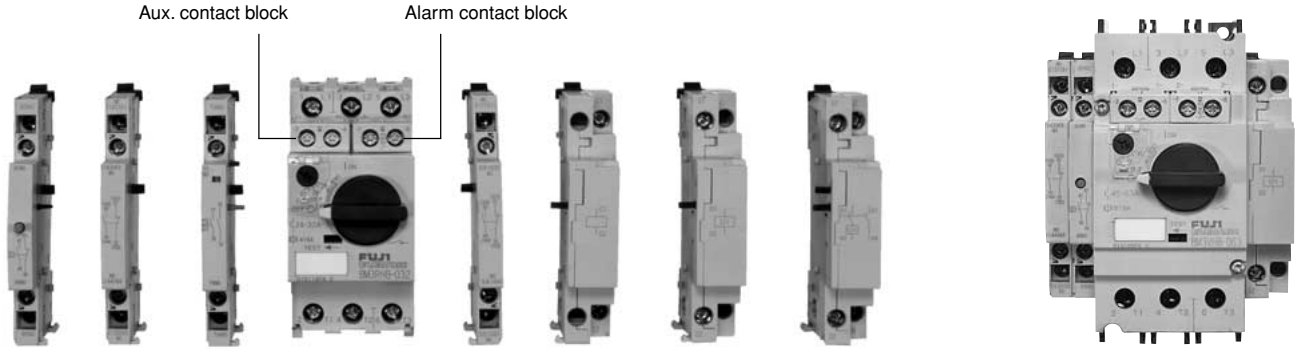
Optional accessories

■ Features

- Auxiliary contact blocks, alarm contact blocks, and shunt/undervoltage trip devices can be used with BM3R (45mm wide) and BM3V (55mm wide) frames.
- Accessories are easily mounted.
- Internally mountable auxiliary contact blocks and alarm contact blocks can be frontally mounted.
- Externally mountable auxiliary contact blocks can be mounted on either the right or left side.
- Shunt trip and undervoltage trip devices are available in a wide operating coil voltage range.
- Standard and emergency external handles are available.
- IP20 terminal cover prevents accidental finger touch to electrically charged parts.



■ Types and ratings

• Auxiliary contact blocks/W

Description		Starter type	Mounting	Contact arrangement	Type	Mass (g)
 AF01-60L  AF01-59, 01-58	These blocks are linked to the ON/OFF operation of the MMS. Up to two internally mountable contact blocks can be mounted to the right/left front, and up to two externally mountable contact blocks can be mounted to the right/left sides.	BM3R BM3V	Front	1NO 1NC	**BZ0WIA** **BZ0WIB**	9
			Left side	2NO 1NO+1NC 2NC	**BZ0WUAAL** **BZ0WUABL** **BZ0WUBBL**	45
			Right side	2NO 1NO+1NC 2NC	**BZ0WUAAR** **BZ0WUABR** **BZ0WUBBR**	45

• Alarm contact blocks/K

Description		Starter type	Mounting	Contact arrangement	Type	Mass (g)
 AF01-60R	This block operates when the MMS trips due to overload, phase-loss, or short-circuit. It is not linked to the ON/OFF operation of the MMS. Note: Operation can be checked with the test trip function.	BM3R BM3V	Front (Right side only)	1NO 1NC	**BZ0KIA** **BZ0KIB**	9

Optional accessories

• Auxiliary and alarm contact blocks/WK

Description	Starter type	Mounting	Contact arrangement	Type	Mass (g)
 AF01-57 • This contact block combines auxiliary contact and alarm contact that operates in the event of an overload, phase-loss, or short-circuit. Alarm contact is not linked to the ON/OFF operation of the MMS. • An alarm is displayed in the contact block's indicator when the alarm contact operates. Note: Operation can be checked with the test trip function.	BM3R BM3V	Left	1NO (Aux.)+ 1NO (Alarm) 1NC (Aux.)+ 1NO (Alarm) 1NO (Aux.)+ 1NC (Alarm) 1NC (Aux.)+ 1NC (Alarm)	**BZ0WKUAA** **BZ0WKUBA** **BZ0WKUAB** **BZ0WKUBB**	45

• Short-circuit alarm contact block/KI

Description	Starter type	Mounting	Contact arrangement	Type	Mass (g)
 AF01-56 • The contacts operate only when the MMS has tripped due to a short-circuit. • When these contacts operate, the blue reset button extends out, and a trip indication is displayed. • The power to the MMS can be ready to be turned on after pressing the reset button. Note: Operation can not be checked with the test trip function. Be sure to press the reset button before mounting to the MMS.	BM3R BM3V	Left	1NO+1NC	**BZ0TKUAB**	45

• Shunt trip devices/F

Description	Starter type	Mounting	Coil voltage	Type	Mass (g)
 AF01-55 This device is used to remotely trip the MMS. Notes: • This device cannot be used together with an undervoltage trip device. • When the MMS has been tripped with the shunt trip device, press the reset button before turning on the power.	BM3R BM3V	Right	24V 50/60Hz 48V 60Hz 48V 50Hz/60V 60Hz 100V 50Hz/100–110V 60Hz 110–127V 50Hz/120V 60Hz 200V 50Hz/200–220V 60Hz 220–230V 50Hz/240–260V 60Hz 240V 50Hz/277V 60Hz 380–400V 50Hz/400–440V 60Hz 415–440V 50Hz/460–480V 60Hz 500V 50Hz/600V 60Hz 24–60V DC * 110-240V DC *	**BZ0FAZU** **BZ0FBZU** **BZ0FCZU** **BZ0F1ZU** **BZ0FDZU** **BZ0FEZU** **BZ0FFZU** **BZ0FGZU** **BZ0FHZU** **BZ0F4ZU** **BZ0FJZU** **BZ0FKZUD** **BZ0FLZUD**	115

Note: * The time rating of coil is 5s.

• Undervoltage trip devices/R

Description	Starter type	Mounting	Coil voltage	Type	Mass (g)
 AF01-54 **R types** This device automatically trips the MMS when the control circuit voltage drops below the specified value. Notes: • This device cannot be used together with a shunt trip device. • When the MMS has been tripped with the undervoltage trip device, press the reset button before turning on the power.	BM3R BM3V	Right	24V 50Hz 24V 60Hz 48V 50Hz 48V 60Hz 100V 50Hz/100–110V 60Hz 110–127V 50Hz/120V 60Hz 200V 50Hz/200–220V 60Hz 220–230V 50Hz/240–260V 60Hz 240V 50Hz/277V 60Hz 380–400V 50Hz/400–440V 60Hz 415–440V 50Hz/460–480V 60Hz 500V 50Hz/600V 60Hz	**BZ0RAZ1U** **BZ0RAZ2U** **BZ0RBZ1U** **BZ0RBZU** **BZ0R1ZU** **BZ0RDZU** **BZ0REZU** **BZ0RFZU** **BZ0RGZU** **BZ0RHZU** **BZ0R4ZU** **BZ0RJZU**	115

• Undervoltage trip device with early make contacts/Re

Description	Starter type	Mounting	Coil voltage	Type	Mass (g)
 AF01-52 This device automatically trips the MMS when the control circuit voltage drops below the specified value. The control circuit voltage can be turned completely off by turning off the MMS. Notes: • This device cannot be used together with a shunt trip device. • When the MMS has been tripped with the undervoltage trip device, press the reset button before turning on the power.	BM3RS	Right	24V 50Hz 24V 60Hz 48V 50Hz 48V 60Hz 100V 50Hz/100–110V 60Hz 110–127V 50Hz/120V 60Hz 200V 50Hz/200–220V 60Hz 220–230V 50Hz/240–260V 60Hz 240V 50Hz/277V 60Hz 380–400V 50Hz/400–440V 60Hz 415–440V 50Hz/460–480V 60Hz 500V 50Hz/600V 60Hz	**BZ0RAZ1LKU** **BZ0RAZ2LKU** **BZ0RBZ1LKU** **BZ0RBZLKU** **BZ0R1ZLKU** **BZ0RDZLKU** **BZ0REZLKU** **BZ0RFZLKU** **BZ0RGZLKU** **BZ0RHZLKU** **BZ0R4ZLKU** **BZ0RJZLKU**	115
 AF01-53	BM3RH BM3V	Right	24V 50Hz 24V 60Hz 48V 50Hz 48V 60Hz 100V 50Hz/100–110V 60Hz 110–127V 50Hz/120V 60Hz 200V 50Hz/200–220V 60Hz 220–230V 50Hz/240–260V 60Hz 240V 50Hz/277V 60Hz 380–400V 50Hz/400–440V 60Hz 415–440V 50Hz/460–480V 60Hz 500V 50Hz/600V 60Hz	**BZ0RAZ1LTU** **BZ0RAZ2LTU** **BZ0RBZ1LTU** **BZ0RBZLTU** **BZ0R1ZLTU** **BZ0RDZLTU** **BZ0REZLTU** **BZ0RFZLTU** **BZ0RGZLTU** **BZ0RHZLTU** **BZ0R4ZLTU** **BZ0RJZLTU**	115

Note: *Refer to page 02/24* for details on how this device operates with the MMS, and on its external connection.

• External operating handles

Description	Starter type	Handle type	Type	Mass (g)
 KK02-305 • Used to operate an MMS installed inside a panel, from the outside of the panel. • Equipped with an interlock mechanism that prevents someone from mistakenly opening the panel door when the MMS is in the ON state. • The shaft can be cut to match the distance between the MMS and the panel door.	BM3RH	Standard (black) Emergency (red handle on yellow plate)	**BZ0VBBL** **BZ0VYRL**	160 160
 KK02-306 • Door interlock function • OFF lock function • Can be locked OFF with up to three padlocks. Note: Padlocks are to be provided by the customer. • Release screw allows the door to be opened with the handle in the ON position. • IP54 protection degree	BM3V	Standard (black) Emergency (red handle on yellow plate)	**BZ0VBBM** **BZ0VYRM**	160 160

• Others

Description		Starter type	Type	Mass (g)
Push-in lug 	Used for screw mounting.	BM3R	**BZ0SET**	2.0
Terminal cover for IP20 	Prevents accidental finger touch to charged parts.	BM3V	**BZ0TCV**	0.6
Open space cover  KK02-39	• Used to cover the open space if an internally mountable accessory become unnecessary. • Mounts to either the left-front or right-front position.	BM3R BM3V	**BZ0CFG**	1.4

Optional accessories

• Others

Description		Starter type	Type	Mass (g)
Power supply side terminal cover 	• When mounted on the power supply side and combined with the optional BZ0TKUAB short-circuit alarm contact block, the configuration conforms to UL508 type E and F standards.	BM3RSB BM3RHB	**BZ0TCRE**	30 per piece
Long terminal cover  KK04-059	• Prevents exposure between crimp terminals and finger contact • Mountable to both power supply and load sides • Straight wiring connection is also possible in addition to ring terminal connection. • When mounted on the power supply side and combined with the optional BZ0TKUAB short-circuit alarm contact block, the configuration conforms to UL508 type E and F standards. • Minimum quantity: 2 pieces (1 set)	BM3RSR BM3RHR	**BZ0RTCRE**	11 per piece

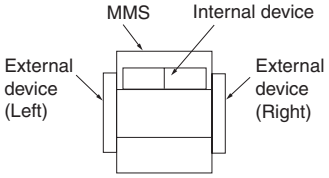
■ Ratings of accessories

Accessory type		Auxiliary contact block/front **BZ0WI**	Auxiliary contact block/side **BZ0WU**	Alarm contact block **BZ0KI**	Aux. and alarm contact block **BZ0WKU**	Short-circuit alarm contact block **BZ0TKUAB**
Standard		IEC 60947-5-1, UL 508				
Rated operational current (A)	48V AC AC-15	5	6	5	6	6
	125V AC	3	4	3	4	4
	230V AC	1.5	4	1.5	4	4
	400V AC	–	2.2	–	2.2	2.2
	500V AC	–	1.5	–	1.5	1.5
	690V AC	–	0.6	–	0.6	0.6
	48V DC DC-13	1.38	5	1.38	5	5
	110V DC	0.55	1.3	0.55	1.3	1.3
	220V DC	0.27	0.5	0.27	0.5	0.5
Contact rating code UL 508		B300 Q300	A600 P300	B300 Q300	A600 P300	A600 P300
Min. voltage and current		17V 5mA				

Accessory type		Shunt trip device **BZ0F**	Undervoltage device **BZ0R**
Standard		IEC 60947-1, UL 508	
Rated insulation voltage (V AC)	IEC 60947	690	
	UL 508	600	
Operation performance capability (operations)		5000	
Operating time (ms)		20	
Power consumption	Inrush (VA/W)	21/12	
	Shealed (VA/W)	8/1.2	
Voltage range	Tripping voltage (V)	0.7 to 1.1Ue	0.35 to 0.7Ue
	Closing voltage (V)	–	0.85 to 1.1Ue
Time rating of coil (s)		AC: Continuous DC: 5	AC: Continuous DC: –

02

■ Available accessory configuration



Internal devices

Auxiliary contact block (W) Alarm contact block (K)

External devices

Auxiliary contact (W2) Auxiliary and alarm contact block (WK) Short-circuit alarm contact block (KI)

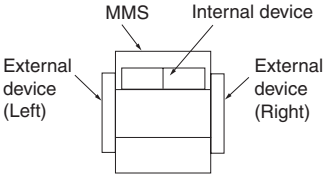
Shunt trip device (F) Undervoltage trip device (R) or undervoltage trip device with early make contacts (Re)

Adj. thermal-magnetic trip type MMS		**BM3RSB, BM3RHB, BM3RSR, BM3RHR**						**BM3VSB, BM3VHB**					
Instantaneous trip type MMS		**BM3RHBK, BM3RHRK**						**BM3VHBK**					
Internal accessory			W	W	K	W+W	W+K		W	W	K	W+W	W+K
External accessory	W2 (Left)	W2	W2W	W2W	W2K	W2WW	W2WK	W2	W2W	W2W	W2K	W2WW	W2WK
	W2 (Right)	W2	W2W	W2W	W2K	W2WW	W2WK	W2	W2W	W2W	W2K	W2WW	W2WK
	WK (Left)	WK	WKW	WKW	WKK	WKWW	WKWK	WK	WKW	WKW	WKK	WKWW	WKWK
	KI (Left)	KI	KIW	KIW	KIK	KIWW	KIWK	KI	KIW	KIW	KIK	KIWW	KIWK
	F (Right)	F	WF	WF	KF	WWF	WKF	F	WF	WF	KF	WWF	WKF
	R (Right)	R	WR	WR	KR	WWR	WKR	R	WR	WR	KR	WWR	WKR
	W2 (Left)+F	W2F	W2WF	W2WF	W2KF	W2WWF	W2WKF	W2F	W2WF	W2WF	W2KF	W2WWF	W2WKF
	W2 (Left)+R	W2R	W2WR	W2WR	W2KR	W2WWR	W2WKR	W2R	W2WR	W2WR	W2KR	W2WWR	W2WKR
	WK+F	WKF	WKWF	WKWF	WKKF	WKWWF	WKWKF	WKF	WKWF	WKWF	WKKF	WKWWF	WKWKF
	WK+R	WKR	WKWR	WKWR	WKKR	WKWWR	WKWKR	WKR	WKWR	WKWR	WKKR	WKWWR	WKWKR
	KI+F	KIF	KIWF	KIWF	KIKF	KIWWF	KIWKF	KIF	KIWF	KIWF	KIKF	KIWWF	KIWKF
	KI+R	KIR	KIWR	KIWR	KIKR	KIWWR	KIWKR	KIR	KIWR	KIWR	KIKR	KIWWR	KIWKR
	W2 (Left)+ W2 (Left)	W2W2	W2W2W	W2W2W	W2W2K	W2W2WW	W2W2WK	W2W2	W2W2W	W2W2W	W2W2K	W2W2WW	W2W2WK
	W2 (Left)+ W2 (Right)	W2W2	W2W2W	W2W2W	W2W2K	W2W2WW	W2W2WK	W2W2	W2W2W	W2W2W	W2W2K	W2W2WW	W2W2WK

Note: Do not use an alarm contact block/K together with an undervoltage trip device with early make contacts/Re for the BM3RSB frame. If used together, the alarm contact block will not operate correctly when the MMS is automatically tripped due to undervoltage.

Optional accessories

■ Available accessory configuration (continued)



Internal devices

Auxiliary contact block (W) Alarm contact block (K)

External devices

Auxiliary contact (W2) Auxiliary and alarm contact block (WK) Short-circuit alarm contact block (KI)

Shunt trip device (F) Undervoltage trip device (R) or undervoltage trip device with early make contacts (Re)

Adj. thermal-magnetic trip type MMS		BM3RSB, BM3RHB, BM3RSR, BM3RSHR						BM3VSB, BM3VHB					
Instantaneous trip type MMS		BM3RHBK, BM3RHRK						BM3VHBK					
Internal accessory			W	W	K	W+W	W+K		W	W	K	W+W	W+K
External accessory	W2 (Right)+ W2 (Right)	W2W2	W2W2W	W2W2W	W2W2K	W2W2WW	W2W2WK	W2W2	W2W2W	W2W2W	W2W2K	W2W2WW	W2W2WK
	W2 (Left)+ WK	W2WK	W2WKW	W2WKW	W2WKK	W2WKWW	W2WKWK	W2WK	W2WKW	W2WKW	W2WKK	W2WKWW	W2WKWK
	W2 (Right)+ WK	W2WK	W2WKW	W2WKW	W2WKK	W2WKWW	W2WKWK	W2WK	W2WKW	W2WKW	W2WKK	W2WKWW	W2WKWK
	W2 (Left)+ KI	W2KI	W2KIW	W2KIW	W2KIK	W2KIWW	W2KIWK	W2KI	W2KIW	W2KIW	W2KIK	W2KIWW	W2KIWK
	W2 (Right)+ KI	W2KI	W2KIW	W2KIW	W2KIK	W2KIWW	W2KIWK	W2KI	W2KIW	W2KIW	W2KIK	W2KIWW	W2KIWK
	KI+WK	KIWK	KIWKW	KIWKW	KIWKK	KIWKWW	KIWKWK	KIWK	KIWKW	KIWKW	KIWKK	KIWKWW	KIWKWK
	W2 (Left)+ W2 (Left)+F	W2W2F	W2W2WF	W2W2WF	W2W2KF	W2W2WWF	W2W2WKF	W2W2F	W2W2WF	W2W2WF	W2W2KF	W2W2WWF	W2W2WKF
	W2 (Left)+ W2 (Left)+R	W2W2R	W2W2WR	W2W2WR	W2W2KR	W2W2WWR	W2W2WKR	W2W2R	W2W2WR	W2W2WR	W2W2KR	W2W2WWR	W2W2WKR
	W2 (Left)+ WK+F	W2WKF	W2WKWF	W2WKWF	W2WKKF	W2WKWWF	W2WKWKF	W2WKF	W2WKWF	W2WKWF	W2WKKF	W2WKWWF	W2WKWKF
	W2 (Left)+ WK+R	W2WKR	W2WKWR	W2WKWR	W2WKKR	W2WKWWR	W2WKWKR	W2WKR	W2WKWR	W2WKWR	W2WKKR	W2WKWWR	W2WKWKR
	W2 (Left)+ KI+F	W2KIF	W2KIWF	W2KIWF	W2KIKF	W2KIWWF	W2KIWKF	W2KIF	W2KIWF	W2KIWF	W2KIKF	W2KIWWF	W2KIWKF
	W2 (Left)+ KI+R	W2KIR	W2KIWR	W2KIWR	W2KIKR	W2KIWWR	W2KIWKR	W2KIR	W2KIWR	W2KIWR	W2KIKR	W2KIWWR	W2KIWKR
	KI+WK+F	KIWKF	KIWKWF	KIWKWF	KIWKKF	KIWKWWF	KIWKWKF	KIWKF	KIWKWF	KIWKWF	KIWKKF	KIWKWWF	KIWKWKF
	KI+WK+R	KIWKR	KIWKWR	KIWKWR	KIWKKR	KIWKWWR	KIWKWKR	KIWKR	KIWKWR	KIWKWR	KIWKKR	KIWKWWR	KIWKWKR

Note: Do not use an alarm contact block/K together with an undervoltage trip device with early make contacts/Re for the BM3RSB frame. If used together, the alarm contact block will not operate correctly when the MMS is automatically tripped due to undervoltage.