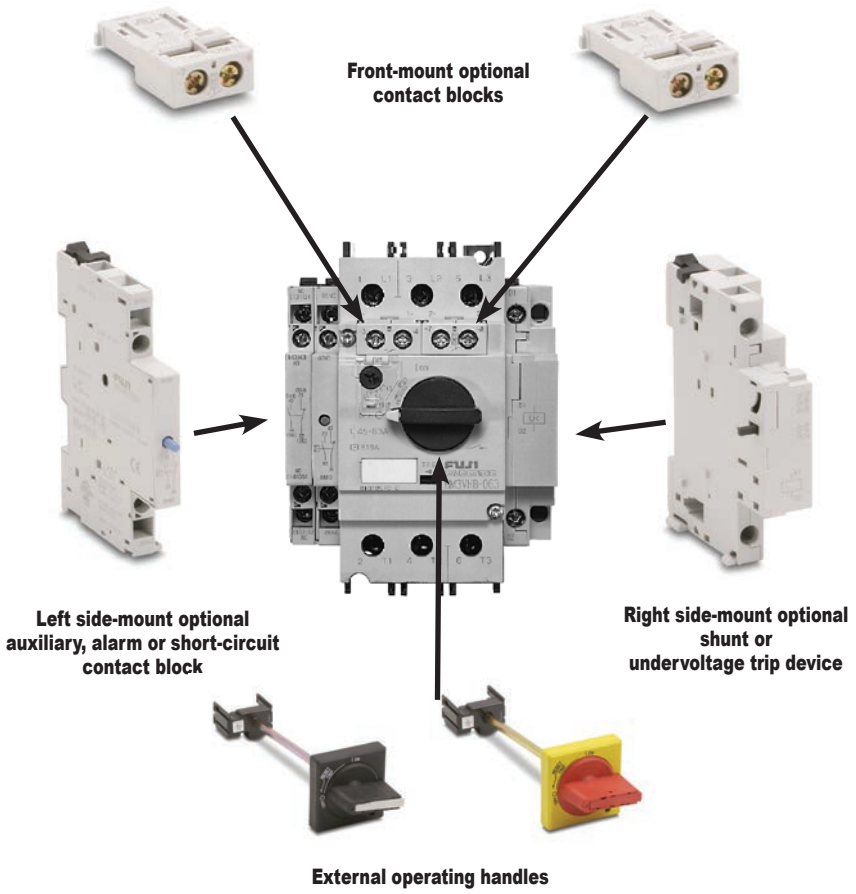
Fuji Duo Series Manual Motor Starters Accessories

Optional accessories

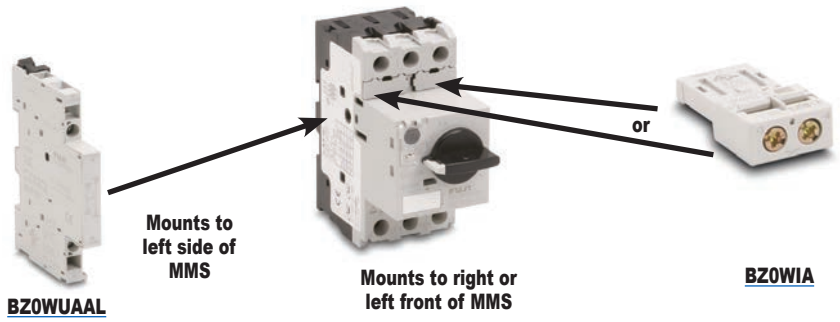
- All accessories can be used with BM3R (45mm wide) and BM3V (55mm wide) frames
- Accessories are easily mounted
- Internally-mountable auxiliary contact blocks and alarm contact blocks can be front mounted
- Side-mountable auxiliary contact blocks can be mounted on the left side
- Shunt trip and undervoltage trip devices are available in a wide operating coil voltage range and mount on the right side
- Standard and emergency external handles are available
- IP20 terminal cover helps prevent accidental contact with electrically charged parts
- Optional front mounted contact and alarm blocks eliminate horizontal space needed with the DIN rail

Fuji Electric

Installation of optional contact blocks and trip devices



Auxiliary contact blocks



Auxiliary Contact Blocks						
Part Number	*Price*	*Description*	*Starter Type*	*Mounting*	*Contact Arrangement*	*Weight (g [lb])*
BZ0WIA		These contact blocks do not discriminate between OFF, overload, phase-loss, or short circuit. The blocks are linked to the ON/OFF operation of the MMS, and also operate in the event of an overload, phase-loss, or short circuit. Up to two contact blocks can be mounted to the right/left front, and up to two contact blocks can be mounted to the left sides.	BM3RHB-xxx BM3VHB-xxx	Front	1 N.O.	9 [0.02]
BZ0WIB					1 N.C.	
BZ0WUAAL				Left side	2 N.O.	45 [0.1]
BZ0WUABL					1 N.O. + 1 N.C.	
BZ0WUBBL					2 N.C.	

Fuji Duo Series Manual Motor Starters Accessories

Accessories (continued)

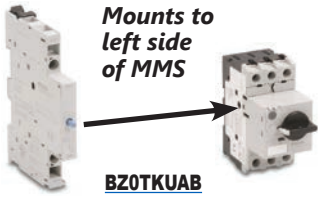
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Alarm contact blocks



Alarm Contact Blocks						
Part Number	*Price*	*Description*	*Starter Type*	*Mounting*	*Contact Arrangement*	*Weight (g [lb])*
BZ0KIA		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.	BM3RHB-xxx BM3VHB-xxx	Front (Right side only)	1 N.O.	9 [0.02]
BZ0KIB					1 N.C.	

Short-circuit alarm contact blocks



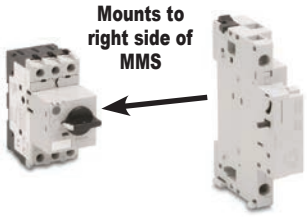
Note 1: Required when using MMS in a UL Type E application.
Note 2: Do not configure this with an auxiliary contact block; the contact will only close when a short circuit occurs.

Short-Circuit Alarm Contact Block						
Part Number	*Price*	*Description*	*Starter Type*	*Mounting*	*Contact Arrangement*	*Weight (g [lb])*
BZ0TKUAB		• The contacts operate only when the MMS has tripped due to a short-circuit (cannot be checked with trip test function). • When these contacts operate, the blue reset button extends out, and a trip indication is displayed. • The power to the MMS can be turned ON after pressing the reset button. • Note: Be sure to press the reset button before mounting to the MMS.	BM3RHB-xxx BM3VHB-xxx	Left	1 N.O. + 1 N.C.	45 [0.1]

Contact Status					
Contact Type		*Device Condition*			
		OFF	ON	*Tripped*	
				Overload or Phase-loss	*Short Circuit*
AUX CONTACT, BZ0WIA, BZ0WIB, BZ0WUAAL, BZ0WUBBL, BZ0WUABL	***N.O.***	Open	Closed	Opens	
	N.C.	Closed	Open	Closes	
ALARM CONTACT BZ0KIA, BZ0KIB	***N.O.***	Open (no change)	Open (no change)	Closes	
	N.C.	Closed (no change)	Closed (no change)	Opens	
SHORT-CIRCUIT CONTACT BZ0TKUAB	***N.O.***	Open (no change)	Open (no change)	Open (no change)	Closes
	N.C.	Closed (no change)	Closed (no change)	Closed (no change)	Opens

Fuji Duo Series Manual Motor Starters Accessories

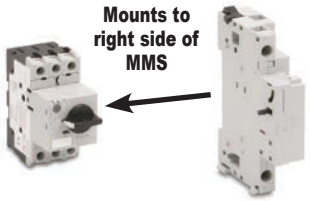
Accessories (continued)



BZ0FAZU

Shunt trip devices

Shunt Trip Devices						
Part Number	***Price***	***Description***	***Starter Type***	***Mounting***	***Contact Arrangement***	***Weight (g [lb])***
BZ0FAZU ***BZ0FDZU***		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.***	BM3RHB-xxx BM3VHB-xxx	Right	110-127V 50 Hz/120V 60 Hz	115 [0.25]
BZ0FKZUD					24-60VDC (time rating of coil is 5s)	



BZ0RDZU

Undervoltage trip devices

Undervoltage Trip Devices						
Part Number	***Price***	***Description***	***Starter Type***	***Mounting***	***Contact Arrangement***	***Weight (g [lb])***
BZ0RDZU		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.***	BM3RHB-xxx BM3VHB-xxx	Right	110-127V 50 Hz/120V 60 Hz	115 [0.25]
BZ0R4ZU					415-440V 50 Hz/460-480V 60 Hz	



BZ0SET

Push-in lug

Push-in Lug				
Part Number	***Price***	***Description***	***Starter type***	***Weight (g [lb])***
BZ0SET		Push-in mounting lug. Required for screw mounting of MMS; qty: 10/pkg	BM3RHB-xxx	2.0 [0.004]

Note: See page MRC-tMRC-72 for installation instructions



BZ0TCRE

Terminal Cover

Terminal Cover			
Part Number	***Price***	***Description***	***Starter Type***
BZ0TCRE		Line side terminal cover.	BM3RHB-xxx

Notes: BZ0TCRE required only when using BM3RHB-xxx MMS in a UL Type E application (along with short circuit alarm contact block BZ0TKUAB).
If using BZ0TCRE terminal cover with BM3R series MMS, the busbar system and front mounted contacts cannot be used.

Fuji Duo Series Manual Motor Starters Accessories

Accessories (continued)

External operating handles



BZ0VBBL

Fuji Electric

External Operating Handles					
Part Number	***Price***	***Description***	***Starter Type***	***Handle Type***	***Weight (g [lb])***
BZ0VBBL		• 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. • 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 enclosure	BM3RHB-xxx	Standard (black)	160 [0.35]
BZ0VBBM			BM3VHB-xxx	Standard (black)	160 [0.35]
BZ0VYRM				Emergency (red/yellow)	160 [0.35]

NOTE: Premade MMS enclosures are currently not available.

Accessory Specifications

Trip Device Specifications			
Accessory Type and Part Number		***Shunt trip device***	***Undervoltage device***
		BZ0Fxxx	***BZ0Rxxx***
Standard		IEC 60947-1, UL 508	
Rated Insulation Voltage (VAC)	IEC 60947	690	
	UL 508	600	
No. of ON-OFF Operations		5000	
Operating Time (ms)		20	
Power Consumption	Inrush (VA/W)	21/12	
	Sealed (VA/W)	8/1.2	
Voltage Range	Tripping Voltage (V)	0.7 to 1.1 Ue	0.35 to 0.7 Ue
	Closing Voltage (V)	-	0.85 to 1.1 Ue
Time Rating of Coil (s)		AC: Continuous	AC: Continuous
		DC: 5	

Fuji Duo Series Manual Motor Starters Accessories

Accessory specifications (continued)

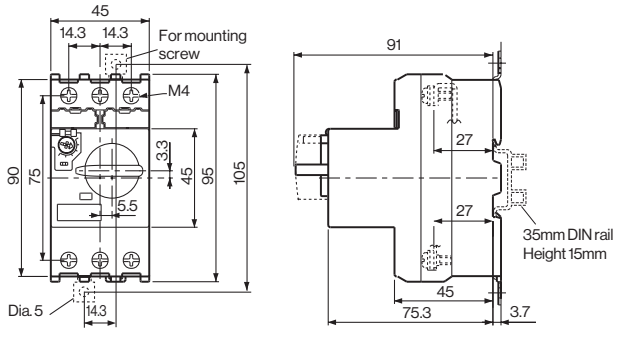
Contact Block Specifications						
Accessory Type and Part Number			Auxiliary contact block/front BZ0WIA, BZ0WIB (note 3)	Auxiliary contact block/side BZ0WUAAL BZ0WUABL BZ0WUBBL	Alarm contact block BZ0KIA, BZ0KIB (note 3)	Short-circuit alarm contact block BZ0TKUAB
Standard			IEC 60947-5-1, UL 508			
Rated Operational Current (A)	48 VAC AC-15 (note 2)		5	6	5	6
	125 VAC		3	4	3	4
	230 VAC		1.5	4	1.5	4
	400 VAC		(note 3)	2.2	(note 3)	2.2
	500 VAC			1.5		1.5
	690 VAC			0.6		0.6
	48 VDC DC-13 (note 2)		1.38	5	1.38	5
	110 VDC		0.55	1.3	0.55	1.3
	220 VDC		0.27	0.5	0.27	0.5
Contact Rating Code UL 508 (note 1)		AC	B300	A600	B300	A600
		DC	Q300	P300	Q300	P300
Min. Voltage and Current			17V / 5 mA			

Note 1: NEMA ICS 5-2000. For more information, refer to Control Circuit Contact Electrical Ratings, page MRC-tMRC-129.
Note 2: IEC utilization category. For more information, refer to page MRC-tMRC-130.
Note 3: The indicated contacts should not be used in control circuits higher than 300V.

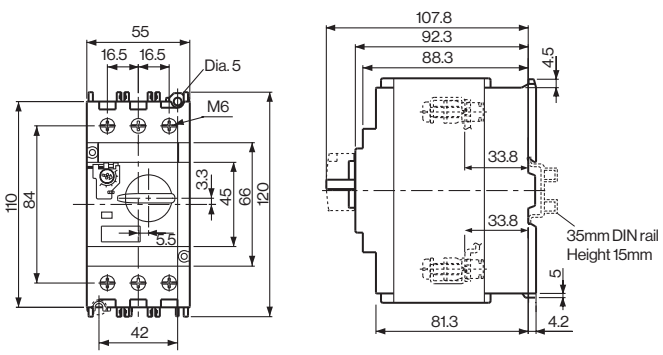
Dimensions [mm]

Manual motor starters

Rotary handle types BM3RHB-xxx



Rotary handle types BM3VHB-xxx

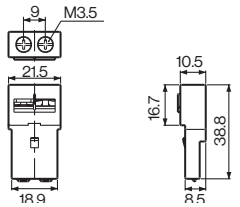


Fuji Duo Series Manual Motor Starters Accessories

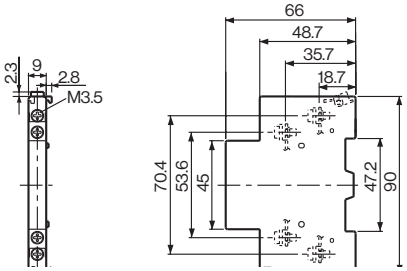
Dimensions (continued) [mm]

Accessories

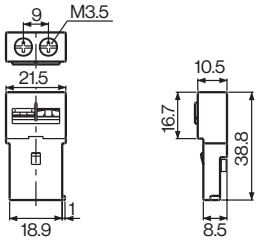
Auxiliary contact blocks, front mounting
BZ0WIA, BZ0WIB



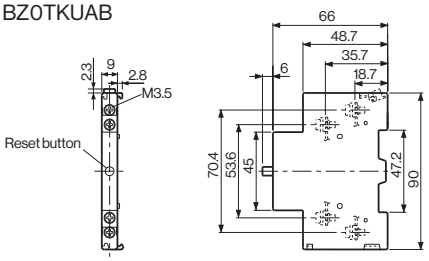
Auxiliary contact blocks, side mounting
BZ0WUAAL, BZ0WUABL, BZ0WUBBL



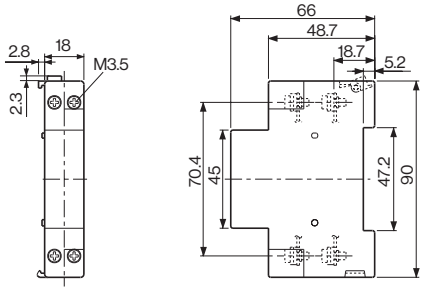
Alarm contact blocks, front mounting
BZ0KIA, BZ0KIB



Short-circuit alarm contact block
BZ0TKUAB

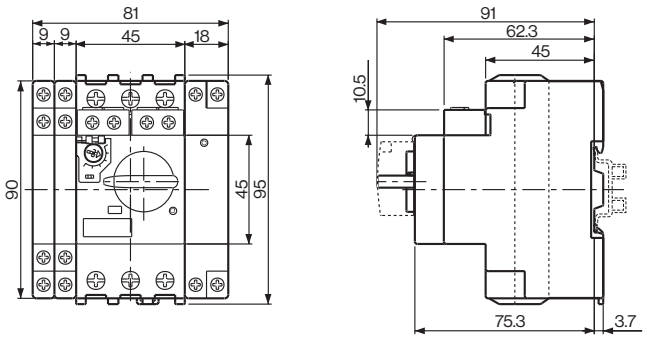


Shunt trip devices BZ0Fxxxx
Undervoltage trip devices BZ0Rxxxx

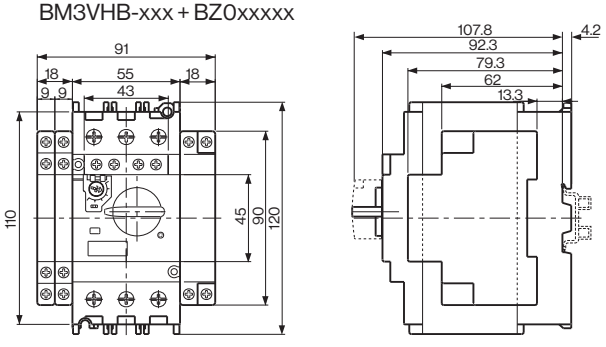


MMS with accessories

BM3RHB-xxx + BZ0xxxxx



BM3VHB-xxx + BZ0xxxxx



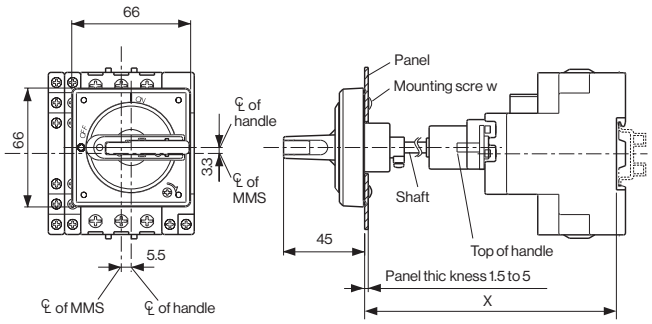
Fuji Duo Series Manual Motor Starters Accessories

Dimensions (continued)

[mm]

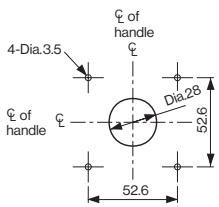
Accessories

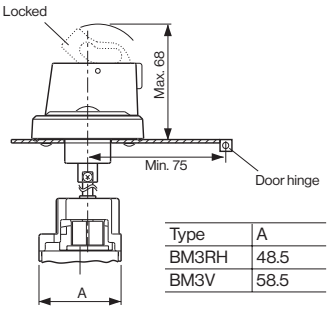
External operation handle BZ0Vxxx



Type	X min.	X max.
BZ0VBBL, BZ0VYRL	139 ±2	289 ±2
BZ0VBBM, BZ0VYRM	156 ±2	306 ±2

Panel drilling

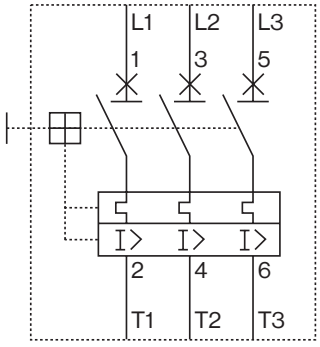




Type	A
BM3RH	48.5
BM3V	58.5

Wiring Diagrams

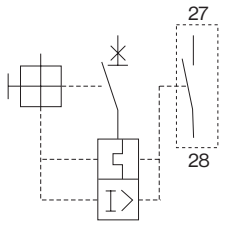
MMS



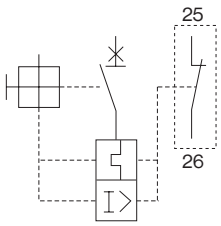
Alarm contact blocks

Front mounting

BZ0KIA



BZ0KIB



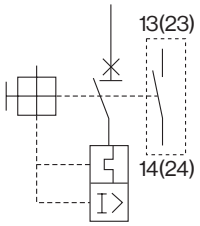
For control circuit design, see design standards such as NEC 430 "Electrical Arrangement of control Circuits" or UL 508A Section 38 "Wiring methods, wire routing, and separation of circuits for internal wiring of a control circuit."

Fuji Duo Series Manual Motor Starters Accessories

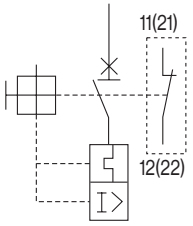
Wiring Diagrams (continued)

Auxiliary contact blocks
Front mounting

BZ0WIA



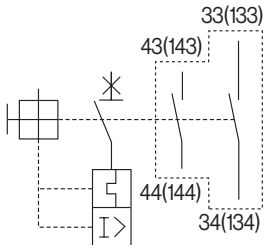
BZ0WIB



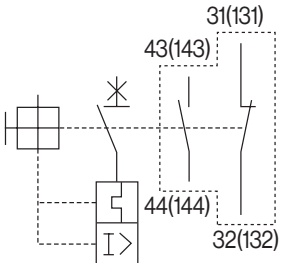
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Side mounting

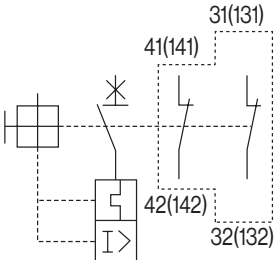
BZ0WUAAL



BZ0WUABL

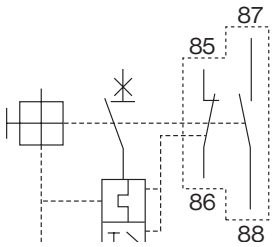


BZ0WUBBL



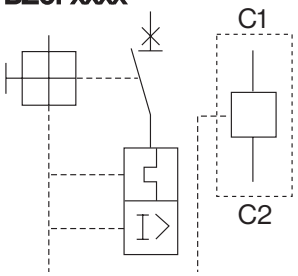
Short-circuit alarm contact blocks

BZ0TKUAB



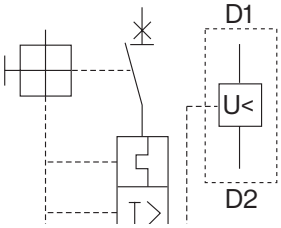
Shunt trip de vices

BZ0Fxxxx



Undervoltage trip devices

BZ0Rxxxx



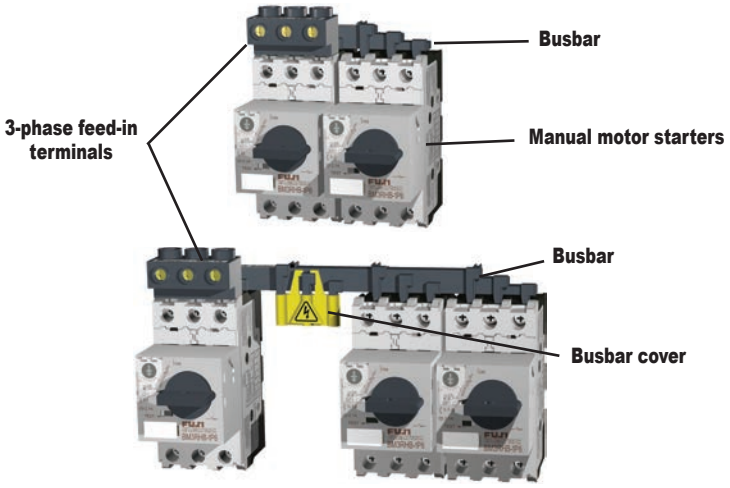
For control circuit design, see design standards such as NEC 430 "Electrical Arrangement of control Circuits" or UL 508A section 38 "Wiring methods, wire routing, and separation of circuits for internal wiring of a control circuit."

Fuji Duo Series Manual Motor Starters Accessories

Busbar system

Features

- The busbar system reduces wiring time and saves floor space.
- The busbar makes it easy to power from 2 to 5 manual motor starters, with no wiring needed.
- The 3-phase feed-in terminals are used to connect the wire for the power supply circuit.
- The busbar cover guards against accidental touching of non-connected busbar terminals (charged parts).
- If using BZ0TCRE terminal cover with BM3R series MMS, the busbar system can not be used.





BZ0BR02A



BZ0BR03A



BZ0BR04A



BZ0BR05A



BZ0BR12A



BZ0BR13A



BZ0BR14A



BZ0BR15A



BZ0BV02A



BZ0BV03A

Note: Busbar photos continued on next page.



BZ0BFRA



BZ0BFVA



BZ0BCRA



BZ0BCVA

Busbar System Components and Ratings

Part Number	Price	Description	Used with	Specifications		Weight (g)
BZ0BR02A		Busbar	BM3R	Continuous current: 64A max. pin connection	2-BM3R, modular space: 45mm	30
BZ0BR03A					3-BM3R, modular space: 45mm	50
BZ0BR04A					4-BM3R, modular space: 45mm	70
BZ0BR05A					5-BM3R, modular space: 45mm	90
BZ0BR12A			BM3R+ 1 external accessory, 9mm wide		2-BM3R, modular space: 54mm	30
BZ0BR13A					3-BM3R, modular space: 54mm	55
BZ0BR14A					4-BM3R, modular space: 54mm	80
BZ0BR15A					5-BM3R, modular space: 54mm	105
BZ0BV02A			BM3V	Continuous current: 126A max. pin connection	2-BM3V, modular space: 55mm	140
BZ0BV03A					3-BM3V, modular space: 55mm	240
BZ0BV04A					4-BM3V, modular space: 55mm	340
BZ0BV12A			BM3V + 1 external accessory, 9mm wide		2-BM3V, modular space: 64mm	150
BZ0BV13A					3-BM3V, modular space: 64mm	270
BZ0BV14A					4-BM3V, modular space: 64mm	380
BZ0BFRA		3-phase feed-in terminal	BM3R	Continuous current: 64A max. Applicable cable size: 25 mm^2 max.		40
BZ0BFVA			BM3V	Continuous current: 126A max. Applicable cable size: 50 mm^2 max.		170
BZ0BCRA		Busbar cover	BZ0BR	For pin connection NOTE: Some fine tuning and fitting adjustments may be needed.		10
BZ0BCVA			BZ0BV			5

Fuji Duo Series Manual Motor Starters Accessories

Busbar system (continued)

Dimensions

(mm)



BZ0BV04A



BZ0BV12A

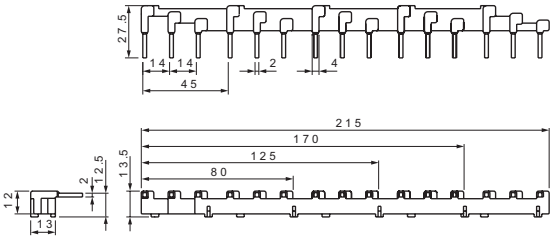


BZ0BV13A



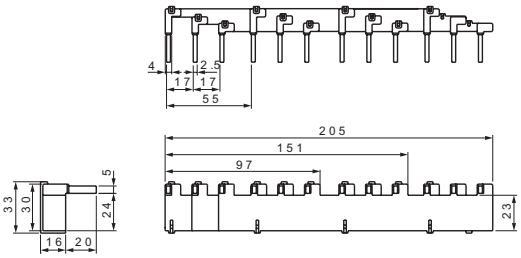
BZ0BV14A

For BM3RHB-xxx
BZ0BR0xx Without external accessory



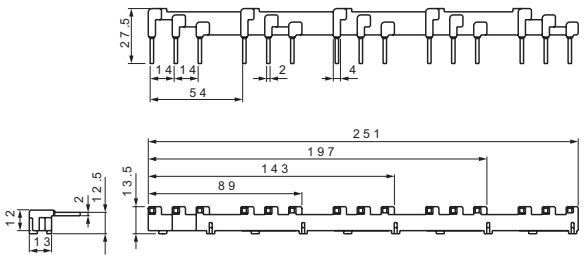
B Z 0 B R 0 2 A : 80 mm
B Z 0 B R 0 3 A : 125 mm
B Z 0 B R 0 4 A : 170 mm
B Z 0 B R 0 5 A : 215 mm

For BM3VHB-xxx
BZ0BV0xx Without external accessory



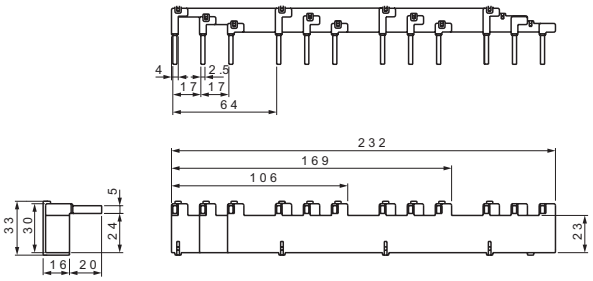
B Z 0 B V 0 2 A : 97 mm
B Z 0 B V 0 3 A : 151 mm
B Z 0 B V 0 4 A : 205 mm

BZ0BR1xx With 1 external accessory



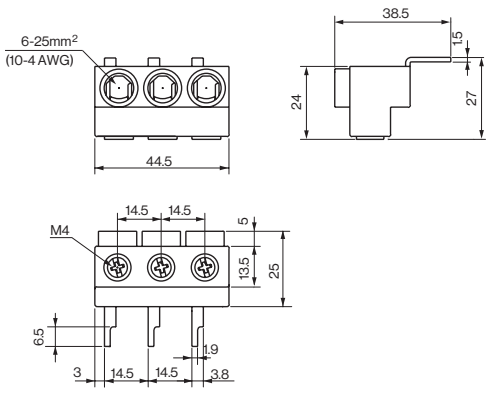
B Z 0 B R 1 2 A : 89 mm
B Z 0 B R 1 3 A : 143mm
B Z 0 B R 1 4 A : 197 mm
B Z 0 B R 1 5 A : 251 mm

BZ0BV1xx With 1 external accessory, 9mm wide



B Z 0 B V 1 2 A : 106 mm
B Z 0 B V 1 3 A : 169 mm
B Z 0 B V 1 4 A : 232 mm

BZ0BFRA 3-phase feed-in terminals



BZ0BFVA

