

■ Variation of internal accessory
 • 32 to 100AF

Auxiliary switch (Type W)



This switch is used for indicator lamp or control circuit.
 See page 06/69.

Alarm switch (Type K)

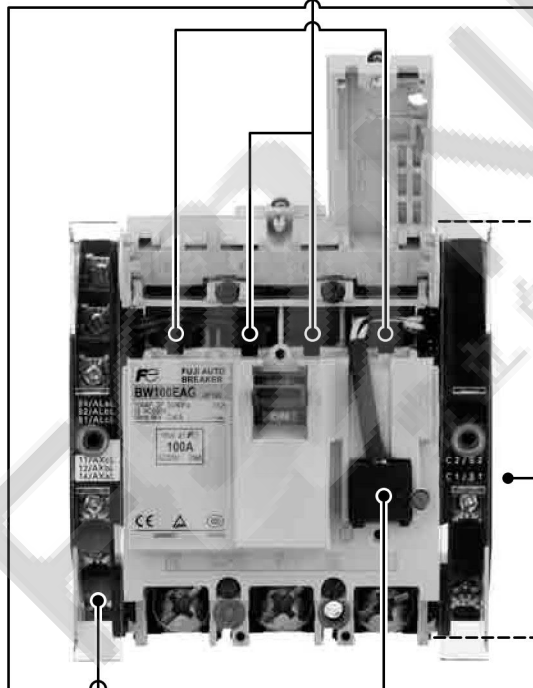


This switch can be connected to a warning lamp or buzzer to indicate when the breaker has been tripped.
 See page 06/69.

Shunt trip device (Type F)



The purpose of this accessory is to trip the breaker from a distance.
 See page 06/70.



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 06/70.

Terminal block (Type A)



A wiring terminal for internal accessories (Order with W, K or F)
 See page 06/71.

Molded Case Circuit Breakers

G-TWIN series

Accessories

■ Variation of internal accessory

• 125 to 250AF

Auxiliary switch (Type W)



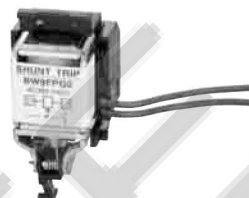
This switch is used for indicator lamp or control circuit.
See page 06/69.

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 06/69.

Shunt trip device (Type F)

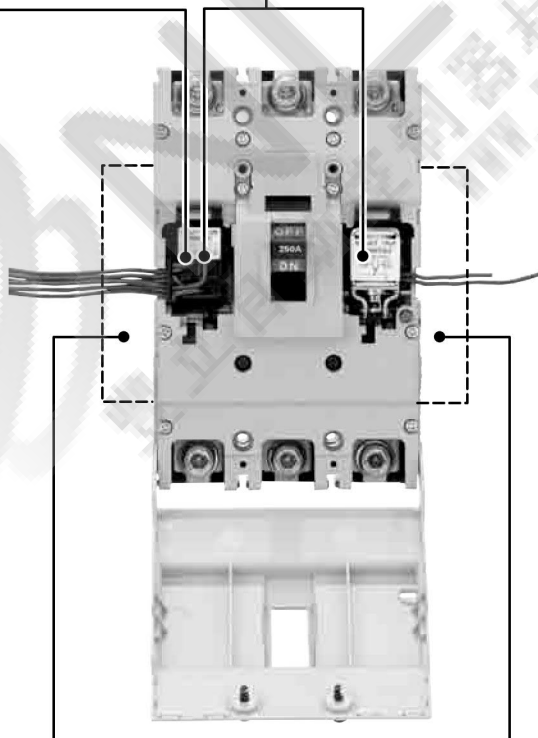


The purpose of this accessory is to trip the breaker from a distance.
See page 06/70.

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 06/70.



Terminal block (Type A)



A wiring terminal for internal accessories (Factory-mounted)
See page 06/71.

■ 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 06/69.

Shunt trip device (Type F)



The purpose of this accessory is to trip the breaker from a distance. See page 06/70.

Terminal block (Type A)

A wiring terminal for internal accessories (Factory-mounted)
 See page 06/71.



Auxiliary switch (Type W)

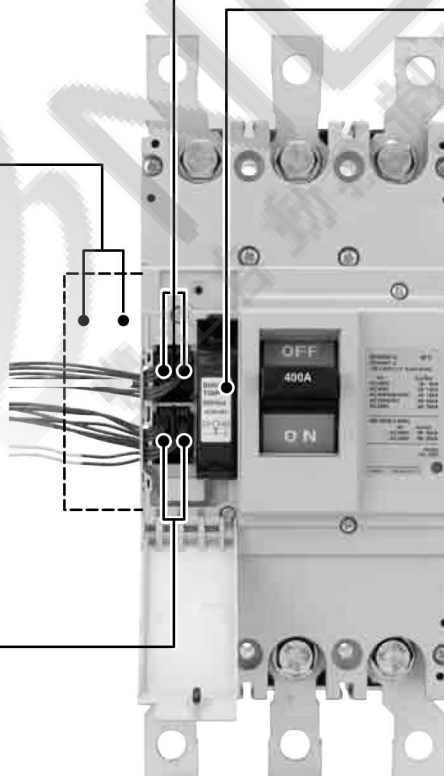


This switch is used for indicator lamp or control circuit. See page 06/69.

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 06/70.



Molded Case Circuit Breakers

G-TWIN series

Accessories

■ Variation of external accessory

External operating handles

• N-type

See page 06/79.



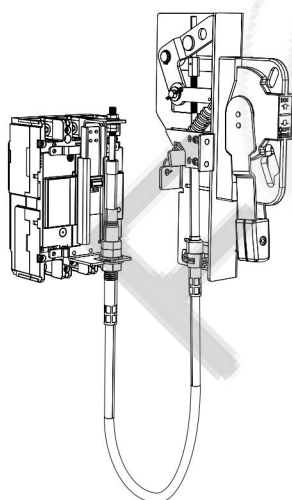
• V-type

See page 06/79.



• F-type

See page 06/79.



Terminal cover

Long type

See page 06/90.



Interphase barrier

See page 06/92.



Terminal cover

Short type

See page 06/91.



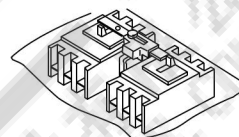
Steel enclosures

See page 06/88.



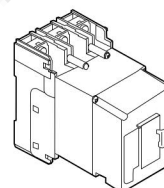
Mechanical interlock device

See page 06/75.



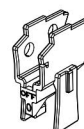
Motor-operating mechanism

See page 06/74.



Handle locking cover (L1)

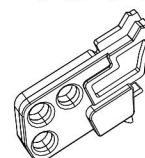
See page 06/93.



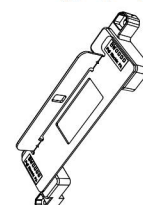
Padlocking device

See page 06/93.

• Cap type (Q1, QN)

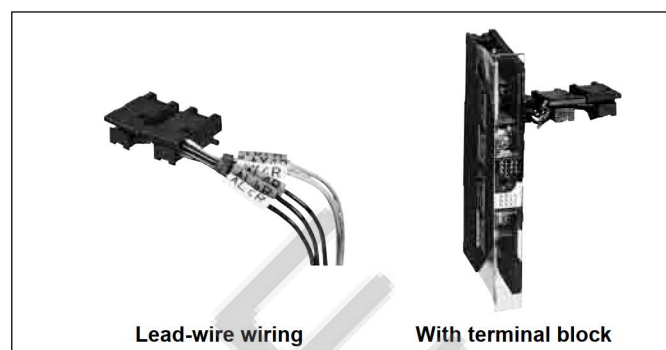


• Plate type (Q2)



■ 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 06/68.



• 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

G-TWIN series

Internal accessories

Available configurations

2-pole Handle 3-pole Handle 4-pole Handle Undervoltage trip: R (Internal) Undervoltage trip: R (External) Shunt trip: F Auxiliary switch: W Alarm switch: K Lead wire						
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					
K+F (8+F)						
K+R (8+R)	*2					
W+K+F (1+8+F)						
W+K+R (1+8+R)	*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 06/2.

*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)

Accessory	Handle position	
	ON	OFF Trip
Auxiliary switch	SPDT: W (1)	11/AXcL — 14/AXaL 12/AXbL
		11/AXcL — 14/AXaL 12/AXbL
	2PDT: V (2)	11/AXcL — 14/AXaL 12/AXbL 21/AXcR — 24/AXaR 22/AXbR
		11/AXcL — 14/AXaL 12/AXbL 21/AXcR — 24/AXaR 22/AXbR
Alarm switch	SPDT: K (8)	91/ALcL — 94/ALaL 92/ALbL
		91/ALcL — 94/ALaL 92/ALbL
	2PDT: J (9)	91/ALcL — 94/ALaL 92/ALbL 01/ALcR — 04/ALaR 02/ALbR
		91/ALcL — 94/ALaL 92/ALbL 01/ALcL — 04/ALaL 02/ALbL

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			
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
		48	5	5	48	2.5	1	30V DC 30mA
		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

G-TWIN series

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		
	440-480	50	—	—	FAC440-480V		
BW400 BW630 BW800	500-550	50	—	—	FAC500-550V		
	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	40	RDC24V
		—	—	100-110	—	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.

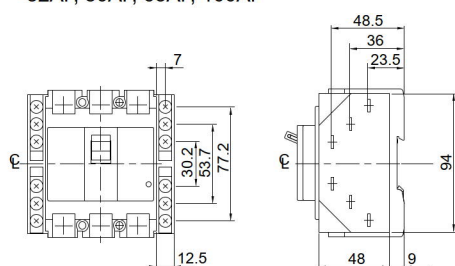
*2 Reset-prohibited type: When the R coil is not energized, reset operation cannot reset the tripped breaker to the OFF state.

Lead wire specification

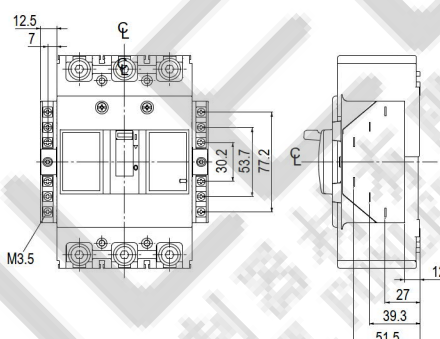
AF	Pole	wire size	Wire length
32 to 100AF	—	0.4mm ² (AWG22)	Ca 500mm
125 to 250AF	2P, 3P	0.5mm ² (AWG20)	
	4P		
400 to 800AF	2P, 3P	0.5mm ²	Ca 500mm
	4P		Ca 400 to 450mm

Terminal blocks

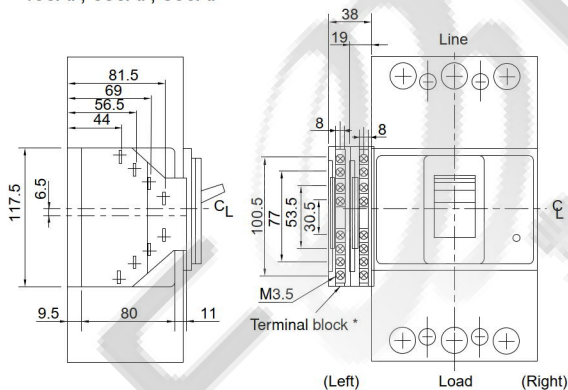
32AF, 50AF, 63AF, 100AF



125AF, 160AF, 250AF



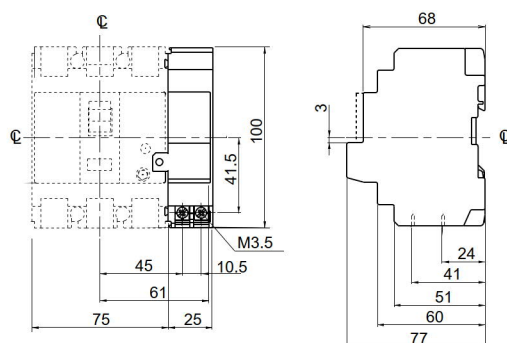
400AF, 630AF, 800AF



- 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 06/68.
 - 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

G-TWIN series

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	BZ6WKL10CA	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

Molded Case Circuit Breakers
G-TWIN series
Internal accessories

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

Accessory	Type				Operating volatge
	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	
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 vltg		
	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

G-TWIN series

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 100/110V AC 200/220V AC	0.1s	15s per on-off operation	500VA	1.2
					1.3

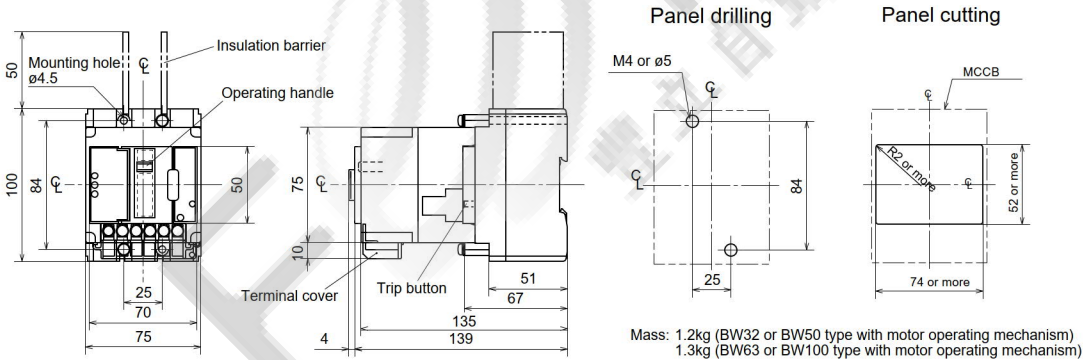
Ordering information

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

