



TÜV Rheinland



# **α-TWIN SERIES UL 489 LISTED MOLDED CASE CIRCUIT BREAKERS, EARTH LEAKAGE CIRCUIT BREAKERS**

50A Frame ~ 800A Frame  
Max Voltage 480V



TÜV Rheinland



The new FUJI UL489 Molded Case Circuit Breaker and Earth Leakage Circuit Breaker ( $\alpha$ -TWIN series) provides the ultimate in compact design, unprecedented value, and use anywhere in the world.



50A Frame



100A Frame



225A Frame



400A Frame



600/800A Frame



- MORE COMPACT** (especially 50A Frame, 100A Frame, 225A Frame) than any breaker on the market, so control panels take up less space than ever before.
- Competitive pricing.**
- Conformity to all WORLDWIDE STANDARDS, including UL / cUL / IEC / CE Marking / JIS.**



***Fuji's  $\alpha$ -TWIN series gives you the features and flexibility you need:***

- 1) Suitable for branch circuit protection.
- 2) Rated current of 3-800A, Max 480V.
- 3) Standard type and High interrupting capacities available in identically sized breakers.
- 4) Shunt trip (F), Under voltage release (R) and other accessories available.
- 5) Field installable in Screw, Flat, or Lug terminal constructions.
- 6) Auxiliary switch, Alarm switch, and Shunt trip can be installed in the field.
- 7) Choose Breaker-Mounted (N type) or Panel Door-Mounted (V type), Frange-Mounted (UF type), operating handles.



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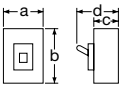
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# Molded Case Circuit Breakers - NEW alpha-Twin, UL489 Listed SA/EA-UL Series

## ■ Specifications

Frame size (A)		50		100				
Type		SA52RCUL	SA53RCUL	EA102CUL	EA103CUL			
Appearance (with Screw Terminals, 3 pole)								
Rated insulation voltage (V) (IEC60947-2)		AC 690	690					
Rated voltage (V) (UL489)		AC 240	240					
Rated current (A)		3,5,10,15,20,30,40,50		60,70,75,80,90,100				
Poles		2	3	2	3			
Rated frequency (Hz)		50/60		50/60				
Rated interrupting capacity sym (kA)	UL489 CSA22-2	AC	480Y	-				
			480Y/277V	-				
			240V	14				
	IEC60947-2 [Icu/Ics] JIS C 8201-2	AC	690V	-				
			600V	5/3				
			500V	7.5/4				
			440V	10/5				
			400V	10/5				
			230V	25/13				
			DC 250V	5/3				
Dimensions (mm)				a	50	75	50	75
		b	120		120			
		c	60		60			
		d	84		84			
Terminal construction	Screw Terminals	NONE	●	●				
	Flat Terminals	L1	●	●				
	Lug Terminals	L	-	-				
Internal accessories *4	Auxiliary switch	W	BZ6WR10CU	BZ6W□10CU	BZ6WR10CU	BZ6W□10CU		
	Auxiliary switch for low current	WD	BZ6WDR10CU	BZ6WD□10CU	BZ6WDR10CU	BZ6WD□10CU		
	Alarm switch	K	BZ6KR10CU	BZ6K□10CU	BZ6KR10CU	BZ6K□10CU		
	Alarm switch for low current	KD	BZ6KDR10CU	BZ6KD□10CU	BZ6KDR10CU	BZ6KD□10CU		
	Auxiliary & Alarm switch	WK	BZ6WKR10CU	BZ6WK□10CU	BZ6WKR10CU	BZ6WK□10CU		
	Auxiliary & Alarm switch	WDKD	BZ6WDKDR10CU	BZ6WDKD□10CU	BZ6WDKDR10CU	BZ6WDKD□10CU		
	Shunt trip	F	BZ6F□10CU	BZ6F□10CU	BZ6F□10CU	BZ6F□10CU		
	Under voltage trip	R	BZ6R□10CAU	BZ6R□10CAU	BZ6R□10CAU	BZ6R□10CAU		
	Accessories with terminal block	A	*1	*1	*1	*1		
External accessories	Handle locking key, Cap type	Q1	BZ6L10C	BZ6L10C	BZ6L10C	BZ6L10C		
		External Operating Handle	V	BZ6V10C	BZ6V10C	BZ6V10C	BZ6V10C	
			N	BZ6N10CP	BZ6N10CP	BZ6N10CP	BZ6N10CP	
	Field Installable	Flat Terminal Kit	BZ-SU20B	BZ-SU20B	BZ-SU25B	BZ-SU25B		
		Lug Terminal Kit	-	-	-	-		
	Terminal Covers *3	for screw, short type	Provided	Provided	Provided	Provided		
		for screw, long type	BZ6TB10C2U	BZ6TB10C3U	BZ6TB10C2U	BZ6TB10C3U		
		for Flat terminal	-	-	-	-		
		for Lug terminal	-	-	-	-		
	Insulation Barrier *2		BZ6B10C	BZ6B10C	BZ6B10C	BZ6B10C		
Mass (kg) (Screw Terminals)		0.4	0.5	0.4	0.5			

Notes: \*1 For internal accessories with terminal block, specify "A" in the accessory P/N. When 50A Frame & 100A Frame are ordered w/UVT, the UVT is supplied with terminal block as standard. (see page 18, 19)

\*2 Insulation barriers are only required with flat terminal.



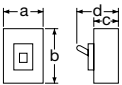
\*3 Short terminal covers are supplied as standard. If long terminal covers are required, please order BZ6TB10C2U or BZ6TB10C3U.

\*4 These internal accessories can be installed in the field. (see page 18, 19 for part number)

●: Available. -: Not available.

# Molded Case Circuit Breakers - NEW alpha-Twin, UL489 Listed SA-UL Series

## ■ Specifications

Frame size (A)		100				225					
Type		SA102CUL	SA103CUL	SA102RCUL	SA103RCUL	SA202CUL	SA203CUL	SA202RCUL	SA203RCUL		
Appearance (with Screw Terminals, 3 pole)											
Rated insulation voltage (V) (IEC60947-2)		AC 690		690		690		690			
Rated voltage (V) (UL489)		AC 240		480Y/277		240		240 480Y/277V			
Rated current (A)		15,20,30,40,50,60,70,75,80,90,100		15,20,30,40,50,60,70,75,80,90,100		125,150,175,200,225		125,150,175,20,225			
Poles		2 3		2 3		2 3		2 3			
Rated frequency (Hz)		50/60		50/60		50/60		50/60			
Rated interrupting capacity sym (kA)	UL489 CSA22-2	AC	480Y	-	-	-	-	-	-		
			480Y/277V	-	25	-	-	-	25		
			240V	35	85	35	35	85	85		
	IEC60947-2 [Icu/Ics] JIS C 8201-2	AC	690V	-	-	-	-	-	-	-	
			600V	-	-	-	-	-	-	-	
			500V	15/4	30/8	15/4	15/4	15/4	15/4	15/4	
			440V	25/7	50/13	25/7	25/7	25/7	25/7	25/7	
			400V	30/8	50/13	30/8	30/8	30/8	30/8	30/8	
230V	50/25	100/50	50/25	50/25	50/25	50/25	50/25	50/25			
DC	250V	15/8	40/20	15/8	15/8	15/8	15/8	15/8			
Dimensions (mm)				a	90	90	105	105	105		
				b	155	155	165	165	165		
				c	60	60	60	60	60		
				d	82	82	84	84	84		
Terminal construction	Screw Terminals	NONE	●	●	●	●	●	●	●		
	Flat Terminals	L1	●	●	●	●	●	●	●		
	Lug Terminals	L	●	●	●	●	●	●	●		
Internal accessories *3	Auxiliary switch	W	BZ6WR30CU	BZ6W□30CU	BZ6W□30CU	BZ6W□30CU	BZ6W□40CU	BZ6W□40CU	BZ6W□40CU	BZ6W□40CU	
	Auxiliary switch for small current	WD	BZ6WDR30CU	BZ6WD□30CU	BZ6WD□30CU	BZ6WD□30CU	BZ6WD□40CU	BZ6WD□40CU	BZ6WD□40CU	BZ6WD□40CU	
	Alarm switch	K	BZ6KR30CU	BZ6K□30CU	BZ6K□30CU	BZ6K□30CU	BZ6K□40CU	BZ6K□40CU	BZ6K□40CU	BZ6K□40CU	
	Alarm switch for small current	KD	BZ6KDR30CU	BZ6KD□30CU	BZ6KD□30CU	BZ6KD□30CU	BZ6KD□40CU	BZ6KD□40CU	BZ6KD□40CU	BZ6KD□40CU	
	Auxiliary & Alarm switch	WK	BZ6WKR30CU	BZ6WK□30CU	BZ6WK□30CU	BZ6WK□30CU	BZ6WK□40CU	BZ6WK□40CU	BZ6WK□40CU	BZ6WK□40CU	
	Auxiliary & Alarm switch	WDKD	BZ6WDR30CU	BZ6WDK□30CU	BZ6WDK□30CU	BZ6WDK□30CU	BZ6WDK□40CU	BZ6WDK□40CU	BZ6WDK□40CU	BZ6WDK□40CU	
	Shunt trip	F	BZ6F□30CU	BZ6F□30CU	BZ6F□30CU	BZ6F□30CU	BZ6F□40CU	BZ6F□40CU	BZ6F□40CU	BZ6F□40CU	
	Under voltage trip	R	▲	▲	▲	▲	▲	▲	▲	▲	
	Accessories with terminal block	A	*1	*1	*1	*1	*1	*1	*1	*1	
	External accessories	Handle locking key, Cap type	Q1	BZ6L30C	BZ6L30C	BZ6L30C	BZ6L30C	BZ6L40C	BZ6L40C	BZ6L40C	BZ6L40C
External Operating Handle		V	BZ6V30C	BZ6V30C	BZ6V30C	BZ6V30C	BZ6V40C	BZ6V40C	BZ6V40C	BZ6V40C	
		N	BZ6N30CP	BZ6N30CP	BZ6N30CP	BZ6N30CP	BZ6N40CP	BZ6N40CP	BZ6N40CP	BZ6N40CP	
		Field Installable	Flat Terminal Kit	BZ6SU35B	BZ6SU35B	BZ6SU35B	BZ6SU35B	BZ6SU50B	BZ6SU50B	BZ6SU50B	BZ6SU50B
Terminal Kit		Lug Terminal Kit	BZ6TA100	BZ6TA100	BZ6TA100	BZ6TA100	BZ6TA225	BZ6TA225	BZ6TA225	BZ6TA225	
Covers		Terminal	for screw, short type	BZ-TS30B-3	BZ-TS30B-3	BZ-TS30B-3	BZ-TS30B-3	BZ-TS40B	BZ-TS40B	BZ-TS40B	BZ-TS40B
		for screw, long type	BZ-TB30B-3	BZ-TB30B-3	BZ-TB30B-3	BZ-TB30B-3	BZ-TB40B	BZ-TB40B	BZ-TB40B	BZ-TB40B	
		for Flat terminal	BZ-TL30B-3	BZ-TL30B-3	BZ-TL30B-3	BZ-TL30B-3	BZ-TL40B	BZ-TL40B	BZ-TL40B	BZ-TL40B	
		for Lug terminal	BZ-TB30B-3	BZ-TB30B-3	BZ-TB30B-3	BZ-TB30B-3	BZ-TB40B	BZ-TB40B	BZ-TB40B	BZ-TB40B	
Insulation Barrier *2			BZ6B30CU	BZ6B30CU	BZ6B30CU	BZ6B30CU	BZ6B40CU	BZ6B40CU	BZ6B40CU	BZ6B40CU	
Mass (kg) (Screw Terminals)		1.1	1.2	1.1	1.2	1.1	1.3	1.1	1.3		

Notes: \*1 For internal accessories with terminal block, specify "A" in the accessory P/N. (see page 18, 19)



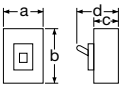
\*2 Insulation barriers are only required with flat terminal.

\*3 These internal accessories can be installed in the field. (see page 18, 19 for part number)

●: Available. -: Not available. ▲: Factory-mounted accessory.

# Molded Case Circuit Breakers - NEW alpha-Twin, UL489 Listed SA-UL Series




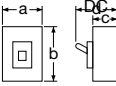
## ■ Specifications

Frame size (A)		400				600		800	
Type		SA402CUL	SA403CUL	SA402RCUL	SA403RCUL	SA603RCUL	SA803RCUL		
Appearance (with Screw Terminals, 3 pole)									
Rated insulation voltage (V) (IEC60947-2)		AC	690		690		690		
Rated voltage (V) (UL489)		AC	240		480		480		
Rated current (A)		250,300,350,400		250,300,350,400		500,600		700,800	
Poles		2 3		2 3		3		3	
Rated frequency (Hz)		50/60		50/60		50/60		50/60	
Rated interrupting capacity sym (kA)	UL489 CSA22-2	AC	480Y	25	50	50	50	50	
			480Y/277V	25	50	50	50		
			240V	42	85	85	85		
	IEC60947-2 [Icu/Ics] JIS C 8201-2	AC	690V	-	-	-	-	-	
			600V	-	30/15	30/15	30/15		
			500V	22/11	35/18	35/18	35/18		
			440V	35/18	50/25	50/25	50/25		
			400V	35/18	50/25	50/25	50/25		
			230V	50/25	85/43	85/43	85/43		
	DC	250V	20	40/20	40/20	40/20			
Dimensions (mm)				a	140	140	210	210	
				b	257	257	275	275	
				c	103	103	103	103	
				d	146	146	146	146	
Terminal construction	Screw Terminals	NONE	-	-	-	-	-		
	Flat Terminals	L1	●	●	●	●			
	Lug Terminals	L	●	●	●	●			
Internal accessories	Auxiliary switch	W	▲	▲	▲	▲	▲		
	Auxiliary switch for small current	WD	▲	▲	▲	▲			
	Alarm switch	K	▲	▲	▲	▲			
	Alarm switch for small current	KD	▲	▲	▲	▲			
	Auxiliary & Alarm switch	WK	▲	▲	▲	▲			
	Auxiliary & Alarm switch	WDKD	▲	▲	▲	▲			
	Shunt trip	F	▲	▲	▲	▲			
	Under voltage trip	R	▲	▲	▲	▲			
	Accessories with terminal block	A	*1	*1	*1	*1	*1		
External accessories	Handle locking key, Cap type	Q1	▲	▲	▲	▲	▲		
	External Operating Handle	V	BZ6V60C	BZ6V60C	BZ6V60C	BZ6V60C	BZ6V70C	BZ6V70C	
		N	BZ6N60CP	BZ6N60CP	BZ6N60CP	BZ6N60CP	BZ6N70CP	BZ6V70CP	
	Field Installable Terminal Kit	Flat Terminal Kit	BZ-SU60B	BZ-SU60B	BZ-SU60B	BZ-SU60B	BU-SU70B-600	BZ-SU70B-800	
		Lug Terminal Kit	BZ6TA350 (up to 350A) BZ6TA400 (400A)	BZ6TA350 (up to 350A) BZ6TA400 (400A)	BZ6TA350 (up to 350A) BZ6TA400 (400A)	BZ6TA350 (up to 350A) BZ6TA400 (400A)	BZ-TA600	BZ-TA700 (700A) BZ-TA800 (800A)	
	Terminal Covers		BZ-TB60B	BZ-TB60B	BZ-TB60B	BZ-TB60B	BZ-TB70B	BZ-TB70B	
	Insulation Barrier		B-43A	B-43A	B-43A	B-43A	B-43A	B-43A	
Mass (kg) (Screw Terminals)		4.5	5	4.5	5	9	10		

Notes: \*1 For internal accessories with terminal block, specify "A" in the accessory P/N. (see page 18, 19)  
 ●: Available. -: Not available. ▲: Factory-mounted accessory.

# Earth Leakage Circuit Breakers - NEW alpha-Twin, UL489 Listed SG/EG-UL Series

## ■ Specifications

Frame size (A)		50	100			
Type		SG53RCUL	EG102CUL	EG103CUL	SG103CUL	
Appearance (with Screw Terminals, 3 pole)						
Rated insulation voltage (V) (IEC60947-2)		AC 440	440	440	440	
Rated voltage (V) (UL489)		AC 240	240	240	240	
Rated current (A)		3, 5, 10, 15, 20, 30,40,50	60,70,75,80,90,100	60,70,75,80,90,100	32,40, 50, 65, 75, 100	
Rated Sensitive Current (mA)		30, 100/200/500	30, 100/200	30, 100/200/500	30, 100/200/500	
Poles		3	2	3	3	
Rated frequency (Hz)		50/60	50/60	50/60	50/60	
Rated interrupting capacity sym (kA)	UL489 CSA22-2	AC 480Y	-	-	-	
		480Y/277V	-	-	-	
		240V	14	14	14	
	IEC60947-2 [Icu/Ics]	AC 500V	-	-	-	-
		440V	10/5	-	10/5	25/7
		415V	10/5	-	10/5	25/7
		380V	10/5	-	10/5	25/7
		230V	25/13	10/5	25/13	50/13
100V	25/13	10/5	25/13	50/13		
Dimensions (mm)			a 75 b 120 c 60 d 84	75 120 60 84	75 120 60 84	
Terminal construction	Screw Terminals	NONE	●	●	●	
	Flat Terminals	L1	●	●	-	
	Lug Terminals	L	-	-	-	
Internal accessories *4	Auxiliary switch	W	BZ6W□10CU	BZ6W□10CU	BZ6W□10CU	
	Alarm switch	K	BZ6K□10CU	BZ6K□10CU	BZ6K□10CU	
	Shunt trip	F	BZ6F□10CAU	BZ6F□10CAU	BZ6F□10CAU	
	Under voltage trip	R	BZ6R□10CAU	BZ6R□10CAU	BZ6R□10CAU	
	Accessories with terminal block	A	*1	*1	*1	
External accessories	Handle locking key, Cap type	Q1	BZ6L10C	BZ6L10C	BZ6L10C	
		V	BZ6V10C	BZ6V10C	BZ6V10C	
		N	BZ6N10CP	BZ6N10CP	BZ6N10CP	
	Field Installable Terminal Kit	Flat Terminal Kit	BU-SU20B	BU-SU20B	BU-SU20B	
		Lug Terminal Kit	-	-	-	
	Terminal Covers *3	for screw, short type	Provided	Provided	Provided	
		for screw, long type	BZ6TB10C3U	BZ6TB10C3U	BZ6TB10C3U	
		for Flat terminal	-	-	-	
		for Lug terminal	-	-	-	
	Insulation Barrier *2		BZ6TB10C	BZ6TB10C	BZ6TB10C	
Mass (kg) (Screw Terminals)		0.6	0.6	0.6	1.5	

Notes: \*1 For internal accessories with terminal block, specify "A" in the accessory P/N. When 50A Frame & 100A Frame are ordered w/UVT, the UVT is supplied with terminal block as standard. (see page 18, 19)

\*2 Insulation barriers are only required with flat terminal.

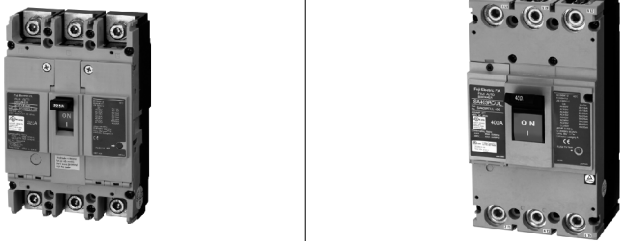
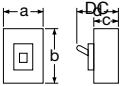
\*3 Short terminal covers are supplied as standard. If long terminal covers are required, Please order BZ6TB10C2U or BZ6TB10C3U.

\*4 These internal accessories can be installed in the field. (see page 18, 19 for part number)

●: Available. -: Not available. ▲: Factory-mounted accessory.

# Earth Leakage Circuit Breakers - NEW alpha-Twin, UL489 Listed SG-UL Series

## ■ Specifications

Frame size (A)		225	400
Type		SG203CUL	SG403CUL
Appearance (with Screw Terminals, 3 pole)			
Rated insulation voltage (V) (IEC60947-2)		AC 440	440
Rated voltage (V) (UL489)		AC 240	240
Rated current (A)		125, 150, 175, 200, 225	250, 300, 350, 400
Rated Sensitive Current (mA)		30, 100/200/500	30, 100/200/500
Poles		3	3
Rated frequency (Hz)		50/60	50/60
Rated interrupting capacity sym (kA)	UL489 CSA22-2	AC 480Y	-
		480Y/277V	-
		240V	35
	IEC60947-2 [Icu/Ics]	AC 500V	-
		440V	25/7
		415V	25/7
		380V	25/7
230V	50/13	50/25	
100V	50/13	50/25	
Dimensions (mm)			
		a	105
		b	165
		c	60
		d	84
Terminal construction	Screw Terminals	NONE	●
	Flat Terminals	L1	-
	Lug Terminals	L	-
Internal accessories	Auxiliary switch	W	BZ6W□40CU ▲
	Alarm switch	K	BZ6K□40CU ▲
	Shunt trip	F	▲
	Under voltage trip	R	▲
	Accessories with terminal block	A	*1
External accessories	Handle locking key, Cap type	Q1	BZ6L40C ▲
	External Operating Handle	V	BZ6V40C
		N	BZ6N40CP
			BZ6N60CP
	Field Installable Terminal Kit	Flat Terminal Kit	BZ6SU50B
	Lug Terminal Kit	BZ6TA225	
	Terminal Covers	for screw, short type	BZ-TS40B
		for screw, long type	BZ-TB40B
		for Flat terminal	BZ-TL40B
		for Lug terminal	-
Insulation Barrier		BZ6B40CU	B-43A
Mass (kg) (Screw Terminals)		1.5	5.6

Notes: \*1 For internal accessories with terminal block, specify "A" in the accessory P/N. (see page 18, 19)

●: Available. -: Not available. ▲: Factory-mounted accessory.



# Molded Case Circuit Breakers - NEW alpha-Twin, UL489 Listed SA-UL Series Earth Leakage Circuit Breakers - NEW alpha-Twin, UL489 Listed SG-UL Series

## ■ Part Number

### SA-UL; MCCB

**SA103CUL / 100 L1 Q1**

Product category \_\_\_\_\_  
 Rated current (A) \_\_\_\_\_  
 Terminal structure \_\_\_\_\_

Handle locking cover for lockout (Cap type)  
 Cap type (Q1) is applicable for 400-800A Frame. For 225A Frame or smaller, order the Handle Lock cover separately

Terminal construction for SA-UL series

Code	Line side	Load side	SA52RCUL, SA53RCUL EA102CUL, EA103CUL	SA102CUL, SA103CUL SA102RCUL, SA103RCUL	SA202CUL, SA203CUL SA203RCUL, SA203RCUL	SA402CUL, SA403CUL SA402RCUL, SA403RCUL	SA603RUL SA803RUL/700	SA803RUL/800
None	-	-	●	●	-	-	-	-
L	Lug	Lug	-	●	●	●	●	●
L1	Flat	Flat	●	●	●	●	●	-

### SA-UL; ELCB

**SG103CUL / 100-30MA L1 Q1**

Product category \_\_\_\_\_  
 Rated current (A) \_\_\_\_\_  
 Rated sensitive current (mA) \_\_\_\_\_

Handle locking cover for lockout (Cap type)  
 Cap type (Q1) is applicable for 400-800A Frame. For 225A Frame or smaller, order the Handle Lock cover separately

Code	Line side	2 poles	3 poles
30MA	30mA	●	●
CO	100/200mA changeable	●	-
CO	100/200/500mA changeable	-	●

Terminal structure \_\_\_\_\_

Code	Line side	Load side	SG53RCUL, EG103CUL	SG103CUL	SG203CUL	SG403CUL
None	-	-	●	●	●	-
L1	Flat	Flat	●	●	●	●

## ACCESSORIES

For up to 225AF

- Auxiliary switches & Alarm switches

**BZ6 WK L 30C A U**

Product category \_\_\_\_\_  
 Type of accessory \_\_\_\_\_  
**W**; Auxiliary switch  
**WD**; Auxiliary switch (for Small current)  
**K**; Alarm switch  
**KD**; Alarm switch (for Small current)  
 Installation, \_\_\_\_\_

UL listed  
 Method of connection.  
**None**; Lead wire  
**A**; with terminal block  
 Applicable frame size  
**10C**; 50AF, 100AF(EA&EG10\_CUL)  
**30C**; 100AF  
**40C**; 225AF

**L**; Left side of the breaker  
**R**; Right side of the breaker

- Shunt trip & Undervoltage trip devices

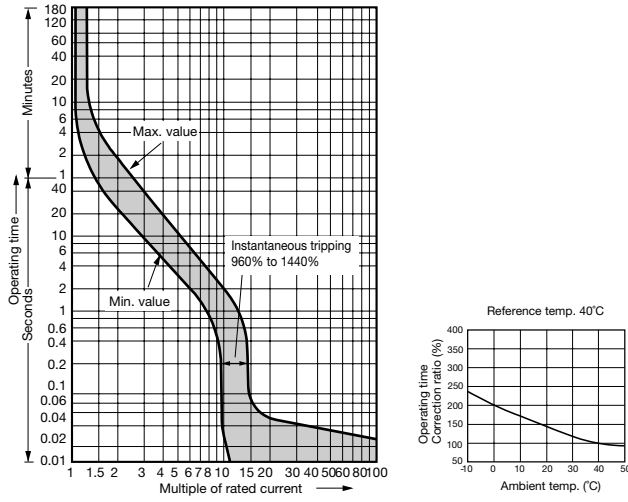
**BZ6 F S 30C A U**

Product category \_\_\_\_\_  
 Type of accessory \_\_\_\_\_  
**F**; Shunt trip device  
**R**; Undervoltage trip device  
 Operating voltage, \_\_\_\_\_  
 For details, see page 18, 19.

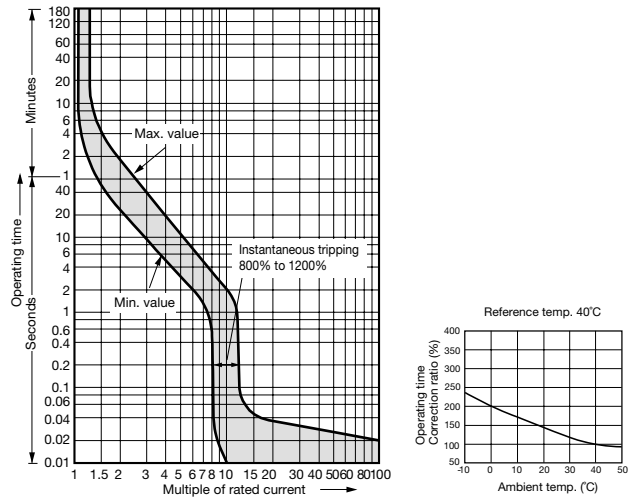
UL listed  
 Method of connection.  
**None**; Lead wire  
**A**; with terminal block  
 Applied frame size  
**10C**; 50AF, 100AF(EA&EG10\_CUL)  
**30C**; 100AF  
**40C**; 225AF

## ■ Characteristic Curves

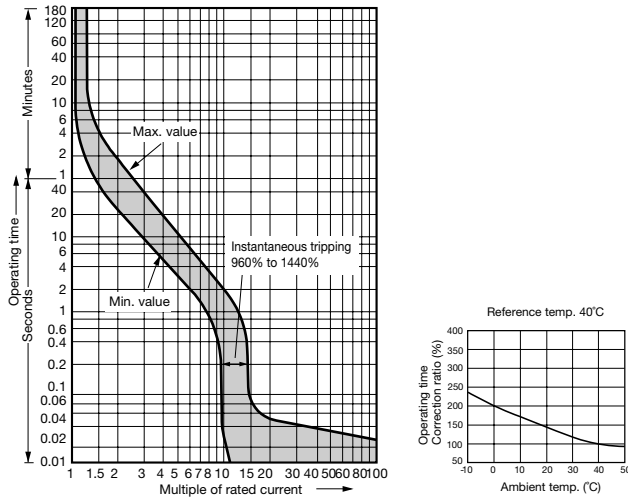
● SA52RCUL, SA53RCUL, SG53RCUL (Rated current: 5A, 10A, 40A)



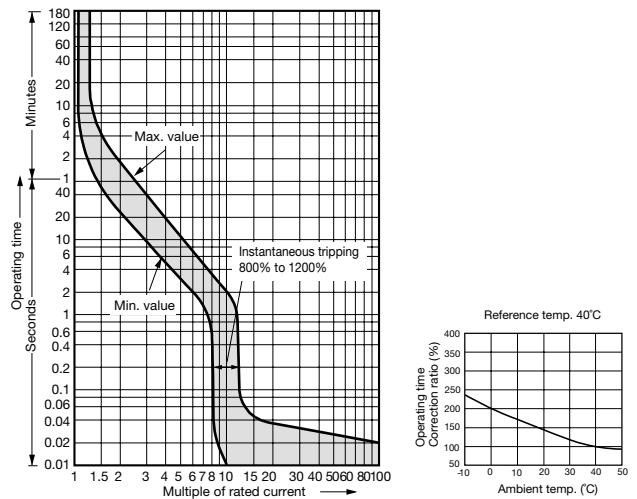
● SA52RCUL, SA53RCUL, SG53RCUL (Rated current: 3A, 15A, 20A, 30A, 50A)



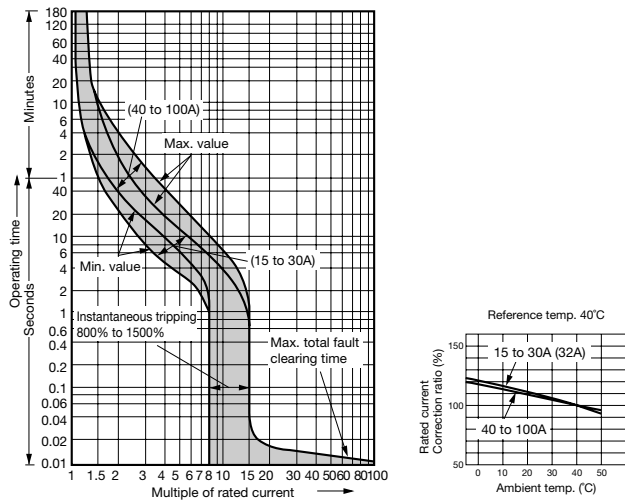
● EA102CUL, EA103CUL, EG102CUL, EG103CUL (Rated current: 60A, 75A)



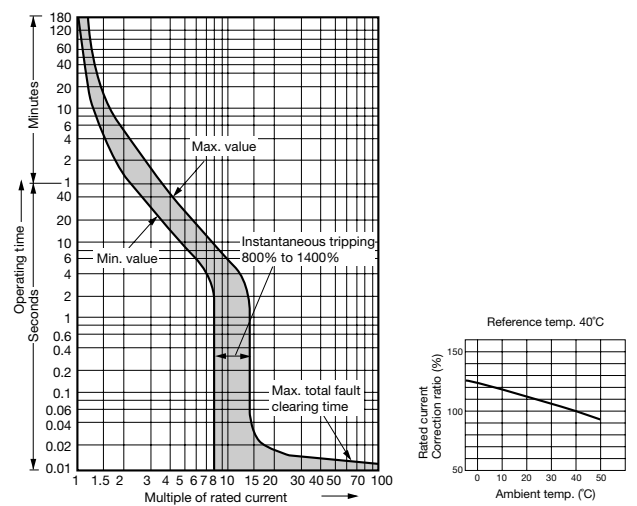
● EA102CUL, EA103CUL, EG102CUL, EG103CUL (Rated current: 80A, 90A, 100A)



● SA102CUL, SA103CUL, SA102RCUL, SA103RCUL

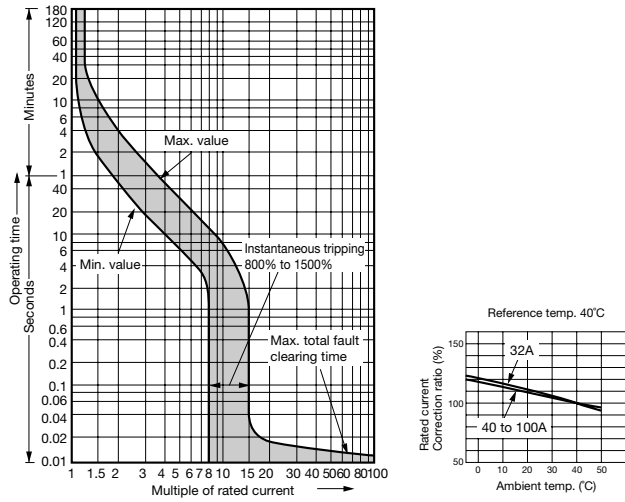


● SA202CUL, SA203CUL, SA202RCUL, SA203RCUL

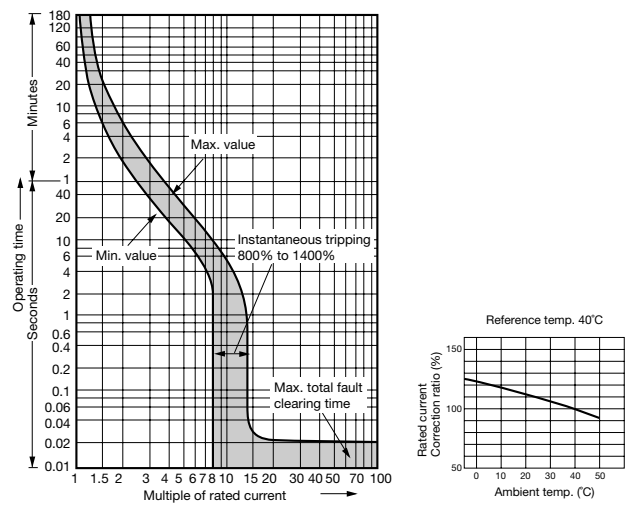


## ■ Characteristic Curves

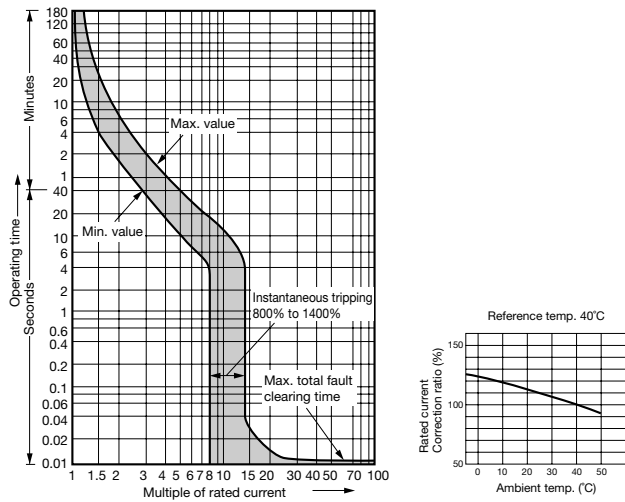
### ● SG103CUL



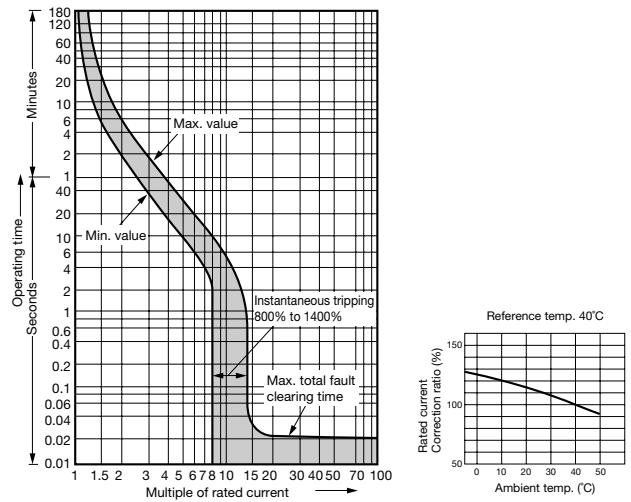
### ● SG203CUL



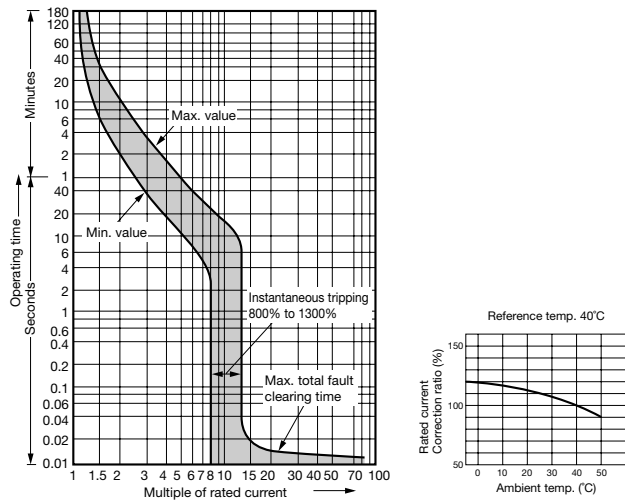
### ● SA402CUL, SA403CUL, SA402RCUL, SA403RCUL



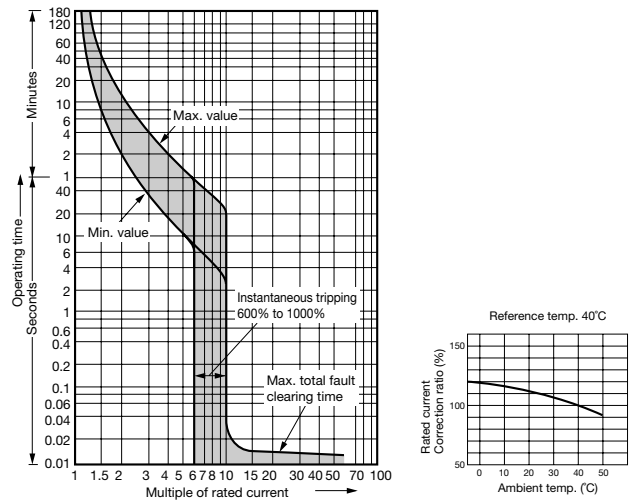
### ● SG403CUL



### ● SA603RCUL

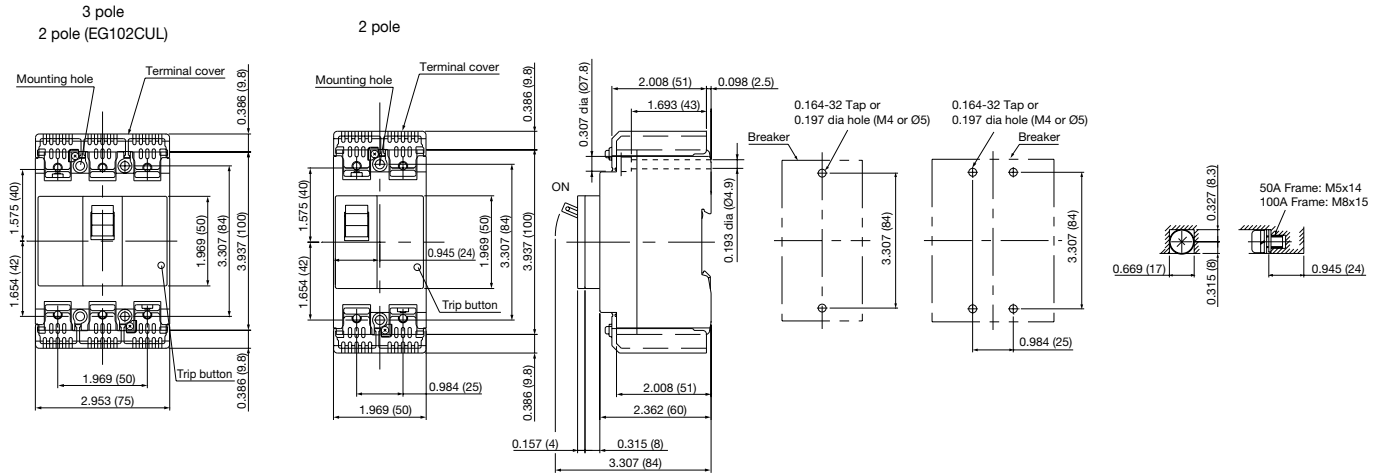


### ● SA803RCUL

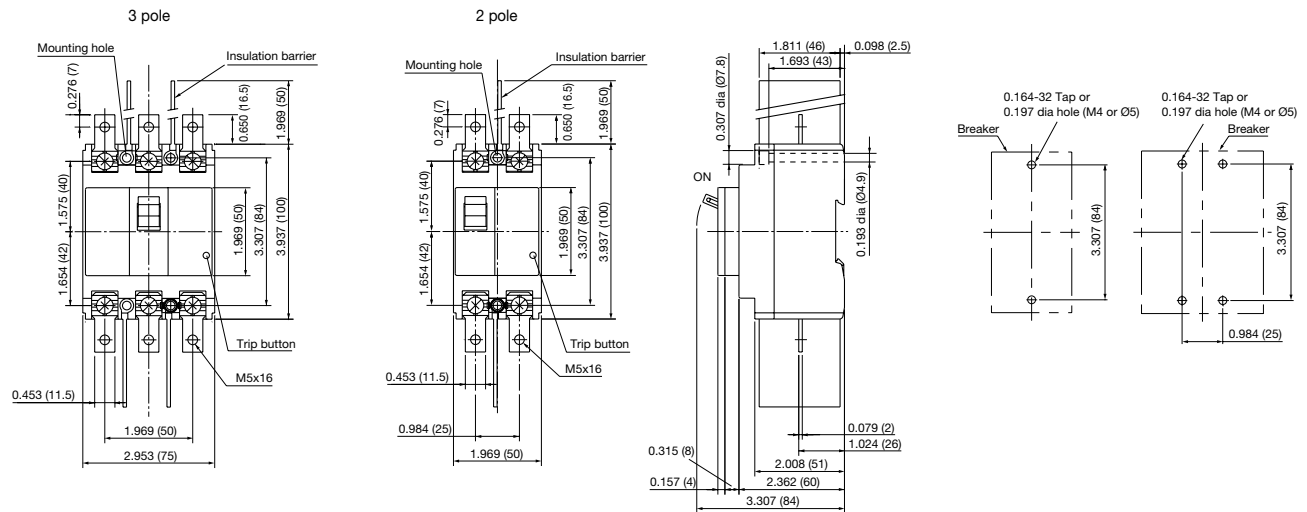


## ■ Dimensions unit: inch (mm)

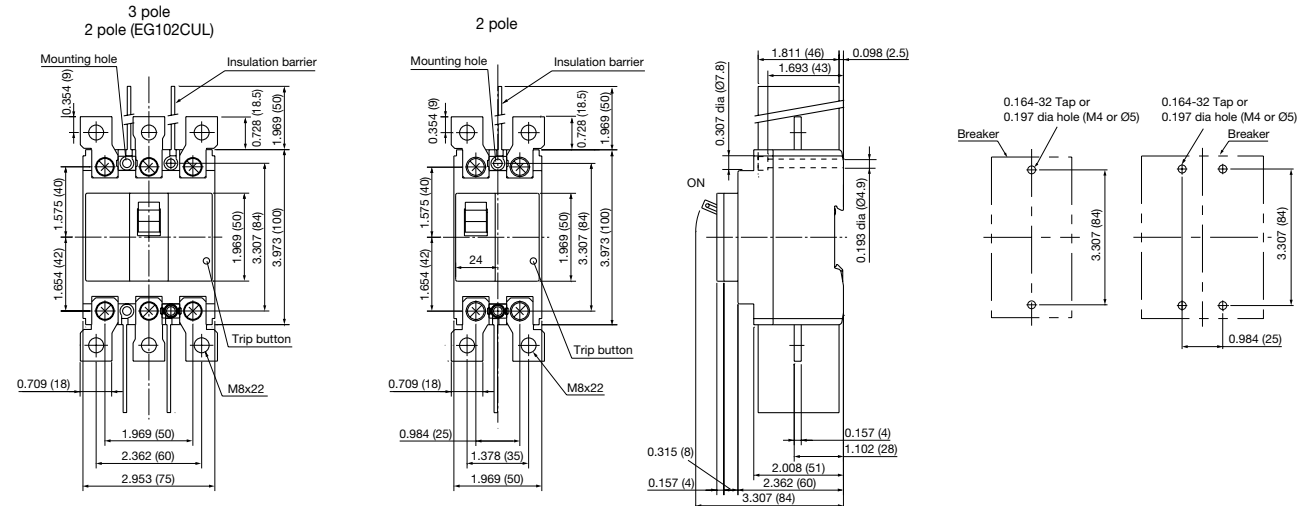
### ● SA52RCUL/□, SA53RCUL/□, SG53RCUL/□, EA102CUL/□, EA103CUL/□, EG102CUL/□, EG103CUL/□



### ● SA52RCUL/□L1, SA53RCUL/□L1, SG53RCUL/□L1

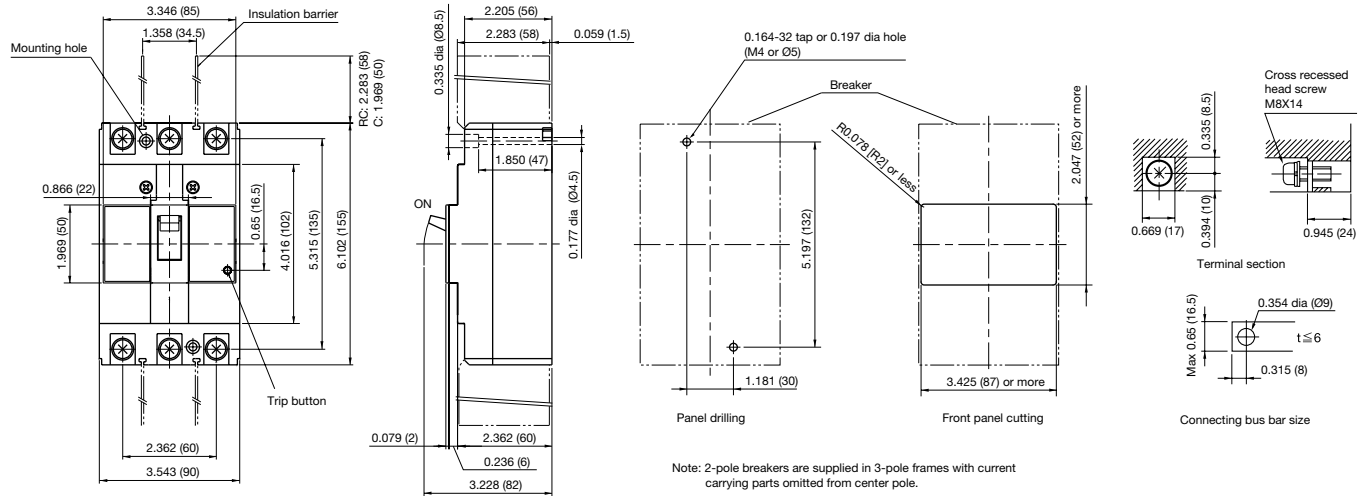


### ● EA102CUL/□L1, EA103CUL/□L1, EG102CUL/□L1, EG103CUL/□L1

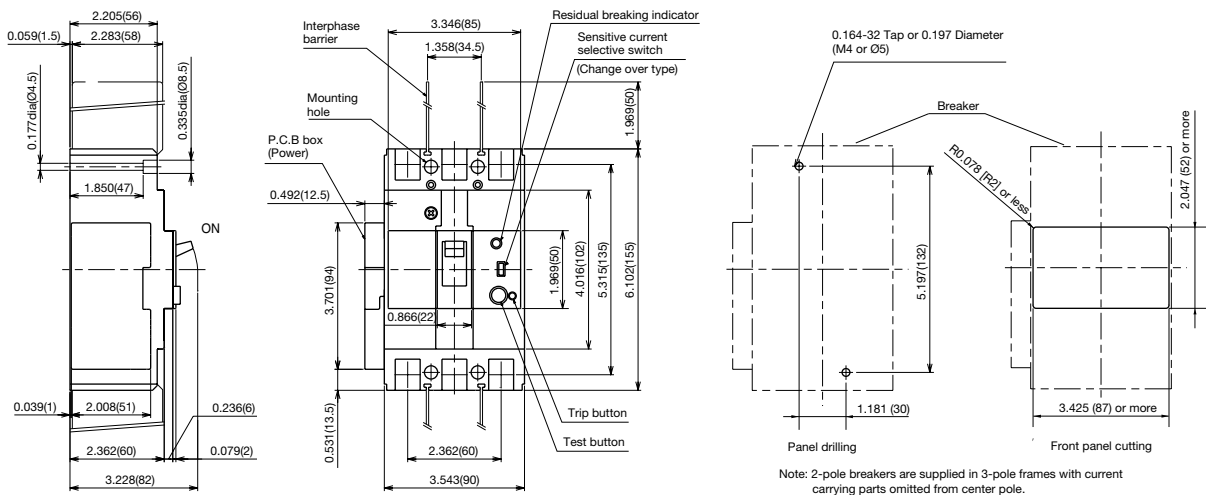


## ■ Dimensions unit: inch (mm)

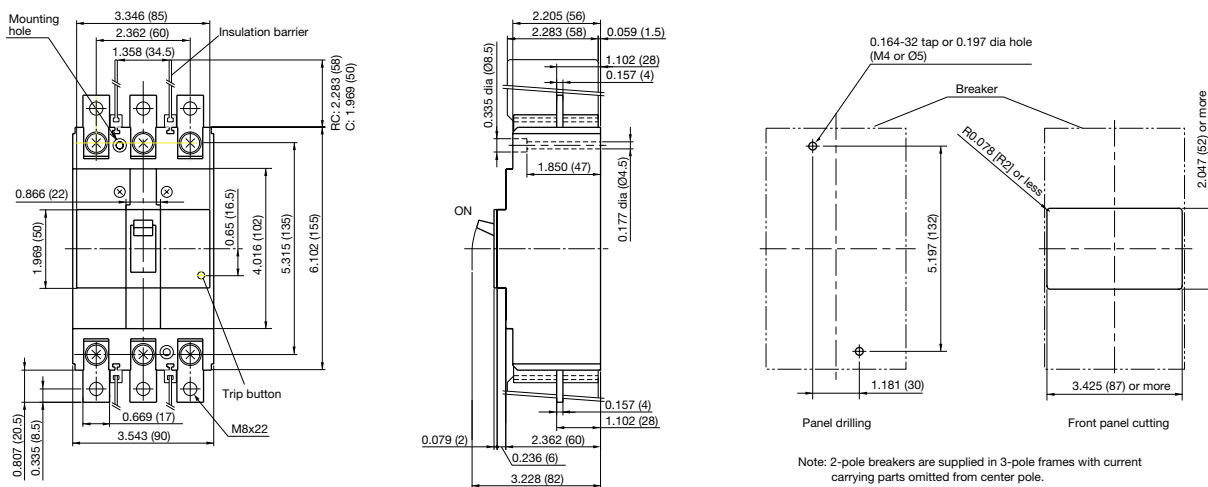
### ● SA102CUL/□, SA103CUL/□, SA102RCUL/□, SA103RCUL/□



### ● SG103CUL/□

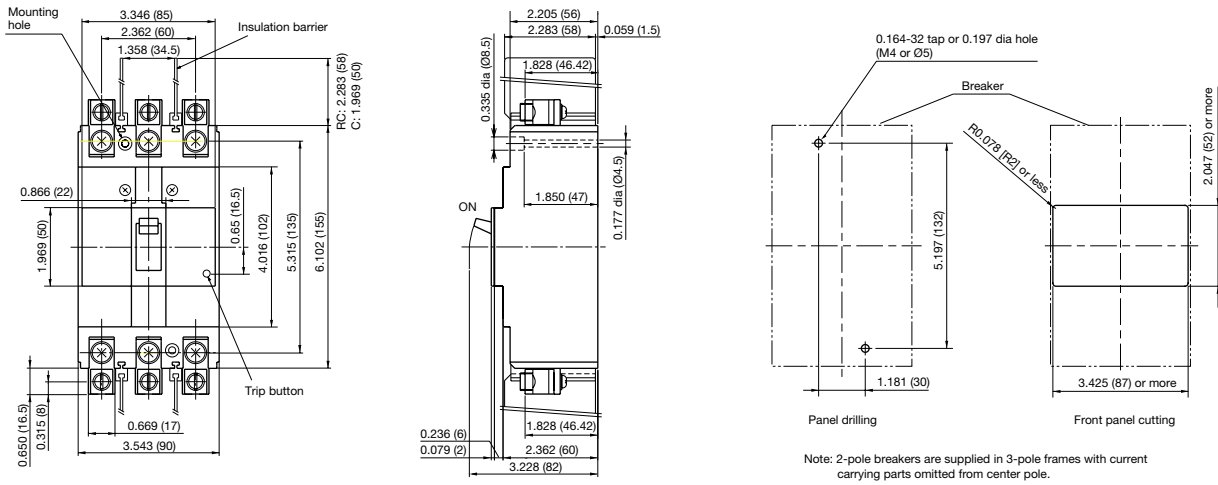


### ● SA102CUL/□L1, SA103CUL/□L1, SA102RCUL/□L1, SA103RCUL/□L1

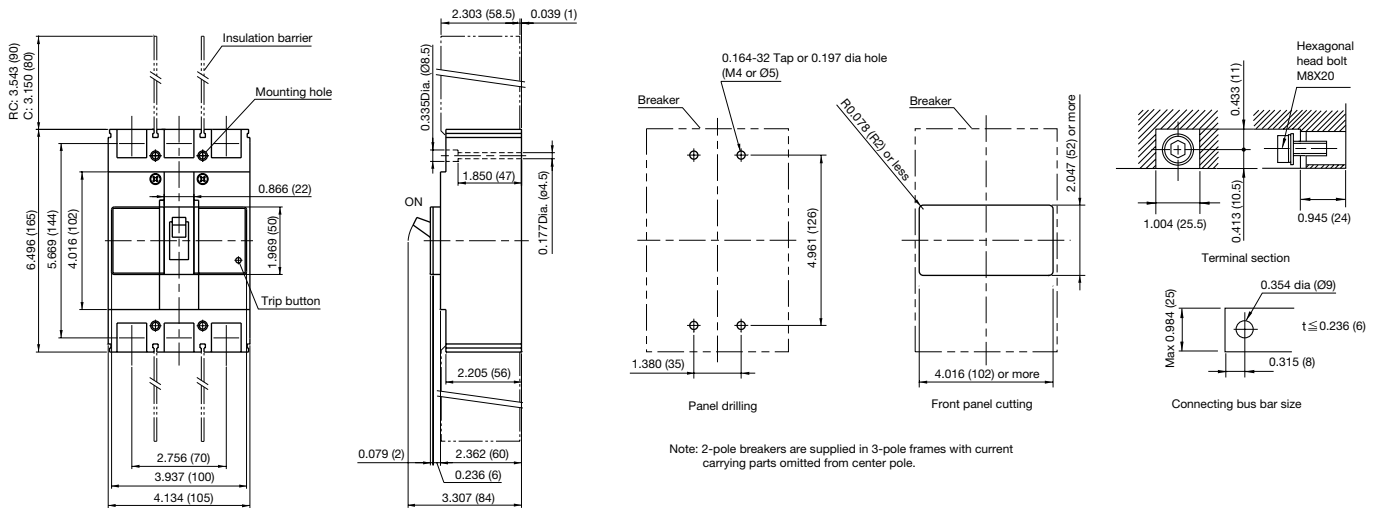


## ■ Dimensions unit: inch (mm)

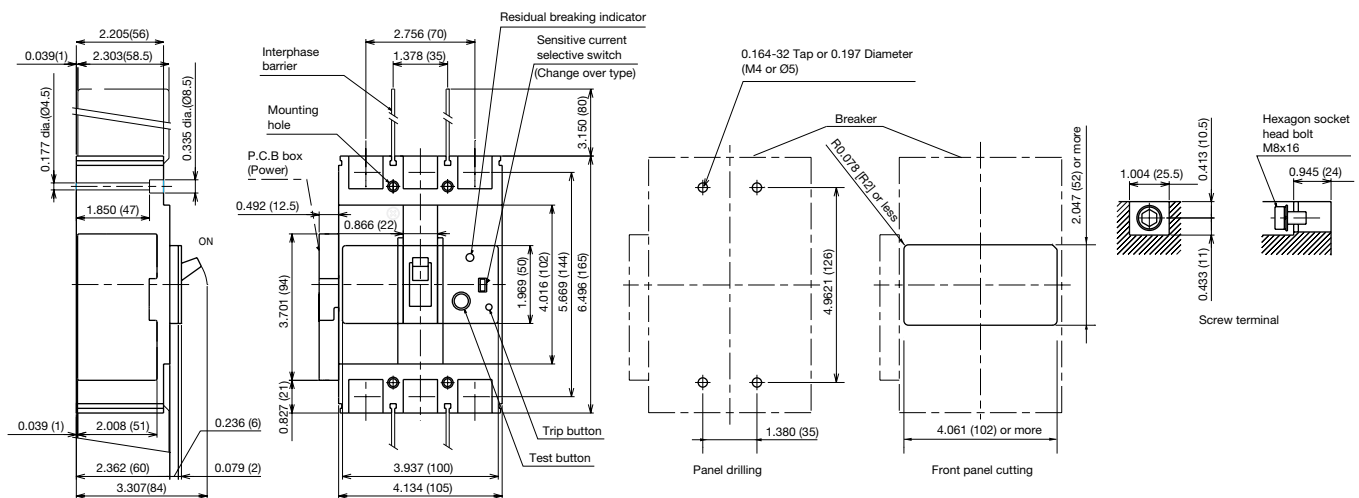
### ● SA102CUL/□, SA103CUL/□, SA102RCUL/□, SA103RCUL/□



### ● SA202CUL/□, SA203CUL/□, SA202RCUL/□, SA203RCUL/□

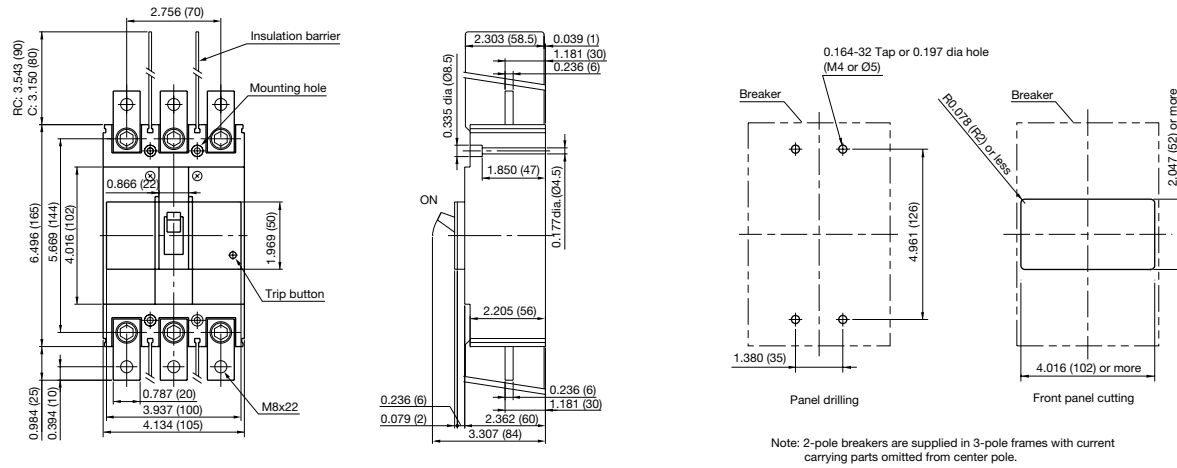


### ● SG203CUL/□

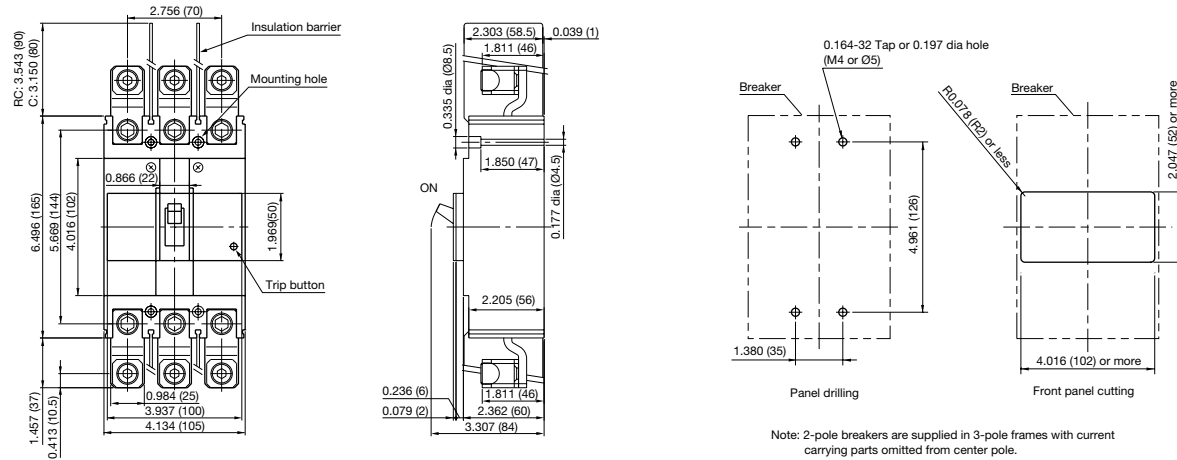


■ Dimensions unit: inch (mm)

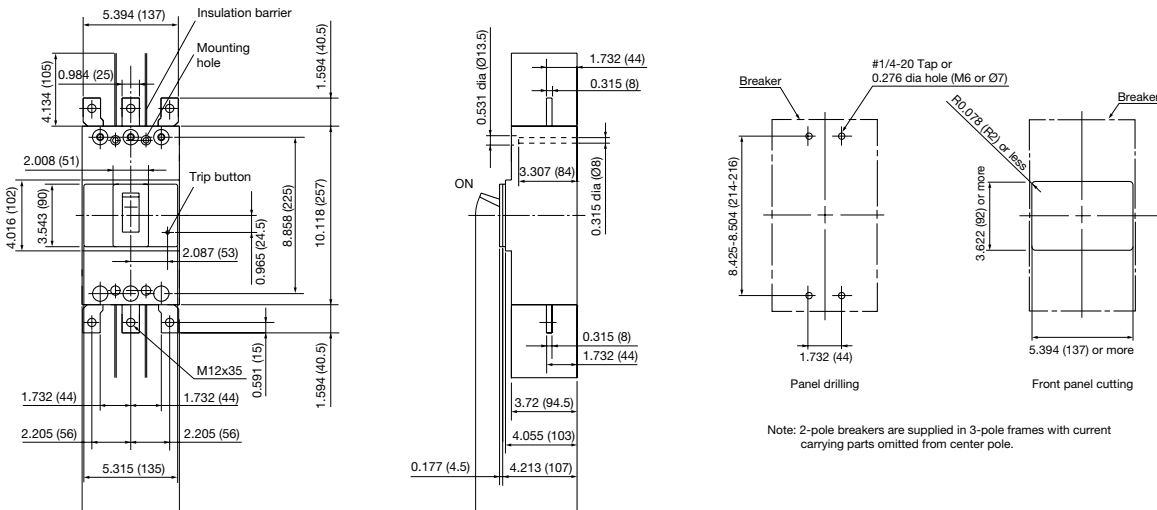
● SA202CUL/□L1, SA203CUL/□L1, SA202RCUL/□L1, SA203RCUL/□L1



● SA202CUL/□L, SA203CUL/□L, SA202RCUL/□L, SA203RCUL/□L

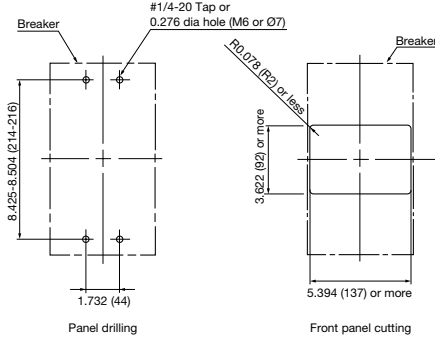
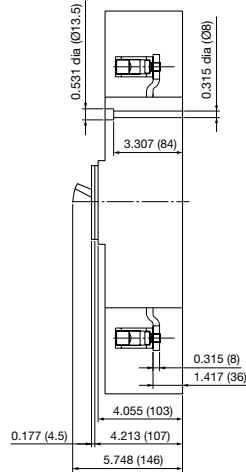
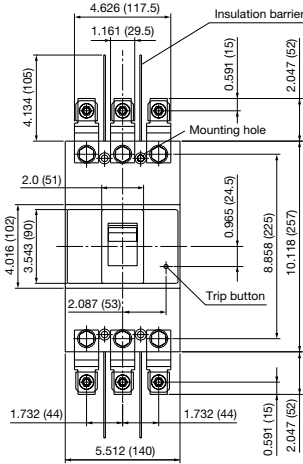


● SA402CUL/□L1, SA403CUL/□L1, SA402RCUL/□L1, SA403RCUL/□L1, SG403CUL/□L1



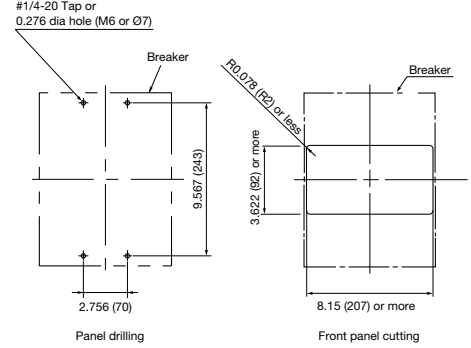
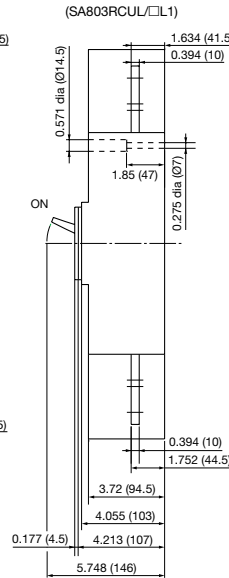
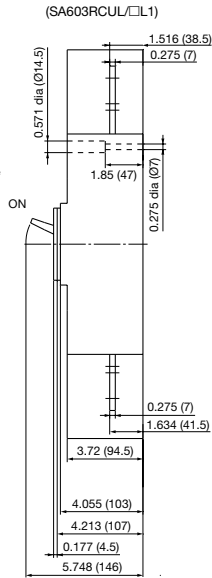
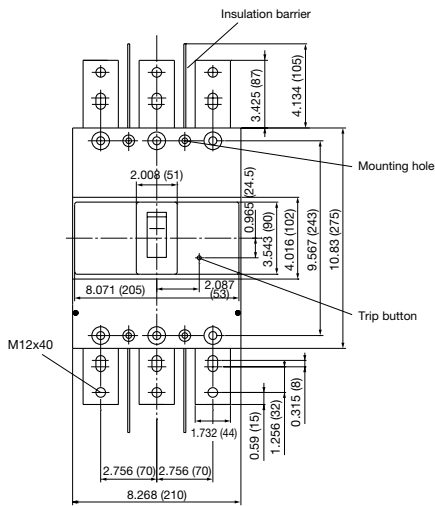
## ■ Dimensions unit: inch (mm)

### ● SA402CUL/□L, SA403CUL/□L, SA402RCUL/□L, SA403RCUL/□L



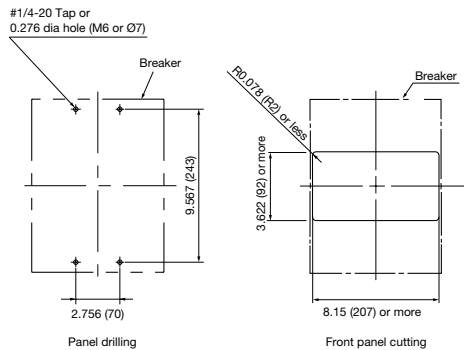
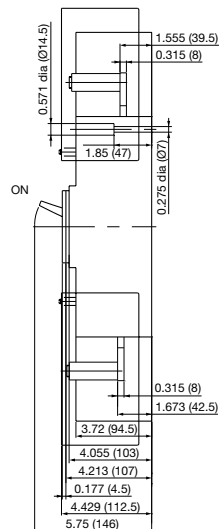
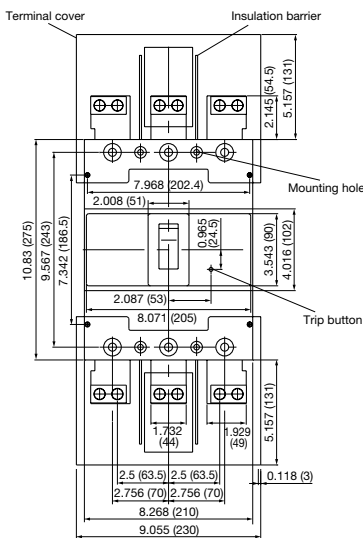
Note: 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.

### ● SA603RCUL/□L1, SA803RCUL/□L1



Note: 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.

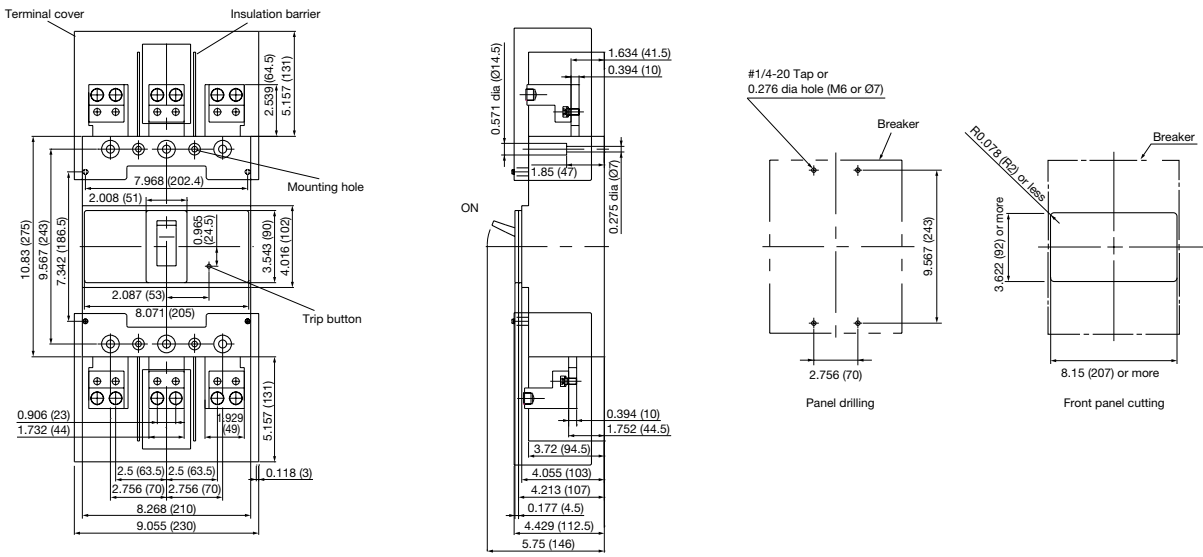
### ● SA603RCUL/□L



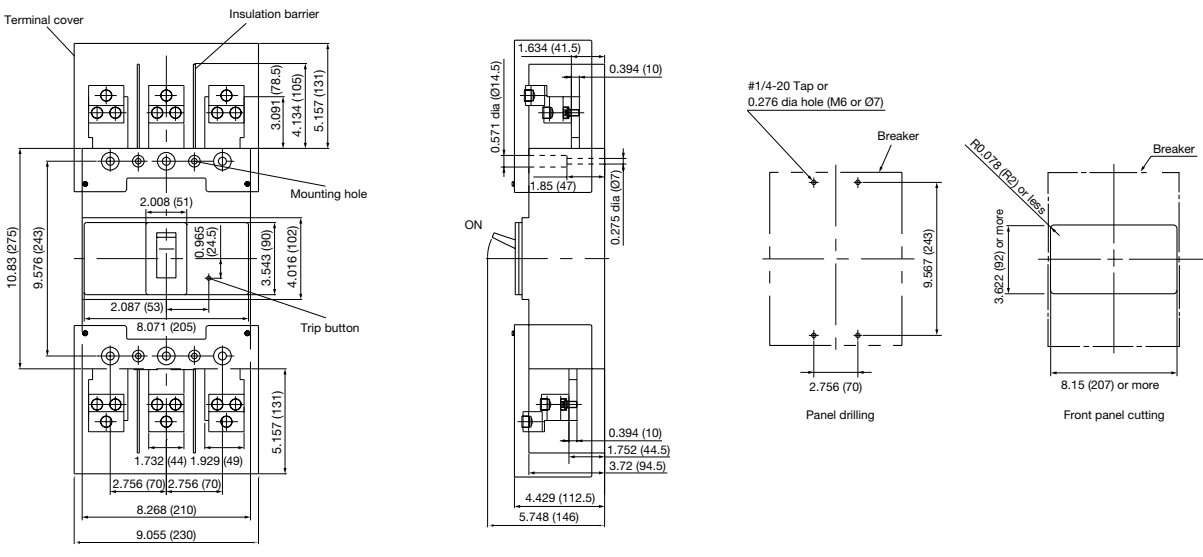


■ Dimensions unit: inch (mm)

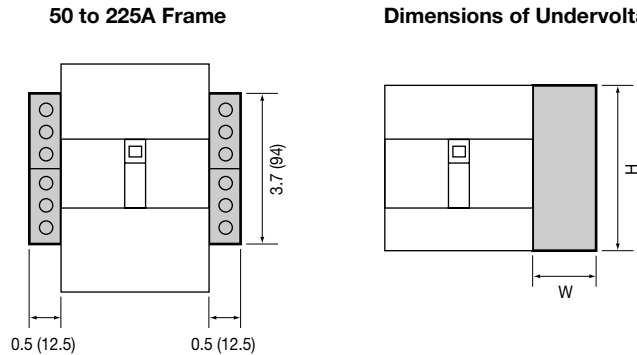
● SA803RCUL/700L



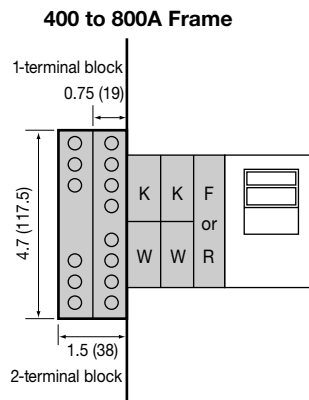
● SA803RCUL/800L



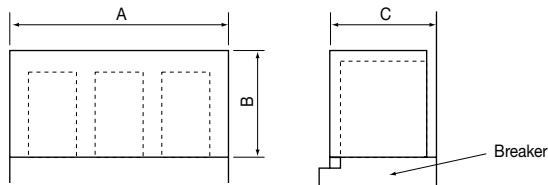
## ■ Dimensions of terminal blocks for internal accessories: inch (mm)



Breakers	W x H
SA52RCUL, EA102CUL	1.0 (25) x 3.94 (100)
SA53RCUL, EA103CUL SG53RCUL, EG102CUL, EG103CUL	1.0 (25) x 3.94 (100)
SA102CUL, SA103CUL, SG103CUL SA102RCUL, SA103RCUL	1.0 (25) x 5.04 (128)
SA202CUL, SA203CUL, SG203CUL SA202RCUL, SA203RCUL	1.0 (25) x 5.04 (128)



## ■ Dimensions of terminal covers: inch (mm)



For Screw Terminals			For Lug Terminals				For Flat Terminals				Applicable Breakers	
Type	A	B	C	Type	A	B	C	Type	A	B		C
BZ6TS10C2U (Short)	1.969 (50)	0.386 (9.8)	2.106 (53.5)	-	-	-	-	-	-	-	-	SA52RCUL, EA102CUL
BZ6TB10C2U (Long)	1.969 (50)	1.575 (40)	2.106 (53.5)									
BZ6TS10C3U (Short)	2.953 (75)	0.386 (9.8)	2.106 (53.5)	-	-	-	-	-	-	-	-	SA53RCUL, EA103CUL SG53RCUL, EG102CUL, EG103CUL
BZ6TB10C3U (Long)	2.953 (75)	1.575 (40)	2.106 (53.5)									
BZ-TS30B-3	3.55 (90)	0.4 (10)	2.3 (58.5)	BZ-TB30B-3	3.55 (90)	1.58 (40)	2.3 (58.5)	BZ-TL30B-3	3.54 (90)	2.36 (60)	2.3 (58.5)	SA102CUL, SA103CUL, SG103CUL SA102RCUL, SA103RCUL
BZ-TS40B	4.13 (105)	0.4 (10)	2.3 (58.5)	BZ-TB40B	4.13 (105)	1.97 (50)	2.3 (58.5)	BZ-TL40B	4.13 (105)	2.95 (75)	2.3 (58.5)	SA202CUL, SA203CUL, SG203CUL SA202RCUL, SA203RCUL
-	-	-	-	BZ-TB60B	7.48 (190)	4.57 (116)	3.84 (97.5)	BZ-TB60B	7.48 (190)	4.57 (116)	3.84 (97.5)	SA402CUL, SA403CUL SA402RCUL, SA403RCUL
-	-	-	-	comes with breaker	9.06 (230)	5.157 (131)	3.84 (97.5)	BZ-TB70B	9.06 (230)	5.32 (135)	3.84 (97.5)	SA603RCUL SA803RCUL

## Internal Accessories

### Auxiliary Switches and Alarm Switches

Part number

Lead wire type		SA52RCUL, SA53RCUL, SG52RCUL, SG53RCUL EA102CUL, EA103CUL EG103CUL		SA102CUL, SA103CUL SA102RCUL, SA103RCUL SG103CUL		SA202CUL, SA203CUL SA202RCUL, SA203RCUL SG203CUL	
		Left side	Right side	Left side	Right side	Left side	Right side
Aux	W	BZ6WL10CU*1	BZ6WR10CU	BZ6WL30CU	BZ6WR30CU*2	BZ6WL40CU	BZ6WR40CU*2
	WD	BZ6WDL10CU*1	BZ6WDR10CU	BZ6WDL30CU	BZ6WDR30CU*2	BZ6WDL40CU	BZ6WDR40CU*2
Alarm	K	BZ6KL10CU*1	BZ6KR10CU	BZ6KL30CU	BZ6KR30CU*2	BZ6KL40CU	BZ6KR40CU*2
	KD	BZ6KDL10CU*1	BZ6KDR10CU	BZ6KDL30CU	BZ6KDR30CU*2	BZ6KDL40CU	BZ6KDR40CU*2
Aux, Alarm	WK	BZ6WKL10CU*1	BZ6WKR10CU	BZ6WKL30CU	BZ6WKR30CU*2	BZ6WKL40CU	BZ6WKR40CU*2
	WDKD	BZ6WDKDL10CU*1	BZ6WDKDR10CU	BZ6WDKDL30CU	BZ6WDKDR30CU*2	BZ6WDKDL40CU	BZ6WDKDR40CU*2

\*1: For 3 pole type only.

\*2: For MCCB's only

\*2: For MCCB's only

With terminal block type		SA52RCUL, SA53RCUL, SG52RCUL, SG53RCUL EA102CUL, EA103CUL EG103CUL		SA102CUL, SA103CUL SA102RCUL, SA103RCUL SG102CUL, SG103CUL		SA202CUL, SA203CUL SA202RCUL, SA203RCUL	
		Left side	Right side	Left side	Right side	Left side	Right side
Aux	W	BZ6WL10CAU*1	BZ6WR10CAU	BZ6WL30CAU	BZ6WR30CAU*2	BZ6WL40CAU	BZ6WR40CAU*2
	WD	BZ6WDL10CAU*1	BZ6WDR10CAU	BZ6WDL30CAU	BZ6WDR30CAU*2	BZ6WDL40CAU	BZ6WDR40CAU*2
Alarm	K	BZ6KL10CAU*1	BZ6KR10CAU	BZ6KL30CAU	BZ6KR30CAU*2	BZ6KL40CAU	BZ6KR40CAU*2
	KD	BZ6KDL10CAU*1	BZ6KDR10CAU	BZ6KDL30CAU	BZ6KDR30CAU*2	BZ6KDL40CAU	BZ6KDR40CAU*2
Aux, Alarm	WK	BZ6WKL10CAU*1	BZ6WKR10CAU	BZ6WKL30CAU	BZ6WKR30CAU*2	BZ6WKL40CAU	BZ6WKR40CAU*2
	WDKD	BZ6WDKDL10CAU*1	BZ6WDKDR10CAU	BZ6WDKDL30CAU	BZ6WDKDR30CAU*2	BZ6WDKDL40CAU	BZ6WDKDR40CAU*2

\*1: For 3 pole type only.

\*2: For MCCB's only

\*2: For MCCB's only

### Rating

Standard: W, K

Breaker type	SA52RCUL, SA53RCUL, EA102CUL, EA103CUL SG53RCUL, EG102CUL, EG103CUL		SA102CUL, SA103CUL, SA102RCUL, SA103RCUL SA202CUL, SA203CUL, SA202RCUL, SA203RCUL SG103CUL, SG203CUL		SA402CUL, SA403CUL, SA402RCUL, SA403RCUL SA603RCUL, SA803RCUL SG403CUL		Minimum load
	Rated current (A)		Rated current (A)		Rated current (A)		
Operating voltage							W, K: 5V DC 160mA 30V DC 30mA
120V AC	3.6		5		5		
240V AC	1.8		3		5		
125V DC	0.55		0.2 *		0.2 *		
250V DC	0.27		0.2 *		0.2 *		

Note: \* Manufacturer's self certification

For low current: WD, KD

Breaker type	SA52RCUL, SA53RCUL, EA102CUL, EA103CUL SG53RCUL, EG102CUL, EG103CUL		SA102CUL, SA103CUL, SA102RCUL, SA103RCUL SA202CUL, SA203CUL, SA202RCUL, SA203RCUL SG103CUL, SG203CUL		SA402CUL, SA403CUL, SA402RCUL, SA403RCUL SA603RCUL, SA803RCUL		Minimum load
	Rated current (A)		Rated current (A)		Rated current (A)		
Operating voltage							WD, KD: 5V DC 1mA 30V DC 1mA
30V DC	0.1		0.1		0.1		

### Operation

Type of switch	Condition of MCCB		
	ON	OFF	TRIP
Auxiliary switch (W)			
Alarm switch (K)			

### Shunt trip devices

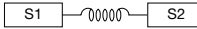
For MCCB

Breaker part number	Operating voltage	Code	Part number		Spec	Terminal No. and Internal circuit
			Lead wire type	With terminal block type		
SA52RCUL, SA53RCUL EA102CUL, EA103CUL	100 to 120VAC 100 to 110VDC	FA	BZ6FA10CU	BZ6FA10CAU	150	Continuous with burnout Prevention contact 
	200 to 240VAC	FK	BZ6FK10CU	BZ6FK10CAU	150	
	380 to 450VAC	FP	BZ6FP10CU	BZ6FP10CAU	200	
SA102CUL, SA103CUL SA102RCUL, SA103RCUL	24VAC/DC	FR	BZ6FR30CU	BZ6FR30CAU	30(AC) 35(DC)	Continuous 
	48VAC/DC	FS	BZ6FS30CU	BZ6FS30CAU	30(AC) 35(DC)	
	100-125VAC 100-110VDC	FT	BZ6FT30CU	BZ6FT30CAU	30(AC) 35(DC)	
	200-240VAC 200-220VDC	FU	BZ6FU30CU	BZ6FU30CAU	30(AC) 35(DC)	
SA202CUL, SA203CUL SA202RCUL, SA203RCUL	24VAC/DC	FR	BZ6FR40CU	BZ6FR40CAU	30(AC) 35(DC)	Continuous 13-21
	48VAC/DC	FS	BZ6FS40CU	BZ6FS40CAU	30(AC) 35(DC)	
	100-125VAC 100-110VDC	FT	BZ6FT40CU	BZ6FT40CAU	30(AC) 35(DC)	
	200-240VAC	FU	BZ6FU40CU	BZ6FU40CAU	30(AC)	
	200-220VDC				35(DC)	

## Internal Accessories

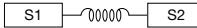
### Shunt trip devices

For MCCB

Breaker part number	Operating voltage	Code	Part number		Spec			Terminal No. and Internal circuit
			Lead wire type	With terminal block type	Input (VA)	Internal Circuit	Time rating (ms)	
SA402CUL, SA403CUL SA402RCUL, SA403RCUL	24-48VAC	FV	△	△	2	Continuous	7-21	Continuous 
	24-48VDC	FW	△	△	3			
SA603RCUL SA803RCUL	24-48VAC	FV	△	△	2	Continuous	7-21	
	24-48VDC	FW	△	△	3			
	100-240VAC	FW	△	△	3			
	100-220VDC							

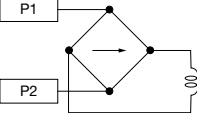
△; Factory installed accessories

For ELCB

Breaker part number	Operating voltage	Code	Part number		Spec			Terminal No. and Internal circuit
			Lead wire type	With terminal block type	Input (VA)	Internal Circuit	Time rating (ms)	
SG53RCUL EG102CUL, EG103CUL	100VAC 50Hz	F2	-	BZ6F210CAU	16	Continuous	7-13	Continuous 
	100 to 110VAC 60Hz							
	200VAC 50Hz	F7	-	BZ6F710CAU	16			
	200 to 220VAC 60Hz							
SG103CUL	400VAC 50Hz	F8	-	BZ6F810CAU	22	Continuous	7-13	
	400 to 440VAC 60Hz							
	100VAC 50Hz	F2	-	BZ6F230CAU	200			
	100 to 110VAC 60Hz							
SG203CUL	200VAC 50Hz	F7	-	BZ6F730CAU	150	Continuous	7-13	
	200 to 220VAC 60Hz							
	400VAC 50Hz	F8	-	BZ6F830CAU	200			
	400 to 440VAC 60Hz							
SG403CUL	100VAC 50Hz	F2	-	BZ6F240CAU	200	Continuous	7-13	
	100 to 110VAC 60Hz							
	200VAC 50Hz	F7	-	BZ6F740CAU	150			
	200 to 220VAC 60Hz							
SG403CUL	400VAC 50Hz	F8	-	BZ6F840CAU	200	Continuous	7-21	
	400 to 440VAC 60Hz							
	24-48VAC	FV	△	△	2			
	24-48VDC	FW	△	△	3			
	100-240VAC							
	100-220VDC							

△; Factory installed accessories

### Undervoltage trip devices

Breaker part number	Operating voltage	Code	Part number		Spec			Terminal No. and Internal circuit
			Lead wire type	With terminal block type	Input (VA)	Internal Circuit	Time rating (ms)	
SA52RCUL, SA53RCUL EA102CUL, EA103CUL SG53RCUL EG102CUL, EG103CUL	100VAC 50Hz	R2	-	BZ6R210CAU	3	70% to 20% of rated voltage	85% or more of rated voltage	
	100 to 110VAC 60Hz							
	200VAC 50Hz	RW	-	BZ6RW10CAU	3			
	200 to 220VAC 60Hz							
SA102CUL, SA103CUL SA102RCUL, SA103RCUL	400VAC 50Hz	R9	-	BZ6R910CAU	4			
	400 to 440VAC 60Hz							
	100-110VDC	RT	-	△	200			
SG103CUL	100VAC 50Hz	R2	-	△	200			
	100 to 110VAC 60Hz							
	200VAC 50Hz	RW	-	△	150			
	200 to 220VAC 60Hz							
SA202CUL, SA203CUL SA202RCUL, SA203RCUL	400VAC 50Hz	R9	-	△	200			
	400 to 440VAC 60Hz							
	100VAC 50Hz	R2	-	△	200			
	100 to 110VAC 60Hz							
SG203CUL	200VAC 50Hz	RW	-	△	150			
	200 to 220VAC 60Hz							
	400VAC 50Hz	R9	-	△	200			
	400 to 440VAC 60Hz							
SA402CUL, SA403CUL SA402RCUL, SA403RCUL	24VAC/DC	RR	△	△	2			
	48VAC/DC	RS	△	△	2			
SG403CUL	100-110VAC/DC	RX	△	△	3			
	200-240VAC 200-220VDC	RU	△	△	3			
SA603RCUL SA803RCUL	24VAC/DC	RR	△	△	2			
	48VAC/DC	RS	△	△	2			
SG403CUL	100-110VAC/DC	RX	△	△	3			
SG403CUL	200-240VAC 200-220VDC	RU	△	△	3			

△; Factory installed accessories

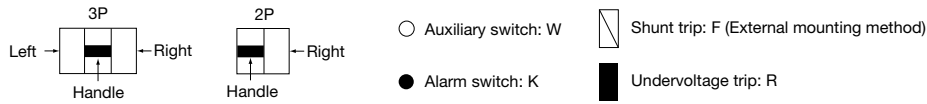
## Internal Accessory Combinations for MCCB



MCCB	S series	SA52RCUL *	SA53RCUL *	SA102CUL SA103CUL SA102RCUL SA103RCUL SA202CUL SA203CUL SA202RCUL SA203RCUL	SA402CUL SA403CUL SA402RCUL SA403RCUL SA603RCUL SA803RCUL
	E series	EA102CUL *	EA103CUL *	-	-
Pole	2		3	2, 3	2, 3
Auxiliary switch SPDT W					
Alarm switch SPDT K					
Shunt trip F					
Undervoltage trip R					
W2	N/A				
W+K					
W2+K	N/A				
K2	N/A				
W+K2	N/A				
W2+K2	N/A				
W+F	N/A				
W2+F	N/A	N/A	N/A	N/A	
W+R					
W2+R	N/A			N/A	
K+F	N/A				
K+R					
W+K+F	N/A				
W+K+R					
K2+F	N/A	N/A	N/A	N/A	
K2+R	N/A			N/A	
W2+K+F	N/A			N/A	
W2+K+R	N/A			N/A	
W+K2+F	N/A			N/A	
W+K2+R	N/A			N/A	
W2+K2+F	N/A			N/A	
W2+K2+R	N/A			N/A	

Notes: • The lead wires are pulled out and terminal blocks are attached on the same side of the accessory attached.  
\* Terminal block connection is standard method

## ■ Internal Accessory Combinations for ELCB



ELCB	SG series	SG53RCUL *	SG103CUL SG203CUL	SG403CUL
	EG series	EG102CUL * EG103CUL *	-	-
Pole		2, 3	3	3
Auxiliary switch SPDT W				
Alarm switch SPDT K				
Shunt trip F				
Undervoltage trip R				
W2			N/A	
W+K				
W2+K			N/A	
K2			N/A	
W+K2			N/A	
W2+K2			N/A	
W+F				
W+R				
W2+R			N/A	
K+F				
K+R				
K2+R			N/A	
W+K+F				
W+K+R				
W2+K+R			N/A	
W+K2+R			N/A	
W2+K2+R			N/A	

Notes: ● The lead wires are pulled out and terminal blocks are attached on the same side of the accessory attached.  
 \* Terminal block connection is standard method

## ■ External Accessories

### ● Operating Handles

Part number		Applicable Breakers
V type (Door mount)	N type (Breaker mount)	
BZ6V10C	BZ6N10CP	SA52RCUL, SA53RCUL, EA102CUL, EA103CUL, SG53RCUL, EG102CUL, EG103CUL
BZ6V30C	BZ6N30CP	SA102CUL, SA103CUL, SA102RCUL, SA103RCUL, SG103CUL
BZ6V40C	BZ6N40CP	SA202CUL, SA203CUL, SA202RCUL, SA203RCUL, SG203CUL
BZ6V60C	BZ6N60CP	SA402CUL, SA403CUL, SA402RCUL, SA403RCUL, SG403CUL
BZ6V70C	BZ6N70CP	SA603RCUL, SA803RCUL

### ● Terminal Covers

For Screw Terminals		For Lug Terminals *1		For Flat Terminals *1		Applicable Breakers
Type	Packing quantity	Type	Packing quantity	Type	Packing quantity	
BZ6TS10C2U (Short) *2	2	—	—	—	—	SA52RCUL, EA102CUL
BZ6TB10C2C (Long) *2	2	—	—	—	—	
BZ6TS10C3C (Short) *2	2	—	—	—	—	SA53RCUL, EA103CUL, SG53RCUL, EG102CUL, EG103CUL
BZ6TB10C3U (Long) *2	2	—	—	—	—	
BZ-TS30B-3 (Short)	2	BZ-TB30B-3	2	BZ-TL30B-3	2	SA102CUL, SA103CUL, SG103CUL *1 SA102RCUL, SA103RCUL
BZ-TB30B-3 (Long)	2	—	—	—	—	
BZ-TS40B (Short)	2	BZ-TB40B	2	BZ-TL40B	2	SA202CUL, SA203CUL, SG203CUL *1 SA202RCUL, SA203RCUL
BZ-TB40B (Long)	2	—	—	—	—	
—	—	BZ-TB60B	2	BZ-TB60B	2	SA402RCUL, SA403RCUL, SG403CUL SA402RCUL, SA403RCUL
—	—	comes with a breaker		BZ-TB70B	2	SA603RUL SA803RUL

Note: \*1 Lug Terminals and Flat Terminals are not available for SG103CUL and SG203CUL.

\*2 Terminal covers are supplied with breaker as standard. If long terminal cover is required, please specify TB in the part number.

### ● Insulation Barriers

Insulation barriers		Applicable Breakers
Type	Packing quantity	
BZ6B10C	4	SA52RCUL, SA53RCUL, EA102CUL, EA103CUL, SG53RUCL, EG102CUL, EG103CUL *2
BZ6B30CU	4	SA102CUL, SA103CUL, SG103CUL, SA102RCUL, SA103RUCL *1
BZ6B40CU	4	SA202CUL, SA203CUL, SG203CUL, SA202RCUL, SA203RUCL *1
B-43	4	SA402CUL, SA403CUL, SG403CUL, SA402RCUL, SA403RCUL, SA603CUL, SA803CUL *1

Note: \*1 Insulation Barriers for line side and load side are provided with the Breaker (2-pole Breaker; 2 pcs, 3-pole Breaker; 4 pcs) as standard.

\*2 Insulation Barriers are required only for flat terminal type.

### ● Terminal Kits (Field Installable)

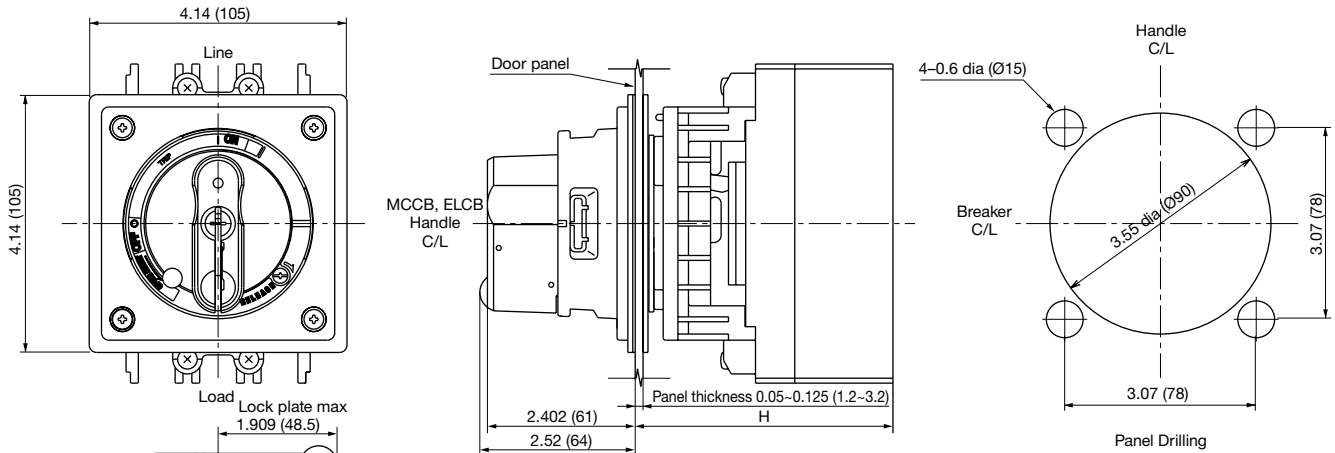
Flat Terminal Kits		Lug Terminal Kit		Applicable Breakers
Type	Packing quantity	Type	Packing quantity	
BU-SU20B	3	—	—	SA52RCUL, SA53RCUL, SG53RUCL
BU-SU25B	3	—	—	EA102CUL, EA103CUL, EG102CUL, EG103CUL
BZ6SU35B	3	BZ6TA100	3	SA102CUL, SA103CUL, SA102RCUL, SA103RUCL
BZ6SU50B	3	BZ6TA225	3	SA202CUL, SA203CUL, SA202RCUL, SA203RUCL
BZ-SU60B	3	BZ6TA350	3	SA402CUL, SA403CUL, SA402RCUL, SA403RCUL (250-300A)
		BZ6TA400	3	SA402CUL, SA403CUL, SA402RCUL, SA403RCUL (400A)
BU-SU70B-600	3	BZ-TA600	3	SA603CUL
BU-SU70B-800	3	BZ-TA700	3	SA803CUL (700A)
		BZ-TA800	3	SA803CUL (800A)

### ● Handle Locking Covers for Lockout

Part number	Applicable Breakers
BZ6L10C	SA52RCUL, SA53RCUL, EA102CUL, EA103CUL, SG53RCUL, EG102CUL, EG103CUL
BZ6L30C	SA102CUL, SA103CUL, SA102RCUL, SA103RCUL, SG103CUL
BZ6L40C	SA202CUL, SA203CUL, SA202RCUL, SA203RCUL, SG203CUL
BZ-L70B	SA402CUL, SA403CUL, SA402RCUL, SA403RCUL, SA603RCUL, SA803RCUL

## ■ Operating Handles Dimensions Unit: inch (mm)

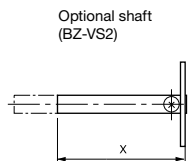
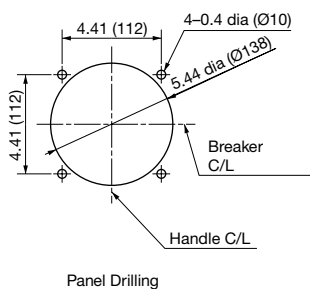
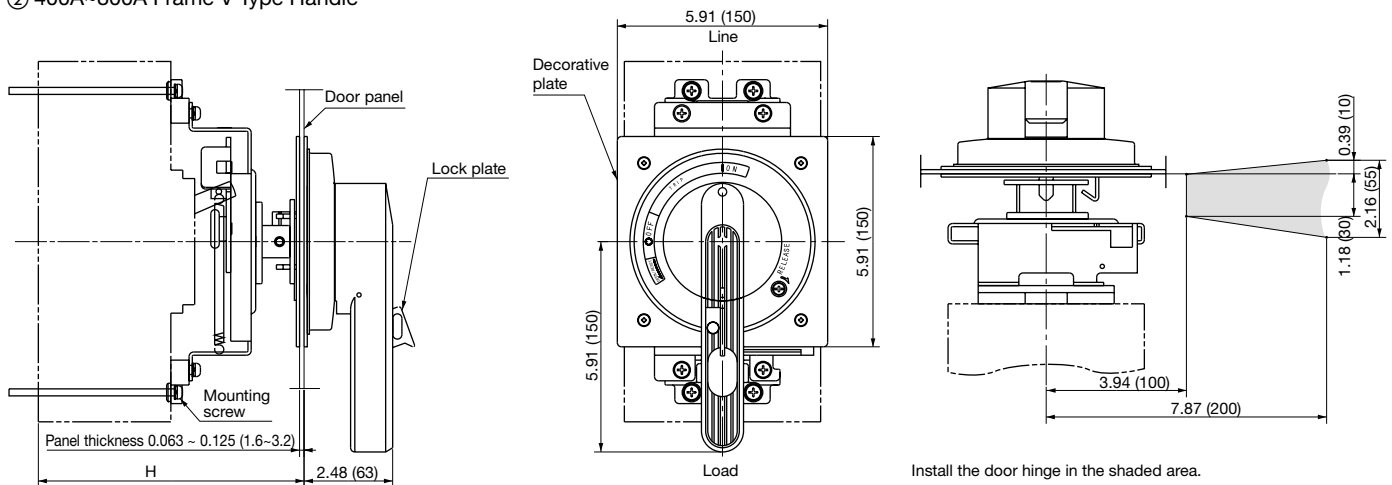
### ① 50A~225A Frame V Type Handle



Handle type	Applicable Breakers	Dimensions (mm)	
		H	
		Standard	with the optional shaft
<b>BZ6V10C</b>	SA52/53RCUL	4.13±0.078 (105±2)	5.6 to 9.84 (142 to 250)
	SG53RCUL		
	EA102/103CUL		
	EG102/103CUL		
<b>BZ6V30C</b>	SA102CUL	4.13±0.078 (105±2)	5.6 to 9.84 (142 to 250)
	SA103CUL		
	SA102RCUL		
	SA103RCUL		
<b>BZ6V40C</b>	SG103CUL	4.13±0.078 (105±2)	5.6 to 9.84 (142 to 250)
	SA202CUL		
	SA203CUL		
	SA202RCUL		
	SA203RCUL		
	SG203CUL		

Note: Handle protection structure IP54 (IEC529, JIS C0920)

### ② 400A~800A Frame V Type Handle



The distance between the handle and breaker can be shortened by cutting the optional shaft ( $X = H - 6.36$  (161.5))

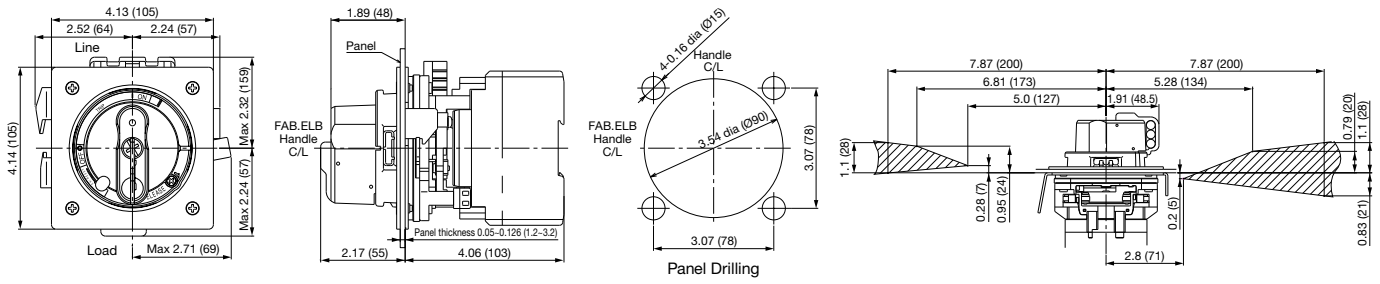
Handle type	Applicable Breakers	Dimensions (mm)	
		H	
		Standard	with the optional shaft
<b>BZ6V60C</b>	SA402CUL	7.48±0.078 (190±2)	7.96 to 9.84 (202 to 250)
	SA403CUL		
	SA402RCUL		
	SA403RCUL		
<b>BZ6V70C</b>	SA603RUL, SA803RUL	7.48±0.078 (190±2)	7.96 to 9.84 (202 to 250)

Note: Handle protection structure IP54 (IEC529, JIS C0920)



## ■ Operating Handles Dimensions Unit: inch (mm)

### ① 50A~100A Frame N Type Handle

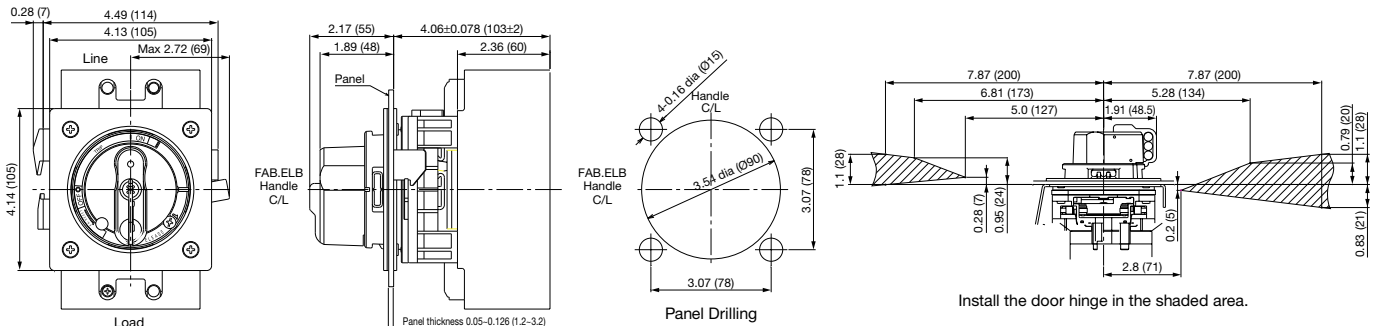


Install the door hinge in the shaded area.

Handle type	Applicable Breakers	Mounting screw
<b>BZ6N10CP</b>	<b>SA52RCUL EA102CUL</b> <b>SA53RCUL EA103CUL</b> <b>SG53RCUL EG102CUL</b> <b>EG103CUL</b>	#8-32X3 <sup>1</sup> / <sub>2</sub> (M4X85)

Note: When using a Dust-proof packing, handle protection structure is IP 50 (IEC 529, JIS C0920)

### ② 100A~225A Frame N Type Handle

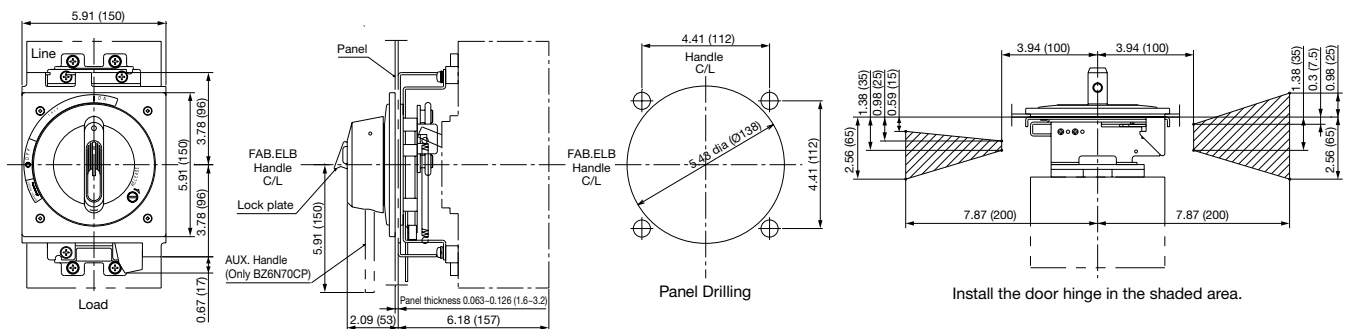


Install the door hinge in the shaded area.

Handle type	Applicable Breakers	Mounting screw
<b>BZ6N30CP</b>	<b>SA102CUL SG103CUL</b> <b>SA103CUL</b> <b>SA102RCUL</b> <b>SA103RCUL</b>	#8-32X3 <sup>1</sup> / <sub>2</sub> (M4X85)
<b>BZ6N40CP</b>	<b>SA202CUL SG203CUL</b> <b>SA203CUL</b> <b>SA202RCUL</b> <b>SA203RCUL</b>	#8-32X3 <sup>1</sup> / <sub>2</sub> (M4X85)

Note: When using a Dust-proof packing, handle protection structure is IP 50 (IEC 529, JIS C0920)

### ③ 400A ~ 800A Frame N Type Handle



Install the door hinge in the shaded area.

Handle type	Applicable Breakers	Mounting screw
<b>BZ6N60CP</b>	<b>SA402CUL</b> <b>SA403CUL</b> <b>SA402RCUL</b> <b>SA403RCUL</b>	1/4-20X4 <sup>1</sup> / <sub>2</sub> (M6X110)
<b>BZ6N70CP</b>	<b>SA603RCUL, SA803RCUL</b>	

Note: When using a Dust-proof packing, handle protection structure is IP 50 (IEC 529, JIS C0920)

## ■ Wiring

### ① Connecting Precautions

- When connecting the wires, follow the instruction of NEC (National Electric Code, USA) or CEC (Canadian Electrical code Part 1, Canada).
- For connecting, use copper wire rated for 75°C. It is recommended to use UL or CSA approved wires.
- Keep the connection of the wire sufficiently tight, because a very large electromagnetic force will be generated, when the short circuit current is applied.
- Perform additional tightening of the terminal screws periodically.

### ② Terminal Construction

	Screw Terminals	Flat Terminals	Lug Terminals
50A, EA/EG 100A Frame	○	○	—
SA100~225A Frame	○	○	○
SG100~225A Frame	○	—	—
400~800A Frame	—	○	○

○ : Available    — : Not available

### ③ Allowable wire spec for Lug Terminals

Number of strands connecting wires

Wire size AWG or MCM (mm <sup>2</sup> )	Number of strands
14 - 2 (2.1 - 33.6)	7
1 - 4/0 (42.4 - 107.2)	19
250 - 500 (127 - 250)	37

(mm<sup>2</sup>) Values are those converted from AWG or MCM size

### ⚠ Caution

- Two wires can not be connected to the lug terminal at once.
- Follow the number of strands of wire indicated in the table.
- Multiconductor wire can not be connected.
- Do not solder the end of the wire.

## ■ Max Wire Sizes and Tightening Torque

Type	Rated Current (A)	Wire size AWG or MCM (mm <sup>2</sup> )	Tightening torque		Applicable ring (crimp) terminal					
			Screw / Flat terminal	Lug terminal	JST (UL file No.E42024)	NICHIFU (UL file No.E44245)	AIKOKU (UL file No.E74103)	DST (UL file No.E74917)		
SA53RCUL SG53RCUL	3	14 AWG (2.1mm <sup>2</sup> )	Screw / Flat terminal Screw: 20-25 lb.-in (2.3-2.8N-m)  Flat: 30-40 lb.-in. (3.5-4.5N-m)	50 lb. - in. (5.8N-m)	R2-5		R2-5			
	5	14 AWG (2.1mm <sup>2</sup> )								
	10	14 AWG (2.1mm <sup>2</sup> )								
	15	14 AWG (2.1mm <sup>2</sup> )								
	20	12 AWG (3.3mm <sup>2</sup> )								
	30	10 AWG (5.3mm <sup>2</sup> )								
	40	8 AWG (8.4mm <sup>2</sup> )								
EA102CUL, EA103CUL EG102CUL, EG103CUL	60	6 AWG (13.3mm <sup>2</sup> )			R5.5-5		R5.5-5			
	75	4 AWG (21.1mm <sup>2</sup> )								
	100	3 AWG (26.7mm <sup>2</sup> )								
					R8-5		R8-5			
					R14-8		R14-8			
SA102CUL SA102RCUL SA103CUL SA103RCUL SG103CUL	15	14 AWG (2.1mm <sup>2</sup> )	50 lb. - in. (5.8N-m)	50 lb. - in. (5.8N-m)	R2-8	R2-8	2-8	2-8, 2-B8		
	20	12 AWG (3.3mm <sup>2</sup> )			R5.5-8, 5.5-S8	R3.5-8, R5.5-8	5.5-8	3.5-8, 5.5-8		
	30	10 AWG (5.3mm <sup>2</sup> )			R5.5-8, 5.5-S8	R5.5-8		5.5-8		
	32	8 AWG (8.4mm <sup>2</sup> )			R8-8, 8-S8	R8-8	8-8	8-8		
	40	8 AWG (8.4mm <sup>2</sup> )								
	50	8 AWG (8.4mm <sup>2</sup> )								
	60	6 AWG (13.3mm <sup>2</sup> )			R14-8, 14-8NS, 14-S8	R14-8, R14-8S	14-8	14-S8, 14-8		
	70	4 AWG (21.1mm <sup>2</sup> )			R22-8, 22-S8, CB22-S8	R22-8, R22-8S, CB22-8S	22-8	22-S8, 22-8, CB22-8		
	75	4 AWG (21.1mm <sup>2</sup> )								
	80	4 AWG (21.1mm <sup>2</sup> )								
	90	3 AWG (26.7mm <sup>2</sup> )					38-S8	R38-8S, CB22-8S	38-8S	38-S8
	100	3 AWG (26.7mm <sup>2</sup> )								
	SA202CUL SA202RCUL SA203CUL SA203RCUL SG203CUL	125			1 AWG (42.4mm <sup>2</sup> )	93 lb. - in. (10.5N-m)	200 lb. - in. (23N-m)	R38-8, 38-S8	R38-8S, R38-8	38-8S
150		1/0 AWG (53.5mm <sup>2</sup> )	R60-8, 60S8	R60-8, CB60-8, CB60-8S	60-8			60-8, CB60-8		
175		2/0 AWG (67.4mm <sup>2</sup> )	70-8	R70-8	-			70-8		
200		3/0 AWG (85.0mm <sup>2</sup> )	CB80-S8	-	-			CB80-8		
225		4/0 AWG (107.2mm <sup>2</sup> )	CB100-S8	-	-			CB100-8		
SA402CUL SA402RCUL SA403CUL SA403RCUL SG403CUL	250	250 MCM (127mm <sup>2</sup> )	375 lb. - in. (43.5N-m)	375 lb. - in. (43.5N-m)	150-12	R150-12	-	-		
	300	350 MCM (177mm <sup>2</sup> )			180-12	R180-12				
	350	500 MCM (253mm <sup>2</sup> )			325-12	R325-12S				
	400	3/0 AWG x 2 (85.0mm <sup>2</sup> x 2)			R80-12	R80-12				
SA603RCUL	500	250 MCM x 2 (126.7mm <sup>2</sup> x 2)	416 lb. - in. (47N-m)	275 lb. - in. (31.9N-m)	150-12	R150-12				
	600	350 MCM x 2 (177.4mm <sup>2</sup> x 2)			180-12	R180-12				
SA803RCUL	700	500 MCM x 2 (253.4mm <sup>2</sup> x 2)			325-12	R325-12S				
	800	300 MCM x 3 (152mm <sup>2</sup> x 3)			-	-				

Notes: \*1 Ring (Crimp) Terminal Manufacturer : JST=Japan Solderless Terminal MFG Co., Ltd.  
DST=Daido Solderless Terminal MFG Co., Ltd.  
AIKOKU=Aikoku Kogyo KK.  
NICHIFU=Nichifu Terminal Co., Ltd.

\*2 167°F (75°C) Copper wire

## Flange Disconnect Handle <UF Type Handle>

### ■ Features

- Flexible cable operation.
- Covering up to 400-amp frame size
- Easy installation on circuit breakers
- Complies with IP 54, NEMA type 12 protection degree.
- Accepts ANSI standard American padlock devices.
- Off lockable:  $\Phi 10$  padlock device, Max 3 pieces.
- UL listed product. [UL489, File No. E93289]



### ■ Specifications

Breaker frame size		100 amp frame	225 amp frame	400 amp frame
Part numbers		BZ6UF30D	BZ6UF40D	BZ6UF60D
Applicable products	MCCB's	SA103BAUL, SA103RAUL, SA103CUL, SA103RCUL,	SA203BAUL, SA203RAUL, SA203CUL, SA203RCUL,	SA403BUL, SA403RUL, SA403CUL
	ELCB's	SG203BAUL, SG103CUL	SG203BAUL, SG203BAUL,	SG403CUL
Operating instructions		- Operating handle facing up, Breaker is in ON position - Operating handle facing down, Breaker is in OFF position or is reset. - Panel door cannot be opened when in ON, OFF or Trip position. In order to open the door, the handle must be turned toward reset position. - Release screw is standard. If you want to open a panel door in ON position, please turn on the release screw using flat head screwdriver.		
Mechanical endurance (cycles)		10,000	8,000	6,000
Ambient temperature		- 10 to 40°C		
Relative humidity		95% RH		
Atmosphere		No excessive dust, smoke, corrosive gases, flammable gases, steam or salt.		
Accessories	Terminal cover	BZ6UTB30	BZ6UTB40	BZ6UTB60
	Cable 1.5m	BZ6UW30-15A	BZ6UW40-15A	BZ6UW60-15A
	Cable 2.0m	BZ6UW30-20A	BZ6UW40-20A	BZ6UW60-20A
	Cable 3.0m	BZ6UW30-30A	BZ6UW40-30A	BZ6UW60-30A

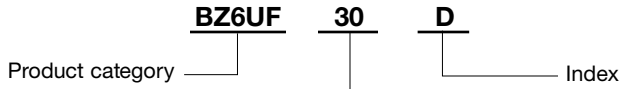
# Flange Disconnect Handle <UF Type Handle>

## ■ Ordering information

Specify the following:

1. Handle with operation part numbers
2. Cable part numbers
3. Terminal cover part number if required.

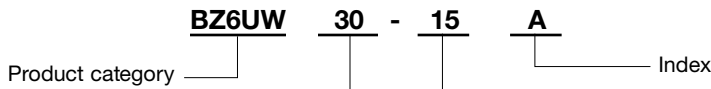
### Main unit (Drive unit and handle unit)



#### Frame size

Code	Used for
30	100 amp frame breakers
40	225 amp frame breakers
60	400 amp frame breakers

### Cable



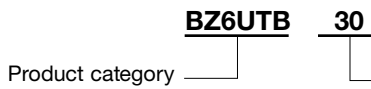
#### Frame size

Code	Used for
30	100 amp frame breakers
40	225 amp frame breakers
60	400 amp frame breakers

#### Cable length

Code	Specifications
15	1.5m
20	2.0m
30	3.0m

### Terminal cover

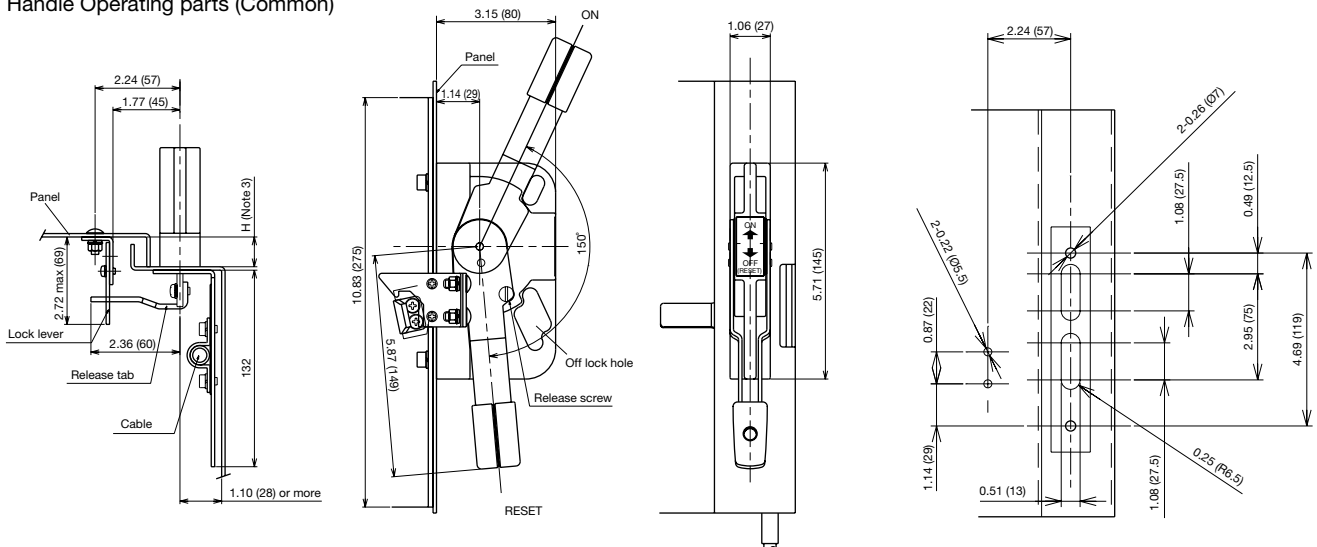


#### Frame size

Code	Used for
30	100 amp frame breakers
40	225 amp frame breakers
60	400 amp frame breakers

## ■ Dimensions of handle operating parts (common): inch (mm)

### ● Handle Operating parts (Common)



(Note 1) The flange handle consists of handle operating parts and actuators parts.

(Note 2) Operating parts can be installed on either right-or-left side of the panel.

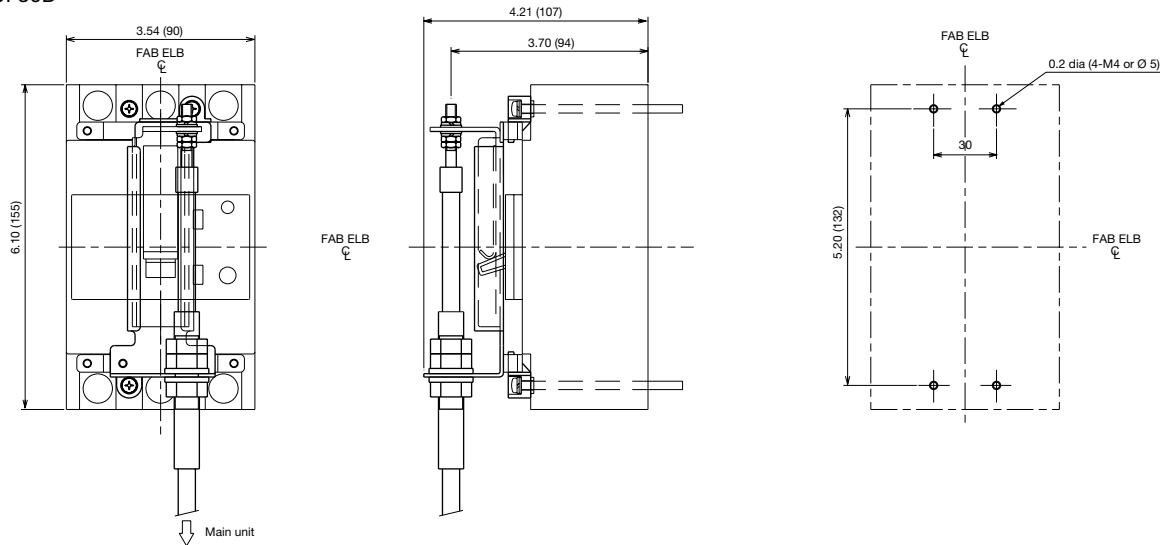
(Note 3) Available in 2 heights: 20mm or 30mm.

(Note 4) CABLES MUST BE ORDERED SEPARATELY.

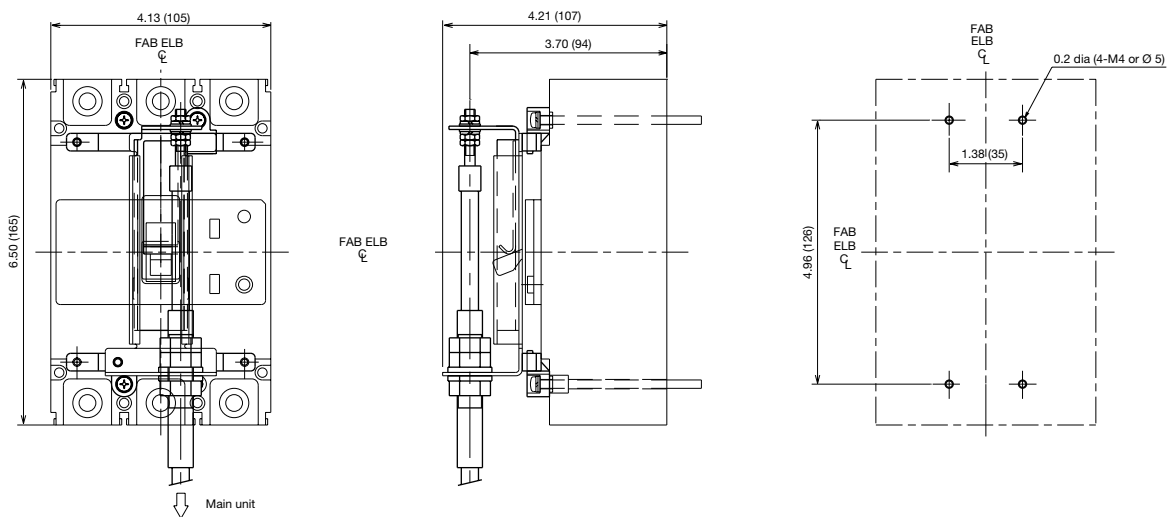
# Flange Disconnect Handle <UF Type Handle>

## ■ Dimensions of actuator parts: inch (mm)

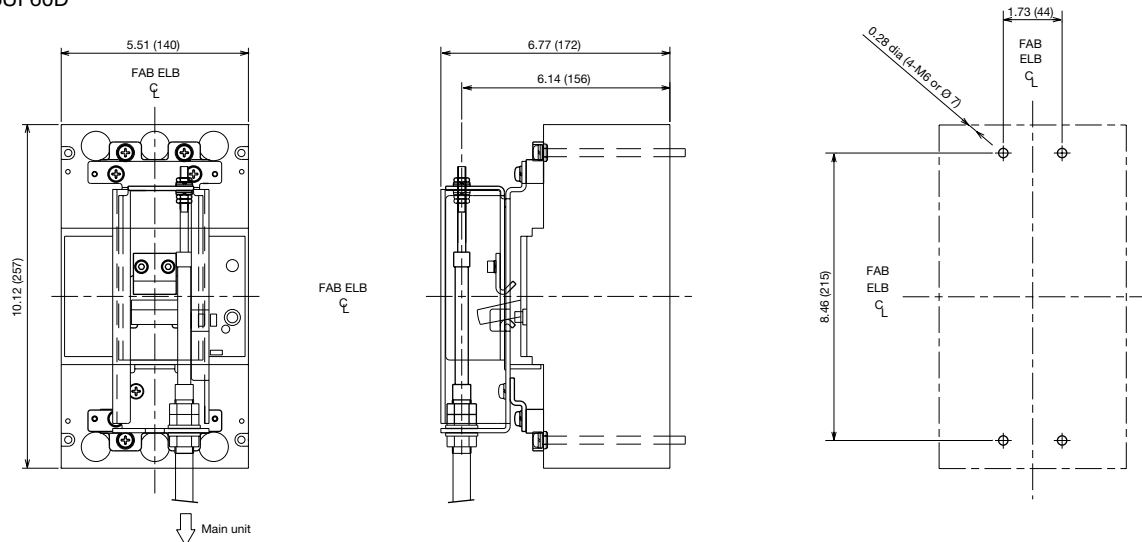
### ● BZ6UF30D



### ● BZ6UF40D



### ● BZ6UF60D

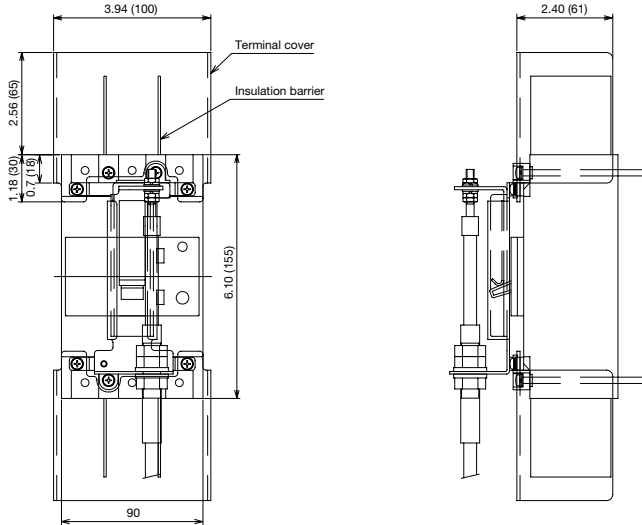


- (Note 1) The flange handle consists of handle operating parts and actuators parts.  
 (Note 2) Operating parts can be installed on either right-or-left side of the panel.  
 (Note 3) Available in 2 heights: 20mm or 30mm.  
 (Note 4) CABLES MUST BE ORDERED SEPARATELY.

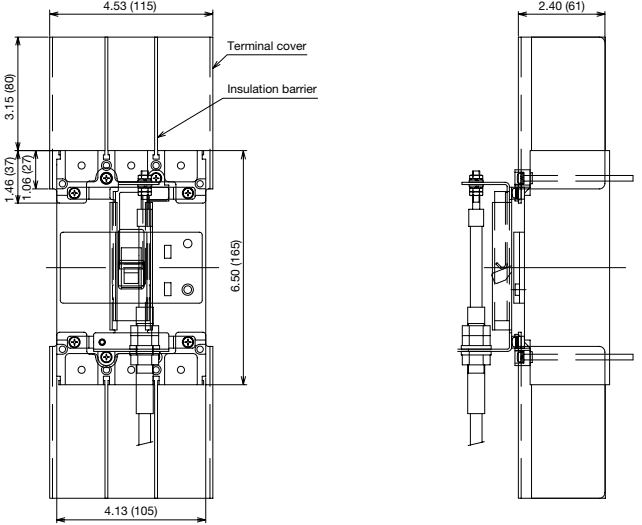
# Flange Disconnect Handle <UF Type Handle>

## ■ Dimensions of terminal covers: inch (mm)

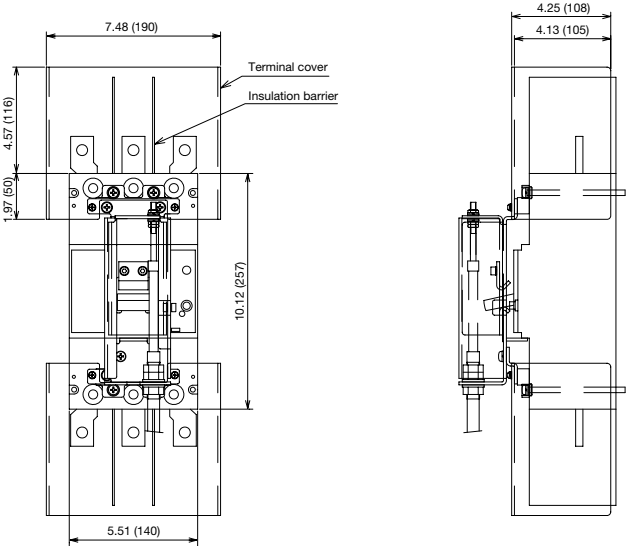
● BZ6UTB30



● BZ6UTB40



● BZ6UTB60



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Terms of minimum order will be shown on quotations, or if orders amounting to less than the latest minimum order amount, handling fee will be applied.

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