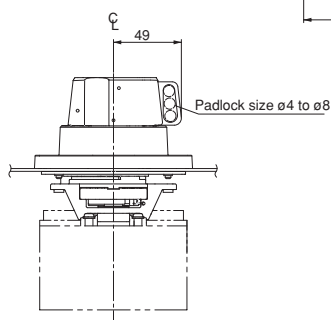
Door hinge installation area



Note: Align the center of the hole cut in the panel with the center of the breaker handle.

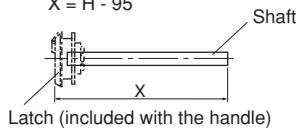


Install the door hinge in the shaded area.



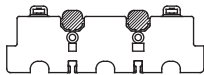
Optional shaft BW9VSG0

X = H - 95



ELCB	Handle type	Optional shaft	Standard type H	With the optional shaft (X=154)		Mounting screw	Mass (kg)
				H	Area in which the hinge with H can be installed		
EW32 EW50 EW63 EW100	BZ6V10D	BZ6VS1D	105±2	250±2	140 to 250	M4 x 80	0.64
	BZ6V10D-X		113±2	258±2	150 to 258	Contact FUJI.	0.64
	BZ6V10D-P		113±2	258±2	150 to 258	Contact FUJI.	0.64
EW125	BW9V0CA	BW9VSG0	105±2	250±2	140 to 250	M4 x 85	0.67
EW160 EW250	BW9V0GA ^{*1}		105±2	250±2	140 to 250	M4 x 85	0.67

- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.)
The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.
 - Not available for side mounting.
- ^{*1}The terminal cover will cover the mounting screws for the Breaker. When attaching the terminal cover, a portion of the terminal cover will need to be removed. Remove portion A in the following diagram.

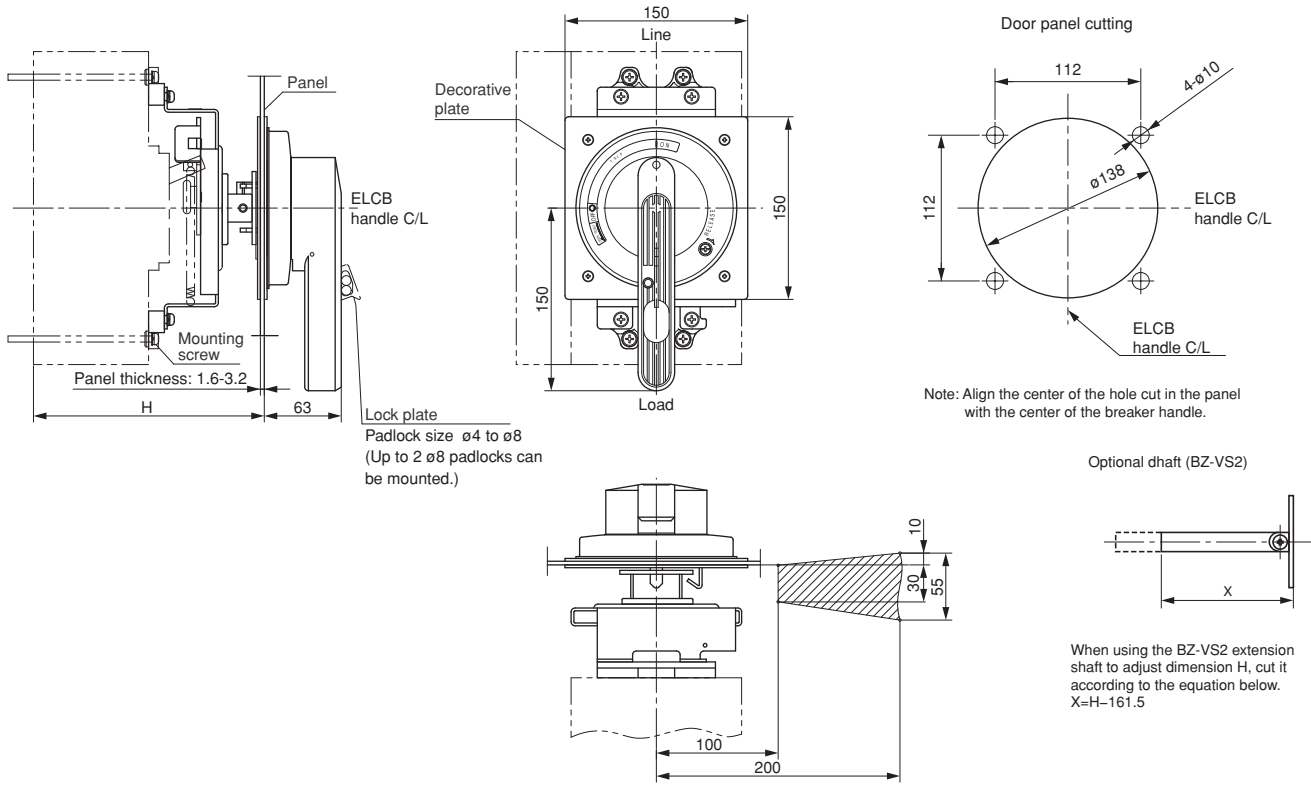




Earth Leakage Circuit Breakers

External accessories

• BW9V0HA, BW9V0JA



Install the door hinge in the shaded area.

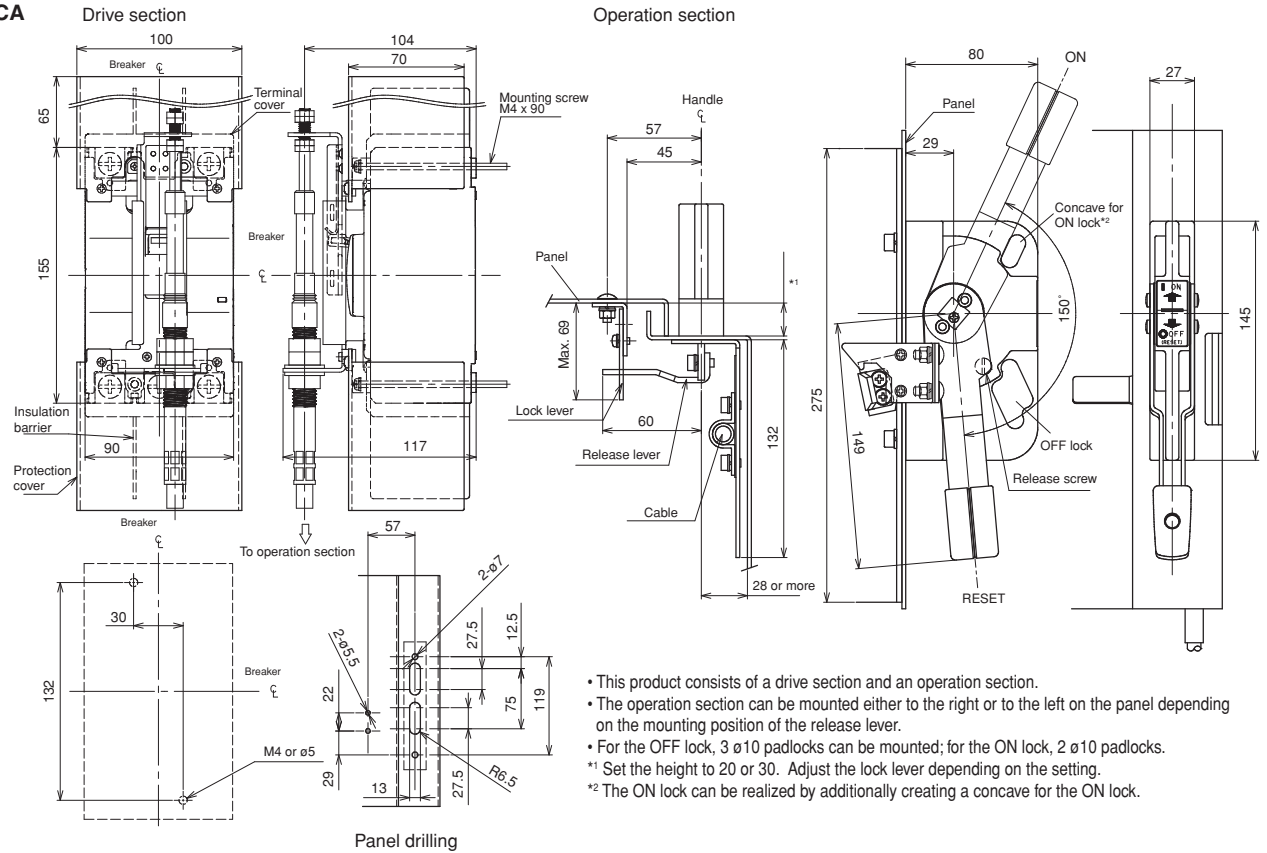
ELCB	Handle type	Optional shaft	Standard type H	With the optional shaft (X=154)		Mass (kg)
				H	Area in which the hinge with H can be installed	
EW400	BW9V0HA	BZ-VS2	190±2	250±2	202 to 250	2.2
	BW9V0HA-X		202±2	262±2	214 to 262	
	BW9V0HA-P		204±2	264±2	216 to 264	
EW630	BW9V0JA		190±2	250±2	202 to 250	
	BW9V0JA-X		202±2	262±2	214 to 262	
	BW9V0JA-P		207±2	267±2	219 to 269	
EW800	BW9V0JA		190±2	250±2	202 to 250	
	BW9V0JA-X		202±2	262±2	214 to 262	
	BW9V0JA-P		252±2	312±2	264 to 312	

- Notes:
- The handle lock bars do not hold the entire door. Obtain a support bracket for the panel separately.
 - Remove the handle lock bar before opening the door. (Turn the handle in the open direction.)
The lock bar will be damaged if the door is opened with force while the lock bar is engaged.
 - Engage the door interlock securely before turning ON the power.
 - Not available for side mounting.

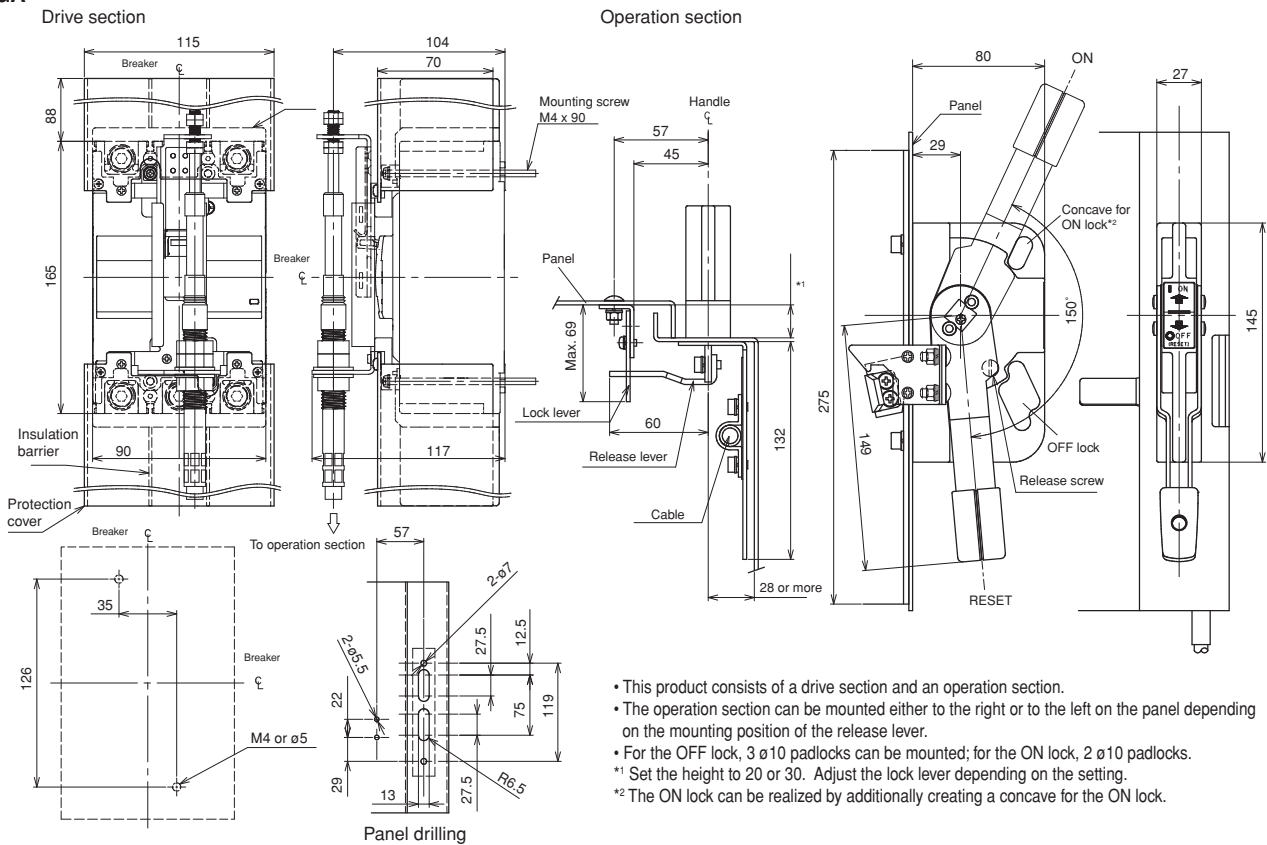
■ Dimensions, mm

F type handle

• BW9F0CA



• BW9F0GA



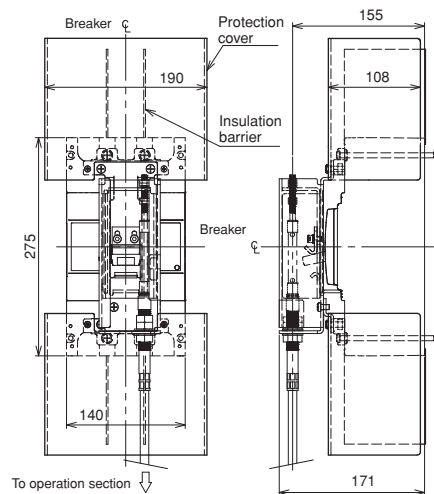


Earth Leakage Circuit Breakers

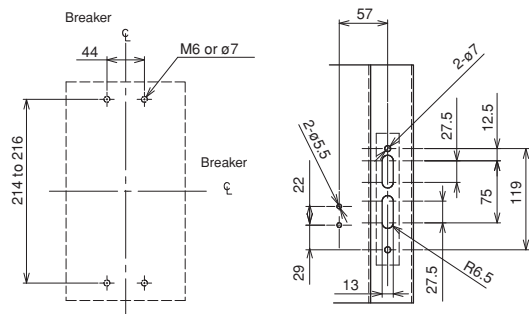
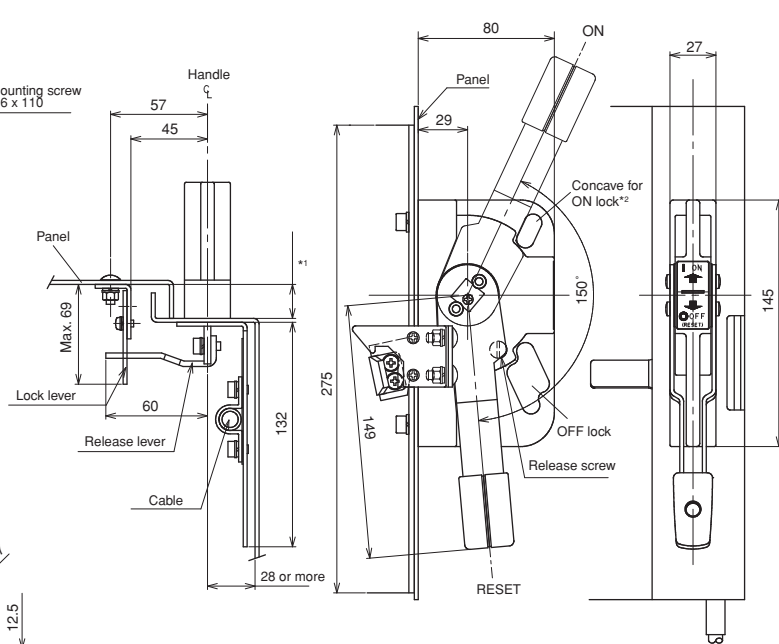
External accessories

• BW9F0HA

Drive section



Operation section



Panel drilling

- This product consists of a drive section and an operation section.
- The operation section can be mounted either to the right or to the left on the panel depending on the mounting position of the release lever.
- For the OFF lock, 3 ϕ 10 padlocks can be mounted; for the ON lock, 2 ϕ 10 padlocks.
- *1 Set the height to 20 or 30. Adjust the lock lever depending on the setting.
- *2 The ON lock can be realized by additionally creating a concave for the ON lock.

ELCB	Handle type	Cable		Terminal cover
		Type	Length (m)	
EW125JAGU-3P EW125RAGU-3P	BW9F0CA	BW9FWCA-15A	1.5	BW9FBTCA-L3
		BW9FWCA-20A	2.0	
		BW9FWCA-30A	3.0	
EW250JAGU-3P EW250RAGU-3P	BW9F0GA	BW9FWGA-15A	1.5	BW9FBTGA-L3
		BW9FWGA-20A	2.0	
		BW9FWGA-30A	3.0	
EW400SAGU-3P EW400RAGU-3P EW400HAGU-3P	BW9F0HA	BW9FWHA-15A	1.5	BW9FBTHA-L3
		BW9FWHA-20A	2.0	
		BW9FWHA-30A	3.0	

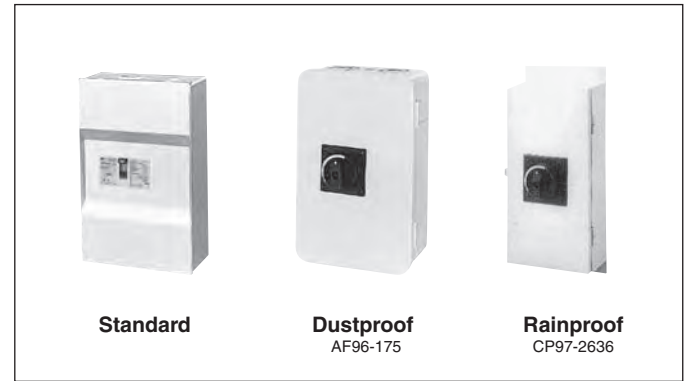
Steel enclosures

■ Description

Steel enclosures are available in three types — two with V-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-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.



■ Type of enclosures

ELCB	Enclosure		
	Standard *1	With V-type handle Dust-proof *1*2	Rain-proof *1*2
EW32 EW50 EW63	BZ6C10C2 *3 BZ6C10C3	BW9UVBA-3A *3	BW9UWBA-3A *3
EW100	BZ6C25C2 *3 BZ6C25C3 *3	BW9UVBA-3B *3	BW9UWBA-3B *3
EW125	BW9UCCA-2 BW9UCCA-3	BW9UVCA-3	BW9UWCA-3
EW250	BW9UCGA-3	BW9UVGA-3	BW9UWGA-3
EW400	BZ-C60B	BW9UVHA-3	BW9UWHA-3
EW630 EW800	BZ-C70B	BW9UVJA-3	—

*1 No models are available for four-pole products.

*2 The appearance of dust-proof and rain-proof models differs from the photograph (400A frames and higher).

*3 Combination with external accessories(R) is not possible.

■ Ordering information

Specify the following:

1. Type number of enclosures



Earth Leakage Circuit Breakers

External accessories

■ Dimensions, mm

Fig.1 Standard

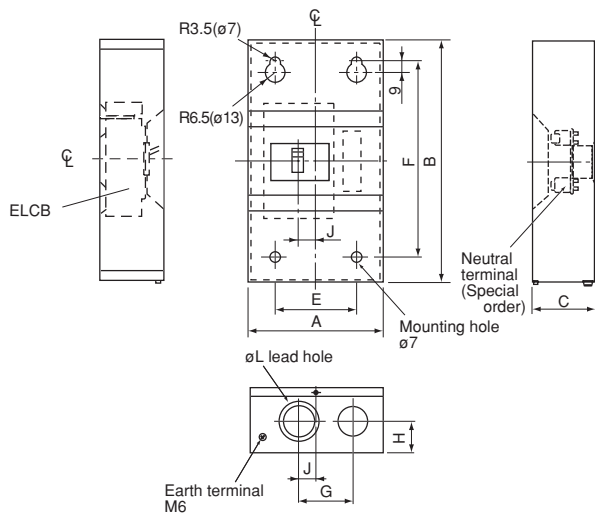


Fig.2 With V type handle
BW9UVBA-3A, BW9UVBA-3B
BW9UVCA-3, BW9UVGA-3

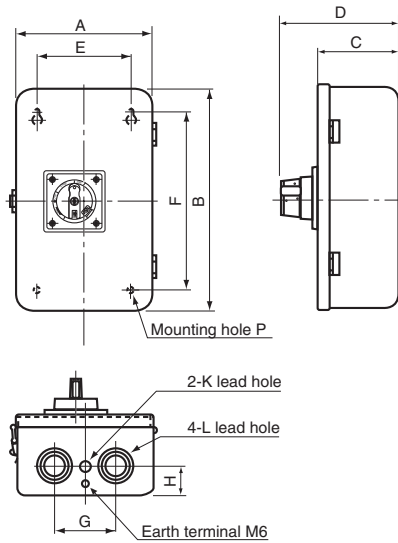
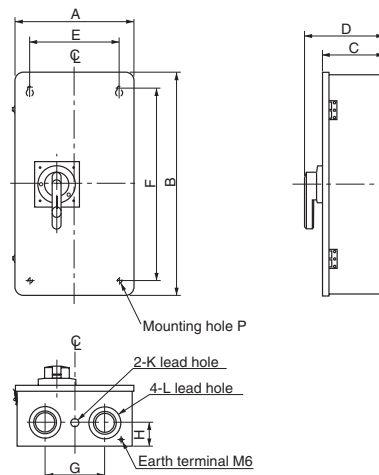
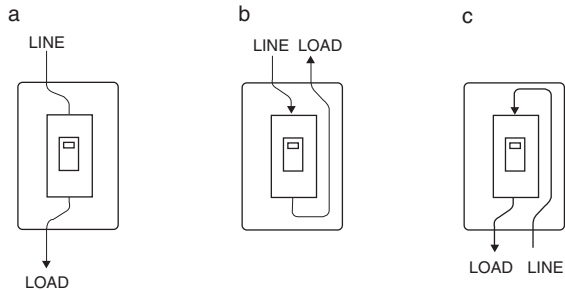


Fig.3. With V type handle
BW9UVHA-3, BW9UVJA-3



■ Connection method diagrams



Type	Connection	Fig.	A	B	C	D	E	F	G	H	J	K	L	P												
BZ6C10C2	a, b, c	1	135	225	95	—	90	170	65	40	25	—	ø35, ø22	—												
BZ6C10C3			200	320	95	—	120	240	80	40	25	—	ø45, ø30	—												
BZ6C25C3			200	320	103	—	120	240	80	40	25	—	ø45, ø30	—												
BW9UCCA-3			200	320	103	—	120	240	80	40	25	—	ø45, ø30	—												
BW9UCGA-3															360	280	45	ø55, ø40								
BZ-C60B															400	750	175	—	300	650	200	80	100	—	ø106, ø78, ø63	—
BZ-C70B			2	180	300	114	178.5	100	220	70	40	—	ø28, ø35, ø43	ø7												
BW9UVBA-3A															250	400	142	206.5	170	320	110	50	—	ø23	ø35, ø52, ø63	ø9
BW9UVBA-3B																										
BW9UVCA-3																										
BW9UVGA-3	3	400	750	206	269	300	650	200	80	—	ø28	ø63, ø78, ø106	ø12													
BW9UVHA-3																										
BW9UVJA-3																										

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 400AF

Short type: BW9BT □ A-S □

- Snap-on fitting

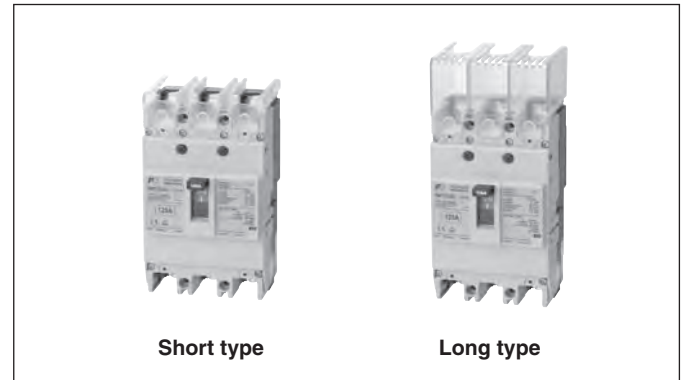
Long type: BW9BT □ A-L □

- Crimp connection use


● 630, 800AF

Long type: BW9BTJA-L □

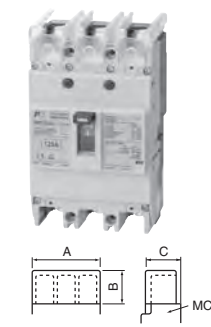
- Transparent




Long type

Type		No. of poles	ELCB	Dimensions (mm)			Packing quantity	Appearance
Transparent	Gray			A	B	C		
BW9BTAA-L2	BW9BTAA-L2W	2	EW32□-2P EW50□-2P	50	40	53	2	<ul style="list-style-type: none"> • Preventing exposure of live section when amplifier's terminals are connected • Snap-on mounting 
BW9BTAA-L3	BW9BTAA-L3W	2, 3	EW32□-3P EW50□-3P EW63□-3P EW100□-2P EW100□-3P	75	40	53	2	
BW9BTCA-L3	BW9BTCA-L3W	3	EW125□-3P	90	40	66.5	2	
BW9BTCA-C3 (For Flat terminal)	—	3	EW125□-3P	90	60	66.5	2	
BW9BTCA-L4	BW9BTCA-L4W	4	EW125□-4P	120	40	66.5	2	
BW9BTGA-L3 * ¹	BW9BTGA-L3W * ¹	3	EW160□-3P EW250□-3P	105	50	66.5	2	
BW9BTGA-L4 * ¹	BW9BTGA-L4W * ¹	4	EW160□-4P EW250□-4P	140	50	66.5	2	
BW9BTGA-C3 (For Flat terminal)	—	3	BW250□-3P	105	75	66.5	2	
BW9BTHA-L3 * ²	BW9BTHA-L3W * ¹	3	EW400□-3P	172	110	98	2	
BW9BTHA-L4 * ²	—	4	EW400□-4P	220	110	98	2	
BW9BTJA-L3	BW9BTJA-L3W	3	EW630□-3P EW800□-3P	230	135	97.5	2	

Short type

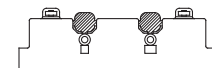
Type		No. of poles	ELCB	Dimensions (mm)			Packing quantity	Appearance
Transparent	Gray			A	B	C		
BW9BTAA-S2	BW9BTAA-S2W	2	EW32□-2P EW50□-2P	50	10	53	2	<ul style="list-style-type: none"> • Preventing exposure of live section when amplifier's terminals are connected • Snap-on mounting 
BW9BTAA-S3	BW9BTAA-S3W	2, 3	EW32□-3P EW50□-3P EW63□-3P EW100□-2P EW100□-3P	75	10	53	2	
BW9BTCA-S3	BW9BTCA-S3W	3	EW125□-3P	90	8	66.5	2	
BW9BTCA-S4	BW9BTCA-S4W	4	EW125□-4P	120	8	66.5	2	
BW9BTGA-S3 * ¹	BW9BTGA-S3W * ¹	3	EW160□-3P EW250□-3P	105	8	66.5	2	
BW9BTGA-S4 * ¹	BW9BTGA-S4W * ¹	4	EW160□-4P EW250□-4P	140	8	66.5	2	
BW9BTHA-S3 * ³	BW9BTHA-S3W * ²	2, 3	EW400□-2P EW400□-3P	140	65	98	2	
BW9BTHA-S4 * ³	BW9BTHA-S4W * ²	4	EW400□-4P	185	65	98	2	

Notes: • A gray-white terminal cover comes standard with the Global Series 125AF and 250AF.

*¹ When using the external operating handle, part of the terminal cover () must be cut away.

*² Crimp terminals for 325 mm² are not available.

*³ This type of cover can be mounted on the 400AF when flat terminals are not used.



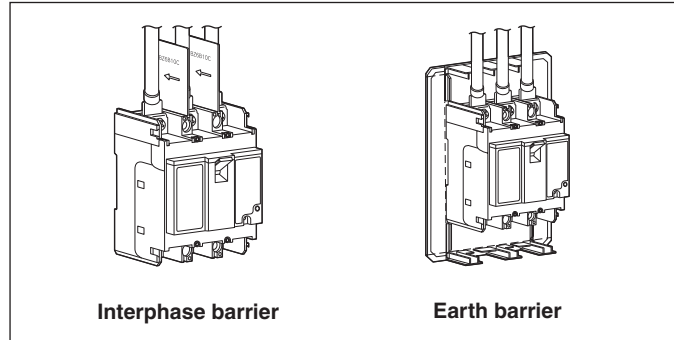


Insulation barriers

■ Description

The interphase barriers are provided on frame size of 32AF to 800AF breakers for front mounting. The barriers are installed in the molded slots between terminals.

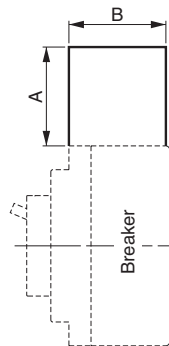
The earth barrier is used to increase the insulation with the mounting plate surface when two crimp terminals are wired. Installation of these barriers after wiring is possible even when an external accessory is installed.



Interphase barrier

ELCB	Interphase barrier				Packing quantity	Mass (g)
	Type	Dimensions (mm)				
		A	B			
EW32 EW50 EW63 EW100	BZ6B10C	50	49	4	23	
EW125	BW9BPCA	50	60	2	15	
EW160 EW250	BW9BPGA	80	60	2	25	
EW400 EW630 EW800	B-43A	105	95	4	130	

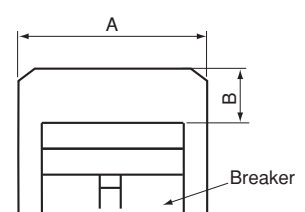
Interphase barrier



Earth barrier

ELCB	Earth barrier				Packing quantity	Mass (g)
	Type	Dimensions (mm)				
		A	B			
EW32□-2P EW50□-2P	BZ6BL10C2	100 (50, 75)* ¹	43 (30)* ¹	1	33	
EW32□-3P EW50□-3P EW63□-3P EW100□-2P EW100□-3P	BZ6BL10C3	125 (75, 100)* ¹	43 (30)* ¹	1	41	

Earth barrier



Note: *¹ Can be cut to dimensions

Padlocking device and handle locking cover

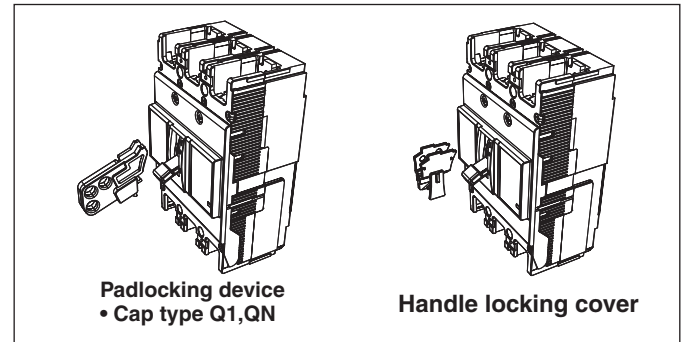
■ Description

• Padlocking device

These padlocking device lock the Breaker handle in the OFF position. Use a commercially available padlock with a shackle diameter of 3.5 to 5mm (5mm for the BZ6L10CA).

• Handle locking covers (Order Separately)

These simple handle locking covers can be easily installed by the user. Tripping is possible while the Breaker is locked ON.



Padlocking device
• Cap type Q1, QN

Handle locking cover

ELCB	Padlocking device			Handle locking cover
	Q1: Cap type	QN: Scissors type	Q2: Plate type	
EW32 EW50 EW63 EW100	BZ6L10CA	—	▲ *1*3	BZ6L10C
EW125 EW160 EW250	BW9Q1CA *4		BW9Q2CA BW9Q2GA	BW9L1CA
EW400 EW630 EW800	▲ *1	BW9QNHA *2	BW9Q2HA BW9Q2JA	BW9L1HA

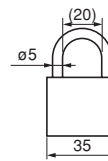
Notes:

*1 Specify Locks when ordering the Breaker. (▲: Factory-mounted)

*2 ON and OFF locking is possible.

*3 If a padlock is required, use a commercially available padlock with the dimensions shown in the diagram at the right.

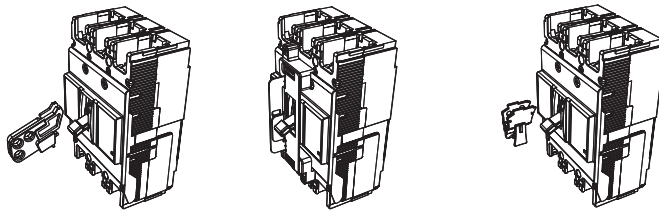
*4 Three padlocks with shackles from 3.5 to 8 mm in diameter can be attached.



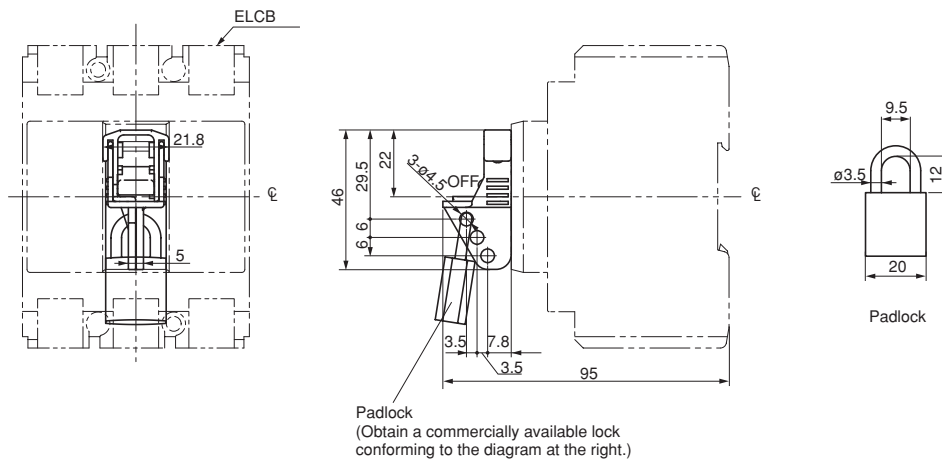
Padlocking device • Cap type Q1

• Plate type Q2

Handle locking cover



Q1: BZ6L10CA (OFF-locking Padlocking device)



Safety Considerations

- 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.
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