Fuji Electric

Innovating Energy Technology

DISTRIBUTION

Molded Case Circuit Breakers / Earth Leakage Circuit Breakers

G-TWIN Λ (Lambda) Series

62D1-E-0117

Evolutionary form of small breaker for machine equipment and control panels!

Molded Case Circuit Breakers / Earth Leakage Circuit Breakers

G-TWIN Λ (Lambda) Series

New lines of small and high-performance 32 to 63AF molded case circuit breakers and earth leakage circuit breakers enables downsizing and globalization of machine equipment and control panels!

Along with functional enhancement of machine equipment, the number of electrical circuits in control panels is increasing and downsizing of control panel devices is a common challenge. In addition, globalization of the control panel market is progressing rapidly.

As new products of MCCB/ELCB, Fuji Electric released the α-TWIN Series in 2001, and the G-TWIN Series which are downsized, modular and multi-standard products conforming to Japanese and overseas standards in 2007, and they have stayed ahead of changes in the market.

Inheriting the philosophy of the G-TWIN Series, we have now released the G-TWIN Λ Series as a series of small breakers of 32 to 63 AF that meet the needs of the machine equipment and control panel markets.


IEC
TÜV Rheinland
EN
JIS
Global
C UL US
LISTED
GB
Standard

Molded Case Circuit Breakers / Earth Leakage Circuit Breakers

G-TWIN Λ Series

BW50RBGU

EW32SBG

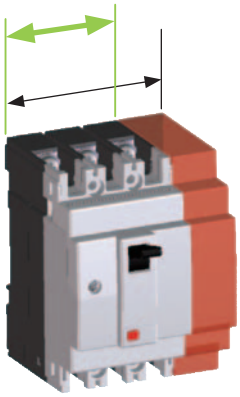
Ampere frame	32AF	50AF	63AF	100AF to 800AF
For machine equipments and control panels ● Compact and high-performance ● Compliant with international standards ● Both AC and DC supported	NEW G-TWIN Λ series			
For power receiving and distribution boards ● Wide variety of types and product categories ● Various mounting methods supported ● Mounting compatibility (for renewal)	G-TWIN series			

Downsizing

Small-width structure of 36 mm for 2-pole and 54 mm for 3-pole (28% smaller than our existing products) and 36 mm for 2-pole ELCB is realized.

54mm

Width
–28%



High breaking capacity

The arc commutation breaking technology has achieved a cut-above breaking performance to meet the needs of the control panel branch market.

Breaker types		G-TWIN Λ series
Global products		18kA
Standard products	Low breaking capacity type	7.5kA
	High breaking capacity type	15kA

* Standard products are compared by breaking capacity at IEC 230 VAC and global products at UL489 240VAC.

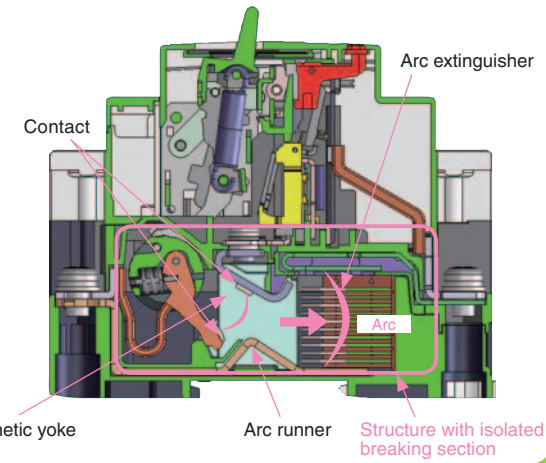
Arc commutation breaking technology realizing high breaking performance

Fuji Electric's proprietary breaking mechanism has been used for high-speed driving of the arc generated during breaking to achieve high breaking performance.

The magnetic driving force by optimization of the magnetic yoke, isolation of the breaking section and arc driving force by resin ablation gas flow control technology allow high-speed commutation of an arc between contacts to the arc runner for immediately driving the arc extinguisher.

The let-through energy (I^2t) during breaking has been reduced to less than half of the conventional products.

Breaking performance improved by 1.5 times



International standard

● Compliant with standards of various countries including UL/CSA, IEC/EN (CE marking), GB (CCC) and JIS.

Series of product		Type	Compatibility-obtained standard			Certification-obtained standard			EC Directive	Certification authority
			IEC	EN	JIS	UL	CSA	GB	CE marking	TÜV
G-TWIN Series			International	Europe	Japan	U.S.A.	Canada	China	Europe	Germany
			IEC	EN	JIS	c UL us LISTED			CE	TÜV Rheinland
Global series	MCCB	**BW50RBGU**	●	●	●	●	●	●	●	●
	ELCB	**EW50RBGU**	●	●	●	●	●	●	●	●
Standard series	MCCB	**BW□EBG**	●	●	●			●	●	●
		BW□SBG	●	●	●			●	●	●
	ELCB	**EW□EBG**	●	●	●			●	●	●
		EW□SBG	●	●	●			●	●	●

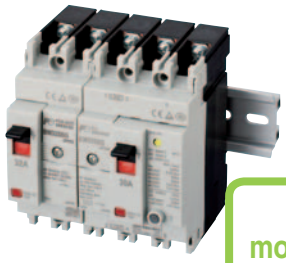
Standardization

● Standard installation on IEC 35 mm rails and screw mounting supported.
Note: Mounting screws are not included.

● The cassette-type internal accessories allow easy mounting and come in a variety of models.
Both MCCB and ELCB allow combined mounting of an auxiliary switch, alarm switch and shunt trip device.
2-pole ELCB allows mounting of an auxiliary switch and alarm switch.

● Both MCCB and ELCB allow dense side-by-side mounting to main units even with accessories included.

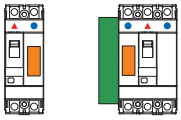
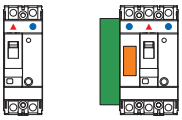
● Both AC and DC supported.
Thermal-electromagnetic overcurrent tripping system is adopted to allow support for both AC and DC also with 32 to 63 AF MCCB.
DC circuits are supported with standard products.

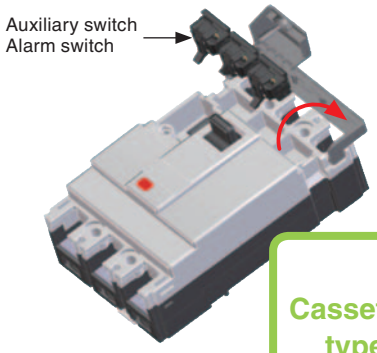


Rail mounting by standard

List of option accessory combination

● : Auxiliary switch (W)
▲ : Alarm switch (K)
■ : Shunt trip (F)
■ : Undervoltage trip (R)

			MCCB				ELCB			
			Accessory mounting location 				Accessory mounting location 			
Number of poles			2-pole		3-pole		2-pole		3-pole	
Option accessory connecting method			Lead wire	Terminal block	Lead wire	Terminal block	Lead wire	Terminal block	Lead wire	Terminal block
Auxiliary switch	1	W	●	●	●	●	●	●	●	●
	2	V	—	—	●	●	—	—	●	●
Alarm switch		K	●	●	●	●	●	●	●	●
Auxiliary/alarm switch		WK	●	●	●	●	●	●	●	●
Shunt trip device		F	●	●	●	●	—	—	●	●
Undervoltage trip device		R	—	—	—	●	—	—	—	●
External operating handle		N type	●		●		●		●	
		V type	●		●		●		●	
Terminal cover		Short	●		●		●		●	
		Long	●		●		●		●	



Cassette-type

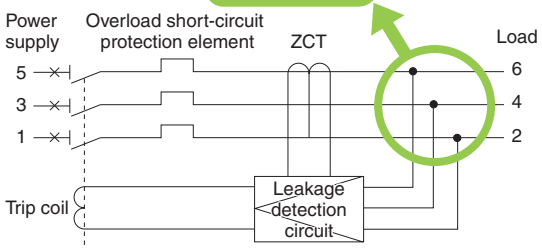
Safety

● Safety is ensured with IP20 degree of protection from the front face of the terminal section, and different types of terminal covers are available.

● External operating handle can be mounted to meet the control panel needs.
Degree of protection: N type: IP54, V type: IP65

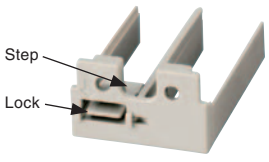
● The earth leakage circuit breaker has an IEC standard-compliant three-phase power supply structure, and earth leakage protection is provided even with one phase open.

Three-phase power supply supported



Terminal cover is easily removed from main units densely mounted side by side

With the step for putting the finger on, the terminal cover can be removed without holding the sides with no need for any tool.
Types with a different lock shape that can be removed with a tool are also available in view of safety.



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

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

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⚠ 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.
- 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.

Molded Case Circuit Breakers / Earth Leakage Circuit Breakers

G-TWIN Series
Type number nomenclature

■ Type Number Nomenclature

● Main unit

EW 50 R B G U - 3P 050 B

Basic type

Symbol	Category
BW	G-TWIN molded case circuit breaker (MCCB)
EW	G-TWIN earth leakage circuit breaker (ELCB)

Frame

Symbol	Frame
32	32AF
50	50AF
63	63AF

Breaking capacity category

Standard product

Symbol	Breaking capacity Icu (JIS/IEC/EN/GB 230 V AC)		
	32AF	50AF	63AF
E	–	7.5kA	7.5kA
S	7.5kA	15kA	15kA

Global product

Symbol	Breaking capacity (UL489 240V AC)
	50AF
R	18kA

Series name

Symbol	Series name
B	G-TWIN Series

Product category

Symbol	Application
G	MCCB/ELCB for line protection use

G-TWIN type

Symbol	Application
Blank	Standard product
U	Global product [UL listed]

Number of poles

Symbol	FAB
2P	2-pole
3P	3-pole

Rated current

Line protection use

Symbol	Rated current	MCCB	ELCB
003	3A	○	–
005	5A	○	○
010	10A	○	○
015	15A	○	○
020	20A	○	○
030	30A	○	○
032	32A	○	○
040	40A	○	○
050	50A	○	○
060	60A	○	○
063	63A	○	○

Rated sensitive current (specified for ELCB only)

Symbol	Rated sensitive current	Remarks
B	30mA	
D	50mA	Global product only
C	100mA	
E	200mA	
H	500mA	

● Accessory

EW63SBG-3P063B - W K F□ R□ A T

Main unit type

Auxiliary switch

Symbol	Accessory type
W	Standard SPDT
V	Standard 2PDT
1	For low level circuit SPDT
2	For low level circuit 2PDT

Alarm switch

Symbol	Accessory type
K	Standard SPDT
8	For low level circuit SPDT

Shunt trip device

F□ (Specify voltage rating symbol for □)

Symbol	Voltage rating
FR	24V AC/DC
F6	100-130V AC/100-110V DC
FK	200-240V AC/200-220V DC
FP	380-440V AC

Accessory exclusive for ELB

Symbol	Accessory type
T	Trip lead

Accessory connecting method

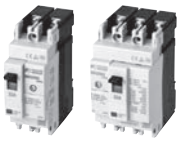
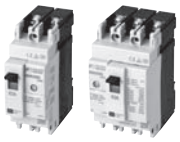
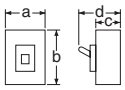
Symbol	Accessory type
Blank	Lead wire system
A	Terminal block system

Undervoltage trip device

R□ (Specify voltage rating symbol for □)

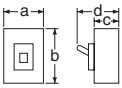
Symbol	Accessory type
RR	24V DC
RL	100-110V DC
RZ	24V AC
R6	100-130V AC
R4	200-240V AC
RP	380-415V AC
RO	400-440V AC

■ Molded Case Circuit Breakers for Line Protection Use (Standard Products)

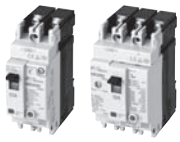
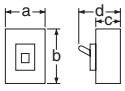
Ampere frame				32		50				63					
Type				**BW32SBG**		**BW50EBG**		**BW50SBG**		**BW63EBG**		**BW63SBG**			
Appearance															
Numbers of poles and elements				2P2E	3P3E	2P2E	3P3E	2P2E	3P3E	2P2E	3P3E	2P2E	3P3E		
Rated insulation voltage Ui[V]			AC	440		440		440		440		440			
			DC	125		–		125		–		125			
Rated impulse withstand voltage Uimp[kV]				6		6		6		6		6			
Rated current Reference temperature 40°C In[A]				3,5,10,15,20,30,32		3,5,10,15,20,30,32,40,50				60,63					
Rated frequency [Hz]				50-60		50-60		50-60		50-60		50-60			
Rated breaking capacity Icu/Ics [kA]	IEC60947-2 EN60947-2 JISC8201-2-1	AC	440V	2.5/2.5		2.5/2.5		7.5/4		2.5/2.5		7.5/4			
			415V	5/5		5/5		10/5		5/5		10/5			
			400V	5/5		5/5		10/5		5/5		10/5			
			380V	5/5		5/5		10/5		5/5		10/5			
			240V	7.5/7.5		7.5/7.5		15/15		7.5/7.5		15/15			
			230V	7.5/7.5		7.5/7.5		15/15		7.5/7.5		15/15			
		DC	125V	10/10		–/–		10/10		–/–		10/10			
	GB14048.2	AC	400V	5/5		5/5		10/5		5/5		10/5			
			230V	7.5/7.5		7.5/7.5		15/15		7.5/7.5		15/15			
		DC	125V	10/10		–/–		10/10		–/–		10/10			
Isolation compliance				Compliant		Compliant		Compliant		Compliant		Compliant			
Reverse connection				Possible		Possible		Possible		Possible		Possible			
Utilization category				A		A		A		A		A			
Use environment condition				Pollution degree 3		Pollution degree 3		Pollution degree 3		Pollution degree 3		Pollution degree 3			
Outline dimensions [mm] 			a	36	54	36	54	36	54	36	54	36	54		
			b	100		100		100		100		100			
			c	68		68		68		68		68			
			d	90		90		90		90		90			
Front mounting type product mass [kg]			Page	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5		
Mounting and connection	Front mounting type (screw mounting, IEC 35 mm rail mounting)		14, 16	○		○		○		○		○			
Accessories	Auxiliary switch	W	27	○		○		○		○		○			
	Alarm switch	K	27	○		○		○		○		○			
	Shunt trip device	F □	27	○		○		○		○		○			
	Undervoltage trip device	R □	27	–	○	–	○	–	○	–	○	–	○		
	Lead wire terminal block	A	32	○		○		○		○		○			
Separately sold parts	Auxiliary switch	W	20	○		○		○		○		○			
	Alarm switch	K	20	○		○		○		○		○			
	Shunt trip device	F □	20	○		○		○		○		○			
	External operating handle — Panel mounting	V	29	○		○		○		○		○			
	External operating handle — Main unit mounting	N	29	○		○		○		○		○			
	Terminal cover — Short type	TS	29	○		○		○		○		○			
	Terminal cover — Long type	TL	29	○		○		○		○		○			
	Insulation barrier — Interphase barrier	B	29	○		○		○		○		○			
	Handle locking cover	L1	29	○		○		○		○		○			
	Handle key lock	Q2	29	○		○		○		○		○			
Conformance to standards	IEC60947-2 (TÜV certificate)			△											
	EN60947-2 (CE marking)			CE											
	GB14048.2 (CCC certificate)			CCC											
	JISC8201-2-1			Self-declaration of conformity											
	Electrical Appliances and Materials Safety Act			Specified Electrical Appliances and Materials PS E											
Tripping device				Thermal-electromagnetic method											
Trip button				Provided											
Characteristics curves and dimensions on pages				31, 32											

G-TWIN Series
Specifications

■ Molded Case Circuit Breakers for Line Protection Use (Global Products)

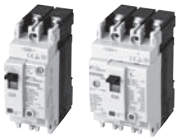
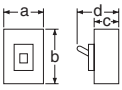
Ampere frame					50	
Type					**BW50RBGU**	
Appearance						
Numbers of poles and elements					2P2E	3P3E
Rated insulation voltage Ui[V]			AC		440	
			DC		125	
Rated impulse withstand voltage Uimp[kV]					6	
Rated current Reference temperature 40°C In[A]					3,5,10,15,20,30,40,50	
Rated frequency [Hz]					50-60	
Rated breaking capacity Icu/Ics [kA]	UL489, CAN/CSA22.2 No.5(cUL)		AC	240V	18	
	IEC60947-2 EN60947-2 JISC8201-2-1		AC	440V	7.5/4	
				415V	10/5	
				400V	10/5	
				380V	10/5	
				240V	15/15	
				230V	15/15	
			DC	125V	10/10	
	GB14048.2		AC	400V	10/5	
				230V	15/15	
			DC	125V	10/10	
Isolation compliance					Compliant	
Reverse connection					Possible	
Utilization category					A	
Use environment condition					Pollution degree 3	
Outline dimensions [mm] 				a	36	54
				b	120 (including the terminal cover)	
				c	68	
				d	90	
Front mounting type product mass [kg]				Page	0.5	0.6
Mounting and connection	Front mounting type (screw mounting, IEC 35 mm rail mounting)			14, 16	○	
Accessories	Auxiliary switch		W	27	○	
	Alarm switch		K	27	○	
	Shunt trip device		F □	27	○	
	Undervoltage trip device		R □	27	–	○
	Lead wire terminal block		A	35	○	
Separately sold parts	Auxiliary switch		W	20	○	
	Alarm switch		K	20	○	
	Shunt trip device		F □	20	○	
	External operating handle	Panel mounting	V	29	○	
		Main unit mounting	N	29	○	
	Terminal cover	Short type	TS	29	○ (Included)	
		Long type	TL	29	○	
	Insulation barrier	Interphase barrier	B	29	○	
	Handle locking cover		L1	29	○	
	Handle key lock		Q2	29	○	
Conformance to standards	UL489/CSA22.2No.5(cUL)				(File No.E90584)	
	IEC60947-2 (TÜV certificate)					
	EN60947-2 (CE marking)					
	GB14048.2 (CCC certificate)					
	JISC8201-2-1				Self-declaration of conformity	
	Electrical Appliances and Materials Safety Act				Specified Electrical Appliances and Materials	
Tripping device					Thermal-electromagnetic method	
Trip button					Provided	
Characteristics curves and dimensions on pages					34, 35	

■ Earth Leakage Circuit Breakers for Line Protection Use (Standard Products)

Ampere frame				32		50				
Type				**EW32SBG**		**EW50EBG**			**EW50SBG**	
Appearance										
Numbers of poles and elements				2P2E	3P3E	2P2E	3P3E		2P2E	3P3E
Applied circuit				1ø2W	1ø2W,1ø3W,3ø2W	1ø2W	1ø2W,1ø3W,3ø2W		1ø2W	1ø2W,1ø3W,3ø2W
Rated operational voltage Ue[V]				100-240V AC	100-440V AC	100-240V AC	100-440V AC		100-240V AC	100-440V AC
Rated impulse withstand voltage Uimp[kV]				4	6	4	6		4	6
Rated current Reference temperature 40°C In[A]				5,10,15,20,30,32		5,10,15,20,30,32,40,50				
Rated frequency [Hz]				50-60		50-60			50-60	
Rated sensitive current IΔn[mA]				30	30,100,200,500	30	30,100,200,500		30	30,100,200,500
Maximum operating time [sec]			IΔn	0.1		0.1			0.1	
			5IΔn	0.04		0.04			0.04	
Rated breaking capacity Icu/Ics [kA]	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	–/–	2.5/2.5	–/–	2.5/2.5		–/–	7.5/4
			415V	–/–	5/5	–/–	5/5		–/–	10/5
			400V	–/–	5/5	–/–	5/5		–/–	10/5
			380V	–/–	5/5	–/–	5/5		–/–	10/5
			240V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5		15/15	15/15
			230V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5		15/15	15/15
			100V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5		15/15	15/15
	GB14048.2	AC	400V	–/–	5/5	–/–	5/5		–/–	10/5
			230V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5		15/15	15/15
Isolation compliance				Compliant		Compliant			Compliant	
Reverse connection				Not possible		Not possible			Not possible	
Utilization category				A		A			A	
Use environment condition				Pollution degree 3		Pollution degree 3			Pollution degree 3	
Outline dimensions [mm] 			a	36	54	36	54		36	54
			b	100		100			100	
			c	68		68			68	
			d	90		90			90	
Front mounting type product mass [kg]			Page	0.4	0.6	0.4	0.6		0.4	0.6
Mounting and connection	Front mounting type (screw mounting, IEC 35 mm rail mounting)		14, 16	○		○			○	
Accessories	Auxiliary switch	W	27	○		○			○	
	Alarm switch	K	27	○		○			○	
	Shunt trip device	F □	27	–	○	–	○		–	○
	Undervoltage trip device	R □	27	–	○	–	○		–	○
	Trip lead	T	19	○		○			○	
	Lead wire terminal block	A	38	○		○			○	
Separately sold parts	Auxiliary switch	W	20	○		○			○	
	Alarm switch	K	20	○		○			○	
	Shunt trip device	F □	20	–	○	–	○		–	○
	External operating handle (Panel mounting)	V	29	○		○			○	
	External operating handle (Main unit mounting)	N	29	○		○			○	
	Terminal cover (Short type)	TS	29	○		○			○	
	Terminal cover (Long type)	TL	29	○		○			○	
	Insulation barrier (Interphase barrier)	B	29	○		○			○	
	Handle locking cover	L1	29	○		○			○	
	Handle key lock	Q2	29	○		○			○	
Conformance to standards	IEC60947-2 (TÜV certificate)									
	EN60947-2 (CE marking)									
	GB14048.2 (CCC certificate)									
	JISC8201-2-1			Self-declaration of conformity						
	Electrical Appliances and Materials Safety Act			Specified Electrical Appliances and Materials						
Tripping device				Thermal-electromagnetic method						
Trip button				Provided						
Earth leakage indication				Mechanical button						
Characteristics curves and dimensions on pages				37, 38						

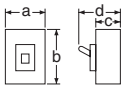
Rated voltage (V)	Operational voltage range (V)
100-240V AC	80 to 264V AC
100-440V AC	80 to 484V AC

G-TWIN Λ Series
Specifications

Ampere frame				63			
Type				**EW63EBG**		**EW63SBG**	
Appearance							
Numbers of poles and elements				2P2E	3P3E	2P2E	3P3E
Applied circuit				1ø2W	1ø2W,1ø3W,3ø2W	1ø2W	1ø2W,1ø3W,3ø2W
Rated operational voltage Ue[V]				100-240V AC	100-440V AC	100-240V AC	100-440V AC
Rated impulse withstand voltage Uimp[kV]				4	6	4	6
Rated current Reference temperature 40°C In[A]				60,63			
Rated frequency [Hz]				50-60			
Rated sensitive current IΔn[mA]				30	30,100,200,500	30	30,100,200,500
Maximum operating time [sec]			IΔn	0.1		0.1	
			5IΔn	0.04		0.04	
Rated breaking capacity Icu/Ics [kA]	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	–/–	2.5/2.5	–/–	7.5/4
			415V	–/–	5/5	–/–	10/5
			400V	–/–	5/5	–/–	10/5
			380V	–/–	5/5	–/–	10/5
			240V	7.5/7.5	7.5/7.5	15/15	15/15
			230V	7.5/7.5	7.5/7.5	15/15	15/15
			100V	7.5/7.5	7.5/7.5	15/15	15/15
	GB14048.2	AC	400V	–/–	5/5	–/–	10/5
			230V	7.5/7.5	7.5/7.5	15/15	15/15
Isolation compliance				Compliant		Compliant	
Reverse connection				Not possible		Not possible	
Utilization category				A		A	
Use environment condition				Pollution degree 3		Pollution degree 3	
Outline dimensions [mm]			a	36	54	36	54
			b	100		100	
			c	68		68	
			d	90		90	
Front mounting type product mass [kg]			Page	0.4	0.6	0.4	0.6
Mounting and connection	Front mounting type (screw mounting, IEC 35 mm rail mounting)		14, 16	○		○	
Accessories	Auxiliary switch	W	27	○		○	
	Alarm switch	K	27	○		○	
	Shunt trip device	F □	27	–	○	–	○
	Undervoltage trip device	R □	27	–	○	–	○
	Trip lead	T	19	○		○	
	Lead wire terminal block	A	38	○		○	
Separately sold parts	Auxiliary switch	W	20	○		○	
	Alarm switch	K	20	○		○	
	Shunt trip device	F □	20	–	○	–	○
	External operating handle: Panel mounting	V	29	○		○	
	External operating handle: Main unit mounting	N	29	○		○	
	Terminal cover: Short type	TS	29	○		○	
	Terminal cover: Long type	TL	29	○		○	
	Insulation barrier: Interphase barrier	B	29	○		○	
	Handle locking cover	L1	29	○		○	
	Handle key lock	Q2	29	○		○	
Conformance to standards	IEC60947-2 (TÜV certificate)						
	EN60947-2 (CE marking)			CE			
	GB14048.2 (CCC certificate)						
	JISC8201-2-1			Self-declaration of conformity			
	Electrical Appliances and Materials Safety Act			Specified Electrical Appliances and Materials 			
Tripping device				Thermal-electromagnetic method			
Trip button				Provided			
Earth leakage indication				Mechanical button			
Characteristics curves and dimensions on pages				37, 38			

Rated voltage (V)	Operational voltage range (V)
100-240V AC	80 to 264V AC
100-440V AC	80 to 484V AC

■ Earth Leakage Circuit Breakers for Line Protection Use (Global Products)

Ampere frame				50		
Type				**EW50RBGU**		
Appearance						
Numbers of poles and elements				2P2E	3P3E	
Applied circuit				1ø2W	1ø2W,3ø3W	
Rated operational voltage Ue[V]			IEC	100-240V AC	100-440V AC	
			UL	240V AC	240V AC	
Rated impulse withstand voltage Uimp[kV]				4	6	
Rated current Reference temperature 40°C In[A]				5,10,15,20,30,40,50		
Rated frequency [Hz]				50-60		
Rated sensitive current IΔn [mA]				30	30,50,100,200,500	
Maximum operating time [sec]			IΔn	0.1		
			5IΔn	0.04		
Rated breaking capacity Icu/Ics [kA]	UL489, CAN/CSA22.2 No.5(cUL)	AC	240V	18	18	
	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	–/–	7.5/4	
			415V	–/–	10/5	
			400V	–/–	10/5	
			380V	–/–	10/5	
			240V	15/15	15/15	
			230V	15/15	15/15	
			100V	15/15	15/15	
	GB14048.2	AC	400V	–/–	10/5	
			230V	15/15	15/15	
Isolation compliance				Compliant		
Reverse connection				Not possible		
Utilization category				A		
Use environment condition				Pollution degree 3		
Outline dimensions [mm]			a	36	54	
			b	120 (including the terminal cover)		
			c	68		
			d	90		
Front mounting type product mass [kg]			Page	0.5	0.6	
Mounting and connection	Front mounting type (screw mounting, IEC 35 mm rail mounting)		14, 16	○		
Accessories	Auxiliary switch	W	27	○		
	Alarm switch	K	27	○		
	Shunt trip device	F □	27	–	○	
	Undervoltage trip device	R □	27	–	○	
	Lead wire terminal block	A	41	○		
Separately sold parts	Auxiliary switch	W	20	○		
	Alarm switch	K	20	○		
	Shunt trip device	F □	20	–	○	
	External operating handle — Panel mounting	V	29	○		
	External operating handle — Main unit mounting	N	29	○		
	Terminal cover — Short type	TS	29	○ (Included)		
	Terminal cover — Long type	TL	29	○		
	Handle locking cover	L1	29	○		
	Handle key lock	Q2	29	○		
Conformance to standards	UL489/CSA22.2No.5(cUL)			c UL us LISTED (File No.E90584)		
	IEC60947-2 (TÜV certificate)					
	EN60947-2 (CE marking)			CE		
	GB14048.2 (CCC certificate)					
	JISC8201-2-1			Self-declaration of conformity		
	Electrical Appliances and Materials Safety Act			Specified Electrical Appliances and Materials PS E		
Tripping device				Thermal-electromagnetic method		
Trip button				Provided		
Earth leakage indication				Mechanical button		
Characteristics curves and dimensions on pages				40, 41		

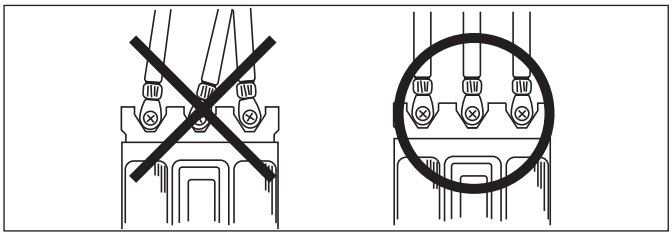
Standards	Rated voltage (V)	Operational voltage range (V)
UL	240V AC	80 to 264V AC
IEC	100-240V AC	80 to 264V AC
	100-440V AC	80 to 484V AC

Mounting and connection

■ Front Mounting Type

Appearance		Screw		Tightening torque [N•m]	MCCB main unit applicable type (basic designation)	ELCB main unit applicable type (basic designation)
		Shape	Screw size			
For crimp/stick terminals (front connection)		 Cross-recessed pan-head screw with washer	M5 x 14	2.0 to 3.0	**BW32** **BW50**	**EW32** **EW50**
			M6 x 14	4.0 to 5.0	**BW63**	**EW63**

Mount the crimp terminals to ensure that the wires for the respective poles are in parallel as shown in the figure below.



(1) List of applicable crimp terminals

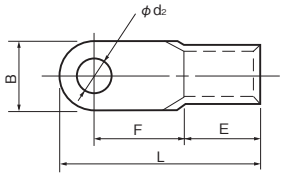
	Cross section area of electric wire used [mm²]		2	5.5	8	14	22
	Allowable current [A] (600V IV electric wire 30°C Insulator wiring)		27	49	61	88	115
	Range of electric wire used [mm²]		1.04 to 2.63	2.63 to 6.64	6.64 to 10.52	10.52 to 16.78	16.78 to 26.66
Frame [A]	MCCB main unit applicable type (basic designation)	ELCB main unit applicable type (basic designation)					
32	**BW32**	**EW32**	R2-5	R5.5-5	R8-5	R14-5	
50	**BW50**	**EW50**					
63	**BW63**	**EW63**	R2-6	R5.5-6	R8-6	R14-6	JST 22-S6

(Explanation) R: JIS C2805, JST: provided by JST Mfg. Co., Ltd.

● Crimp terminal size

Model number	Shape	Diameter of screw used	Outline dimensions [mm]						Applicable electric wire [mm²]
			ød₂	B	L	F	E	Plate thickness	
R2-5	A	M5	5.3	9.5	16.8	7.3	4.8	0.8	1.04 to 2.63
R2-6		M6	6.4	12.0	21.8	11.0			
R5.5-5		M5	5.3	9.5	19.8	8.3	6.8	1.0	2.63 to 6.64
R5.5-6		M6	6.4	12.0	25.8	13.0			
R8-5		M5	5.3		29.8	9.3	8.5	1.2	6.64 to 10.52
R8-6		M6	6.4						
R14-5		M5	5.3			13.3	10.5	1.5	10.52 to 16.78
R14-6		M6	6.4						
22-S5		M5	5.3		30.0	12.0	12.0	1.8	16.78 to 26.66
L330T459-23		M5	5.3						
22-S6		M6	6.4						

Shape A



Note: Excerpt from JST's catalog

● **Wire connecting method (global products)**

(1) Notes on wire (conductor) connection

- Connect wires to UL breakers according to the National Electrical Code (NEC) or Canadian Electrical Code (CEC) Part 1.
- For connection, use 75°C copper wires. Use of UL- or CSA-approved wires is recommended.
- A large current flow including a short-circuit current flow may generate a very large electromagnetic force between wires. Ensure that wires are securely supported.
- Regularly retighten the tightening screws of the terminals.
- Do not cover the arc gas outlet.

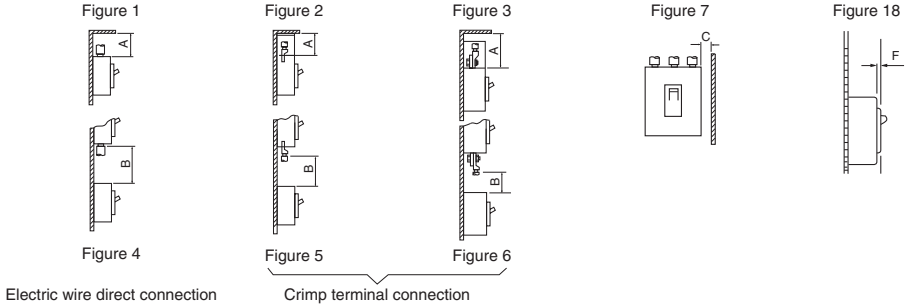
● **Connectable wire and tightening torque**

Crimp terminal connection

MCCB main unit type	ELCB main unit type	Rated current [A]	Applicable crimp terminal			Connectable wire size 75°C wire	Tightening torque [N•m]	Screw head type and size [mm]
			(Provided by JST Mfg.)	Provided by Nichifu	Provided by Daido Solderless Terminal Mfg.			
BW50RBGU	**EW50RBGU**	3	2-M5, R2-5	R2-5, R2-5M	R2-5, R2-S5	14AWG	2.0 to 3.0	Cross-recessed pan-head screw with washer
		5						
		10						
		15						
		20	3.5-5, 3.5-R5, 5-S5, 5.5-5NS, R5.5-5	R3.5-5S, R3.5-5L, R5.5-5, R5.5-5N, R5.5-5S	R3.5-5, R5.5-5, R5.5-L5, R5.5-S5	12AWG		
		30	5-S5, 5.5-5NS, R5.5-5	R5.5-5, R5.5-5N, R5.5-5	R5.5-5, R5.5-L5, R5.5-S5	10AWG		
		40	8-5NS,8-NK5, 8-5L5NS	R8-5, R8-5S	R8-5, R8-S5	8AWG		
		50						

Note 1: AWG/MCM is a system to indicate UL wire sizes.
Note 2: Use 75°C wires for connection. (UL- or CSA-approved wires)
Note 3: For the crimping tool, be sure to use UL- or CSA-approved products from manufacturers.

■ **Arc Space**



Ensure the values in the table below for the insulation space according to the conditions given in the respective drawings. For wiring, take into consideration various situations that may arise in actual use conditions and provide bare conductors with taping or insulation barriers for the ranges of dimensions shown in the table below.
Insulation outside the arc space may need reinforcement depending on the use conditions.

[Unit: mm]

Basic designation		Ceiling distance	Vertical distance	Side plate distance	Front plate distance
MCCB	ELCB	A	B	C	F
BW32	**EW32**	10	20	10	0
BW50	**EW50**				
BW63	**EW63**				
		Figure 1, 2, 3	Figure 4, 5, 6	Figure 7	Figure 8

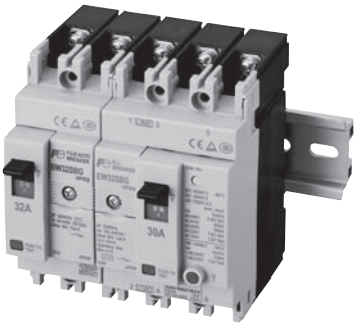
Mounting and connection

■ IEC 35 mm Rail Mounting

Mounting on IEC 35 mm rails is possible as standard.

Main unit applicable type (basic designation)	
MCCB	ELCB
BW32 **BW50** **BW63**	**EW32** **EW50** **EW63**

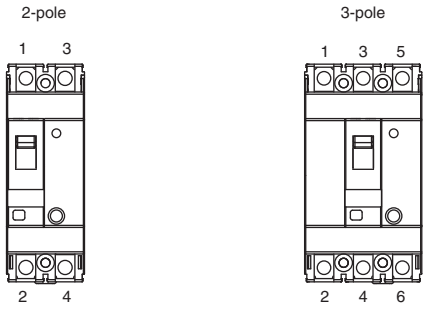
Note 1: Mounting pitch for rail fixing screws of within 250 mm is recommended.
Note 2: Applicable rails: TH35-7.5, TH35-7.5AL and TH35-15AL. (Types of Fuji Electric FA Components & Systems products)
* Main unit mounting screws are not included. When necessary, use commercially-available screws (recommended size: M4 x 60).



Note: For vertical mounting, use holding brackets (type LT9E-T1 provided by Fuji Electric Technica Co., Ltd.).

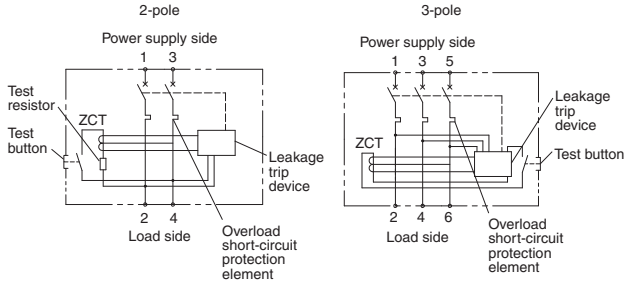
■ Terminal Number

● ELCB terminal number



■ Internal Wiring Diagram

● ELCB internal wiring diagram



■ Internal Resistance and Power Consumption

● MCCB

AF	Type	Rated current [A]	Internal resistance (mΩ) (for one phase)	Power consumption (W) (for three phases)
32AF 50AF	**BW32SBG** **BW50EBG** **BW50SBG** **BW50RBGU**	3	116.0	3.1
		5	50.5	3.8
		10	13.8	4.1
		15	6.5	4.4
		20	4.1	5.2
		30	2.8	7.6
		32	2.8	8.6
50AF	**BW50EBG** **BW50SBG** **BW50RBGU**	40	1.7	8.2
		50	1.5	11.3
63AF	**BW63EBG** **BW63SBG**	60	1.1	11.9
		63	1.1	13.1

● ELCB

AF	Type	Rated current [A]	Internal resistance (mΩ) (for one phase)	Power consumption (W) (for three phases)
32AF 50AF	**EW32SBG** **EW50EBG** **EW50SBG** **EW50RBGU**	5	50.5	3.8
		10	13.8	4.1
		15	6.5	4.4
		20	4.1	5.2
		30	2.8	7.6
		32	2.8	8.6
50AF	**EW50EBG** **EW50SBG** **EW50RBGU**	40	1.9	9.1
		50	1.7	12.8
63AF	**EW63EBG** **EW63SBG**	60	1.3	14.0
		63	1.3	15.5

■ Internal Accessories

(1)-1 Variation of internal accessories (MCCB)

Auxiliary switch

Switch that electrically indicates the ON/OFF state of MCCB/ELCB.

Type symbol : W	See page: 27

Alarm switch

Switch that electrically indicates the trip state of MCCB/ELCB.

Type symbol : K	See page : 27

Shunt trip device

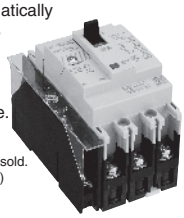
Device that electrically trips MCCB/ELCB from a remote place.

Type symbol : F	See page : 27

Undervoltage trip device

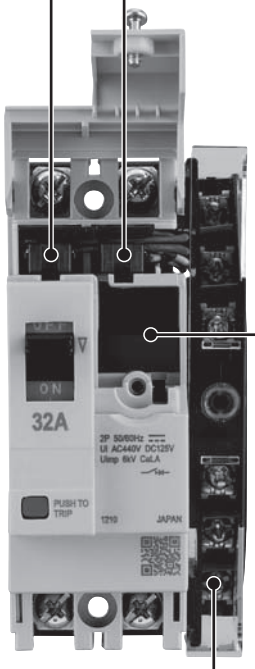
Device that automatically trips MCCB/ELCB when the circuit voltage has decreased below the specified value.
(Externally mounted)

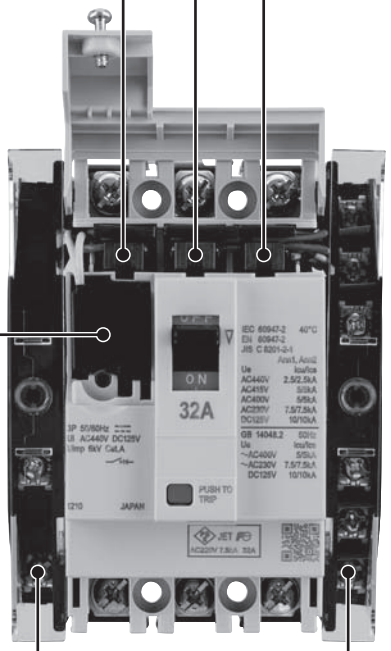
Note 1. Not separately sold. (Factory mounting only)



Type symbol : R	See page : 27

2-pole product





3-pole product

Lead wire terminal block

Provides wiring terminals for connection with internal accessories.

Type symbol : A	See page : 32, 35

(1)-2 Variation of internal accessories (ELCB)

Auxiliary switch

Switch that electrically indicates the ON/OFF state of MCCB/ELCB.

Type symbol : W	See page : 27

Alarm switch

Switch that electrically indicates the trip state of MCCB/ELCB.

Type symbol : K	See page : 27

Shunt trip device

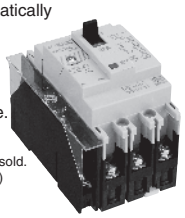
Device that electrically trips MCCB/ELCB from a remote place.

Type symbol : F	See page : 27

Undervoltage trip device

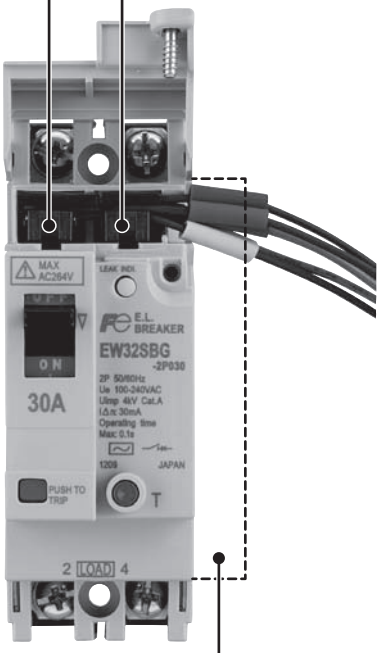
Device that automatically trips MCCB/ELCB when the circuit voltage has decreased below the specified value.
(Externally mounted)

Note 1. Not separately sold. (Factory mounting only)

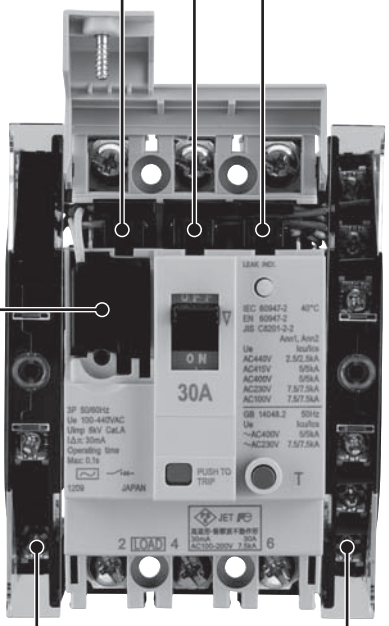


Type symbol : R	See page : 27

2-pole product



3-pole product



Lead wire terminal block

Provides wiring terminals for connection with internal accessories.

Type symbol : A	See page : 38, 41

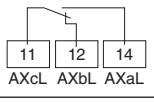
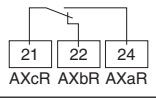
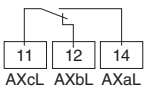
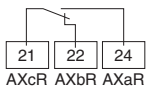
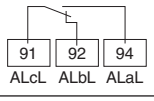
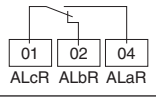
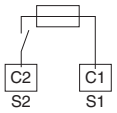
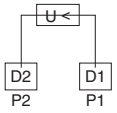
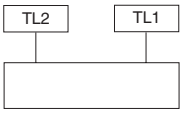
Trip lead

Device that remotely trips ELCB with a contact signal.

Type symbol : T	See page : 19

(2) Types and terminal numbers of internal accessories

The following describes the types and terminal numbers of internal accessories.

Type		Terminal number		Remarks
		Left side mounting	Right side mounting	
Auxiliary switch Standard: W, V Low level circuit: 1, 2	For one switch (W) (1)			For the rated operational voltage and current, see page 27. For details of mounting positions, see the List of internal accessory combinations on pages 21 to 26.
	For two switches (V) (2)			
Alarm switch Standard: K Low level circuit: 8	For one switch (K) (8)			
Shunt trip device: F	With burn-out preventive contact (standard)			For the operating voltage, see page 27.
Undervoltage trip device				For the operating voltage, see page 27.
Trip lead: T (For ELB only) Note: Cannot be specified for global products.				Do not apply voltage on the terminal block because the main circuit voltage is output. Select a switch to be connected that is capable of switching the main circuit voltage of the ELB without any problem and withstands a current of up to 1 A. Do not share the switch of the trip lead with other ELB. It may cause a fire due to a short circuit. When extending the trip lead, ensure that the length is within 3 m. Failure to observe this instruction may lead to unwanted operation.

(3) Combinations of internal accessories

● List of internal accessory combinations

Type			MCCB				ELCB							
Main unit applicable type			**BW32SBG BW50EBG BW50SBG BW63EBG BW63SBG BW50RBGU**				**EW32SBG EW50EBG EW50SBG EW63EBG EW63SBG**				**EW50RBGU**			
Number of poles			2P		3P		2P		3P		2P		3P	
Terminal connection			Lead wire	Terminal block	Lead wire	Terminal block	Lead wire	Terminal block	Lead wire	Terminal block	Lead wire	Terminal block	Lead wire	Terminal block
Accessory type	Auxiliary switch x1	W (1)	○	○	○	○	○	○	○	○	○	○	○	○
	Auxiliary switches x2	V (2)	—	—	○	○	—	—	○	○	—	—	○	○
	Alarm switch x1	K (8)	○	○	○	○	○	○	○	○	○	○	○	○
	Shunt trip device	F	○ *1	○ *1	○	○	—	—	○	○	—	—	○	○
	Undervoltage trip device	R	—	—	—	○ *1	—	—	—	○ *1	—	—	—	○ *1
	Trip lead	T	—	—	—	—	—	○ *1	—	○ *1	—	—	—	—
	Combination	W+K	○	○	○	○	○	○	○	○	○	○	○	○
		W+F	—	—	○	○	—	—	○	○	—	—	○	○
		W+R	—	—	○ *2	○ *1	—	—	○ *2	○ *1	—	—	○ *2	○ *1
		W+T	—	—	—	—	—	—	○ *2	○ *1	—	—	—	—
		V+K	—	—	○	○	—	—	○	○	—	—	○	○
		K+F	—	—	○	○	—	—	○	○	—	—	○	○
		K+R	—	—	○ *2	○ *1	—	—	○ *2	○ *1	—	—	○ *2	○ *1
		K+T	—	—	—	—	—	—	○ *2	○ *1	—	—	—	—
		W+K+F	—	—	○	○	—	—	○	○	—	—	○	○
		W+K+R	—	—	○ *2	○ *1	—	—	○ *2	○ *1	—	—	○ *2	○ *1
		W+K+T	—	—	—	—	—	—	○ *2	○ *1	—	—	—	—

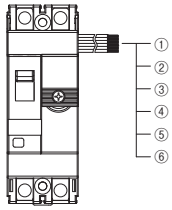
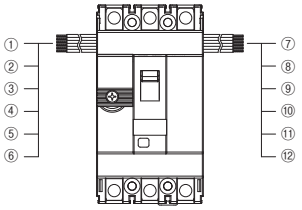
Note *1: Factory mounting only (to be specified in the order).
Note *2: Factory mounting only; W/K for lead wire connection and R/T for terminal block connection (to be specified in the order).

● **One-touch mounting internal accessories (separately sold)**

Type	Terminal connection	Lead wire pull-out direction	Type	Voltage rating	Mountability			
					MCCB		ELCB	
					2P	3P	2P	3P
Auxiliary switch (standard type)	Lead wire type	Left side	**BW9W1SB1**		–	○	–	○
		Right side	**BW9W1SB1-R**		○	○	○	○
Auxiliary switch (low level circuit)		Left side	**BW9W1DB1**		–	○	–	○
		Right side	**BW9W1DB1-R**		○	○	○	○
Alarm switch (standard type)		Left side	**BW9K1SB1**		–	○	–	○
		Right side	**BW9K1SB1-R**		○	○	○	○
Alarm switch (low level circuit)		Left side	**BW9K1DB1**		–	○	–	○
		Right side	**BW9K1DB1-R**		○	○	○	○
Auxiliary/alarm switch (standard type)		Left side	**BW9WKSB1**		–	○	–	○
		Right side	**BW9WKSB1-R**		○	○	○	○
Auxiliary/alarm switch (low level circuit)		Left side	**BW9WKDB1**		–	○	–	○
		Right side	**BW9WKDB1-R**		○	○	○	○
Shunt trip device		Left side	**BW9FRB1**	AC/DC24V	–	○	–	○
			BW9F6B1	AC100-130V/DC100-110V				
			BW9FKB1	AC200-240V/DC200-220V				
			BW9FPB1	AC380-440V				
Auxiliary switch (standard type)	Terminal block type	Left side	**BW9W1SB1-A**		○	○	○	○
		Right side	**BW9W1SB1-RA**		–	○	–	○
Auxiliary switch (low level circuit)		Left side	**BW9W1DB1-A**		○	○	○	○
		Right side	**BW9W1DB1-RA**		–	○	–	○
Alarm switch (standard type)		Left side	**BW9K1SB1-A**		○	○	○	○
		Right side	**BW9K1SB1-RA**		–	○	–	○
Alarm switch (low level circuit)		Left side	**BW9K1DB1-A**		○	○	○	○
		Right side	**BW9K1DB1-RA**		–	○	–	○
Auxiliary/alarm switch (standard type)		Left side	**BW9WKSB1-A**		○	○	○	○
		Right side	**BW9WKSB1-RA**		–	○	–	○
Auxiliary/alarm switch (low level circuit)		Left side	**BW9WKDB1-A**		○	○	○	○
		Right side	**BW9WKDB1-RA**		–	○	–	○
Shunt trip device		Left side	**BW9FRB1-A**	AC/DC24V	–	○	–	○
			BW9F6B1-A	AC100-130V/DC100-110V				
			BW9FKB1-A	AC200-240V/DC200-220V				
			BW9FPB1-A	AC380-440V				

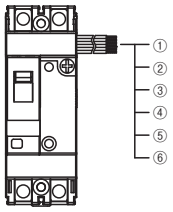
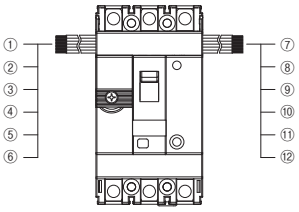
● **Details of combinations of internal accessories**

(a) Lead wire type (MCCB)

Lead wire type	MCCB (2P)				MCCB (3P)			
								
Type	**BW32SBG, BW50 □ BG, BW63 □ BG BW50RBGU**				**BW32SBG, BW50 □ BG, BW63 □ BG BW50RBGU**			
Accessory type	Left side		Right side		Left side		Right side	
	Position / Ring mark		Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch	Cannot be pulled out to the left side.		①	21/AXc : Yellow	①	11/AXc : White	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	24/AXa : Red	②	14/AXa : Brown		
			③	22/AXb : Blue	③	12/AXb : Green		
			—	—	—	—		
			—	—	—	—		
W(1)*			—	—	—	—		
Auxiliary switch x 2	Cannot be mounted.				①	11/AXc : White	⑦	21/AXc : Yellow
					②	14/AXa : Brown	⑧	24/AXa : Red
					③	12/AXb : Green	⑨	22/AXb : Blue
					—	—	—	—
					—	—	—	—
V(2)*					—	—	—	—
Alarm switch	Cannot be pulled out to the left side.		①	01/ALc : Yellow	①	91/ALc : White	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	04/ALa : Red	②	94/ALa : Brown		
			③	02/ALb : Blue	③	92/ALb : Green		
			—	—	—	—		
			—	—	—	—		
K(8)*			—	—	—	—		
Auxiliary switch + alarm switch	Cannot be pulled out to the left side.		①	01/ALc : Yellow	①	91/ALc : White	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	04/ALa : Red	②	94/ALa : Brown		
			③	02/ALb : Blue	③	92/ALb : Green		
			④	21/AXc : Yellow	④	11/AXc : White		
			⑤	24/AXa : Red	⑤	14/AXa : Brown		
W(1)* K(8)*			⑥	22/AXb : Blue	⑥	12/AXb : Green		
Auxiliary switch x 2 + alarm switch	Cannot be mounted.				①	91/ALc : White	⑦	21/AXc : Yellow
					②	94/ALa : Brown	⑧	24/AXa : Red
					③	92/ALb : Green	⑨	22/AXb : Blue
					④	11/AXc : White	—	—
					⑤	14/AXa : Brown	—	—
V(2)* K(8)*					⑥	12/AXb : Green	—	—
Shunt trip device	Cannot be pulled out to the left side.		①	C1/S1 : White	①	C1/S1 : White	—	—
			②	C2/S2 : White	②	C2/S2 : White	—	—
			—	—	—	—	—	—
			—	—	—	—	—	—
			—	—	—	—	—	—
F □			—	—	—	—	—	—
Auxiliary switch + shunt trip device	Cannot be mounted.				①	C1/S1 : White	⑦	21/AXc : Yellow
					②	C2/S2 : White	⑧	24/AXa : Red
					—	—	⑨	22/AXb : Blue
					—	—	—	—
					—	—	—	—
W(1)* F □					—	—	—	—
Alarm switch + shunt trip device	Cannot be mounted.				①	C1/S1 : White	⑦	01/ALc : Yellow
					②	C2/S2 : White	⑧	04/ALa : Red
					—	—	⑨	02/ALb : Blue
					—	—	—	—
					—	—	—	—
K(8)* F □					—	—	—	—
Auxiliary switch + alarm switch + shunt trip device	Cannot be mounted.				①	C1/S1 : White	⑦	01/ALc : Yellow
					②	C2/S2 : White	⑧	04/ALa : Red
					—	—	⑨	02/ALb : Blue
					—	—	⑩	21/AXc : Yellow
					—	—	⑪	24/AXa : Red
W(1)* K(8)* F □					—	—	⑫	22/AXb : Blue

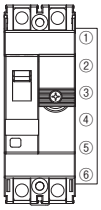
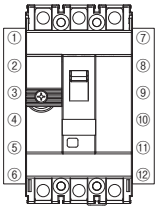
Note: * ( ) code of Low level circuit

(b) Lead wire type (ELCB)

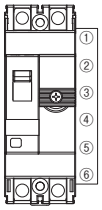
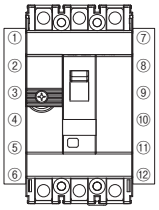
Lead wire type	ELCB (2P)				ELCB (3P)			
								
Type	**EW32SBG, EW50 □ BG, EW63 □ BG EW50RBGU**				**EW32SBG, EW50 □ BG, EW63 □ BG EW50RBGU**			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch	Cannot be pulled out to the left side.		①	21/AXc : Yellow	①	11/AXc : White	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	24/AXa : Red	②	14/AXa : Brown		
			③	22/AXb : Blue	③	12/AXb : Green		
			—	—	—	—		
			—	—	—	—		
W(1)*			—	—	—	—		
Auxiliary switch x 2	Cannot be mounted.				①	11/AXc : White	⑦	21/AXc : Yellow
					②	14/AXa : Brown	⑧	24/AXa : Red
					③	12/AXb : Green	⑨	22/AXb : Blue
					—	—	—	—
					—	—	—	—
V(2)*					—	—	—	—
Alarm switch	Cannot be pulled out to the left side.		①	01/ALc : Yellow	①	91/ALc : White	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	04/ALa : Red	②	94/ALa : Brown		
			③	02/ALb : Blue	③	92/ALb : Green		
			—	—	—	—		
			—	—	—	—		
K(8)*			—	—	—	—		
Auxiliary switch + alarm switch	Cannot be pulled out to the left side.		①	01/ALc : Yellow	①	91/ALc : White	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	04/ALa : Red	②	94/ALa : Brown		
			③	02/ALb : Blue	③	92/ALb : Green		
			④	21/AXc : Yellow	④	11/AXc : White		
			⑤	24/AXa : Red	⑤	14/AXa : Brown		
W(1)* K(8)*			⑥	22/AXb : Blue	⑥	12/AXb : Green		
Auxiliary switch x 2 + alarm switch	Cannot be mounted.				①	91/ALc : White	⑦	21/AXc : Yellow
					②	94/ALa : Brown	⑧	24/AXa : Red
					③	92/ALb : Green	⑨	22/AXb : Blue
					④	11/AXc : White	—	—
					⑤	14/AXa : Brown	—	—
V(2)* K(8)*					⑥	12/AXb : Green	—	—
Shunt trip device	Cannot be mounted.				①	C1/S1 : White	—	—
					②	C2/S2 : White	—	—
					—	—	—	—
					—	—	—	—
					—	—	—	—
F □					—	—	—	—
Auxiliary switch + shunt trip device	Cannot be mounted.				①	C1/S1 : White	⑦	21/AXc : Yellow
					②	C2/S2 : White	⑧	24/AXa : Red
					—	—	⑨	22/AXb : Blue
					—	—	—	—
					—	—	—	—
W(1)* F □					—	—	—	—
Alarm switch + shunt trip device	Cannot be mounted.				①	C1/S1 : White	⑦	01/ALc : Yellow
					②	C2/S2 : White	⑧	04/ALa : Red
					—	—	⑨	02/ALb : Blue
					—	—	—	—
					—	—	—	—
K(8)* F □					—	—	—	—
Auxiliary switch + alarm switch + shunt trip device	Cannot be mounted.				①	C1/S1 : White	⑦	01/ALc : Yellow
					②	C2/S2 : White	⑧	04/ALa : Red
					—	—	⑨	02/ALb : Blue
					—	—	⑩	21/AXc : Yellow
					—	—	⑪	24/AXa : Red
W(1)* K(8)* F □					—	—	⑫	22/AXb : Blue

Note: * ( ) code of Low level circuit

(c) Terminal block type (MCCB)

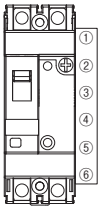
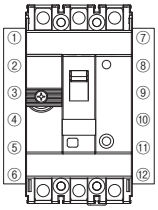
Lead wire type	MCCB (2P)				MCCB (3P)			
								
Type	**BW32SBG, BW50 □ BG, BW63 □ BG BW50RBGU**				**BW32SBG, BW50 □ BG, BW63 □ BG BW50RBGU**			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch	Cannot be mounted.		①	—	①	—	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	—	②	—		
			③	—	③	—		
			④	21/AXcR	④	11/AXcL		
			⑤	22/AXbR	⑤	12/AXbL		
W(1)* A			⑥	24/AXaR	⑥	14/AXaL		
Auxiliary switch x 2	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	11/AXcL	⑩	21/AXcR
					⑤	12/AXbL	⑪	22/AXbR
V(2)* A					⑥	14/AXaL	⑫	24/AXaR
Alarm switch	Cannot be mounted.		①	04/ALaR	①	94/ALaL	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	02/ALbR	②	92/ALbL		
			③	01/ALcR	③	91/ALcL		
			④	—	④	—		
			⑤	—	⑤	—		
K(8)* A			⑥	—	⑥	—		
Auxiliary switch + alarm switch	Cannot be mounted.		①	04/ALaR	①	94/ALaL	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	02/ALbR	②	92/ALbL		
			③	01/ALcR	③	91/ALcL		
			④	21/AXcR	④	11/AXcL		
			⑤	22/AXbR	⑤	12/AXbL		
W(1)* K(8)* A			⑥	24/AXaR	⑥	14/AXaL		
Auxiliary switch x 2 + alarm switch	Cannot be mounted.				①	94/ALaL	⑦	—
					②	92/ALbL	⑧	—
					③	91/ALcL	⑨	—
					④	11/AXcL	⑩	21/AXcR
					⑤	12/AXbL	⑪	22/AXbR
V(2)* K(8)* A					⑥	14/AXaL	⑫	24/AXaR
Shunt trip device	Cannot be mounted.		①	—	①	—	Cannot be mounted.	
			②	—	②	—		
			③	—	③	—		
			④	C2/S2	④	C2/S2		
			⑤	—	⑤	—		
F □ A			⑥	C1/S1	⑥	C1/S1		
Auxiliary switch + shunt trip device	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	C2/S2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* F □ A					⑥	C1/S1	⑫	24/AXaR
Alarm switch + shunt trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	C2/S2	⑩	—
					⑤	—	⑪	—
K(8)* F □ A					⑥	C1/S1	⑫	—

G-TWIN Series
Accessories

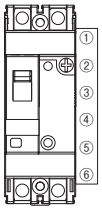
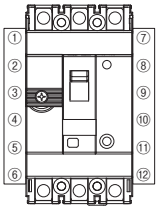
Lead wire type	MCCB (2P)				MCCB (3P)			
								
Type	**BW32SBG, BW50 □ BG, BW63 □ BG BW50RBGU**				**BW32SBG, BW50 □ BG, BW63 □ BG BW50RBGU**			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch + alarm switch + shunt trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	C2/S2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* K (8)* F □ A					⑥	C1/S1	⑫	24/AXaR
Undervoltage trip device	Cannot be mounted.				①	—	Cannot be mounted.	
					②	—		
					③	—		
					④	D2/P2		
					⑤	—		
R □					⑥	D1/P1		
Auxiliary switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	D2/P2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* R □ A					⑥	D1/P1	⑫	24/AXaR
Alarm switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	D2/P2	⑩	—
					⑤	—	⑪	—
K(8)* R □ A					⑥	D1/P1	⑫	—
Auxiliary switch + alarm switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	D2/P2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* K(8)* R □ A					⑥	D1/P1	⑫	24/AXaR

Note: * ( ) code of Low level circuit
Remarks
1) The undervoltage trip device is factory-mounted when the product is shipped. Specify in the order for the main unit.

(d) Terminal block type (ELCB)

Lead wire type	ELCB (2P)				ELCB (3P)			
								
Type	**EW32SBG, EW50 □ BG, EW63 □ BG EW50RBGU**				**EW32SBG, EW50 □ BG, EW63 □ BG EW50RBGU**			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch	Cannot be mounted.		①	—	①	—	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	—	②	—		
			③	—	③	—		
			④	21/AXcR	④	11/AXcL		
			⑤	22/AXbR	⑤	12/AXbL		
W(1)* A			⑥	24/AXaR	⑥	14/AXaL		
Auxiliary switch x 2	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	11/AXcL	⑩	21/AXcR
					⑤	12/AXbL	⑪	22/AXbR
V(2)* A					⑥	14/AXaL	⑫	24/AXaR
Alarm switch	Cannot be mounted.		①	04/ALaR	①	94/ALaL	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	02/ALbR	②	92/ALbL		
			③	01/ALcR	③	91/ALcL		
			④	—	④	—		
			⑤	—	⑤	—		
K(8)* A			⑥	—	⑥	—		
Auxiliary switch + alarm switch	Cannot be mounted.		①	04/ALaR	①	94/ALaL	Can be mounted on the right side as well by purchasing a separately sold product (for right-side mounting).	
			②	02/ALbR	②	92/ALbL		
			③	01/ALcR	③	91/ALcL		
			④	21/AXcR	④	11/AXcL		
			⑤	22/AXbR	⑤	12/AXbL		
W(1)* K(8)* A			⑥	24/AXaR	⑥	14/AXaL		
Auxiliary switch x 2 + alarm switch	Cannot be mounted.				①	94/ALaL	⑦	—
					②	92/ALbL	⑧	—
					③	91/ALcL	⑨	—
					④	11/AXcL	⑩	21/AXcR
					⑤	12/AXbL	⑪	22/AXbR
V(2)* K(8)* A					⑥	14/AXaL	⑫	24/AXaR
Shunt trip device	Cannot be mounted.				①	—	Cannot be mounted.	
					②	—		
					③	—		
					④	C2/S2		
					⑤	—		
F □ A					⑥	C1/S1		
Auxiliary switch + shunt trip device	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	C2/S2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* F □ A					⑥	C1/S1	⑫	24/AXaR
Auxiliary switch + shunt trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	C2/S2	⑩	—
					⑤	—	⑪	—
K(8)* F □ A					⑥	C1/S1	⑫	—
Auxiliary switch + alarm switch + shunt trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	C2/S2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* K(8)* F □ A					⑥	C1/S1	⑫	24/AXaR

Accessories

Lead wire type	ELCB (2P)				ELCB (3P)			
								
Type	**EW32SBG, EW50 □ BG, EW63 □ BG EW50RBGU**				**EW32SBG, EW50 □ BG, EW63 □ BG EW50RBGU**			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Undervoltage trip device	Cannot be mounted.				①	—	Cannot be mounted.	
					②	—		
					③	—		
					④	D2/P2		
					⑤	—		
R □					⑥	D1/P1		
Auxiliary switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	D2/P2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* R □ A					⑥	D1/P1	⑫	24/AXaR
Alarm switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	D2/P2	⑩	—
					⑤	—	⑪	—
K(8)* R □ A					⑥	D1/P1	⑫	—
Auxiliary switch + alarm switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	D2/P2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
W(1)* K(8)* R □ A					⑥	D1/P1	⑫	24/AXaR
Trip lead	Cannot be mounted.		①	TL1	Cannot be mounted.		⑦	TL1
			②	—			⑧	—
			③	TL2			⑨	TL2
			④	—			⑩	—
			⑤	—			⑪	—
T			⑥	—			⑫	—
Auxiliary switch + trip lead	Cannot be mounted.				①	—	⑦	TL1
					②	—	⑧	—
					③	—	⑨	TL2
					④	11/AXcL	⑩	—
					⑤	12/AXbL	⑪	—
W(1)* T A					⑥	14/AXaL	⑫	—
Alarm switch + trip lead	Cannot be mounted.				①	94/ALaL	⑦	TL1
					②	92/ALbL	⑧	—
					③	91/ALcL	⑨	TL2
					④	—	⑩	—
					⑤	—	⑪	—
K(8)* T A					⑥	—	⑫	—
Auxiliary switch + alarm switch + trip lead	Cannot be mounted.				①	94/ALaL	⑦	TL1
					②	92/ALbL	⑧	—
					③	91/ALcL	⑨	TL2
					④	11/AXcL	⑩	—
					⑤	12/AXbL	⑪	—
W(1)* K(8)* T A					⑥	14/AXaL	⑫	—

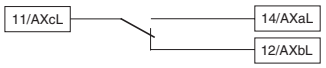
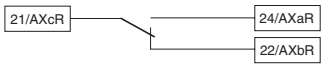
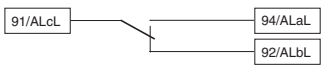
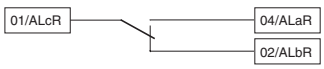
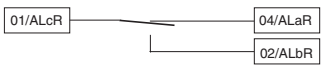
Note: * ( ) code of Low level circuit

Remarks

1) The undervoltage trip device is factory-mounted when the product is shipped. Specify in the order for the main unit.
2) The trip lead cannot be mounted on the global product (EW50RBGU).
3) The trip lead is factory-mounted when the product is shipped. Specify in the order for the main unit.

(4) Operations and ratings of auxiliary and alarm switches [IEC 60947-5-1, JIS C 8201-5-1]

(a) Operations of auxiliary and alarm switches

Type of switches		State of MCCB/ELCB		
		ON	OFF	Tripped
Auxiliary switch	For left side			
	For right side			
Alarm switch	For left side			
	For right side			

(b) Ratings of auxiliary and alarm switches

	IEC60947-5-1			Reference: NECA C4505		Minimum load
	Voltage [V]	Switching current [A]		Voltage [V]	Switching current [A]	
		AC15	DC13		Resistive load	
Standard type	125V AC	5	–	125V AC	5	5V DC 160mA 30V DC 30mA
	250V AC	5	–	250V AC	3	
	–	–	–	30V DC	4	
	125V DC	–	0.6	125V DC	0.4	
	250V DC	–	0.3	250V DC	0.2	
Microload	–	–	–	30V DC	0.1	5V DC 1mA

(5) Shunt trip device

● Ratings of shunt trip device

Main unit applicable type (basic designation)		Mounting position	AC		DC		Voltage rating	Product code	Time rating	Operating time [ms]
MCCB	ELCB		Voltage [V]	Input [VA]	Voltage [V]	Input [W]				
BW32 **BW50** **BW63**	**EW32** **EW50** **EW63**	Built-in	24	40	24	40	24V AC/DC	FR	Continuous (With burn-out preventive contact)	6-13
			100-130 (50/60Hz)	60	100-110	60	100-130V AC/ 100-110V DC	F6		
			200-240 (50/60Hz)	70	200-220	70	200-240V AC/ 200-220V DC	FK		
			380-440 (50/60Hz)	70	–	–	380-440V AC	FP		

Note 1: Specify the voltage rating in the order.
Note 2: The operating range of the trip voltage of the shunt trip device is 70 to 110% of the rated operating voltage.

(6) Undervoltage trip device

● Ratings of undervoltage trip device

Main unit applicable type (basic designation)		Mounting position	AC		DC		Voltage rating	Product code
MCCB	ELCB		Voltage [V]	Input [VA]	Voltage [V]	Input [W]		
BW32 **BW50** **BW63**	**EW32** **EW50** **EW63**	External	–	–	24	1	24V DC	RR
					100-110	2	100-110V DC	RL
			24	1	–	–	24V AC	RZ
			100-130	3	–	–	100-130V AC	R6
			200-240	5	–	–	200-240V AC	R4
			380-415	8	–	–	380-415V AC	RP
			400-440	9	–	–	400-440V AC	RO

Note 1: Specify the voltage rating in the order.
Note 2: The pick-up voltages of the undervoltage trip device are: Trip voltage: 70 to 35% of the rated voltage; voltage allowing closing operation: 85% to 110% of the rated voltage

(7) Accessory lead wire pull-out system

● Specifications of lead wire

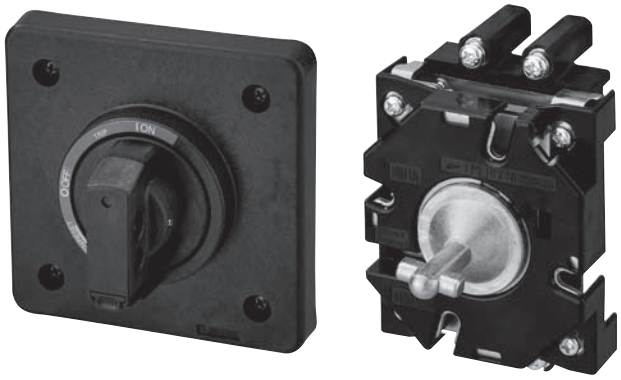
Type of lead wire	Size of lead wire	Length of lead wire	Indication on lead wire
32 to 63AF	0.4mm^2 (AWG22)	About 500mm	Each lead wire has a ring mark indicating a terminal symbol.

■ External Accessories

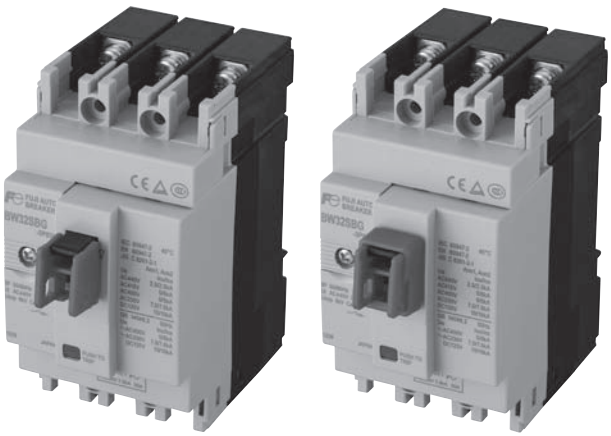
(1) Variation of external accessories

The following shows various external accessories.

External operating handle (N type)
Page 29



External operating handle (V type)
Page 29



Padlock-compatible type

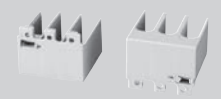
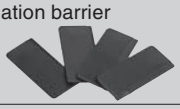
Handle locking cover (cap type: L1)
Page 29

Terminal cover (long type)
Page 29

Interphase barrier
Page 29

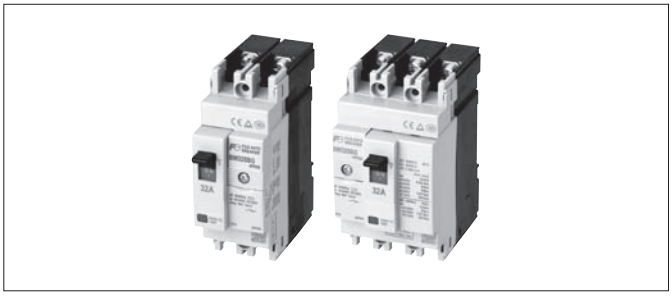
Terminal cover (short type)
Page 29

■ List of Separately Sold Parts

Product name	Specification		Type (i.e., product code)	Quantity/ type
Auxiliary switch 	Standard	Lead wire type left side pull-out	**BW9W1SB1**	1
		Lead wire type right side pull-out	**BW9W1SB1-R**	1
		Terminal block type left side mounting	**BW9W1SB1-A**	1
		Terminal block type right side mounting	**BW9W1SB1-RA**	1
	Low level circuit	Lead wire type left side pull-out	**BW9W1DB1**	1
		Lead wire type right side pull-out	**BW9W1DB1-R**	1
		Terminal block type left side mounting	**BW9W1DB1-A**	1
		Terminal block type right side mounting	**BW9W1DB1-RA**	1
Alarm switch 	Standard	Lead wire type left side pull-out	**BW9K1SB1**	1
		Lead wire type right side pull-out	**BW9K1SB1-R**	1
		Terminal block type left side mounting	**BW9K1SB1-A**	1
		Terminal block type right side mounting	**BW9K1SB1-RA**	1
	Low level circuit	Lead wire type left side pull-out	**BW9K1DB1**	1
		Lead wire type right side pull-out	**BW9K1DB1-R**	1
		Terminal block type left side mounting	**BW9K1DB1-A**	1
		Terminal block type right side mounting	**BW9K1DB1-RA**	1
Auxiliary/alarm switch 	Standard	Lead wire type left side pull-out	**BW9WKSB1**	1
		Lead wire type right side pull-out	**BW9WKSB1-R**	1
		Terminal block type left side mounting	**BW9WKSB1-A**	1
		Terminal block type right side mounting	**BW9WKSB1-RA**	1
	Low level circuit	Lead wire type left side pull-out	**BW9WKDB1**	1
		Lead wire type right side pull-out	**BW9WKDB1-R**	1
		Terminal block type left side mounting	**BW9WKDB1-A**	1
		Terminal block type right side mounting	**BW9WKDB1-RA**	1
Shunt trip device 	24V AC/DC	Lead wire type left side pull-out	**BW9FRB1**	1
	100-130V AC/100-110V DC		**BW9F6B1**	1
	200-240V AC/200-220V DC		**BW9FKB1**	1
	380-440V AC		**BW9FPB1**	1
	24V AC/DC	Terminal block type left side mounting	**BW9FRB1-A**	1
	100-130V AC/100-110V DC		**BW9F6B1-A**	1
	200-240V AC/200-220V DC		**BW9FKB1-A**	1
	380-440V AC		**BW9FPB1-A**	1
External operating handle 	V type (panel mounting)	RESET-open	**BW9V0BA**	1
		OFF-open	**BW9V0BA-G**	1
		RESET-open for emergency stop	**BW9V0BA-E**	1
		OFF-open for emergency stop	**BW9V0BA-EG**	1
	N type (main unit mounting)	RESET-open	**BW9N0BA**	1
		OFF-open	**BW9N0BA-G**	1
		RESET-open for emergency stop	**BW9N0BA-E**	1
		OFF-open for emergency stop	**BW9N0BA-EG**	1
Terminal cover  	Short type	Manually-detachable, 2-pole, transparent	**BW9BTBA-S2**	2
		Manually-detachable, 2-pole, light gray	**BW9BTBA-S2W**	2
		Manually-detachable, 3-pole, transparent	**BW9BTBA-S3**	2
		Manually-detachable, 3-pole, light gray	**BW9BTBA-S3W**	2
		Tool-detachable, 2-pole, transparent	**BW9BTBA-S2H**	2
		Tool-detachable, 2-pole, light gray	**BW9BTBA-S2WH**	2
		Tool-detachable, 3-pole, transparent	**BW9BTBA-S3H**	2
		Tool-detachable, 3-pole, light gray	**BW9BTBA-S3WH**	2
	Long type	Manually-detachable, 2-pole, transparent	**BW9BTBA-L2**	2
		Manually-detachable, 2-pole, light gray	**BW9BTBA-L2W**	2
		Manually-detachable, 3-pole, transparent	**BW9BTBA-L3**	2
		Manually-detachable, 3-pole, light gray	**BW9BTBA-L3W**	2
		Tool-detachable, 2-pole, transparent	**BW9BTBA-L2H**	2
		Tool-detachable, 2-pole, light gray	**BW9BTBA-L2WH**	2
		Tool-detachable, 3-pole, transparent	**BW9BTBA-L3H**	2
		Tool-detachable, 3-pole, light gray	**BW9BTBA-L3WH**	2
Insulation barrier 	Interphase barrier		**BW9BPBA**	4
Handle locking cover 	Cap type L1	–	**BW9L1BA**	1
		Padlock-compatible type	**BW9L1BA-P**	1
Handle key lock	Plate type Q2		**BW9Q2BA**	1

Note: See the internal accessory combinations (pages 19 to 26) to check mountability.

■ BW32, 50, 63 □ BG (Standard Product)



Basic type				BW32SBG		BW50EBG		BW50SBG	
Number of poles				2	3	2	3	2	3
Rated insulation voltage [V]			AC	440		440		440	
			DC	125		125		125	
Standard product	Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-1 Icu/Ics [kA]	AC	440V	2.5/2.5		2.5/2.5		7.5/4
				415V	5/5		5/5		10/5
				400V	5/5		5/5		10/5
				380V	5/5		5/5		10/5
				240V	7.5/7.5		7.5/7.5		15/15
				230V	7.5/7.5		7.5/7.5		15/15
			DC	125V	10/10		–/–		10/10
		GB14048.2 Icu/Ics [kA]	AC	400V	5/5		5/5		10/5
				230V	7.5/7.5		7.5/7.5		15/15
			DC	125V	10/10		–/–		10/10

Basic type				BW63EBG		BW63SBG	
Number of poles				2	3	2	3
Rated insulation voltage [V]			AC	440		440	
			DC	125		125	
Standard product	Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-1 Icu/Ics [kA]	AC	440V	2.5/2.5	7.5/4	
				415V	5/5	10/5	
				400V	5/5	10/5	
				380V	5/5	10/5	
				240V	7.5/7.5	15/15	
				230V	7.5/7.5	15/15	
			DC	125V	–/–	10/10	
		GB14048.2 Icu/Ics [kA]	AC	400V	5/5	10/5	
				230V	7.5/7.5	15/15	
			DC	125V	–/–	10/10	

● Optional accessories

Product name				Type symbol (i.e., symbol code)	See page:
Internal accessories	Auxiliary switch (lead wire type)	Standard	1	W	27
			2	V	27
		Low level circuit	1	1	27
			2	2	27
	Alarm switch (lead wire type)	Standard	1	K	27
		Low level circuit	1	8	27
	Shunt trip device (lead wire type)	24V AC/DC		FR	27
		100-130V AC/100-110V DC		F6	27
		200-240V AC/200-220V DC		FK	27
		380-440V AC		FP	27
	Lead wire terminal block		1	A	32
			2	A	32
	Undervoltage trip device (terminal block type only)	24V DC		RR	27
		100-110V DC		RL	27
		24V AC		RZ	27
		100-130V AC		R6	27
		200-240V AC		R4	27
		380-415V AC		RP	27
		400-440V AC		RO	27

● List of product ratings

Specification for □ : rated current (code)

Product	Basic type (i.e., product code)	Rated current [A]	Rated current Code for □
Line protection use (standard products)	**BW32SBG-2P**□	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		32	032
	BW32SBG-3P□	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		32	032
	BW50EBG-2P□	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		32	032
		40	040
		50	050
	BW50EBG-3P□	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		32	032
		40	040
		50	050
	BW50SBG-2P□	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		32	032
		40	040
		50	050
	BW50SBG-3P□	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		32	032
		40	040
		50	050
	BW63EBG-2P□	60	060
		63	063
	BW63EBG-3P□	60	060
		63	063
	BW63SBG-2P□	60	060
		63	063
	BW63SBG-3P□	60	060
		63	063

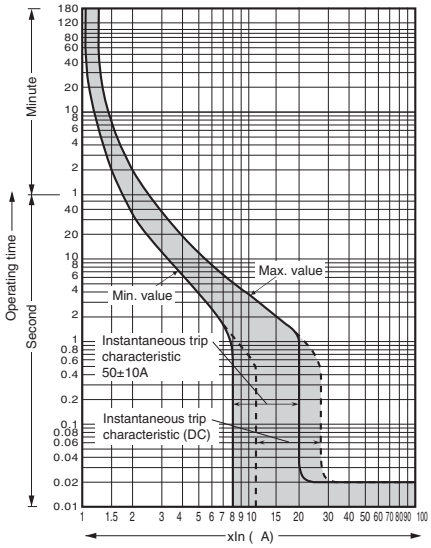
● Attached components

- Terminal screw 2P: 4 screws, 3P: 6 screws
- Interphase barrier 2P: 2 barriers, 3P: 4 barriers
  (provided for BW63EBG and BW63SBG only)
- Instruction Manual

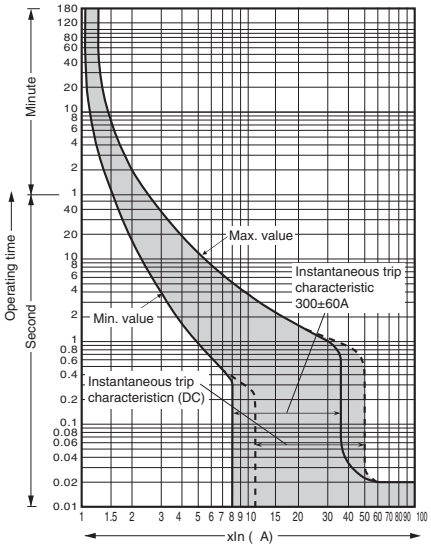
Note 1: Mounting screws are not included. When necessary, use commercially-available screws (recommended size: M4 x 60).

● Characteristic Curves

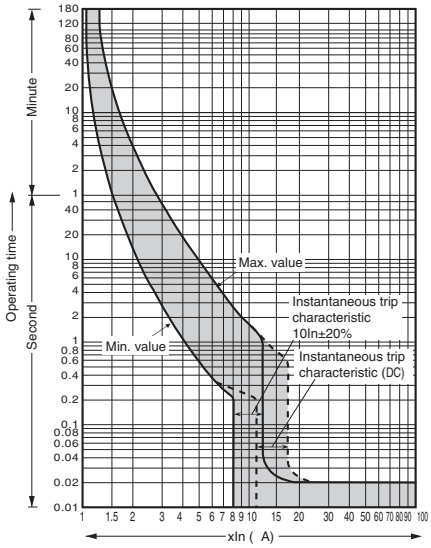
3A, 5A



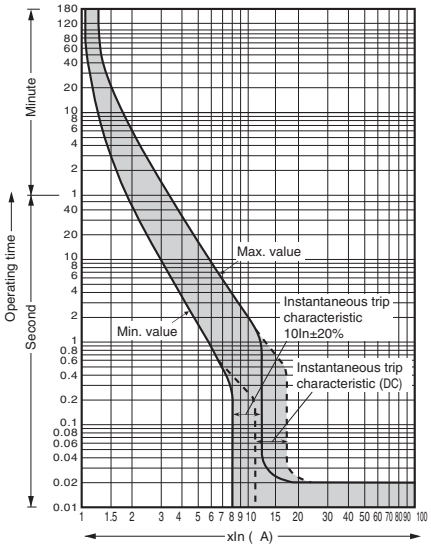
10 to 30A



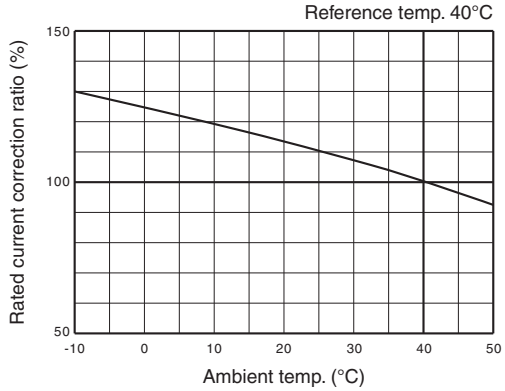
32 to 50A



60A, 63A



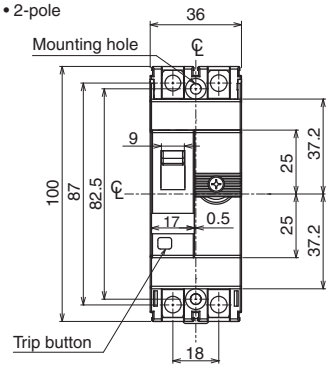
● Temperature correction curve



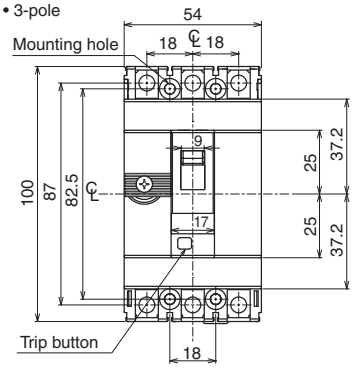
● Dimensions, mm

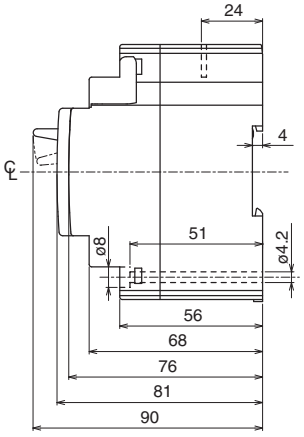
Front mounting type

• 2-pole

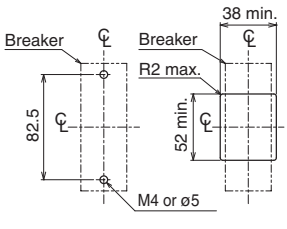


• 3-pole



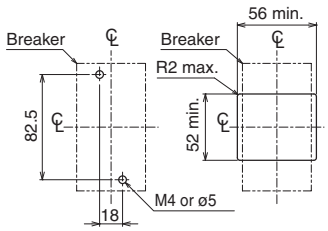


• 2-pole

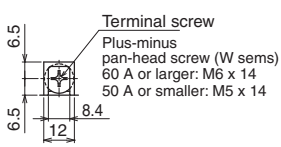


Panel drilling Front panel cutting

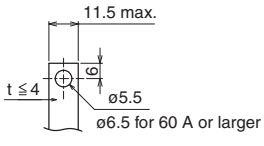
• 3-pole



Panel drilling Front panel cutting

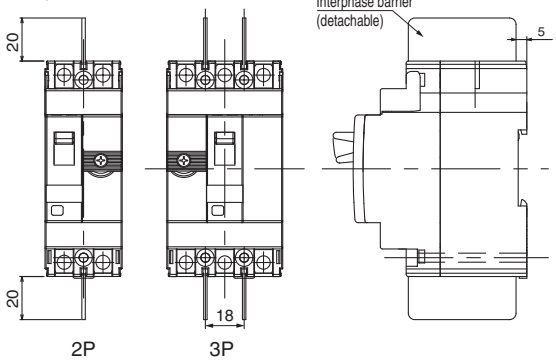


Terminal section detail



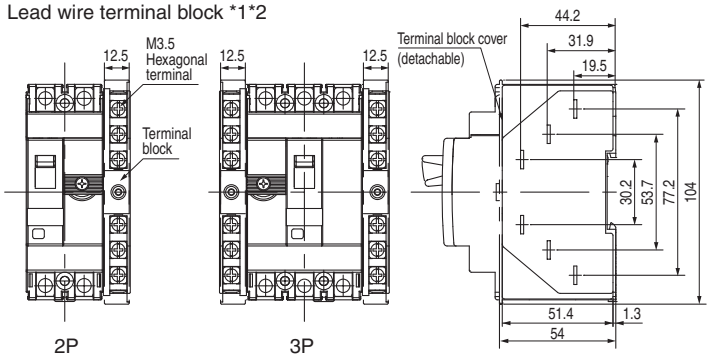
Processing of conductor directly mounted on main unit

Interphase barrier



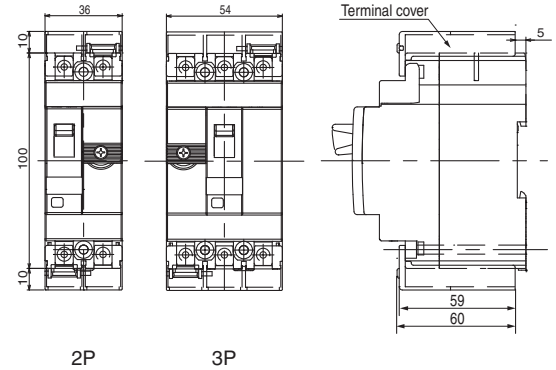
2P 3P

Lead wire terminal block *1*2



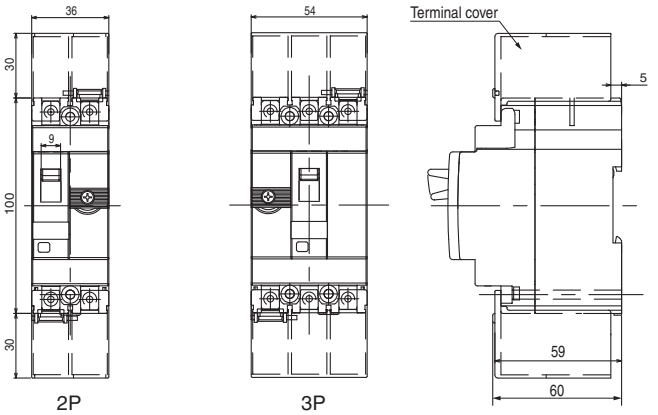
2P 3P

Terminal cover (short)



2P 3P

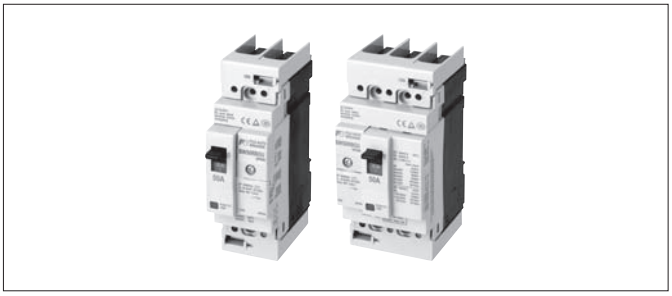
Terminal cover (long)



2P 3P

(Note *1) The terminal block is mounted on the accessory mounting side. For the accessory mounting positions, see the List of internal accessory combinations on pages 23 to 26.
(Note *2) Connectable wire: single wire: 1 to 1.6 ø, stranded wire: 0.5 to 2 mm²

■ BW50RBGU (Global Product)



Basic type				BW50RBGU	
Number of poles				2	3
Rated insulation voltage [V]			AC	440	
			DC	125	
Standard product	Rated breaking capacity	UL489 CAN/CSA C22.2 No.5 (kA)	AC 240V	18	
		IEC60947-2 EN60947-2 JISC8201-2-1 Icu/Ics (kA)	AC 440V	7.5/4	
			415V	10/5	
			400V	10/5	
			380V	10/5	
			240V	15/15	
			230V	15/15	
			DC 125V	10/10	
		GB14048.2 Icu/Ics (kA)	AC 400V	10/5	
			230V	15/15	
			DC 125V	10/10	

● Attached components

- Terminal cover 2
- Terminal screw 2P: 4 screws, 3P: 6 screws
- Instruction Manual

Note 1: Mounting screws are not included. When necessary, use commercially-available screws (recommended size: M4 x 60).

● Optional accessories

Product name				Type symbol (i.e., symbol code)	See page:
Internal accessories	Auxiliary switch (lead wire type)	Standard	1	W	27
			2	V	27
		Low level circuit	1	1	27
			2	2	27
	Alarm switch (lead wire type)	Standard	1	K	27
		Low level circuit	1	8	27
	Shunt trip device (lead wire type)	24V AC/DC		FR	27
		100-130V AC/100-110V DC		F6	27
		200-240V AC/200-220V DC		FK	27
		380-440V AC		FP	27
	Lead wire terminal block		1	A	35
			2	A	35
	Undervoltage trip device (terminal block type only)	24V DC		RR	27
		100-110V DC		RL	27
		24V AC		RZ	27
		100-130V AC		R6	27
		200-240V AC		R4	27
		380-415V AC		RP	27
		400-440V AC		RO	27

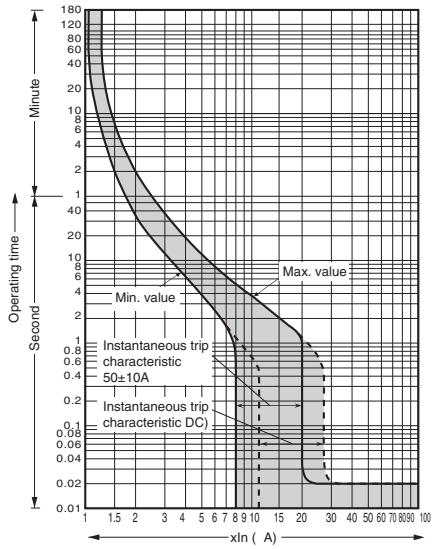
● List of product ratings

Specification for □ : Rated current (code)

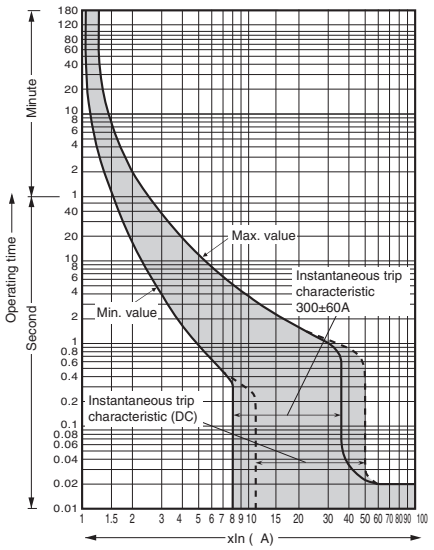
Product	Basic type	Rated current	
		[A]	Code for □
Line protection use (global product)	**BW50RBGU-2P□**	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		40	040
		50	050
	BW50RBGU-3P□	3	003
		5	005
		10	010
		15	015
		20	020
		30	030
		40	040
		50	050

● Characteristic Curves

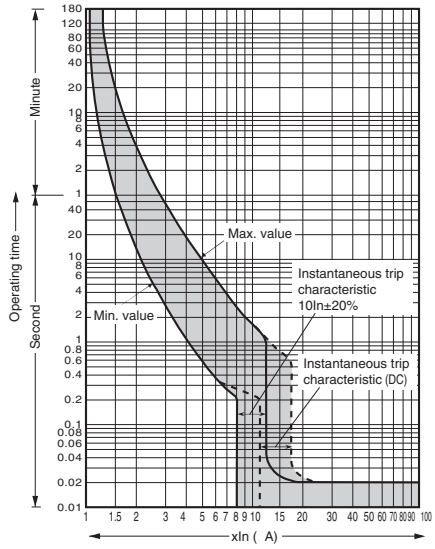
3A, 5A



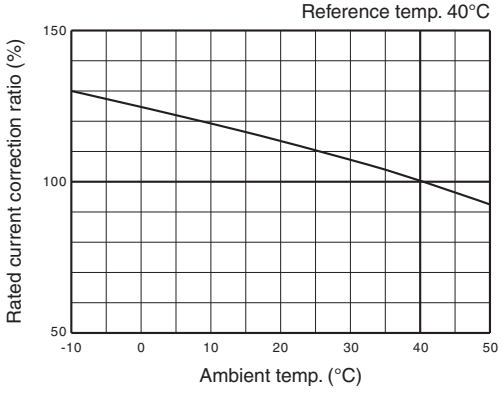
10 to 30A



40A, 50A



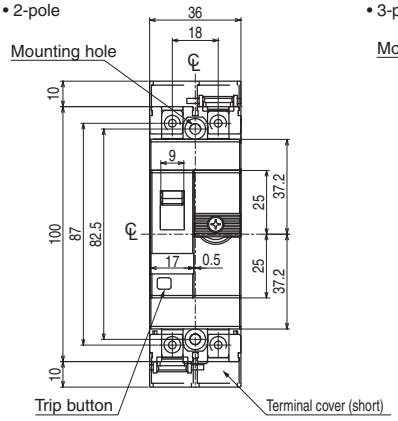
● Temperature correction curve



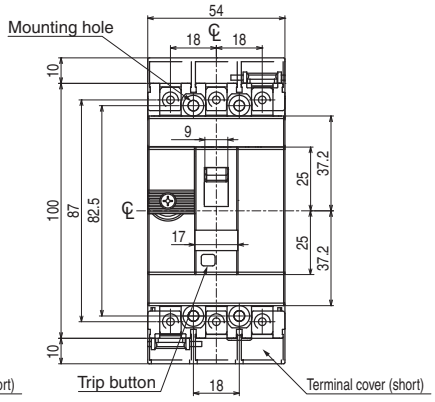
● Dimensions, mm

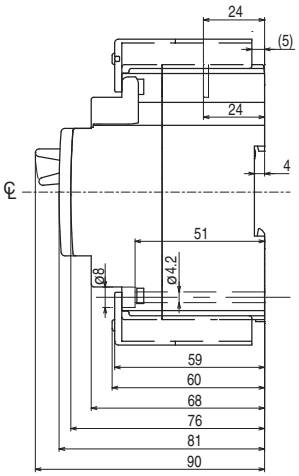
Front mounting type

• 2-pole

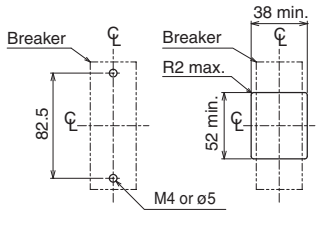


• 3-pole



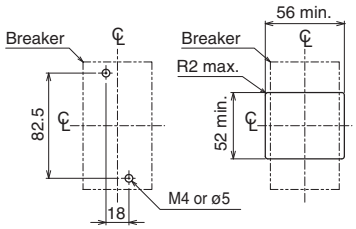


• 2-pole

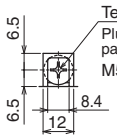


Panel drilling Front panel cutting

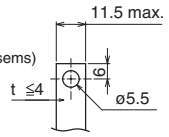
• 3-pole



Panel drilling Front panel cutting

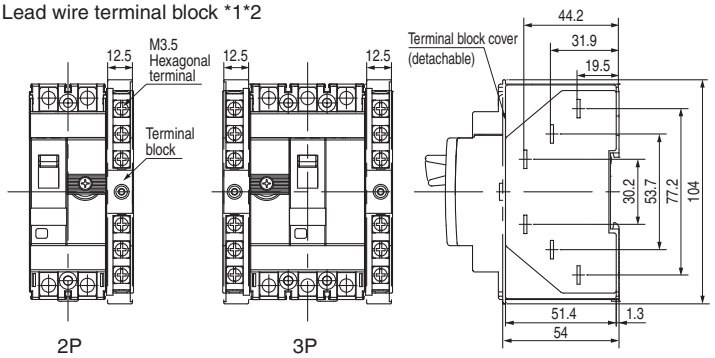


Terminal section detail



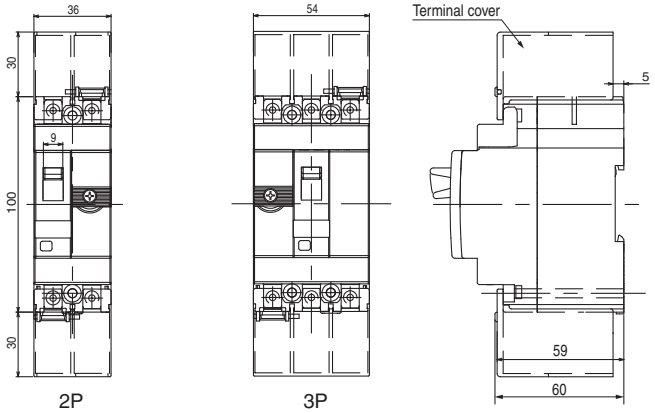
Processing of conductor directly mounted on main unit

Lead wire terminal block *1*2



2P 3P

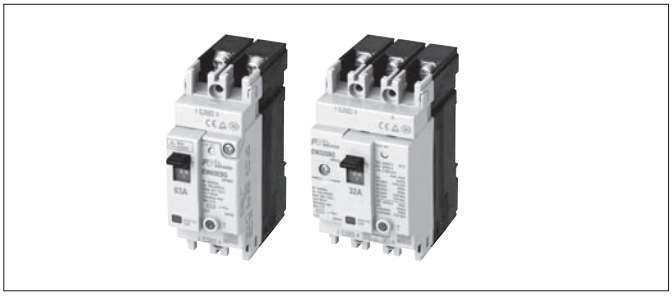
Terminal cover (long)



2P 3P

(Note *1) The terminal block is mounted on the accessory mounting side. For the accessory mounting positions, see the List of internal accessory combinations on pages 23 to 26.
(Note *2) Connectable wire: single wire: 1 to 1.6 ø, stranded wire: 0.5 to 2 mm²

■ EW32, 50, 63 □ BG (Standard Product)



Basic type					EW32SBG		EW50EBG		EW50SBG	
Number of poles					2	3	2	3	2	3
Rated operational voltage AC [V]					100-240	100-440	100-240	100-440	100-240	100-440
Rated sensitive current [mA]					30	30,100,200,500	30	30,100,200,500	30	30,100,200,500
Maximum operating time [s]					0.1		0.1		0.1	
Standard product	Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-2 Icu/Ics [kA]	AC	440V	–/–	2.5/2.5	–/–	2.5/2.5	–/–	7.5/4
				415V	–/–	5/5	–/–	5/5	–/–	10/5
				400V	–/–	5/5	–/–	5/5	–/–	10/5
				380V	–/–	5/5	–/–	5/5	–/–	10/5
				240V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	15/15	15/15
				230V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	15/15	15/15
				100V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	15/15	15/15
		GB14048.2 Icu/Ics [kA]	AC	400V	–/–	5/5	–/–	5/5	–/–	10/5
				230V	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	15/15	15/15

Basic type					EW63EBG		EW63SBG	
Number of poles					2	3	2	3
Rated operational voltage AC [V]					100-240	100-440	100-240	100-440
Rated sensitive current [mA]					30	30,100,200,500	30	30,100,200,500
Maximum operating time [s]					0.1		0.1	
Standard product	Rated breaking capacity	IEC60947-2 EN60947-2 JISC8201-2-2 Icu/Ics [kA]	AC	440V	–/–	2.5/2.5	–/–	7.5/4
				415V	–/–	5/5	–/–	10/5
				400V	–/–	5/5	–/–	10/5
				380V	–/–	5/5	–/–	10/5
				240V	7.5/7.5	7.5/7.5	15/15	15/15
				230V	7.5/7.5	7.5/7.5	15/15	15/15
				100V	7.5/7.5	7.5/7.5	15/15	15/15
		GB14048.2 Icu/Ics [kA]	AC	400V	–/–	5/5	–/–	10/5
				230V	7.5/7.5	7.5/7.5	15/15	15/15

● Optional accessories

Product name				Type symbol (i.e., symbol code)	See page:
Internal accessories	Auxiliary switch (lead wire type)	Standard	1	W	27
			2	V	27
		Low level circuit	1	1	27
			2	2	27
	Alarm switch (lead wire type)	Standard	1	K	27
		Low level circuit	1	8	27
	Shunt trip device (lead wire type)	24V AC/DC		FR	27
		100-130V AC/100-110V DC		F6	27
		200-240V AC/200-220V DC		FK	27
		380-440V AC		FP	27
	Lead wire terminal block		1	A	38
			2	A	38
	Undervoltage trip device (terminal block type only)	24V DC		RR	27
		100-110V DC		RL	27
		24V AC		RZ	27
		100-130V AC		R6	27
		200-240V AC		R4	27
		380-415V		RP	27
		AC400-440V		RO	27
	Trip lead (terminal block type only)			T	27

● List of product ratings

Specification for □ : Rated current (code)
Specification for ■ : Rated sensitive current (code)

Product	Basic type (i.e., product code)	Rated current		Rated sensitive current	
		[A]	Code for □	[mA]	Code for ■
Line protection use (standard products)	**EW32SBG-2P□■**	5	005	30	B
		10	010		
		15	015		
		20	020		
		30	030		
		32	032		
	EW32SBG-3P□■	5	005	30	B
		10	010	100	C
		15	015	200	E
		20	020	500	H
		30	030		
		32	032		
	EW50EBG-2P□■	5	005	30	B
		10	010		
		15	015		
		20	020		
		30	030		
		32	032		
		40	040		
		50	050		
	EW50EBG-3P□■	5	005	30	B
		10	010	100	C
		15	015	200	E
		20	020	500	H
		30	030		
		32	032		
		40	040		
		50	050		
	EW50SBG-2P□■	5	005	30	B
		10	010		
		15	015		
		20	020		
		30	030		
		32	032		
		40	040		
		50	050		
	EW50SBG-3P□■	5	005	30	B
		10	010	100	C
		15	015	200	E
		20	020	500	H
		30	030		
		32	032		
		40	040		
		50	050		
	EW63EBG-2P□■	60	060	30	B
		63	063		
	EW63EBG-3P□■	60	060	30	B
		63	063	100	C
				200	E
				500	H
	EW63SBG-2P□■	60	060	30	B
		63	063		
	EW63SBG-3P□■	60	060	30	B
		63	063	100	C
				200	E
				500	H

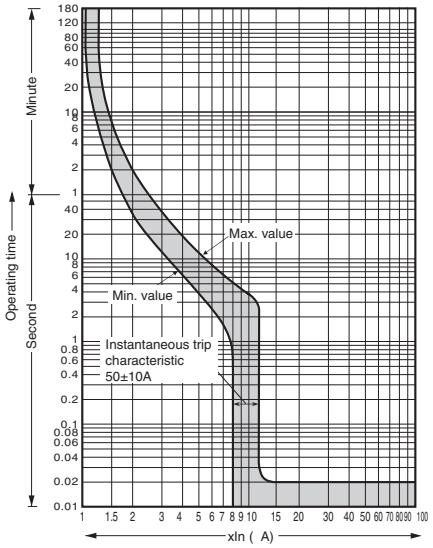
● Attached components

- Terminal screw 2P: 2 screws, 3P: 4 screws
- Interphase barrier 2P: 2 barriers, 3P: 4 barriers
  (provided for EW63EBG and EW63SBG only)
- Instruction Manual

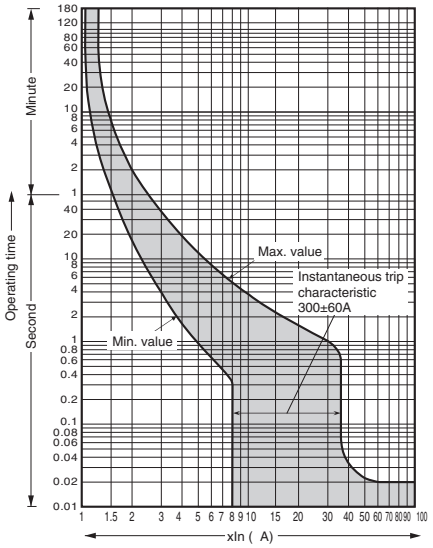
Note 1: Mounting screws are not included. When necessary, use commercially-available screws (recommended size: M4 x 60).

● Characteristic Curves

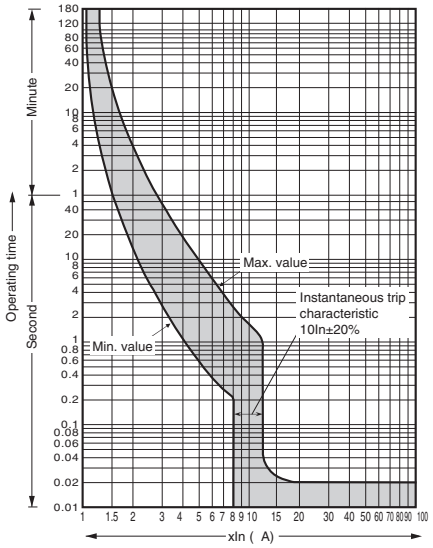
5A



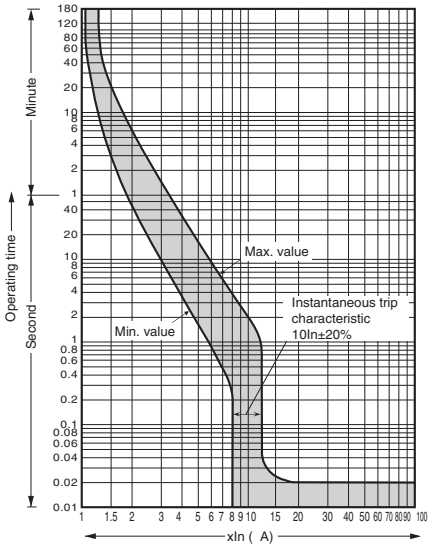
10 to 30A



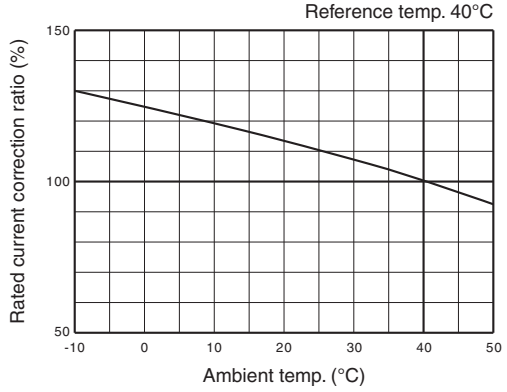
32 to 50A



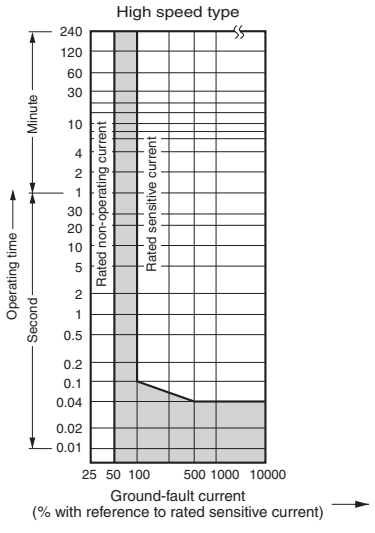
60A, 63A



● Temperature correction curve



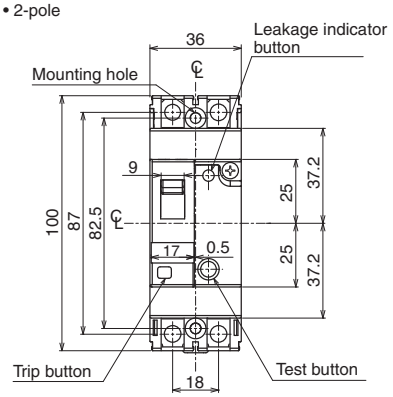
● Earth leakage tripping



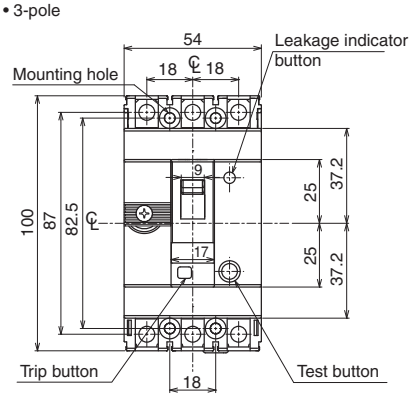
● Dimensions, mm

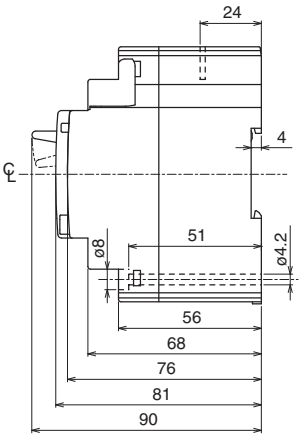
Front mounting type

• 2-pole

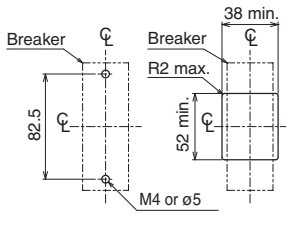


• 3-pole



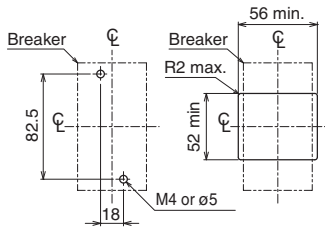


• 2-pole

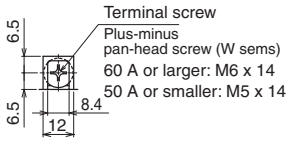


Panel drilling Front panel cutting

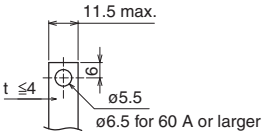
• 3-pole



Panel drilling Front panel cutting

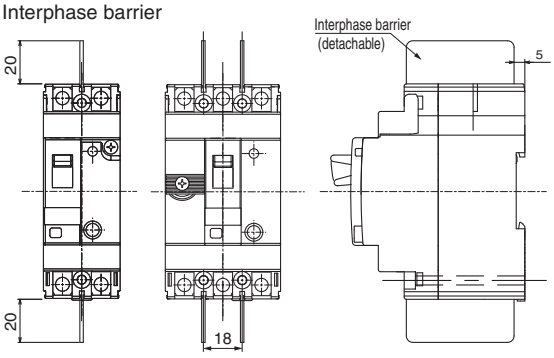


Terminal section detail



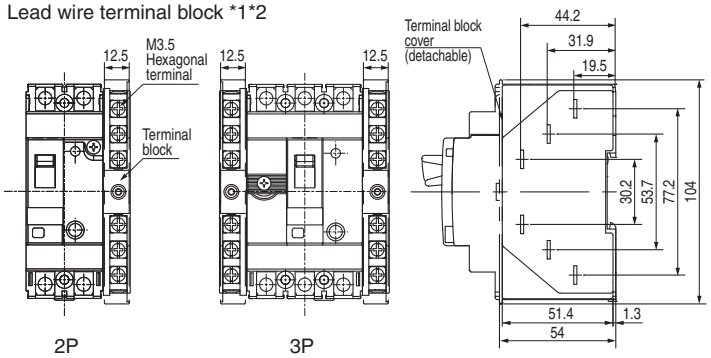
Processing of conductor directly mounted on main unit

Interphase barrier



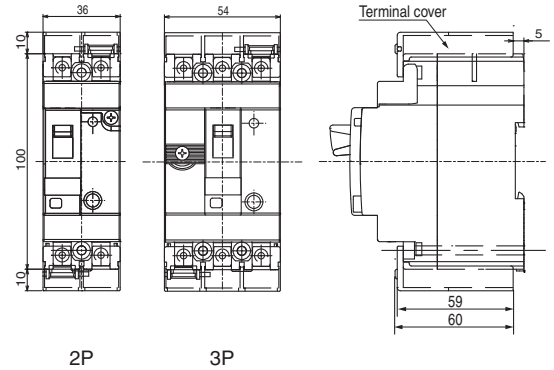
2P 3P

Lead wire terminal block *1*2



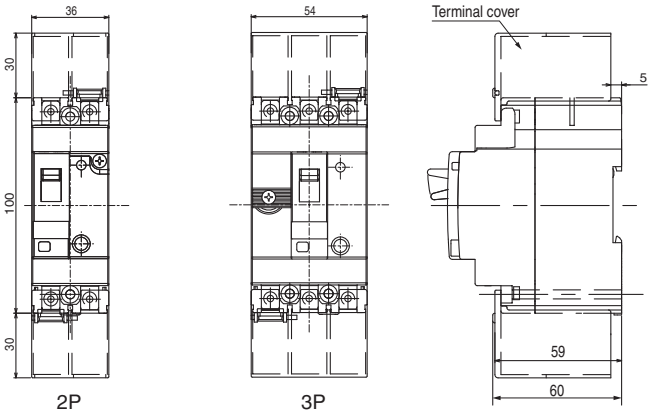
2P 3P

Terminal cover (short)



2P 3P

Terminal cover (long)



2P 3P

(Note *1) The terminal block is mounted on the accessory mounting side. For the accessory mounting positions, see the List of internal accessory combinations on pages 23 to 26.
(Note *2) Connectable wire: single wire: 1 to 1.6 ø, stranded wire: 0.5 to 2 mm²

■ EW50RBGU (Global Product)

Basic type					EW50RBGU	
Number of poles					2	3
Rated operational voltage AC [V]				IEC	100-240	100-440
				UL	240	240
Rated sensitive current [mA]					30	30, 50, 100, 200, 500
Maximum operating time [s]					0.1	
Global product	Rated breaking capacity	UL489 CAN/CSA C22.2 No.5 [kA]	AC	240V	18	18
		IEC60947-2 EN60947-2 JISC8201-2-2 Icu/Ics [kA]	AC	440V	–/–	7.5/4
				415V	–/–	10/5
				400V	–/–	10/5
				380V	–/–	10/5
				240V	15/15	15/15
				230V	15/15	15/15
				100V	15/15	15/15
		GB14048.2 Icu/Ics [kA]	AC	400V	–/–	10/5
				230V	15/15	15/15

● Attached components

- Terminal cover 2
- Terminal screw 2P: 4 screws, 3P: 6 screws
- Instruction Manual

● Optional accessories

Product name				Type symbol (i.e., symbol code)	See page:
Internal accessories	Auxiliary switch (lead wire type)	Standard	1	W	27
			2	V	27
		Low level circuit	1	1	27
			2	2	27
	Alarm switch (lead wire type)	Standard	1	K	27
		Low level circuit	1	8	27
	Shunt trip device (lead wire type)	24V AC/DC		FR	27
		100-130V AC/100-110V DC		F6	27
		200-240V AC/200-220V DC		FK	27
		380-440V AC		FP	27
	Lead wire terminal block		1	A	41
			2	A	41
	Undervoltage trip device (terminal block type only)	24V DC		RR	27
		100-110V DC		RL	27
		24V AC		RZ	27
		100-130V AC		R6	27
		200-240V AC		R4	27
		380-415V AC		RP	27
		400-440V AC		RO	27

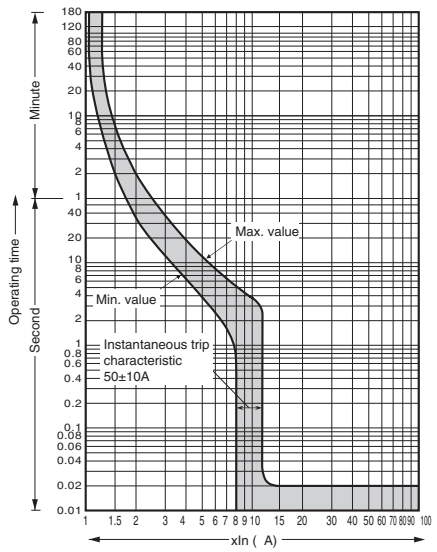
● List of product ratings

Specification for □ : Rated current (code)
Specification for ■ : Rated sensitive current (code)

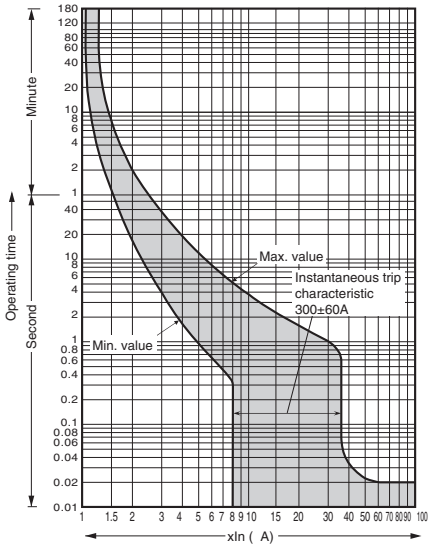
Product	Basic type	Rated current		Rated sensitive current	
		[A]	Code for □	[mA]	Code for ■
Line protection use (global product)	**EW50SBGU-2P□■**	5	005	30	B
		10	010		
		15	015		
		20	020		
		30	030		
		40	040		
		50	050		
	EW50SBGU-3P□■	5	005	30	B
		10	010	50	D
		15	015	100	C
		20	020	200	E
		30	030	500	H
		40	040		
		50	050		

● Characteristic Curves

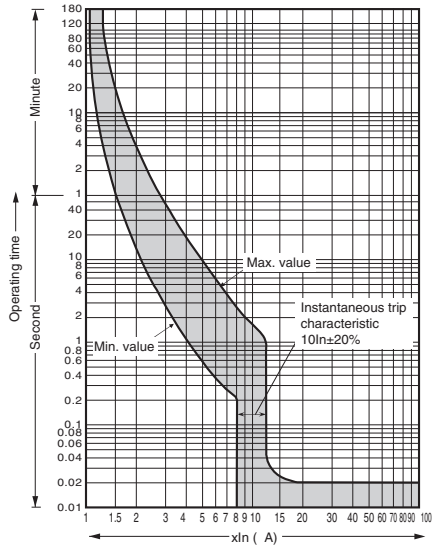
5A



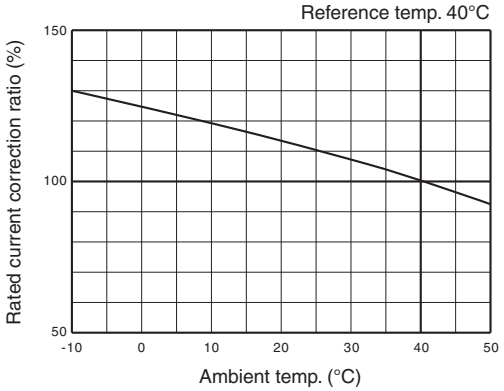
10 to 30A



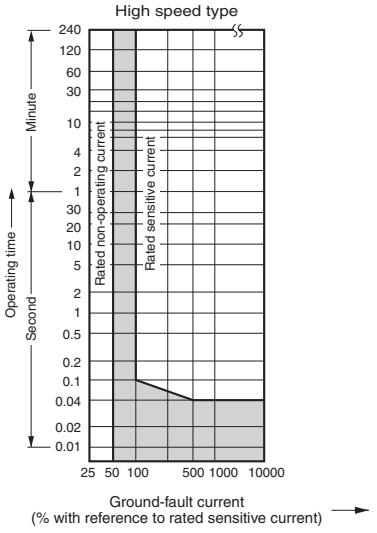
40A, 50A



● Temperature correction curve



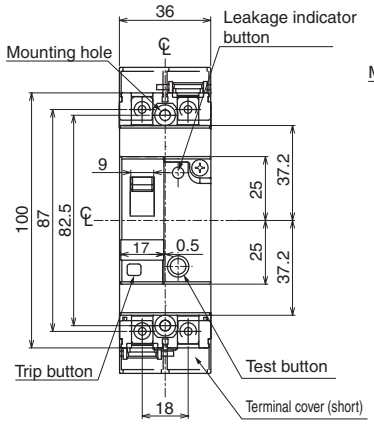
● Earth leakage tripping



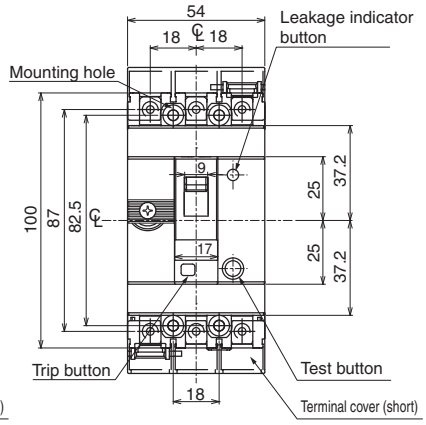
● Dimensions, mm

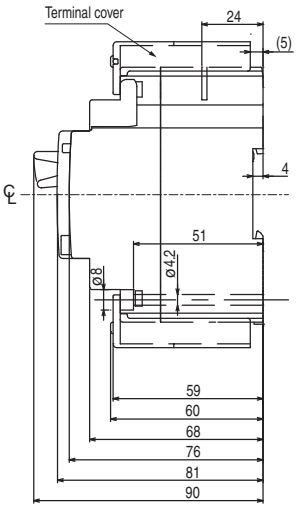
Front mounting type

• 2-pole

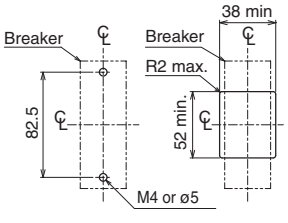


• 3-pole



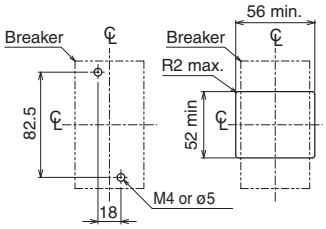


• 2-pole

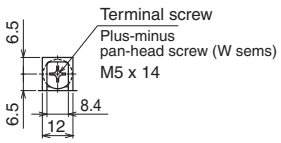


Panel drilling Front panel cutting

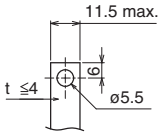
• 3-pole



Panel drilling Front panel cutting

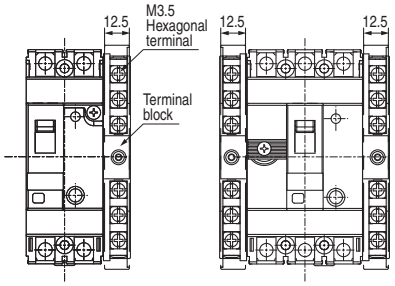


Terminal section detail

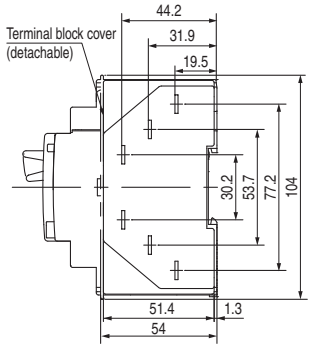


Processing of conductor directly mounted on main unit

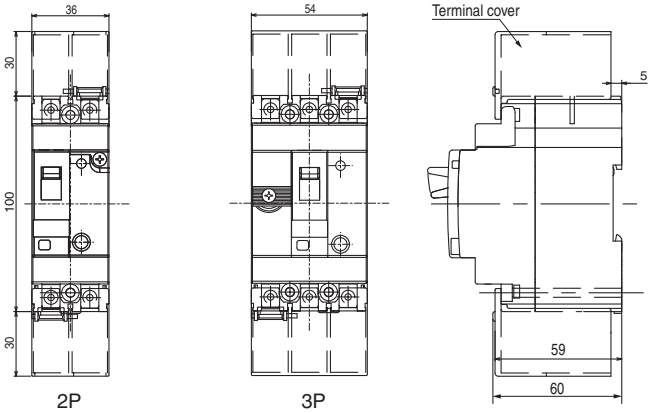
Lead wire terminal block *1*2



2P 3P



Terminal cover (long)



2P 3P

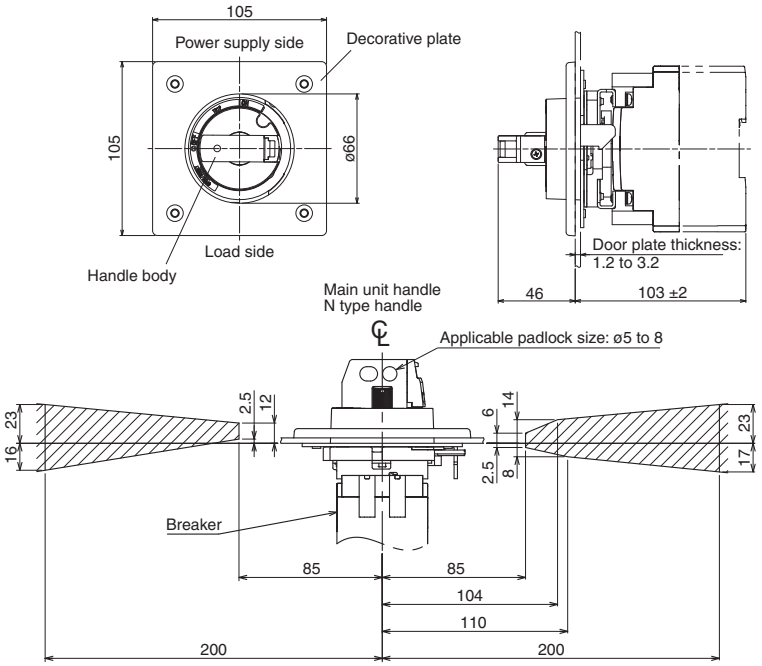
(Note *1) The terminal block is mounted on the accessory mounting side. For the accessory mounting positions, see the List of internal accessory combinations on pages 23 to 26.
(Note *2) Connectable wire: single wire: 1 to 1.6 ø, stranded wire: 0.5 to 2 mm²

■ External operating handle

● Dimensions, mm

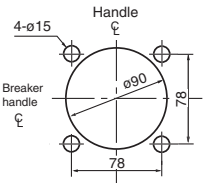
N type handle

BW9N0BA



Install the hinge in the shaded area.

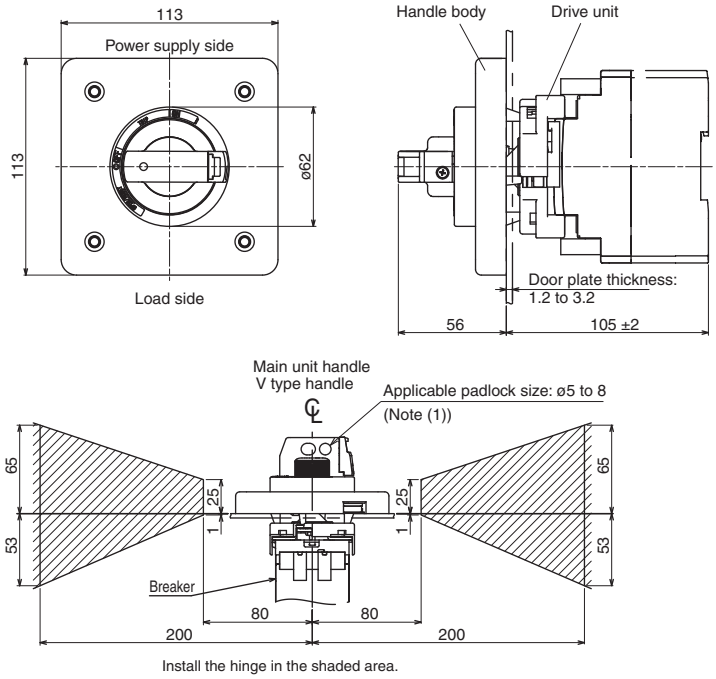
Door panel cutout



Note: Align the center of the panel cutout with the center of the handle of the breaker main unit.

V type handle

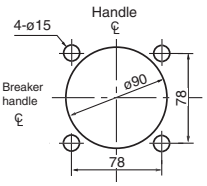
BW9V0BA



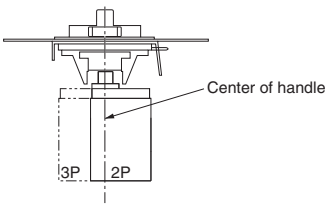
Install the hinge in the shaded area.

Note (1): Padlockable on the drive unit side when the door is open (applicable padlock size: ø5 to 6)

Door panel cutout



Note: Align the center of the panel cutout with the center of the handle of the breaker main unit.



⚠ 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.
- 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.

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