

# FUJI BW Series (100/160/250AF) MCCB

Molded Case Circuit Breakers



# Compact

We've reduced external dimensions and increased modularization to the limits. Customers can now reduce costs in panel design and manufacturing.



# Cassette

User installation provides for speedy on-site response to changes in specifications.

(Customer assembly of accessories enables customer to respond to changes in specifications.)

A wide assortment of user-installed accessories is available.

The number of tasks required when specifications change has been reduced.

Models Auxiliary switch and Alarm switch can be mounted on either the right or left.







# MCCB

## Line-up

### • [NEW] FUJI MCCBs Family of Product Models ( 2/3- poles for Line Protection )

Series	E						S								
	100		160		250		100		160		250				
Frame size	3	2	3	2	3	2	2	3	2	3	2	3	2	3	
Poles	3	2	3	2	3	2	3	2	3	2	3	2	3		
Type	BW103E0	BW162E0	BW163E0	BW252E0	BW253E0	BW102S0	BW103S0	BW162J0	BW163J0	BW162S0	BW163S0	BW252J0	BW253J0	BW252S0	BW253S0
Ordering Code	BW103E0	BW162E0	BW163E0	BW252E0	BW253E0	BW102S0	BW103S0	BW162J0	BW163J0	BW162S0	BW163S0	BW252J0	BW253J0	BW252S0	BW253S0
Note (with)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rated Current (A)	15, 20, 25, 30, 40, 50, 60, 75, 80, 100	100, 125, 150, 160		175, 200, 225, 250		15, 20, 25, 30, 40, 50, 60, 75, 80, 100		100, 125, 150, 160		100, 125, 150, 160		175, 200, 225, 250		175, 200, 225, 250	
Rated interrupting capacity (kA)	415V AC 15 / 8 380V AC 18 / 9 230V AC 25 / 13	18 / 9 18 / 9 25 / 13		18 / 9 18 / 9 25 / 13		30 / 8 30 / 15 50 / 25	30 / 8 30 / 15 100 / 50	25 / 13 25 / 13 50 / 25		36 / 18 36 / 18 85 / 43		25 / 13 25 / 13 50 / 25		36 / 18 36 / 18 85 / 43	
IEC60947-2 (Icu/Ics)															
See pages	12			13			14			15			16		

### • FUJI MCCBs Family of Product Models ( 2/3- poles for Line Protection )

Series	E							
	3 0		50		6 0		1 0 0	
Frame size	2		3		2		3	
Poles	2	3	2	3	2	3	2	3
Type	EA32AC	EA33AC	EA52C	EA53C	EA62C	EA63C	EA102C	EA103C
Ordering Code	BB2AEAC	BB3AEAC	BB2BEC	BB3BEC	BB2CEC	BB3CEC	BB2EEC	BB3EEC
Note (with)	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE
Rated Current (A)	3, 5, 10, 15, 20, 30		5, 10, 15, 20, 30, 40, 50		60		50, 60, 75, 100	
Rated interrupting capacity (kA)	1.5 / 1		2.5 / 2		2.5 / 2		10 / 5	
IEC60947-2 (Icu/Ics)	2.5 / 2		5 / 3		5 / 3		25 / 13	
See pages	*1							

Series	E					
	225		400		600	800
Frame size	2		3		3	3
Poles	2	3	2	3	3	3
Type	EA202C	EA203C	EA402C	EA403C	EA603C	EA803
Ordering Code	BB2GEC	BB3GEC	BB2KEC	BB3KEC	BB3LEC	BB3MEC
Note (with)	-CE	-CE	-CE	-CE	-CE	-CE
Rated Current (A)	125, 150, 175, 200, 225		250, 300, 350, 400		500, 600	
Rated interrupting capacity (kA)	18 / 5		25 / 13		35 / 18	
IEC60947-2 (Icu/Ics)	35 / 18		35 / 18		50 / 25	
See pages	*1					

Series	S											
	30		50		60		60		60			
Frame size	2		3		2		3		2		3	
Poles	2	3	2	3	2	3	2	3	2	3	2	3
Type	SA32C	SA33C	SA52C	SA53C	SA52RC	SA53RC	SA62C	SA63C	SA62RC	SA63RC		
Ordering Code	BB2ASC	BB3ASC	BB2BSC	BB3BSC	BB2BRC	BB3BRC	BB2CSC	BB3CSC	BB2CRC	BB3CRC		
Note (with)	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE
Rated Current (A)	3, 5, 10, 15, 20, 30		5, 10, 15, 20, 30, 40, 50		10, 15, 20, 30, 40, 50		60		60			
Rated interrupting capacity (kA)	2.5 / 2		7.5 / 4		10 / 5		7.5 / 4		10 / 5			
IEC60947-2 (Icu/Ics)	5 / 3		10 / 5		25 / 13		10 / 5		25 / 13			
See pages	*1											

Series	S							
	100				225			
Frame size	2				3			
Poles	2	3	2	3	2	3	2	3
Type	SA102C	SA103C	SA102RC	SA103RC	SA202C	SA203C	SA202RC	SA203RC
Ordering Code	BB2ESD	BB3ESD	BB2ERD	BB3ERD	BB2GSD	BB3GSD	BB2GRD	BB3GRD
Note (with)	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE
Rated Current (A)	15, 20, 30, 40, 50, 60, 75, 100				15, 20, 30, 40, 50, 60, 75, 100			
Rated interrupting capacity (kA)	30 / 8				50 / 13			
IEC60947-2 (Icu/Ics)	50 / 25				100 / 50			
See pages	*1							

Series	S									
Frame size	400				600	800	1000	1250	1600	
Poles	2	3	2	3	3	3	3	3	3	
Type	SA402C	SA403C	SA402RC	SA403RC	SA603RC	SA803RC	SA1003E	SA1253E	SA1603E	
Ordering Code	BB2KSC	BB3KSC	BB2KRC	BB3KRC	BB3LRC	BB3MRC	BE3NSA	BE3SSB	BE3TSA	
Note (with)	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE	-CE	
Rated Current (A)	250, 300, 350, 400			250, 300, 350, 400		500, 600	700, 800	500-1000	630-1250	800-1600
Rated interrupting capacity (kA)	415V AC	35 / 18		50 / 25		50 / 25	50 / 25	65 / 49	65 / 49	85 / 64
	380V AC	35 / 18		50 / 25		50 / 25	50 / 25	85 / 64	85 / 64	100 / 75
	IEC60947-2 (Icu/Ics)	230V AC	50 / 25		85 / 43		85 / 43	85 / 43	100 / 75	100 / 75
See pages	*1									

Notes: For FUJI ELCB product family, refer to FUJI D&C CATALOG (Individual Catalog No.07).

\*1 For details, refer to FUJI D&C CATALOG (Individual Catalog No.06).

### • FUJI MCCBs Family of Product Models ( 3-poles for Line Protection )

Series	H									
Frame size	100		225		400		600		800	
Poles	3		3		3		3		3	
Type	H103CA		H203CA		H403C		H603C		H803C	
Note (with)	-		-		-		-		-	
Rated Current (A)	15, 20, 30, 40, 50 60, 75, 100		125, 150, 175, 200 225		250, 300, 350, 400		500, 600		700, 800	
Rated interrupting capacity (kA)	440V AC	70 / 70		70 / 70		70 / 35		70 / 35		70 / 35
	400V AC	70 / 70		70 / 70		70 / 35		70 / 35		70 / 35
	IEC60947-2 (Icu/Ics)	230V AC	100 / 100		100 / 100		125 / 63		125 / 63	

### • FUJI MCCBs Family of Product Models ( 4-poles for Line Protection )

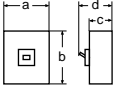
Series	S									
Frame size	100		225		400		600		800	
Poles	4	4	4	4	4	4	4	4	4	4
Type	SA104BA	SA104RA	SA204BA	SA204RA	SA404BA	SA404RA	SA604BA	SA604RA	SA804BA	SA804RA
Note (with)	-	-	-	-	-	-	-	-	-	-
Rated Current (A)	15, 20, 30, 40, 50 60, 75, 100		125, 150, 175, 200 225		250, 300, 350, 400		500, 600		700, 800	
Rated interrupting capacity (kA)	440V AC	25 / 13	50 / 25	25 / 13	50 / 25	35 / 18	50 / 25	35 / 18	50 / 25	35 / 18
	400V AC	30 / 15	50 / 25	35 / 18	50 / 25	35 / 18	50 / 25	45 / 23	65 / 33	45 / 23
	IEC60947-2 (Icu/Ics)	230V AC	50 / 25	85 / 43	50 / 25	85 / 43	50 / 25	85 / 43	50 / 25	85 / 43



# MCCB

## Quick reference guide (Line Protection)

### ■ E series/2, 3-pole IEC and CE marking conformed types

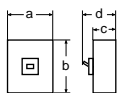
Frame		100A	160A	
Pole		3	2	3
Type		<b>BW103E0</b>	<b>BW162E0</b>	<b>BW163E0</b>
Rated current (A)		15, 20, 25, 30, 40, 50, 60, 75, 80, 100	100, 125, 150, 160	100, 125, 150, 160
Rated insulation voltage (V AC)		690	690	690
[IEC 60947-2, JIS C8201-2] (V DC)		250	250	250
Rated interrupting capacity (kA)	600V AC	–	–	–
IEC 60947-2	550V AC	5/3	5/3	5/3
JIS C 8201-2	440V AC	10/5	15/8	15/8
(Icu/Ics) *1	415V AC	15/8	18/9	18/9
	400V AC	15/8	18/9	18/9
	380V AC	18/9	18/9	18/9
	240V AC	25/13	25/13	25/13
	230V AC	25/13	25/13	25/13
	250V DC	5/3	5/3	5/3
Dimensions (mm)				
		a 75 b 130 c 60 d 81	105 165 60 86	105 165 60 86
Mass (kg) Front mounting type		0.78	1.36	1.56
Tripping device		Thermal-magnetic		
Front mounting, front connection		●	●	●
Internal accessories <i>See page 18</i>				
Auxiliary switch		●	●	●
Alarm switch		●	●	●
Auxiliary switch + Alarm switch		●	●	●
Shunt trip		●	●	●
Under voltage release		●	●	●
External accessories <i>See page 22</i>				
Operating handle N type		●	●	●
Operating handle V type		●	●	●
Terminal cover Short		–	●	●
Terminal cover Long		●	●	●
Insulation barrier Interphase		●	●	●
Flat terminal		–	●	●
Block terminal		●	●	●
Handle locking device		●	●	●
IEC 35mm rail mounting		●	–	–

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

● Available – Not available

### ■ E series/2, 3-pole IEC and CE marking conformed types

Frame	250A	
Pole	2	3
Type	<b>BW252E0</b>	<b>BW253E0</b>
Rated current (A)	175, 200, 225, 250	175, 200, 225, 250
Rated insulation voltage (V AC)	690	690
[IEC 60947-2, JIS C8201-2] (V DC)	250	250
Rated interrupting capacity (kA)	–	–
IEC 60947-2	5/3	5/3
JIS C 8201-2	15/8	15/8
(Icu/Ics) *1	18/9	18/9
	18/9	18/9
	18/9	18/9
	25/13	25/13
	25/13	25/13
	5/3	5/3
Dimensions (mm)		
	a 105	105
	b 165	165
	c 60	60
	d 86	86
Mass (kg) Front mounting type	1.36	1.56
Tripping device	Thermal-magnetic	
Front mounting, front connection	●	●
Internal accessories <i>See page 18</i>		
Auxiliary switch	●	●
Alarm switch	●	●
Auxiliary switch + Alarm switch	●	●
Shunt trip	●	●
Under voltage release	●	●
External accessories <i>See page 22</i>		
Operating handle N type	●	●
Operating handle V type	●	●
Terminal cover Short	●	●
Terminal cover Long	●	●
Insulation barrier Interphase	●	●
Flat terminal	●	●
Block terminal	●	●
Handle locking device	●	●
IEC 35mm rail mounting	–	–



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

● Available – Not available

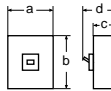


# MCCB

## Quick reference guide (Line Protection)

### ■ S series/2, 3-pole IEC and CE marking conformed types

Frame	100A	
Pole	2	3
Type	<b>BW102S0</b>	<b>BW103S0</b>
Rated current (A)	15, 20, 25, 30, 40, 50, 60, 75, 80, 100	
Rated insulation voltage (V AC)	690	690
[IEC 60947-2, JIS C8201-2] (V DC)	250	250
Rated interrupting capacity (kA) 600V AC	–	–
IEC 60947-2 550V AC	10/3	10/3
JIS C 8201-2 440V AC	20/5	20/5
(Icu/Ics) *1 415V AC	30/8	30/8
400V AC	30/15	30/15
380V AC	30/15	30/15
240V AC	50/25	100/50
230V AC	50/25	100/50
250V DC	5	10
Dimensions (mm)	a 50 b 130 c 60 d 81	75 130 60 81
Mass (kg) Front mounting type	0.6	0.78
Tripping device	Thermal-magnetic	
Front mounting, front connection	●	●
Internal accessories <i>See page 18</i>		
Auxiliary switch	●	●
Alarm switch	●	●
Auxiliary switch + Alarm switch	●	●
Shunt trip	●	●
Under voltage release	●	●
External accessories <i>See page 22</i>		
Operating handle N type	●	●
Operating handle V type	●	●
Terminal cover Short	–	–
Terminal cover Long	●	●
Insulation barrier Interphase	●	●
Flat terminal	–	–
Block terminal	●	●
Handle locking device	●	●
IEC 35mm rail mounting	●	●



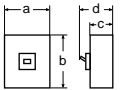
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Notes: \*1 Icu: Rated ultimate short-circuit breaking capacity  
Ics: Rated service short-circuit breaking capacity

● Available – Not available



## ■ S series/2, 3-pole IEC and CE marking conformed types

Frame	160A				
Pole	2	3	2	3	
Type	<b>BW162J0</b>	<b>BW163J0</b>	<b>BW162S0</b>	<b>BW163S0</b>	
Rated current (A)	100, 125, 150, 160	100, 125, 150, 160	100, 125, 150, 160	100, 125, 150, 160	
Rated insulation voltage (V AC)	690	690	690	690	
[IEC 60947-2, JIS C8201-2] (V DC)	250	250	250	250	
Rated interrupting capacity (kA) 600V AC	–	–	–	–	
IEC 60947-2 550V AC	8/4	8/4	10/5	10/5	
JIS C 8201-2 440V AC	20/10	20/10	25/13	25/13	
(Icu/Ics) *1 415V AC	25/13	25/13	36/18	36/18	
400V AC	25/13	25/13	36/18	36/18	
380V AC	25/13	25/13	36/18	36/18	
240V AC	50/25	50/25	85/43	85/43	
230V AC	50/25	50/25	85/43	85/43	
250V DC	20/10	20/10	30/15	30/15	
Dimensions (mm)					
		a 105	105	105	105
		b 165	165	165	165
		c 60	60	60	60
		d 86	86	86	86
Mass (kg) Front mounting type	1.36	1.56	1.36	1.56	
Tripping device	Thermal-magnetic				
Front mounting, front connection	●	●	●	●	
Internal accessories <i>See page 18</i>					
Auxiliary switch	●	●	●	●	
Alarm switch	●	●	●	●	
Auxiliary switch + Alarm switch	●	●	●	●	
Shunt trip	●	●	●	●	
Under voltage release	●	●	●	●	
External accessories <i>See page 22</i>					
Operating handle N type	●	●	●	●	
Operating handle V type	●	●	●	●	
Terminal cover Short	●	●	●	●	
Terminal cover Long	●	●	●	●	
Insulation barrier Interphase	●	●	●	●	
Flat terminal	●	●	●	●	
Block terminal	●	●	●	●	
Handle locking device	●	●	●	●	
IEC 35mm rail mounting	–	–	–	–	

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

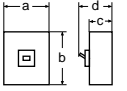
● Available – Not available



# MCCB

## Quick reference guide (Line Protection)

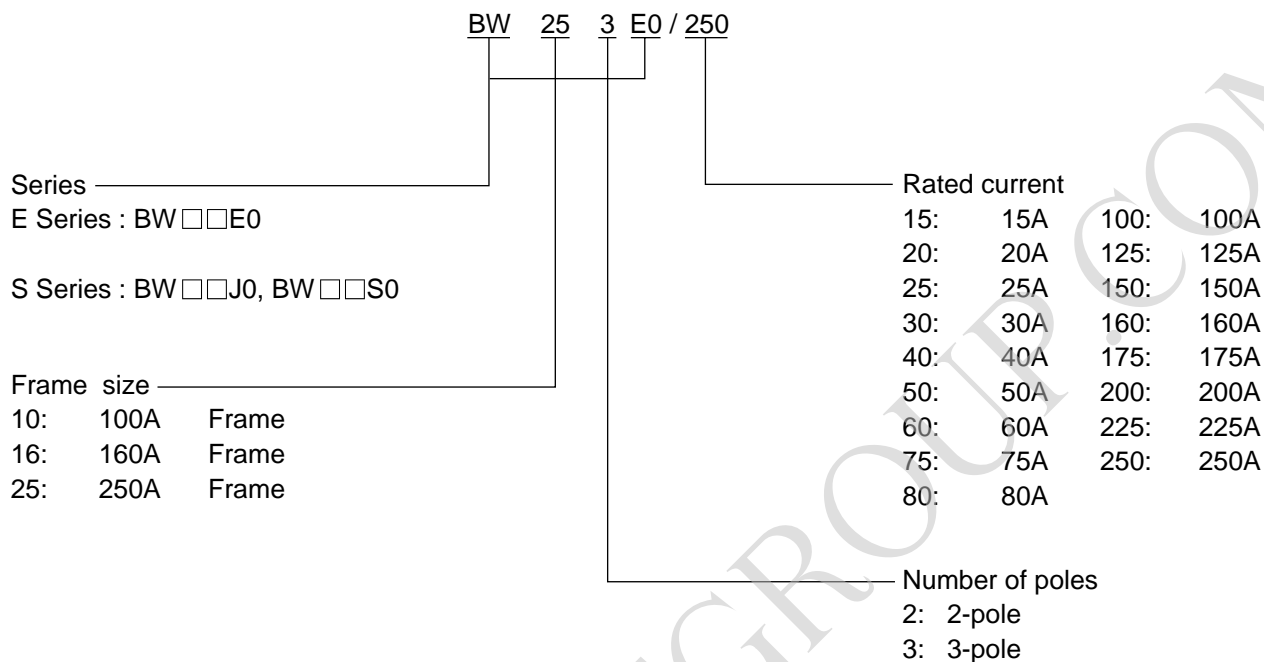
### ■ S series/2, 3-pole IEC and CE marking conformed types

Frame	250A					
Pole	2	3	2	3		
Type	BW252J0	BW253J0	BW252S0	BW253S0		
Rated current (A)	175, 200, 225, 250	175, 200, 225, 250	175, 200, 225, 250	175, 200, 225, 250		
Rated insulation voltage (V AC)	690	690	690	690		
[IEC 60947-2, JIS C8201-2] (V DC)	250	250	250	250		
Rated interrupting capacity (kA)						
600V AC	–	–	–	–		
IEC 60947-2 550V AC	8/4	8/4	10/5	10/5		
JIS C 8201-2 440V AC	20/10	20/10	25/13	25/13		
(Icu/Ics) *1 415V AC	25/13	25/13	36/18	36/18		
400V AC	25/13	25/13	36/18	36/18		
380V AC	25/13	25/13	36/18	36/18		
240V AC	50/15	50/15	85/43	85/43		
230V AC	50/15	50/15	85/43	85/43		
250V DC	20/10	20/10	30/15	30/15		
Dimensions (mm)						
		a	105	105	105	105
		b	165	165	165	165
		c	60	60	60	60
		d	86	86	86	86
Mass (kg) Front mounting type	1.36	1.56	1.36	1.56		
Tripping device	Thermal-magnetic					
Front mounting, front connection	●	●	●	●		
Internal accessories <i>See page 18</i>						
Auxiliary switch	●	●	●	●		
Alarm switch	●	●	●	●		
Auxiliary switch + Alarm switch	●	●	●	●		
Shunt trip	●	●	●	●		
Under voltage release	●	●	●	●		
External accessories <i>See page 22</i>						
Operating handle N type	●	●	●	●		
Operating handle V type	●	●	●	●		
Terminal cover Short	●	●	●	●		
Terminal cover Long	●	●	●	●		
Insulation barrier Interphase	●	●	●	●		
Flat terminal	●	●	●	●		
Block terminal	●	●	●	●		
Handle locking device	●	●	●	●		
IEC 35mm rail mounting	–	–	–	–		

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

● Available – Not available

## ■ Type number of MCCB body



### • Example

S series  
 3-pole, 250A Frame ..... BW253S0  
 Rated current 250A ..... 250

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Complete type number                      BW253S0/250

## ■ Type number of MCCB accessories

See page 18 and later for the Type number of each accessory.

### • Example

See page 24 for the selection of insulation barriers interphase.  
 3-pole, 250A Frame ..... BZ-B40B



## Internal Accessories



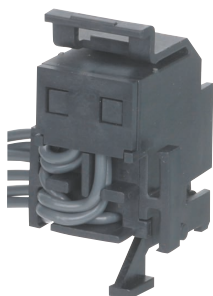
### Auxiliary switch and Alarm switch

These devices indicate the MCCB's operation status electrically.

- Auxiliary switch (AUX)  
Indicates the ON/OFF status of MCCB.
- Alarm switch (AL)  
Indicates the trip status of MCCB. A MCCB trips when:
  - an overload occurs.
  - a short-circuit current flows through the MCCB.
- Both the auxiliary switch and alarm switch can be installed either on the right or left side of MCCB body.

MCCB Type		Type number		
E series	S series	Auxiliary switch (AUX)	Alarm switch (AL)	Auxiliary switch + Alarm switch (AUX+AL)
BW103E0	BW102S0, BW103S0	<b>BW9W1SB0</b>	<b>BW9K1SB0</b>	<b>BW9WKS0</b>
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	<b>BW9W1SG0</b>	<b>BW9K1SG0</b>	<b>BW9WKS0</b>

## Internal mousing method



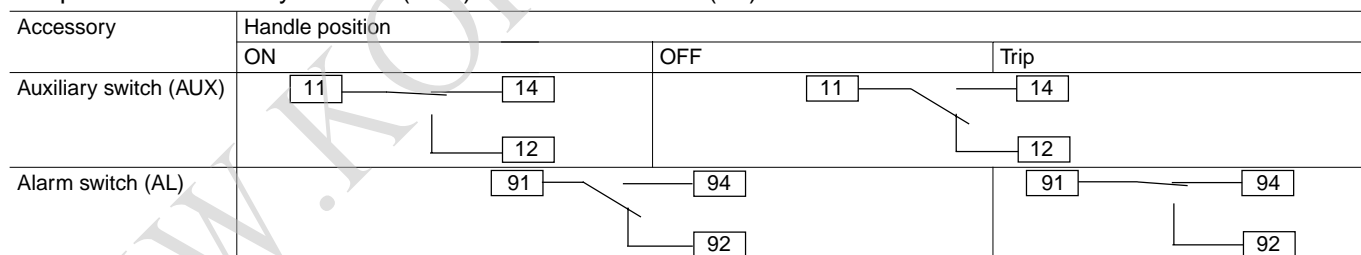
Auxiliary switches + Alarm switches (AUX+AL)

- All auxiliary switches (AUX) and alarm switches (AL) are electrical pre-wired with wires of 1 mm<sup>2</sup>, 500 mm long.
- The auxiliary switch, alarm switch and auxiliary plus alarm switch have almost the same appearance.

### Rating of auxiliary switches (AUX) and alarm switches (AL)

Type number	AC			DC			Minimum load current
	Voltage (V)	Make/Break current (A)		Voltage (V)	Make/Break current (A)		
		AC12	AC15		DC12	DC14	
<b>BW9W1SB0</b>	24	5	5	24	4	3	5V DC 160mA 30V DC 30mA
<b>BW9K1SB0</b>	48	5	5	48	2.5	1	
<b>BW9WKS0</b>	125	5	3	125	0.4	0.4	
	250	3	2	250	0.2	0.2	
<b>BW9W1SG0</b>	24	5	5	24	4	3	
<b>BW9K1SG0</b>	48	5	5	48	2.5	1	
<b>BW9WKS0</b>	125	5	3	125	0.4	0.4	
	250	3	2	250	0.2	0.2	

### Operation of auxiliary switches(AUX) and alarm switches(AL)

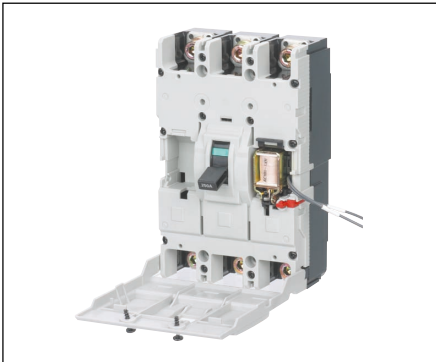


A





## Internal Accessories



### Shunt trip (SHT) and Under voltage release (UVR)

- **Shunt trip (SHT)**  
A device that issues an electrical signal to trip the MCCB
- **Under voltage release (UVR)**  
A device that is used to trip the MCCB when the main circuit voltage drops lower than the specified value.
- Both the shunt trip and under voltage release can be installed on the right side of MCCB body.

#### ● Shunt trip (SHT)

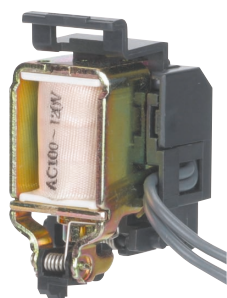
MCCB Type	Type number	<input type="checkbox"/> Code	Operating voltage
<b>E series</b>	<b>S series</b>		
BW103E0	BW102S0, BW103S0	<b>BW9FAB0</b>	A 100-130V AC
		<b>BW9FKB0</b>	K 200-277V AC
		<b>BW9FPB0</b>	P 380-480V AC
		<b>BW9FRB0</b>	R 24V DC
		<b>BW9FSB0</b>	S 48V DC
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	<b>BW9FAG0</b>	A 100-120V AC
		<b>BW9FG0</b>	1 120-130V AC
		<b>BW9FKG0</b>	K 200-240V AC
		<b>BW9FBG0</b>	B 277V AC
		<b>BW9FPG0</b>	P 380-440V AC
		<b>BW9FHG0</b>	H 440-480V AC
		<b>BW9FRG0</b>	R 24V DC
		<b>BW9FSG0</b>	S 48V DC

#### ● Under voltage release (UVR)

MCCB type	Type number	<input type="checkbox"/> Code	Operating voltage
<b>E series</b>	<b>S series</b>		
BW103E0	BW102S0, BW103S0	<b>BW9RAB0</b>	A 100-130V AC
		<b>BW9RKB0</b>	K 200-240V AC
		<b>BW9RBB0</b>	B 277V AC
		<b>BW9RPB0</b>	P 380-415V AC
		<b>BW9RHB0</b>	H 440-480V AC
		<b>BW9RRB0</b>	R 24V DC
		<b>BW9RSB0</b>	S 48V DC
		<b>BW9RLB0</b>	L 125V DC
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	<b>BW9RAG0</b>	A 100-130V AC
		<b>BW9RKG0</b>	K 200-240V AC
		<b>BW9RBG0</b>	B 277V AC
		<b>BW9RPG0</b>	P 380-415V AC
		<b>BW9RHG0</b>	H 440-480V AC
		<b>BW9RRG0</b>	R 24V DC
		<b>BW9RSG0</b>	S 48V DC
		<b>BW9RLG0</b>	L 125V DC

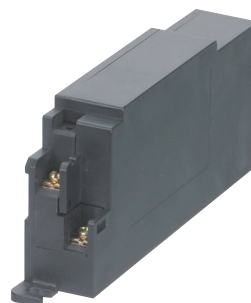
Note: Shunt trip (SHT) is capable of internal mounting only.  
Under voltage release (UVR) for 100AF is capable of internal mounting only.  
Under voltage release (UVR) for 160AF and 250AF is capable of external mounting only.

### Internal mouning method



Shunt trip (SHT)

### External mouning method (160A and 250A Frame only)



Under voltage release (UVR)

#### ● Shunt trip (SHT)

Type number	Power consumption		Time rating of coil	Operating time (ms)	Allowable voltage function
	AC VA	DC W			
<b>BW9F□B0</b>	30	30	Continuous	13-21	AC voltage : 85% to 110% of coil rated voltage DC voltage : 75% to 125% of coil rated voltage
<b>BW9F□G0</b>	30	35			

#### ● Under voltage release (UVR)

Type number	Coil rated voltage	Power consumption		Allowable voltage function
		AC VA	DC W	
<b>BW9R□B0</b>	110-130V AC	5	-	Tripping voltage: 70 to 35% of coil rated voltage
	200-240V AC	5	-	
	277V AC	5	-	
	380-415V AC	5	-	Closing voltage: 85% to 110% of coil rated voltage
	440-480V AC	5	-	
	24V DC	-	5	
	48V DC	-	5	
125V DC	-	5		
<b>BW9R□G0</b>	110-130V AC	200	-	
	200-240V AC	150	-	
	277V AC	150	-	
	380-415V AC	200	-	
	440-480V AC	200	-	
	24V DC	-	150	
	48V DC	-	150	
125V DC	-	300		

A



# MCCB Accessories

## External accessories

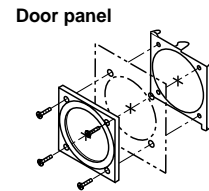
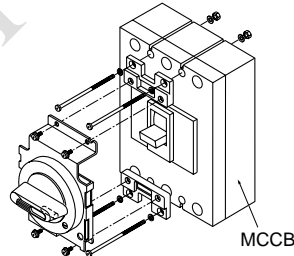
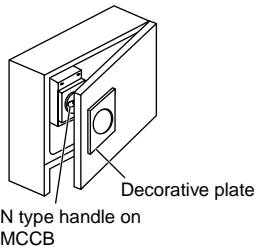


### Operating handle (N type)

- The structure is that the handle operating mechanism is installed on the MCCB body.
- Attaching the dustproof packing ensures the degree of protection IP50 stipulated by IEC60529.
- Conforms to isolation stipulated by IEC60947-1.

#### ● N type

MCCB type		Type number	Dustproof packing
<b>E series</b>	<b>S series</b>		
BW103E0	BW102S0, BW103S0	<b>BW9N0B0</b>	-
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	<b>BZ-N40C</b>	BZ-NP-1C



#### ● Operating method

- The ON, OFF, and RESET operation can be made for MCCB by rotating the handle. When the MCCB automatically interrupts the circuit, the handle indicates TRIP.
- By turning the RELEASE screw with a screwdriver, the door can be opened while the MCCB remained on.
- The handle can be locked ON or OFF using a padlock. Use a commercially-available padlock. The shackle of the padlock should be max.φ5mm for BW9N0B0, max.φ8mm for BZ-N40C.

## External accessories

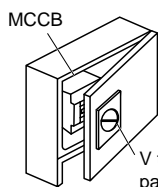


### Operating handle (V type)

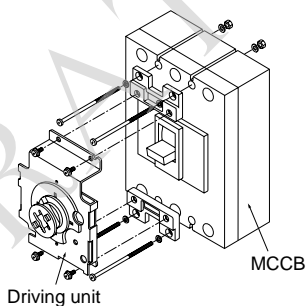
- The structure is that the handle operating mechanism is installed on the door surface.
- The standard V type operating handle ensures the degree of protection IP54 stipulated by IEC60529.
- The space between the operating handle and the MCCB can be adjusted by using the extension shaft.
- The operating handle mechanism can interlock the switchboard door.
- Conforms to isolation stipulated by IEC60947-1.

#### ● V type

MCCB type		Type number
<b>E series</b>	<b>S series</b>	
BW103E0	BW102S0, BW103S0	<b>BW9V0B0</b>
BW162E0, BW163E0	BW162J0, BW163J0	<b>BZ6V40C</b>
BW252E0, BW253E0	BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	

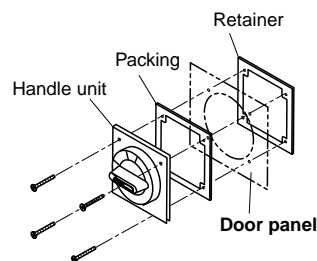


V type handle on panel



Driving unit

MCCB



Handle unit

Packing

Retainer

Door panel

#### ● Operating method

- The ON, OFF, and RESET operation can be made for MCCB by rotating the handle. When the MCCB automatically interrupts the circuit, the handle indicates TRIP.
- By turning the RELEASE screw with a screwdriver, the door can be opened while the MCCB remained on.
- The handle can be locked OFF using a padlock. Use a commercially-available padlock. The shackle of the padlock should be max.  $\phi 5\text{mm}$  for BW9N0B0, max.  $\phi 8\text{mm}$  for BZ-N40C.



## External accessories



### Terminal cover

- Finger protection guards against shock from accidentally touching live terminals.

MCCB type		Long type number	Short type number	Packing quantity
<b>E series</b>	<b>S series</b>			
BW103E0	BW103S0	<b>BW9BTB0-L3</b>	–	2pcs
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	<b>BZ-TB40B</b>	<b>BZ-TS40B</b>	

## External accessories



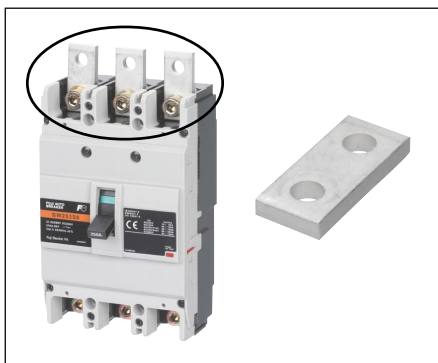
### Insulation barrier Interphase

- The interphase barrier reinforces the insulation between terminals.
- Two insulation barriers are supplied with the MCCB body.  
If additional insulation barriers are needed, please place an order with the following type number.

MCCB type		Type number	Packing quantity
<b>E series</b>	<b>S series</b>		
BW103E0	BW102S0, BW103S0	<b>BW9BPB0</b>	2pcs
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	<b>BZ-B40B</b>	4pcs



## External accessories



### Flat terminal

- To facilitate connecting work:  
Additional flat terminals can be attached to 160 to 250A frames.  
Attach flat terminals according to the screw size and tightening torque as shown in the table below.

MCCB type		Type number	MCCB side		Flat Terminal side		Packing quantity
E series	S series		Screw Size	Torque	Screw Size	Torque	
BW162E0 BW252E0	BW162J0 BW162S0 BW252J0 BW252S0	<b>BZ-S50B-2252</b>	M8 × 20	8 ~ 13N•m	M8 × 25	8 ~ 10N•m	4pcs
BW163E0 BW253E0	BW163J0 BW163S0 BW253J0 BW253S0	<b>BZ-S50B-2253</b>	M8 × 20	8 ~ 13N•m	M8 × 25	8 ~ 10N•m	6pcs

## External accessories



### Block terminal

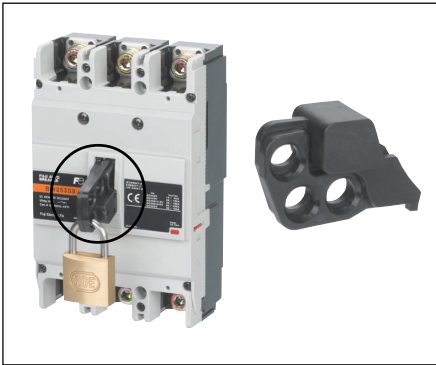
This connector screws directly to the standard connectors.

MCCB type		Rated current (A)	Wire size (mm <sup>2</sup> )	Type number	Packing quantity
E series	S series				
–	BW102S0	15 to 50 60 to 100	1.5 to 16 5.5 to 50	<b>BW9SSL0B0-052</b> <b>BW9SSL0B0-102</b>	3pcs
BW103E0	BW103S0	15 to 50 60 to 100	1.5 to 16 5.5 to 50	<b>BW9SSL0B0-053</b> <b>BW9SSL0B0-103</b>	
BW162E0, BW163E0	BW162J0, BW163J0 BW162S0, BW163S0	100 to 160	42.4 to 152 5.5 to 50	<b>BW9SSL0G0(*)</b>	
BW252E0, BW253E0	BW252J0, BW253J0 BW252S0, BW253S0	175 to 250			

Note:(\*) The Icu decreases to 50% when Block terminals are installed to the power supply side.



## External accessories

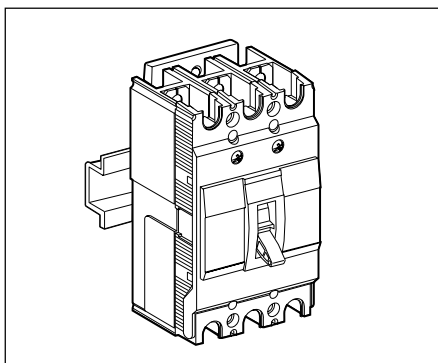


### Handle locking device

- This key lock device snaps on to the enable the handle to be locked in either the OFF position. It can be used either as a handle locking cover or, with the addition of a padlock, as an OFF lock.
- Use a commercially-available padlock. The shackle of the padlock should 4 to 8mm diameter.

MCCB type		Type number
<b>E series</b>	<b>S series</b>	
BW103E0	BW102S0, BW103S0	<b>BW9Q1B0</b>
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	<b>BW9Q1G0</b>

## External accessories



### IEC 35mm rail mounting

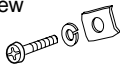
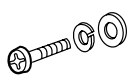
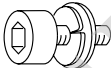
- Unification of the external and basic dimensions has expanded the range of models mountable on IEC 35mm rails.

MCCB type		Type number
<b>E series</b>	<b>S series</b>	
BW103E0	BW102S0, BW103S0	<b>BW9PDB0</b>



## Terminal Connection

- Terminal Connection/Front mounting, Front Connection
  - MCCBs and cables according to the screw size and tightening torque as shown in the table below.
  - To facilitate the connecting work, the following parts are prepared.  
Flat terminal : See page 25  
Block terminal : See page 25

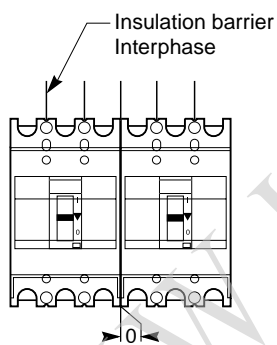
MCCB type		Screw and Bolt	Size	Tightening torque [N•m]
<b>E series</b>	<b>S series</b>			
BW103E0	BW102S0, BW103S0	Pan-head screw 	Rated current: 15 to 50A M5 ×13.5	2
			Rated current: 60 to 100A M8 ×13.5	5.5
BW162E0, BW163E0 BW252E0, BW253E0	BW162J0, BW163J0 BW162S0, BW163S0 BW252J0, BW253J0 BW252S0, BW253S0	 Hexagonal head bolt	M8 ×16	8-13

## Arc Space

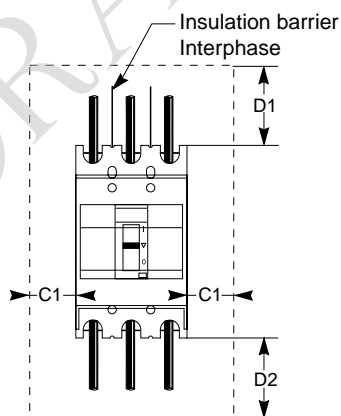
- When wiring, secure the insulation space as shown in the table below.
- To the bare conductors, carry out insulation protection with the insulation taping or the insulation barrier Interphase in the range as shown in the table below.

MCCB type		Rated interrupting capacity (kA) 415V AC	Bare or painted sheet metal insulated bars			Bare busbar under voltage	
E series	S series		C1	D1	D2	D1	D2
BW103E0		15	40	45	45	75	45
–	BW102S0 BW103S0	30	40	45	45	75	95
BW162E0 BW163E0 BW252E0 BW253E0	–	18	50	60	45	140	45
–	BW162J0 BW163J0 BW252J0 BW253J0	25	50	60	45	140	45
–	BW252S0 BW253S0	36	50	60	45	140	45

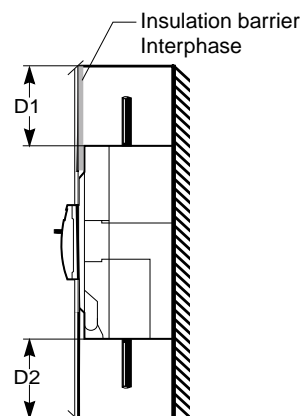
**Minimum distance between two adjacent MCCB**



**Minimum distance between MCCB and trip, bottom or side panels**



**Minimum distance between MCCB and front or rear panels**







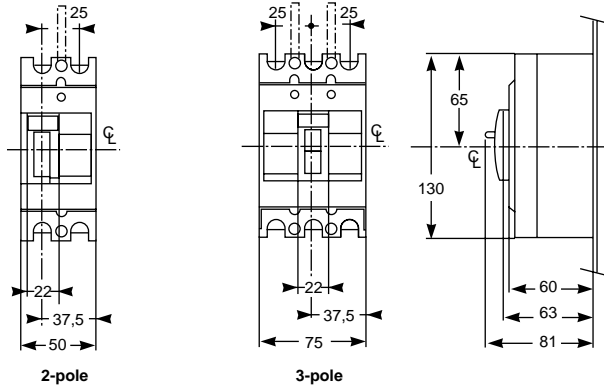
# MCCB

## Dimensions (E and S series)

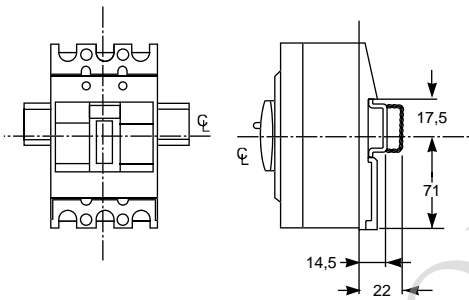
### ■ Dimensions, mm

#### ● Front mounting, front connection

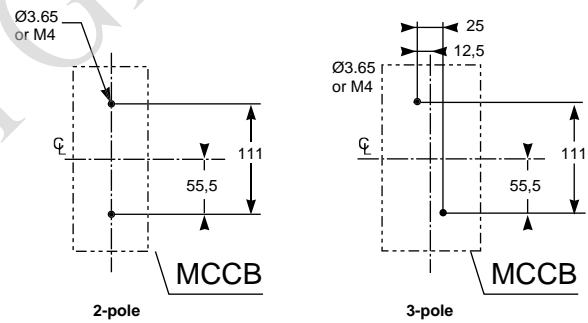
BW103E0□,  
BW102S0□, BW103S0□



#### ● Mounting on IEC 35mm rail



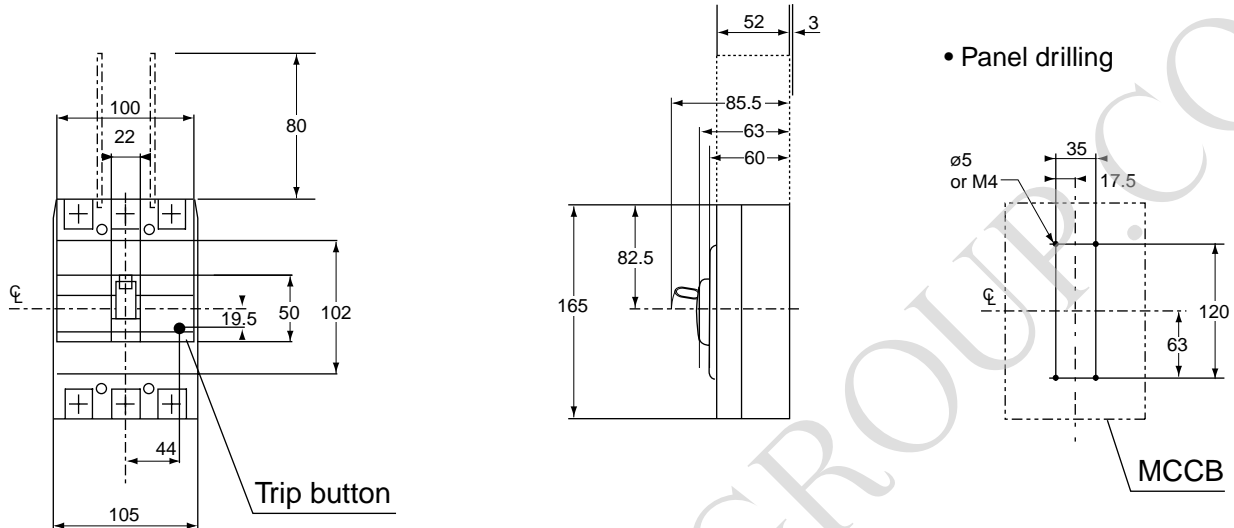
#### ● Panel drilling



## ■ Dimensions, mm

### ● Front mounting, front connection

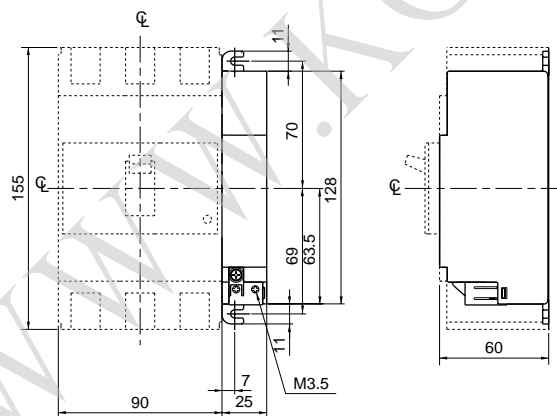
BW162E0□, BW163E0□, BW252E0□, BW253E0□,  
 BW162J0□, BW163J0□, BW162S0□, BW163S0□, BW252J0□, BW253J0□, BW252S0□, BW253S0□



### ● Under voltage release

#### Applicable MCCB:

BW162E0□, BW163E0□, BW252E0□, BW253E0□,  
 BW162J0□, BW163J0□, BW162S0□, BW163S0□, BW252J0□, BW253J0□, BW252S0□, BW253S0□



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