

Molded Case Circuit Breakers

List of products

■ G-TWIN Standard Series (IEC/EN/GB/JIS conformed)

Line protection

AC415V Icu	BW32	BW50	BW63	BW100	BW125	BW160	BW250	BW400	BW630	BW800
1.5kA	AAG	AAG		AAG						
2.5kA	SAG	EAG	EAG							
7.5kA		SAG	SAG							
10kA		RAG	RAG	EAG						
18kA						EAG	EAG			
30kA					JAG	JAG	JAG	EAG		
36kA					SAG	SAG	SAG	SAG	EAG	EAG
50kA					RAG	RAG	RAG	RAG	RAG	RAG
65kA		HAG*			HAG*		HAG*			
70kA								HAG	HAG	HAG

Note: * There are no performance indications for GB standards for the BW50HAG, BW125HAG, and BW250HAG.

■ G-TWIN Global Series (IEC/EN/GB/JIS/UL/CSA conformed)

Line protection

AC415V Icu	BW50	BW100	BW125	BW250	BW400	BW630	BW800
10kA	RAGU	EAGU					
18kA				EAGU			
30kA			JAGU	JAGU	EAGU		
36kA					SAGU		
50kA			RAGU	RAGU	RAGU	RAGU	RAGU
70kA					HAGU	HAGU	HAGU

■ S, H Series

Line protection

AC415V Icu	50AF	100AF	225AF	400AF	600AF	800AF	1000AF	1200AF	1600AF
65kA	H52BA H53BA	H102BA H103BA	H202BA H203BA				SA1003E SA1004E	SA1203E SA1204E	
85kA		H103R	H203R						SA1603E SA1604E
125kA				H403R	H603R	H803R			

■ F Series

Distribution Breakers

AC240V Icu	50AF	100AF
3kA	F51B F52B F53B	F102B F103B

Motor protection

AC415V Icu	BW32	BW50	BW63	BW100	BW125	BW250
1.5kA	AAM					
2.5kA	SAM	EAM	EAM			
7.5kA		SAM	SAM			
10kA		RAM		EAM		
18kA						EAM
30kA					JAM	JAM
50kA					RAM	RAM

■ BW0 Series (IEC/EN/GB conformed)

Line protection

AC415V Icu	100AF	160AF	250AF
15kA	BW103E0		
18kA		BW162E0 BW163E0	BW252E0 BW253E0
25kA		BW162J0 BW163J0	BW252J0 BW253J0
30kA	BW102S0 BW103S0		
36kA		BW162S0 BW163S0	BW252S0 BW253S0

■ H Series

Motor protection

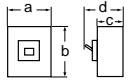
AC415V Icu	50AF
65kA	H53BAM

Molded Case Circuit Breakers

G-TWIN series

Quick reference guide

■ G-TWIN Standard Series

Ampere frame		32A						
Type		BW32AAG		BW32SAG				
Pole		2	3	2	3			
Rated current	Reference amb. temp. (40°C)	In(A) 3, 5, 10, 15, 20, 30, 32						
Rated impulse withstand voltage		Uimp(kV) 6		6				
Isolation compliant		●		●				
Rated insulation voltage Ui (V)		AC	500		690			
		DC	-		250*1			
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	500V	-		1.5/1		
			440V	1.5/1		2.5/2		
			415V	1.5/1		2.5/2		
			400V	1.5/1		2.5/2		
			380V	1.5/1		2.5/2		
			240V	2.5/2		5/3		
			230V	2.5/2		5/3		
			DC	250V		-		2.5/2*1
		GB14048.2	AC	400V		1.5/1		2.5/2
					230V		2.5/2	
Conforming to standards	CE Marking	● (TÜV)		● (TÜV)				
	CCC certificate	●		●				
	Electrical Appliance and Material Safety Law <PS>E*2	●		●				
Dimensions (mm)		a	50	75	50	75		
		b	100		100			
		c	60		60			
		d	84		84			
		Mass (kg)	0.4	0.5	0.4	0.5		
Tripping device		Hydraulic-magnetic						
Front mounting, front connection	No-mark	○	○	○	○			
Front mounting, rear connection	X	○	○	○	○			
Flush mounting, front connection	E	○	○	○	○			
Flush mounting, top & bottom connection	Y	○	○	○	○			
Plug-in mounting	P	○	○	○	○			
IEC 35mm wide rail mounting	No-mark	○	○	○	○			
Internal accessories Page 06/63								
Alarm switch	K	○	○	○	○			
Auxiliary switch	W	○	○	○	○			
Undervoltage trip	R	○	○	○	○			
Shunt trip	F	○	○	○	○			
External accessories Page 06/66								
Handle padlocking device	Cap type QN	○	○	○	○			
Handle padlocking device	Plate type Q2	▲	▲	▲	▲			
Operating handle	N-type N	○	○	○	○			
Operating handle	V-type V	○	○	○	○			
Terminal cover	Short BT□S	○	○	○	○			
Terminal cover	Long BT□L	○	○	○	○			
Insulation barrier	Interphase BP	○	○	○	○			
	Earth BL	○	○	○	○			
Handle locking cover	L1	○	○	○	○			
Flat terminal	SS	○	○	○	○			
Block terminal	SL	-	-	-	-			

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *1 Specify DC only when ordering circuit breakers for DC circuit.

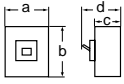
*2 Electrical Appliance and Material Safety Law of Japan

Molded Case Circuit Breakers

G-TWIN series

Quick reference guide

■ G-TWIN Standard Series

Ampere frame		50A										
Type		BW50AAG		BW50EAG		BW50SAG		BW50RAG		BW50HAG		
Pole		2	3	2	3	2	3	2	3	2	3	
Rated current	Reference amb. temp. (40°C)	In(A) 5, 10, 15, 20, 30, 32, 40, 50						10, 15, 20, 30, 32, 40, 50		15, 20, 30, 40, 50		
Rated impulse withstand voltage		Uimp(kV) 6		6		6		6		6		
Isolation compliant		●		●		●		●		●		
Rated insulation voltage Ui (V)		AC 500		690		690		690		690		
		DC -		250*1		250*1		250*1		250		
Rated breaking capacity Icu/Ics (kA)	IEC 60947-2 EN 60947-2 JIS C 8201-2-1	AC	500V	-	1.5/1	5/3	7.5/4	25/7				
			440V	1.5/1	2.5/2	7.5/4	10/5	65/17				
			415V	1.5/1	2.5/2	7.5/4	10/5	65/17				
			400V	1.5/1	2.5/2	7.5/4	10/5	65/17				
			380V	1.5/1	2.5/2	7.5/4	10/5	65/17				
			240V	2.5/2	5/3	10/5	25/13	125/63				
		230V	2.5/2	5/3	10/5	25/13	125/63					
		DC	250V	-	2.5/2*1	5/3*1	5/3*1	40/20				
		GB14048.2	AC	400V	1.5/1	2.5/2	7.5/4	10/5	-			
				230V	2.5/2	5/3	10/5	25/13	-			
Conforming to standards	CE Marking		● (TÜV)		● (TÜV)		● (TÜV)		● (TÜV)		●	
	CCC certificate		●		●		●		●		-	
	Electrical Appliance and Material Safety Law <PS>E ²		●		●		●		●		●	
Dimensions (mm)			a	50	75	50	75	50	75	50	75	90
			b	100		100		100		100		155
			c	60		60		60		60		68
			d	84		84		84		84		95
Mass (kg)		0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5	1.0	1.2	
Tripping device		Hydraulic-magnetic									Thermal-magnetic	
Front mounting, front connection	No-mark	○	○	○	○	○	○	○	○	○	○	
Front mounting, rear connection	X	○	○	○	○	○	○	○	○	○	○	
Flush mounting, front connection	E	○	○	○	○	○	○	○	○	○	○	
Flush mounting, top & bottom connection	Y	○	○	○	○	○	○	○	○	-	-	
Plug-in mounting	P	○	○	○	○	○	○	○	○	○	○	
IEC 35mm wide rail mounting	No-mark	○	○	○	○	○	○	○	○	-	-	
Internal accessories		Page 06/63										
Alarm switch	K	○	○	○	○	○	○	○	○	○	○	
Auxiliary switch	W	○	○	○	○	○	○	○	○	○	○	
Undervoltage trip	R	○	○	○	○	○	○	○	○	○	○	
Shunt trip	F	○	○	○	○	○	○	○	○	○	○	
External accessories		Page 06/66										
Handle padlocking device	Cap type	Q1/QN	○	○	○	○	○	○	○	○	○	
Handle padlocking device	Plate type	Q2	▲	▲	▲	▲	▲	▲	▲	▲	○	
Operating handle	N-type	N	○	○	○	○	○	○	○	○	○	
Operating handle	V-type	V	○	○	○	○	○	○	○	○	○	
Terminal cover	Short	BT□S	○	○	○	○	○	○	○	○	○	
Terminal cover	Long	BT□L	○	○	○	○	○	○	○	○	○	
Insulation barrier	Interphase	BP	○	○	○	○	○	○	○	○	○	
	Earth	BL	○	○	○	○	○	○	○	-	-	
Handle locking cover		L1	○	○	○	○	○	○	○	○		
Flat terminal		SS	○	○	○	○	○	○	○	○		
Block terminal		SL	-	-	-	-	-	-	-	○		

●: Approved ○: Available -: Not available ▲: Factory-mounted accessory

Note: *1 Specify DC only when ordering circuit breakers for DC circuit.

*2 Electrical Appliance and Material Safety Law of Japan

Molded Case Circuit Breakers

G-TWIN series

Mounting modifications

■ Mounting modifications

• Standard series

Standard type FUJI breakers are front mounting with front connections. The standard breaker can easily be modified to become front mounting rear connection type, flush mounting type and plug-in type. The additional parts such as insulation bases, barriers, covers and similar parts are added as required.

**Front mounting
Front connection**



BASIC DESIGN



<p>Additional main parts</p> <p>Front mounting Rear connection (X type)</p>	<p>Bar stud terminal</p> <p>BW32 BW50 BW63 BW100</p>	<p>Additional main parts</p> <p>Flush mounting Rear connection (E type)</p>	<p>Bar stud terminal</p> <p>BW32 BW50 BW63 BW100</p>	<p>Additional main parts</p> <p>Plug-in mounting (P type)</p>	<p>Bar stud terminal</p> <p>BW32 BW50 BW63 BW100</p>
<p>Bar stud terminal</p>	<p>BW50HAG BW125 BW160 BW250 BW400 BW630 BW800</p> <p>Each stud can be turned by 90°</p>	<p>Bar stud terminal</p>	<p>BW50HAG BW125 BW160 BW250 BW400 BW630 BW800</p> <p>Each stud can be turned by 90°</p>	<p>Round stud terminal</p>	<p>BW50HAG BW125</p>
		<p>Additional main parts</p> <p>Flush mounting Top and bottom connection (Y type)</p>		<p>Bar stud terminal</p>	<p>BW160 BW250 BW400 BW630 BW800</p> <p>Each stud can be turned by 90°</p>
	<p>Decorative flush plate</p>	<p>BW32 BW50 BW63 BW100</p>			

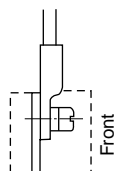
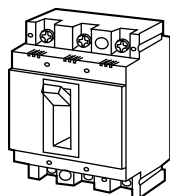
Molded Case Circuit Breakers

G-TWIN series

Terminal connection

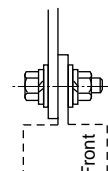
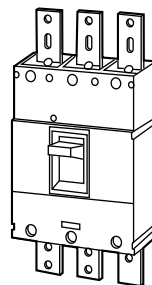
Terminal connection/Front mounting, front connection

• 32AF to 100AF

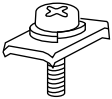



Flat terminal



• 400AF to 800AF



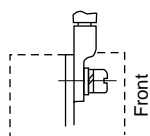
Flat terminal

Self lifting screw	Breaker type	Tightening torque (N•m)	Size
	BW32 BW50 BW100*	2.3 to 2.8	M5 × 14
Pan-head screw	BW63 BW100	5.5 to 7.5	M8 × 15
			



* Breaker of rated current : 50A

Hexagonal head bolt	Breaker type	Tightening torque (N•m)	Size (mm)
	BW400	40 to 50	M12 × 35
	BW630 BW800	40 to 50	M12 × 40

• 125AF to 250AF

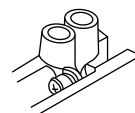


Front

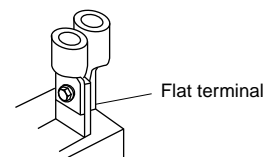
Pan-head screw	Breaker type	Tightening torque (N•m)	Size (mm)
	BW50HAG BW125	5.5 to 7.5	M8 × 16
Hexagonal socket head bolt	BW160 BW250	8.0 to 13.0	M8 × 16
			

Type of connection/up to 250AF Front mounting front connection

Direct connection



Flat terminal connection Flat terminals are required.



Flat terminal

Flat bar studs/1-hole type

Breaker type	Pole	Type of flat terminal
BW32 BW50	2 3	BZ6S10C502 BZ6S10C503
BW63 BW100*	2 3	BZ6S10C1002 BZ6S10C1003
BW50HAG BW125	2 3 4	BW9SS0CA-2 BW9SS0CA-3 BW9SS0CA-4
BW160 BW250	2 3 4	BZ-S50B-2252 BZ-S50B-2253 BW9SS0GA-4

* BW100 breaker of rated current 50A: BZ6S10C502 or 503.

Molded Case Circuit Breakers

G-TWIN series

Wire size and terminal

■ Wire size and crimp terminal

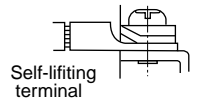
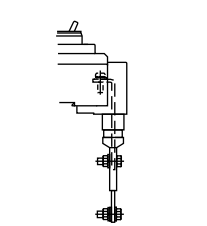
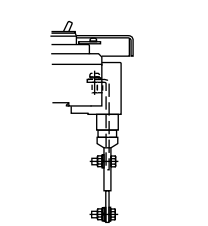
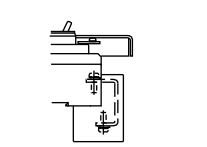
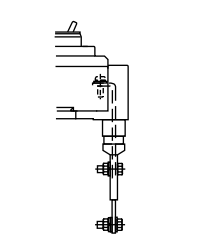
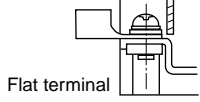
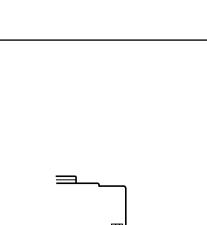
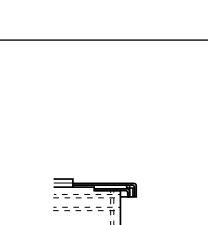

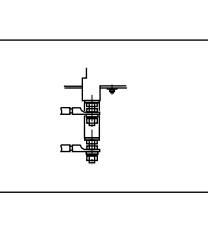

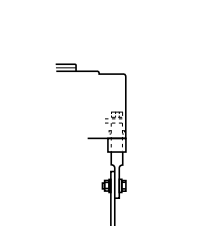
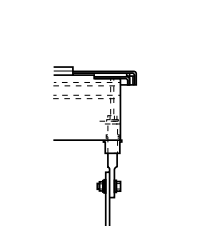

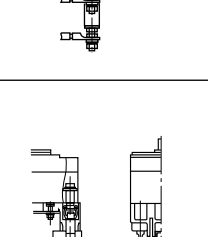
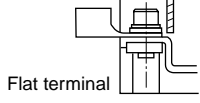
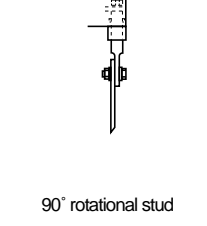
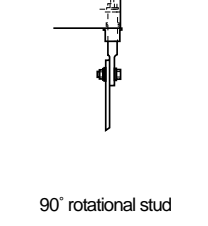

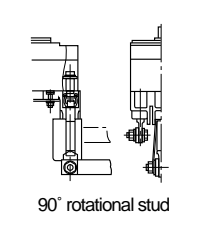
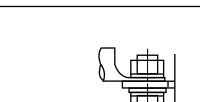
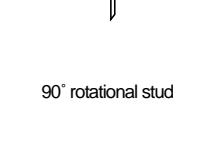
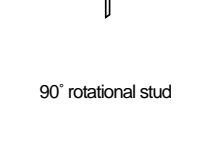

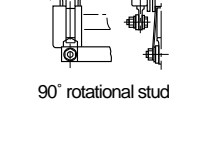
The following is the size recommendations for crimp terminals.

Crimp terminal R : JIS C2805
 CB : JEM-1399
 JST : Product of Japan Crimp Terminal Co., Ltd.

Ampere frame	Breaker	Wire size(mm ²)										
		1.04 2.63	2.63 6.64	6.64 10.52	10.52 16.78	16.78 26.66	26.66 42.42	42.42 60.57	96.3 117.2	117.2 152.05	192.6 242.27	242.27 325
32	BW32	R2-5	R5.5-5	R8-5	R14-5							
50	BW50AAG,EAG,SAG	R2-5	R5.5-5	R8-5	R14-5							
	BW50HAG	R2-8	R5.5-8	R8-8	R14-8	R22-8	JST38-S8	CB60-8				
63	BW63	R2-8	R5.5-8	R8-8	R14-8	JST22-S8						
100	BW100	R2-8	R5.5-8	R8-8	R14-8	JST22-S8	JST38-S8					
125	BW125	R2-8	R5.5-8	R8-8	R14-8	R22-8	JST38-S8	CB60-8				
160 250	BW160 BW250					R22-8	R38-8	R60-8	CB100-8			
400	BW400						R38-12	R60-12	R100-12	R150-12	R200-12	JST325-12
630	BW630								R100-12	R150-12	R200-12	JST325-12
800	BW800								R100-12	R150-12	R200-12	JST325-12

■ Breaker termination

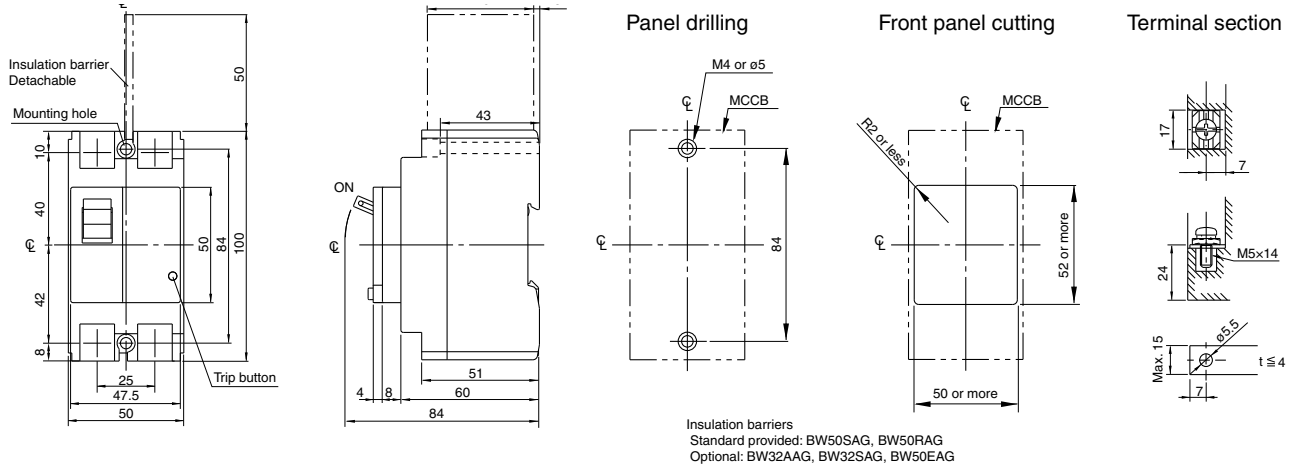
• Standard

MCCB type	Front connection	Rear connection X	Flush mounting E	Y	Plug-in mounting P
BW32 BW50	 Self-lifting terminal				
BW63 BW100					
BW50HAG BW125	 Flat terminal				
BW160 BW250	 Flat terminal				
BW400 BW630 BW800	 Flat terminal	 90° rotational stud	 90° rotational stud		 90° rotational stud

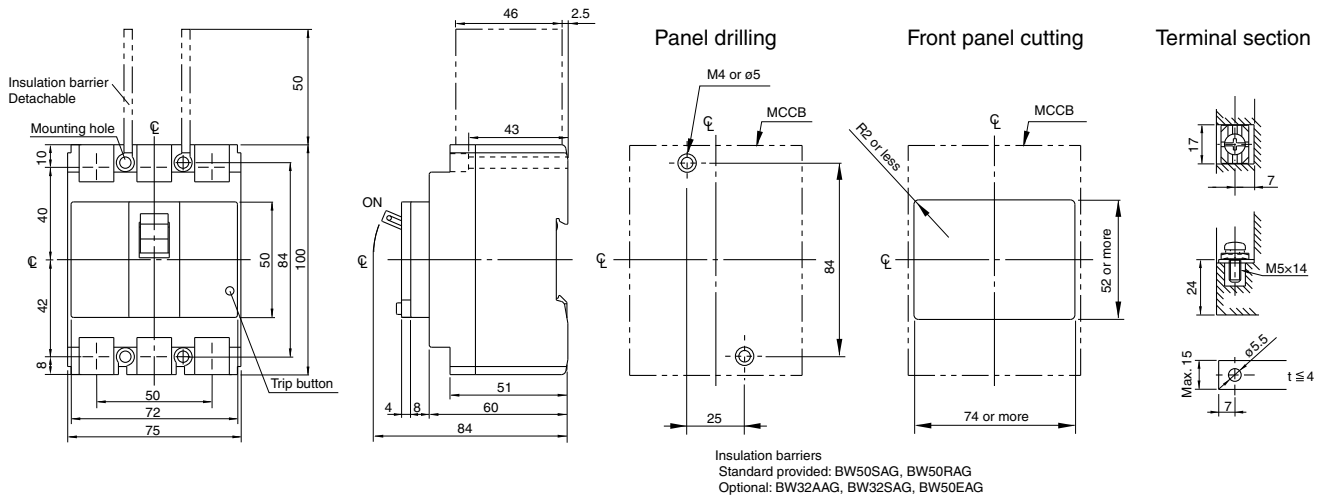
Molded Case Circuit Breakers G-TWIN series Dimensions / Standard

- Dimensions, mm
- Front mounting, front connection

BW32-2P, BW50-2P

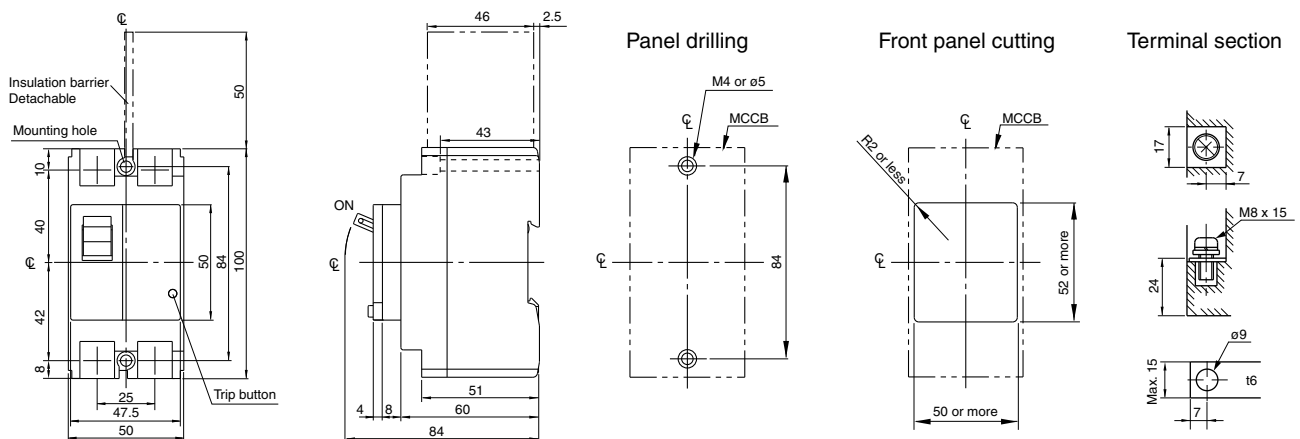


BW32-3P, BW50-3P



06

BW63-2P



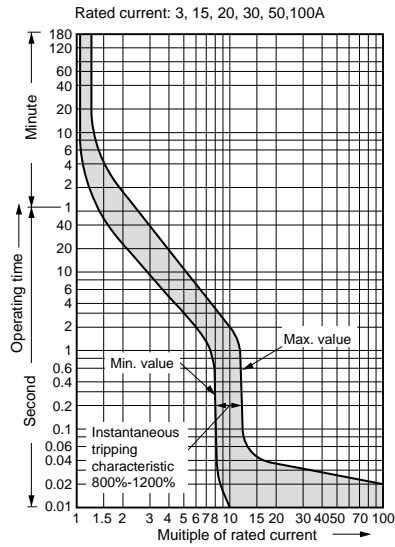
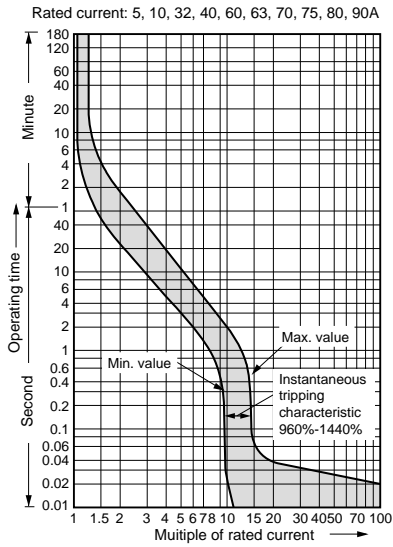
Molded Case Circuit Breakers

G-TWIN series

Characteristic curves

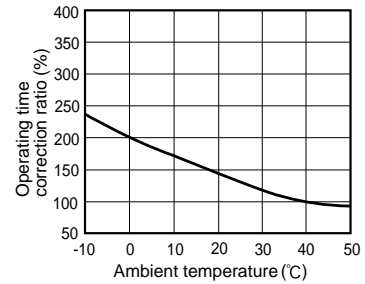
■ Characteristic curves / Line protection

BW32, 50, 63, 100



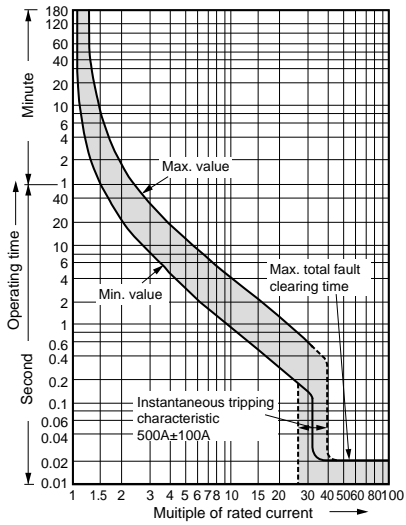
Temperature correction curve

Reference temp. 40°C

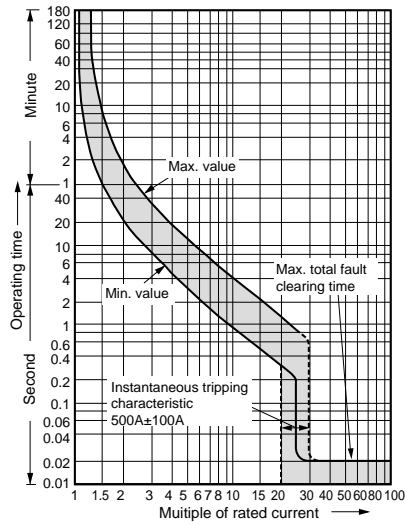


BW50HAG, BW125

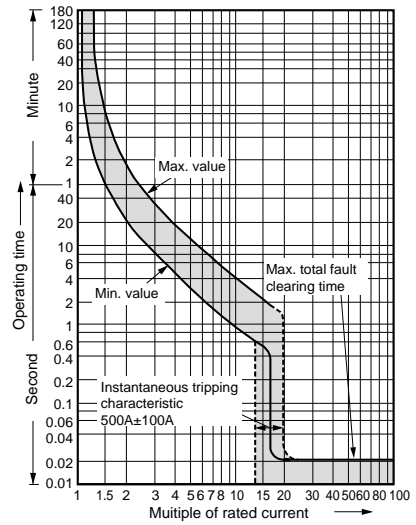
• 15A



• 20A



• 30A



Temperature correction curve

• 15-30A

Reference temp. 40°C

