

α-TWIN Series **FUJI MCCB and ELCB**



The highest priority for the molded case circuit breakers (MCCBs) and earth leakage circuit breakers (ELCBs) employed in power distribution control systems is to provide sure, safe protection for connected equipment against short-circuits or earth leakage.

Fuji Electric has led the industry with the TWIN Breakers (30 to 800AF), same-size MCCBs and ELCBs. All of these breakers meet exacting demands for quality and performance.

Now, the lineup has been further enhanced with six major concepts – international standardization, utility, technical innovation, compactness, safety, and ecology – in the new α -TWIN series.

International Standardization

Ecology

Utility

Safety

Technical Innovation

Compactness

α -TWIN Series

Technical innovation in compact breakers – Standard models that fully conform to international standards

Safety

Techn

Compact

Ecology



Quality

Global Standardization

International Standardization

Conforming to international standards

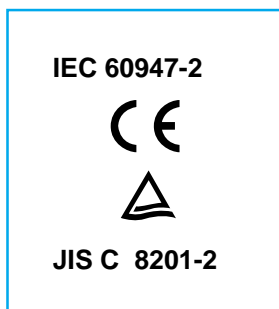
● Conforming to international standards comes as "standard equipment."

The α -TWIN series conforms to IEC and EN standards, and features UL and CSA approval.

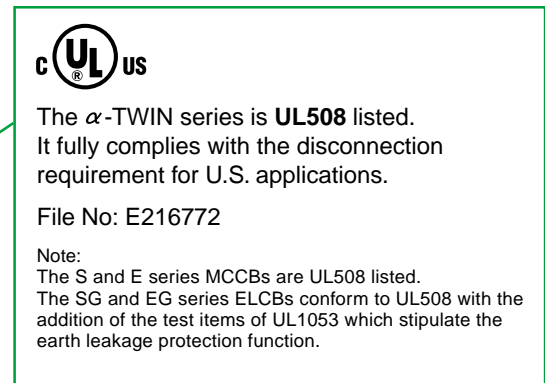


● Worldwide standards indication on standard models

Nameplate



Nameplate



Optional accessories will be approved by TÜV in April 2003.

● Circuit breaker stipulated by IEC standards

IEC 60947-2

Low-voltage switchgear and controlgear
Part 2: Circuit breaker

Conforms to IEC isolation function items

Isolation refers to the condition in which the handle will not indicate OFF, and OFF locking will not be possible simultaneously, in the event that the breaker's main contacts weld.

Rated ultimate short-circuit breaking capacity (I_{cu})
Interrupting duty: O-CO at rated voltage

Rated service short-circuit breaking capacity (I_{cs})
Interrupting duty: O-CO-CO at rated voltage

Technical Innovation

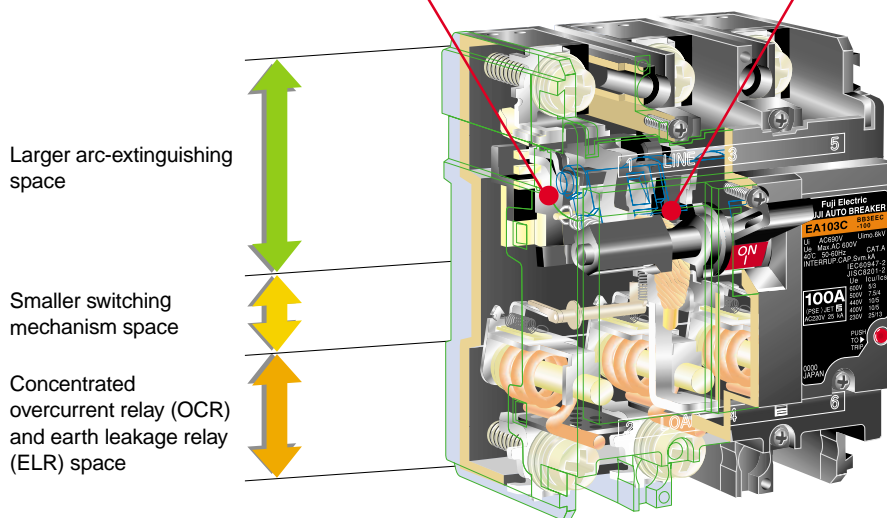
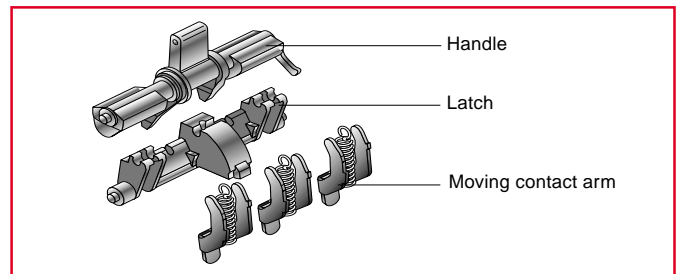
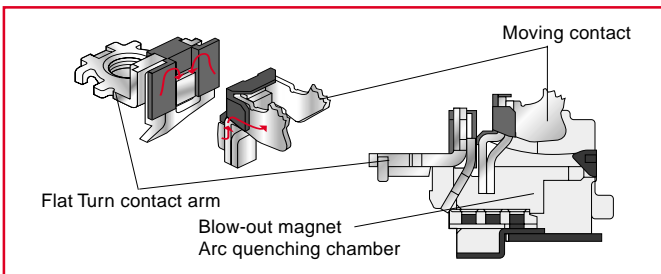
New-generation technologies increase compactness and performance.

- Unique operating mechanism and ideal, new-concept layout reduce size and raise performance in the α -TWIN series.

- Flat Turn contact arm and Direct-Drive switching mechanism

Development of a new molded link method has enabled a simple and compact mechanism, and expanded the arc-extinguishing space to further improve breaker performance.

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



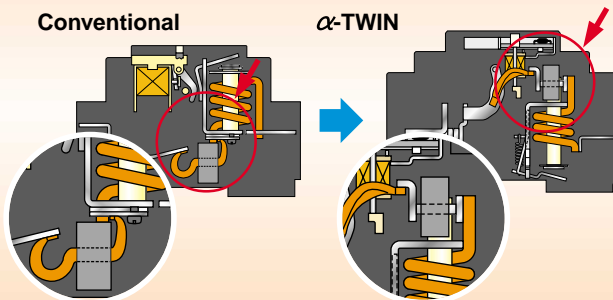
- ELCB functions

A new concept led to greater compactness through a more efficient arrangement of the earth leakage

detection section, overcurrent detection section, and breaker trip mechanism.

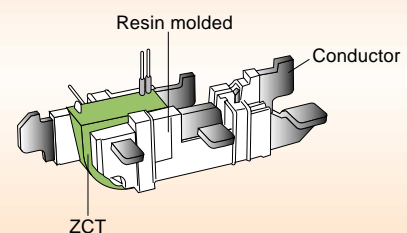
ELR unit with less wiring

A unit construction for the ELR and greater wiring efficiency has boosted connection reliability.



Solid-state insulation ZCT

Insulation has been strengthened by using resin to mold the main circuit conductor and ZCT into an integrated unit.



Compactness

Compact, modular units help to reduce panel design and manufacturing costs.

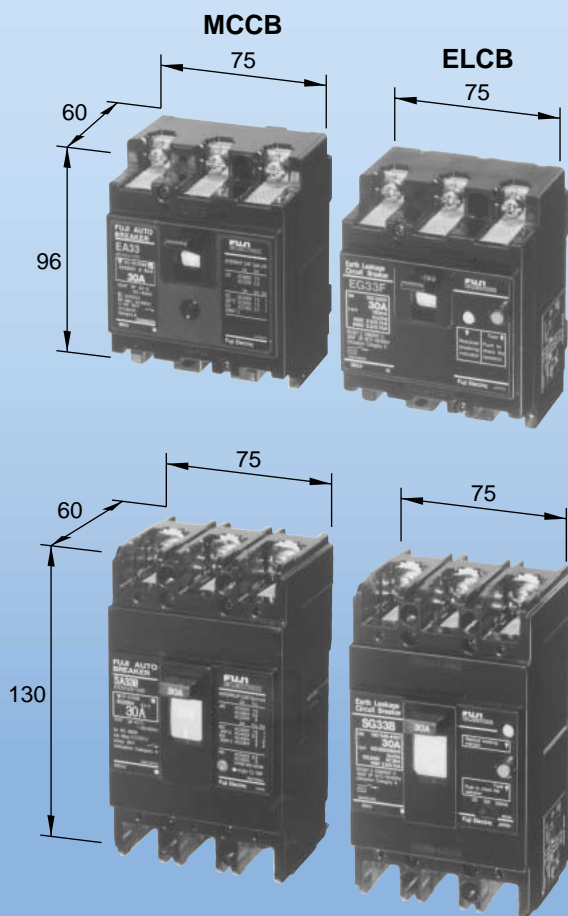
● Providing the advantages of compactness and unified, modular design for 30 to 100AF.

Both the economical 30 to 100AF E types and the standard 30 to 60AF S types have identical external dimensions, which contributes to standardization and cost reduction in panel design and manufacturing. Unification of the external dimensions enables flexible response to specification changes in the panel. Unification of the external and basic dimensions has expanded the range of models mountable on 35-mm wide rails.

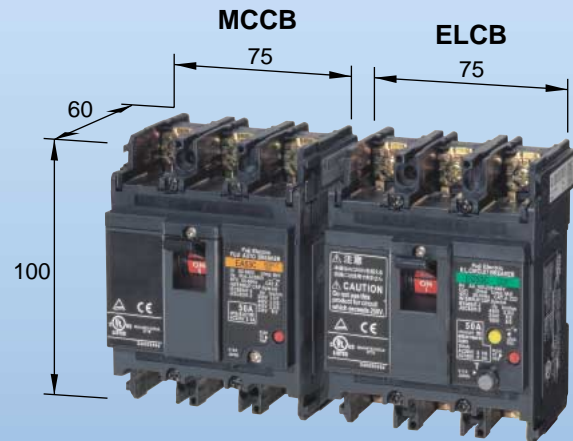


Unified modular design for 30 to 100AF

Conventional TWIN breakers



NEW α -TWIN breakers



Unit: mm
Photos and dimensions for 3-pole types

Utility

Customer-mountable – Adapts quickly to on-site production needs

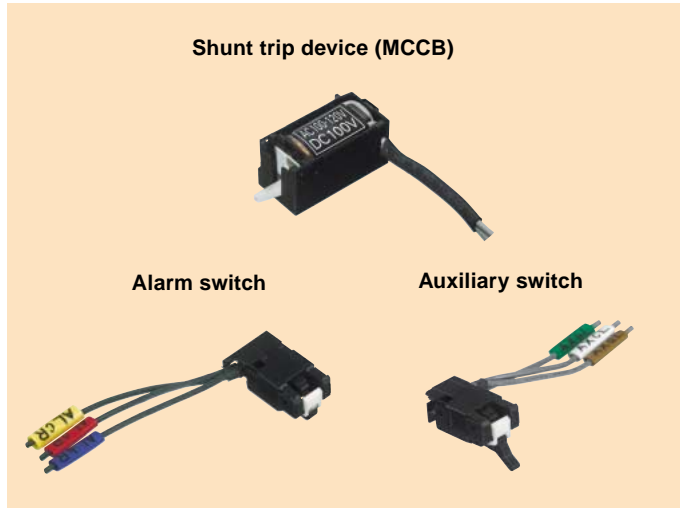
● A wider range of customer-mountable accessories

The range of cassette-type internal accessories has been greatly expanded for 30AF to 100AF MCCBs and ELCBs. This speeds up and simplifies customer response to specification changes.

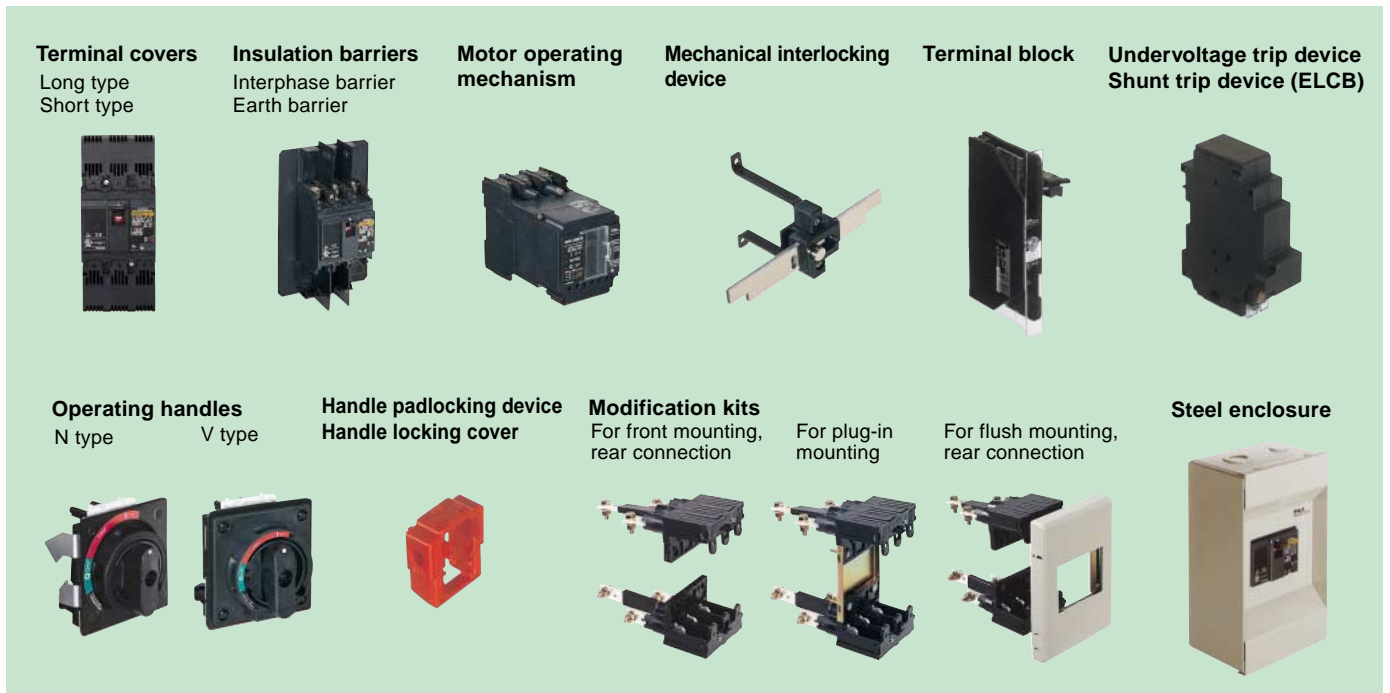
All accessories shown here can be mounted by the customer except for motor operating mechanism and plate type padlocking device.



Internal accessories



External accessories

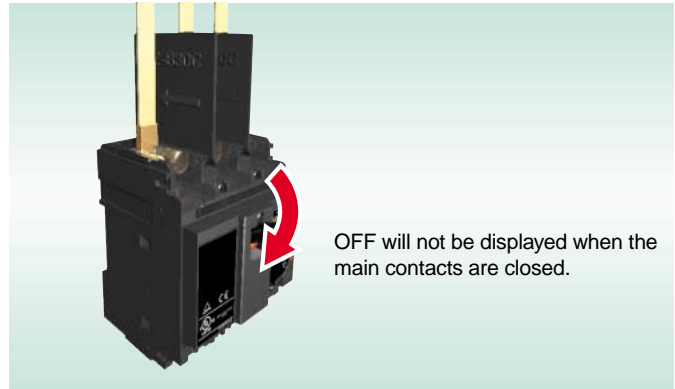


Safety

Greater safety thanks to isolation and optional accessories

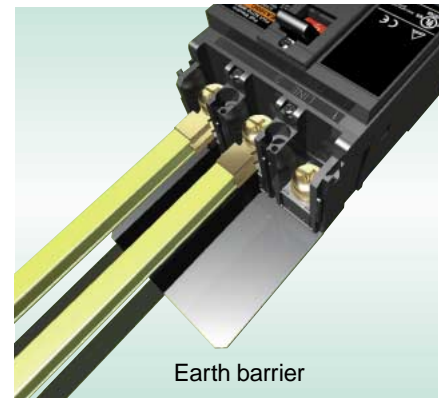
● Breakers conform to IEC isolation items.

The breaker conforms to IEC isolation items stipulating that the handle will not indicate OFF, and simultaneously, OFF locking will not be possible, in the event that the main contacts are closed. This construction satisfies the Power Circuit Breaker requirements of the EN 60204-1 basic safety standards of the EC Machinery Directive.



● Interphase and earth barriers

The interphase barrier reinforces the insulation between phases of the bar terminals and crimp terminals. The earth barrier increases the insulation between the crimp terminal and the mounting panel when cross-wiring (for a double connection of the crimp terminal).



● Long type terminal cover conforming to IP20

The terminal cover can be mounted to provide IP20 protection stipulated in IEC 60204-1. This finger protection type of cover guards against shock from accidentally touching live terminals.

Protection as defined in the IEC (International Electrotechnical Commission) IP20 ratings (IEC 529)



IP20

Degree 2: Degree of protection against human contact or penetration by a foreign object

An enclosure that will prevent a human finger or a foreign object not exceeding 80mm in length from contacting live or moving parts.

An enclosure that will prevent penetration by a foreign object exceeding 12.5mm in diameter.

Ecology



Product development based on the key concept of ecological improvement

● Thermoplastic resin

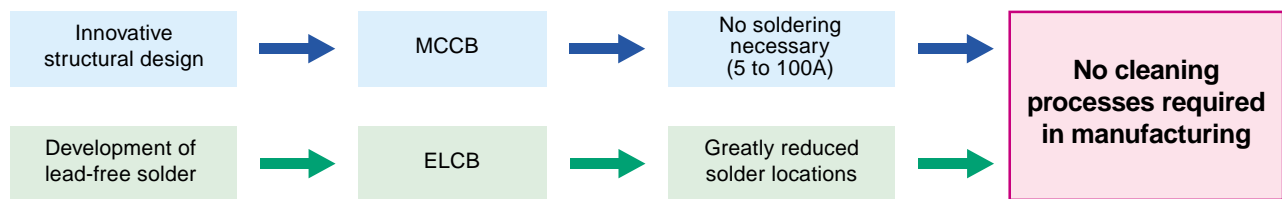
Recyclable thermoplastic resin is used for plastic parts, and the names of materials are indicated on all major

parts to facilitate their recycling.

● Development and use of environment-friendly materials

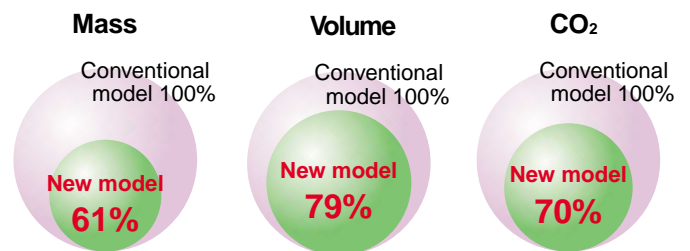
- Lead-free solder
- Cadmium-free contacts (For types of rated current 50A or less, or interrupting capacity 5kA or less at 200V AC)

Less soldering and reduced environmental burdens



● Product downsizing

By making products more compact, FUJI has achieved drastic reductions in the mass and volume of the materials used. This also contributes to reducing CO₂, one of the leading causes of global warming.



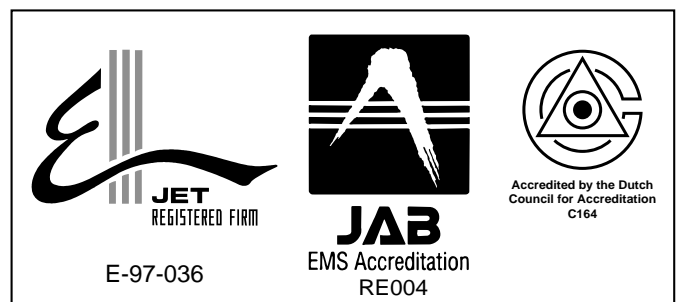
The EG103C is given as an example.

● The new α -TWIN series is manufactured in ISO 9001 and ISO 14001-certified facilities.

FUJI has received ISO 9000-series certification for quality control and quality assurance, and ISO 14000-series certification for environmental management systems from ISO (International Organization for Standardization).

The Otawara Factory, which produces the new MCCBs and ELCBs, has received ISO 9001 and ISO 14001 certification.

This international certification attests to our active efforts to achieve highly reliable quality assurance systems and to build development and production systems that take full consideration of the environment.



Models and application

■ MCCB

General-purpose line protection

S-series MCCBs are applicable to equipment with a capacity of 150 to 200kVA. E-series MCCBs are inexpensive and compact, they make it possible to design economical panels.



Instantaneous trip

These MCCBs are equipped with sole instantaneous trip elements, but do not have inverse time trip elements.



Motor protection

These MCCBs include motor overload protection and cable overcurrent protection functions.



Non-automatic

These MCCBs are not equipped with overcurrent trip elements for inverse time or instantaneous trips, and do not trip automatically.



Frame size	Rated interrupting capacity (kA) Icu/lcs		General-purpose line protection		Motor protection		Instantaneous trip		Non-automatic *	
	230V	440V	2-pole	3-pole	2-pole	3-pole	2-pole	3-pole	2-pole	3-pole
30AF	5/3	2.5/2	SA32C	SA33C	SA32CM	SA33CM	SA32CI	SA33CI	SA32CS	SA33CS
	2.5/2	1.5/1	EA32AC	EA33AC	—	EA33ACM	—	—	EA32ACS	EA33ACS
50AF	10/5	7.5/4	SA52C	SA53C	—	SA53CM	—	SA53CI	SA52CS	SA53CS
	25/13	10/5	SA52RC	SA53RC	—	SA53RCM	—	—	—	—
	2.5/2	1.5/1	EA52AC	EA53AC	—	—	—	—	—	—
	5/3	2.5/2	EA52C	EA53C	—	EA53CM	—	—	EA52CS	EA53CS
60AF	10/5	7.5/4	SA62C	SA63C	—	SA63CM	—	SA63CI	SA62CS	SA63CS
	25/13	10/5	SA62RC	SA63RC	—	—	—	—	—	—
	5/3	2.5/2	EA62C	EA63C	—	EA63CM	—	EA63CI	EA62CS	EA63CS
100AF	5/3	—	—	EA103AC	—	—	—	—	—	—
	25/13	10/5	EA102C	EA103C	—	EA103CM	—	—	EA102CS	EA103CS

Note: * Not provided with automatic-tripping function.

■ ELCB

General-purpose line protection

S-series ELCBs are well suited to standard equipment use.



Arc welder use

ELCBs will not malfunction due to the high inrush current in the initial firing pulses of arc welders.



Motor protection

Included a motor overload protection function.



Frame size	Rated interrupting capacity (kA) Icu/lcs		General-purpose line protection				Motor protection		Arc welder use	
	230V	440V	Instantaneous trip		Time delay trip		2-pole	3-pole	2-pole	3-pole
			2-pole	3-pole	2-pole	3-pole				
30AF	5/3	2.5/2	—	SG33C	—	—	—	SG33CM	—	—
	2.5/2	—	EG32AC	EG33AC	—	—	—	—	—	—
	2.5/2	1.5/1	—	EG33C	—	—	—	EG33CM	—	—
50AF	10/5	7.5/4	—	SG53C	—	—	—	SG53CM	—	—
	25/13	10/5	—	SG53RC	—	—	—	—	—	—
	2.5/2	—	EG52AC	EG53AC	—	—	—	—	—	—
	5/3	2.5/2	—	EG53C	—	—	—	EG53CM	—	—
60AF	10/5	7.5/4	—	SG63C	—	—	—	SG63CM	—	—
	25/13	10/5	—	SG63RC	—	—	—	—	—	—
	5/3	2.5/2	—	EG63C	—	—	—	EG63CM	—	—
100AF	5/3	—	—	EG103AC	—	—	—	—	—	—
	10/5	—	EG102C	—	—	—	—	—	—	—
	25/13	10/5	—	EG103C	—	EG103CD	—	EG103CM	—	EG103CY

■ Accessories

Auxiliary switch, alarm switch, shunt trip device, undervoltage trip device, test lead wire, terminal block, megger test switch
Operating handles (N and V-type), terminal covers

insulation barriers, steel enclosures, handle locking cover, kits for mounting modification, flat terminal, mechanical interlock device

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Quick reference guide

MCCBs

■ S series

Frame	30A		50A					
Pole	2	3	2	3	2	3		
Type	SA32C	SA33C	SA52C	SA53C	SA52RC	SA53RC		
Rated current (A)	3, 5, 10, 15, 20, 30		5, 10, 15, 20, 30, 40, 50		10, 15, 20, 30, 40, 50			
Rated insulation voltage (V AC)	690		690		690			
[IEC 60947-2, JIS C8201-2] (V DC)	250 *2		250 *2		250 *2			
Rated interrupting capacity (kA)	600V AC		2.5/2		5/3			
IEC 60947-2	500V AC*3		5/3		7.5/4			
JIS C 8201-2	440V AC		7.5/4		10/5			
(Icu/Ics) *1	400V AC		7.5/4		10/5			
	230V AC		10/5		25/13			
	250V DC		5/3		5/3			
Rated operating voltage [UL508] (V AC) See page 20.	550		600		600			
Dimensions (mm)	a	50	75	50	75	50	75	
	b	100	100	100	100	100	100	
	c	60	60	60	60	60	60	
	d	84	84	84	84	84	84	
Mass (kg) Front mounting type	0.4		0.5		0.4		0.5	
Tripping device	Hydraulic-magnetic		Hydraulic-magnetic		Hydraulic-magnetic			
Front mounting, front connection	No-mark	○	○	○	○	○	○	
Front mounting, rear connection	X	○	○	○	○	○	○	
Flush mounting, rear connection	E	○	○	○	○	○	○	
Flush mounting, top & bottom connection	Y	○	○	○	○	○	○	
Plug-in mounting	P	○	○	○	○	○	○	
IEC 35mm wide rail mounting		○	○	○	○	○	○	
Internal accessories								
Alarm switch	K	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	
Alarm switch with terminal block	KA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6W□10CA	BZ6K□10CA	
Auxiliary switch	W	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	
Auxiliary switch with terminal block	WA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	
Undervoltage trip	R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	
Shunt trip	F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	
Shunt trip with terminal block	FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	
External accessories								
Motor operating mechanism	M	–	△	–	△	–	△	
Handle padlocking device Cap type	Q1	△	△	△	△	△	△	
Plate type	Q2	△	△	△	△	△	△	
Mechanical interlocking device	M1	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3	
	M2	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3	
	M3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3	
Operating handle N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	
Operating handle V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	
Steel enclosure Direct operating	C	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3	
Dustproof steel enclosure Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	
Rainproof steel enclosure Handle operating	CWC	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	
Terminal cover Short	TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3	
Terminal cover Long	TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3	
Insulation barrier Interphase *4	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	
Insulation barrier Earth	BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3	
Handle locking cover	L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	
Flat terminal	S	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503	

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

○ Available △ Factory-mounted accessory

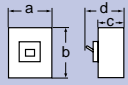
Ics: Rated ultimate service short-circuit breaking capacity

*2 Specify DC only when ordering circuit breakers for DC circuit.

*3 Conforms to JIS C 8370

*4 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

■ S series

Frame		60A			
Pole		2	3	2	3
Type		SA62C	SA63C	SA62RC	SA63RC
Rated current (A)		60		60	
Rated insulation voltage	(V AC)	690		690	
	[IEC 60947-2, JIS C8201-2] (V DC)	250 *2		250 *2	
Rated interrupting capacity (kA)	600V AC	2.5/2		5/3	
	IEC 60947-2 500V AC*3	5/3		7.5/4	
	JIS C 8201-2 440V AC	7.5/4		10/5	
	(Icu/lcs) *1 400V AC	7.5/4		10/5	
	230V AC	10/5		25/13	
	250V DC	5/3		5/3	
Rated operating voltage [UL508] (V AC) See page 20.		600		600	
Dimensions (mm)	a	50	75	50	75
	b	100	100	100	100
	c	60	60	60	60
	d	84	84	84	84
					
Mass (kg) Front mounting type		0.4	0.6	0.4	0.6
Tripping device		Hydraulic-magnetic		Hydraulic-magnetic	
Front mounting, front connection	No-mark	○	○	○	○
Front mounting, rear connection	X	○	○	○	○
Flush mounting, rear connection	E	○	○	○	○
Flush mounting, top & bottom connection	Y	○	○	○	○
Plug-in mounting	P	○	○	○	○
IEC 35mm wide rail mounting		○	○	○	○
Internal accessories					
Alarm switch	K	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C
Alarm switch with terminal block	KA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA
Auxiliary switch	W	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C
Auxiliary switch with terminal block	WA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA
Undervoltage trip	R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C
Shunt trip	F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C
Shunt trip with terminal block	FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA
External accessories					
Motor operating mechanism	M	–	△	–	△
Handle padlocking device	Cap type Q1	△	△	△	△
	Plate type Q2	△	△	△	△
Mechanical interlocking device	M1	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3
	M2	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3
	M3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3
Operating handle N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C
Operating handle V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C
Steel enclosure Direct operating	C	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3
Dustproof steel enclosure Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C
Rainproof steel enclosure Handle operating	CWC	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C
Terminal cover Short	TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3
Terminal cover Long	TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3
Insulation barrier Interphase *4	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C
Insulation barrier Earth	BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3
Handle locking cover	L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C
Flat terminal	S	BZ6S10C1002	BZ6S10C1003	BZ6S10C1002	BZ6S10C1003

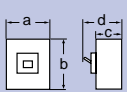
Notes: *1 Icu: Rated ultimate short-circuit breaking capacity ○ Available △ Factory-mounted accessory
Ics: Rated ultimate service short-circuit breaking capacity
*2 Specify DC only when ordering circuit breakers for DC circuit.
*3 Conforms to JIS C 8370
*4 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

Quick reference guide

MCCBs

E series

Frame	30A			50A						
	2	3		2	3	2	3			
Type	EA32AC	EA33AC		EA52AC	EA53AC	EA52C	EA53C			
Rated current (A)	3, 5, 10, 15, 20, 30			5, 10, 15, 20, 30, 40, 50			5, 10, 15, 20, 30, 40, 50			
Rated insulation voltage (V AC)	500			500			690			
[IEC 60947-2, JIS C8201-2] (V DC)	–			–			250 *2			
Rated interrupting capacity (kA)	600V AC	–			–			–		
IEC 60947-2	500V AC *3	–			–			1.5/1		
JIS C 8201-2	440V AC	1.5/1			1.5/1			2.5/2		
(Icu/Ics) *1	400V AC	1.5/1			1.5/1			2.5/2		
	230V AC	2.5/2			2.5/2			5/3		
	250V DC	–			–			2.5/2		
Rated operating voltage [UL508] (V AC) See page 20.	240			240			550			
Dimensions (mm)	a	50	75	50	75	50	75			
	b	100	100	100	100	100	100			
	c	60	60	60	60	60	60			
	d	84	84	84	84	84	84			



Mass (kg) Front mounting type	0.4	0.5	0.4	0.5	0.4	0.5		
Tripping device	Hydraulic-magnetic		Hydraulic-magnetic		Hydraulic-magnetic			
Front mounting, front connection	No-mark	○	○	○	○	○	○	
Front mounting, rear connection	X	○	○	○	○	○	○	
Flush mounting, rear connection	E	○	○	○	○	○	○	
Flush mounting, top & bottom connection	Y	○	○	○	○	○	○	
Plug-in mounting	P	○	○	○	○	○	○	
IEC 35mm wide rail mounting		○	○	○	○	○	○	
Internal accessories								
Alarm switch	K	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	
Alarm switch with terminal block	KA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	
Auxiliary switch	W	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	
Auxiliary switch with terminal block	WA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	
Undervoltage trip	R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	
Shunt trip	F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	
Shunt trip with terminal block	FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	
External accessories								
Motor operating mechanism	M	–	△	–	△	–	△	
Handle padlocking device	Cap type	Q1	△	△	△	△	△	
	Plate type	Q2	△	△	△	△	△	
Mechanical interlocking device	M1	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3	BZ6M110C2	BZ6M110C3	
	M2	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3	BZ6M210C2	BZ6M210C3	
	M3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3	BZ6M310C2	BZ6M310C3	
Operating handle	N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	
	V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	
Steel enclosure	Direct operating	C	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3	BZ6C10C2	BZ6C10C3
Dustproof steel enclosure	Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C
Rainproof steel enclosure	Handle operating	CWC	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C
Terminal cover	Short	TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3
	Long	TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3
Insulation barrier	Interphase *4	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	
	Earth	BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	
Flat terminal		S	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503	BZ6S10C502	BZ6S10C503

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

○ Available △ Factory-mounted accessory

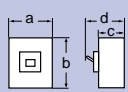
Ics: Rated ultimate service short-circuit breaking capacity

*2 Specify DC only when ordering circuit breakers for DC circuit.

*3 Conforms to JIS C 8370

*4 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over. Except for EA50AC

■ E series

Frame	60A		100A			
Pole	2	3	3	2	3	
Type	EA62C	EA63C	EA103AC	EA102C	EA103C	
Rated current (A)	60		60, 75, 100	50, 60, 75, 100		
Rated insulation voltage (V AC)	690		500	690		
[IEC 60947-2, JIS C8201-2] (V DC)	250 *2		–	250 *2		
Rated interrupting capacity (kA)	600V AC	–	–	5/3		
IEC 60947-2	500V AC *3	1.5/1	–	7.5/4		
JIS C 8201-2	440V AC	2.5/2	–	10/5		
(Icu/lcs) *1	400V AC	2.5/2	1.5/1	10/5		
	230V AC	5/3	5/3	25/13		
	250V DC	2.5/2	–	5/3		
Rated operating voltage [UL508] (V AC) See page 20.	550		240	600		
Dimensions (mm)	a	50	75	75	50	75
	b	100	100	100	100	100
	c	60	60	60	60	60
	d	84	84	84	84	84
Mass (kg) Front mounting type	0.4		0.6	0.6	0.4	0.6
Tripping device	Hydraulic-magnetic		Hydraulic-magnetic			
Front mounting, front connection No-mark	○	○	○	○	○	
Front mounting, rear connection X	○	○	○	○	○	
Flush mounting, rear connection E	○	○	○	○	○	
Flush mounting, top & bottom connection Y	○	○	○	○	○	
Plug-in mounting P	○	○	○	○	○	
IEC 35mm wide rail mounting	○	○	○	○	○	
Internal accessories						
Alarm switch K	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	
Alarm switch with terminal block KA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	
Auxiliary switch W	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	
Auxiliary switch with terminal block WA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	
Undervoltage trip R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	
Shunt trip F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	
Shunt trip with terminal block FA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	BZ6F□10CA	
External accessories						
Motor operating mechanism M	–	△	△	–	△	
Handle padlocking device Cap type Q1	△	△	△	△	△	
Plate type Q2	△	△	△	△	△	
Mechanical interlocking device						
M1	BZ6M110C2	BZ6M110C3	BZ6M110C3	BZ6M110C2	BZ6M110C3	
M2	BZ6M210C2	BZ6M210C3	BZ6M210C3	BZ6M210C2	BZ6M210C3	
M3	BZ6M310C2	BZ6M310C3	BZ6M310C3	BZ6M310C2	BZ6M310C3	
Operating handle N-type N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	
Operating handle V-type V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	
Steel enclosure Direct operating C	BZ6C10C2	BZ6C10C3	BZ6C25C3	BZ6C25C2	BZ6C25C3	
Dustproof steel enclosure Handle operating CV	BZ6CV10C	BZ6CV10C	BZ6CV25C	BZ6CV25C	BZ6CV25C	
Rainproof steel enclosure Handle operating CWC	BZ6CW10C	BZ6CW10C	BZ6CW25C	BZ6CW25C	BZ6CW25C	
Terminal cover Short TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C3	BZ6TS10C2	BZ6TS10C3	
Terminal cover Long TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C3	BZ6TB10C2	BZ6TB10C3	
Insulation barrier Interphase *4 B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	
Insulation barrier Earth BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C3	BZ6BL10C2	BZ6BL10C3	
Handle locking cover L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	
Flat terminal S	BZ6S10C1002	BZ6S10C1003	BZ6S10C1003	BZ6S10C1002	BZ6S10C1003	

Notes: *1 Icu: Rated ultimate short-circuit breaking capacity
 Ics: Rated ultimate service short-circuit breaking capacity
 *2 Specify DC only when ordering circuit breakers for DC circuit.
 *3 Conforms to JIS C 8370
 *4 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over. Except for EA50AC and EA100AC
 ○ Available △ Factory-mounted accessory

Quick reference guide

ELCBs

SG series

Frame		30A	50A	
Type	Instantaneous trip type Time delay trip type	SG33C –	SG53C –	
Phase and wire		3ø3W 1ø3W 1ø2W	3ø3W 1ø3W 1ø2W	
Pole		3	3	
Rated voltage (V AC) [IEC 60947-2/JIS C 8201-2]	Instantaneous trip type Time delay trip type	100–230–440 –	100–230–440 –	
Rated current (A)		3, 5, 10, 15, 20, 30	5, 10, 15, 20, 30, 40, 50	
Frequency (Hz)		50/60	50/60	
Instantaneous trip type	Rated sensitive current (mA) Tripping time (s)	30, 100/200/500 0.1	30, 100/200/500 0.1	
Time delay trip type	Rated sensitive current (mA) Tripping time (s) Inertia non-tripping time (s) [2IΔn]	– – –	– – –	
Rated interrupting capacity(kA) [IEC 60947-2/JIS C 8201-2] (Icu/Ics) *1	440V AC 230V AC 100V AC	2.5/2 5/3 5/3	7.5/4 10/5 10/5	
Instantaneous trip type	Rated operating voltage (V AC)	240	240	
	Rated sensitive current IΔn (mA) [UL508] [cUL]	30, 100/200/500	30, 100/200/500	
	Pick-up current [UL1053]	0.7 x Rated sensitive current	0.7 x Rated sensitive current	
Tripping time (s) [UL1053]		0.1	0.1	
Dimensions (mm)		a	75	75
		b	100	100
		c	60	60
		d	84	84
Mass (kg)	Front mounting type	0.6	0.6	
Front mounting, front connection	No-mark	○	○	
Front mounting, rear connection	X	○	○	
Flush mounting, rear connection	E	○	○	
Flush mounting, top & bottom connection	Y	○	○	
Plug-in mounting	P	○	○	
IEC 35mm wide rail mounting		○	○	
Internal accessories				
Alarm switch	K	BZ6K□10C	BZ6K□10C	
Alarm switch with terminal block	KA	BZ6K□10CA	BZ6K□10CA	
Auxiliary switch	W	BZ6W□10C	BZ6W□10C	
Auxiliary switch with terminal block	WA	BZ6W□10CA	BZ6W□10CA	
Undervoltage trip	R	BZ6R□10C	BZ6R□10C	
Shunt trip	F	BZ6F□10C	BZ6F□10C	
Test lead wire	TL	△	△	
Megger test switch	MGS	△	△	
External accessories				
Motor operating mechanism	M	△	△	
Handle padlocking device	Cap type	Q1	△	
	Plate type	Q2	△	
Mechanical interlocking device	M1	BZ6M110C3	BZ6M110C3	
	M2	BZ6M210C3	BZ6M210C3	
	M3	BZ6M310C3	BZ6M310C3	
	N	BZ6N10C	BZ6N10C	
Operating handle N-type	N	BZ6N10C	BZ6N10C	
Operating handle V-type	V	BZ6V10C	BZ6V10C	
Steel enclosure Direct operating	C	BZ6C10C3	BZ6C10C3	
Dustproof steel enclosure Handle operating	CV	BZ6CV10C	BZ6CV10C	
Rainproof steel enclosure Handle operating	CWC	BZ6CW10C	BZ6CW10C	
Terminal cover Short	TS	BZ6TS10C3	BZ6TS10C3	
Terminal cover Long	TB	BZ6TB10C3	BZ6TB10C3	
Insulation barrier Interphase *2	B	BZ6B10C	BZ6B10C	
Insulation barrier Earth	BL	BZ6BL10C3	BZ6BL10C3	
Handle locking cover	L	BZ6L10C	BZ6L10C	
Bar stud	S	BZ6S10C503	BZ6S10C503	

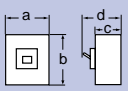
Notes: *1 Icu: Rated ultimate short-circuit breaking capacity

Ics: Rated ultimate service short-circuit breaking capacity

*2 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over.

○ Available △ Factory-mounted accessory

■ SG series

Frame		60A		
Type	Instantaneous trip type Time delay trip type	SG63C	SG63RC	
Phase and wire		3ø3W 1ø3W 1ø2W	3ø3W 1ø3W 1ø2W	
Pole		3	3	
Rated voltage (V AC) [IEC 60947-2/JIS C 8201-2]	Instantaneous trip type Time delay trip type	100–230–440 –	100–230–440 –	
Rated current (A)		60	60	
Rated frequency (Hz)		50/60	50/60	
Instantaneous trip type	Rated sensitive current (mA) Tripping time (s)	30, 100/200/500 0.1	30, 100/200/500 0.1	
Time delay trip type	Rated sensitive current (mA) Tripping time (s) Inertia non-tripping time (s) [2IΔn]	– – –	– – –	
Rated interrupting capacity (kA) [IEC 60947-2/JIS C 8201-2] (Icu/Ics) *1	440V AC 230V AC 100V AC	7.5/4 10/5 10/5	10/5 25/13 25/13	
Instantaneous trip type	Rated operating voltage (V AC)	240	240	
	Rated sensitive current IΔn (mA) [UL508] [cUL]	30, 100/200/500	30, 100/200/500	
	Pick-up current [UL1053]	0.7 x Rated sensitive current	0.7 x Rated sensitive current	
Tripping time (s) [UL1053]		0.1	0.1	
Dimensions (mm)		a	75	75
		b	100	100
		c	60	60
		d	84	84
Mass (kg) Front mounting type		0.6	0.6	
Front mounting, front connection	No-mark	○	○	
Front mounting, rear connection	X	○	○	
Flush mounting, rear connection	E	○	○	
Flush mounting, top & bottom connection	Y	○	○	
Plug-in mounting	P	○	○	
IEC 35mm wide rail mounting		○	○	
Internal accessories				
Alarm switch	K	BZ6K□10C	BZ6K□10C	
Alarm switch with terminal block	KA	BZ6K□10CA	BZ6K□10CA	
Auxiliary switch	W	BZ6W□10C	BZ6W□10C	
Auxiliary switch with terminal block	WA	BZ6W□10CA	BZ6W□10CA	
Undervoltage trip	R	BZ6R□10C	BZ6R□10C	
Shunt trip	F	BZ6F□10C	BZ6F□10C	
Test lead wire	TL	△	△	
Megger test switch	MGS	△	△	
External accessories				
Motor operating mechanism	M	△	△	
Handle padlocking device	Cap type	Q1	△	
	Plate type	Q2	△	
Mechanical interlocking device	M1	BZ6M110C3	BZ6M110C3	
	M2	BZ6M210C3	BZ6M210C3	
	M3	BZ6M310C3	BZ6M310C3	
Operating handle N-type	N	BZ6N10C	BZ6N10C	
Operating handle V-type	V	BZ6V10C	BZ6V10C	
Steel enclosure Direct operating	C	BZ6C10C3	BZ6C10C3	
Dustproof steel enclosure Handle operating	CV	BZ6CV10C	BZ6CV10C	
Rainproof steel enclosure Handle operating	CWC	BZ6CW10C	BZ6CW10C	
Terminal cover Short	TS	BZ6TS10C3	BZ6TS10C3	
Terminal cover Long	TB	BZ6TB10C3	BZ6TB10C3	
Insulation barrier Interphase *2	B	BZ6B10C	BZ6B10C	
Insulation barrier Earth	BL	BZ6BL10C3	BZ6BL10C3	
Handle locking cover	L	BZ6L10C	BZ6L10C	
Flat terminal	S	BZ6S10C1003	BZ6S10C1003	

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

○ Available △ Factory-mounted accessory

Quick reference guide

ELCBs

EG series

Frame		30A			50A		
Type	Instantaneous trip type Time delay trip type	EG32AC	EG33AC	EG33C	EG52AC	EG53AC	
Phase and wire		1ø2W	3ø3W 1ø3W 1ø2W	3ø3W 1ø3W 1ø2W	1ø2W	3ø3W 1ø3W 1ø2W	
Pole		2	3	3	2	3	
Rated voltage (V AC) [IEC 60947-2/JIS C 8201-2]	Instantaneous trip type	100–230	100–230	100–230–440	100–230	100–230	
	Time delay trip type	–	–	–	–	–	
Rated current (A)		5, 10, 15, 20, 30			5, 10, 15, 20, 30, 40, 50		
Rated frequency (Hz)		50/60	50/60	50/60	50/60	50/60	
Instantaneous trip type	Rated sensitive current (mA)	15, 30, 100	15, 30, 100	15, 30, 100	15, 30, 100	15, 30, 100	
	Tripping time (s)	0.1	0.1	0.1	0.1	0.1	
Time delay trip type	Rated sensitive current (mA)	–	–	–	–	–	
	Tripping time (s)	–	–	–	–	–	
	Inertia non-tripping time (s) [2IΔn]	–	–	–	–	–	
Rated interrupting capacity(kA) [IEC 60947-2/JIS C 8201-2] (Icu/Ics) *1	440V AC	–	–	1.5/1	–	–	
	230V AC	2.5/2	2.5/2	2.5/2	2.5/2	2.5/2	
	100V AC	2.5/2	2.5/2	5/3	2.5/2	2.5/2	
Instantaneous trip type	Rated operating voltage (V AC)	240	240	240	240	240	
	Rated sensitive current IΔn(mA) [UL508] [cUL]	15, 30, 100	15, 30, 100	15, 30, 100	15, 30, 100	15, 30, 100	
	Pick-up current [UL1053]	0.7 x Rated sensitive current			0.7 x Rated sensitive current		
Tripping time (s) [UL1053]		0.1	0.1	0.1	0.1	0.1	
Dimensions (mm)		a	50	75	75	50	75
		b	100	100	100	100	100
		c	60	60	60	60	60
		d	84	84	84	84	84
Mass (kg) Front mounting type		0.4	0.6	0.6	0.4	0.6	
Front mounting, front connection		No-mark	○	○	○	○	
Front mounting, rear connection		X	○	○	○	○	
Flush mounting, rear connection		E	○	○	○	○	
Flush mounting, top & bottom connection		Y	○	○	○	○	
Plug-in mounting		P	○	○	○	○	
IEC 35mm wide rail mounting			○	○	○	○	
Internal accessories							
Alarm switch		K	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	
Alarm switch with terminal block		KA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	
Auxiliary switch		W	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	
Auxiliary switch with terminal block		WA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	
Undervoltage trip		R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	
Shunt trip		F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	
Test lead wire		TL	△	△	△	△	
Megger test switch		MGS	△	△	△	△	
External accessories							
Motor operating mechanism		M	–	△	–	△	
Handle padlocking device Cap type		Q1	△	△	△	△	
Plate type		Q2	△	△	△	△	
Mechanical interlocking device		M1	BZ6M110C2	BZ6M110C3	BZ6M110C3	BZ6M110C3	
		M2	BZ6M210C2	BZ6M210C3	BZ6M210C3	BZ6M210C3	
		M3	BZ6M310C2	BZ6M310C3	BZ6M310C3	BZ6M310C3	
Operating handle N-type		N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	
Operating handle V-type		V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	
Steel enclosure Direct operating		C	BZ6C10C2	BZ6C10C3	BZ6C10C3	BZ6C10C3	
Dustproof steel enclosure Handle operating		CV	BZ6CV10C	BZ6CV10C	BZ6CV10C	BZ6CV10C	
Rainproof steel enclosure Handle operating		CWC	BZ6CW10C	BZ6CW10C	BZ6CW10C	BZ6CW10C	
Terminal cover Short		TS	BZ6TS10C2	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3	
Terminal cover Long		TB	BZ6TB10C2	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3	
Insulation barrier Interphase *2		B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	
Insulation barrier Earth		BL	BZ6BL10C2	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3	
Handle locking cover		L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	
Flat terminal		S	BZ6S10C502	BZ6S10C503	BZ6S10C503	BZ6S10C503	

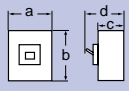
Notes: *1 Icu: Rated ultimate short-circuit breaking capacity

Ics: Rated ultimate service short-circuit breaking capacity

*2 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over. Except for EG50AC

○ Available △ Factory-mounted accessory

■ EG series

Frame		50A	60A	100A		
Type	Instantaneous trip type Time delay trip type	EG53C –	EG63C –	EG103AC –	EG102C –	EG103C EG103CD *3
Phase and wire		3ø3W 1ø3W 1ø2W	3ø3W 1ø3W 1ø2W	3ø3W 1ø3W 1ø2W	1ø2W	3ø3W 1ø3W 1ø2W
Pole		3	3	3	2	3
Rated voltage (V AC) [IEC 60947-2/JIS C 8201-2]	Instantaneous trip type	100–230–440	100–230–440	100–230	100–230	100–230–440
	Time delay trip type	–	–	–	–	230–440
Rated current (A)		5,10,15,20,30,40,50	60	60, 75, 100	50, 60, 75, 100	
Rated frequency (Hz)		50/60	50/60	50/60	50/60	50/60
Instantaneous trip type	Rated sensitive current (mA)	15, 30, 100/200	15, 30, 100/200	30, 100/200	30, 100/200	30, 100/200/500
	Tripping time (s)	0.1	0.1	0.1	0.1	0.1
Time delay trip type	Rated sensitive current (mA)	–	–	–	–	100/200/500
	Tripping time (s)	–	–	–	–	0.45 (max.)
	Inertia non-tripping time (s) [2Δn]	–	–	–	–	0.15
Rated interrupting capacity(kA) [IEC 60947-2/JIS C 8201-2]	440V AC	2.5/2	2.5/2	–	–	10/5
	230V AC	5/3	5/3	5/3	10/5	25/13
	100V AC	5/3	5/3	5/3	10/5	25/13
Instantaneous trip type	Rated operating voltage (V AC)	240	240	240	240	240
	Rated sensitive current IΔn(mA) [UL508] [cUL]	15, 30, 100/200	15, 30, 100/200	30, 100/200	30, 100/200	30, 100/200/500
	Pick-up current [UL1053]	0.7 x Rated sensitive current			0.7 x Rated sensitive current	
Tripping time (s) [UL1053]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions (mm)		a	75	75	75	75
		b	100	100	100	100
		c	60	60	60	60
		d	84	84	84	84
Mass (kg)	Front mounting type	0.6	0.6	0.6	0.55	0.6
Front mounting, front connection	No-mark	○	○	○	○	○
Front mounting, rear connection	X	○	○	○	△	○
Flush mounting, rear connection	E	○	○	○	△	○
Flush mounting, top & bottom connection	Y	○	○	○	△	○
Plug-in mounting	P	○	○	○	△	○
IEC 35mm wide rail mounting		○	○	○	○	○
Internal accessories						
Alarm switch	K	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C	BZ6K□10C
Alarm switch with terminal block	KA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA	BZ6K□10CA
Auxiliary switch	W	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C	BZ6W□10C
Auxiliary switch with terminal block	WA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA	BZ6W□10CA
Undervoltage trip	R	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C	BZ6R□10C
Shunt trip	F	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C	BZ6F□10C
Test lead wire	TL	△	△	△	△	△
Megger test switch	MGS	△	△	△	△	△
External accessories						
Motor operating mechanism	M	△	△	△	–	△
Handle padlocking device	Cap type	Q1	△	△	△	△
	Plate type	Q2	△	△	△	△
Mechanical interlocking device	M1	BZ6M110C3	BZ6M110C3	BZ6M110C3	BZ6M110C3	BZ6M110C3
	M2	BZ6M210C3	BZ6M210C3	BZ6M210C3	BZ6M210C3	BZ6M210C3
	M3	BZ6M310C3	BZ6M310C3	BZ6M310C3	BZ6M310C3	BZ6M310C3
Operating handle N-type	N	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C	BZ6N10C
Operating handle V-type	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C
Steel enclosure Direct operating	C	BZ6C10C3	BZ6C10C3	BZ6C25C3	BZ6C25C3	BZ6C25C3
Dustproof steel enclosure Handle operating	CV	BZ6CV10C	BZ6CV10C	BZ6CV25C	BZ6CV25C	BZ6CV25C
Rainproof steel enclosure Handle operating	CWC	BZ6CW10C	BZ6CW10C	BZ6CW25C	BZ6CW25C	BZ6CW25C
Terminal cover Short	TS	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3	BZ6TS10C3
Terminal cover Long	TB	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3	BZ6TB10C3
Insulation barrier Interphase *2	B	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C
Insulation barrier Earth	BL	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3	BZ6BL10C3
Handle locking cover	L	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C
Flat terminal	S	BZ6S10C503	BZ6S10C1003	BZ6S10C1003	BZ6S10C1002	BZ6S10C1003

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

Ics: Rated ultimate service short-circuit breaking capacity

*2 Interphase insulation barriers are standard provided for the front mounting type breakers of 50AF and over. Except for EG50AC and EG100AC

*3 EG103CD type is not approved by UL and CSA

○ Available △ Factory-mounted accessory

Quick reference guide

UL listed MCCBs

■ S series (UL file No. E216772)

Frame		30A						50A													
Pole		2			3			2					3					2		3	
Type		SA32C			SA33C			SA52C					SA53C					SA52RC		SA53RC	
Rated operating voltage (V AC)		550						600										600			
Max. motor ratings (HP) UL508 [cUL] ^{*1} CSA C22.2 No. 14	Rated current (A)	3-phase 3-pole type only	550 (-600) V AC ^{*2}						600												
			550 (-600) V AC ^{*2}	3	5	10	15	20	30	5	10	15	20	30	40	50	10	15	20	30	40
440-480V AC	0.5	1	2	3	5	10	1	2	3	5	10	15	20	2	3	5	10	15	20		
220-240V AC	–	0.5	1	2	2	3	0.5	1	2	2	3	5	7.5	1	2	2	3	5	7.5		
110-120V AC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Single-phase	550 (-600) V AC ^{*2}	440-480V AC	–	0.5	1.5	3	3	5	0.5	1.5	3	3	5	7.5	10	1.5	3	3	5	7.5	10
		220-240V AC	–	–	1	2	3	5	–	1	2	3	5	5	7.5	1	2	3	5	5	7.5
		110-120V AC	–	–	1/3	2/3	1	2	1/6	1/3	2/3	1	2	3	3	1/3	2/3	1	2	3	3
		110-120V AC	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Load (A)	Resistance ^{*3}	3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50					10, 15, 20, 30, 40, 50								
UL508 [cUL]	Discharge lamp ^{*4}	1.5, 2.5, 5, 7.5, 10, 15						2.5, 5, 7.5, 10, 15, 20, 25					5, 7.5, 10, 15, 20, 25								
CSA C22.2 No. 14	Incandescent lamp ^{*3}	3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50					10, 15, 20, 30, 40, 50								
	Others ^{*3}	3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50					10, 15, 20, 30, 40, 50								

Frame		60A				
Pole		2		3		
Type		SA62C		SA63C		
Rated operating voltage (V AC)		600				
Max. motor ratings (HP) UL508 [cUL] ^{*1} CSA C22.2 No. 14	Rated current (A)	60		60		
		550 (-600) V AC ^{*2}	25	25	25	25
3-phase 3-pole type only	440-480V AC	20	20	20	20	
	220-240V AC	10	10	10	10	
	110-120V AC	–	–	–	–	
Single-phase	550 (-600) V AC ^{*2}	15	15	15	15	
		440-480V AC	10	10	10	10
		220-240V AC	5	5	5	5
		110-120V AC	–	–	–	–
Load (A)	Resistance ^{*3}	60		60		
UL508 [cUL]	Discharge lamp ^{*4}	30		30		
CSA C22.2 No. 14	Incandescent lamp ^{*3}	60		60		
	Others ^{*3}	60		60		

Notes: ^{*1} The performance of UL508 approved models is indicated as applicable motor rating (HP).

^{*2} Rated operating voltage 550-600V AC: For SA50C, 50RC, 60C and 60RC.

^{*3} Rated current x 1

^{*4} Rated current x 1/2

■ E series (UL file No. E216772)

Frame		30A						50A																			
Pole		2			3			2					3					2					3				
Type		EA32AC			EA33AC			EA52AC					EA53AC					EA52C					EA53C				
Rated operating voltage (V AC)		240						240										550									
Max. motor ratings (HP) UL508 [cUL] ^{*1} CSA C22.2 No. 14	Rated current (A)	3-phase 3-pole type only	550 (-600) V AC ^{*2}		3	5	10	15	20	30	5	10	15	20	30	40	50	5	10	15	20	30	40	50			
			440-480V AC		-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	5	7.5	10	15	20			
			220-240V AC		-	0.5	1	2	2	3	0.5	1	2	2	3	5	7.5	0.5	1	2	2	3	5	7.5			
			110-120V AC		-	-	0.5	3/4	1	2	-	0.5	3/4	1	2	2	3	-	-	-	-	-	-	-			
			Single-phase		550 (-600) V AC ^{*2}	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	1.5	3	3	5	7.5	10		
		440-480V AC		-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	5	5	7.5					
		220-240V AC		0.1	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	3	3	1/6	1/3	3/4	1	2	3	3				
		110-120V AC		-	-	1/6	1/4	1/3	3/4	-	1/6	1/4	1/3	3/4	1	1.5	-	-	-	-	-	-	-				
Load (A) UL508 [cUL] CSA C22.2 No. 14	Resistance ^{*3} Discharge lamp ^{*4} Incandescent lamp ^{*3} Others ^{*3}	3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50																			
		1.5, 2.5, 5, 7.5, 10, 15						2.5, 5, 7.5, 10, 15, 20, 25																			
		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50																			
		3, 5, 10, 15, 20, 30						5, 10, 15, 20, 30, 40, 50																			

Frame		60A			100A											
Pole		2		3	3			2			3					
Type		EA62C		EA63C	EA103AC			EA102C			EA103C					
Rated operating voltage (V AC)		550			240						600					
Max. motor ratings (HP) UL508 [cUL] ^{*1} CSA C22.2 No. 14	Rated current (A)	3-phase 3-pole type only	550 (-600) V AC ^{*2}		60	60	75	100	60	75	100	60	75	100		
			440-480V AC		25	-	-	-	25	30	40	20	25	30		
			220-240V AC		10	10	10	15	10	10	15	-	-	-		
			110-120V AC		-	3	5	7.5	-	-	-	-	-	-		
			Single-phase		550 (-600) V AC ^{*2}	15	-	-	-	15	20	25	10	15	20	
		440-480V AC		10	-	-	-	10	15	20	5	5	7.5			
		220-240V AC		5	5	5	7.5	5	5	7.5	-	-	-			
		110-120V AC		-	2	3	3	-	-	-	-	-	-			
Load (A) UL508 [cUL] CSA C22.2 No. 14	Resistance ^{*3} Discharge lamp ^{*4} Incandescent lamp ^{*3} Others ^{*3}	60			60, 75, 100						50, 60, 75, 100					
		30			30, 37.5, 50						25, 30, 37.5, 50					
		60			60, 75, 100						50, 60, 75, 100					
		60			60, 75, 100						50, 60, 75, 100					

Notes: ^{*1} The performance of UL508 approved models is indicated as applicable motor rating (HP).

^{*2} Rated operating voltage 550-600V AC: For SA50C, 50RC, 60C and 60RC.

^{*3} Rated current x 1

^{*4} Rated current x 1/2

Quick reference guide

UL listed ELCBs

■ SG series (UL file No. E216772)

Frame		30A					50A					50A								
Type	Instantaneous trip type Time delay trip type	SG33C					SG53C					SG53RC								
Phase and wire		3ø3W, 1ø3W, 1ø2W					3ø3W, 1ø3W, 1ø2W					3ø3W, 1ø3W, 1ø2W								
Pole		3					3					3								
Rated operating voltage (V AC)		240					240					240								
Max. motor rating (HP)	Rated current (A)	5	10	15	20	30	5	10	15	20	30	40	50	5	10	15	20	30	40	50
UL508 [cUL]	3-phase 220-240V AC 3-pole type only	0.5	1	2	2	3	0.5	1	2	2	3	5	7.5	0.5	1	2	2	3	5	7.5
CSA C22.2 No. 14	Single-phase 220-240V AC	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	3	3	1/6	1/3	3/4	1	2	3	3
Load (A)	Resistance *2	3, 5, 10, 15, 20, 30					5, 10, 15, 20, 30, 40, 50					10, 15, 20, 30, 40, 50								
UL508 [cUL]	Discharge lamp *3	1.5, 2.5, 5, 7.5, 10, 15					2.5, 5, 7.5, 10, 15, 20, 25					5, 7.5, 10, 15, 20, 25								
CSA C22.2 No. 14	Incandescent lamp *2	3, 5, 10, 15, 20, 30					5, 10, 15, 20, 30, 40, 50					10, 15, 20, 30, 40, 50								
	Others *2	3, 5, 10, 15, 20, 30					5, 10, 15, 20, 30, 40, 50					10, 15, 20, 30, 40, 50								
Instantaneous trip type	Rated operating voltage (V AC)	240					240					240								
	Rated sensitive current IΔn (mA) [UL508] [cUL]	30, 100/200/500					30, 100/200/500					30, 100/200/500								
	Pick-up current [UL1053]	0.7 x Rated sensitive current					0.7 x Rated sensitive current					0.7 x Rated sensitive current								
Tripping time (s) [UL1053]		0.1					0.1					0.1								

Frame		60A					60A				
Type	Instantaneous trip type Time delay trip type	SG63C					SG63RC				
Phase and wire		3ø3W, 1ø3W, 1ø2W					3ø3W, 1ø3W, 1ø2W				
Pole		3					3				
Rated operating voltage (V AC)		240					240				
Max. motor rating (HP)	Rated current (A)	60					60				
UL508 [cUL]	3-phase 220-240V AC 3-pole type only	10					10				
CSA C22.2 No. 14	Single-phase 220-240V AC	5					5				
Load (A)	Resistance *2	60					60				
UL508 [cUL]	Discharge lamp *3	30					30				
CSA C22.2 No. 14	Incandescent lamp *2	60					60				
	Others *2	60					60				
Instantaneous trip type	Rated operating voltage (V AC)	240					240				
	Rated sensitive current IΔn (mA) [UL508] [cUL]	30, 100/200/500					30, 100/200/500				
	Pick-up current [UL1053]	0.7 x Rated sensitive current					0.7 x Rated sensitive current				
Tripping time (s) [UL1053]		0.1					0.1				

Note: *1 The performance of UL508 approved models is indicated as applicable motor rating (HP), and the detection current of UL1053 approved models is indicated as the pick-up current value (70% of IΔn).

*2 Rated current x 1

*3 Rated current x 1/2

■ EG series (UL file No. E216772)

Frame		30A										50A																																							
Type	Instantaneous trip type	EG32AC					EG33AC					EG33C					EG52AC					EG53AC					EG53C																								
Phase and wire		1ø2W										3ø3W, 1ø3W, 1ø2W										1ø2W										3ø3W, 1ø3W, 1ø2W																			
Pole		2										3										3										2										3									
Rated operating voltage (V AC)		240										240										240										240										240									
Max. motor rating (HP)	Rated current (A)	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30										
	3-phase 220-240V AC 3-pole type only	-	-	-	-	-	0.5	1	2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	1	2	2	3	5	7.5	10	15	20	30														
UL508 [cUL] *1	3-phase 220-240V AC 3-pole type only	-	-	-	-	-	0.5	1	2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	1	2	2	3	5	7.5	10	15	20	30														
CSA C22.2 No. 14	Single-phase 220-240V AC	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	1/6	1/3	3/4	1	2	3	3	3	3	3	3														
Load (A)	Resistance *2	5, 10, 15, 20, 30										5, 10, 15, 20, 30, 40, 50																																							
	Discharge lamp *3	2.5, 5, 7.5, 10, 15										2.5, 5, 7.5, 10, 15, 20, 25																																							
	Incandescent lamp *2	5, 10, 15, 20, 30										5, 10, 15, 20, 30, 40, 50																																							
	Others *2	5, 10, 15, 20, 30										5, 10, 15, 20, 30, 40, 50																																							
Instantaneous trip type	Rated operating voltage (V AC)	240										240										240										240										240									
	Rated sensitive current IΔn (mA) [UL508] [cUL]	15, 30, 100										15, 30, 100										15, 30, 100										15, 30, 100										15, 30, 100/200									
	Pick-up current [UL1053]	0.7 x Rated sensitive current																																																	
Tripping time (s) [UL1053]		0.1										0.1										0.1										0.1										0.1									

Frame		60A						100A																						
Type	Instantaneous trip type	EG63C						EG103AC						EG102C						EG103C										
Phase and wire		3ø3W, 1ø3W, 1ø2W						3ø3W, 1ø3W, 1ø2W						1ø2W						3ø3W, 1ø3W, 1ø2W										
Pole		3						3						2						3										
Rated operating voltage (V AC)		240						240						240						240										
Max. motor rating (HP)	Rated current (A)	60	75	100	150	200	300	60	75	100	150	200	60	75	100	150	200	60	75	100	150	200	60	75	100	150	200			
	3-phase 220-240V AC 3-pole type only	10	15	20	25	30	10	15	20	25	30	-	-	-	-	-	10	15	20	25	30	10	15	20	25	30				
UL508 [cUL] *1	3-phase 220-240V AC 3-pole type only	10	15	20	25	30	10	15	20	25	30	-	-	-	-	-	10	15	20	25	30	10	15	20	25	30				
CSA C22.2 No. 14	Single-phase 220-240V AC	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30	5	10	15	20	30				
Load (A)	Resistance *2	60						60, 75, 100						50, 60, 75, 100																
	Discharge lamp *3	30						30, 37.5, 50						25, 30, 37.5, 50																
	Incandescent lamp *2	60						60, 75, 100						50, 60, 75, 100																
	Others *2	60						60, 75, 100						50, 60, 75, 100																
Instantaneous trip type	Rated operating voltage (V AC)	240						240						240						240										
	Rated sensitive current IΔn (mA) [UL508] [cUL]	15, 30, 100/200						30, 100/200						30, 100/200						30, 100/200/500										
	Pick-up current [UL1053]	0.7 x Rated sensitive current																												
Tripping time (s) [UL1053]		0.1						0.1						0.1						0.1										

Note: *1 The performance of UL508 approved models is indicated as applicable motor rating (HP), and the detection current of UL1053 approved models is indicated as the pick-up current value (70% of IΔn).

*2 Rated current x 1

*3 Rated current x 1/2

Types and ratings

■ Types and ratings

• MCCBs

Description	Type	Rated current (A)	
Line protection	SA32C SA33C	3, 5, 10, 15, 20, 30	
	SA52C SA53C	5, 10, 15, 20, 30, 40, 50	
	SA52RC SA53RC	10, 15, 20, 30, 40, 50	
	SA62C SA63C SA62RC SA63RC	60	
	Motor protection	SA32CM SA33CM	0.7, 1.4, 2, 2.6, 4, 5, 8, 10, 12, 16 24, 32
		SA53CM SA53RCM	0.7, 1.4, 2, 2.6, 4, 5, 8, 10, 12 16, 24, 32, 40, 45
		SA63CM	60
Non-automatic		SA32CS SA33CS	30
	SA52CS SA53CS	50	
	SA62CS SA63CS	60	
	Instantaneous trip	SA32CI SA33CI	2.5, 5, 10, 15, 20, 30, 40, 60, 80, 120
		SA53CI	10, 15, 20, 30, 40, 60, 80
SA63CI		120, 150, 200, 250, 300, 350, 400 450, 500	

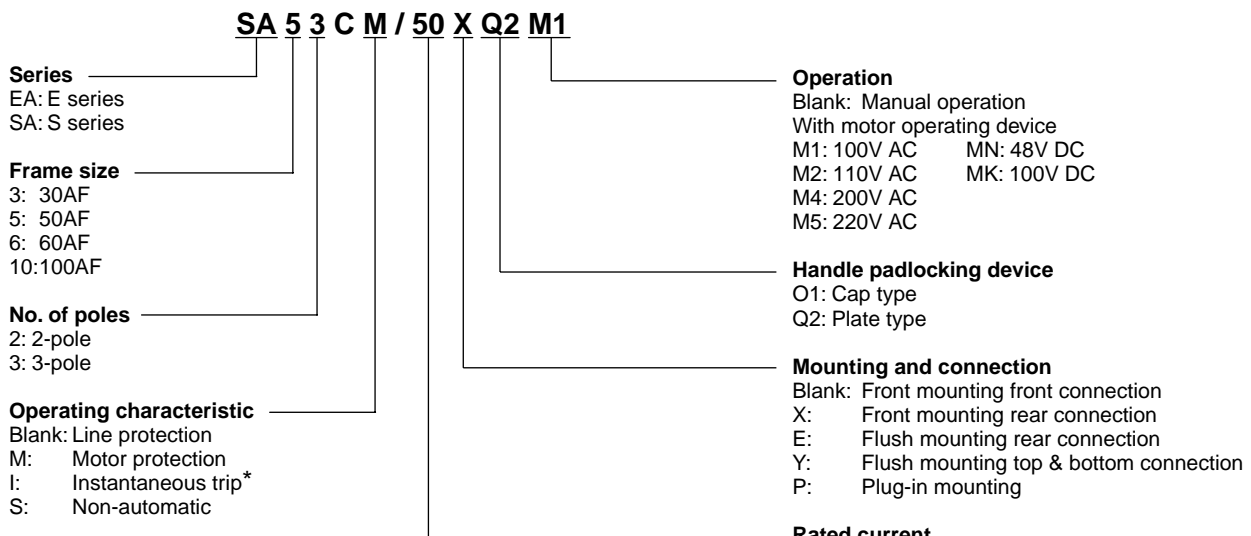
Description	Type	Rated current (A)		
Line protection	EA32AC EA33AC	3, 5, 10, 15, 20, 30		
	EA52AC EA53AC EA52C EA53C	5, 10, 15, 20, 30, 40, 50		
	EA62C EA63C	60		
	EA103AC EA102C EA103C	50, 60, 75, 100 50, 60, 75, 100		
	Motor protection	EA33ACM EA53CM EA63CM EA103CM	1.4, 2.6, 4, 8, 10, 16, 24, 32 24, 32, 40, 45 60 60, 75, 90	
		Non-automatic	EA32ACS EA33ACS	30
			EA52CS EA53CS	50
EA62CS EA63CS			60	
EA102CS EA103CS	100			
Instantaneous trip	EA63CI		600, 720	

• ELCBs

Description	Type	Rated current (A)	Rated sensitive current (mA)
Line protection	SG33C	3, 5, 10, 20, 30,	30
	SG53C SG53RC	5*, 10, 15, 20, 30, 40, 50 * Not available for SG53RC	100/200/500 changeover
	SG63C SG63RC	60	
	SG33CM	0.7, 1.4, 2, 2.6, 4, 5, 8 10, 12, 16, 24, 32	
	Motor protection	SG53CM	0.7, 1.4, 2, 2.6, 4, 5, 8 10, 12, 16, 24, 32, 40 45
SG63CM		60	

Description	Type	Rated current (A)	Rated sensitive current (mA)	
Line protection	EG32AC EG33AC EG33C	5, 10, 15, 20, 30	15, 30, 100	
	EG52AC EG53AC EG53C	5, 10, 15, 20, 30 40, 50	15, 30	
	EG63C	60	100/200 changeover	
	EG103AC	60, 75, 100	30	
	EG102C	50, 60, 75, 100	100/200 changeover	
	EG103C	50, 60, 75, 100	30, 100/200/500 changeover	
	EG103CD	50, 60, 75, 100	100/200/500 changeover	
	Motor protection	EG33CM	1.4, 2.6, 4, 5, 8 10, 16, 24, 32	15, 30, 100
		EG53CM EG63CM EG103CM	45 60 60, 75, 90	15, 30 100/200 changeover 30 100/200/500 changeover
		Arc welder	EG103CY	100

■ Type number nomenclature/MCCBs



* Specify the instantaneous tripping current.

Tripping current (A)	Continuous amp. (A)	Type	Tripping current (A)	Continuous amp. (A)	Type
2.5	1.2	SA32CI, 33CI	120	60	SA63CI
5	2.5		150	60	
10	5	SA32CI, 33CI	200	60	
15	7.5	SA53CI	250	60	
20	10		300	60	
30	15		350	60	
40	20		400	60	
60	30		450	60	
80	32	SA32CI, 33CI	500	60	
80	40	SA53CI	600	60	EA63CI
120	32	SA32CI, 33CI	720	60	

■ Ordering information

Specify the following:

1. Type number of MCCB including factory-mounted optional accessories
2. Type number of customer-mountable optional accessories

■ Customer-mountable optional accessories/Sold separately

Internal accessories

Auxiliary switch, alarm switch, shunt trip device, undervoltage trip device, terminal block

External accessories

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

■ Factory-mounted accessories

External accessories

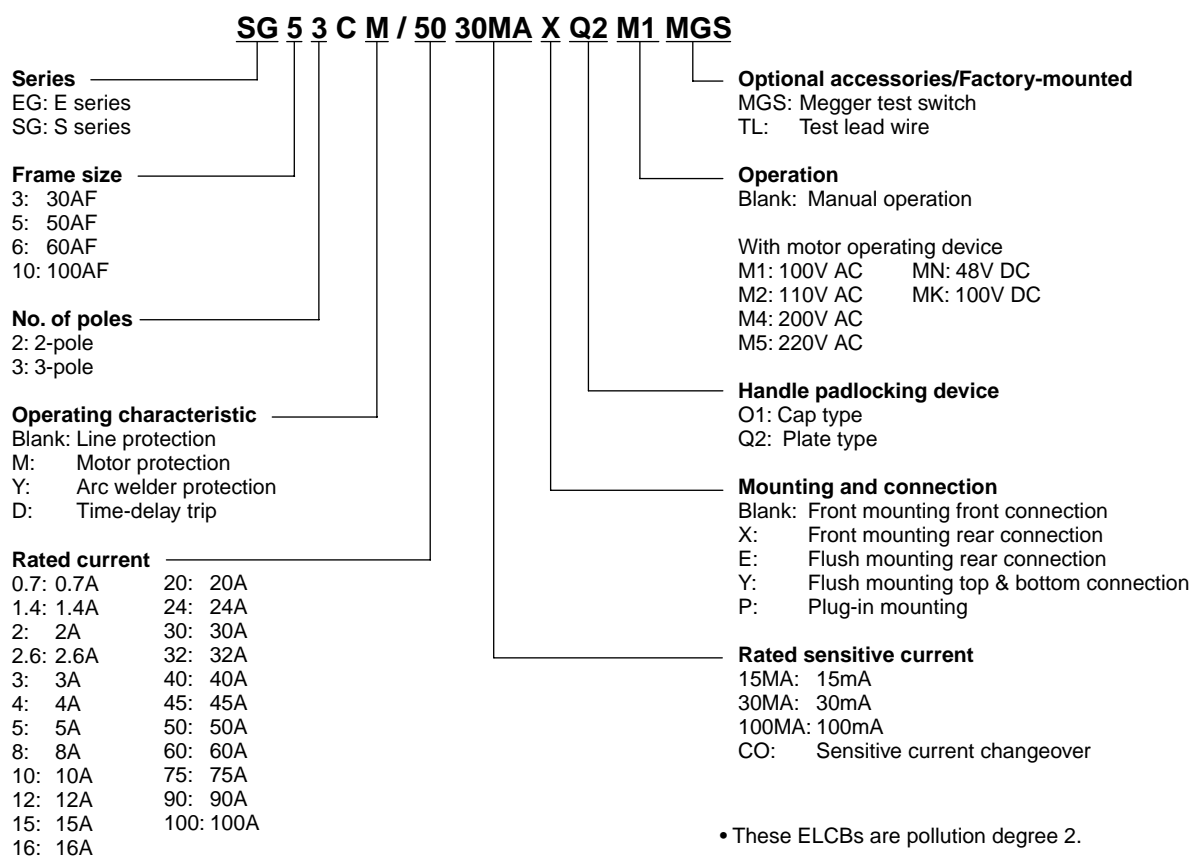
Handle padlocking devices/Q1 and Q2, motor-operating mechanism/M

Further information: See page 31.

Type number nomenclature

ELCBs

■ Type number nomenclature/ELCBs



■ Ordering information

Specify the following:

1. Type number of ELCB including factory-mounted optional accessories
2. Type number of customer-mountable optional accessories

■ Customer-mountable optional accessories/Sold separately

Internal accessories

Auxiliary switch, alarm switch, shunt trip device, undervoltage trip device terminal block

External accessories

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

■ Factory-mounted optional accessories

External accessories

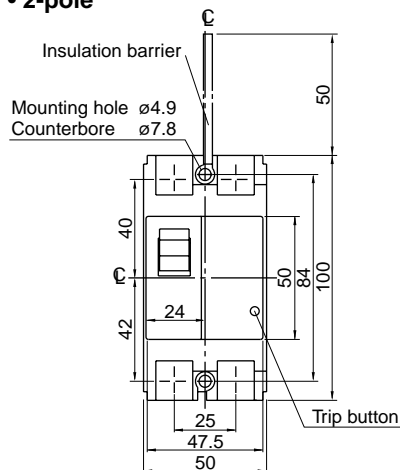
Handle padlocking devices/Q1 and Q2, motor-operating mechanism/M megger test switch/MGS, test lead wire/TL

Further information: See pages 31.

■ Dimensions, mm/Front mounting, front connection

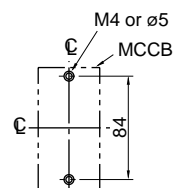
SA30C, SA50C, SA50RC, SA60C, SA60RC
EA30AC, EA50AC, EA50C, EA60C, EA100AC, EA100C

• 2-pole

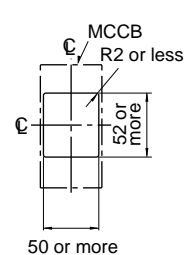


Mass: 0.4kg

Panel drilling



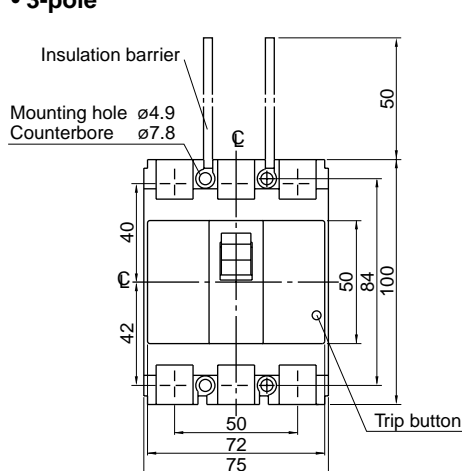
Front panel cutting



Insulation barriers

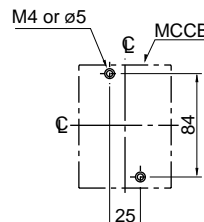
Standard provided: SA52C, SA52RC, SA62C, SA62RC
EA52C, EA62C, EA102C
Optional: SA32C, EA32AC, EA52AC

• 3-pole

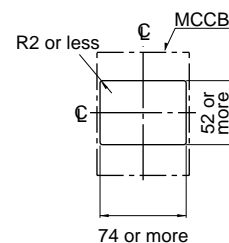


Mass: 30AF, 50AF 0.5kg
60AF, 100AF 0.6kg

Panel drilling



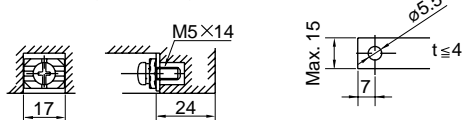
Front panel cutting



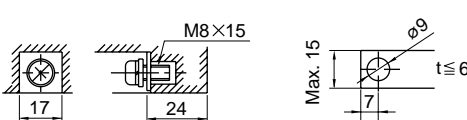
Insulation barriers

Standard provided: SA53C, SA53RC, SA63C, SA63RC
EA53C, EA63C, EA103C
Optional: SA33C, EA33AC, EA53AC, EA103AC

Terminal section
SA30C, SA50C, SA50RC
EA30AC, EA50AC, EA50C



SA60C, SA60RC
EA60C, EA100AC, EA100C



Dimensions for reference only. Confirm before construction begins.

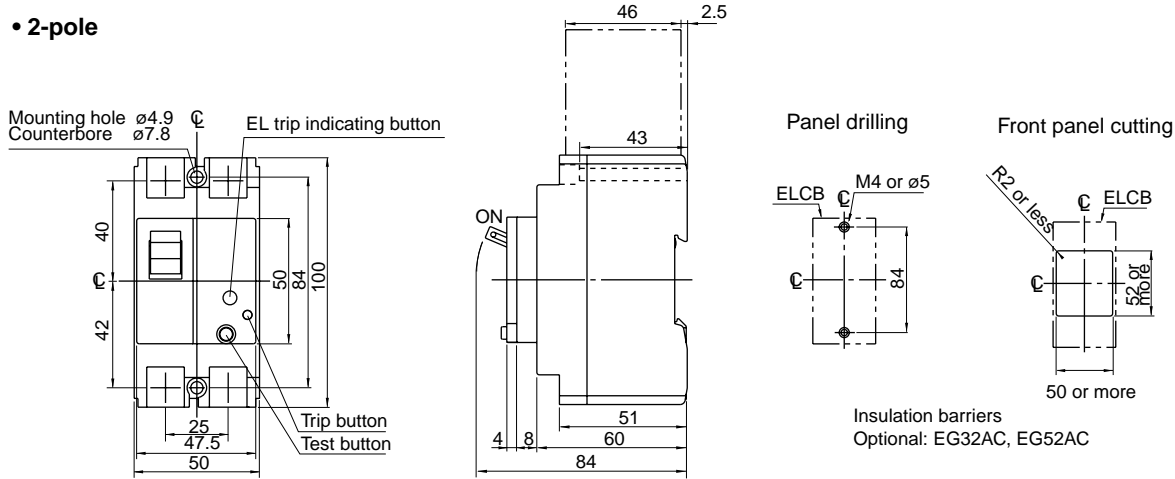
Dimensions ELCBs

■ Dimensions, mm/Front mounting, front connection

SG30C, SG50C, SG50RC, SG60C, SG60RC

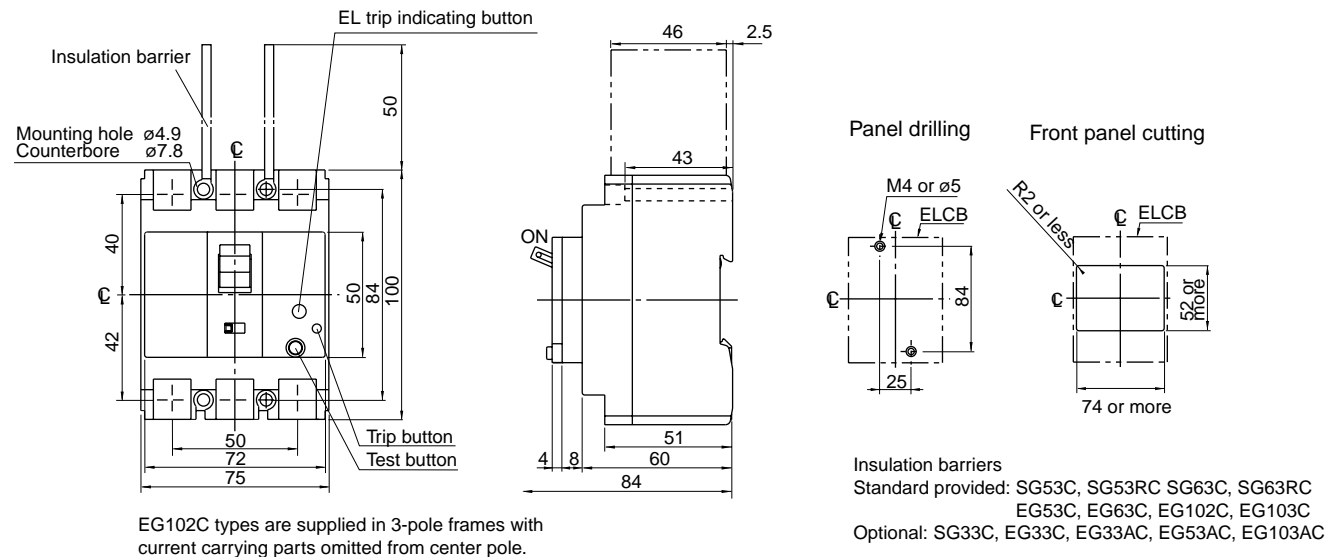
EG30AC, EG30C, EG50AC, EG50C, EG60C, EG100AC, EG100C

• 2-pole



Mass: 0.4kg

• 3-pole, EG102C

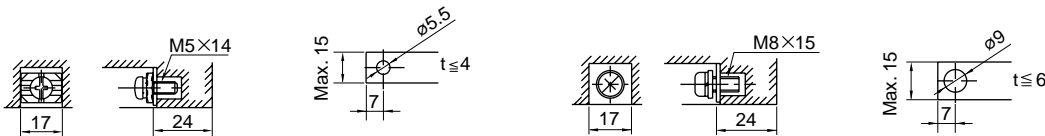


EG102C types are supplied in 3-pole frames with current carrying parts omitted from center pole.

Mass: 30AF, 50AF, 100AF 0.6kg
EG102C 0.55kg

Terminal section
SG30C, SG50C, SG50RC
EG30AC, EG30C, EG50AC, EG50C

SG60C, SG60RC
EG60C, EG100AC, EG100C

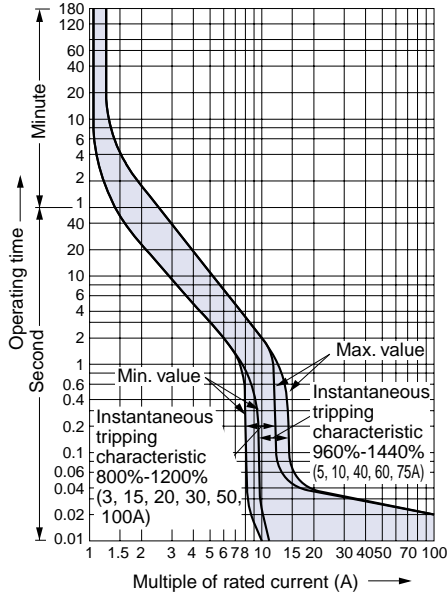


Dimensions for reference only. Confirm before construction begins.

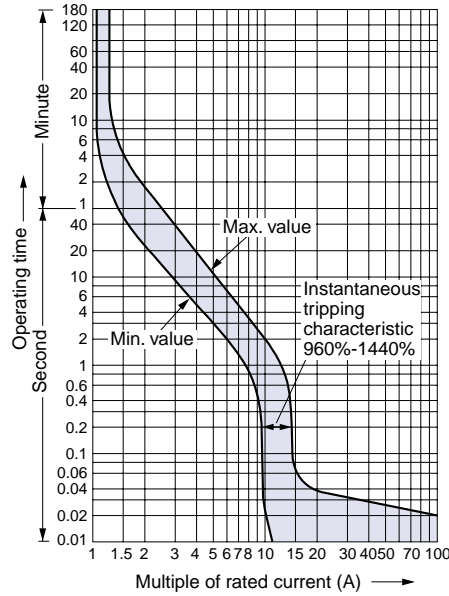
■ Characteristic curves

SA30C, SA50C, SA50RC, EA30AC, EA50AC, EA50C, EA100AC, EA100C

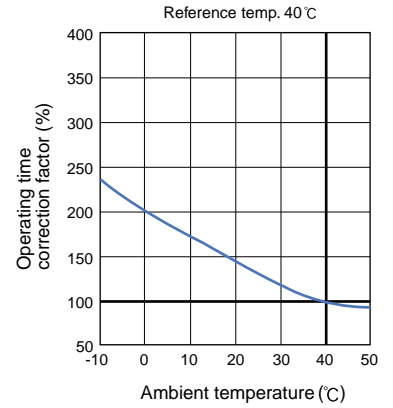
Line protection



Motor protection

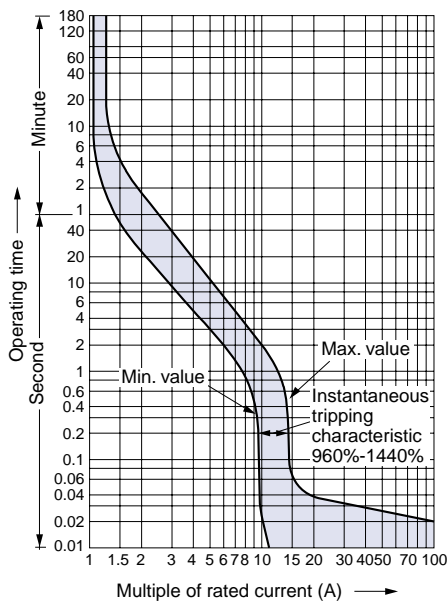


Temperature compensation curve

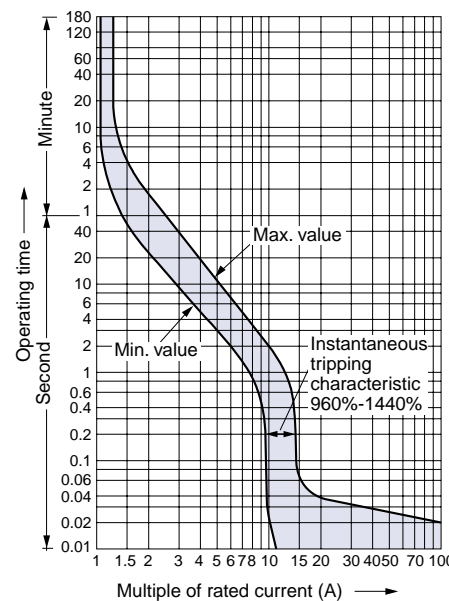


SA60C, SA60RC, EA60C

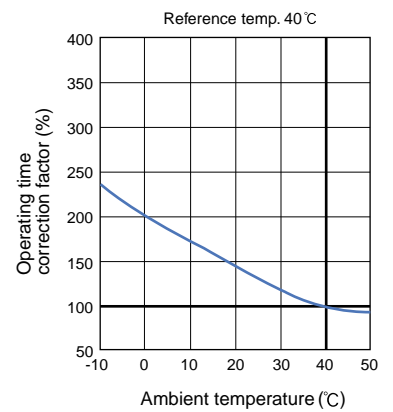
Line protection



Motor protection



Temperature compensation curve

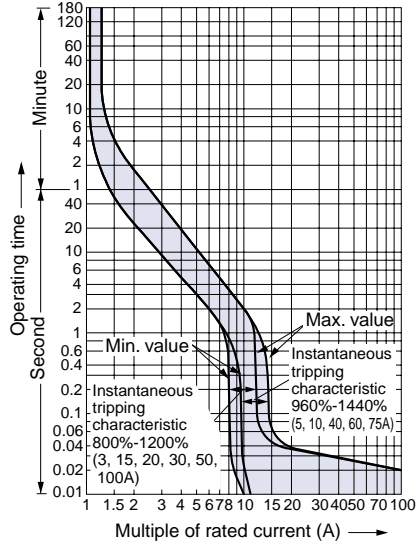


Operating characteristics ELCBs

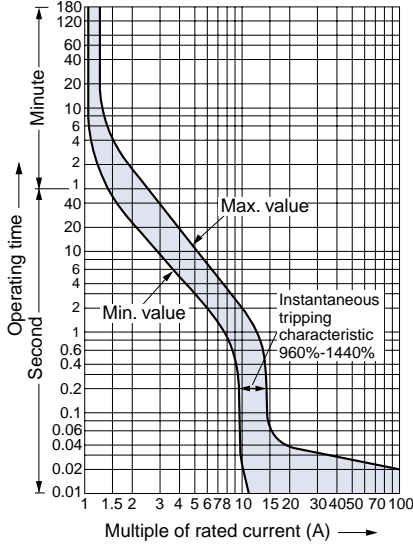
■ Characteristic curves

SG30C, SG50C, SG50RC, EG30AC, EG30C, EG50AC, EG50C, EG100AC, EG100C

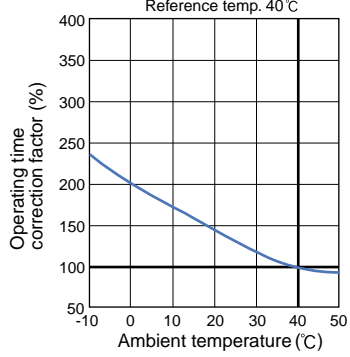
Line protection



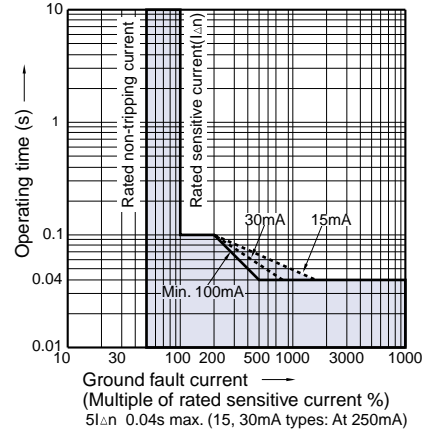
Motor protection



Temperature compensation curve

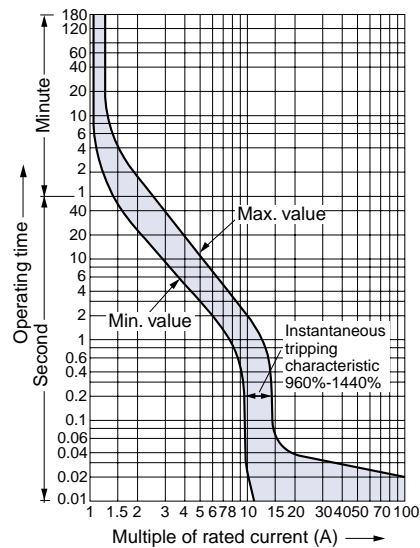


Earth leakage tripping characteristic

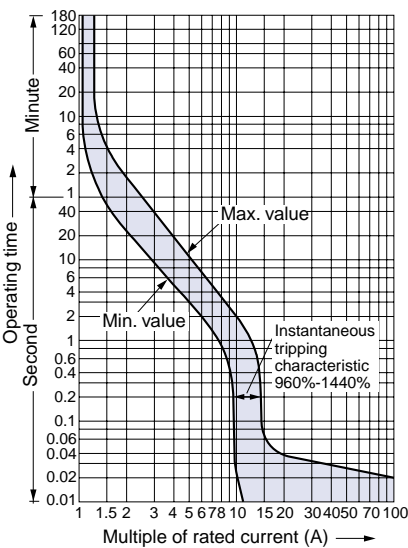


SG60C, SG60RC, EG60C

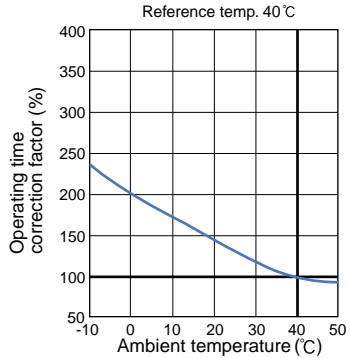
Line protection



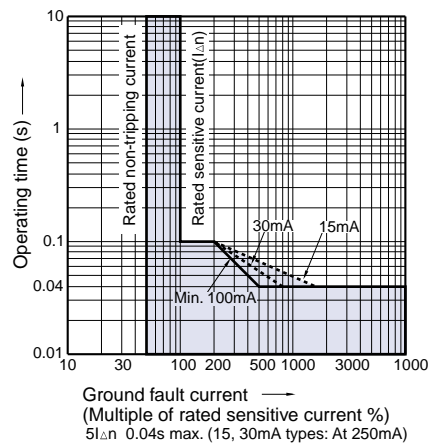
Motor protection



Temperature compensation curve

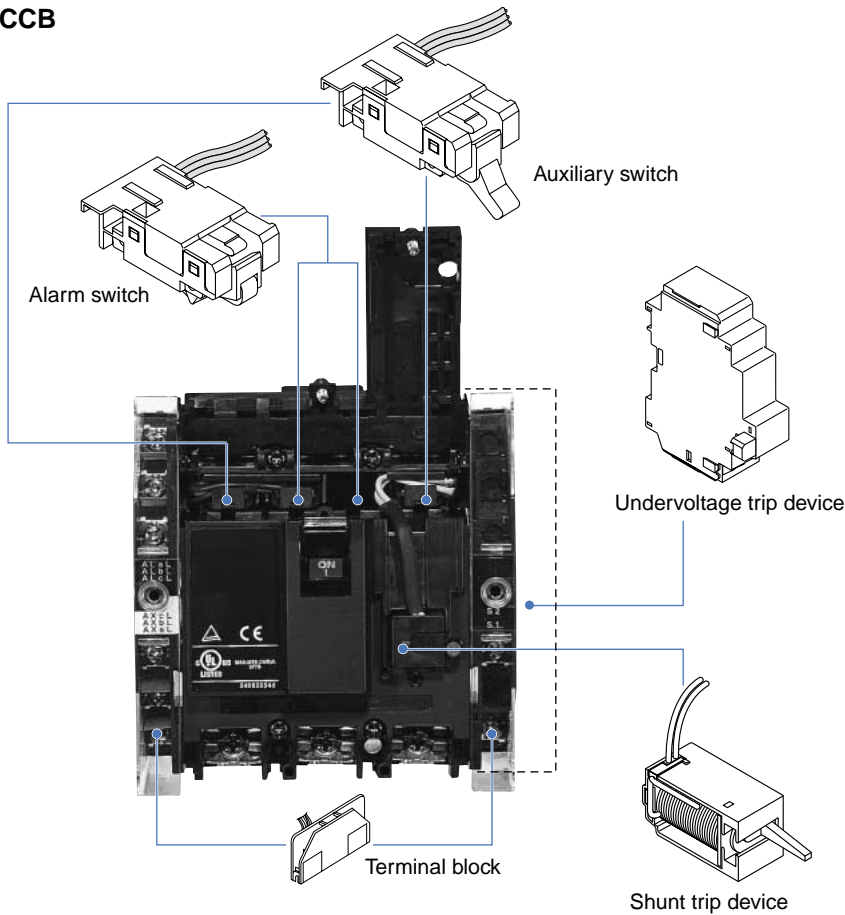


Earth leakage tripping characteristic



■ Optional accessories

• MCCB



• Auxiliary switch (Type W)

This switch is used for indicator lamp or control circuit.

• Alarm switch (Type K)

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

• Shunt trip device (Type F)

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

• Undervoltage trip device (Type R)

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

• Terminal block (Type A)

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

• Megger test switch (Type MGS)

Factory-mounted

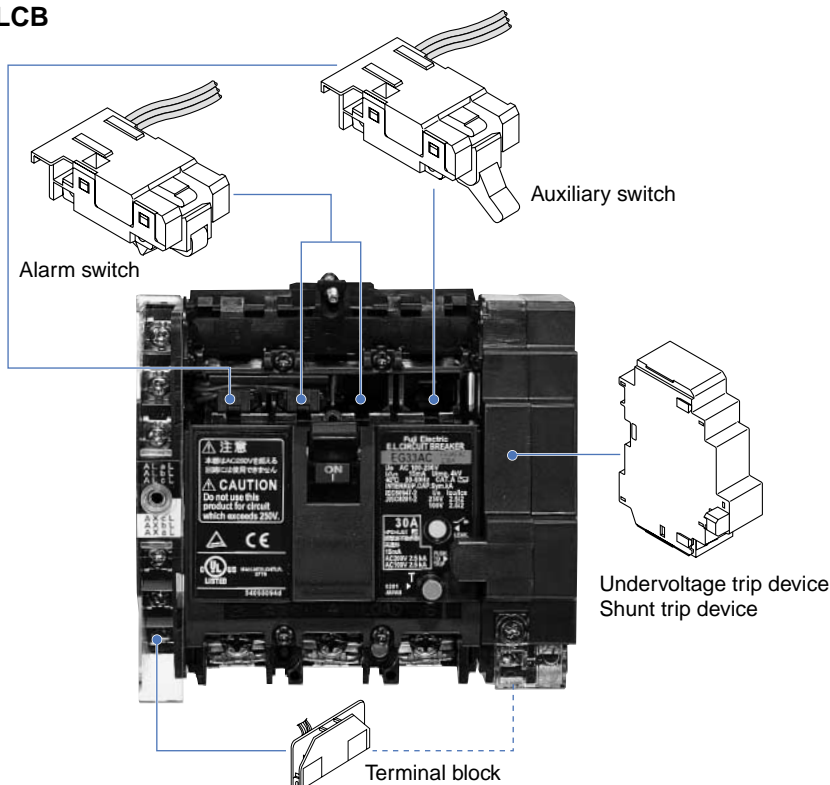
Interlocked with the main contact of the ELCB. When the handle is turned OFF, the control circuit is automatically isolated, enabling megger testing between phases on the load side.

• Test lead wire (Type TL)

Factory-mounted

Trips the ELCB remotely with a contact signal.

• ELCB



Optional accessories

Terminal numbers

Accessory	MCCB	ELCB
Auxiliary switch SPDT W		
2PDT W2		
Alarm switch SPDT K		
2PDT K2		
Shunt trip device F	 1NO contact to prevent coil burn-out	AC: Continuous rating DC: 1NO contact to prevent coil burn-out
Undervoltage trip device R	AC: DC:	

Accessory	ELCB
Megger test switch MGS	
Test lead wire TL	

Terminal block for auxiliary circuit

FUJI MCCBs and ELCBs with internal accessories such as auxiliary and alarm switches, shunt trips and undervoltage trips require leadwire. FUJI MCCBs and ELCBs can also be supplied with terminal blocks suitable for additional circuits. The terminal blocks are slimmer in size.

Lead wiring

The lead wires exit from the side of the installation position of the internal accessory as shown in page 32.

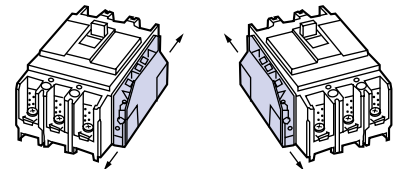
No additional space is required in side-by-side installation, and panel mounting space can be saved.

Each lead wire is provided with a ring mark indicating the terminal number of the accessory to be used, which minimizes incorrect wiring.

Terminal block

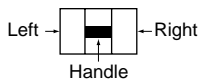
A terminal block for circuit breaker is constructed so that the lead wire is parallel to the side of a circuit breaker. This eliminates the space previously required for lead wire bending, and allows breakers to be installed side-by-side with terminal blocks.

Terminal blocks are located on the right and left side of the breaker case.



Available configurations

3-pole

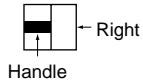


■ Undervoltage trip with terminal block: R

○ Auxiliary switch: W

☒ Megger test switch: MGS

2-pole



□ Shunt trip for MCCB: F

● Alarm switch: K

➔ Test lead wire: TL

▭ Shunt trip for ELCB with terminal block: F

MCCBs

S series	SA32C SA52C SA52RC SA62C SA62RC	SA33C SA53C SA53RC SA63C SA63RC
E series	EA32AC EA52AC EA52C EA62C EA102C	EA33AC EA53AC EA53C EA63C EA103AC EA103C
Pole	2	3
Auxiliary switch SPDT W		
Alarm switch SPDT K		
Shunt trip F		
Undervoltage trip R		
W2		
W+K		
W2+K		
K2		
W+K2		
W2+K2		
W+F		
W+R		
W2+R		
K+F		
K+R		
K2+R		
W+K+F		
W+K+R		
W2+K+R		
W+K2+R		
W2+K2+R		

ELCBs

SG series		SG33C SG53C SG53RC SG63C SG63RC
EG series	EG32AC EG52AC	EG33AC EG33C EG53AC EG53C EG63C EG103AC EG102C EG103C EG103CD
Pole	2	2, 3
Auxiliary switch SPDT W		
Alarm switch SPDT K		
Shunt trip F		
Undervoltage trip R		
W2		
W+K		
W2+K		
K2		
W+K2		
W2+K2		
W+F		
W+R		
W2+R		
K+F		
K+R		
K2+R		
W+K+F		
W+K+R		
W2+K+R		
W+K2+R		
W2+K2+R		

ELCBs

SG series		SG33C SG53C SG53RC SG63C SG63RC
EG series	EG32AC EG52AC	EG33AC EG33C EG53AC EG53C EG63C EG103AC EG102C EG103C EG103CD
Pole	2	2, 3
Megger test switch MGS		
MGS+W		
MGS+K		
MGS+W+K		
MGS+R		
MGS+W+R		
MGS+K+R		
MGS+W+K+R		
Test lead wire TL		
TL+W		
TL+K		
TL+W+K		

Notes: In 2-pole models, a single terminal block is mounted to the right-pole side.

In 3-pole models, a single terminal block is mounted to each of the left- and right-pole sides.

In test lead wire/TL, a terminal block cannot be mounted when there is accessory with terminal block on the right pole side.

Optional accessories

■ Auxiliary switches (W) and alarm switches (K) (IEC 60947-5-1)

Type number					AC15		DC13		Minimum load current (A)
Auxiliary switch / W		Alarm switch / K		Auxiliary switch + Alarm switch	Voltage (V)	Make/break current (A)	Voltage (V)	Make/break current (A)	
SPDT	2PDT	SPDT	2PDT						
BZ6W□10C	BZ6W210C	BZ6K□10C	BZ6K210C	BZ6WK□10C	125	5	30	3	5V DC 160mA
BZ6W□10CA	BZ6W210CA	BZ6K□10CA	BZ6K210CA	BZ6WK□10CA	250	5	125	0.6	30V DC 30mA
(with terminal block)							250	0.3	

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

■ Shunt trip devices (F) (IEC 60947-5-1)

Breaker	Rated voltage	Power consumption		Type number		Operating time (ms)	Time rating of coil		
		AC (VA)	DC (W)		With terminal block				
MCCB	24V AC 50/60Hz, 24V DC	150	150	BZ6FR10C	BZ6FR10CA	7–13	Continuous, provided with 1NO contact to prevent coil burning		
	100–120V AC 50/60Hz, 100–110V DC	150	150	BZ6FA10C	BZ6FA10CA				
	200–240V AC 50/60Hz	150		BZ6FK10C	BZ6FK10CA				
	380–450 AC 50/60Hz	200		BZ6FP10C	BZ6FP10CA				
ELCB	100V AC 50Hz/100–110V AC 60Hz	16		BZ6F210C	–	7–13	Continuous		
	110V AC 50Hz/110–127V AC 60Hz	22		BZ6F110C	–				
	200V AC 50Hz/200–220V AC 60Hz	16		BZ6F710C	–				
	220V AC 50Hz/220–240V AC 60Hz	22		BZ6F410C	–				
	230V AC 50Hz/230–240V AC 60Hz	22		BZ6F510C	–				
	240V AC 50Hz	22		BZ6FB10C	–				
	380V AC 50Hz/380–415V AC 60Hz	22		BZ6F010C	–				
	400V AC 50Hz/400–440V AC 60Hz	22		BZ6F810C	–				
	24V DC		36	△	–			7–13	Continuous, provided with 1NO contact to prevent coil burning
	100–110V DC		24	△	–				

Note: Operating voltage range AC voltage: 85% to 110% of coil rated voltage
DC voltage: 75% to 125% of coil rated voltage

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

■ Undervoltage trip devices (R) (IEC 60947-5-1)

Breaker	Rated voltage	Type number	Operating voltage
MCCB	100V AC 50Hz/100–110V AC 60Hz	BZ6R210C	Tripping voltage: 70 to 20% of coil rated voltage Closing voltage: 85% or more of coil rated voltage
ELCB	110V AC 50Hz/110–127V AC 60Hz	BZ6R110C	
	200V AC 50Hz/200–220V AC 60Hz	BZ6RW10C	
	220V AC 50Hz/220–240V AC 60Hz	BZ6R410C	
	230V AC 50Hz/230–240V AC 60Hz	BZ6R510C	
	240V AC 50Hz	BZ6R810C	
	380V AC 50Hz/380–415V AC 60Hz	BZ6R010C	
	400V AC 50Hz/400–440V AC 60Hz	BZ6R910C	
	24V DC	BZ6RF10C	
	100–110V DC	BZ6RT10C	

- Notes:
- Specify operating voltage when ordering.
 - Terminal block is provided as standard.

Lead wire specifications

Type of wire	Wire size and length	Marking	Example of ring mark						
Insulation wire	AWG22 (0.4mm ²) 500mm	Lead wires are marked with to indicate the correct terminal number.	<table border="1"> <tr> <td>ALaL (98)</td> <td>ALbL (96)</td> <td>ALcL (95)</td> </tr> <tr> <td>S1 (C1)</td> <td>S2 (C2)</td> <td></td> </tr> </table>	ALaL (98)	ALbL (96)	ALcL (95)	S1 (C1)	S2 (C2)	
ALaL (98)	ALbL (96)	ALcL (95)							
S1 (C1)	S2 (C2)								

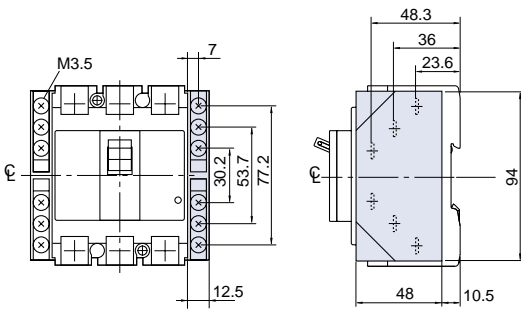
Color of ring mark for lead wires

Shunt trip		Auxiliary contact					
S1	S2	AXaL (14)	AXaR (24)	AXbL (12)	AXbR (22)	AXcL (11)	AXcR (21)
White	White	Brown	Red	Green	Blue	White	Yellow

Alarm contact						Test lead	
ALaL (98)	ALaR (08)	ALbL (96)	ALbR (06)	ALcL (95)	ALcR (05)	TL1	TL2
Brown	Red	Green	Blue	White	Yellow	Red	Red

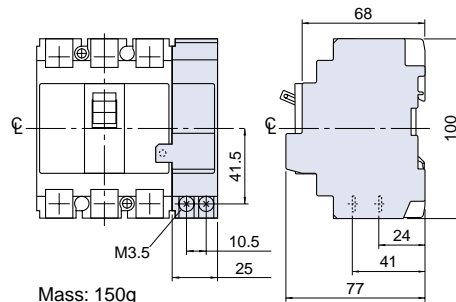
Dimensions, mm

Terminal block



Mass: 60g

Undervoltage/Shunt trip device (ELCB)



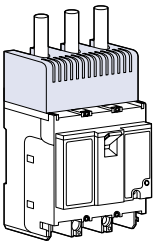
Mass: 150g

Optional accessories

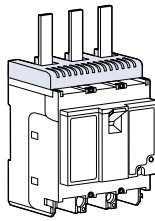
Terminal covers

Finger protection guards against shock from accidentally touching live terminals. The long type terminal cover can be mounted to provide IP20 protection stipulated in IEC 60204-1 (structured in combination with earth barrier).

Description	Pole	Terminal type	
		Black	Transparent
Long type	2-pole	BZ6TB10C2	BZ6TBH10C2
	3-pole EG102C	BZ6TB10C3	BZ6TBH10C3
Short type	2-pole	BZ6TS10C2	BZ6TSH10C2
	3-pole EG102C	BZ6TS10C3	BZ6TSH10C3



Long type

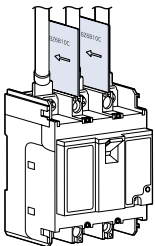


Short type

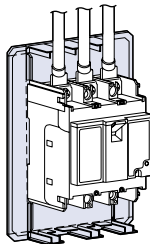
Insulation barriers

The interphase barrier reinforces the insulation between terminals, while the earth barrier increases the insulation between the terminal and the mounting panel.

Description	Pole	Barrier type	Remarks
Interface barrier	3-pole	BZ6B10C	Standard provided:
Earth barrier	2-pole	BZ6BL10C2	50 to 100AF
	3-pole EG102C	BZ6BL10C3	2-pole: 1-interface type 3-pole: 2-interface type



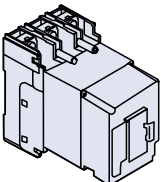
Interface barrier



Earth barrier

Motor-operating mechanism

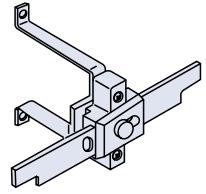
A new drive structure in the motor operating mechanism speeds up drive operation to drastically reduce ON/OFF switching time from 2s to 0.1s.



Operating Voltage	Code (50 to 100AF)
100V AC	M1
110V AC	M2
200V AC	M4
220V AC	M5
48V DC	MN
100V AC	MK

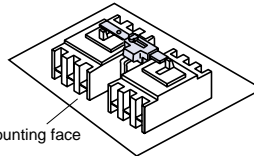
Mechanical interlock device

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

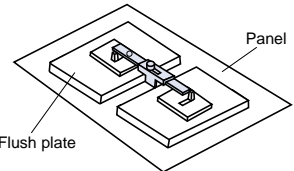


For front mounting: **BZ6M1**

For flush mounting: **BZ6M2**

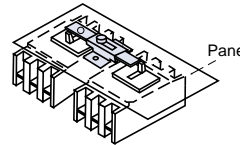


Mounting face



Flush plate

For front mounting, rear connection, plug-in mounting: **BZ6M3**

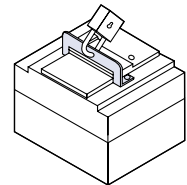
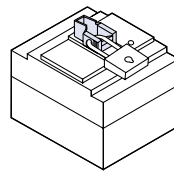


Panel

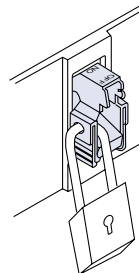
Handle padlocking device

This key lock device snaps on to enable the handle to be locked in either the ON or OFF position. It can be used either as a handle locking cover or, with the addition of a padlock, as an ON or OFF lock. Even when locked in the ON position, the breaker will trip when overcurrent flows to it.

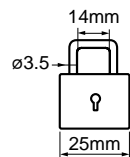
Cap type Q1: Factory-mounted Plate type Q2: Factory-mounted



Handle locking cover: **BZ6L10C**



Padlock/Not supplied



Optional accessories

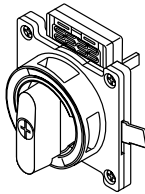
Mounting modification kits

External operating handles

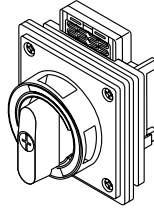
There are two handles available in the series: the V type handle on panel mount and the N type handle on breaker mount. An extension shaft (sold separately) for the V type handle allows the distance between the handle and the breaker to be adjusted.

The protective structure of the handle operation section conforms to IP54. Both handle types can be locked with a padlock conforming to IEC 60204-1. The panel cutout dimensions are the same for both handles.

N type: **BZ6N10C**



V type: **BZ6V10C**



Steel enclosures

Enclosures are available in three types—two with V-type handle which allows the operation from the outside, and other direct operating.

Description	Pole	Enclosure type	
		Up to 60AF	100AF
Standard (Direct operating)	2-pole	BZ6C10C2	BZ6C25C2
	3-pole EG102C	BZ6C10C3	BZ6C25C3
Dustproof handle-operated	2-pole	BZ6CV10C	BZ6CV25C
	3-pole		
Rainproof handle-operated	2-pole	BZ6CW10C	BZ6CW25C
	3-pole		



Standard
(AF90-780)



Dustproof
(AF96-175)



Rainproof
(CP97-2636)

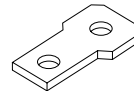
Mounting modification kits

By mounting the rear connection terminal unit, the customer can easily change the breaker from a front mounting front connection configuration to a front mounting rear connection configuration. Optional kits also allow the customer to easily switch to a plug in front mounting or flush mounting rear connection.

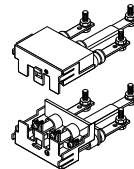
Description	Pole	Kit type	
		30 to 50AF	60 to 100AF
For front connection Flat terminal/ S	2-pole	BZ6S10C502	BZ6S10C1002
	3-pole	BZ6S10C503	BZ6S10C1003
Front mounting, rear connection/ X	2-pole	BZ6X10C502	BZ6X10C1002
	3-pole	BZ6X10C503	BZ6X10C1003
Flush mounting, rear connection/ E	2-pole	BZ6E10C502	BZ6E10C1002
	3-pole	BZ6E10C503	BZ6E10C1003
Flush mounting, top & bottom connection/ Y	2-pole	BZ6Y10C502	BZ6Y10C1002
	3-pole	BZ6Y10C503	BZ6Y10C1003
Plug-in mounting/ P	2-pole	BZ6P10C502	BZ6P10C1002
	3-pole	BZ6P10C503	BZ6P10C1003

Note: X, E, Y and P type kits for EG102C are factory mounted.

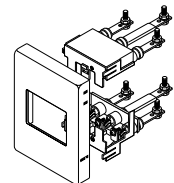
Kits for front connection,
Flat terminal/ **S**



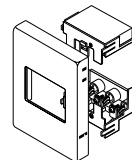
Kits for front mounting,
rear connection/ **X**



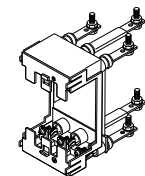
Kits for flush mounting,
rear connection/ **E**



Kits for flush mounting,
top & bottom connection/ **Y**



Kits for plug-in mounting/ **P**



Operating conditions

Standard operating conditions

MCCBs and ELCBs are manufactured based on the standard operating conditions given in the table below. Countermeasures will be required if they are to be used in environmental conditions that differ from those of the standard operating conditions. FUJI manufactures special MCCB and ELCB models to match specific operating conditions. Contact your FUJI sales representative for details.

Standard operating conditions

Ambient temperature	-10°C to 40°C	No sudden temperature changes resulting in condensation or icing.
Relative humidity	85% RH or less	
Altitude	2000m or lower	
Atmosphere	No excessive dust, smoke, corrosive gases, flammable gases, steam, or salt.	

Factors effecting operating characteristics

Ambient temperature

If an MCCB and an ELCB are used at a temperature other than the reference ambient temperature (specified as 40°C by JIS) at which its overcurrent trip characteristics are prescribed, the long-time delay trip characteristic changes. Therefore, the choice of MCCB and ELCB must consider to the cataloged temperature correction curve and overcurrent trip characteristics.

Hydraulic-magnetic trip device:

The minimum for trip current does not change, but changes in the ambient temperature increase or decrease the operating time because the viscosity of the silicon fluid in the oil dash pot changes.

Mounting angle


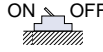
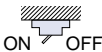




MCCBs and ELCBs are designed to be mounted in parallel with the vertical plane. Note that mounting in other than the standard position could alter operating characteristics of the MCCB and ELCB.

The effects of mounting angle on the overcurrent trip characteristic vary according to the type of trip device.

Hydraulic-magnetic trip device:

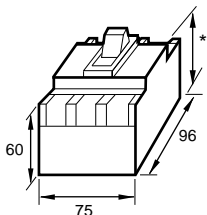
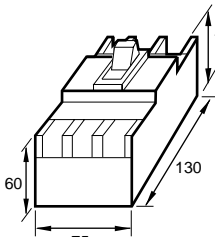
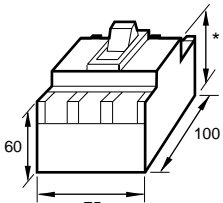
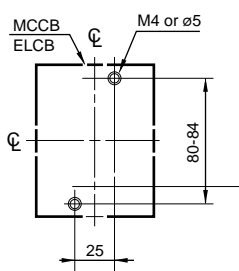
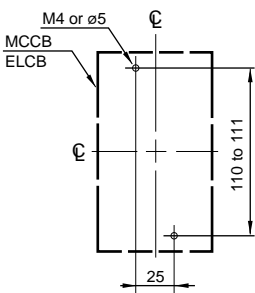
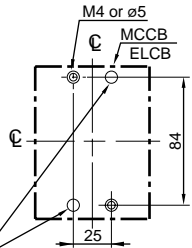
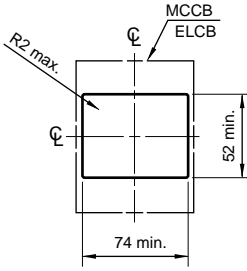
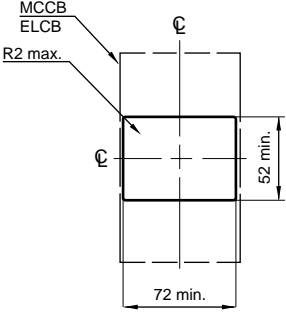
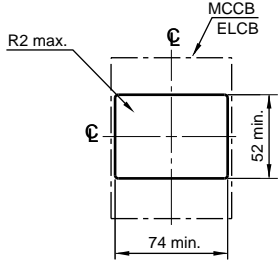
The effect of gravity on the iron core in the cylinder varies with the mounting angle; therefore, mounting angle affects the operating characteristics. In general, backward or forward tilt not exceeding 10° from the vertical has negligible effect, but angle greater than this requires correction of the current rating according to the correction factor listed in the table below.

Current rating correction for mounting angle

Vertical	Horizontal	Horizontal (upside down)	
 100%	 85%	 115%	
Slant			
Forward 15°	Forward 45°	Backward 15°	Backward 45°
 95%	 90%	 105%	 110%

■ Comparison of mounting dimensions

Front mounting, front connection / 3-pole types

	Conventional →		New / α -TWIN
MCCB	EA33, EA53A	SA33B, SA53B, SA53R, SA63B, SA63R EA53B, EA63B, EA103B	SA33C, SA53C, SA53RC, SA63C, SA63RC EA33AC, EA53AC, EA103AC EA53C, EA63C, EA103C
ELCB	EG33F, EG53F	SG33B, SG53B, SG53R, SG63B, SG63R EG33B, EG53B, EG63B, EG103B	SG33C, SG53C, SG53RC, SG63C, SG63RC EG33AC, EG53AC, EG103AC EG33C, EG53C, EG63C, EG103C, EG103CD
Outline dimensions (mm)			
Panel drilling (mm)			 Can be knocked out in your site.
Panel cutting (mm)			
Depth (mm) *	65	64	68

FUJI MCCB family

■ 30 to 800AF

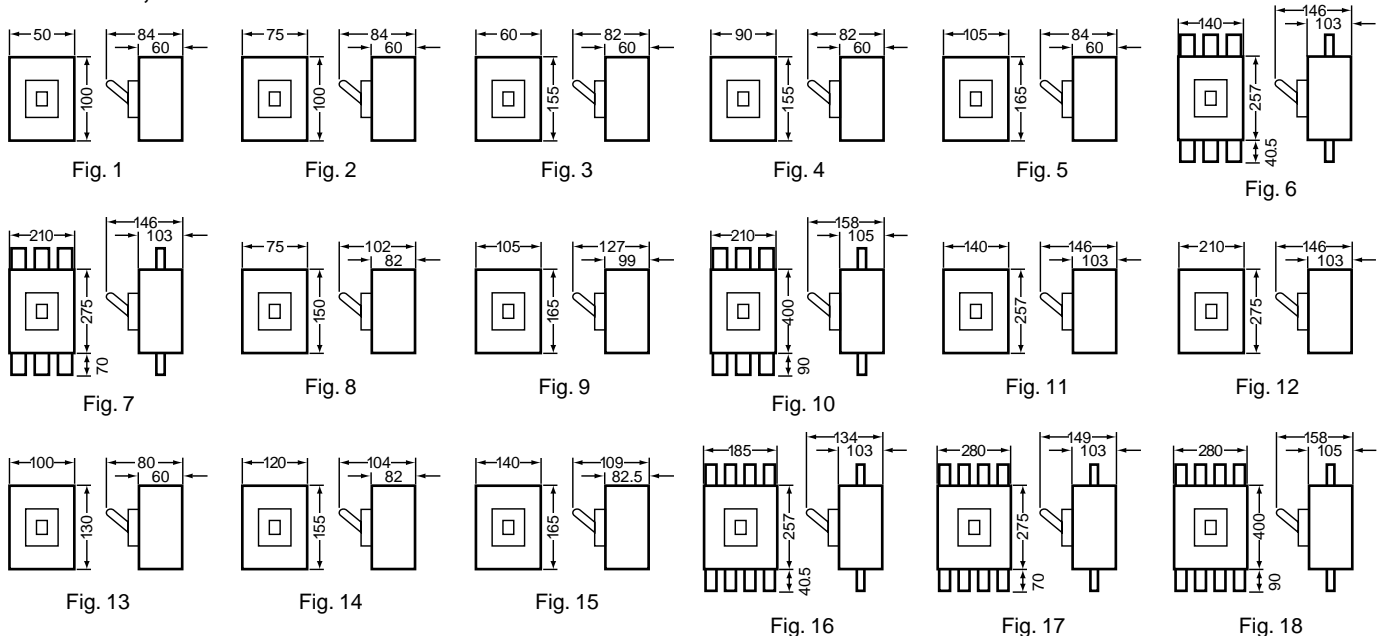
Series	Frame size	Type	Pole	Rated current (A)	Insulation voltage Ui(V)	Interrupting capacity(kA) Icu/Ics IEC60947-2, EN60947-2							Fig. No.	
						AC					DC			
						230V	400V	440V	500V	600V	690V	250V		
α-TWIN S	30	SA32C	2	3, 5, 10, 15, 20, 30	690	5/3	2.5/2	2.5/2	1.5/1	—	—	2.5/2	1	
	30	SA33C	3	3, 5, 10, 15, 20, 30	690	5/3	2.5/2	2.5/2	1.5/1	—	—	2.5/2	2	
	50	SA52C	2	5, 10, 15, 20, 30, 40, 50	690	10/5	7.5/4	7.5/4	5/3	2.5/2	—	5/3	1	
	50	SA53C	3	5, 10, 15, 20, 30, 40, 50	690	10/5	7.5/4	7.5/4	5/3	2.5/2	—	5/3	2	
	50	SA52RC	2	10, 15, 20, 30, 40, 50	690	25/13	10/5	10/5	7.5/4	5/3	—	5/3	1	
	50	SA53RC	3	10, 15, 20, 30, 40, 50	690	25/13	10/5	10/5	7.5/4	5/3	—	5/3	2	
	60	SA62C	2	60	690	10/5	7.5/4	7.5/4	5/3	2.5/2	—	5/3	1	
	60	SA63C	3	60	690	10/5	7.5/4	7.5/4	5/3	2.5/2	—	5/3	2	
	60	SA62RC	2	60	690	25/13	10/5	10/5	7.5/4	5/3	—	5/3	1	
	60	SA63RC	3	60	690	25/13	10/5	10/5	7.5/4	5/3	—	5/3	2	
S	100	SA102BA	2	15, 20, 30, 40, 50, 60, 75, 100	690	50/25	30/15	25/13	15/8	10/5	—	15/8	3	
	100	SA103BA	3	15, 20, 30, 40, 50, 60, 75, 100	690	50/25	30/15	25/13	15/8	10/5	—	15/8	4	
	100	SA102RA	2	15, 20, 30, 40, 50, 60, 75, 100	690	100/50	50/25	50/25	35/18	25/13	5/3	40/20	4	
	100	SA103RA	3	15, 20, 30, 40, 50, 60, 75, 100	690	100/50	50/25	50/25	35/18	25/13	5/3	40/20	4	
	225	SA202BA	2	125, 150, 175, 200, 225	690	50/25	30/15	25/13	18/9	15/8	—	20/10	5	
	225	SA203BA	3	125, 150, 175, 200, 225	690	50/25	30/15	25/13	18/9	15/8	—	20/10	5	
	225	SA202RA	2	125, 150, 175, 200, 225	690	100/50	50/25	50/25	35/18	25/13	5/3	40/20	5	
	225	SA203RA	3	125, 150, 175, 200, 225	690	100/50	50/25	50/25	35/18	25/13	5/3	40/20	5	
	400	SA402B	2	250, 300, 350, 400	690	50/25	35/18	35/18	22/11	—	—	20/10	6	
	400	SA403B	3	250, 300, 350, 400	690	50/25	35/18	35/18	22/11	—	—	20/10	6	
	400	SA402R	2	250, 300, 350, 400	690	85/43	50/25	50/25	35/18	30/15	—	40/20	6	
	400	SA403R	3	250, 300, 350, 400	690	85/43	50/25	50/25	35/18	30/15	—	40/20	6	
	600	SA603R	3	500, 600	690	85/43	50/25	50/25	35/18	30/15	—	40/20	7	
	800	SA803R	3	700, 800	690	85/43	50/25	50/25	35/18	30/15	—	40/20	7	
	α-TWIN E	30	EA32AC	2	3, 5, 10, 15, 20, 30	500	2.5/2	1.5/1	1.5/1	—	—	—	—	1
		30	EA33AC	3	3, 5, 10, 15, 20, 30	500	2.5/2	1.5/1	1.5/1	—	—	—	—	2
50		EA52AC	2	5, 10, 15, 20, 30, 40, 50	500	2.5/2	1.5/1	1.5/1	—	—	—	—	1	
50		EA53AC	3	5, 10, 15, 20, 30, 40, 50	500	2.5/2	1.5/1	1.5/1	—	—	—	—	2	
50		EA52C	2	5, 10, 15, 20, 30, 40, 50	690	5/3	2.5/2	2.5/2	1.5/1	—	—	2.5/2	1	
50		EA53C	3	5, 10, 15, 20, 30, 40, 50	690	5/3	2.5/2	2.5/2	1.5/1	—	—	2.5/2	2	
60		EA62C	2	60	690	5/3	2.5/2	2.5/2	1.5/1	—	—	2.5/2	1	
60		EA63C	3	60	690	5/3	2.5/2	2.5/2	1.5/1	—	—	2.5/2	2	
100		EA103AC	3	60, 75, 100	500	5/3	1.5/1	—	—	—	—	—	2	
100		EA102C	2	50, 60, 75, 100	690	25/13	10/5	10/5	7.5/4	5/3	—	5/3	1	
100	EA103C	3	50, 60, 75, 100	690	25/13	10/5	10/5	7.5/4	5/3	—	5/3	2		
E	225	EA202B	2	125, 150, 175, 200, 225	690	30/8	18/5	15/4	10/3	—	—	10/3	5	
	225	EA203B	3	125, 150, 175, 200, 225	690	30/8	18/5	15/4	10/3	—	—	10/3	5	
	400	EA402B	2	250, 300, 350, 400	690	35/18	25/13	25/13	18/9	—	—	20/10	6	
	400	EA403B	3	250, 300, 350, 400	690	35/18	25/13	25/13	18/9	—	—	20/10	6	
	600	EA603B	3	500, 600	690	50/25	35/18	35/18	22/11	—	—	20/10	7	
	800	EA803B	3	700, 800	690	50/25	35/18	35/18	22/11	—	—	20/10	7	

■ 50 to 1200AF

Series	Frame size	Type	Pole	Rated current (A)	Insulation voltage Ui(V)	Interrupting capacity (kA) IEC60947-2, EN60947-2						Fig. No.
						AC 230V	400V	440V	500V	600V	DC 250V	
L	50	LA53B	3	5,10	660	100/50	60/30	50/25	42/21		50	8
H	50	H52BA	2	15, 20, 30, 40, 50	690	125/32	65/17	65/17	35/9	25/7	40/10	4
	50	H53BA	3	15, 20, 30, 40, 50	690	125/32	65/17	65/17	35/9	25/7	40/10	4
	100	H102BA	2	15, 20, 30, 40, 50, 60, 75, 100	690	125/32	65/17	65/17	35/9	25/7	40/10	4
	100	H103BA	3	15, 20, 30, 40, 50, 60, 75, 100	690	125/32	65/17	65/17	35/9	25/7	40/10	4
	225	H202BA	2	125, 150, 175, 200, 225	690	125/32	65/17	65/17	35/9	25/7	40/10	5
	225	H203BA	3	125, 150, 175, 200, 225	690	125/32	65/17	65/17	35/9	25/7	40/10	5
	400	H402B	2	250, 300, 350, 400	690	125/63	65/33	65/33	42/21	35/18	40/20	11
	400	H403B	3	250, 300, 350, 400	690	125/63	65/33	65/33	42/21	35/18	40/20	11
	400	H403R	3	250, 300, 350, 400	690	125/63	125/63	125/63	85/43	–	40/20	11
	600	H603B	3	500, 600	690	125/63	65/33	65/33	42/21	35/18	40/20	12
	600	H603R	3	500, 600	690	125/63	125/63	125/63	85/43	–	40/20	12
	800	H803B	3	700, 800	690	125/63	65/33	65/33	42/21	35/18	40/20	12
	800	H803R	3	700, 800	690	125/63	125/63	125/63	85/43	–	40/20	12

Series	Frame size	Type	Pole	Rated current (A)	Insulation voltage Ui(V)	Interrupting capacity (kA) IEC60157-1 P1, BS, VDE								Fig. No.
						AC 220V	240V	380V	415V	500V	600V	660V	DC 125/250V	
H	100	H103R	3	40,50,60,70,100	660	125	125	100	85	42	35	–	40	9
	225	H203R	3	125,150,175,200,225	660	125	125	100	85	42	35	–	40	9
S	1000	S1003	3	1000	660	85	85	50	50	35	30	–	–	10
	1200	S1203	3	1200	660	85	85	50	50	35	30	–	–	10
	50	SA54B	4	5, 10, 15, 20, 30, 40, 50	660	10	10	7.5	7.5	5	2.5	–	–	13
	100	SA104R	4	15, 20, 30, 40, 50, 60, 75, 100	660	85	85	50	45	35	25	–	20	14
	225	SA204R	4	125, 150, 175, 200, 225	660	85	85	50	50	35	25	–	20	15
	400	SA404HA	4	250, 300, 350, 400	660	85	85	45	45	35	30	–	40	16
	600	SA604H	4	500, 600	660	85	85	45	45	35	30	–	40	17
	800	SA804H	4	700, 800	660	85	85	45	45	35	30	–	40	17
	1000	S1004	4	1000	660	85	85	50	50	35	30	30	–	18
	1200	S1204	4	1200	660	85	85	50	50	35	30	30	–	18
E	100	EA104B	4	50, 60, 75, 100	660	25	25	15	10	7.5	5	–	–	13

Dimensions, mm



FUJI ELCB family

■ α -TWIN/30 to 100AF

Series	Frame size	Type	Pole	Rated current (A)	Rated voltage (V)	Sensitive current (mA)	Interrupting capacity(kA) IEC60947-2(Icu/Ics) AC			Fig. No.
							100V	230V	440V	
α -TWIN SG	30	SG33C	3	3, 5, 10, 15, 20, 30	100-440	30, 100/200/500	5/3	5/3	2.5/2	2
	50	SG53C	3	5, 10, 15, 20, 30, 40, 50	100-440	30, 100/200/500	10/5	10/5	7.5/4	2
		SG53RC	3	10, 15, 20, 30, 40, 50	100-440	30, 100/200/500	25/13	25/13	10/5	2
	60	SG63C	3	60	100-440	30, 100/200/500	10/5	10/5	7.5/4	2
		SG63RC	3	60	100-440	30, 100/200/500	25/13	25/13	10/5	2
	α -TWIN EG	30	EG32AC	2	5, 10, 15, 20, 30	100-230	15, 30, 100	2.5/2	2.5/2	-
30		EG33AC	3	5, 10, 15, 20, 30	100-230	15, 30, 100	2.5/2	2.5/2	-	2
		EG33C	3	5, 10, 15, 20, 30	100-440	15, 30, 100	5/3	2.5/2	1.5/1	2
		EG52AC	2	5, 10, 15, 20, 30, 40, 50	100-230	15, 30, 100	2.5/2	2.5/2	-	1
50		EG53AC	3	5, 10, 15, 20, 30, 40, 50	100-230	15, 30, 100	2.5/2	2.5/2	-	2
		EG53C	3	5, 10, 15, 20, 30, 40, 50	100-440	15, 30, 100/200	5/3	5/3	2.5/2	2
60		EG63C	3	60	100-440	15, 30, 100/200	5/3	5/3	2.5/2	2
		EG103AC	3	60, 75, 100	100-230	30, 100/200	5/3	5/3	-	2
100		EG102C	2	50, 60, 75, 100	100-230	30, 100/200	10/5	10/5	-	2
100		EG103C	3	50, 60, 75, 100	100-440	30, 100/200/500	25/13	25/13	10/5	2
100		EG103CD	3	50, 60, 75, 100	230-440	100/200/500	25/13	25/13	10/5	2

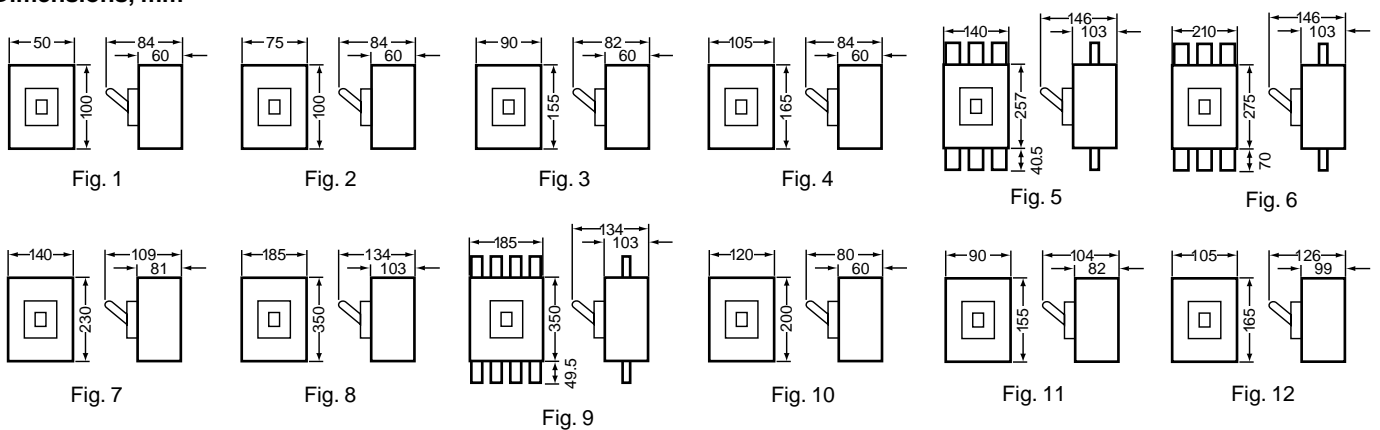
■ 100 to 800AF

Series	Frame size	Type	Pole	Rated current (A)	Rated voltage (V)	Sensitive current (mA)	Interrupting capacity (kA) sym. AC			Fig. No.
							120V	240V	415V	
SG	100	SG103BA	3	15, 20, 30, 40, 50, 60, 75, 100	100-440	30, 100/200/500	50	50	25	3
	100	SG103BAD	3	15, 20, 30, 40, 50, 60, 75, 100	200-440	100/200/500	-	50	25	3
	100	SG103RA	3	15, 20, 30, 40, 50, 60, 75, 100	100-440	30, 100/200/500	85	85	42	3
	100	SG103RAD	3	15, 20, 30, 40, 50, 60, 75, 100	200-440	100/200/500	-	85	42	3
	225	SG203BA	3	125, 150, 175, 200, 225	100-440	30, 100/200/500	50	50	25	4
		SG203BAD	3	125, 150, 175, 200, 225	200-440	100/200/500	-	50	25	4
		SG203RA	3	125, 150, 175, 200, 225	100-440	30, 100/200/500	85	85	42	4
		SG203RAD	3	125, 150, 175, 200, 225	200-440	100/200/500	-	85	42	4
	400	SG403B	3	250, 300, 350, 400	100-440	30, 100/200/500	50	50	35	5
		SG403BD	3	250, 300, 350, 400	200-440	100/200/500	-	50	35	5
		SG403R	3	250, 300, 350, 400	100-440	30, 100/200/500	85	85	50	5
		SG403RD	3	250, 300, 350, 400	200-440	100/200/500	-	85	50	5
	600	SG603R	3	500, 600	100-440	100/200/500	85	85	50	6
		SG603RD	3	500, 600	200-440	100/200/500	-	85	50	6
	800	SG803R	3	700, 800	100-440	100/200/500	85	85	50	6
		SG803RD	3	700, 800	200-440	100/200/500	-	85	50	6
	100	SGa104A	4	40, 50, 60, 75, 100	200-440	30, 100/200/500	-	50	25	7
		SGa104AD	4	40, 50, 60, 75, 100	200-440	100/200/500	-	50	25	7
		SG104H	4	50, 60, 75, 100	200-440	30, 100/200/500	-	85	42	7
		SG104HD	4	50, 60, 75, 100	200-440	100/200/500	-	85	42	7
	225	SGa204A	4	125, 150, 175, 200, 225	200-440	30, 100/200/500	-	42	25	8
		SGa204AD	4	125, 150, 175, 200, 225	200-440	100/200/500	-	42	25	8
		SG204H	4	125, 150, 175, 200, 225	200-440	30, 100/200/500	-	85	42	8
		SG204HD	4	125, 150, 175, 200, 225	200-440	100/200/500	-	85	42	8
	400	SGa404A	4	250, 300, 350, 400	200-440	30, 100/200/500	-	42	25	9
		SGa404AD	4	250, 300, 350, 400	200-440	100/200/500	-	42	25	9

■ 100 to 800 AF (Continued)

Series	Breaker ampere frame	Type	Pole	Rated current (A)	Rated voltage (V)	Sensitive current (mA)	Interrupting capacity (kA) sym. AC			Fig. No.
							120V	240V	415V	
EG	100	EG104A	4	30, 40, 50, 60, 75, 100	380-440	30, 100, 300, 500	-	-	14	10
	225	EG203B	3	125, 150, 175, 200, 225	100-440	30, 100/200/500	30	30	15	4
	225	EG203BD	3	125, 150, 175, 200, 225	200-440	100/200/500	-	30	15	4
	400	EG403B	3	250, 300, 350, 400	100-440	30, 100/200/500	35	35	25	5
	400	EG403BD	3	250, 300, 350, 400	200-440	100/200/500	-	35	25	5
	600	EG603B	3	500, 600	100-440	100/200/500	50	50	35	6
600	EG603BD	3	500, 600	200-440	100/200/500	-	50	35	6	
800	EG803B	3	700, 800	100-440	100/200/500	50	50	35	6	
800	EG803BD	3	700, 800	200-440	100/200/500	-	50	35	6	
HG	50	HG53B	3	15, 20, 30, 40, 50	100-440	30, 100/200/500	100	100	65	11
	50	HG53BD	3	15, 20, 30, 40, 50	200-440	100/200/500	-	100	65	11
	100	HG103B	3	15, 20, 30, 40, 50, 60, 75, 100	100-440	30, 100/200/500	100	100	65	11
	100	HG103BD	3	15, 20, 30, 40, 50, 60, 75, 100	200-440	100/200/500	-	100	65	11
	225	HG203B	3	125, 150, 175, 200, 225	100-440	30, 100/200/500	100	100	65	12
	225	HG203BD	3	125, 150, 175, 200, 225	200-440	100/200/500	-	100	65	12
	400	HG403B	3	250, 300, 350, 400	100-440	30, 100/200/500	125	125	65	12
	400	HG403BD	3	250, 300, 350, 400	200-440	100/200/500	-	125	65	12
	600	HG603B	3	500, 600	100-440	100/200/500	125	125	65	6
	600	HG603BD	3	500, 600	200-440	100/200/500	-	125	65	6
	800	HG803B	3	700, 800	100-440	100/200/500	125	125	65	6
	800	HG803BD	3	700, 800	200-440	100/200/500	-	125	65	6

Dimensions, mm



Safety Considerations

- For safe operation, before using the product read the instruction manual or that comes with the product carefully or consult the Fuji sales representative from which you purchased the product.
- Some of the products listed in this catalog may have limits on their use or location or may require periodic inspections. Call Fuji's sales representative for further information.
- For safe operation, wiring should be conducted only by qualified engineers who have sufficient technical knowledge about electrical work or wiring.

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