

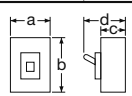


# Molded Case Circuit Breakers - New G-Twin, UL489 Listed BW Series

Frame size (A)		125				250						
Type		BW125JAGU		BW125RAGU		BW250EAGU		BW250JAGU		BW250RAGU		
Appearance (with Screw Terminals, 3 poles)												
SSCR=UL489 interrupting capacity												
Rated insulation voltage (V) (IEC60947-2)		AC 690 DC 250		690 250		690 250		690 250		690 250		
Rated voltage (V) (UL489)		AC 600Y/347		600Y/347		240		600Y/347		600Y/347		
Rated current (A)		15,20,30,40,50,60,70,75,80,90,100,125				125,150,160,175,200,225,250						
Poles		2 3		2 3		2 3		2 3		2 3		
Rated frequency (Hz)		50/60		50/60		50/60		50/60		50/60		
Rated interrupting capacity sym (kA)	UL489 CAN/CSA C22.2 No.5	AC	600V/Δ	-	-	-	-	-	-	-	-	
			600V/Y	10	10	18	-	10	25			
			480V/Δ	-	30	50	-	30	50			
			480V/Y	30	30	50	-	30	50			
			240V	50	50	100	22	50	100			
	IEC60947-2 JIS C 8201-2-1 Icu/Ics	AC	690V	-	5/3	-	-	5/3				
			500V	15/8	36/18	10/5	18/9	36/18				
			440V	30/15	50/25	18/9	30/15	50/25				
			400V	30/15	50/25	18/9	30/15	50/25				
			380V	30/15	50/25	18/9	30/15	50/25				
	GB14048.2 Icu/Ics	AC	400V	30/15	50/25	18/9	30/15	50/25				
			230V	50/25	100/50	36/18	50/25	100/50				
500V			15/8	36/18	10/5	18/9	36/18					
440V			30/15	50/25	18/9	30/15	50/25					
400V			30/15	50/25	18/9	30/15	50/25					
Dimension inch (mm)		a	2.362(60)	3.543(90)	3.543(90)	4.134(105)	4.134(105)	4.134(105)				
		b	6.372(171)		6.372(171)	7.126(181)	7.126(181)	7.126(181)				
		c	2.677(68)		2.677(68)	2.677(68)	2.677(68)	2.677(68)				
		d	3.740(95)		3.740(95)	3.740(95)	3.740(95)	3.740(95)				
Terminal construction	Screw terminals (standard)	None	●	●	●	●	●					
	Flat terminals	SF	●	●	●	●	●					
	Lug terminals	SB	●	●	●	●	●					
Internal accessories	Auxiliary switch	W	BW9W1SG0(-R)	BW9W1SG0(-R)	BW9W1SG0(-R)	BW9W1SG0(-R)	BW9W1SG0(-R)					
	Auxiliary switch for low current	1	BW9W1DG0(-R)	BW9W1DG0(-R)	BW9W1DG0(-R)	BW9W1DG0(-R)	BW9W1DG0(-R)					
	Alarm switch	K	BW9K1SG0(-R)	BW9K1SG0(-R)	BW9K1SG0(-R)	BW9K1SG0(-R)	BW9K1SG0(-R)					
	Alarm switch for low current	8	BW9K1DG0(-R)	BW9K1DG0(-R)	BW9K1DG0(-R)	BW9K1DG0(-R)	BW9K1DG0(-R)					
	Auxiliary & Alarm switch	WK	BW9WKSG0(-R)	BW9WKSG0(-R)	BW9WKSG0(-R)	BW9WKSG0(-R)	BW9WKSG0(-R)					
	Aux & Alarm for low current	18	BW9WKDG0(-R)	BW9WKDG0(-R)	BW9WKDG0(-R)	BW9WKDG0(-R)	BW9WKDG0(-R)					
	Shunt trip	F	BW9F*G0	BW9F*G0	BW9F*G0	BW9F*G0	BW9F*G0					
	Under voltage trip	R	-	BW9RGA*	BW9RGA*	BW9RGA*	BW9RGA*					
Accessories with terminal block	A	See page 22		See page 22		See page 22						
External accessories	Padlocking device	Q1	BW9Q1CA	BW9Q1CA	BW9Q1CA	BW9Q1CA	BW9Q1CA					
		Q2	BW9Q2CA	BW9Q2CA	BW9Q2GA	BW9Q2GA	BW9Q2GA					
	External operating handle	V	-	BW9V0CA	BW9V0CA	BW9V0GA	BW9V0GA					
		N	-	BW9N0CA	BW9N0CA	BW9N0GA	BW9N0GA					
		F	-	BW9F0CA	BW9F0CA	BW9F0GA	BW9F0GA					
	Field Installable terminal kit	Flat terminal kit	BZ-S50B-2253 GLOBAL				BW9SS0CA-3 GLOBAL					
		Lug terminal kit	BW9SL0CA-3 GLOBAL				Please see page 28.					
	Terminal covers *1	Short type,gray-white	Provided		Provided		Provided		Provided		Provided	
		Short type,transparent	BW9BTCA-S2	BW9BTCA-S3	BW9BTCA-S3	BW9BTGA-S3	BW9BTGA-S3	BW9BTGA-S3	BW9BTGA-S3			
		Long type,gray-white	BW9BTCA-L2W	BW9BTCA-L3W	BW9BTCA-L3W	BW9BTGA-L3W	BW9BTGA-L3W	BW9BTGA-L3W	BW9BTGA-L3W			
Long type,transparent		BW9BTCA-L2	BW9BTCA-L3	BW9BTGA-L3	BW9BTGA-L3	BW9BTGA-L3	BW9BTGA-L3	BW9BTGA-L3				
Insulation barrier		BW9BPCA	BW9BPCA	BW9BPCA	BW9BPGA	BW9BPGA	BW9BPGA					
Mass: lb. (kg) (screw terminals)		1.76(0.8)	2.65(1.2)	2.20(1.0)	2.65(1.2)	3.09(1.4)	3.53(1.6)	3.09(1.4)	3.53(1.6)	3.09(1.4)	3.53(1.6)	

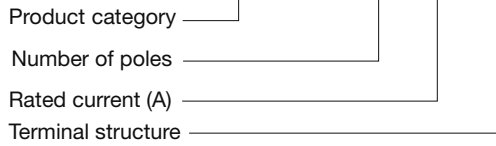
\*1 Short type terminal covers (gray-white) are supplied as standard.

●: Available, -: Not available

## Part Number Structure

### G-TWIN; MCCB (50 - 800AF)

**BW250EAGU - 3P 100 SF**



Code	Line side	Load side	BW50RAGU	BW100EAGU, BW125RAGU, BW125RAGU BW250EAGU, BW125JAGU, BW250RAGU	BW400EAGU, BW400SAGU, BW400RAGU, BW400HAGU BW630RAGU, BW630HAGU, BW800RAGU, BW800HAGU
None	Screw	Screw	●	●	-
None	Flat	Flat	-	-	●
SB	Lug	Lug	-	●	●*1
SF	Flat	Flat	●	●	-

\*1 Lug terminal is Not available for BW630□AGU-3P630 (Rated current 630 ampere in BW630).

### G-TWIN; ELCB (50 - 630AF)

**EW50RAGU - 3P 050 K SF**



Code	Line side	2 poles	3 poles
B	30mA	●	●
D	50mA*	-	●
K	100/200mA** changeable	●	-
K	100/200/500* or 100/200/500/1000mA changeable	-	●

\*Only for EW50RAGU-3P, EW100EAGU-3P

\*\*Only for EW100EAGU-2P

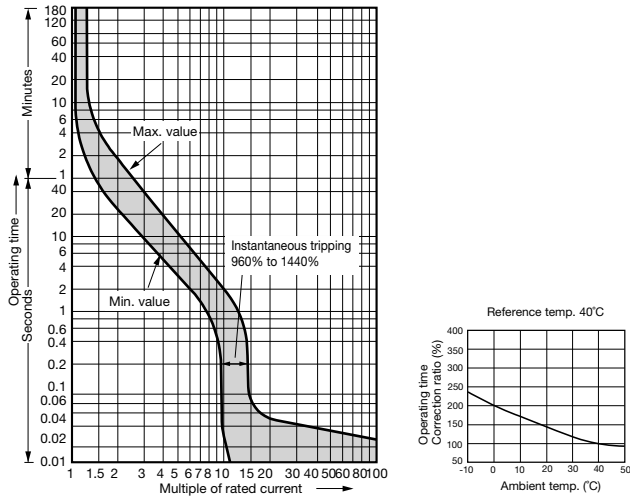
Terminal structure ————

Code	Line side	Load side	EW50RAGU EW100EAGU	EW125JAGU, EW125RAGU EW125JAGU, EW250RAGU	EW400SAGU, EW400RAGU, EW400HAGU EW630RAGU
None	Screw	Screw	●	●	-
None	Flat	Flat	-	-	●
SB	Lug	Lug	-	●	●*1
SF	Flat	Flat	●	●	-

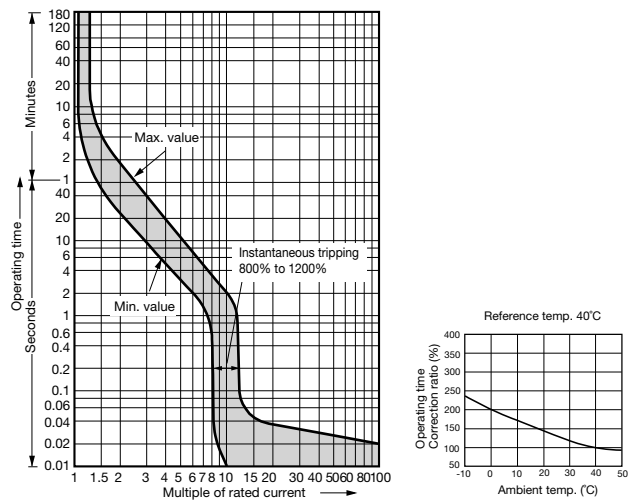
\*1 Lug terminal is Not available for EW630RAGU-3P630 (Rated current 630 ampere in EW630).

# Characteristic Curves

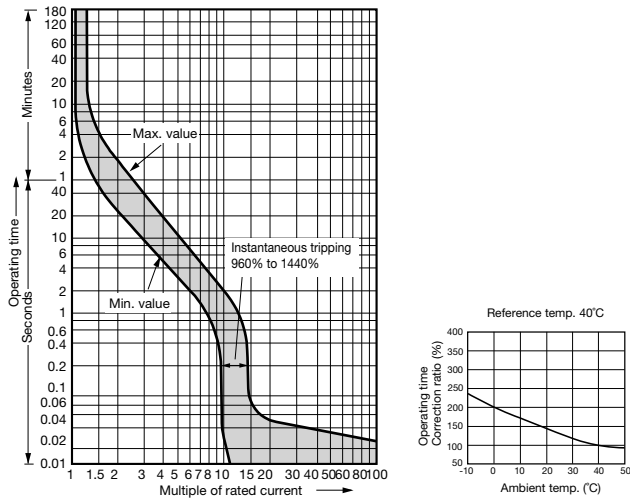
● BW50RAGU, EW50RAGU (Rated current: 5A, 10A, 32A, 40A)



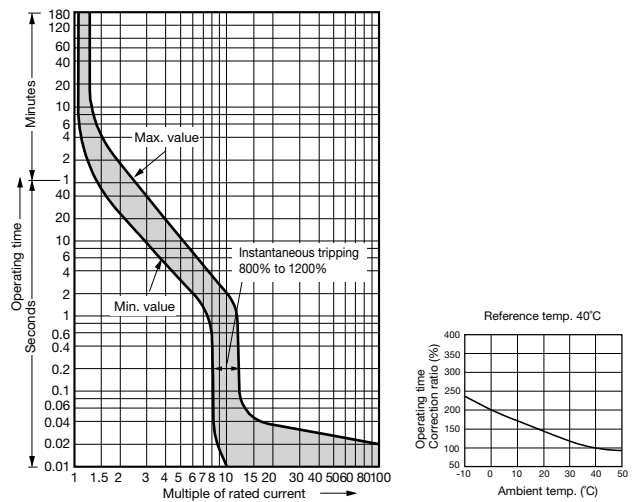
● BW50RAGU, EW50RAGU (Rated current: 3A, 15A, 20A, 30A, 50A)



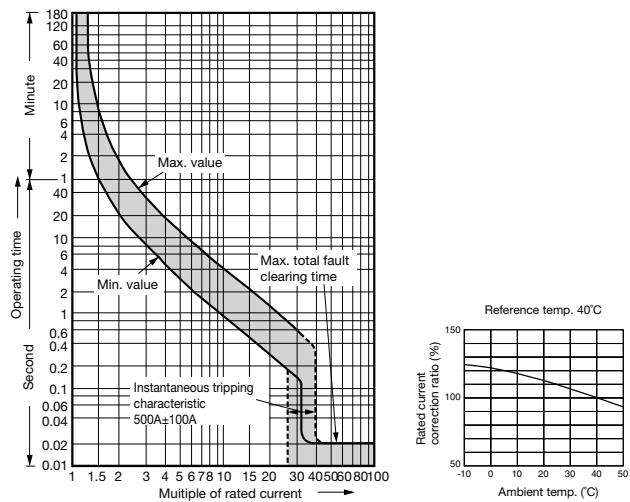
● BW100EAGU, EW100EAGU (Rated current: 60A, 63A, 75A, 80A, 90A)



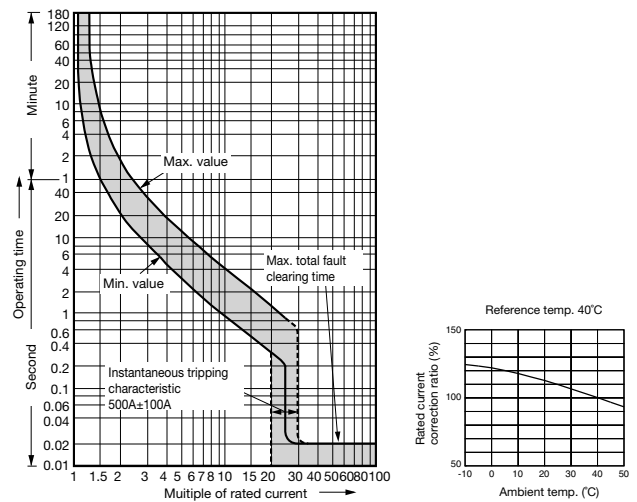
● BW100EAGU, EW100EAGU (Rated current: 100A)



● BW125, EW125 (Rated current: 15A)

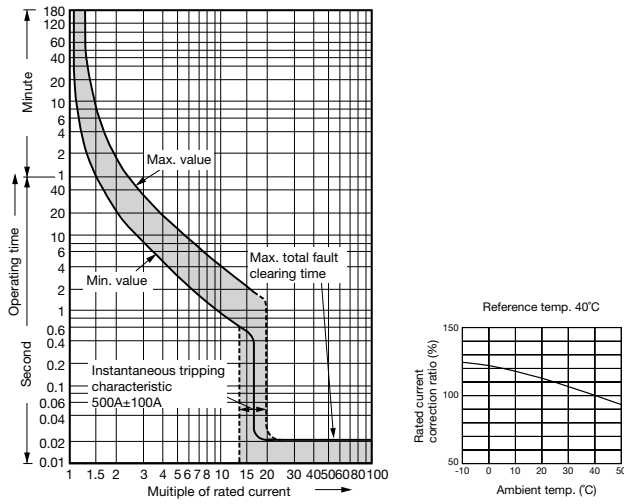


● BW125, EW125 (Rated current: 20A)

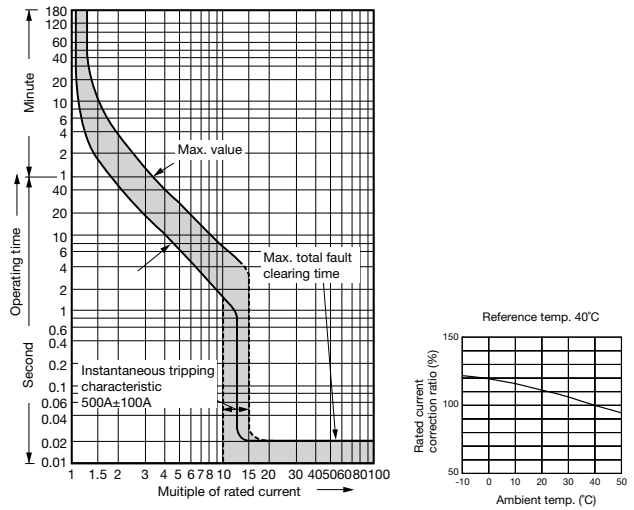


# Characteristic Curves

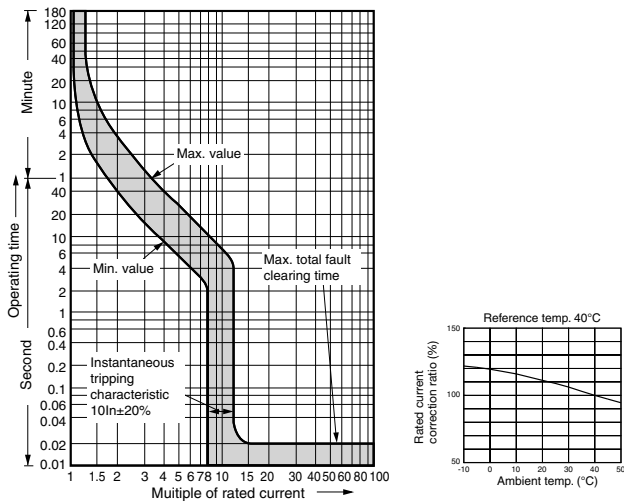
● BW125, EW125 (Rated current: 30A)



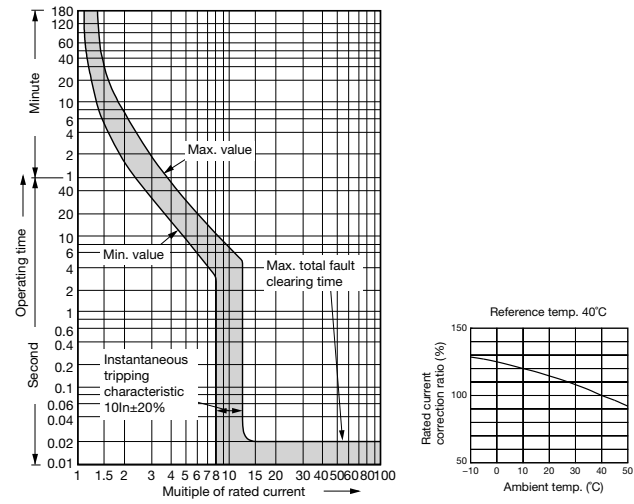
● BW125, EW125 (Rated current: 40A)



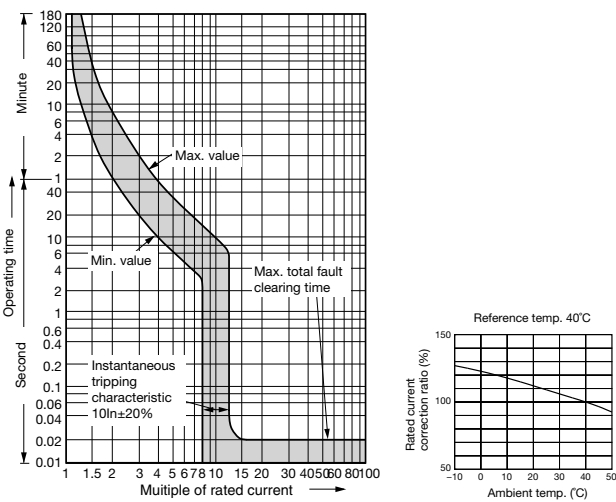
● BW125, EW125 (Rated current: 50 - 125A)



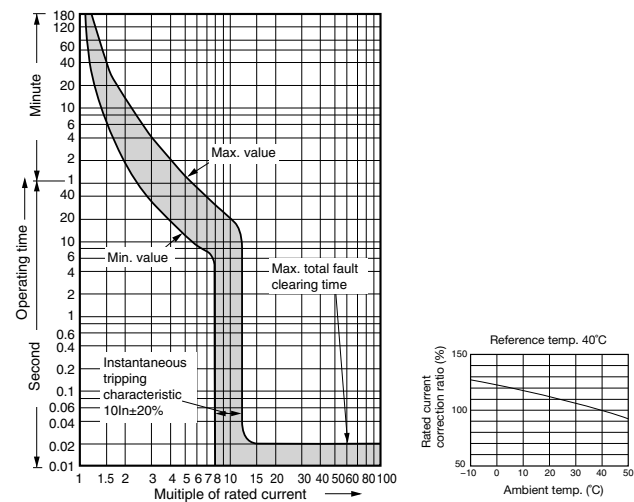
● BW250, EW250



● BW400, EW400

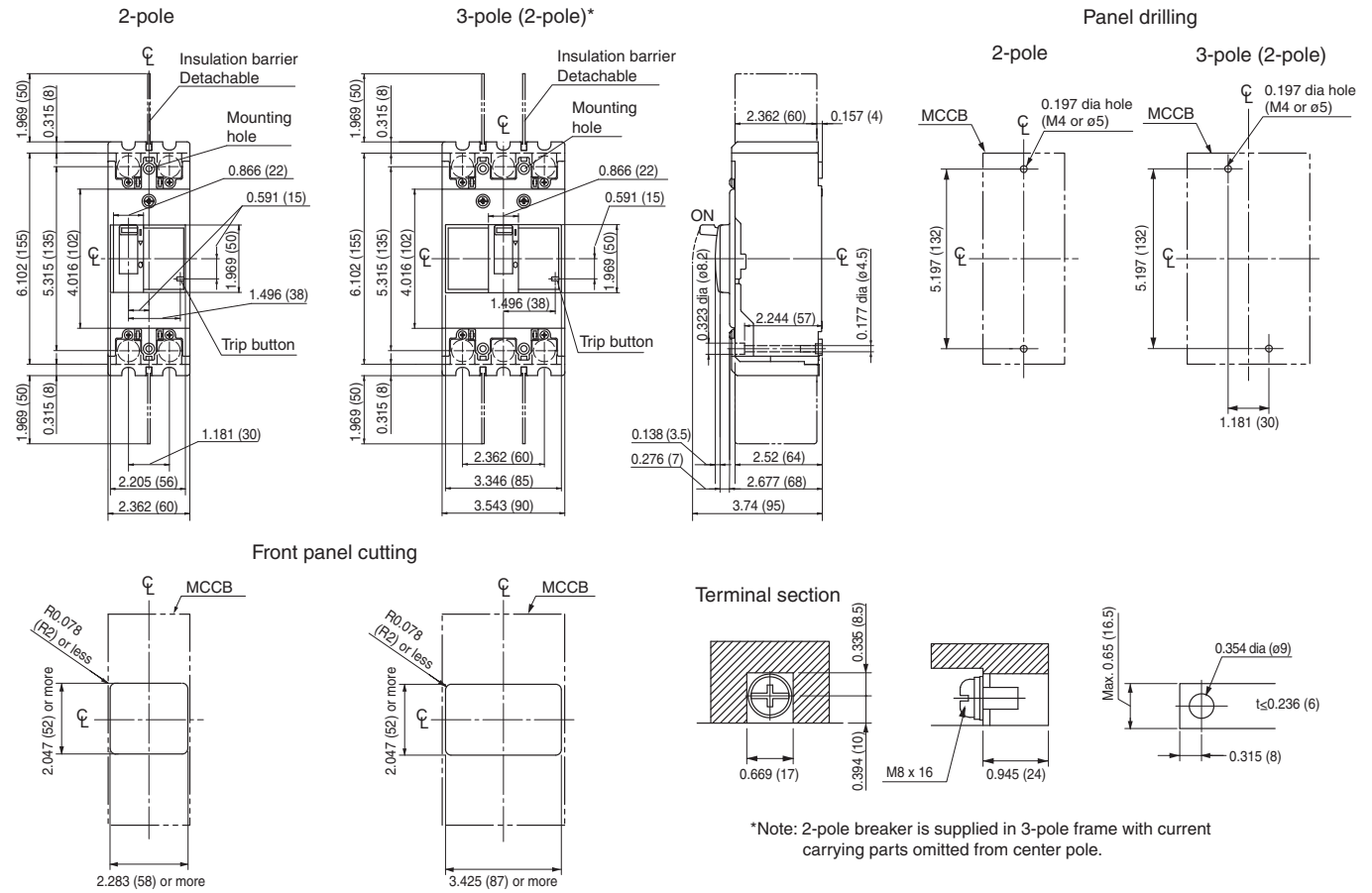


● BW630, EW630

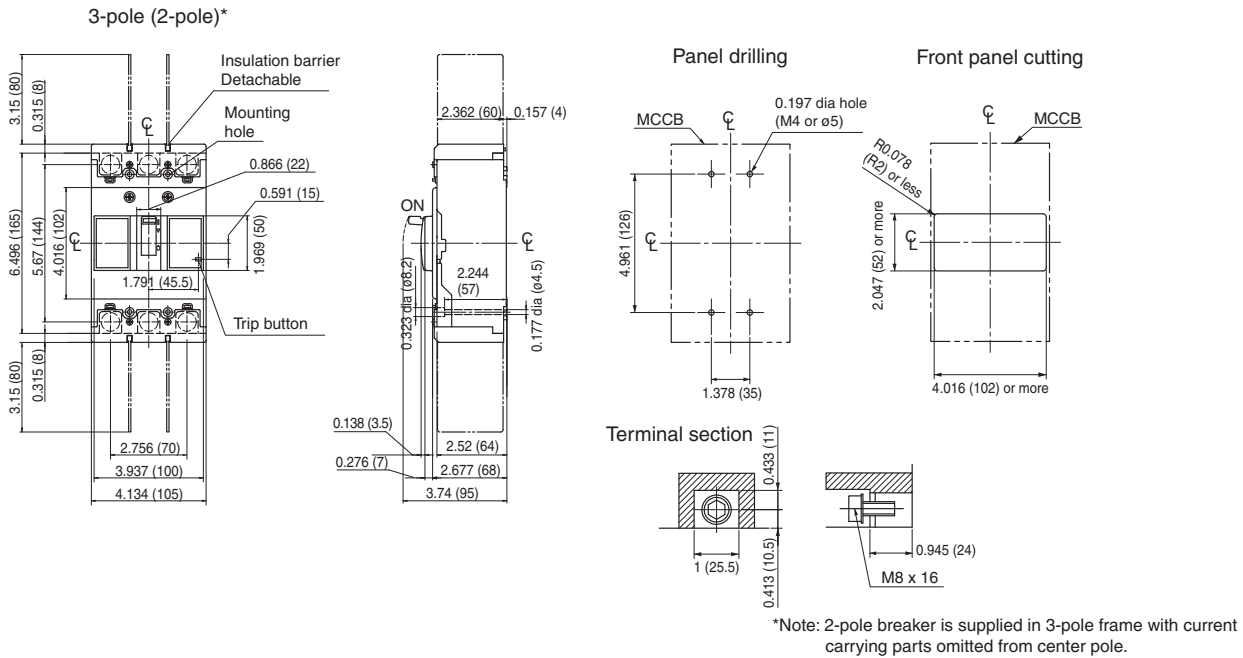


# Dimensions: inch (mm)

## BW125\*U-2P, 3P



## BW250\*U-2P, 3P

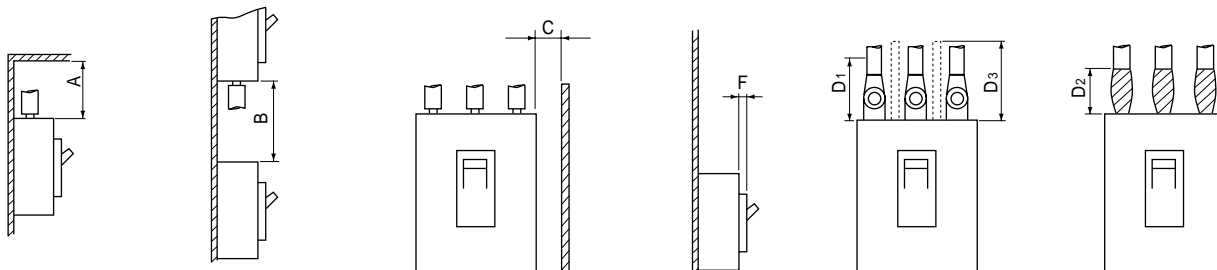


# Molded Case Circuit Breakers

## G-TWIN series

### Arc space

#### ■ Arc space, mm



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

# 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, 100A Frame	●	●	—
125A, 250A Frame	●	●	●
400A, 630A, 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 wires 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 cannot be connected together to a single connecting hole of lug terminal except BW400SAGU-3P400SB.
- Follow the number of strands of wire indicated on the table.  
(Wire size and number of wire strands not listed on table can not be connected)
- Do not solder the end of the wire.



Rated current 15A to 350A



Rated current 400A  
3/0 AWG x 2  
19 strands each



Rated current 500A to 700A



Rated current 800A  
300 MCM x 3  
37 strands each

## Max Wire Sizes and Tightening Torque

Type	Rated current (A)	Wire size*2 AWG or MCM (mm <sup>2</sup> )	Tightening torque			Applicable ring (crimp) terminal for screw type and flat type terminal breaker*1								
			Screw terminal	Flat terminal	Lug terminal	JST (UL file No.E42024)	NICHIFU (UL file No.E44245)	DST (UL file No.E74917)						
BW50RAGU EW50RAGU	3	14 AWG (2.1mm <sup>2</sup> )	20-25 lb.-In. (2.3-2.8 N-m)	31-40 lb.-in. (3.5-4.5 N-m)	-	R2-5	R2-5M R2-5	2-S5, 2-5						
	5	14 AWG (2.1mm <sup>2</sup> )				R5.5-5	R3.5-5S, R3.5-5L 5.5-6N, R5.5-5S, R5.5-5	3.5-5, 5.5-S5, 5.5-5, 5.5-L5						
	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> )												
50	8 AWG (8.4mm <sup>2</sup> )	49-66 lb.-In. (5.5-7.5 N-m)	71-89 lb.-In. (8-10 N-m)	51 lb. - In. (5.8 N-m)	R14-8	R14-8S, R14-8	R14-S8, R14-8							
60	6 AWG (13.3mm <sup>2</sup> )				R22-S8, R22-8 R38-S8	R22-8S, R22-8 R38-8S	R22-S8, 22-8 R38-S8							
75	4 AWG (21.1mm <sup>2</sup> )													
100	3 AWG (26.7mm <sup>2</sup> )													
BW125 EW125	15							14 AWG (2.1mm <sup>2</sup> )	51 lb. - In. (5.8 N-m)	51 lb. - In. (5.8 N-m)	51 lb. - In. (5.8 N-m)	R2-8	R2-8	2-8, 2-B8
	20							12 AWG (3.3mm <sup>2</sup> )				5.5-S8, R5.5-8	R3.5-8, R5.5-8 R5.5-8 R8-8	3.5-8, 5.5-8 5.5-8 8-8
	30							10 AWG (5.3mm <sup>2</sup> )						
	40	8 AWG (8.4mm <sup>2</sup> )												
	50													
	60	6 AWG (13.3mm <sup>2</sup> )	14-8NS, 14-S8, R14-8	R14-8S, R14-8	14-S8, 14-8									
	70	4 AWG (21.1mm <sup>2</sup> )				22-S8, R22-8, CB22-S8	R22-8S, R22-8, CB22-8S	22-S8, 22-8, CB22-8						
	75													
	80													
	90	3 AWG (26.7mm <sup>2</sup> )	38-S8	R38-8S	38-S8									
100														
125	1 AWG (42.4mm <sup>2</sup> )													
BW250 EW250	125	1 AWG (42.4mm <sup>2</sup> )	93 lb. - In. (10.5 N-m)	93 lb. - In. (10.5 N-m)	204 lb. - In. (23 N-m)	38-S8, R38-8	R38-S, R38-8	38-S8, 38-8						
	150	1/0 AWG (53.5mm <sup>2</sup> )				60-S8, R60-8 70-8 CB80-S8 CB100-S8 CB150-S8	R60-8, CB60-8, CB60-8S R70-8 - - CB150-S8	60-8, CB60-8 70-8 CB80-8 CB100-8 CB150-8						
	175	2/0 AWG (67.4mm <sup>2</sup> )												
	200	3/0 AWG (85.0mm <sup>2</sup> )												
	225	4/0 AWG (107.2mm <sup>2</sup> )												
	250	250 MCM (127mm <sup>2</sup> )												
BW400 EW400	250	250 MCM (127mm <sup>2</sup> )	-	385 lb. - In. (43.5 N-m)	385 lb. - In. (43.5 N-m)	150-12	R150-12	-						
	300	350 MCM (177mm <sup>2</sup> )				262 lb. - In. (31.9 N-m)	R80-12 325-12	R80-12 R325-12N	-					
	350	500 MCM (253mm <sup>2</sup> )												
	400	3/0 AWG x 2 (85.0mm <sup>2</sup> x 2) 500 MCM (253mm <sup>2</sup> )												
BW630 EW630	500	250 MCM x 2	-	416 lb. - In. (47.1 N-m)	275 lb. - In. (31.1 N-m)	R150-12	R150-12	-						
	600	350 MCM x 2				180-12 325-12	R180-12 R325-12N	-						
	630	500 MCM x 2												
BW800	700	500 MCM x 2	-	416 lb. - In. (47.1 N-m)	275 lb. - In. (31.1 N-m)	325-12	R325-12N	-						
	800	300 MCM x 3				-	-	-						

Notes: \*1 Ring (Crimp) Terminal Manufacturer : JST=Japan Solderless Terminal MFG Co., Ltd. (<http://www.jst.com>)  
NICHIFU=Nichifu Terminal Co., Ltd. ([america@nichifu.com](mailto:america@nichifu.com))  
DST=Daido Solderless Terminal MFG Co., Ltd. ([info@daido-tanshi.jp](mailto:info@daido-tanshi.jp))

\*2 167°F (75°C) Copper wire