

# Molded Case Circuit Breakers Earth Leakage Circuit Breakers



50A Frame ~ 800A Frame  
Max Voltage 600V



The Fuji Electric UL489 Molded Case Circuit Breaker and Earth Leakage Circuit Breaker (GLOBAL TWIN series) provide the ultimate in compact design, unprecedented value, and use anywhere in the world.



50A Frame



125A Frame



250A Frame



400A Frame



**MORE COMPACT** (especially 100A Frame, 125A Frame, 250A 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 / CSA / IEC / CE Marking / JIS (Japan) / CCC (China).



**Fuji Electric's GLOBAL TWIN series gives you the features and flexibility you need:**

- 1) Suitable for branch circuit protection.
- 2) Rated current of 3-800A, Max 600V.
- 3) Standard type and High interrupting capacities are available in identically sized breakers.
- 4) Shunt trip (F), Under voltage release (R) and other accessories are available.
- 5) Screw, Flat, or Lug terminal are available.
- 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), Flange-Mounted (F type), operating handles.



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

Molded Case Circuit Breakers / Earth Leakage Circuit Breakers

## G-TWIN $\Lambda$ (Lambda) Series

New lines of small and high-performance 50AF molded case circuit breakers and earth leakage circuit breakers enables size reduction and globalization of machine equipment and control panels!



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

As new products of MCCB/ELCB, Fuji Electric released the (Alpha)  $\alpha$ -TWIN Series in 2001, and the G-TWIN Series in 2007. The G-TWIN Series are downsized, modular and multi-standard products conforming to Japanese and overseas standards. They have helped Fuji Electric stay ahead of changes in the market.

Inheriting the philosophy of the G-TWIN Series, we have now released the G-TWIN  $\Lambda$  (Lambda) Series as a series of smaller breakers that meet the needs of the machine equipment and control panel markets.

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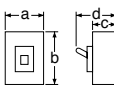





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# Molded Case Circuit Breakers - G-TWIN $\lambda$ (Lambda) Series Specifications

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

Ampere frame			50		
Type			BW50RBGU		
Appearance					
Numbers of poles and elements			2P2E		3P3E
Rated insulation voltage $U_i$ [V]		AC	440		
		DC	125		
Rated impulse withstand voltage $U_{imp}$ [kV]			6		
Rated current Reference temperature 40°C $I_n$ [A]			3,5,10,15,20,30,40,50		
Rated frequency [Hz]			50-60		
Rated breaking capacity $I_{cu}/I_{cs}$ [kA]	UL489, CAN/CSA22.2 No.5(cUL) IEC60947-2 EN60947-2 JISC8201-2-1	AC	240V	18	
		AC	440V	7.5/4	
			415V	10/5	
			400V	10/5	
			380V	10/5	
			240V	15/15	
			230V	15/15	
		DC	125V	10/10	
	GB14048.2	AC	400V	10/5	
		DC	230V	15/15	
125V			10/10		
Isolation compliance			Compliant		
Reverse connection			Possible		
Utilization category			A		
Use environment condition			Pollution degree 3		
Outline dimensions [mm]			a	36	54
			b	120 (including the terminal cover)	
			c	68	
			d	90	
Front mounting type product mass [kg]		Page	0.5	0.6	
Mounting and connection	Front mounting type (screw mounting, IEC 35 mm rail mounting)	35, 37	<input type="radio"/>		
Accessories	Auxiliary switch	W 26	<input type="radio"/>		
	Alarm switch	K 26	<input type="radio"/>		
	Shunt trip device	F <input type="checkbox"/> 26	<input type="radio"/>		
	Undervoltage trip device*1	R <input type="checkbox"/> 26	-		<input type="radio"/>
	Lead wire terminal block	A 30	<input type="radio"/>		
Separately sold parts	Auxiliary switch	W 25	<input type="radio"/>		
	Alarm switch	K 25	<input type="radio"/>		
	Shunt trip device	F <input type="checkbox"/> 25	<input type="radio"/>		
	External operating handle	Panel mounting	V 33	<input type="radio"/>	
		Main unit mounting	N 33	<input type="radio"/>	
	Terminal cover	Short type	TS 33	<input type="radio"/> (Included)	
		Long type	TL 33	<input type="radio"/>	
	Insulation barrier	Interphase barrier	B 33	<input type="radio"/>	
	Handle locking cover	L1	33	<input type="radio"/>	
	Handle key lock	Q2	33	<input type="radio"/>	
Conformance to standards	UL489/CSA22.2No.5(cUL)		 (File No.E90584)		
	IEC60947-2 (TÜV certificate)				
	EN60947-2 (CE marking)				
	GB14048.2 (CCC certificate)				
	JISC8201-2-1		Self-declaration of conformity		
Electrical Appliances and Materials Safety Act			Specified Electrical Appliances and Materials 		
Tripping device			Thermal-electromagnetic method		
Trip button			Provided		
Characteristics curves and dimensions on pages			15,19		


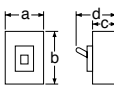





Note: All circuit breakers rated at 80%

\*1 Only available as factory-installed

○ : Available, - : Not available

# Earth Leakage Circuit Breakers - G-TWIN $\Lambda$ (Lambda) Series Specifications

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

Ampere frame			50			
Type			EW50RBGU			
Appearance						
Numbers of poles and elements			2P2E		3P3E	
Applied circuit			1ø2W		1ø2W,3ø3W	
Rated operational voltage Ue[V]		IEC	100-240V AC		100-440V AC	
		UL	240V AC		240V AC	
Rated impulse withstand voltage Uimp[kV]			4		6	
Rated current Reference temperature 40°C In[A]			5,10,15,20,30,40,50			
Rated frequency [Hz]			50-60			
Rated sensitive current IΔn [mA]			30		30,50,100,200,500	
Maximum operating time [sec]		IΔn	0.1			
		5IΔn	0.04			
Rated breaking capacity Icu/Ics [kA]	UL489, CAN/CSA22.2 No.5(cUL)	AC	240V	18	18	
	IEC60947-2 EN60947-2 JISC8201-2-2	AC	440V	—/—	7.5/4	
			415V	—/—	10/5	
			400V	—/—	10/5	
			380V	—/—	10/5	
			240V	15/15	15/15	
			230V	15/15	15/15	
			100V	15/15	15/15	
			GB14048.2	AC	400V	—/—
			230V	15/15	15/15	
Isolation compliance			Compliant			
Reverse connection			Not possible			
Utilization category			A			
Use environment condition			Pollution degree 3			
Outline dimensions [mm]			a	36	54	
			b	120 (including the terminal cover)		
			c	68		
			d	90		
Front mounting type product mass [kg]			Page	0.5	0.6	
Mounting and connection	Front mounting type (screw mounting, IEC 35 mm rail mounting)		35, 37	<input type="radio"/>		
	Accessories	Auxiliary switch	W 26	<input type="radio"/>		
Alarm switch		K 26	<input type="radio"/>			
Shunt trip device		F <input type="checkbox"/> 26	—	<input type="radio"/>		
Undervoltage trip device*		R <input type="checkbox"/> 26	—	<input type="radio"/>		
Lead wire terminal block		A 32	<input type="radio"/>			
Separately sold parts	Auxiliary switch	W 25	<input type="radio"/>			
	Alarm switch	K 25	<input type="radio"/>			
	Shunt trip device	F <input type="checkbox"/> 25	—	<input type="radio"/>		
	External operating handle	Panel mounting	V 33	<input type="radio"/>		
		Main unit mounting	N 33	<input type="radio"/>		
	Terminal cover	Short type	TS 33	<input type="radio"/> (Included)		
		Long type	TL 33	<input type="radio"/>		
	Handle locking cover	L1 33	<input type="radio"/>			
	Handle key lock	Q2 33	<input type="radio"/>			
	Conformance to standards	UL489/CSA22.2No.5(cUL)		 (File No.E90584)		
IEC60947-2 (TÜV certificate)						
EN60947-2 (CE marking)						
GB14048.2 (CCC certificate)						
JISC8201-2-1		Self-declaration of conformity				
Electrical Appliances and Materials Safety Act		Specified Electrical Appliances and Materials 				
Tripping device			Thermal-electromagnetic method			
Trip button			Provided			
Earth leakage indication			Mechanical button			
Characteristics curves and dimensions on pages			15,19			


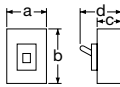
Note: All circuit breakers rated at 80%

\*Only available as factory-installed

○ : Available, - : Not available

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

# Molded Case Circuit Breakers - G-TWIN Series Specifications

Frame size (A)			50			100													
Type			BW50RAGU-2P			BW50RAGU-3P			BW100EAGU-2P			BW100EAGU-3P							
Appearance (with Screw Terminals, 3 poles)																			
SCCR=UL489 interrupting capacity																			
Rated insulation voltage (V) (IEC60947-2)			AC		690			690			690			690					
			DC		—			—			—			—					
Rated voltage (V) (UL489)			AC		240			240			240			240					
Rated current (A)			3,5		10,15,20,30,32,40,50			3,5		10,15,20,30,32,40,50			60,63,70,75,80,90,100						
Poles			2					3					2		3				
Rated frequency (Hz)			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		—			—		—			—		—				
			480V/Δ		—			—		—			—		—				
			480V/Y		—			—		—			—		—				
			240V		14			14		14			14		14				
		DC		250V			—			—		—			—		—		
		IEC60947-2 JIS C 8201-2-1 Icu/Ics	AC	690V		—			—		—			—		—			
				600V		5/3			5/3		5/3			5/3		5/3			
	500V			7.5/4			7.5/4		7.5/4			7.5/4		7.5/4					
	440V			10/5			10/5		10/5			10/5		10/5					
	400V			10/5			10/5		10/5			10/5		10/5					
	230V			25/13			25/13		25/13			25/13		25/13					
	DC		250V			5/3			5/3		5/3			5/3		5/3			
	GB14048.2 Icu/Ics	AC	400V		7/4 10/5			7/4 10/5		10/5			10/5		10/5				
			230V		14/7 25/13			14/7 25/13		25/13			25/13		25/13				
	Isolation compliance			Compliant			Compliant			Compliant			Compliant						
Utilization category			A			A			A			A							
Dimension inch (mm)			a	1.969(50)			2.953(75)			1.969(50)			2.953(75)						
			b	4.724(120)			4.724(120)			4.724(120)			4.724(120)						
			c	2.362(60)			2.362(60)			2.362(60)			2.362(60)						
			d	3.307(84)			3.307(84)			3.307(84)			3.307(84)						
Terminal construction	Screw terminals		None	●			●			●			●						
	Flat terminals		SF	●			●			●			●						
	Lug terminals		SB	—			—			●			●						
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						
	Aux and Alarm for low current		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*10CU			BZ6R*10CAU			BZ6R*10CU						
	Accessories with terminal block		A	*1			*1			*1			*1						
External accessories	Padlocking device (Cap type)*5		Q1	BZ6L10CA			BZ6L10CA			BZ6L10CA			BZ6L10CA						
	Handle locking cover *5			BZ6L10C			BZ6L10C			BZ6L10C			BZ6L10C						
	External operating handle		V	BZ6V10D			BZ6V10D			BZ6V10D			BZ6V10D						
			N	BZ6N10D			BZ6N10D			BZ6N10D			BZ6N10D						
	Field Installable terminal Kit	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		BW9BTAA-L2W			BW9BTAA-L3W			BW9BTAA-L2W			BW9BTAA-L3W						
		for Flat terminal		—			—			—			—						
		for Lug terminal		—			—			—			—						
Insulation barrier *2			BZ6B10C			BZ6B10C			BZ6B10C			BZ6B10C							

\*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.

\*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 BW9BTAA-L2W or BW9BTAA-L3W.

\*4 These internal accessories can be installed in the field. (see page 39 for part number)



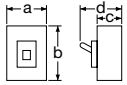
\*5 Non-UL item

● : Available, —: Not available

Note: All circuit breakers rated at 80%



# Molded Case Circuit Breakers - G-TWIN Series Specifications

Frame size (A)				125				250																									
Type				BW125JAGU				BW125RAGU		BW250EAGU		BW250JAGU		BW250RAGU																			
Appearance (with Screw Terminals, 3 poles)																																	
SCCR=UL489 interrupting capacity																																	
Rated insulation voltage (V) (IEC60947-2)				AC		690		690		690		690		690																			
				DC		250		250		250		250		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		4		2,3		4		2,3		4																	
Rated frequency (Hz)				50/60		50/60		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	10	18	18	–	10	10	25	25																				
			480V/Δ	–	30	–	50	–	–	30	–	50	–																				
			480V/Y	30	30	30	50	50	–	30	30	50	50																				
			240V	50	50	50	100	100	22	50	50	100	100																				
		DC	250V	10	10	10	10	10	10	10	10	10	10	10	10																		
			IEC60947-2 JIS C 8201-2-1 Icu/Ics	AC	690V	–	–	–	5/3	–	–	–	5/3																				
					500V	15/8	–	–	36/18	–	–	18/9	36/18	36/18																			
					440V	30/15	–	–	50/25	–	–	30/15	–	50/25																			
					400V	30/15	–	–	50/25	–	–	30/15	–	50/25																			
	380V	30/15			–	–	50/25	–	–	30/15	–	50/25																					
		DC	240V	50/25	–	–	100/50	–	–	50/25	–	100/50																					
			250V	15/8	–	–	40/20	–	–	20/10	–	40/20																					
			GB14048.2 Icu/Ics	AC	400V	30/15	–	–	50/25	–	–	30/15	–	50/25																			
					230V	50/25	–	–	100/50	–	–	50/25	–	100/50																			
Isolation compliance				Compliant				Compliant				Compliant																					
Utilization category				A				A				A																					
Dimension inch (mm)								a				2.362(60)				3.543(90)		4.724(120)		3.543(90)		4.724(120)		4.134(105)		4.134(105)		6.496(165)		4.134(105)		6.496(165)	
				b				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)									
				d				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)		BW9W1SG0(-R)		BW9W1SG0(-R)		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)		BW9W1DG0(-R)		BW9W1DG0(-R)		BW9W1DG0(-R)		BW9W1DG0(-R)		BW9W1DG0(-R)		BW9W1DG0(-R)		BW9W1DG0(-R)					
	Alarm switch			K		BW9K1SG0(-R)		BW9K1SG0(-R)		BW9K1SG0(-R)		BW9K1SG0(-R)		BW9K1SG0(-R)		BW9K1SG0(-R)		BW9K1SG0(-R)		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)		BW9K1DG0(-R)		BW9K1DG0(-R)		BW9K1DG0(-R)		BW9K1DG0(-R)		BW9K1DG0(-R)		BW9K1DG0(-R)		BW9K1DG0(-R)					
	Auxiliary & Alarm switch			WK		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)					
	Aux & Alarm for low current			18		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)					
	Shunt trip			F		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0					
	Under voltage trip			R		–		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*					
	Accessories with terminal block			A		See page 41		See page 41		See page 41		See page 41		See page 41		See page 41		See page 41		See page 41		See page 41		See page 41		See page 41		See page 41					
External accessories	Padlocking device *2			Q1		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA		BW9Q1CA			
				Q2		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA		BW9Q2CA			
	External operating handle			V		–		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA		BW9V0CA			
				N		–		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA		BW9N0CA			
				F		–		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA		BW9F0CA			
				Field Installable terminal kit			Flat terminal kit			BW9SS0CA-3 GLOBAL				BZ-S50B-2253 GLOBAL																			
	Lug terminal kit						BW9SL0CA-3 GLOBAL				Please see page 47																						
	Terminal covers *1			Short type,gray-white			Provided				Provided				Provided				Provided				Provided				Provided						
				Short type,transparent			BW9BTCA-S2		BW9BTCA-S3		BW9BTCA-S4		BW9BTCA-S3		BW9BTCA-S4		BW9BTGA-S3		BW9BTGA-S3		BW9BTGA-S4		BW9BTGA-S3		BW9BTGA-S4		BW9BTGA-S3		BW9BTGA-S4				
				Long type,gray-white			BW9BTCA-L2W		BW9BTCA-L3W		BW9BTCA-L4W		BW9BTCA-L3W		BW9BTCA-L4W		BW9BTGA-L3W		BW9BTGA-L3W		BW9BTGA-L4W		BW9BTGA-L3W		BW9BTGA-L4W		BW9BTGA-L3W		BW9BTGA-L4W				
Long type,transparent				BW9BTCA-L2		BW9BTCA-L3		BW9BTCA-L4		BW9BTCA-L3		BW9BTCA-L4		BW9BTGA-L3		BW9BTGA-L3		BW9BTGA-L4		BW9BTGA-L3		BW9BTGA-L4		BW9BTGA-L3		BW9BTGA-L4							
Insulation barrier			BW9BPCA				BW9BPCA				BW9BPGA				BW9BPGA				BW9BPGA														


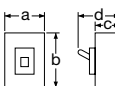
\*1 Short type terminal covers (gray-white) are supplied as standard.

\*2 Non-UL item

• : Available, –: Not available

Note: All circuit breakers rated at 80%

# Molded Case Circuit Breakers - G-TWIN Series Specifications

Frame size (A)			400										
Type			BW400EAGU		BW400SAGU		BW400RAGU		BW400HAGU				
Appearance (with Flat Terminals, 3 poles)													
SCCR=UL489 interrupting capacity													
Rated insulation voltage (V) (IEC60947-2)			AC	690	690		690		690				
			DC	250	250		250		250				
Rated voltage (V) (UL489)			AC	240	480		480	480Y/278	600	600Y/347			
Rated current (A)			250, 300, 350, 400										
Poles			2		3		2,3		4				
Rated frequency (Hz)			50/60		50/60		50/60		50/60				
Rated interrupting capacity sym (kA)	UL489 CAN/CSA C22.2 No.5	AC	600V/Δ	–		–		–		25		–	
			600V/Y	–		–		–		25		25	
			480V/Δ	–		35		50		50		65 (50 <sup>3</sup> )	–
			480V/Y	–		35		50		50		65 (50 <sup>3</sup> )	65 (50 <sup>3</sup> )
			240V	22		50		100		100		125	100
		DC	250V	10		10		10		10		10	10
	IEC60947-2 JIS C 8201-2-1 Icu/Ics	AC	690V	–		10/5		15/8		15/8			
			500V	18/9		20/11		36/18		42/21			
			440V	30/15		36/18		50/25		70/35			
			400V	30/15		36/18		50/25		70/35			
			380V	30/15		36/18		50/25		70/35			
			240V	50/25		85/43		100/50		125/63			
		DC	250V	20/10		20/10		40/20		40/20			
	GB14048.2 Icu/Ics	AC	400V	30/15		36/18		50/25		70/35			
			230V	50/25		85/43		100/50		125/63			
Isolation compliance			Compliant		Compliant		Compliant		Compliant				
Utilization category			A		A		A		A				
Dimension inch (mm)			a	5.512(140)		5.512(140)		5.512(140)	7.283(185)	5.512(140)	7.283(185)		
			b	10.12(257)		10.12(257)		10.12(257)		10.12(257)			
			c	4.055(103)		4.055(103)		4.055(103)		4.055(103)			
			d	5.748(146)		5.748(146)		5.748(146)		5.748(146)			
Terminal construction	Screw terminals		–	–		–		–		–			
	Flat terminals (standard)		None	●		●		●		●			
	Lug terminals		SB	●		●		●		●			
Internal accessories	Auxiliary switch		W	BW9W1SHA		BW9W1SHA		BW9W1SHA		BW9W1SHA			
	Auxiliary switch 2 contacts		V	BW9W2SHA		BW9W2SHA		BW9W2SHA		BW9W2SHA			
	Aux. low current		1	BW9W1DHA		BW9W1DHA		BW9W1DHA		BW9W1DHA			
	Aux. low current 2 contacts		2	BW9W2DHA		BW9W2DHA		BW9W2DHA		BW9W2DHA			
	Alarm switch		K	BW9K1SHA		BW9K1SHA		BW9K1SHA		BW9K1SHA			
	Alarm switch 2 contacts		J	BW9K2SHA		BW9K2SHA		BW9K2SHA		BW9K2SHA			
	Alarm low current		8	BW9K1DHA		BW9K1DHA		BW9K1DHA		BW9K1DHA			
	Alarm low current 2 contacts		9	BW9K2DHA		BW9K2DHA		BW9K2DHA		BW9K2DHA			
	Shunt trip		F	BW9FHA-*		BW9FHA-*		BW9FHA-*		BW9FHA-*			
	Under voltage trip		R	BW9RHA-*		BW9RHA-*		BW9RHA-*		BW9RHA-*			
	Accessories with terminal block		A	See page 41		See page 41		See page 41		See page 41			
External accessories	Padlocking device *2		QN	BW9QNHA		BW9QNHA		BW9QNHA		BW9QNHA			
			Q2	BW9Q2HA		BW9Q2HA		BW9Q2HA		BW9Q2HA			
	External operating handle		V	BW9V0HA		BW9V0HA		BW9V0HA		BW9V0HA			
			N	BW9N0HA		BW9N0HA		BW9N0HA		BW9N0HA			
			F	BW9F0HA		BW9F0HA		BW9F0HA		BW9F0HA			
	Field Installable terminal		–	–		–		–		–			
	Terminal covers *1	Short type, gray-white	BW9BTHA-S3W		BW9BTHA-S3W		BW9BTHA-S3W	BW9BTHA-S4W	BW9BTHA-S3W	BW9BTHA-S4W			
		Short type, transparent	BW9BTHA-S3		BW9BTHA-S3		BW9BTHA-S3	BW9BTHA-S4	BW9BTHA-S3	BW9BTHA-S4			
		Long type, gray-white	BW9BTHA-L3W		BW9BTHA-L3W		BW9BTHA-L3W	–	BW9BTHA-L3W	–			
		Long type, transparent	BW9BTHA-L3		BW9BTHA-L3		BW9BTHA-L3	BW9BTHA-L4	BW9BTHA-L3	BW9BTHA-L4			
Insulation barrier		B-43A		B-43A		B-43A		B-43A					

\*1 Terminal covers are NOT supplied as standard.


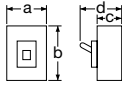
\*2 Non-UL item

\*3 With lug terminals

● : Available, –: Not available

Note: All circuit breakers rated at 80%

# Molded Case Circuit Breakers - G-TWIN Series Specifications

Frame size (A)			630		800												
Type			BW630RAGU		BW630HAGU		BW800RAGU		BW800HAGU								
Appearance (with Flat Terminals, 3 poles)																	
SCCR=UL489 interrupting capacity																	
Rated insulation voltage (V) (IEC60947-2)			AC		690		690		690								
			DC		250		250		250								
Rated voltage (V) (UL489)			AC		480		600		480		600						
Rated current (A)			500, 600, 630					700, 800									
Poles			3			3			3			3					
Rated frequency (Hz)			50/60			50/60			50/60			50/60					
Rated interrupting capacity sym (kA)	UL489 CAN/CSA C22.2 No.5	AC	600V/Δ	–			25			–			25				
			600V/Y	–			25			–			25				
			480V/Δ	50			65 (50: with lug terminals)			50			65 (50: with lug terminals)				
			480V/Y	50			65 (50: with lug terminals)			50			65 (50: with lug terminals)				
			240V	100			100			100			125				
			250V	10			10			10			10				
	IEC60947-2 JIS C 8201-2-1 Icu/Ics	AC	690V	15/8			15/8			15/8			15/8				
			500V	36/18			42/21			36/18			42/21				
			440V	50/25			70/35			50/25			70/35				
			400V	50/25			70/35			50/25			70/35				
			380V	50/25			70/35			50/25			70/35				
			240V	100/50			125/63			100/50			125/63				
			250V	40/20			40/20			40/20			40/20				
			DC	250V	40/20			40/20			40/20			40/20			
	GB14048.2 Icu/Ics	AC	400V	50/25			70/35			50/25			70/35				
230V			100/50			125/63			100/50			125/63					
Isolation compliance			Compliant					Compliant					Compliant				
Utilization category			A					A					A				
Dimension inch (mm)			a	8.268(210)			8.268(210)			8.268(210)			8.268(210)				
			b	10.83(275)			10.83(275)			10.83(275)			10.83(275)				
			c	4.055(103)			4.055(103)			4.055(103)			4.055(103)				
			d	5.748(146)			5.748(146)			5.748(146)			5.748(146)				
Terminal construction	Screw terminals		–		–		–		–		–						
	Flat terminals		None		●		●		● <sup>*2</sup>		● <sup>*2</sup>						
	Lug terminals		SB		● <sup>*1</sup>		● <sup>*1</sup>		●		●						
Internal accessories	Auxiliary switch		W		BW9W1SHA		BW9W1SHA		BW9W1SHA		BW9W1SHA						
	Auxiliary switch 2 contacts		V		BW9W2SHA		BW9W2SHA		BW9W2SHA		BW9W2SHA						
	Aux. low current		1		BW9W1DHA		BW9W1DHA		BW9W1DHA		BW9W1DHA						
	Aux. low current 2 contacts		2		BW9W2DHA		BW9W2DHA		BW9W2DHA		BW9W2DHA						
	Alarm switch		K		BW9K1SHA		BW9K1SHA		BW9K1SHA		BW9K1SHA						
	Alarm switch 2 contacts		J		BW9K2SHA		BW9K2SHA		BW9K2SHA		BW9K2SHA						
	Alarm low current		8		BW9K1DHA		BW9K1DHA		BW9K1DHA		BW9K1DHA						
	Alarm low current 2 contacts		9		BW9K2DHA		BW9K2DHA		BW9K2DHA		BW9K2DHA						
	Shunt trip		F		BW9FHA-*		BW9FHA-*		BW9FHA-*		BW9FHA-*						
	Under voltage trip		R		BW9RHA-*		BW9RHA-*		BW9RHA-*		BW9RHA-*						
Accessories with terminal block			A		See page 41		See page 41		See page 41		See page 41						
External accessories	Padlocking device *4		QN		BW9QNHA		BW9QNHA		BW9QNHA		BW9QNHA						
			Q2		BW9Q2JA		BW9Q2JA		BW9Q2JA		BW9Q2JA						
	External operating handle		V		BW9V0JA		BW9V0JA		BW9V0JA		BW9V0JA						
			N		BW9N0JA		BW9N0JA		BW9N0JA		BW9N0JA						
	Field Installable terminal			–		–		–		–							
	Terminal covers *3	Short type, gray-white		–		–		–		–							
		Short type, transparent		–		–		–		–							
		Long type, gray-white		BW9BTJA-L3W		BW9BTJA-L3W		BW9BTJA-L3W		BW9BTJA-L3W							
		Long type, transparent		BW9BTJA-L3		BW9BTJA-L3		BW9BTJA-L3		BW9BTJA-L3							
	Insulation barrier			B-43A		B-43A		B-43A		B-43A		B-43A					

\*1 Lug terminal is NOT available for 630 ampere.

\*2 Flat terminal is NOT available for 800 ampere.

\*3 Terminal covers are NOT supplied as standard.


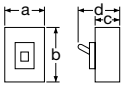
\*4 Non-UL item

● : Available, – : Not available

Note: All circuit breakers rated at 80%



# Earth Leakage Circuit Breakers - G-TWIN Series Specifications

Frame size (A)			50		100			
Type			EW50RAGU-3P		EW100EAGU-2P		EW100EAGU-3P	
Appearance (with Screw Terminals, 3 poles)								
SCCR=UL489 interrupting capacity								
Rated voltage AC (V)			UL	240	240	240		
			IEC	100-230-440	100-230	100-230-440		
Rated current (A)			3, 5, 10, 15, 20, 30, 32, 40, 50		60, 63, 70, 75, 80, 90, 100			
Rated Sensitive Current (mA)			30, 50, 100/200/500		30, 100/200		30, 50, 100/200/500	
Poles			3		2		3	
Rated frequency (Hz)			50/60		50/60		50/60	
Rated interrupting capacity sym (kA)	UL489 CAN/CSA C22.2 No.5	AC	480V/Δ	–	–	–		
			480V/Y	–	–	–		
			240V	14	14	14		
	IEC60947-2 JIS C 8201-2-2 Icu/Ics	AC	440V	10/5	–	10/5		
			415V	10/5	–	10/5		
			380V	10/5	–	10/5		
			230V	25/13	10/5	25/13		
			100V	25/13	10/5	25/13		
			GB14048.2 Icu/Ics	AC	400V	10/5	7.5/4	10/5
	230V	25/13	10/5		25/13			
Isolation compliance			Compliant		Compliant		Compliant	
Utilization category			A		A		A	
Dimension inch (mm)			a	2.953(75)	2.953(75)	2.953(75)		
			b	4.724(120)	4.724(120)	4.724(120)		
			c	2.362(60)	2.362(60)	2.362(60)		
			d	3.307(84)	3.307(84)	3.307(84)		
Terminal construction	Screw terminals		None	●	●	●		
	Flat terminals		SF	●	●	●		
	Lug terminals		SB	–	–	–		
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	Padlocking device (Cap type) *5		Q1	BZ6L10CA	BZ6L10CA	BZ6L10CA		
	Handle locking cover *5			BZ6L10C	BZ6L10C	BZ6L10C		
	External operating handle		V	BZ6V10D	BZ6V10D	BZ6V10D		
			N	BZ6N10D	BZ6N10D	BZ6N10D		
	Field Installable terminal kit	Flat terminal kit		BZ-SU20B	BZ-SU25B	BZ-SU25B		
		Lug terminal kit		–	–	–		
	Terminal covers *3	for screw, short type		Provided	Provided	Provided		
		for screw, long type		BW9BTAA-L3W	BW9BTAA-L3W	BW9BTAA-L3W		
		for flat terminal		–	–	–		
		for Lug terminal		–	–	–		
	Insulation barrier *2			BZ6B10C	BZ6B10C	BZ6B10C		

\*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.

\*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.



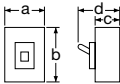
\*4 These internal accessories can be installed in the field. (see page 39 for part number)

\*5 Non-UL item

● : Available, –: Not available

Note: All circuit breakers rated at 80%

# Earth Leakage Circuit Breakers - G-TWIN Series Specifications

Frame size (A)			125			250						
Type			EW125JAGU		EW125RAGU		EW250JAGU		EW250RAGU			
Appearance (with Screw Terminals, 3 poles & 4 poles)			<div></div> <div></div>									
SCCR=UL489 interrupting capacity												
Rated voltage AC (V)			UL		240-480		240-480		240-480			
			IEC		100-230-440		100-230-440		100-230-440			
Rated current (A)			15,20,30,40,50,60,75,100,125						125,150,160,175,200,225,250			
Instantaneous trip type	Rated Sensitive Current (mA)	B	30			30			30			
	Tripping time (s)		0.1 or less			0.1 or less			0.1 or less			
Instantaneous /time-delay trip type	Rated Sensitive Current (mA)	K	100/200/500/1000			100/200/500/1000			100/200/500/1000			
	Tripping time (s)		0.1/0.4/1/2			0.1/0.4/1/2			0.1/0.4/1/2			
	Inertia non-tripping time (s)		0/0.2/0.5/1			0/0.2/0.5/1			0/0.2/0.5/1			
Poles			3		4		3		4			
Rated frequency (Hz)			50/60		50/60		50/60		50/60			
Rated interrupting capacity sym (kA)	UL489 CAN/CSA C22.2 No.5	AC	480V/△	30	—	50	—	30	—	50	—	
			480V/Y	30	30	50	50	30	30	50	50	
			240V	50	50	100	100	50	50	100	100	
	IEC60947-2 JIS C 8201-2-2 Icu/Ics	AC	440V	30/15			50/25			30/15		
			415V	30/15			50/25			30/15		
			380V	30/15			50/25			30/15		
			240V	50/25			100/50			50/25		
			100V	50/25			100/50			50/25		
	GB14048.2 Icu/Ics	AC	400V	30/15			50/25			30/15		
			230V	50/25			100/50			50/25		
Isolation compliance			Compliant			Compliant			Compliant			
Utilization category			A			A			A			
Dimension inch (mm)			a	3.543(90)	4.724(120)	3.543(90)	4.724(120)	4.134(105)	5.512(140)	4.134(105)	5.512(140)	
			b	6.372(171)		6.372(171)		7.126(181)		7.126(181)		
			c	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)		
Terminal construction	Screw terminals	None	●		●		●		●			
	Flat terminals	SF	●		●		●		●			
	Lug terminals	SB	●		●		●		●			
Internal accessories	Auxiliary switch	W	BW9W1SG0(-R)		BW9W1SG0(-R)		BW9W1SG0(-R)		BW9W1SG0(-R)			
	Auxiliary switch for low current	1	BW9W1DG0(-R)		BW9W1DG0(-R)		BW9W1DG0(-R)		BW9W1DG0(-R)			
	Alarm switch	K	BW9K1SG0(-R)		BW9K1SG0(-R)		BW9K1SG0(-R)		BW9K1SG0(-R)			
	Alarm switch for low current	8	BW9K1DG0(-R)		BW9K1DG0(-R)		BW9K1DG0(-R)		BW9K1DG0(-R)			
	Auxiliary & Alarm switch	WK	BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)		BW9WKS0(-R)			
	Aux. & Alarm for low current	18	BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)		BW9WKDG0(-R)			
	Shunt trip	F	BW9F*G0		BW9F*G0		BW9F*G0		BW9F*G0			
	Under voltage trip	R	BW9RGA*		BW9RGA*		BW9RGA*		BW9RGA*			
	Earth alarm switch *2	L	▲		▲		▲		▲			
	Accessories with terminal block	A	See page 41		See page 41		See page 41		See page 41			
External accessories	Padlocking device *3	Q1	BW9Q1CA		BW9Q1CA		BW9Q1CA		BWQ1CA			
		Q2	BW9Q2CA		BW9Q2CA		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	BW9SS0CA-3 GLOBAL						BZ-S50B-2253 GLOBAL		
	Lug terminal kit		BW9SL0CA-3 GLOBAL						Please see page 47			
	Terminal covers *1	Short type, gray-white	Provided				Provided		Provided		Provided	
		Short type, transparent	BW9BTCA-S3	BW9BTCA-S4	BW9BTCA-S3	BW9BTCA-S4	BW9BTGA-S3	BW9BTGA-S4	BW9BTGA-S3	BW9BTGA-S4		
		Long type, gray-white	BW9BTCA-L3W	BW9BTCA-L4W	BW9BTCA-L3W	BW9BTCA-L4W	BW9BTGA-L3W	BW9BTGA-L4W	BW9BTGA-L3W	BW9BTGA-L4W		
Long type, transparent		BW9BTCA-L3	BW9BTCA-L4	BW9BTCA-L3	BW9BTCA-L4	BW9BTGA-L3	BW9BTGA-L4	BW9BTGA-L3	BW9BTGA-L4			
Insulation barrier		BW9BPCA		BW9BPCA		BW9BPGA		BW9BPGA				

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



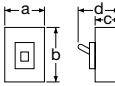
\*2 Right-side mount only.

\*3 Non-UL item

● : Available, –: Not available, ▲: Factory-install Order P/N Ex: EW125JAGU-3P015SBL

Note: All circuit breakers rated at 80%

# Earth Leakage Circuit Breakers - G-TWIN Series Specifications

Frame size (A)				400				630				
Type				EW400SAGU		EW400RAGU		EW400HAGU		EW630RAGU		
Appearance (with Flat Terminals, 3 poles)				<div></div> <div></div>								
SCCR=UL489 interrupting capacity												
Rated voltage AC (V)				UL	240-480		240-480		240-480		240-480	
				IEC	100-230-440		100-230-440		100-230-440		100-230-440	
Rated current (A)				250, 300, 350, 400								500, 600, 630
Instantaneous trip type	Rated Sensitive Current (mA)	B	30		30		30		-			
	Tripping time (s)		0.1 or less		0.1 or less		0.1 or less		-			
Instantaneous /time-delay trip type	Rated Sensitive Current (mA)	K	100/200/500/1000		100/200/500/1000		100/200/500/1000		100/200/500/1000			
	Tripping time (s)		0.1/0.4/1/2		0.1/0.4/1/2		0.1/0.4/1/2		0.1/0.4/1/2			
	Inertia non-tripping time (s)		0/0.2/0.5/1		0/0.2/0.5/1		0/0.2/0.5/1		0/0.2/0.5/1			
Poles				3	4	3	4	3	3			
Rated frequency (Hz)				50/60		50/60		50/60		50/60		
Rated interrupting capacity sym (kA)	UL489 CAN/CSA C22.2 No.5	AC	480V/△	35	–	50	–	65 (50: with lug terminals)		50		
			480V/Y	35	35	50	50	65 (50: with lug terminals)		50		
			240V	50	50	100	100	125		100		
	IEC60947-2 JIS C 8201-2-2 Icu/Ics	AC	440V	36/18		50/25		70/35		50/25		
			415V	36/18		50/25		70/35		50/25		
			380V	36/18		50/25		70/35		50/25		
			240V	85/43		100/50		125/63		100/50		
			100V	85/43		100/50		125/63		100/50		
	GB14048.2 Icu/Ics	AC	400V	36/18		50/25		70/35		50/25		
			230V	85/43		100/50		125/63		100/50		
Isolation compliance				Compliant		Compliant		Compliant		Compliant		
Utilization category				A		A		A		A		
Dimension inch (mm)				a	5.512(140)	7.283(185)	5.512(140)	7.283(185)	5.512(140)	8.268(210)		
				b	10.12(257)		10.12(257)		10.12(257)		10.83(275)	
				c	4.055(103)		4.055(103)		4.055(103)		4.055(103)	
				d	5.748(146)		5.748(146)		5.748(146)		5.748(146)	
Terminal construction	Screw terminals		–	–	–		–		–			
	Flat terminals		None	●	●		●		●			
	Lug terminals		SB	●	●		●		●*1			
Internal accessories	Auxiliary switch		W	BW9W1SHA		BW9W1SHA		BW9W1SHA		BW9W1SHA		
	Auxiliary switch, 2 contacts		V	BW9W2SHA		BW9W2SHA		BW9W2SHA		BW9W2SHA		
	Aux. low current		1	BW9W1DHA		BW9W1DHA		BW9W1DHA		BW9W1DHA		
	Aux. low current, 2 contacts		2	BW9W2DHA		BW9W2DHA		BW9W2DHA		BW9W2DHA		
	Alarm switch		K	BW9K1SHA		BW9K1SHA		BW9K1SHA		BW9K1SHA		
	Alarm switch, 2 contacts		J	BW9K2SHA		BW9K2SHA		BW9K2SHA		BW9K2SHA		
	Alarm low current		8	BW9K1DHA		BW9K1DHA		BW9K1DHA		BW9K1DHA		
	Alarm low current, 2 contacts		9	BW9K2DHA		BW9K2DHA		BW9K2DHA		BW9K2DHA		
	Shunt trip		F	BW9FHA-*		BW9FHA-*		BW9FHA-*		BW9FHA-*		
	Under voltage trip		R	BW9RHA-*		BW9RHA-*		BW9RHA-*		BW9RHA-*		
	Earth alarm switch *2		L	▲		▲		▲		▲		
	Accessories with terminal block		A	See page 41		See page 41		See page 41		See page 41		
External accessories	Padlocking device *3		QN	BW9QNHA		BW9QNHA		BW9QNHA		BW9QNHA		
			Q2	BW9Q2HA		BW9Q2HA		BW9Q2HA		BW9Q2HA		
	External operating handle		V	BW9V0HA		BW9V0HA		BW9V0HA		BW9V2JA		
			N	BW9N0HA		BW9N0HA		BW9N0HA		BW9N0JA		
			F	BW9F0HA		BW9F0HA		BW9F0HA		–		
	Field Installable terminal		–		–		–		–			
	Terminal covers *4	Short type, gray-white	BW9BTHA-S3W	BW9BTHA-S4W	BW9BTHA-S3W	BW9BTHA-S4W	BW9BTHA-S3W		–			
		Short type, transparent	BW9BTHA-S3	BW9BTHA-S4	BW9BTHA-S3	BW9BTHA-S4	BW9BTHA-S3		–			
		Long type, gray-white	BW9BTHA-L3W	–	BW9BTHA-L3W	–	BW9BTHA-L3W		BW9BTHA-L3W			
Long type, transparent		BW9BTHA-L3	BW9BTHA-L4	BW9BTHA-L3	BW9BTHA-L4	BW9BTHA-L3		BW9BTHA-L3				
Insulation barrier			B43-A		B43-A		B43-A		B43-A			

\*1 Lug Terminal is NOT available for 630 ampere.

\*2 Right-side mount only

\*3 Non-UL item

\*4 Terminal covers are NOT supplied as standard.

● : Available, – : Not available, ▲ : Factory-install Order P/N Ex: EW400SAGU-3P250SBL

Note: All circuit breakers rated at 80%



## Part Number Structure

### Molded Case Circuit Breakers (50 - 800AF)

**BW250EAGU - 3P 100 SF**

Product category \_\_\_\_\_  
 Number of poles \_\_\_\_\_  
 Rated current (A) \_\_\_\_\_  
 Terminal structure \_\_\_\_\_

Code	Line side	Load side	BW50RBGU	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).

### Earth Leakage Circuit Breakers (50 - 630AF)

**EW50RAGU - 3P 050 K SF L**

Product category \_\_\_\_\_  
 Number of poles \_\_\_\_\_  
 Rated current (A) \_\_\_\_\_  
 Rated sensitive current (mA) \_\_\_\_\_

Earth Alarm Switch  
 (Factory install optional accessory)  
 Only for EW125,EW250,EW400,EW630

#### G-TWIN Series

Code	Line side	2 poles	3 poles	4 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

#### G-TWIN $\Lambda$ (Lambda) Series

Code	Line side	2 poles	3 poles
B	30mA	●	●
D	50mA	—	●
C	100mA	—	●
E	200mA	—	●
H	500mA	—	●

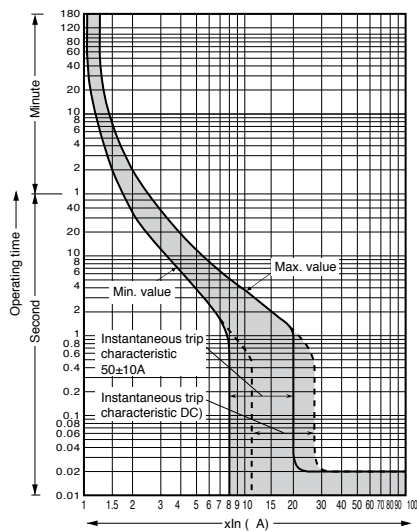
#### Terminal structure

Code	Line side	Load side	EW50RBGU	EW50RAGU EW100EAGU	EW125JAGU, EW125RAGU EW125JAGU, EW250RAGU	EW400SAGU, EW400RAGU, EW400HAGU EW630RAGU
None	Screw	Screw	●	●	●	—
None	Flat	Flat	—	—	—	●
SB	Lug	Lug	—	—	●	●*1
SF	Flat	Flat	—	●	●	—

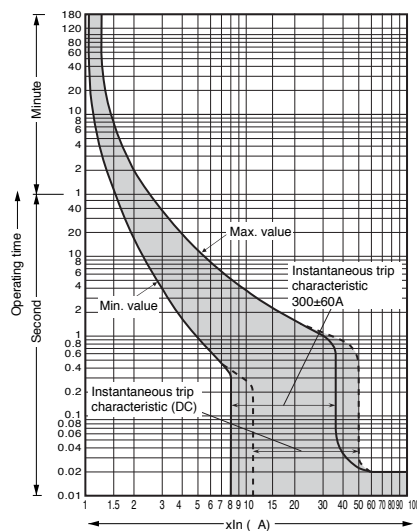
\*1 Lug terminal is Not available for EW630RAGU-3P630 (Rated current 630 ampere in EW630).

Characteristic Curves - G-TWIN  $\Lambda$ (Lambda) Series

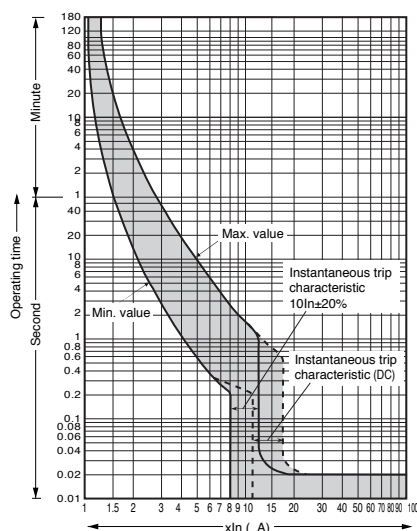
- BW50RBGU, EW50RBGU (Rated current: 3A, 5A)



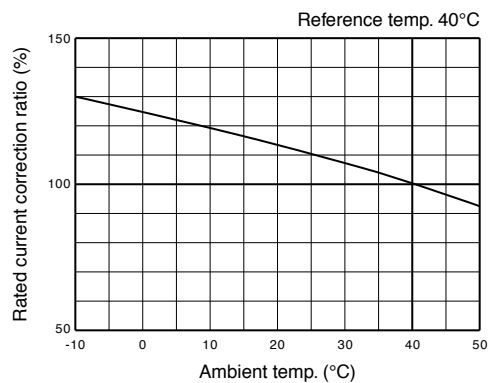
- BW50RBGU, EW50RBGU (Rated current: 10A to 30A)



- BW50RBGU, EW50RBGU (Rated current: 40A, 50A)

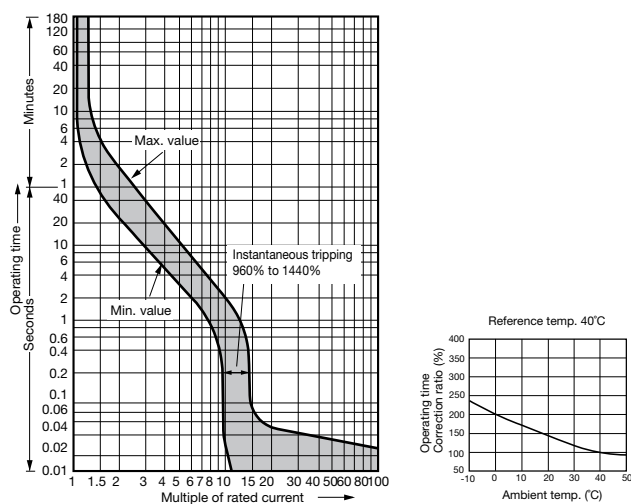


- Temperature correction curve

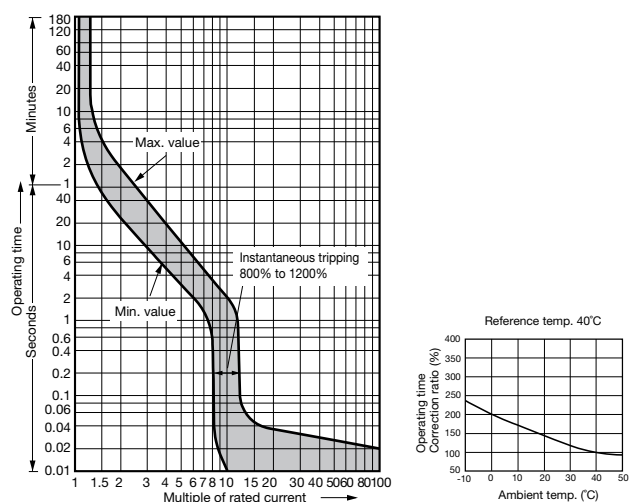


## Characteristic Curves - G-TWIN Series

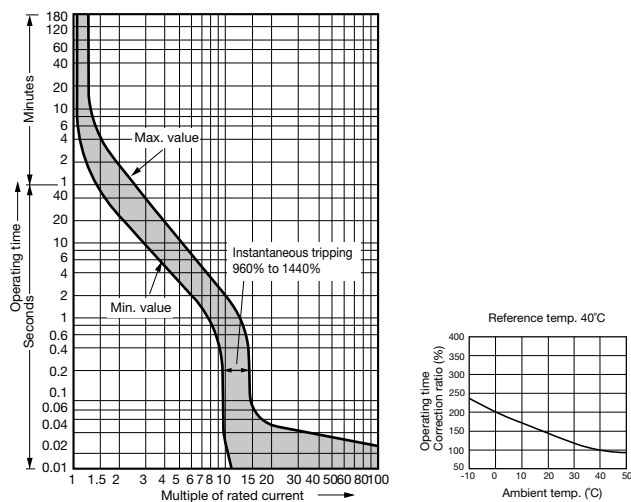
- BW50RAGU, EW50RAGU (Rated current: 5A, 10A, 32A, 40A)



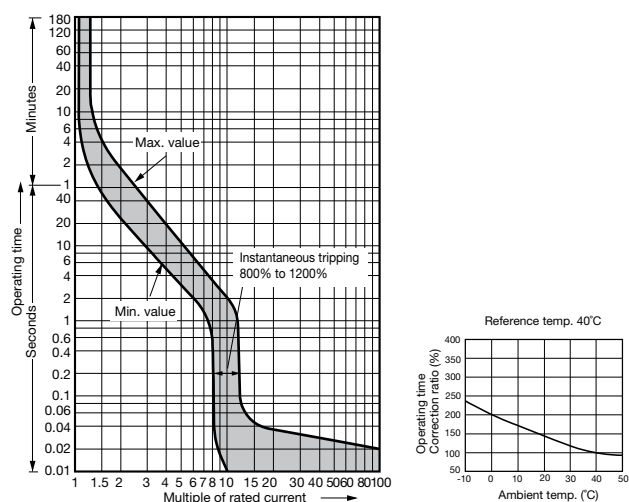
- BW50RAGU, EW50RAGU (Rated current: 3A, 15A, 20A, 30A, 50A)



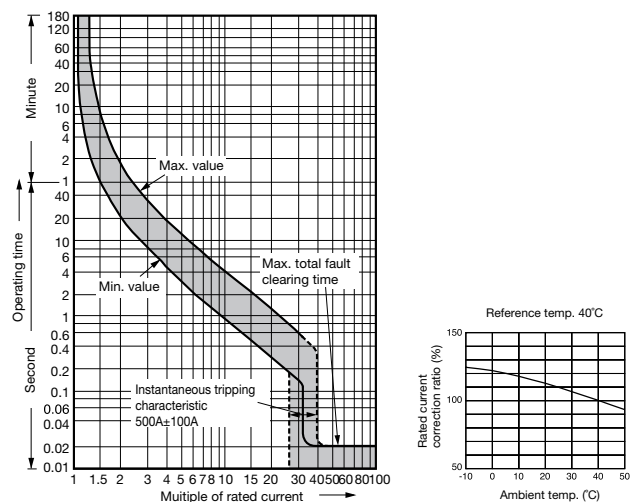
- BW100EAGU, EW100EAGU (Rated current: 60A, 63A, 75A, 80A, 90A)



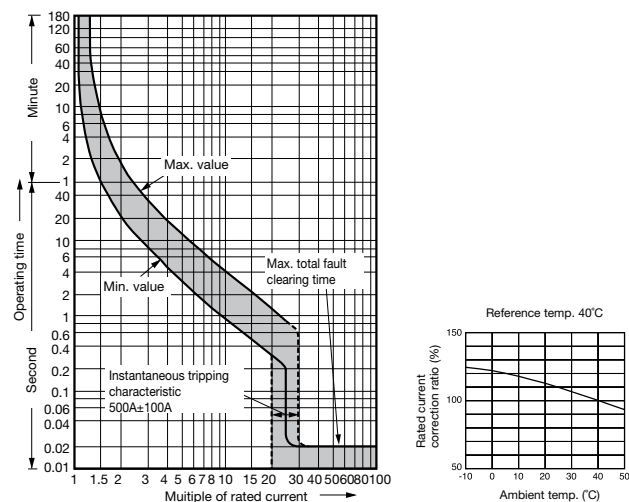
- BW100EAGU, EW100EAGU (Rated current: 100A)



- BW125, EW125 (Rated current: 15A)



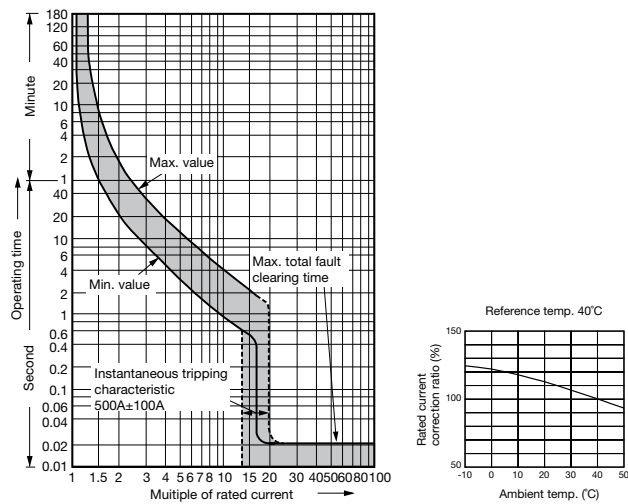
- BW125, EW125 (Rated current: 20A)



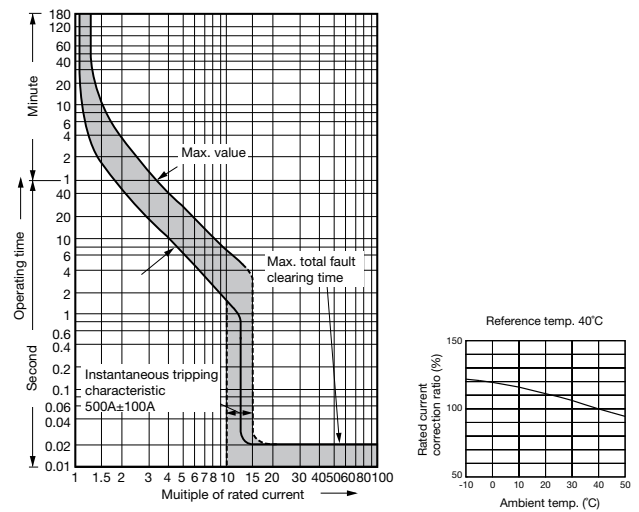


## Characteristic Curves - G-TWIN Series

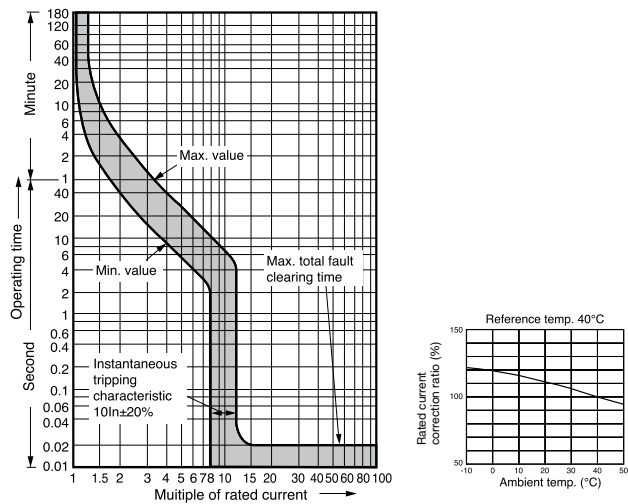
### • BW125, EW125 (Rated current: 30A)



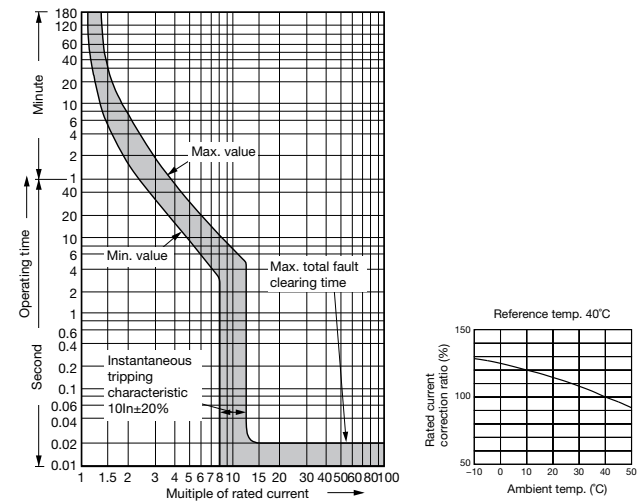
### • BW125, EW125 (Rated current: 40A)



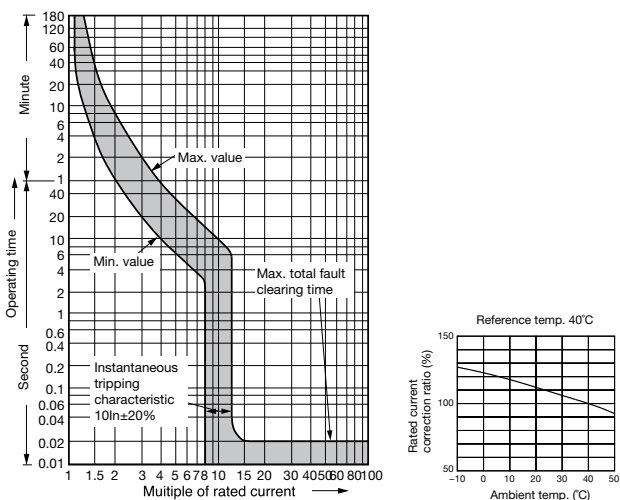
### • BW125, EW125 (Rated current: 50 - 125A)



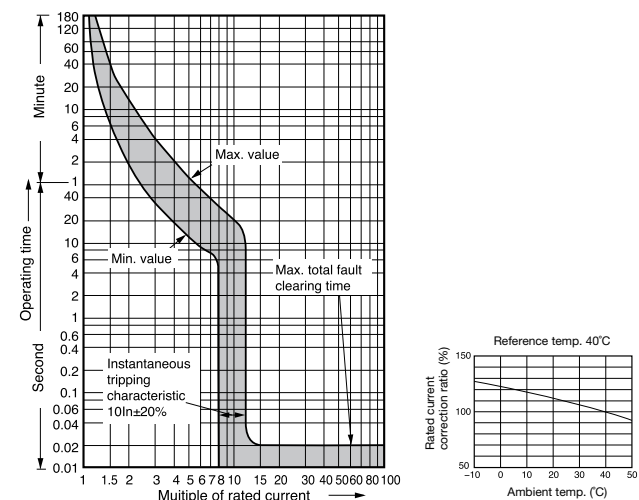
### • BW250, EW250



### • BW400, EW400

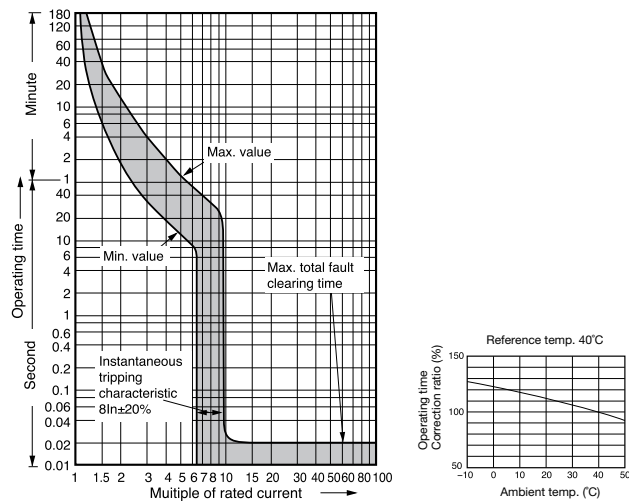


### • BW630, EW630

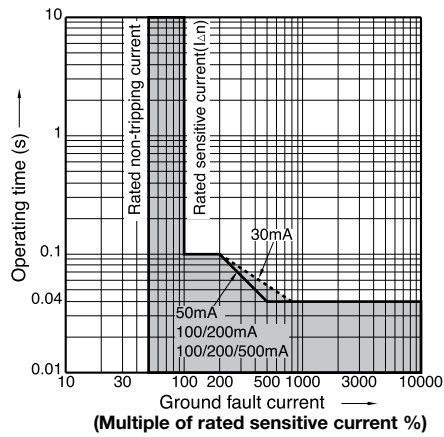


## Characteristic Curves - G-TWIN Series

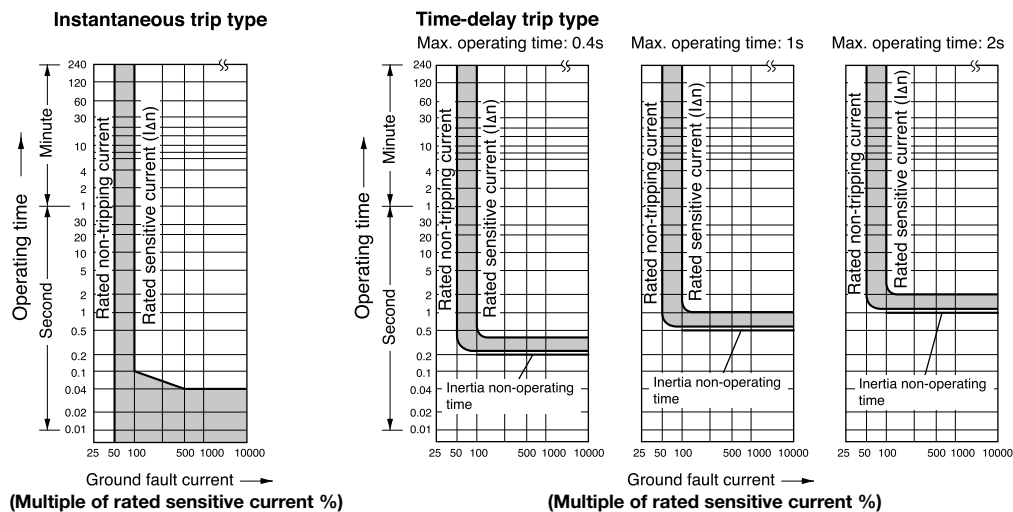
- BW800



- Earth leakage tripping (EW50, EW100)



- Earth leakage tripping (EW125, EW250, EW400, EW630)

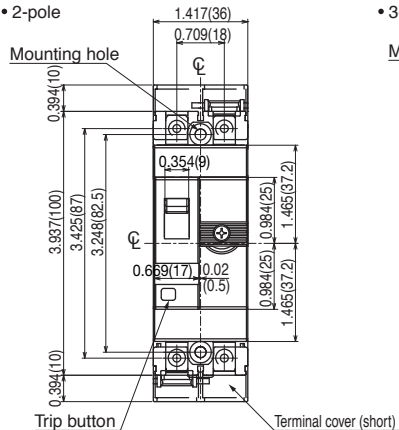


# Dimensions: inch (mm) - G-TWIN $\Lambda$ (Lambda) Series

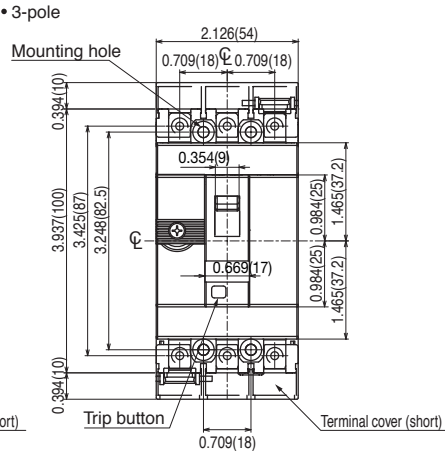
## BW50RBGU

### Front mounting type

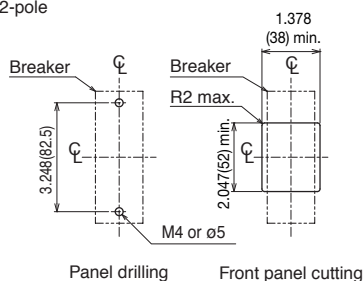
#### • 2-pole



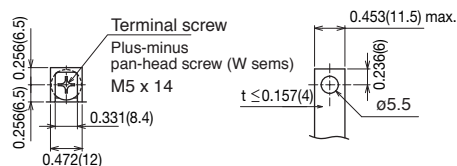
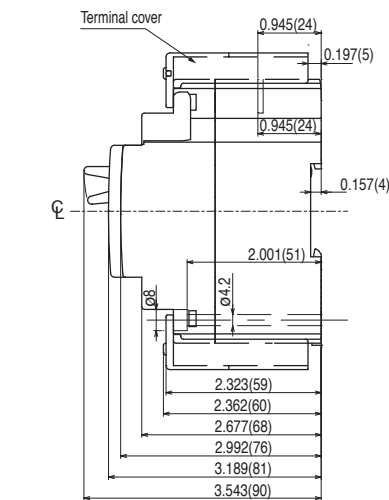
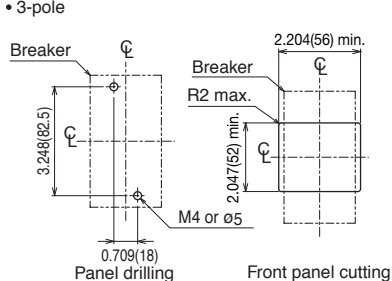
#### • 3-pole



#### • 2-pole



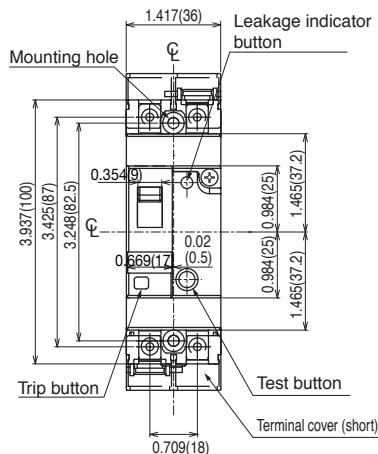
#### • 3-pole



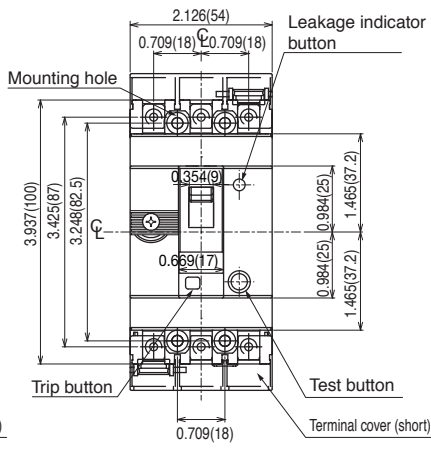
## EW50RBGU

### Front mounting type

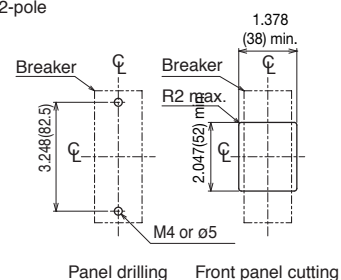
#### • 2-pole



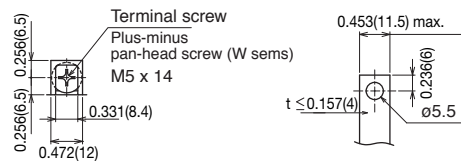
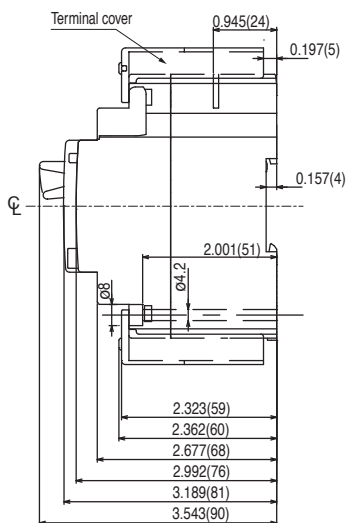
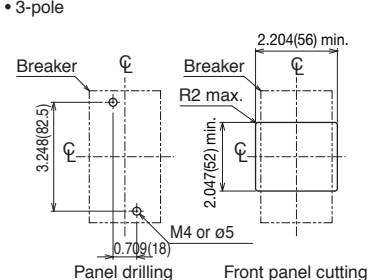
#### • 3-pole



#### • 2-pole

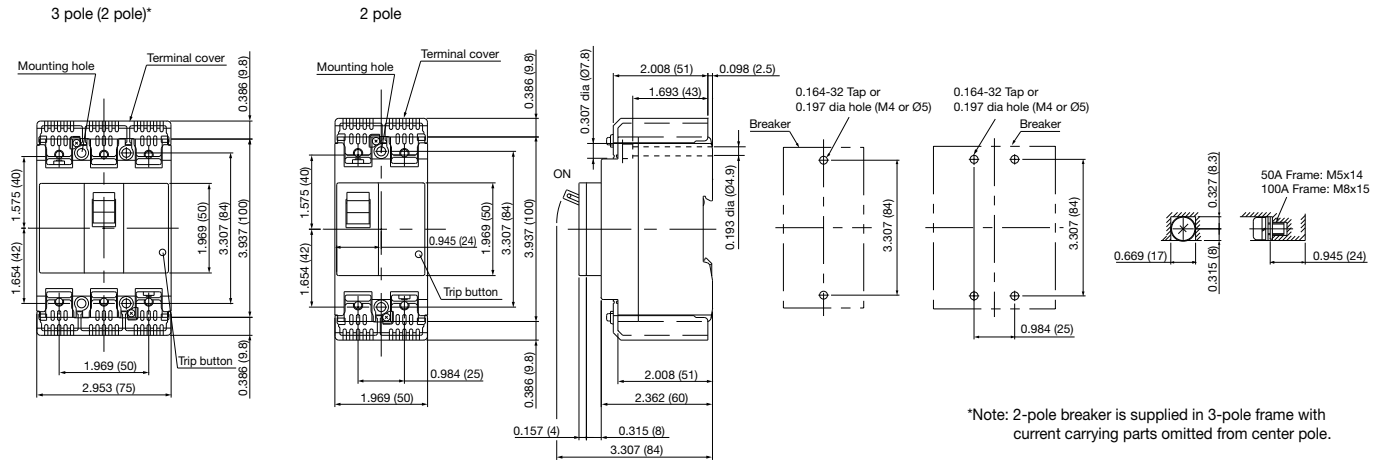


#### • 3-pole

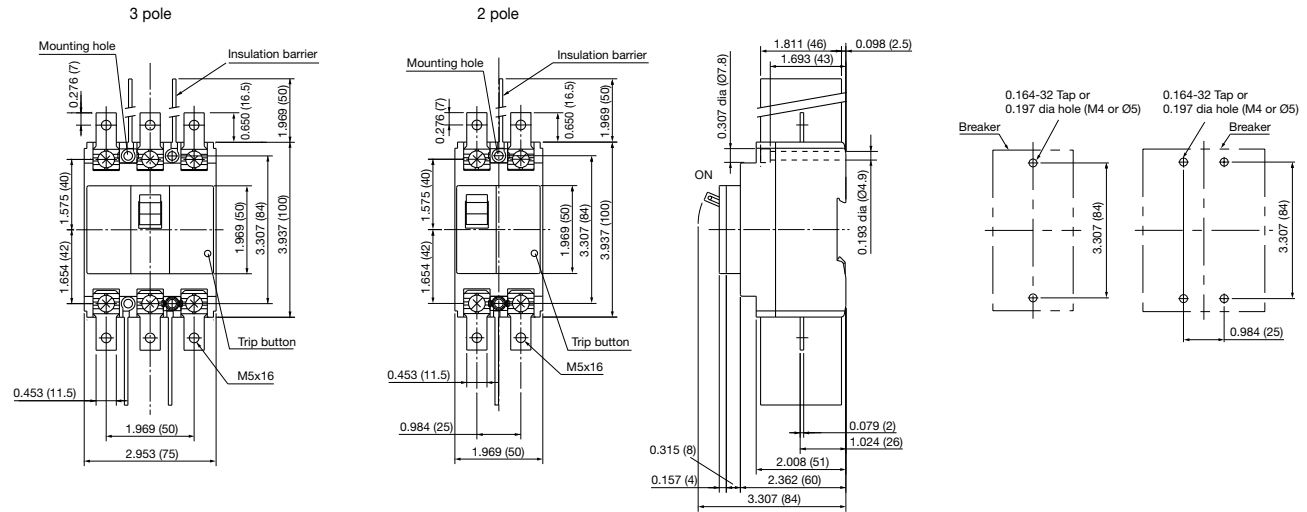


## Dimensions: inch (mm) - G-TWIN Series

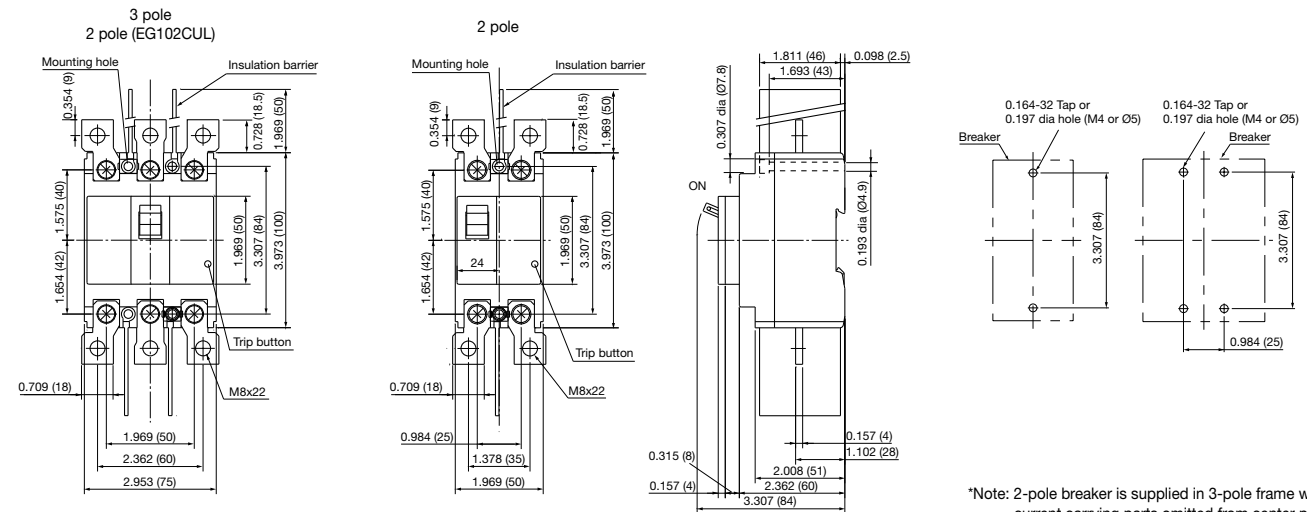
BW50RAGU-2P, 3P, BW100EAGU-2P, 3P, EW50RAGU-3P, EW100EAGU-2P\*, 3P



BW50RAGU-2P, 3P(SF), EW50RAGU-3P(SF)

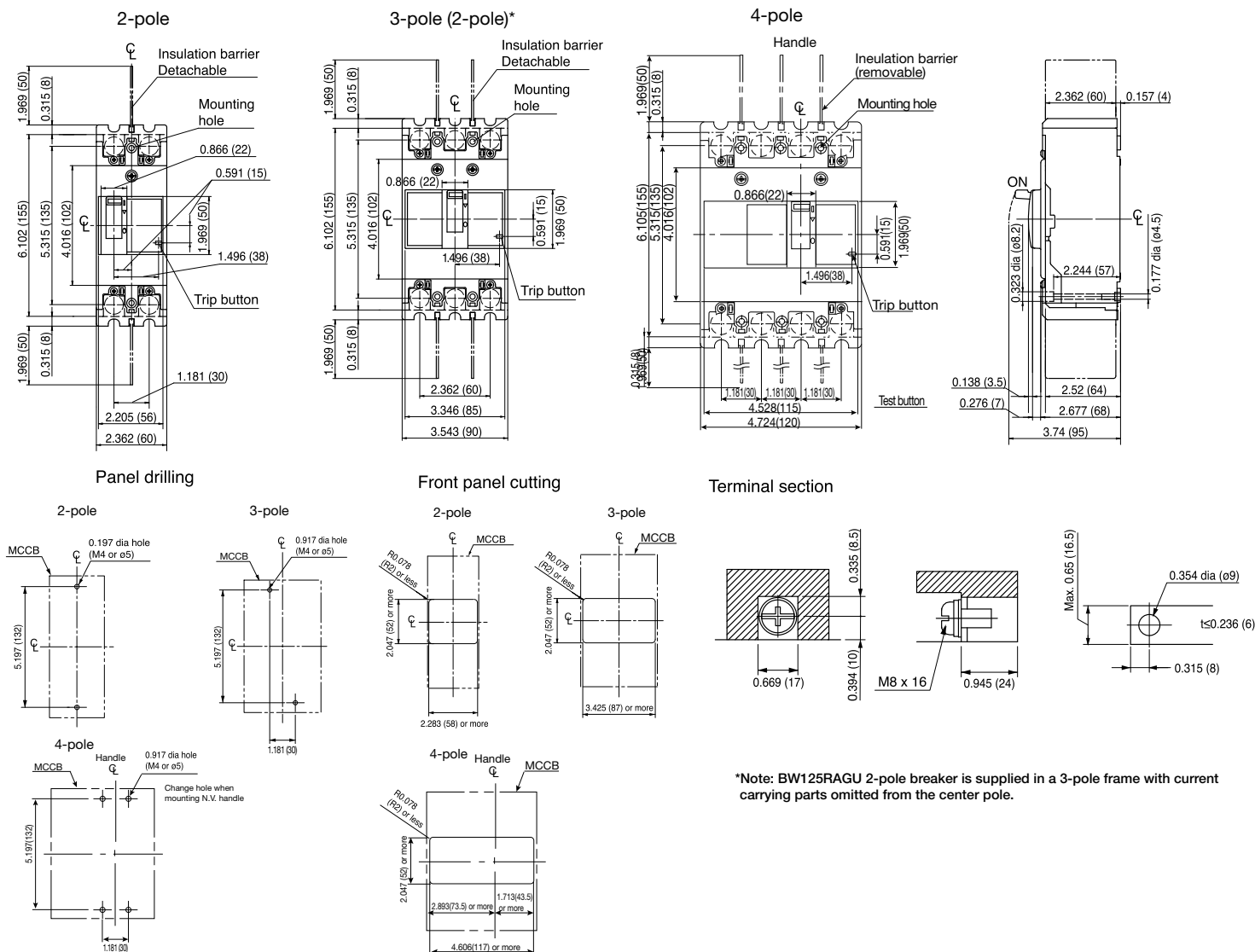


BW100EAGU-2P, 3P(SF), EW100EAGU-2P\*, 3P(SF)

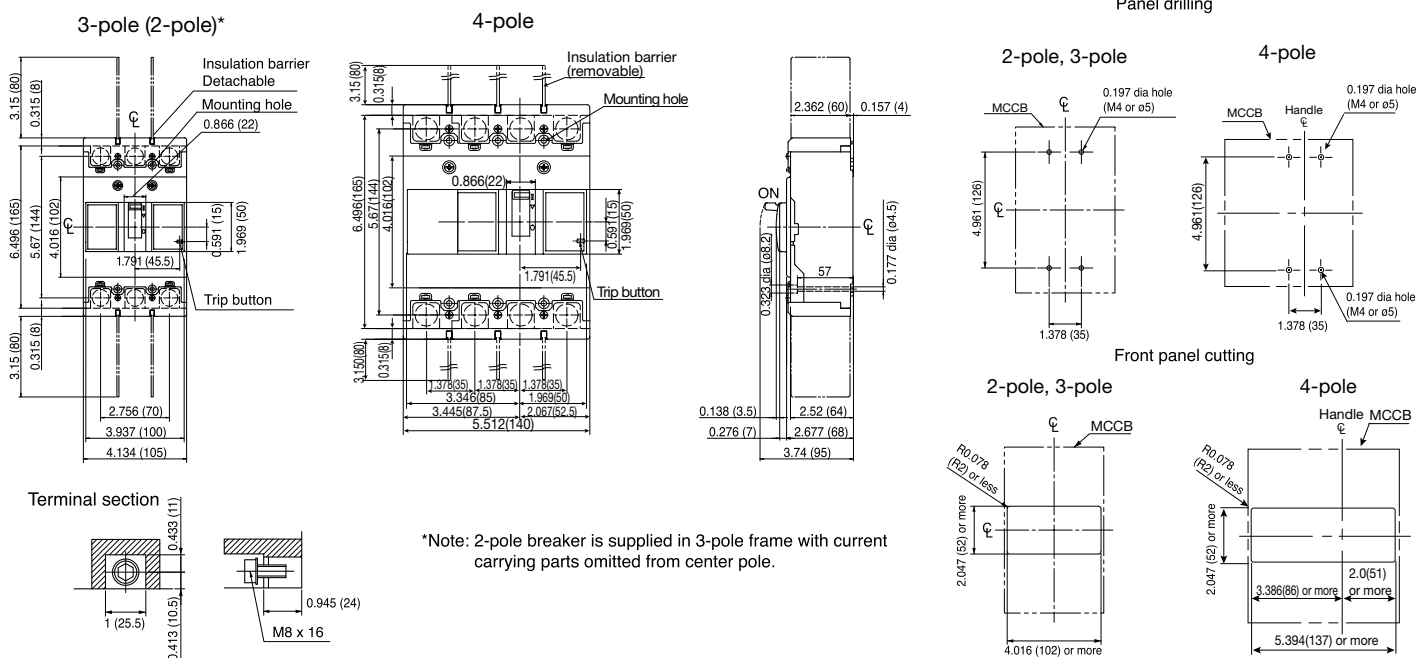


# Dimensions: inch (mm) - G -TWIN Series

BW125\*U-2P, 3P, 4P



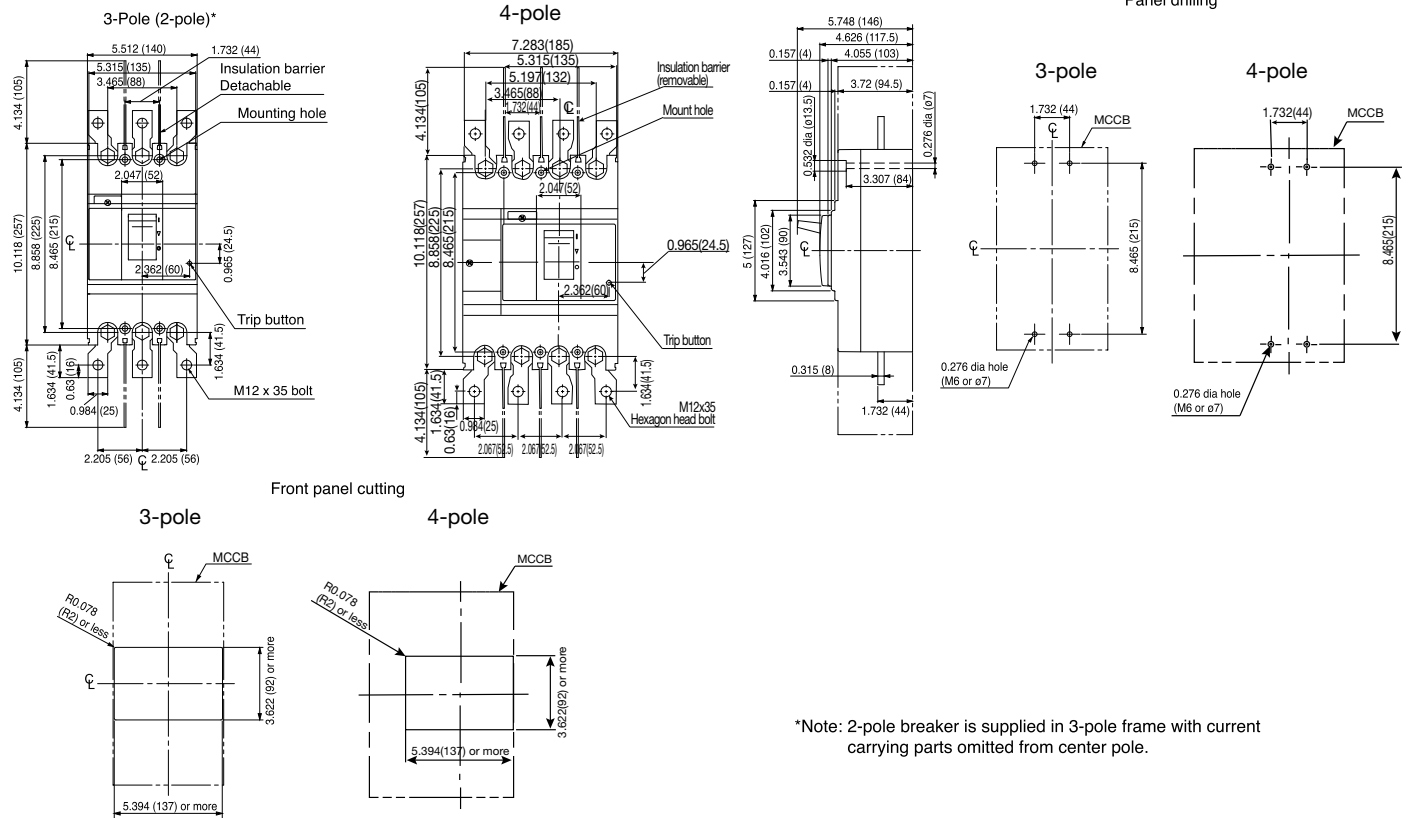
BW250\*U-2P, 3P, 4P



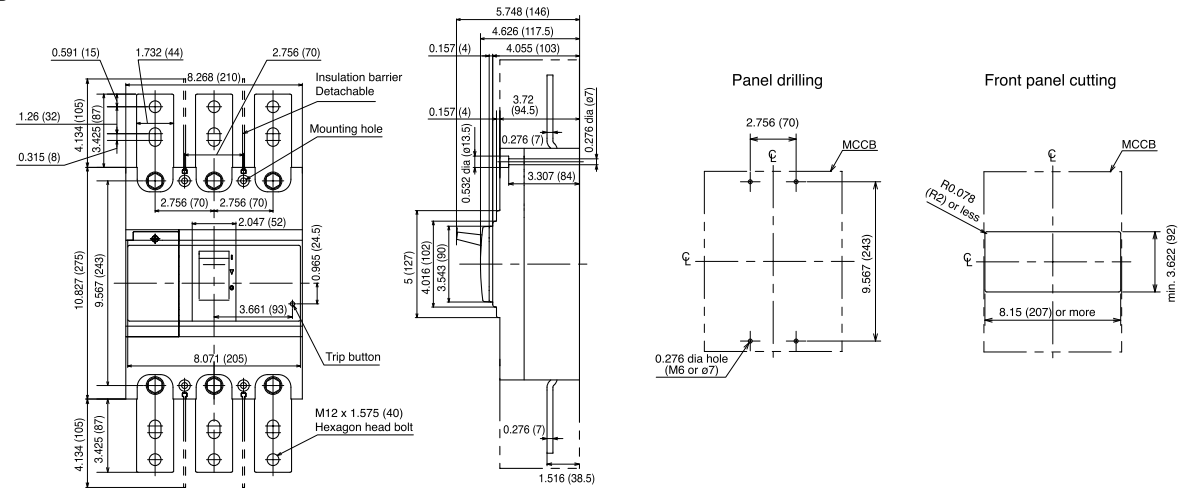


# Dimensions: inch (mm) - G -TWIN Series

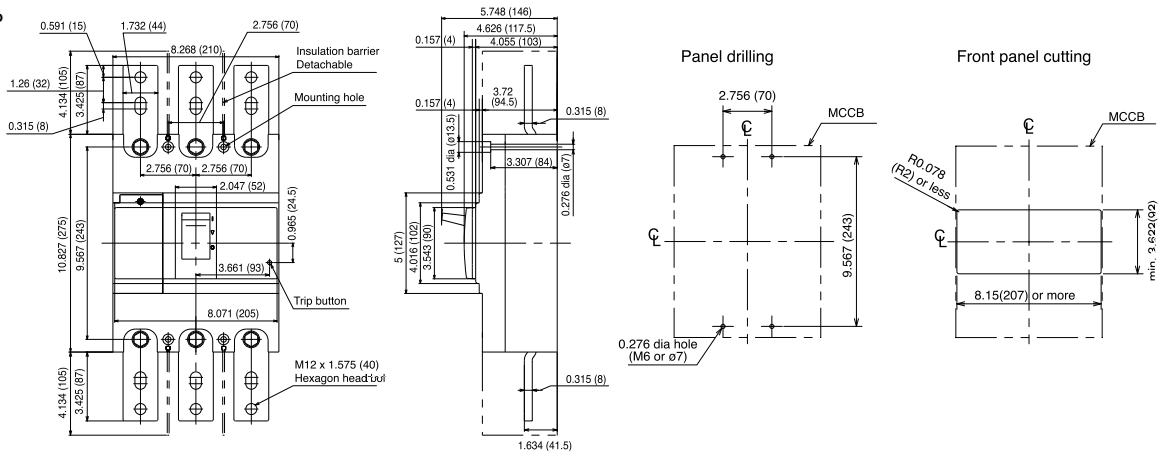
## BW400\*U-2P, 3P, 4P



## BW630\*U-3P

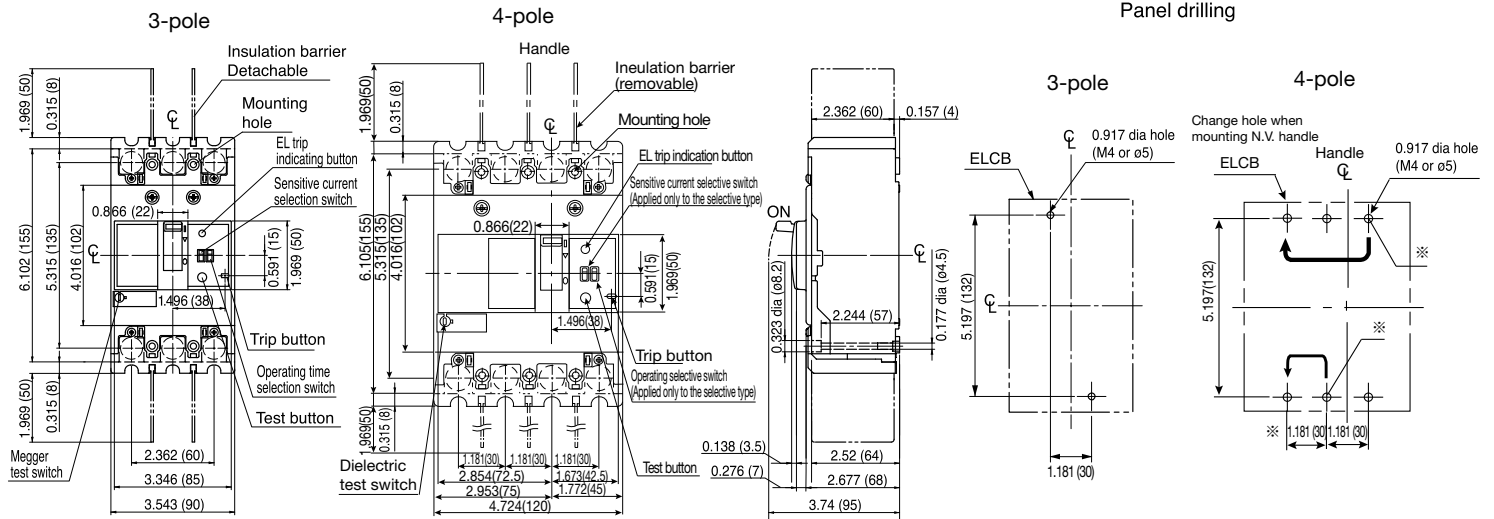


## BW800\*U-3P

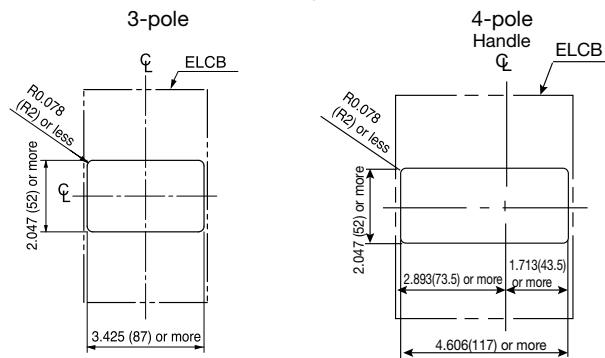


# Dimensions: inch (mm) - G -TWIN Series

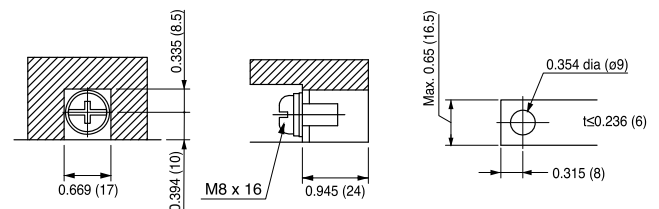
EW125\*U-3P, 4P



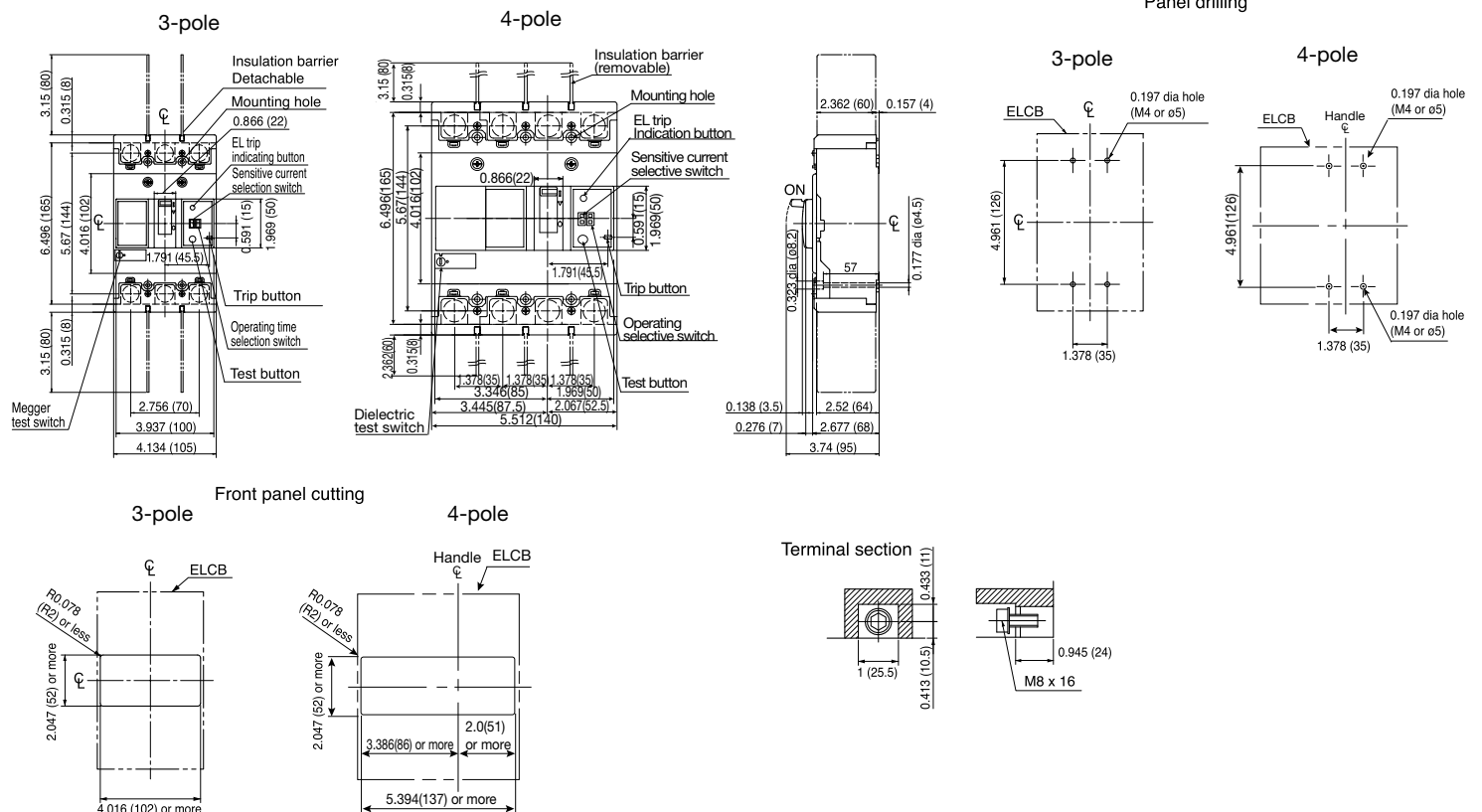
Front panel cutting



Terminal section

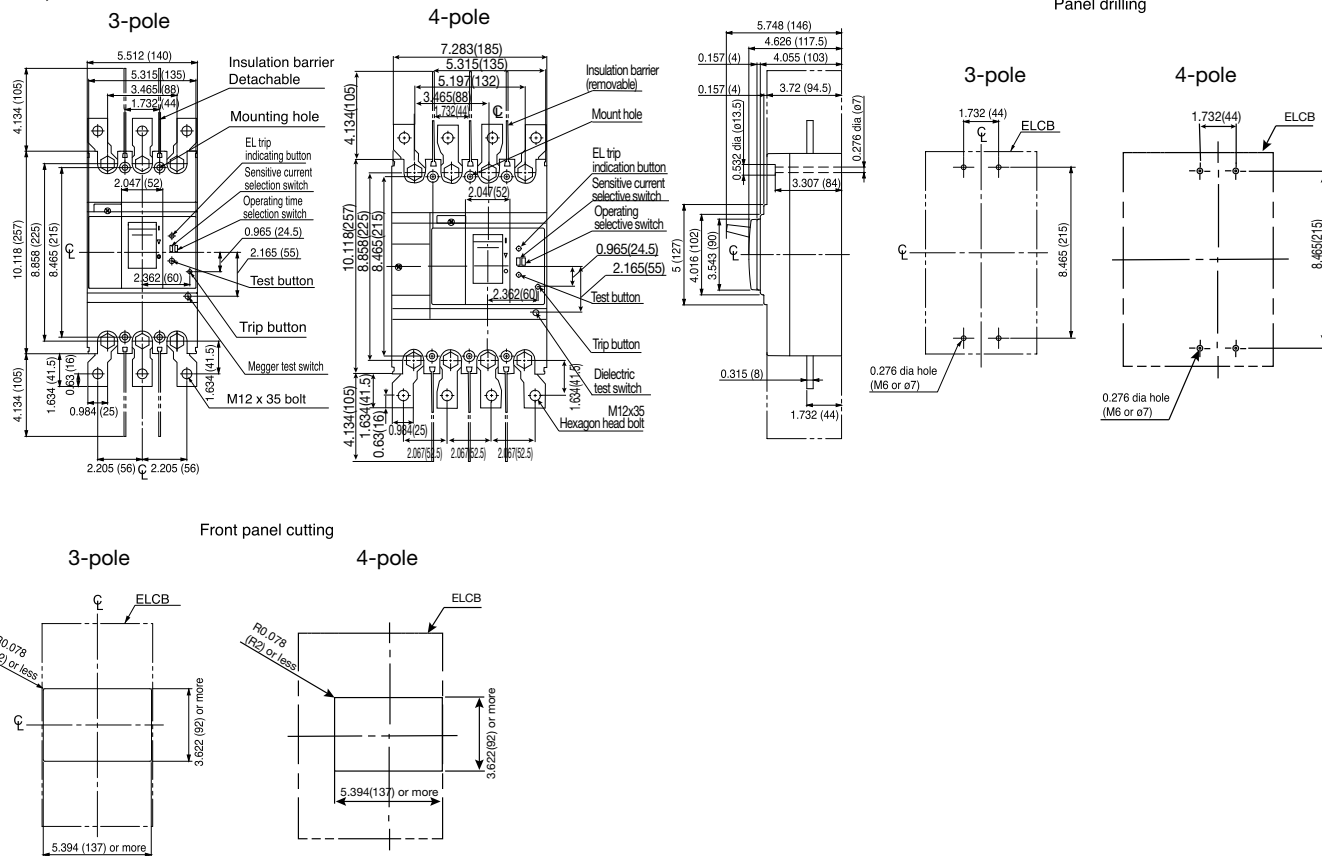


EW250\*U-3P, 4P

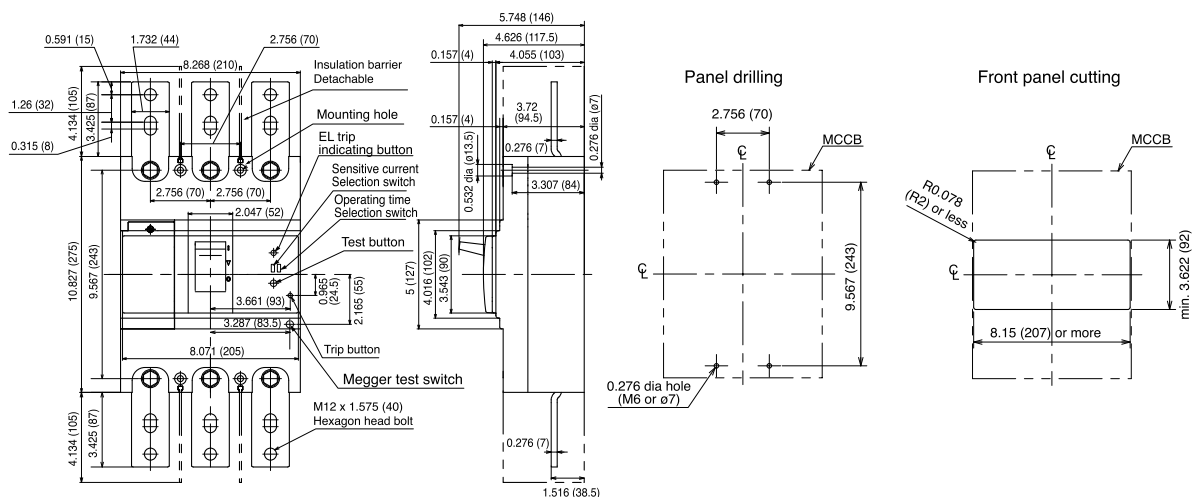


# Dimensions: inch (mm) - G -TWIN Series

EW400\*U-3P, 4P



EW630RAGU-3P



## Internal Accessories for G-TWIN $\Lambda$ (Lambda) Series

### 50AF

Breaker type: BW50RBGU, EW50RBGU

Type	Terminal connection	Lead wire pull-out direction	Type	Voltage rating	Mountability			
					MCCB		ELCB	
					2P	3P	2P	3P
Auxiliary switch (standard type)	Lead wire type	Left side	BW9W1SB1		—	○	—	○
		Right side	BW9W1SB1-R		○	○	○	○
		Left side	BW9W1DB1		—	○	—	○
		Right side	BW9W1DB1-R		○	○	○	○
		Left side	BW9K1SB1		—	○	—	○
		Right side	BW9K1SB1-R		○	○	○	○
		Left side	BW9K1DB1		—	○	—	○
		Right side	BW9K1DB1-R		○	○	○	○
		Left side	BW9WKS1B1		—	○	—	○
		Right side	BW9WKS1B1-R		○	○	○	○
		Left side	BW9WK1DB1		—	○	—	○
		Right side	BW9WK1DB1-R		○	○	○	○
Shunt trip device		Left side	BW9FRB1	AC/DC24V	—	○	—	○
			BW9F6B1	AC100-130V/DC100-110V				
			BW9FKB1	AC200-240V/DC200-220V				
			BW9FPB1	AC380-440V				
Auxiliary switch (standard type)	Terminal block type	Left side	BW9W1SB1-A		—	○	—	○
		Right side	BW9W1SB1-RA		○	○	○	○
		Left side	BW9W1DB1-A		—	○	—	○
		Right side	BW9W1DB1-RA		○	○	○	○
		Left side	BW9K1SB1-A		—	○	—	○
		Right side	BW9K1SB1-RA		○	○	○	○
		Left side	BW9K1DB1-A		—	○	—	○
		Right side	BW9K1DB1-RA		○	○	○	○
		Left side	BW9WKS1B1-A		—	○	—	○
		Right side	BW9WKS1B1-RA		○	○	○	○
		Left side	BW9WK1DB1-A		—	○	—	○
		Right side	BW9WK1DB1-RA		○	○	○	○
Shunt trip device		Left side	BW9FRB1-A	AC/DC24V	—	○	—	○
			BW9F6B1-A	AC100-130V/DC100-110V				
			BW9FKB1-A	AC200-240V/DC200-220V				
			BW9FPB1-A	AC380-440V				

Note: All units provided above are sold separately.

### Types and terminal numbers of internal accessories

Type		Terminal number		Remarks
		Left side mounting	Right side mounting	
Auxiliary switch Standard: W, V Low level circuit: 1, 2	For one switch (W) (1)			For the rated operational voltage and current, see page 26. For details of mounting positions, see the List of internal accessory combinations on pages 27 to 32.
	For two switches (V) (2)			
Alarm switch Standard: K Low level circuit: 8	For one switch (K) (8)			
Shunt trip device: F	With burn-out preventive contact (standard)			For the operating voltage, see page 26.
Undervoltage trip device				For the operating voltage, see page 26.

## Internal Accessories for G-TWIN $\Lambda$ (Lambda) Series

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

#### Operation

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

#### Rating

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

### Shunt trip device

#### Rating

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

Note 1: Specify the voltage rating in the order.

Note 2: The operating range of the trip voltage of the shunt trip device is 70 to 110% of the rated operating voltage.

### Undervoltage trip device

#### Rating

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

Note 1: Specify the voltage rating in the order.

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

### Accessory lead wire pull-out system

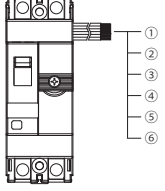
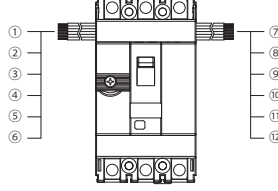
#### Specifications of lead wire

Type of lead wire	Size of lead wire	Length of lead wire	Indication on lead wire
50AF	0.4mm <sup>2</sup> (AWG22)	About 500mm	Each lead wire has a ring mark indicating a terminal symbol.

# Internal Accessory Combination for G-TWIN $\Lambda$ (Lambda) Series

## Details of combinations of internal accessories

(a) Lead wire type (BW50RBGU)

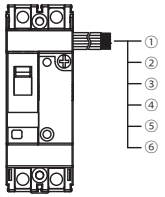
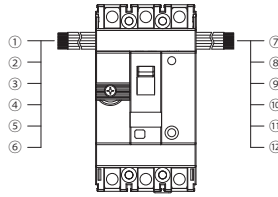
Lead wire type	MCCB (2P)				MCCB (3P)			
								
Type	BW50RBGU				BW50RBGU			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch	Cannot be pulled out to the left side.		①	21/AXc : Yellow	①	11/AXc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

Note: \* ( ) code of Low level circuit



## Internal Accessory Combination for G-TWIN $\Lambda$ (Lambda) Series

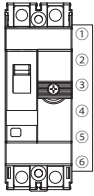
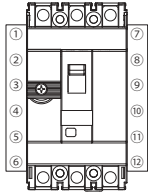
(b) Lead wire type (EW50RBGU)

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

Note: \* ( ) code of Low level circuit

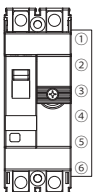
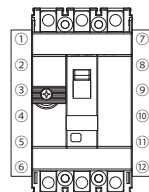
## Internal Accessory Combination for G-TWIN $\lambda$ (Lambda) Series

(c) Terminal block type (BW50RBGU)

Lead wire type	MCCB (2P)				MCCB (3P)			
								
Type	BW50RBGU				BW50RBGU			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch	Cannot be mounted.		①	—	①	—	①	—
			②	—	②	—	②	—
			③	—	③	—	③	—
			④	21/AXcR	④	11/AXcL	④	21/AXcR
			⑤	22/AXbR	⑤	12/AXbL	⑤	22/AXbR
			⑥	24/AXaR	⑥	14/AXaL	⑥	24/AXaR
$W(1)^* A$								
Auxiliary switch x 2	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	11/AXcL	⑩	21/AXcR
					⑤	12/AXbL	⑪	22/AXbR
					⑥	14/AXaL	⑫	24/AXaR
$V(2)^* A$								
Alarm switch	Cannot be mounted.				①	94/ALaL	①	04/ALaR
					②	92/ALbL	②	02/ALbR
					③	91/ALcL	③	01/ALcR
							④	—
							⑤	—
							⑥	—
$K(8)^* A$								
Auxiliary switch + alarm switch	Cannot be mounted.				①	94/ALaL	①	04/ALaR
					②	92/ALbL	②	02/ALbR
					③	91/ALcL	③	01/ALcR
					④	11/AXcL	④	21/AXcR
					⑤	12/AXbL	⑤	22/AXbR
					⑥	14/AXaL	⑥	24/AXaR
$W(1)^* K(8)^* A$								
Auxiliary switch x 2 + alarm switch	Cannot be mounted.				①	94/ALaL	⑦	—
					②	92/ALbL	⑧	—
					③	91/ALcL	⑨	—
					④	11/AXcL	⑩	21/AXcR
					⑤	12/AXbL	⑪	22/AXbR
					⑥	14/AXaL	⑫	24/AXaR
$V(2)^* K(8)^* A$								
Shunt trip device	Cannot be mounted.		①	—	①	—	Cannot be mounted.	
			②	—	②	—		
			③	—	③	—		
			④	C2/S2	④	C2/S2		
			⑤	—	⑤	—		
			⑥	C1/S1	⑥	C1/S1		
$F \square A$								
Auxiliary switch + shunt trip device	Cannot be mounted.				①	—	⑦	—
					②	—	⑧	—
					③	—	⑨	—
					④	C2/S2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
					⑥	C1/S1	⑫	24/AXaR
$W(1)^* F \square A$								
Alarm switch + shunt trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	C2/S2	⑩	—
					⑤	—	⑪	—
					⑥	C1/S1	⑫	—
$K(8)^* F \square A$								

## Internal Accessory Combination for G-TWIN $\Lambda$ (Lambda) Series

Terminal block type (BW50RBGU) ...continued

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

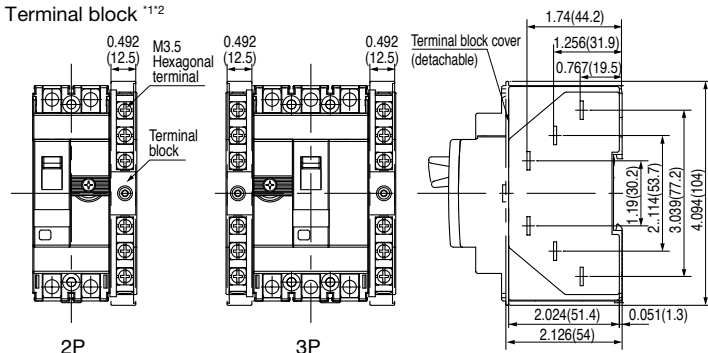
Note: \* ( ) code of Low level circuit

Remarks

1) The undervoltage trip device is factory-mounted when the product is shipped. Specify in the order for the main unit.

### Dimensions: inch (mm)

Terminal block \*1\*2

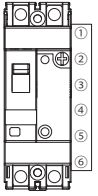
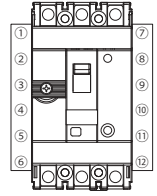


(Note \*1) The terminal block is mounted on the accessory mounting side. For the accessory mounting positions, see the List of internal accessory combinations on pages 29 to 30.

(Note \*2) Connectable wire: single wire: 1 to 1.6  $\phi$ , stranded wire: 0.5 to 2 mm<sup>2</sup>

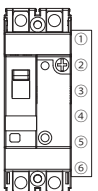
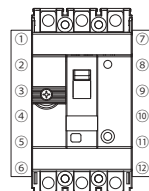
## Internal Accessory Combination for G-TWIN $\Lambda$ (Lambda) Series

(d) Terminal block type (EW50RBGU)

Lead wire type	ELCB (2P)				ELCB (3P)			
								
Type	EW50RBGU				EW50RBGU			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Auxiliary switch	Cannot be mounted.		①	—	①	—	⑦	—
			②	—	②	—	⑧	—
			③	—	③	—	⑨	—
			④	21/AXcR	④	11/AXcL	⑩	21/AXcR
			⑤	22/AXbR	⑤	12/AXbL	⑪	22/AXbR
			⑥	24/AXaR	⑥	14/AXaL	⑫	24/AXaR
W(1)* A								
Auxiliary switch x 2	Cannot be mounted.		①	—	①	—	⑦	—
			②	—	②	—	⑧	—
			③	—	③	—	⑨	—
			④	11/AXcL	④	11/AXcL	⑩	21/AXcR
			⑤	12/AXbL	⑤	12/AXbL	⑪	22/AXbR
			⑥	14/AXaL	⑥	14/AXaL	⑫	24/AXaR
V(2)* A								
Alarm switch	Cannot be mounted.		①	04/ALaR	①	94/ALaL	⑦	04/ALaR
			②	02/ALbR	②	92/ALbL	⑧	02/ALbR
			③	01/ALcR	③	91/ALcL	⑨	01/ALcR
			④	—	④	—	⑩	—
			⑤	—	⑤	—	⑪	—
			⑥	—	⑥	—	⑫	—
K(8)* A								
Auxiliary switch + alarm switch	Cannot be mounted.		①	04/ALaR	①	94/ALaL	⑦	04/ALaR
			②	02/ALbR	②	92/ALbL	⑧	02/ALbR
			③	01/ALcR	③	91/ALcL	⑨	01/ALcR
			④	21/AXcR	④	11/AXcL	⑩	21/AXcR
			⑤	22/AXbR	⑤	12/AXbL	⑪	22/AXbR
			⑥	24/AXaR	⑥	14/AXaL	⑫	24/AXaR
W(1)* K(8)* A								
Auxiliary switch x 2 + alarm switch	Cannot be mounted.		①	94/ALaL	①	94/ALaL	⑦	—
			②	92/ALbL	②	92/ALbL	⑧	—
			③	91/ALcL	③	91/ALcL	⑨	—
			④	11/AXcL	④	11/AXcL	⑩	21/AXcR
			⑤	12/AXbL	⑤	12/AXbL	⑪	22/AXbR
			⑥	14/AXaL	⑥	14/AXaL	⑫	24/AXaR
V(2)* K(8)* A								
Shunt trip device	Cannot be mounted.		①	—	①	—	Cannot be mounted.	
			②	—	②	—		
			③	—	③	—		
			④	C2/S2	④	C2/S2		
			⑤	—	⑤	—		
			⑥	C1/S1	⑥	C1/S1		
F □ A								
Auxiliary switch + shunt trip device	Cannot be mounted.		①	—	①	—	⑦	—
			②	—	②	—	⑧	—
			③	—	③	—	⑨	—
			④	C2/S2	④	C2/S2	⑩	21/AXcR
			⑤	—	⑤	—	⑪	22/AXbR
			⑥	C1/S1	⑥	C1/S1	⑫	24/AXaR
W(1)* F □ A								
Auxiliary switch + shunt trip device	Cannot be mounted.		①	—	①	—	⑦	04/ALaR
			②	—	②	—	⑧	02/ALbR
			③	—	③	—	⑨	01/ALcR
			④	C2/S2	④	C2/S2	⑩	—
			⑤	—	⑤	—	⑪	—
			⑥	C1/S1	⑥	C1/S1	⑫	—
K(8)* F □ A								
Auxiliary switch + alarm switch + shunt trip device	Cannot be mounted.		①	—	①	—	⑦	04/ALaR
			②	—	②	—	⑧	02/ALbR
			③	—	③	—	⑨	01/ALcR
			④	C2/S2	④	C2/S2	⑩	21/AXcR
			⑤	—	⑤	—	⑪	22/AXbR
			⑥	C1/S1	⑥	C1/S1	⑫	24/AXaR
W(1)* K(8)* F □ A								

## Internal Accessory Combination for G-TWIN $\Lambda$ (Lambda) Series

Terminal block type (EW50RBGU) ...continued

Lead wire type	ELCB (2P)				ELCB (3P)			
								
Type	EW50RBGU				EW50RBGU			
Accessory type	Left side		Right side		Left side		Right side	
	Position	Ring mark	Position	Ring mark	Position	Ring mark	Position	Ring mark
Undervoltage trip device	Cannot be mounted.				①	—	Cannot be mounted.	
					②	—		
					③	—		
					④	D2/P2		
					⑤	—		
					⑥	D1/P1		
<input type="checkbox"/> R					①	—	⑦	—
Auxiliary switch + Undervoltage trip device	Cannot be mounted.				②	—	⑧	—
					③	—	⑨	—
					④	D2/P2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
<input type="checkbox"/> W(1)* R <input type="checkbox"/> A					⑥	D1/P1	⑫	24/AXaR
Alarm switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	D2/P2	⑩	—
					⑤	—	⑪	—
<input type="checkbox"/> K(8)* R <input type="checkbox"/> A					⑥	D1/P1	⑫	—
Auxiliary switch + alarm switch + Undervoltage trip device	Cannot be mounted.				①	—	⑦	04/ALaR
					②	—	⑧	02/ALbR
					③	—	⑨	01/ALcR
					④	D2/P2	⑩	21/AXcR
					⑤	—	⑪	22/AXbR
<input type="checkbox"/> W(1)* K(8)* R <input type="checkbox"/> A					⑥	D1/P1	⑫	24/AXaR

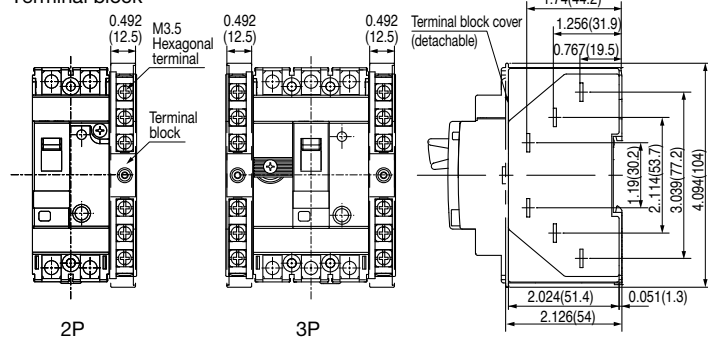
Note: \* ( ) code of Low level circuit

Remarks

1) The undervoltage trip device is factory-mounted when the product is shipped. Specify in the order for the main unit.

### Dimensions: inch (mm)

Terminal block <sup>\*1,2</sup>


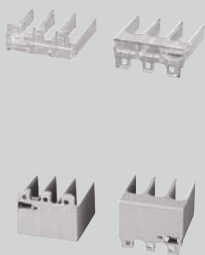




(Note \*1) The terminal block is mounted on the accessory mounting side. For the accessory mounting positions, see the List of internal accessory combinations on pages 31 to 32

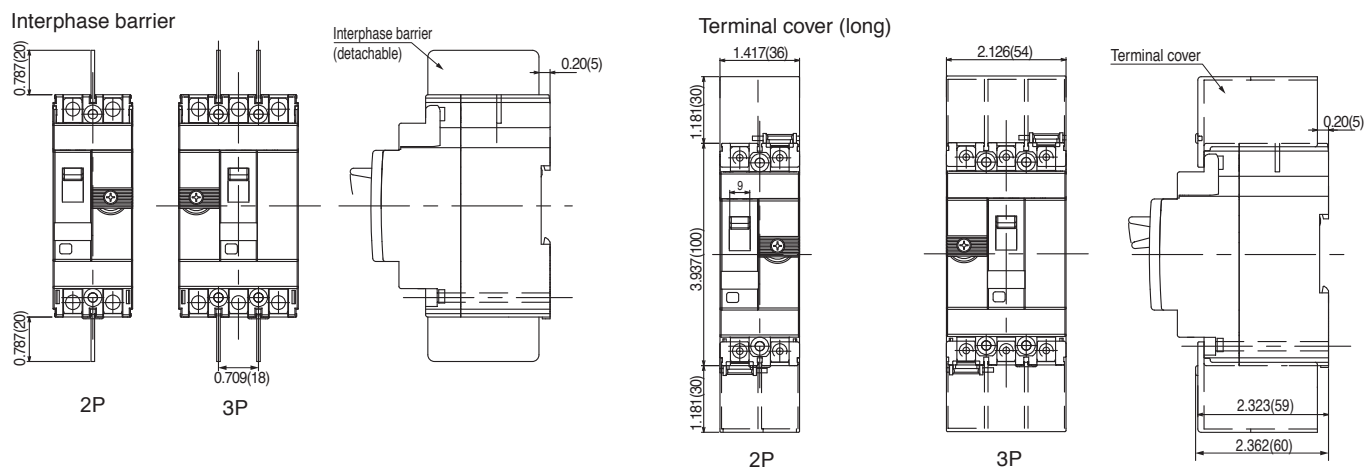
(Note \*2) Connectable wire: single wire: 1 to 1.6  $\phi$ , stranded wire: 0.5 to 2 mm<sup>2</sup>

## External Accessories for G-TWIN $\Lambda$ (Lambda) Series

### List of Separately Sold Parts

Product name	Specification		Type (i.e., product code)	Quantity/ type
	V type (panel mounting)	RESET-open	<b>BW9V0BA</b>	1
		OFF-open	<b>BW9V0BA-G</b>	1
		RESET-open for emergency stop	<b>BW9V0BA-E</b>	1
		OFF-open for emergency stop	<b>BW9V0BA-EG</b>	1
	N type (main unit mounting)	RESET-open	<b>BW9N0BA</b>	1
		OFF-open	<b>BW9N0BA-G</b>	1
		RESET-open for emergency stop	<b>BW9N0BA-E</b>	1
		OFF-open for emergency stop	<b>BW9N0BA-EG</b>	1
	Short type	Manually-detachable, 2-pole, transparent	<b>BW9BTBA-S2</b>	2
		Manually-detachable, 2-pole, light gray	<b>BW9BTBA-S2W</b>	2
		Manually-detachable, 3-pole, transparent	<b>BW9BTBA-S3</b>	2
		Manually-detachable, 3-pole, light gray	<b>BW9BTBA-S3W</b>	2
		Tool-detachable, 2-pole, transparent	<b>BW9BTBA-S2H</b>	2
		Tool-detachable, 2-pole, light gray	<b>BW9BTBA-S2WH</b>	2
		Tool-detachable, 3-pole, transparent	<b>BW9BTBA-S3H</b>	2
		Tool-detachable, 3-pole, light gray	<b>BW9BTBA-S3WH</b>	2
	Long type	Manually-detachable, 2-pole, transparent	<b>BW9BTBA-L2</b>	2
		Manually-detachable, 2-pole, light gray	<b>BW9BTBA-L2W</b>	2
		Manually-detachable, 3-pole, transparent	<b>BW9BTBA-L3</b>	2
		Manually-detachable, 3-pole, light gray	<b>BW9BTBA-L3W</b>	2
		Tool-detachable, 2-pole, transparent	<b>BW9BTBA-L2H</b>	2
		Tool-detachable, 2-pole, light gray	<b>BW9BTBA-L2WH</b>	2
		Tool-detachable, 3-pole, transparent	<b>BW9BTBA-L3H</b>	2
		Tool-detachable, 3-pole, light gray	<b>BW9BTBA-L3WH</b>	2
	Interphase barrier		<b>BW9BPBA</b>	4
	Cap type L1	—	<b>BW9L1BA</b>	1
		Padlock-compatible type	<b>BW9L1BA-P</b>	1
Handle key lock	Plate type Q2		<b>BW9Q2BA</b>	1

### Dimensions: inch (mm)



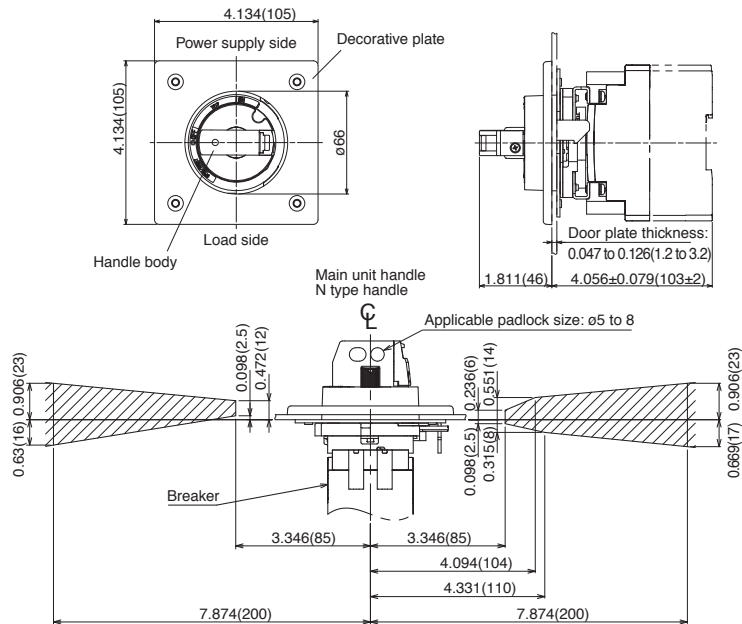


# Operating Handles for G-TWIN $\Lambda$ (Lambda) Series

Dimensions: inch (mm)

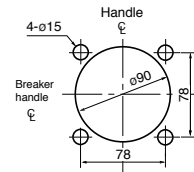
## N type handle

BW9N0BA



Install the hinge in the shaded area.

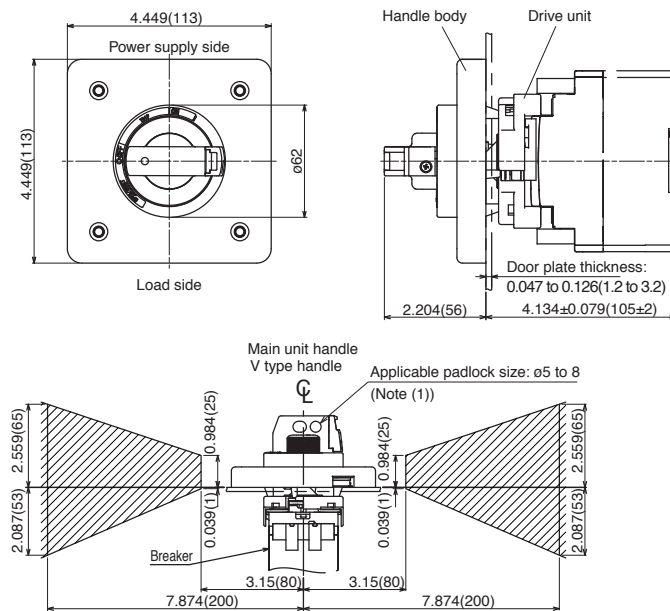
## Door panel cutout



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

## V type handle

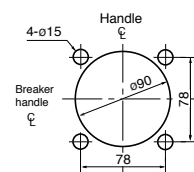
BW9V0BA



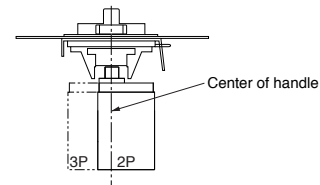
Install the hinge in the shaded area.

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

## Door panel cutout


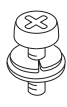


Note: Align the center of the panel cutout with the center of the handle of the breaker main unit.

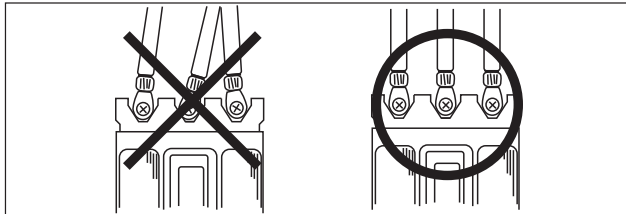


## Wiring for G-TWIN $\lambda$ (Lambda) Series

### Front Mounting Type

Appearance		Screw		Tightening torque [N•m]	MCCB main unit applicable type (basic designation)	ELCB main unit applicable type (basic designation)
		Shape	Screw size			
For crimp terminals (front connection)		 Cross-recessed pan-head screw with washer	M5 x 14	2.0 to 3.0	<b>BW50</b>	<b>EW50</b>

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



### Applicable crimp terminals

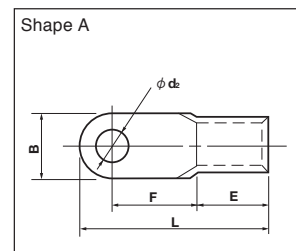
Frame [A]	Cross section area of electric wire used [mm <sup>2</sup> ]		2	5.5	8	14	22
	Allowable current [A] (600V IV electric wire 30°C Insulator wiring)		27	49	61	88	115
	Range of electric wire used [mm <sup>2</sup> ]		1.04 to 2.63	2.63 to 6.64	6.64 to 10.52	10.52 to 16.78	16.78 to 26.66
	MCCB main unit applicable type (basic designation)	ELCB main unit applicable type (basic designation)					
	50	<b>BW50</b>	<b>EW50</b>	R2-5	R5.5-5	R8-5	R14-5

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

### Crimp terminal size

Model number	Shape	Diameter of screw used	Outline dimensions [mm]						Applicable electric wire [mm <sup>2</sup> ]
			ød <sub>2</sub>	B	L	F	E	Plate thickness	
R2-5	A	M5	5.3	9.5	16.8	7.3	4.8	0.8	1.04 to 2.63
R2-6		M6	6.4	12.0	21.8	11.0			
R5.5-5		M5	5.3	9.5	19.8	8.3	6.8	1.0	2.63 to 6.64
R5.5-6		M6	6.4	12.0	25.8	13.0			
R8-5		M5	5.3		29.8	9.3	8.5	1.2	6.64 to 10.52
R8-6		M6	6.4						
R14-5		M5	5.3			13.3	10.5	1.5	10.52 to 16.78
R14-6		M6	6.4						
22-S5		M5	5.3		30.0	12.0	12.0	1.8	16.78 to 26.66
L330T459-23		M5	5.3						
22-S6		M6	6.4						

Note: Excerpt from JST's catalog



## Wiring for G-TWIN $\Lambda$ (Lambda) Series

### ● Wire connecting method (global products)

#### (1) Notes on wire (conductor) connection

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

### ● Connectable wire and tightening torque

#### Crimp terminal connection

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

Note 1: AWG/MCM is a system to indicate UL wire sizes.

Note 2: Use 75°C wires for connection. (UL- or CSA-approved wires)

Note 3: For the crimping tool, be sure to use UL- or CSA-approved products from manufacturers.

### ■ Arc Space

Figure 1

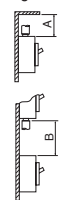


Figure 4

Figure 2

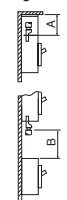


Figure 5

Figure 3

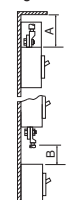


Figure 6

Figure 7

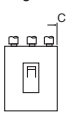
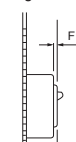


Figure 18



Electric wire direct connection

Crimp terminal connection

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

Insulation outside the arc space may need reinforcement depending on the use conditions.

[Unit: mm]

Basic designation		Ceiling distance	Vertical distance	Side plate distance	Front plate distance
MCCB	ELCB	A	B	C	F
<b>BW50</b>	<b>EW50</b>	10	20	10	0
		Figure 1, 2, 3	Figure 4, 5, 6	Figure 7	Figure 8

Wiring for G-TWIN  $\lambda$ (Lambda) Series

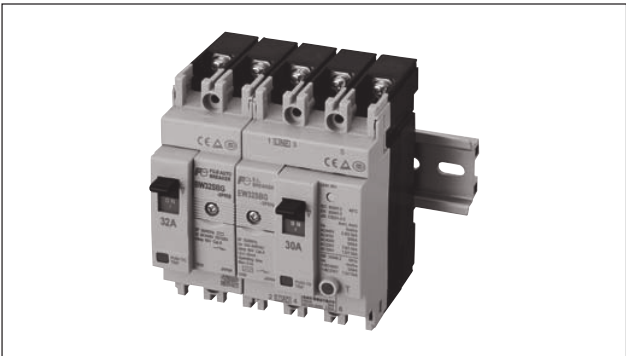
■ IEC 35 mm Rail Mounting

Mounting on IEC 35 mm rails is possible as standard.

Main unit applicable type (basic designation)	
MCCB	ELCB
<b>BW50</b>	<b>EW50</b>

Note 1: Mounting pitch for rail fixing screws of within 250 mm is recommended.  
Note 2: Applicable rails: TH35-7.5, TH35-7.5AL and TH35-15AL. (Types of Fuji Electric FA Components & Systems products)

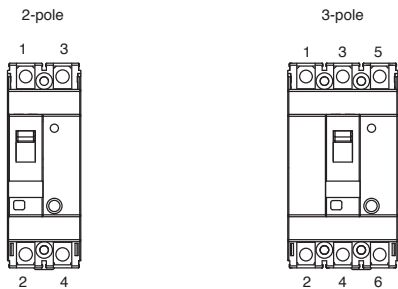
\* Main unit mounting screws are not included. When necessary, use commercially-available screws (recommended size: M4 x 60).



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

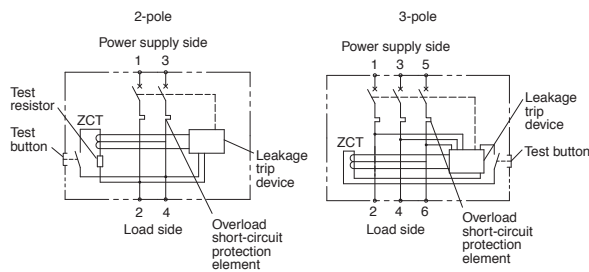
■ Terminal Number

● ELCB terminal number



■ Internal Wiring Diagram

● ELCB internal wiring diagram

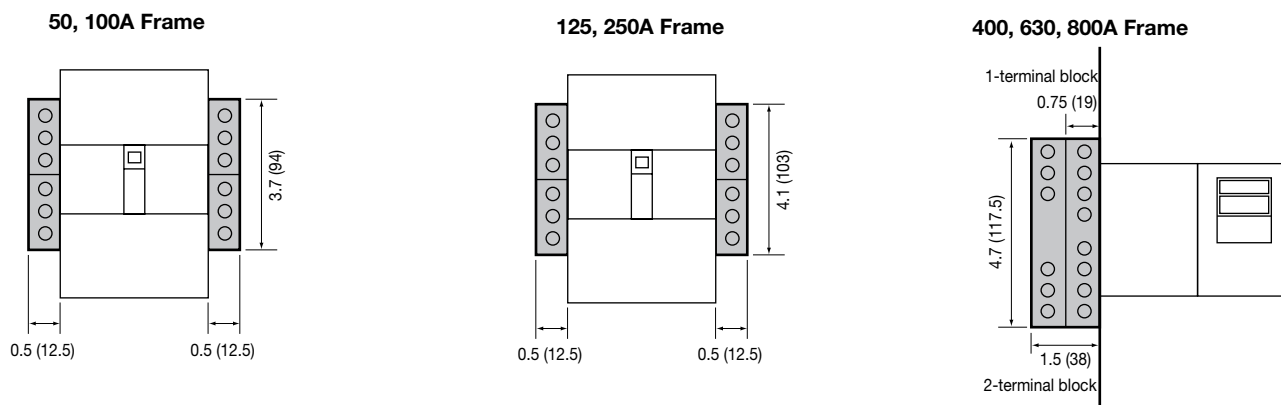


Internal Resistance and Power Consumption

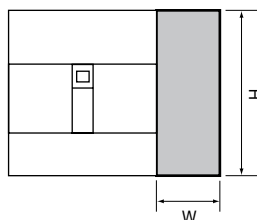
AF	Type	Rated current [A]	Internal resistance (mΩ) (for one phase)	Power consumption (W) (for three phases)
50AF	BW50RBGU	3	116.0	3.1
		5	50.5	3.8
		10	13.8	4.1
		15	6.5	4.4
		20	4.1	5.2
		30	2.8	7.6
		32	2.8	8.6
50AF	BW50RBGU	40	1.7	8.2
		50	1.5	11.3

AF	Type	Rated current [A]	Internal resistance (mΩ) (for one phase)	Power consumption (W) (for three phases)
50AF	EW50RBGU	5	50.5	3.8
		10	13.8	4.1
		15	6.5	4.4
		20	4.1	5.2
		30	2.8	7.6
		32	2.8	8.6
		40	1.9	9.1
50AF	EW50RBGU	50	1.7	12.8

## Dimensions of Terminal Blocks for Internal Accessories: inch (mm)

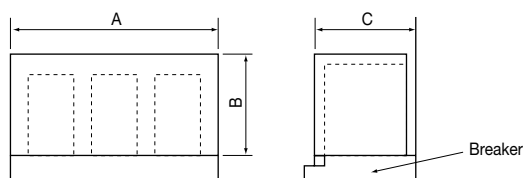


**Dimensions of Undervoltage/Shunt trip device  
50 and 100AF Only**



Breakers	W x H
BW50RAGU-2P, BW100EAGU-2P	1.0 (25) x 3.94 (100)
BW50RAGU-3P, BW100EAGU-3P EW50RAGU, EW100EAGU	1.0 (25) x 3.94 (100)

## Dimensions of Terminal Covers: inch (mm)



Type			Dimensions: Inch(mm)			Applicable Breakers
Black	Transparent	Gray-white	A	B	C	
—	BW9BTAA-S2 (Short)	BW9BTAA-S2W ** (Short)	1.969(50)	0.386(9.8)	2.106(53.5)	BW50RAGU-2P, BW100EAGU-2P
—	BW9BTAA-L2 (Long)	BW9BTAA-L2W (Long)	1.969(50)	1.575(40)	2.106(53.5)	
—	BW9BTAA-S3 (Short)	BW9BTAA-S3W** (Short)	2.953(75)	0.386(9.8)	2.106(53.5)	BW50RAGU-3P,BW100EAGU-3P
—	BW9BTAA-L3 (Long)	BW9BTAA-L3W (Long)	2.953(75)	1.575(40)	2.106(53.5)	EW50RAGU-3P,EW100EAGU-2P,EW100EAGU-3P
—	BW9BTCA-S2 (Short)	BW9BTCA-S2W** (Short)	2.362(60)	0.315(8)	2.618(66.5)	BW125*U-2P
—	BW9BTCA-L2 (Long)	BW9BTCA-L2W (Long)	2.362(60)	1.575(40)	2.618(66.5)	
—	BW9BTCA-S3 (Short)	BW9BTCA-S3W** (Short)	3.543(90)	0.315(8)	2.618(66.5)	BW125*U-3P,EW125*U-3P
—	BW9BTCA-L3 (Long)	BW9BTCA-L3W (Long)	3.543(90)	1.575(40)	2.618(66.5)	
—	BW9BTCA-S4 (Short)	BW9BTCA-S4W** (Short)	4.724(120)	0.315(8)	2.618(66.5)	BW125*U-4P,EW125*U-4P
—	BW9BTCA-L4 (Long)	BW9BTCA-L4W (Long)	4.724(120)	1.575(40)	2.618(66.5)	
—	BW9BTGA-S3 (Short)	BW9BTGA-S3W** (Short)	4.134(105)	0.315(8)	2.618(66.5)	BW250*U-2P, BW250*U-3P,EW250*U-3P
—	BW9BTGA-L3 (Long)	BW9BTGA-L3W (Long)	4.134(105)	1.969(50)	2.618(66.5)	
—	BW9BTGA-S4 (Short)	BW9BTGA-S4W** (Short)	5.511(140)	0.315(8)	2.618(66.5)	BW250*U-4P,EW250*U-4P
—	BW9BTGA-L4 (Long)	BW9BTGA-L4W (Long)	5.511(140)	1.969(50)	2.618(66.5)	
—	BW9BTHA-S3 (Short)	BW9BTHA-S3W (Short)	5.512(140)	2.559(65)	3.858(98)	BW400*U-2P, BW400*U-3P,EW400*U-3P
—	BW9BTHA-L3 (Long)	BW9BTHA-L3W (Long)	6.772(172)	4.331(110)	3.858(98)	
—	BW9BTHA-S4 (Short)	BW9BTHA-S4W (Short)	7.283(185)	2.559(65)	3.858(98)	BW400*U-4P,EW400*U-4P
—	BW9BTHA-L4 (Long)	—	8.661(220)	4.331(110)	3.858(98)	
—	BW9BTJA-L3 (Long)	BW9BTJA-L3W (Long)	8.268(210)	6.102(155)	3.858(98)	BW630*U-3P, BW800*U-3P,EW630*U-3P

\*\*A Gray-white terminal cover provided with BW50□□, BW100□□, BW125□□, BW250□□, EW100□□, EW125□□, EW250□□ U amp frame.

## Internal Accessories for G-TWIN Series

### 50,100AF

Breaker type: BW50, BW100, EW50, EW100

#### Auxiliary switches and alarm switches

Lead wire type		BW50RAGU, EW50RAGU BW100EAGU, EW100EAGU	
		Left side	Right side
Aux	W	BZ6WL10CU*1	BZ6WR10CU
Aux low current	WD	BZ6WDL10CU*1	BZ6WDR10CU
Alarm	K	BZ6KL10CU*1	BZ6KR10CU
Alarm low current	KD	BZ6KDL10CU*1	BZ6KDR10CU
Aux & Alarm	WK	BZ6WKL10CU*1	BZ6WKR10CU
Aux & Alarm low current	WDKD	BZ6WDKDL10CU*1	BZ6WDKDR10CU

\*1 for 3 pole type only

With terminal block type		BW50RAGU, EW50RAGU BW100EAGU, EW100EAGU	
		Left side	Right side
Aux	W	BZ6WL10CAU*1	BZ6WR10CAU
Aux low current	WD	BZ6WDL10CAU*1	BZ6WDR10CAU
Alarm	K	BZ6KL10CAU*1	BZ6KR10CAU
Alarm low current	KD	BZ6KDL10CAU*1	BZ6KDR10CAU
Aux & Alarm	WK	BZ6WKL10CAU*1	BZ6WKR10CAU
Aux & Alarm low current	WDKD	BZ6WDKDL10CAU*1	BZ6WDKDR10CAU

\*1 for 3 pole type only

#### Rating

Standard; Aux, Alarm

Breaker type	BW50RAGU, EW50RAGU BW100EAGU, EW100EAGU	Minimum load
	Rated current (A)	
Operating voltage	3.6	5V DC 160mA 30V DC 30mA
120V AC	1.8	
240V AC	0.55	
125V DC	0.27	
250V DC		

For low current; Aux, Alarm

Breaker type	BW50RAGU, EW50RAGU BW100EAGU, EW100EAGU	Minimum load
Operating voltage	Rated current (A)	5V DC 1mA
30V DC	0.1	30V DC 1mA

#### Operation

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

#### Shunt trip devices

Breaker type	Operating voltage	Code	Part number		Spec		
			Lead wire type	With terminal block type	Input (VA)	Internal circuit	Time rating (ms)
BW50RAGU BW100EAGU	24VAC, 24VDC	FR	BZ6FR10CU	BZ6FR10CAU	150	Continuous with burnout prevention circuit	7-13
	100-120VAC	FA	BZ6FA10CU	BZ6FA10CAU	150		
	100-110VDC	FK	BZ6FK10CU	BZ6FK10CAU	150		
	200-240VAC	FP	BZ6FP10CU	BZ6FP10CAU	200		
EW50RAGU EW100EAGU	100VAC 50Hz	F2	—	BZ6F210CAU	16	Continuous	7-13
	100-110VAC 60Hz	F7	—	BZ6F710CAU	16		
	200VAC 50Hz	F8	—	BZ6F810CAU	22		
	200-220VAC 60Hz						
	400VAC 50Hz						
	400-440VAC 60Hz						

#### Undervoltage trip devices

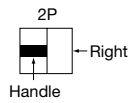
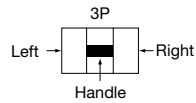
Breaker type	Operating voltage	Code	Part number		Spec	
			Lead wire type	With terminal block type	Input	Operating voltage
BW50RAGU BW100EAGU	100VAC 50Hz	R2	—	BZ6R210CAU	2.8 VA	Tripping voltage: 70% to 35% of rated voltage
	100-110VAC 60Hz	RW	—	BZ6RW10CAU	3.4 VA	
EW50RAGU EW100EAGU	200VAC 50Hz	R9	—	BZ6R910CAU	4.4 VA	Closing voltage: 85% or more of rated voltage
	200-220VAC 60Hz					
	400VAC 50Hz	RF	—	BZ6RF10CAU	40W	
	400-440VAC 60Hz					
	24VDC					



# Internal Accessory Combinations for G-TWIN Series

**50,100AF**

**Breaker type: BW50, BW100, EW50, EW100**



○ Auxiliary switch: W

□ Shunt trip: F

▭ Shunt trip: F (External mounting method)

● Alarm switch: K

■ Undervoltage trip: R

MCCB	BW50RAGU-2P BW100EAGU-2P	BW50RAGU-3P BW100EAGU-3P
Pole	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
W+R		
W2+R	N/A	
K+F	N/A	
K+R		
W+K+F	N/A	
W+K+R		
K2+F	N/A	N/A
K2+R	N/A	
W2+K+F	N/A	N/A
W2+K+R	N/A	
W+K2+F	N/A	N/A
W+K2+R	N/A	
W2+K2+F	N/A	N/A
W2+K2+R	N/A	

ELCB	EW50RAGU-3P EW100EAGU-2P EW100EAGU-3P
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	

## Internal Accessories for G-TWIN Series

### 125, 250AF

Breaker type: BW125, EW125, BW250, EW250

Accessory	Code	Part number				Operating voltage
		Lead wire type		With terminal block type		
		Left side	Right side	Left side	Right side	
Auxiliary switch	W	BW9W1SG0	BW9W1SG0-R	BW9W1SG0-A	BW9W1SG0-RA	—
Auxiliary switch (low current)	1	BW9W1DG0	BW9W1DG0-R	—	—	
Alarm switch	K	BW9K1SG0	BW9K1SG0-R	BW9K1SG0-A	BW9K1SG0-RA	
Alarm switch (low current)	8	BW9K1DG0	BW9K1DG0-R	—	—	
Auxiliary switch + Alarm switch	WK	BW9WKSG0	BW9WKSG0-R	BW9WKSG0-A	BW9WKSG0-RA	
Auxiliary switch + Alarm switch (low current)	18	BW9WKDG0	BW9WKDG0-R	—	—	
Shunt trip device	FR	BW9FRG0	BW9FRG0	BW9FRG0-A	BW9FRG0-RA	24V AC/DC
	FS	BW9FSG0	BW9FSG0	BW9FSG0-A	BW9FSG0-RA	48V AC/DC
	FA	BW9FAG0	BW9FAG0	BW9FAG0-A	BW9FAG0-RA	100-120V AC/100-110V DC
	F1	BW9F1G0	BW9F1G0	BW9F1G0-A	BW9F1G0-RA	120-130V AC
	FK	BW9FKG0	BW9FKG0	BW9FKG0-A	BW9FKG0-RA	200-240V AC/200-220V DC
	FB	BW9FBG0	BW9FBG0	BW9FBG0-A	BW9FBG0-RA	277V AC
	FP	BW9FPG0	BW9FPG0	BW9FPG0-A	BW9FPG0-RA	380-440V AC
	FH	BW9FHG0	BW9FHG0	BW9FHG0-A	BW9FHG0-RA	440-480V AC
	FJ	BW9FJG0	BW9FJG0	BW9FJG0-A	BW9FJG0-RA	500-550V AC
Undervoltage trip device	RR	BW9RGAR	—	—	—	24V DC
	RS	BW9RGAS				48V DC
	RL	BW9RGAL				100-110V DC
	R5	BW9RGA5				125V DC
	RA	BW9RGAA				100-110V AC
	RT	BW9RGAT				110-130V AC
	RK	BW9RGAK				200-240V AC
	RB	BW9RGAB				277V AC
	RP	BW9RGAP				380-415V AC
	RH	BW9RGAH				440-480V AC

Refer to pages 44 & 45 for available accessory configurations

### 400, 630, 800AF

Breaker type: BW400, EW400, BW630, EW630, BW800

Accessory	Code	Part number		Operating voltage
		Lead wire type	With terminal block type	
		Left side	Left side	
Auxiliary switch x 1	W	BW9W1SHA	BW9W1SHA-A	—
Auxiliary switch x 2	V	BW9W2SHA	—	
Auxiliary switch (low current) x 1	1	BW9W1DHA	—	
Auxiliary switch (low current) x 2	2	BW9W2DHA	—	
Alarm switch x 1	K	BW9K1SHA	BW9K1SHA-A	
Alarm switch x 2	J	BW9K2SHA	—	
Alarm switch (low current) x 1	8	BW9K1DHA	—	
Alarm switch (low current) x 2	9	BW9K2DHA	—	
Shunt trip device	FR	BW9FHA-R	BW9FHA-RA	24-48V AC/DC
	FA	BW9FHA-A	BW9FHA-AA	100-240V AC/100-220V DC
	FB	BW9FHA-B	BW9FHA-BA	277V AC
	FP	BW9FHA-P	BW9FHA-PA	380-550V AC
Undervoltage trip device	RR	BW9RHA-R	—	24V AC/DC
	RS	BW9RHA-S		48V AC/DC
	RA	BW9RHA-A		100-110 AC/DC
	R1	BW9RHA-1		120-130V AC/125V DC
	RK	BW9RHA-K		200-240V AC/200-220V DC
	RB	BW9RHA-B		277V AC
	RP	BW9RHA-P		380-480V AC

## Internal Accessories for G-TWIN Series

### Operation of auxiliary switches (W) and alarm switches (K)

Accessory	Handle position	
	ON	OFF Trip
Auxiliary switch	SPDT: W (1)	
	2PDT: V (2)	
Alarm switch	SPDT: K (8)	
	2PDT: J (9)	

Note: Wire ring mark indication  
 ( ) Code of low current type

### Operation of earth alarm switch (L)

Accessory	Handle position	
	ON/OFF/Overcurrent trip	EL trip
Earth alarm switch L		

### Rating of auxiliary switches(W), alarm switches(K) and earth alarm switch(L)

#### Standard type

Breaker type	Rated thermal current (A)	Make/break current (A)						Minimum load current
		AC			DC			
		Voltage (V)	Res. load	Ind. load	Voltage (V)	Res. load	Ind. load	
BW125, BW250 BW400 BW630 BW800 EW125, EW250 EW400 EW630	5	24	5	5	24	4	3	5V DC 160mA
		48	5	5	48	2.5	1	30V DC 30mA
		125	5	3	125	0.4	0.4	
		250	3	2	250	0.2	0.2	

#### Low current type \*1

Breaker type	Rated thermal current (A)	Make/break current (A)				Minimum load current
		AC		DC		
		Voltage (V)	Res. load	Voltage (V)	Res. load	
BW125, BW250 BW400 BW630 BW800 EW125, EW250 EW400, EW630	0.1	30	0.1	30	0.1	5V DC 1mA

\*1 Low current type is NOT available for earth alarm switch

## Internal Accessories for G-TWIN Series

### Rating of shunt trip (F)

Breaker type	AC		DC		Time rating of coil	Opening time (ms)
	V	VA	V	W		
BW125, BW250 EW125, EW250	24	50	24	50	Continuous (With 1NO contact to prevent coil burn-out)	13-21
	48	50	48	50		
	100-120	50	100-110	50		
	120-130	50	—	—		
	200-240	50	200-220	50		
	277	50	—	—		
	380-440	50	—	—		
	440-480	50	—	—		
BW400, BW630, BW800 EW400, EW630	500-550	50	—	—	Continuous	8-20
	24-48	2	24-48	2		
	100-240	3	100-220	3		
	277	3	—	—		
	380-550	4	—	—		

Note: Allowable voltage function AC voltage: 85% to 110% of coil rated voltage  
DC voltage: 75% to 125% of coil rated voltage

### Rating of undervoltage trip (R)

Breaker type	AC		DC		Code
	V	VA	V	W	
BW125 *1	—	—	24	5	RR
BW250 *1	—	—	48	5	RS
EW125 *1	—	—	100-110	5	RL
EW250 *1	—	—	125	5	R5
	100-110	5	—	—	RA
	110-130	5	—	—	RT
	200-240	5	—	—	RK
	277	5	—	—	RB
	380-415	5	—	—	RP
	440-480	5	—	—	RH
BW400 *2	24	2	24	2	RR
EW400 *2	48	2	48	2	RS
BW630 *2	100-110	3	100-110	3	RA
EW630 *2	120-130	3	125	3	R1
BW800 *2	200-240	3	200-220	3	RK
	277	3	—	—	RB
	380-480	4	—	—	RP

Note: Allowable voltage function AC voltage: 85% to 110% of coil rated voltage  
DC voltage: 75% to 125% of coil rated voltage

\*1 Reset-allowed type: When the breaker handle is in the OFF or RESET state, tripping does not occur even if the R coil is not energized.  
Turning ON with the R coil not energized causes normal tripping.

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

### Lead wire specification

Wire size: AWG20 (0.5mm<sup>2</sup>)

Wire length: 19.69 inch (500mm)

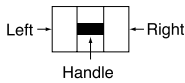
# Internal Accessory Combinations for G-TWIN Series (MCCB)

## Available configurations

2-pole



3-pole



Undervoltage trip: R



Shunt trip: F

○ Auxiliary switch: W

● Alarm switch: K

MCCB	BW125JAGU-2P	BW125 BW250 (Except for BW125JAGU-2P)		BW400 BW630 BW800
Pole	2	2, 3	4	2, 3, 4
Auxiliary switch SPDT: W (1)				
Alarm switch SPDT: K (8)				
Shunt trip: F				
Undervoltage trip: R				
W+K (1+8)				
Auxiliary switch 2PDT: V (2)				
Alarm switch 2PDT: J (9)				
V+K (2+8)				
W+J (1+9)				
V+J (2+9)				
W+F (1+F)				
W+R (1+R)				
K+F (8+F)				
K+R (8+R)				
W+K+F (1+8+F)				
W+K+R (1+8+R)				
V+F (2+F)				
V+R (2+R)				
J+F (9+F)				
J+R (9+R)				
V+K+F (2+8+F)				
V+K+R (2+8+R)				
W+J+F (1+9+F)				
W+J+R (1+9+R)				
V+J+F (2+9+F)			*1	
V+J+R (2+9+R)			*1	

Notes: • The above table is applied to front mounting type, rear mounting type, flush mounting type, and plug-in mounting type.

• Terminal block is attached on the same side of the accessory.

• ( ) Code of low level circuit

\*1 Configurations with terminal block are not available.

## Internal Accessory Combinations for G-TWIN Series (ELCB)

### Available configurations

2-pole



Right

3-pole



Left

Right



Undervoltage trip: R



Shunt trip: F

○ Auxiliary switch: W

● Alarm switch: K

▲ Earth alarm switch: L (Factory-installed accessory)

ELCB	EW125 EW250		EW400 EW630
Pole	3	4	3, 4
Auxiliary switch SPDT: W (1)			
Alarm switch SPDT: K (8)			
Shunt trip: F			
Undervoltage trip: R			
W+K (1+8)			
Auxiliary switch 2PDT: V (2)			
Alarm switch 2PDT: J (9)			
V+K (2+8)			
W+J (1+9)			
V+J (2+9)			
W+F (1+F)			
W+R (1+R)			
K+F (8+F)			
K+R (8+R)			
W+K+F (1+8+F)			
W+K+R (1+8+R)			
V+F (2+F)			
V+R (2+R)			
J+F (9+F)			
J+R (9+R)			
V+K+F (2+8+F)			
V+K+R (2+8+R)			
W+J+F (1+9+F)			
W+J+R (1+9+R)			
V+J+F (2+9+F)			
V+J+R (2+9+R)			
Earth alarm switch SPDT: L*1			

Notes: • The above table is applied to front mounting type, rear mounting type, flush mounting type, and plug-in mounting type.

• Terminal block is attached on the same side of the accessory.

• ( ) Code of low level circuit

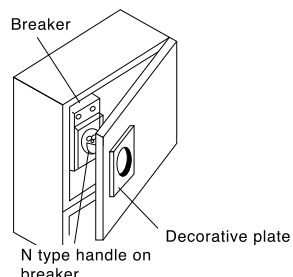
\*1 Earth alarm switch can be mounted regardless of the combination of other accessories.

## External Accessories for G-TWIN Series

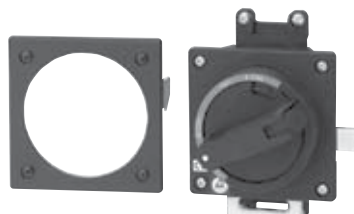
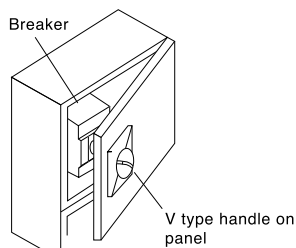
### Operating handles

Conforms to EN60947-1 isolation function.  
Available for EN60204-1 power breaking device.  
Conforms to UL489(File No. E93289)

#### N type handles



#### V type handles



**BW9N0CA**  
N type handle



**BW9V0CA**  
V type handle

Part number		Applicable Breakers
N type (Breaker mount)	V type (Door mount)	
BZ6N10D	BZ6V10D	BW50RAGU, BW100EAGU, EW50RAGU, EW100EAGU
BW9N0CA	BW9V0CA	BW125*1, EW125
BW9N0GA	BW9V0GA	BW250, EW250
BW9N0HA	BW9V0HA	BW400, EW400
BW9N0JA	BW9V0JA	BW630, EW630, BW800

\*1 Note that the external operating handle cannot be mounted to the BW125JAGU-2P. Use the BW125RAGU-2P.

### Terminal covers

These terminal covers are used as guards to prevent accidental touch with live line terminations.  
These terminal covers can be fitted to either line or load side.



**Short Type**



**Long Type**

#### Short type

Black	Transparent	Gray-White	Packing QTY	Applicable Breakers
-	BW9BTAA-S2	BW9BTAA-S2W*1	2	BW50RAGU-2P, BW100EAGU-2P
-	BW9BTAA-S3	BW9BTAA-S3W*1	2	BW50RAGU-3P, BW100EAGU-3P, EW50RAGU-3P, EW100EAGU
-	BW9BTCA-S2	BW9BTCA-S2W*1	2	BW125JAGU-2P
-	BW9BTCA-S3	BW9BTCA-S3W*1	2	BW125JAGU-3P, EW125*U-3P
-	BW9BTCA-S4	BW9BTCA-S4W	2	BW125*U-4P, EW125*U-4P
-	BW9BTGA-S3	BW9BTGA-S3W*1	2	BW250*U-2P, BW250*U-3P, EW250*U-3P
-	BW9BTGA-S4	BW9BTGA-S4W	2	BW250*U-4P, EW250*U-4P
-	BW9BTHA-S3*2	BW9BTHA-S3W*2	2	BW400*U-2P, BW400*U-3P, EW400*U-3P
-	BW9BTHA-S4	BW9BTHA-S4W	2	BW400*U-4P, EW400*U-4P

Notes: \*1 Gray-white short type terminal covers are provided with breaker as standard for 50AF, 100AF, 125AF and 250AF G-TWIN breakers.

\*2 Not available with Flat terminal.

#### Long type

Black	Transparent	Gray-White	Packing QTY	Applicable Breakers
-	BW9BTAA-L2	BW9BTAA-L2W	2	BW50RAGU-2P, BW100EAGU-2P
-	BW9BTAA-L3	BW9BTAA-L3W	2	BW50RAGU-3P, BW100EAGU-3P, EW50RAGU-3P, EW100EAGU
-	BW9BTCA-L2	BW9BTCA-L2W	2	BW125JAGU-2P
-	BW9BTCA-L3	BW9BTCA-L3W	2	BW125*U-3P, EW125*U-3P
-	BW9BTCA-L4	BW9BTCA-L4W	2	BW125*U-4P, EW125*U-4P
-	BW9BTGA-L3	BW9BTGA-L3W	2	BW250*U-2P, BW250*U-3P, EW250*U-3P
-	BW9BTGA-L4	BW9BTGA-L4W	2	BW250*U-4P, EW250*U-4P
-	BW9BTHA-L3	BW9BTHA-L3W	2	BW400*U-2P, BW400*U-3P, EW400*U-3P
-	BW9BTHA-L4	BW9BTHA-L4W	2	BW400*U-4P, EW400*U-4P
-	BW9BTJA-L3	BW9BTJA-L3W	2	BW630*U-3P, EW630*U-3P, BW800*U-3P



## External Accessories for G-TWIN Series

### Insulation barriers

The barriers are installed in the molded slots between terminals. Installation of these barriers after wiring is possible even when an external accessory is installed.



Insulation barriers		Applicable Breakers
Type	Packing quantity	
BZ6B10C	4	BW50RAGU, BW100EAGU, EW50RAGU, EW100EAGU* <sup>1</sup>
BW9BPCA	2	BW125, EW125* <sup>2</sup>
BW9BPGA	2	BW250, EW250* <sup>2</sup>
B-43A	4	BW400, EW400, BW630, EW630, BW800* <sup>2</sup>

Note: \*<sup>1</sup> Insulation Barriers are required only for flat terminal type.

\*<sup>2</sup> Insulation Barriers for line side and load side are provided with the Breaker.

### Terminal kits (Field installable)

Flat Terminal Kits		Lug Terminal Kits		Applicable Breakers
Type	Packing quantity	Type	Packing quantity	
BZ-SU20B	3	-	-	BW50RAGU, EW50RAGU
BZ-SU25B	3	-	-	BW100EAGU, EW100EAGU
BW9SS0CA-3 GLOBAL	3	BW9SL0CA-3 GLOBAL	3	BW125, EW125
BZ-S50B-2253 GLOBAL	3	BW9SL0GA-3 GLOBAL	3	BW250, EW250 (125A-175A)
		BW9SL1GA-3 GLOBAL	3	BW250, EW250 (200A-250A)

### Padlocking device and Handle locking cover

- Description

- Padlocking device

These padlocking devices lock the breaker handle in the OFF position.

Use a commercially available padlock with a shackle diameter of 3.5 to 5mm (5mm for the BZ6L10CA).

- Handle locking cover

These padlocking devices lock the breaker handle in the ON/OFF position.

Tripping is possible while the breaker is locked ON.

Applicable Breakers	Padlocking device				Handle locking cover
	Q1, QN: Cap type		Q2: Plate type		
BW50, BW100, EW50, EW100	BZ6L10CA	UL	Q2-0A355 <sup>2</sup>	UL	BZ6L10C*1 (Non-UL)
BW125, EW125	BW9Q1CA		BW9Q2CA		Not available
BW250, EW250	BW9Q1CA	Non-UL	BW9Q2GA	Non-UL	Not available
BW400, EW400	BW9QNHA*1		BW9Q2HA		Not available
BW630, EW630, BW800	BW9QNHA*1		BW9Q2JA		Not available

\*<sup>1</sup> ON and OFF locking is possible

\*<sup>2</sup> Only available as factory-installed; must add suffix to circuit breaker part number to order  
Example: EW50RAGU-3P030B Q2-0A355

Cap type Q1, QN

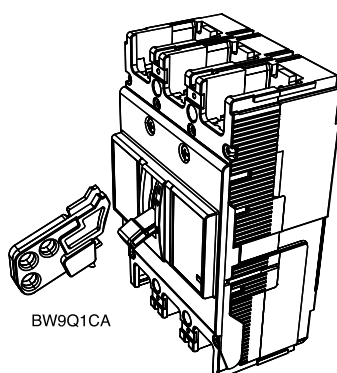
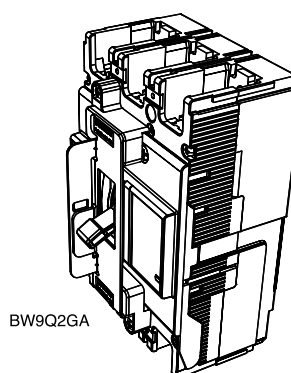


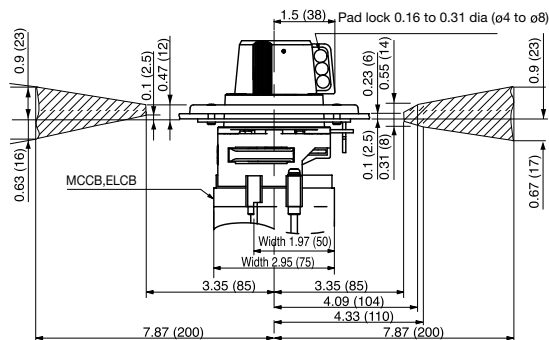
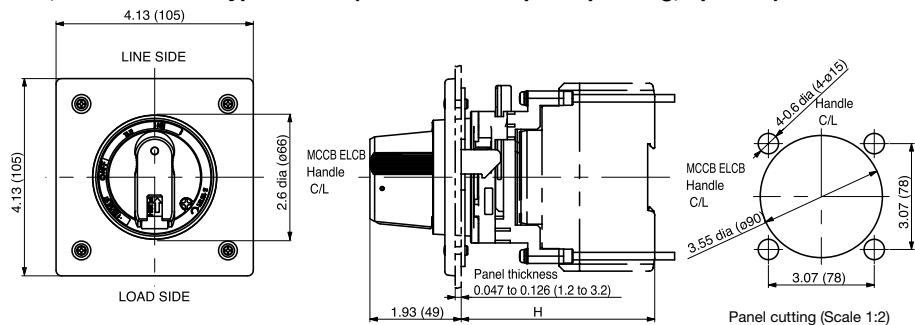
Plate type Q2



## Operating Handles for G-TWIN Series

Dimensions: inch (mm)

50A, 100A Frame N type handle (BZ6NP1D:dust proof packing, optional)

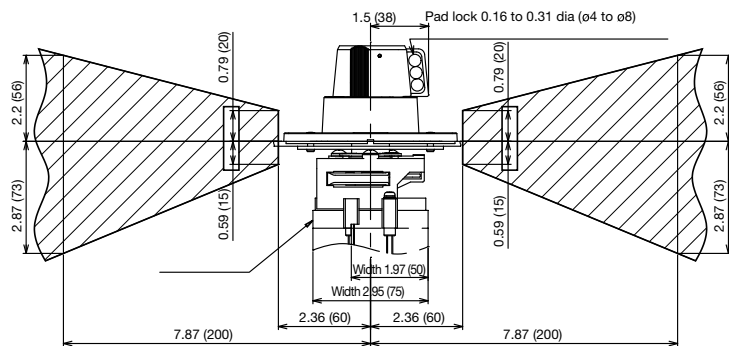
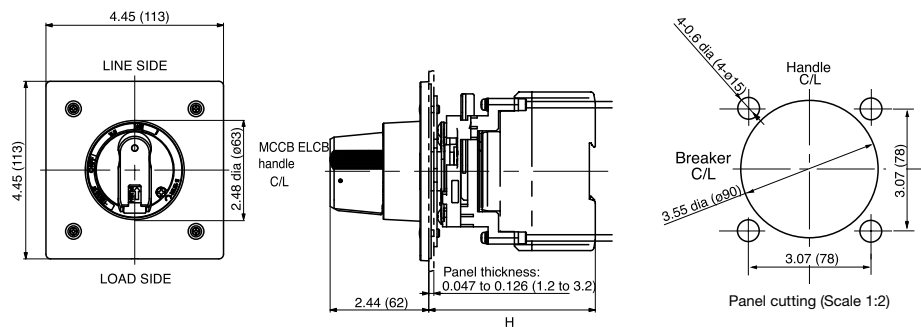


Install the door hinge in the shaded area

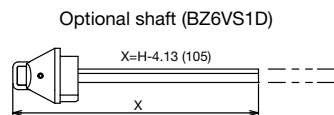
Breaker type	Handle type	H: inch(mm)	Mounting screw	Mass lb. (kg)
BW50RAGU EW50RAGU BW100EAGU EW100EAGU	BZ6N10D	4.055±0.078 (103±2)	#8-32×3.149 (M4×80)	1.04 (0.47)

Note: • The handle cannot hold the enclosure door.  
• Not available for side mounting.  
• When using a Dust-proof packing, handle protection degree is IP 50 (IEC60529).

50A,100A Frame V type handle (BZ6VS1D: optional shaft)



Install the door hinge in the shaded area.



Optional shaft (BZ6VS1D)  
When using the BZ6VS1D optional shaft to adjust dimension H(5.590 to 9.842), cut it according to the equation below.  
 $X = H - 4.13(105)$

Breaker type	Handle type	Standard type H: inch(mm)	With the optional shaft BZ6VS1D		Mounting screw	Mass lb. (kg)
			X=6.102(155) H:inch(mm)	Area in which the hinge with H can be installed		
BW50RAGU EW50RAGU BW100EAGU EW100EAGU	BZ6V10D	4.134±0.078 (105±2)	9.842±0.078 (250±2)	5.590 to 9.842 (142 to 250)	#8-32×3.149 (M4×80)	1.41 (0.64)

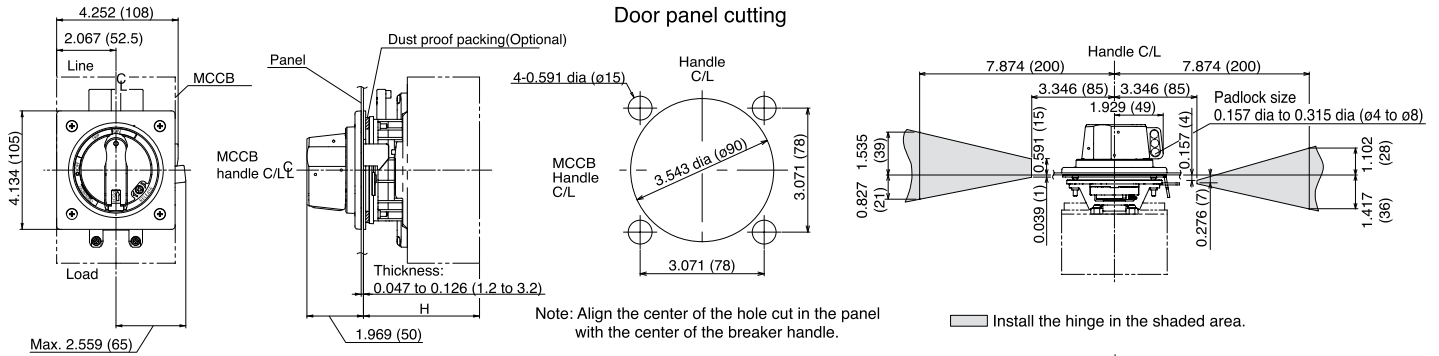
Note: • The handle cannot hold the enclosure door.  
• Not available for side mounting.  
• Handle protection degree is IP 54 (IEC60529, JIS C0920).

## Operating Handles for G-TWIN Series

### Dimensions: inch (mm)

#### 125A, 250A Frame N type handle

- BW9N0CA, BW9N0GA (BZ-NP-1C: dust proof packing, optional)

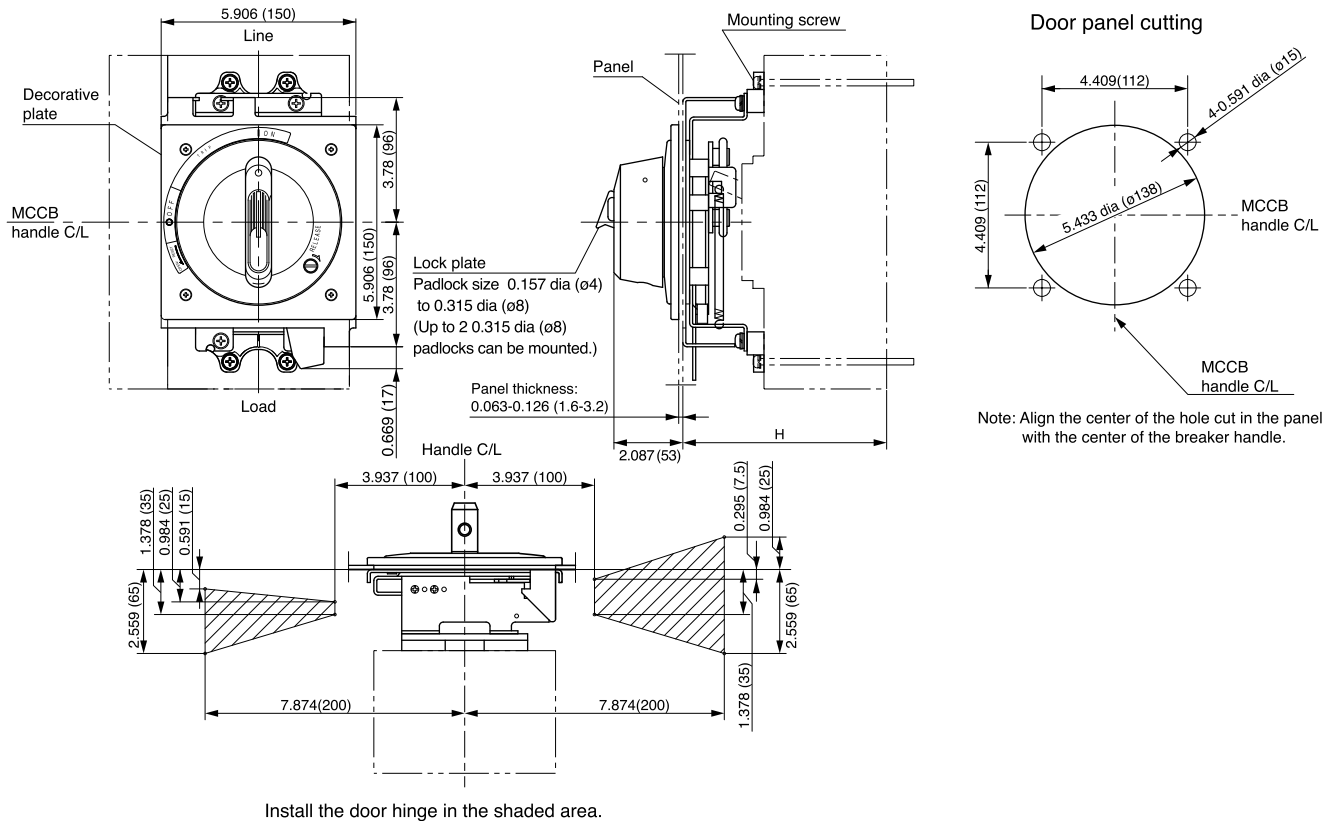


Breaker type	Handle type	H: inch(mm)	Mounting screw	Mass lb. (kg)
BW125	BW9N0CA	4.055±0.078 (103±2)	#8-32×3.346 (M4×85)	1.23 (0.56)
EW125				
BW250	BW9N0GA			
EW250				

Note: • The handle cannot hold the enclosure door.  
 • Not available for side mounting.  
 • When using a Dust-proof packing, Handle protection degree is IP 50 (IEC60529).

#### 400A, 630A, 800A Frame N type handle

- BW9N0HA, BW9N0JA (BZ-NP-2: dust proof packing, optional)



Breaker type	Handle type	H: inch(mm)	Mounting screw	Mass lb. (kg)
BW400	BW9N0HA	6.181±0.078 (157±2)	1/4-20×4.331 (M6×110)	4.19 (1.90)
EW400				
BW630, BW800	BW9N0JA			
EW630				

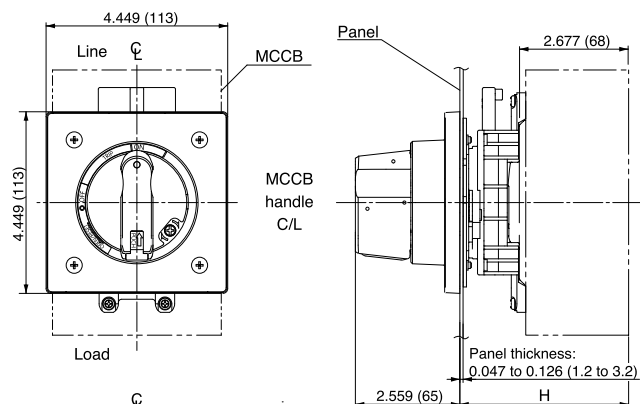
Note: • The handle cannot hold the enclosure door.  
 • Not available for side mounting.  
 • When using a Dust-proof packing, Handle protection degree is IP 50 (IEC60529).

# Operating Handles for G-TWIN Series

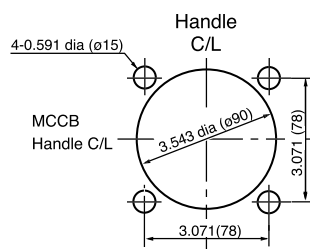
Dimensions: inch (mm)

125A, 250A Frame V type handle

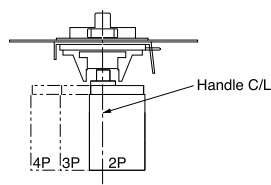
• BW9V0CA, BW9V0GA (BW9VSG0: optional shaft)



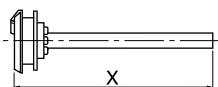
## Door panel cutting



Note: Align the center of the hole cut in the panel with the center of the breaker handle.

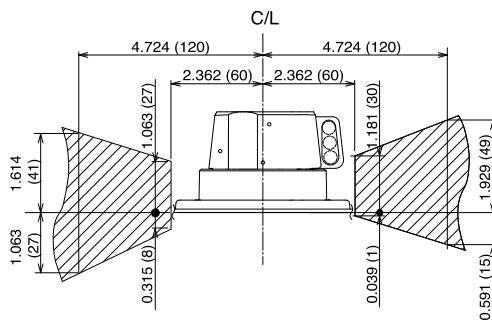


## Optional shaft BW9VSG0



When using the BW9VSG0 optional shaft to adjust dimension H (5.590 to 9.842), cut it according to the equation below.  
 $X = H - 3.740(95)$

## Door hinge installation area



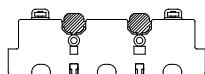
Install the door hinge in the shaded area.

Breaker type	Handle type	Standard type H: inch(mm)	With the optional shaft BW9VSG0 X=6.102(155)		Mounting screw	Mass lb. (kg)
			H: inch(mm)	Area in which the hinge with H can be installed		
BW125 EW125	BW9V0CA*1	4.134±0.078 (105±2)	9.842±0.078 (250±2)	5.590 to 9.842 (142 to 250)	#8-32x3.346 M4 x 85	1.48 (0.67)
BW250 EW250	BW9V0GA*2					

### Notes:

- The handle cannot hold the enclosure door.
- Not available for side mounting.
- Handle protection degree is IP 54 (IEC60529,JIS C0920).
- \*1 Note that the external operating handle cannot be mounted to the BW125JAGU-2P. Use the BW125RAGU-2P.
- \*2 When mounting a terminal cover, cut away part of it because it hides the mounting screws for the breaker.

Remove the shaded parts in the figure below.

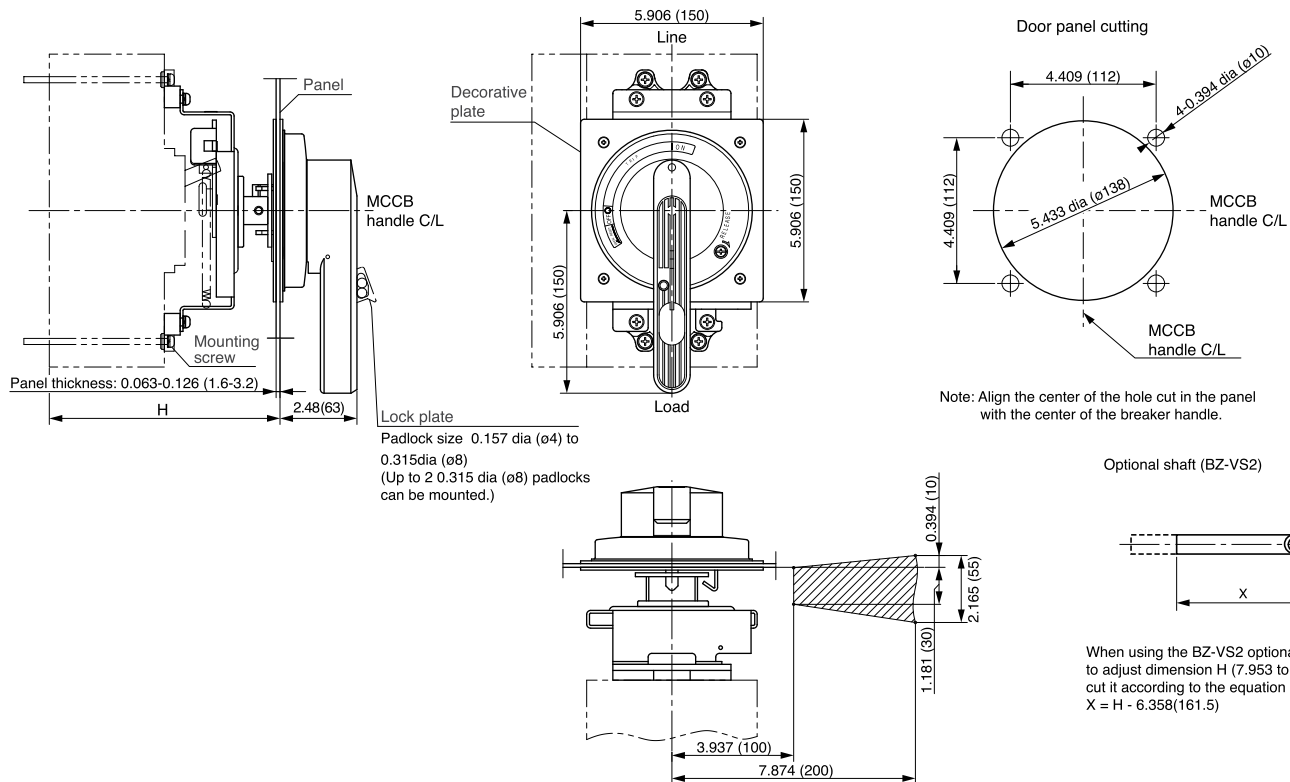


## Operating Handles for G-TWIN Series

Dimensions: inch (mm)

400A, 630A, 800A Frame V type handle

- BW9V0HA, BW9V0JA (BZ-VS2: optional shaft)



Install the door hinge in the shaded area.

Breaker type	Handle type	Standard type H: inch(mm)	With the optional shaft BZ-VS2 X=3.504(89)		Mounting screw	Mass lb. (kg)
			H: inch(mm)	Area in which the hinge with H can be installed		
<b>BW400</b> <b>EW400</b>	<b>BW9V0HA</b>	7.48±0.078 (190±2)	9.842±0.078 (250±2)	7.953 to 9.842 (202 to 250)	1/4-20X4.331 (M6X110)	4.85 (2.2)
<b>BW630, BW800</b> <b>EW630</b>	<b>BW9V0JA</b>					

Note: • The handle cannot hold the enclosure door.  
 • Not available for side mounting.  
 • Handle protection degree is IP 54 (IEC60529, JIS C0920).

## Padlocking Devices for G-TWIN Series

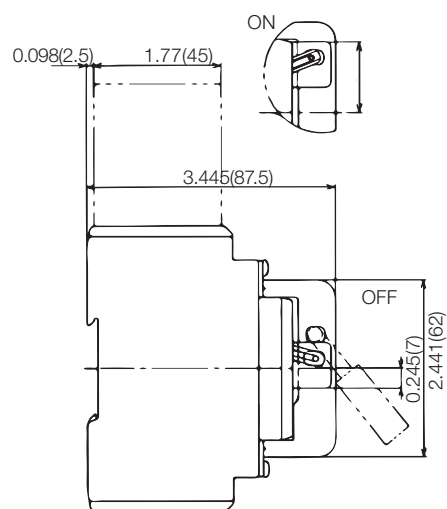
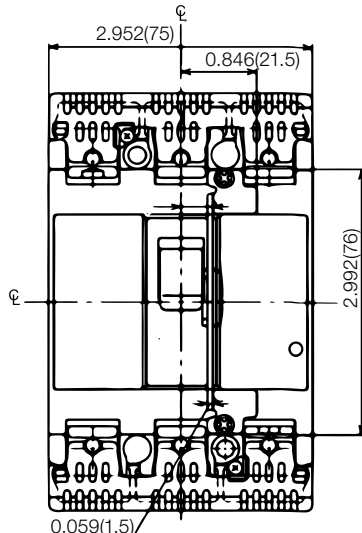
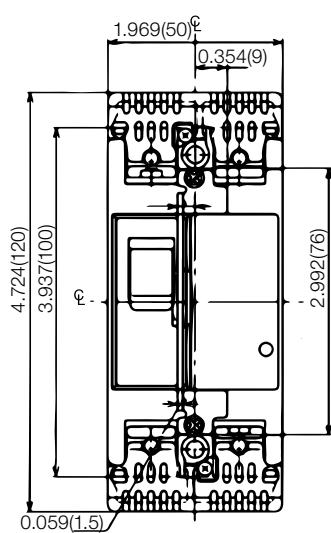
Dimensions: inch (mm)

50A, 100A Frame

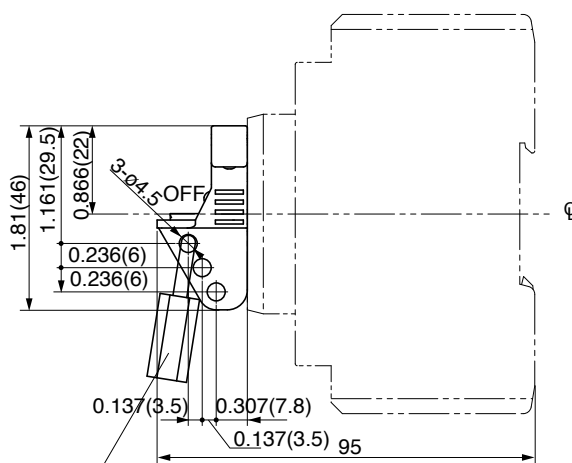
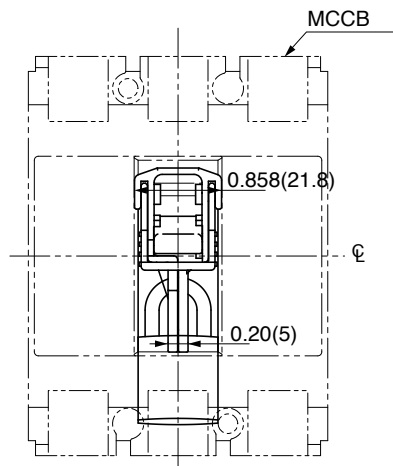
\*Q2-0A355 (Factory-installed Plate Type Padlocking device)

• 2-pole

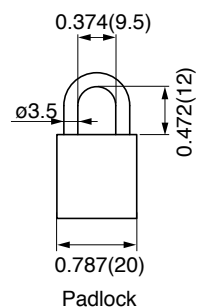
• 3-pole



Q1: BZ6L10CA (OFF-locking Padlocking device)



Padlock  
(Obtain a commercially available lock conforming to the diagram at the right.)



# Flange Disconnect Handle for G-TWIN Series

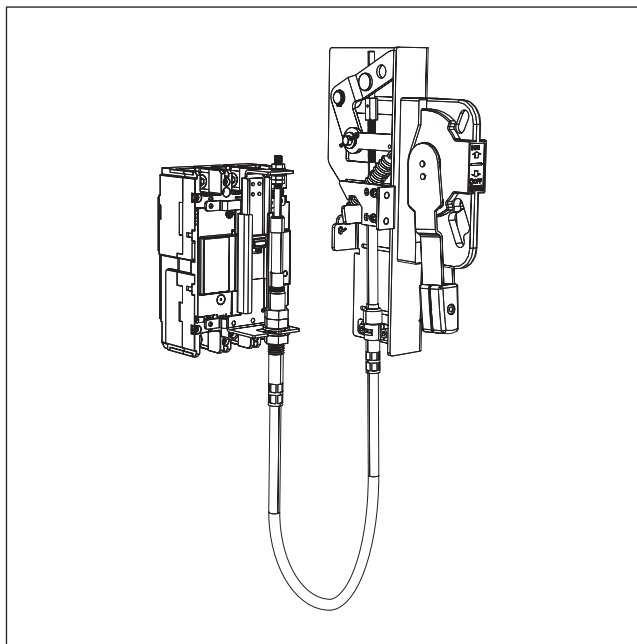
## F type Handle

### Features

Flexible cable operation.  
 Covering up to 400-amp frame size.  
 Easy installation on circuit breakers.  
 Complies with IP 54 protection degree.  
 Accepts ANSI standard American padlock devices.  
 Off lockable: 0.394 dia (φ 10) padlock device, Max 3 pieces.  
 UL listed product. [UL489, File No. E93289]

### Ordering information

Main unit and cable are minimum required for assembling.  
 Select cable with main unit using below table.  
 Ex: BW9F0CA, BW9FWCA-15A



### Specifications

Applicable breaker frame size		125 amp frame	250 amp frame	400 amp frame
Part numbers	Main unit	BW9F0CA (Not include cable)	BW9F0GA (Not include cable)	BW9F0HA (Not include cable)
	Terminal cover*2	BW9FBTCA-L3	BW9FBTGA-L3	BW9FBTHA-L3
	Cable 59.06 inch (1.5m)	BW9FWCA-15A	BW9FWGA-15A	BW9FWHA-15A
	Cable 78.74 inch (2.0m)	BW9FWCA-20A	BW9FWGA-20A	BW9FWHA-20A
	Cable 118.11 inch (3.0m)	BW9FWCA-30A	BW9FWGA-30A	BW9FWHA-30A
Applicable breakers	MCCB	BW125JAGU*1 BW125RAGU	BW250EAGU BW250JAGU BW250RAGU	BW400EAGU BW400SAGU BW400RAGU BW400HAGU
	ELCB	EW125JAGU EW125RAGU	EW250JAGU EW250RAGU	EW400SAGU EW400RAGU
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		14 to 140F (- 10 to 40°C)		
Relative humidity		less than 95% RH		
Protection		NEMA Type12 IP54 (IEC60529)		
Conforming standards		NFPA 79(2007), ANSI(Lockout), OSHA(1910.147, Lockout/tagout), UL489(cUL)		
Atmosphere		No excessive dust, smoke, corrosive gases, flammable gases, steam or salt.		

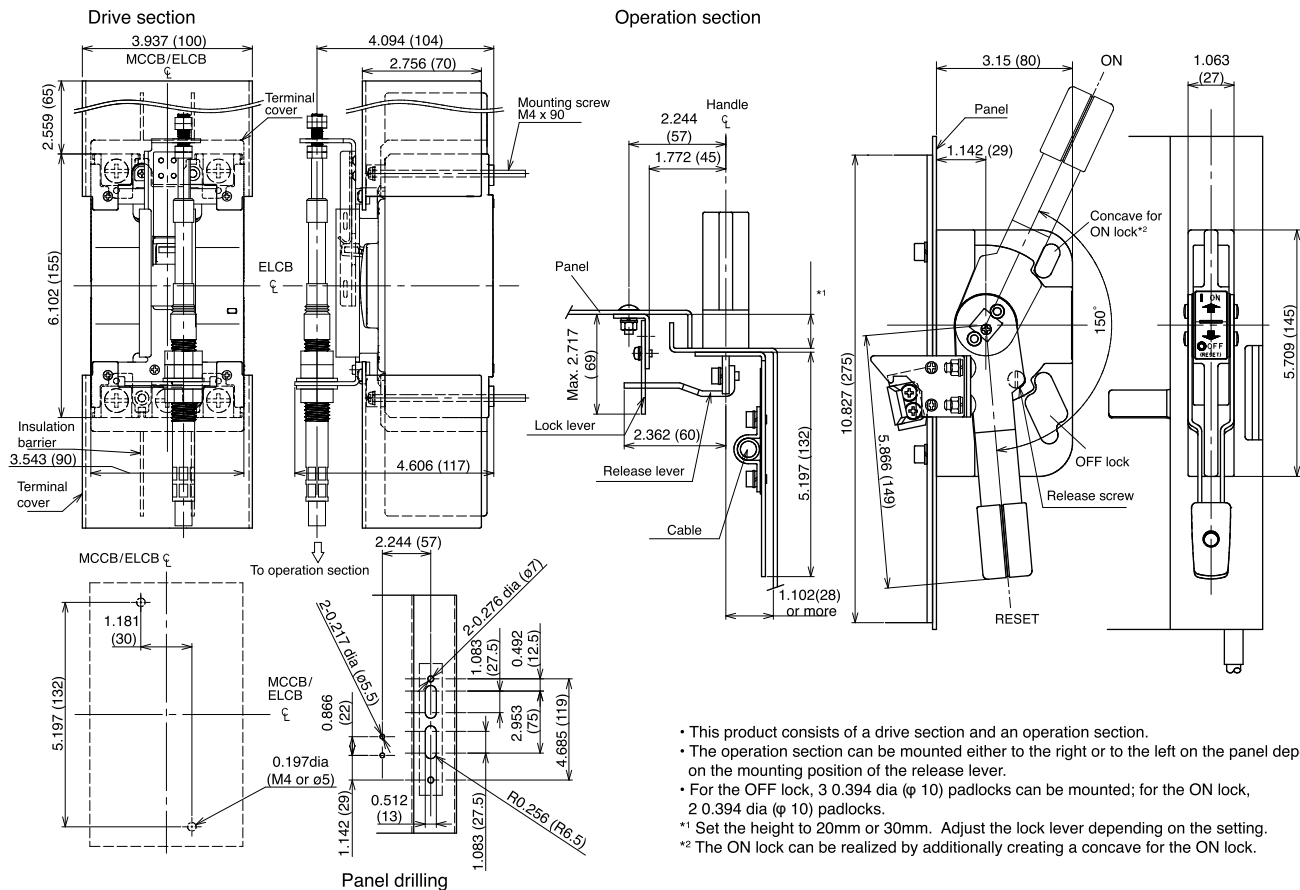
Note: \*1 Not available for BW125JAGU-2P

\*2 Standards terminal cover in page 27 can not use with Flange Disconnect Handle

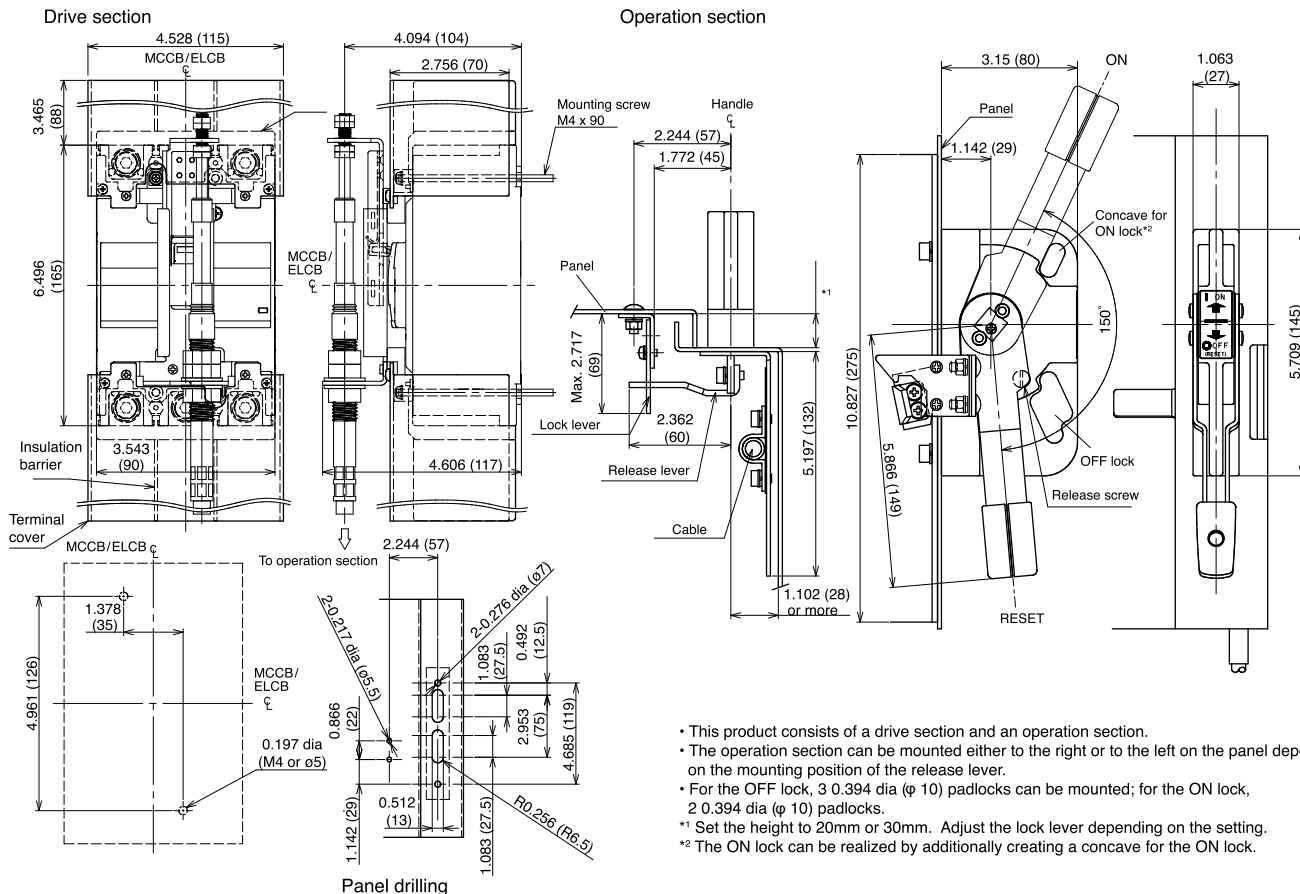
# Flange Disconnect Handle for G-TWIN Series

Dimensions: inch (mm)  
F type Handle

## • BW9F0CA



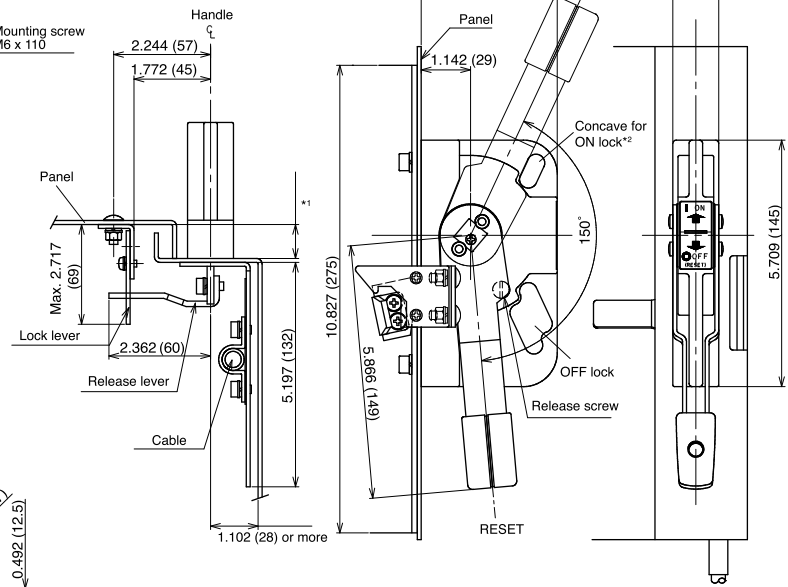
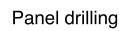
## • BW9F0GA





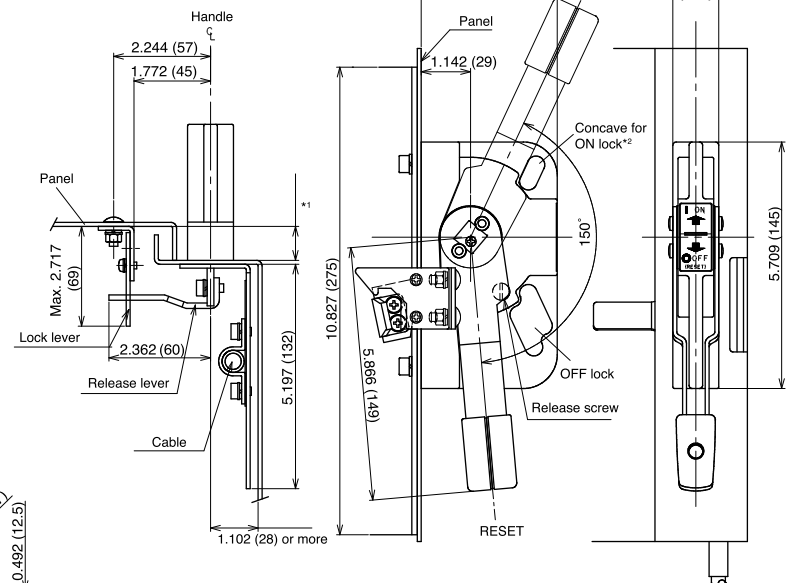
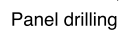
**Dimensions: inch (mm)**  
**F type Handle**

### Drive section



- This product consists of a drive section and an operation section.
  - The operation section can be mounted either to the right or to the left on the panel depending on the mounting position of the release lever.
  - For the OFF lock, 3 0.394 dia (φ 10) padlocks can be mounted; for the ON lock, 2 0.394 dia (φ 10) padlocks.
- <sup>\*1</sup> Set the height to 20mm or 30mm. Adjust the lock lever depending on the setting.
- <sup>\*2</sup> The ON lock can be realized by additionally creating a concave for the ON lock.

### Drive section



- This product consists of a drive section and an operation section.
  - The operation section can be mounted either to the right or to the left on the panel depending on the mounting position of the release lever.
  - For the OFF lock, 3 0394 d (φ 10) padlocks can be mounted; for the ON lock, 2 0394 d (φ 10) padlocks.
- \*1 Set the height to 20mm or 30mm. Adjust the lock lever depending on the setting.
- \*2 The ON lock can be realized by additionally creating a concave for the ON lock.

# Wiring for G-TWIN Series

## 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> )						
	10	14 AWG (2.1mm <sup>2</sup> )						
	15	14 AWG (2.1mm <sup>2</sup> )						
	20	12 AWG (3.3mm <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
	30	10 AWG (5.3mm <sup>2</sup> )						
	40	8 AWG (8.4mm <sup>2</sup> )				R8-5	R8-5S, R8-5	8-S5, 8-5
BW100EAGU EW100EAGU	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> )				22-S8	R22-8S, R22-8	R22-S8, R22-8
	75	4 AWG (21.1mm <sup>2</sup> )				38-S8	R38-8S	R38-S8
	100	3 AWG (26.7mm <sup>2</sup> )						
	15	14 AWG (2.1mm <sup>2</sup> )				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	3.5-8, 5.5-8
	30	10 AWG (5.3mm <sup>2</sup> )					R5.5-8	5.5-8
BW125 EW125	40	8 AWG (8.4mm <sup>2</sup> )	51 lb.-In. (5.8 N-m)	51 lb.-In. (5.8 N-m)	51 lb.-In. (5.8 N-m)	8-8NS, R8-8	R8-8	8-8
	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	R60-8, CB60-8, CB60-8S	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
	250	250 MCM (127mm <sup>2</sup> )				CB150-S8	CB150-S8	CB150-8
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> )				180-12	R180-12	-
	350	500 MCM (253mm <sup>2</sup> )				325-12	R325-12N	-
	400	3/0 AWG x 2 (85.0mm <sup>2</sup> x 2)				R80-12	R80-12	-
		500 MCM (253mm <sup>2</sup> )				325-12	R325-12N	-
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	R180-12	-
	630	500 MCM x 2				325-12	R325-12N	-
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

# Discontinued Products Cross Charts

Discontinue date : March 1989 ~ December 2010

Series	Frame size		Molded Case Circuit Breakers		Earth Leakage Circuit Breakers	
			Discontinued Models	Replacement - UL489 (Non-UL)	Discontinued Models*1	Replacement - UL489 (Non-UL)
E series Non-UL	30AF	2 poles	EA32	BW50RAGU-2P	EG32F / EG32A	(EW32AAG-2P)
		3 poles	EA33	BW50RAGU-3P	EG33F / EG33A / EG33B	EW50RAGU-3P
	50AF	2 poles	EA52A	BW50RAGU-2P	EG52F	(EW50AAG-2P)
			EA52B	BW50RAGU-2P	EGa52A	(EW50AAG-2P)
		3 poles	EA53A	BW50RAGU-3P	EG53F / EG53A / EG53AH	EW50RAGU-3P
			EA53B	BW50RAGU-3P	EG53B	EW50RAGU-3P
	60AF	2 poles	EA62B	BW100EAGU-2P		
		3 poles	EA63B	BW100EAGU-3P	EG63A / EG63AH / EG63B	EW100EAGU-3P
	100AF	2 poles	EA102A / EA102B	BW100EAGU-2P	EG102A / EG102B	EW100EAGU-2P
			EA102H	BW125JAGU-2P	-	-
		3 poles	EA103F	BW100EAGU-3P	EG103F / EG103A / EG103B	EW100EAGU-3P
			EA103A / EA103B	BW100EAGU-3P	EG103AD / EG103BD	EW125JAGU-3P
			EA103H / EA103K	BW125JAGU-3P	EG103K	EW100EAGU-3P
			EA104B	(BW125JAG-4P)	SGa104A(D)	(EW125JAG-4P)
		2 poles	EA202A / EA202B / EA202C	BW250EAGU-2P	-	-
			EA202H	BW250JAGU-2P	-	-
		3 poles	EA203A / EA203B / EA203C	BW250EAGU-3P	EGa203A(D)/EG203B(D)/EG203C(D)	EW250JAGU-3P
			EA203H	BW250JAGU-3P	-	-
	400AF	2 poles	EA402A / EA402B / EA402C	BW400EAGU-2P	-	-
		3 poles	EA403A / EA403B / EA403C	BW400EAGU-3P	EGa403A(D)/EG403B(D)/EG403C(D)	EW400SAGU-3P
	600AF	3 poles	EA603A / EA603B / EA603C	BW630RAGU-3P	EGa603A(D)/EG603B(D)/EG603C(D)	EW630RAGU-3P
	800AF	3 poles	EA803A / EA803B / EA803C	BW800RAGU-3P	EGa803A(D)/EG803B(D)/EG803C(D)	(EW800EAG-3P)
UL508	30AF	2 poles	EA32AC	BW50RAGU-2P	EG32AC	(EW32AAG-2P)
		3 poles	EA33AC	BW50RAGU-3P	EG33AC / EG33C	EW50RAGU-3P
	50AF	2 poles	EA52BUL / EA52AC / EA52C	BW50RAGU-2P	EG52AC	(EW50AAG-2P)
		3 poles	EA53BUL / EA53AC / EA53C	BW50RAGU-3P	EG53AC / EG53C	EW50RAGU-3P
	60AF	2 poles	EA62C	BW100EAGU-2P	-	-
		3 poles	EA63C	BW100EAGU-3P	EG63C	EW100EAGU-3P
	100AF	2 poles	EA102C	BW100EAGU-2P	EG102C	EW100EAGU-2P
		3 poles	EA103BUL/EA103AC/EA103C	BW100EAGU-3P	EG103AC / EG103C	EW100EAGU-3P
			-	-	EG103CD	EW125JAGU-3P
UL489	100AF	2 poles	EA102CUL	BW100EAGU-2P	EG102CUL	EW100EAGU-2P
		3 poles	EA103CUL	BW100EAGU-3P	EG103CUL	EW100EAGU-3P
S series Non-UL	30AF	2 poles	SA32B	BW50RAGU-2P	-	-
		3 poles	SA33B	BW50RAGU-3P	SG33 / SG33A / SG33B	EW50RAGU-3P
	50AF	2 poles	SA52B / SA52R	BW50RAGU-2P	-	-
			SA52H	(BW50HAG-2P)	-	-
		3 poles	SA53B / SA53R	BW50RAGU-3P	SG53 / SG53A / SG53B / SG53R	EW50RAGU-3P
			SA53H	(BW50HAG-3P)	-	-
		4 poles	SA54B	(BW125JAG-4P)		
	60AF	2 poles	A62B / SA62B / SA62R	BW100EAGU-2P	-	-
		3 poles	SA63 / SA63B / SA63R	BW100EAGU-3P	SG63 / SG63A / SG63B / SG63R	EW100EAGU-3P
	100AF	2 poles	SA102A / SA102B / SA102C	BW125JAGU-2P	-	-
			SA102H / SA102R / SA102RC	BW125RAGU-2P	-	-
			SA102BA	BW125JAGU-2P	-	-
			SA102RA	BW125RAGU-2P	-	-
			SA102K	BW125JAGU-2P	-	-
		3 poles	SA103A / SA103B / SA103BA	BW125JAGU-3P	SGa103A(D) / SG103B(D)	EW125JAGU-3P
			SA103C		SG103C(D)	
			SA103H / SA103R / SA103RA	BW125RAGU-3P	SG103H(D) / SG103R(D)	EW125RAGU-3P
			SA103RC		SG103RC(D)	
			SA103BN/SA103BAN/SA103CN	-	SG103BA(D)	EW125JAGU-3P
			SA103RN/SA103RAN/SA103RCN	-	SG103RA(D)	EW125RAGU-3P
			SA103K	BW125JAGU-3P	-	-
		4 poles	SA104A	(BW125JAG-4P)	-	-
			SA104H / SA104R	(BW125RAG-4P)	SGa104H(D)	(EW125RAG-4P)
	225AF	2 poles	SA202A / SA202B / SA202C	BW250JAGU-2P	-	-
			SA202H / SA202R / SA202RC	BW250RAGU-2P	-	-
			SA202BA	BW250JAGU-2P	-	-
			SA202RA	BW250RAGU-2P	-	-
			SA202K	BW250EAGU-2P	-	-

Note: All accessories discontinued as well.

- : No replacement

\*1: Discontinued Non-UL ELCB has a Trip Lead type, specify "TL" for P/N (Two lead wire comes from inside of the ELCB and labeled as TL1 & TL2). Replacement model P/N specify "T".

Ex: EG33AC/20-30MA-TL → EW32AAG-3P020B T

# Discontinued Products Cross Charts

Discontinued date : March 1989~December 2010

Series	Frame size		Molded Case Circuit Breakers		Earth Leakage Circuit Breakers	
			Discontinued Models	Replacement - UL489 (Non-UL)	Discontinued Models*1	Replacement - UL489 (Non-UL)
H series Non-UL	50AF	2 poles	H52BA / H52C	(BW50HAG-2P)	-	-
		3 poles	H53BA / H53C	(BW50HAG-3P)	HG53B(D)	(EW50HAG-3P)
			H53BAN / H53CN	-	-	-
			H53CM	-	-	-
	100AF	2 poles	H102BA / H102C	(BW125HAG-2P)	-	-
		3 poles	H103BA / H103C	(BW125HAG-3P)	HG103B(D)	(EW125HAG-3P)
			H103BAN / H103CN	-	HG103BN(D)	-
	225AF	2 poles	H202BA / H202C	(BW250HAG-2P)	-	-
		3 poles	H203BA / H203C	(BW250HAG-3P)	HG203B(D)	(EW250HAG-3P)
			H203BAN / H203CN	(BX250HAE-3P)	HG203BN(D)	(EW250HAE-3P)
	400AF	2 poles	H402B / H402C	BW400HAGU-2P	-	-
			H402BN / H402CN	(BW400HAA-2P)	-	-
		3 poles	H403B / H403C	BW400HAGU-3P	HG403B(D) / HG403C(D)	EW400HAGU-3P
			H403BN/H403CN	(BW400HAA-3P)	HG403BN(D) / HG403CN(D)	-
	600AF	3 poles	H603B / H603C	BW630HAGU-3P	HG603B(D) / HG603C(D)	(EW630HAG-3P)
			H603BN / H603CN	(BW630HAA-3P)	HG603BN(D) / HG603CN(D)	-
	800AF	3 poles	H803B / H803C	BW800HAGU-3P	HG803B(D)/ HG803C(D)	(EW800HAG-3P)
			H803BN / H803CN	(BW800HAA-3P)	HG803BN(D) / HG803CN(D)	-

Note; All accessories discontinued as well.

- : No replacement

\*1: Discontinued Non-UL ELCB has a Trip Lead type, specify "TL" for P/N (Two lead wire comes from inside of the ELCB and labeled as TL1 & TL2). Replacement model P/N specify "T".

Ex: EG33AC/20-30MA-TL → EW32AAG-3P020B T

## Discontinued Accessories for above circuit breakers.

	Discontinued models	Replacement
Operating Handles (V type)	G-3A / G-5A / G-12A / G-22A / G-42	- (Need to replace with new breaker)
	G-21A / G-22A / G-41A / G-81A	
	BZ-G10B	
	BZ-V20C / BZ-V20C-E	
	BZ6V10C	
	BZ6V10CP	BZ6V10D
	BZ-V20B-3-Z	OEM item - Contact original machine maker
	BZ-V30C / BZ-V30C-E	- (Need to replace with new breaker)
	BZ-V30C-S / BZ-V30C-ES / BZ-V30C-EUL	- (Need to replace with new breaker)
	BZ-V40B-Z	OEM item - Contact original machine maker
	BZ-V40C / BZ-V40C-E	- (Need to replace with new breaker)
	BZ-V40C-S / BZ-V40C-ES / BZ-V40C-EUL	- (Need to replace with new breaker)
	BZ-V60B-Z	OEM item - Contact original machine maker
	BZ-V70C-E	- (Need to replace with new breaker)
Operating Handles (N type)	N-3A / N-6A / N-13A / N-21A / N-23A	- (Need to replace with new breaker)
	N-41A / N-120A	
	BZ-N20C	
	BZ6N10C	
	BZ6N10CP	BZ6V10D
	BZ-N30C	- (Need to replace with new breaker)
	BZ-N30C-*****	OEM item - Contact original machine maker
	BZ-N40B	- (Need to replace with new breaker)
	BZ-N40B-*****	OEM item - Contact original machine maker
	BZ-N40C	- (Need to replace with new breaker)
	BZ-N60B / BZ-N60C	
	BZ-N70C	
Handle Lock Covers	BZ-L30C	
	BZ-L40C	
Mechanical Interlock	BZ-M130C-2	
	BZ-S60B-225*	
	BZ-E30C-100*	

--: No replacement

# Discontinued Products Cross Charts

Discontinued date : March 1989 ~ December 2010

Series		Frame size		Molded Case Circuit Breakers		Earth Leakage Circuit Breakers	
				Discontinued Models	Replacement - UL489 (Non-UL)	Discontinued Models*1	Replacement - UL489 (Non-UL)
S series	Non-UL	225AF	3 poles	SA203A / SA203B / SA203BA	BW250JAGU-3P	SGa203A(D) / SG203B(D)	EW250JAGU-3P
				SA203C		SG203C(D)	
				SA203H / SA203R / SA203RA	BW250RAGU-3P	SG203H(D) / SG203R(D)	EW250RAGU-3P
				SA203RC		SG203RC(D)	
				SA203BN / SA203BAN / SA203CN	-	SG203BA(D)	EW250JAGU-3P
				SA203RN / SA203RAN / SA203RCN	-	SG203RA(D)	EW250RAGU-3P
				SA203K	BW250EAGU-3P	-	-
			4 poles	-	-	SGa204A(D)	(EW250JAG-4P)
				SA204H / SA204R	(BW250RAG-4P)	SG204H(D)	(EW250RAG-4P)
		400AF	2 poles	SA402K / SA402B / SA402C	BW400SAGU-2P	-	-
				SA402H / SA402R / SA402RC	BW400RAGU-2P	-	-
				SA402BN / SA402CN	(BW400SAA-2P)		
				SA402RN / SA402RCN	(BW400RAA-2P)		
			3 poles	SA403K / SA403B / SA403C	BW400SAGU-3P	SGa403A(D) / SG403B(D)	EW400SAGU-3P
						SG403C(D)	
				SA403H / SA403R / SA403RC	BW400RAGU-3P	SG403H(D) / SG403R(D)	EW400RAGU-3P
						SG403RC(D)	
				SA403BN / SA403CN	(BW400SAA-3P)		
				SA403RN / SA403RCN	(BW400RAA-3P)		
				SA403L	BW400HAGU-3P		
			4 poles	SA404H / SA404HA	(BW400RAG-4P)	SGa404A(D)	(EW400RAG-4P)
		600AF	3 poles	SA603 / SA603H / SA603R	BW630RAGU-3P	SG603H(D) / SG603R(D)	EW630RAGU-3P
				SA603RC		SG603RC(D)	
				SA603RN / SA603RCN	(BW630RAA-3P)	-	-
				SA603L	BW630HAGU-3P	-	-
			4 poles	SA604H	(BW630RAG-4P)	-	-
		800AF	3 poles	SA803H / SA803R / SA803RC	BW800RAGU-3P	SG803H(D) / SG803R(D)	(EW800RAG-3P)
						SG803RC(D)	
				SA803RN	(BW800RAA-3P)	-	-
				SA803L	BW800HAGU-3P	-	-
			4 poles	SA804H	(BW800RAG-4P)	-	-
UL508		30AF	2 poles	SA32BUL / SA32C	BW50RAGU-2P	-	-
			3 poles	SA33BUL / SA33C	BW50RAGU-3P	SG33C	EW50RAGU-3P
		50AF	2 poles	SA52BUL / SA52RUL	BW50RAGU-2P	-	-
				SA52C / SA52RC		-	-
			3 poles	SA53BUL / SA53RUL	BW50RAGU-3P	-	-
				SA53C / SA53RC		SG53C / SG53RC	EW50RAGU-3P
		60AF	2 poles	SA62BUL / SA62RUL	BW100EAGU-2P	-	-
				SA62C / SA62RC		-	-
			3 poles	SA63BUL / SA63RUL	BW100EAGU-3P	-	-
				SA63C / SA63RC		SG63C / SG63RC	EW100EAGU-3P
UL489		50AF	2 poles	SA52RCUL	BW50RAGU-2P	-	-
			3 poles	SA53RCUL	BW50RAGU-3P	SG53RCUL	EW50RAGU-3P
		100AF	2 poles	SA102BAUL / SA102CUL	BW125JAGU-2P	-	-
				SA102RAUL / SA102RCUL	BW125RAGU-2P	-	-
			3 poles	SA103BAUL / SA103CUL	BW125JAGU-3P	SG103BAUL / SG103CUL	EW125JAGU-3P
				SA103RAUL / SA103RCUL	BW125RAGU-3P	-	-
		225AF	2 poles	SA202BAUL / SA202CUL	BW250JAGU-2P	-	-
				SA202RAUL / SA202RCUL	BW250RAGU-2P	-	-
			3 poles	SA203BAUL / SA203CUL	BW250JAGU-3P	SG203BAUL / SG203CUL	EW250JAGU-3P
				SA203RAUL / SA203RCUL	BW250RAGU-3P	-	-
		400AF	2 poles	SA402BUL / SA402CUL	BW400SAGU-2P	-	-
			3 poles	SA403BUL / SA403CUL	BW400SAGU-3P	SG403CUL	EW400SAGU-3P
			2 poles	SA402RUL / SA402RCUL	BW400RAGU-2P	-	-
			3 poles	SA403RUL / SA403RCUL	BW400RAGU-3P	-	-
						-	-
		600AF	3 poles	SA603RUL / SA603RCUL	BW630RAGU-3P	-	-
		800AF	3 poles	SA803RUL / SA803RCUL	BW800RAGU-3P	-	-

Note: All accessories discontinued as well.

- : No replacement

\*1: Discontinued Non-UL ELCB has a Trip Lead type, specify "TL" for P/N (Two lead wire comes from inside of the ELCB and labeled as TL1 & TL2). Replacement model P/N specify "T".

Ex: EG33AC/20-30MA-TL → EW32AAG-3P020B T

## Discontinued Products Cross Charts

Discontinued date: March 1989 ~ October 2011

Series	Frame size		Molded Case Circuit Breakers		Reference
			Discontinued Models	Replacement - UL489 (Non-UL)	
BU series UL489 240VAC	100AF	2 poles	BU-ECA2 / BU2ECC (5-50A)	BW50RAGU-2P	
			(60-100A)	BW100EAGU-2P	
		3 poles	BU-ECA2	-	
			BU-ECA3 / BU3ECC (5-50A)	BW50RAGU-3P	
	225AF	2 poles	(60-100)	BW100EAGU-3P	
			BU-GCA2□□□L	BW250EAGU-2P□□□SB	
		3 poles	BU-GDA2□□□L		
			BU-GCA3□□□L	BW250EAGU-3P□□□SB	
	400AF	2 poles	BU-GDA3□□□L		
		3 poles	BU-KDA2□□□L	BW400EAGU-2P□□□SB	
UL489 480VAC	100AF	2 poles	BU-KDA3□□□L	BW400EAGU-3P□□□SB	
		3 poles	BU-ESA2	BW125RAGU-2P	
	150AF	2 poles	BU-ESA3	BW125JAGU-3P	
			BU-FSA2	BW125JAGU-2P	
			BU-FSA2150	BW250JAGU-2P150	
			BU-FHA2	BW125RAGU-2P	
			BU-FHA2150	BW250RAGU-2P150	
		3 poles	BU-FSA3	BW125RAGU-3P	
			BU-FSA3150	BW250JAGU-3P150	
			BU-FHA3	BW125RAGU-3P	
			BU-FHA3150	BW250RAGU-3P150	
	250AF	2 poles	BU-JSA2 / BU-JHA2	-	
		3 poles	BU-JSA3 / BU-JHA3	-	
	400AF	2 poles	BU-KSA2 / BU-KHA2	-	
		3 poles	BU-KSA3 / BU-KHA3	-	
	600AF	2 poles	BU-LSA2 / BU-LHA2 / BU-LHA2T	-	
		3 poles	BU-LSA3 / BU-LHA3 / BU-LHA3T	-	
	800AF	2 poles	BU-MSA2 / BU-MHA2 / BU-MHA2T	-	
		3 poles	BU-MSA3 / BU-MHA3 / BU-MHA3T	-	
	1200AF	2 poles	BU-NSA2 / BU-NHA2 / BU-NHA2T	-	
		3 poles	BU-NSA3 / BU-NHA3 / BU-NHA3T	-	
UL489 600VAC	100AF	2 poles	BU-ESB2 / BU2EHC	-	(up to 480VAC BW125RAGU-2P)
		3 poles	BU-ESB3 / BU3EHC	-	(up to 480VAC BW125RAGU-3P)
	150AF	2 poles	BU-FSB2	-	(up to 480VAC BW125RAGU-2P)
			BU-FSB2150	-	(up to 480VAC BW250JAGU-2P150)
			BU-FHB2 / BU2FHC	-	(up to 480VAC BW125RAGU-2P)
			BU-FHB2150	-	(up to 480VAC BW250RAGU-2P150)
		3 poles	BU-FSB3	-	(up to 480VAC BW125RAGU-3P)
			BU-FSB3150	-	(up to 480VAC BW250JAGU-3P150)
			BU-FHB3 / BU3FHC	-	(up to 480VAC BW125RAGU-3P)
			BU-FHB3150	-	(up to 480VAC BW250RAGU-3P150)
	250AF	2 poles	BU-JSB2 / BU-JHB2 / BU2GHC / BU2JHC	-	
		3 poles	BU-JSB3 / BU-JHB3 / BU3GHC / BU3JHC	-	
	400AF	2 poles	BU-KSB2 / BU-KHB2 / BU2KHC	-	
		3 poles	BU-KSB3 / BU-KHB3 / BU3KHC	-	
	600AF	2 poles	BU-LSB2 / BU-LHB2 / BU-LHB2T / BU2LHC	-	
		3 poles	BU-LSB3 / BU-LHB3 / BU-LHB3T / BU3LHC	-	
	800AF	2 poles	BU-MSB2 / BU-MHB2 / BU-MHB2T / BU2MHC	-	
		3 poles	BU-MSB3 / BU-MHB3 / BU-MHB3T / BU3MHC	-	
	1200AF	2 poles	BU-NSB2 / BU-NHB2 / BU-NHB2T / BU2NHC	-	
		3 poles	BU-NSB3 / BU-NHB3 / BU-NHB3T / BU3NHC	-	

Discontinued Accessories for above circuit breakers.

	Discontinued Models	Replacement
Operating Handles (G type / V type / N type)	BU-GEC / BU0VFH / BU0NFH	-
	BU-GGD / BU0VGH / BU0NGH	-
	BU-GKH / BU0VJH / BU0NJH	-
	BU-GLH / BU0VLH / BU0NLH	-
	BU-GNH / BU0VNH / BU0NNH	-

Note: All accessories discontinued as well.

--: No replacement

MEMO:

## Terms and Conditions of Sale

### Prices

All prices are subject to change without notice. In the event of a price change, the effective date of the change will be the date on the new price or discount schedule sheet.

All quotations made or orders accepted after the effective date will be based on the new prices.

### Quotations

Written quotations are valid for 30 days from its date unless otherwise stated in the quotation. Verbal quotations expire the same day they are made.

### Taxes

The price does not include any taxes. Buyer shall be responsible for the payment of all applicable taxes.

### Terms of payment

Terms of payment will be listed on the quotations.

### Minimum orders

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

### Delivery

Delivery of products shall be FOB point of origin in the U.S. Seller shall determine the point of origin of shipment. All shipping and other charges shall be paid by Buyer.

### Packing

Prices include standard domestic packing. Additional special packing costs required for export or by Buyer's request will be charged to Buyer.

### Weight and Dimensions

The weight and dimensions of products described in this catalog are the best information available at the time of going to press. As Seller follows a policy of continuous product improvement, design changes may make this information obsolete. Information in this catalog is subject to change without notice.

### Inspection and acceptance of products

Buyer is responsible for evaluating received products or damage for final acceptance. All claims of shortage must be made within thirty (30) days of receipt of products.

### Return / Cancellation

No product shall be returned or canceled unless return/order cancel authorization has been secured from Seller. All returns/cancellations must comply with Seller's then current Return / Cancellation policy.

### Risk of Loss

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