

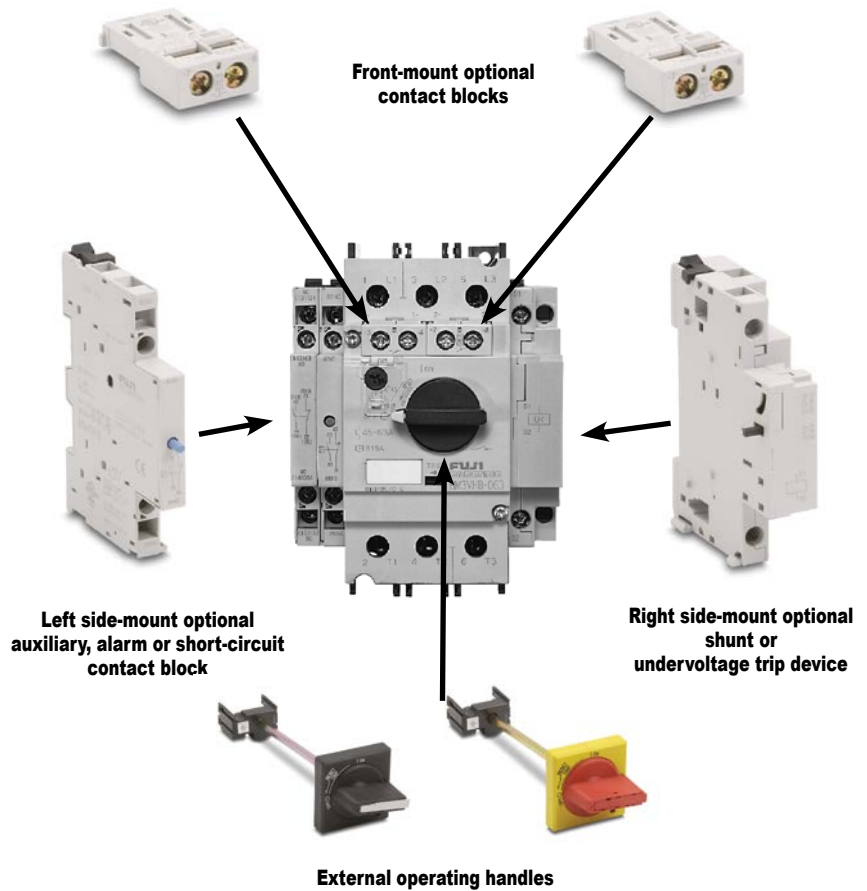
Fuji Duo Series Manual Motor Starters Accessories

Optional accessories

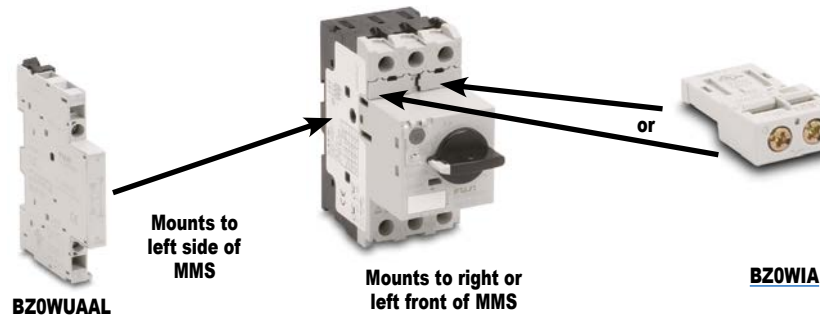
- All accessories can be used with BM3R (45 mm wide) and BM3V (55 mm wide) frames
- Accessories are easily mounted
- Internally-mountable auxiliary contact blocks and alarm contact blocks can be front mounted
- Side-mountable auxiliary contact blocks can be mounted on the left side
- Shunt trip and undervoltage 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



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	\$10.50	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	1NO	9/0.02
BZ0WIB	\$10.50			Front	1NC	
BZ0WUAAL	\$15.00			Left side	2NO	45/0.1
BZ0WUABL	\$15.00				1NO + 1NC	
BZ0WUBBL	\$15.00				2NC	

Fuji Duo Series Manual Motor Starters Accessories



Accessories (continued)

Alarm contact blocks



Alarm Contact Blocks						
Part Number	Price	Description	Starter Type	Mounting	Contact Arrangement	Weight (g/lb)
BZ0KIA	\$10.50	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)	1NO	9/0.02
BZ0KIB	\$10.50				1NC	

Auxiliary and alarm contact blocks



Combination Auxiliary/Alarm Contact Blocks						
Part Number	Price	Description	Starter Type	Mounting	Contact Arrangement	Weight (g/lb)
BZ0WKUAA	\$18.50	- This contact block combines an auxiliary contact and an 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.	BM3RHB-xxx BM3VHB-xxx	Left	1NO (Aux.) + 1NO (Alarm)	45/0.1



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 blocks

Short-Circuit Alarm Contact Block						
Part Number	Price	Description	Starter Type	Mounting	Contact Arrangement	Weight (g/lb)
BZ0TKUAB	\$23.00	- 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	1NO + 1NC	45/0.1

Contact Status					
Contact Type		Device Condition			
		 OFF	 ON	Tripped	
				Overload or Phase-loss	Short Circuit
AUX CONTACT, <u>BZ0WIA, BZ0WIB, BZ0WUAA, BZ0WUBBL, BZ0WUABL</u>	NO	Open	Closed	Opens	
	NC	Closed	Open	Closes	
ALARM CONTACT <u>BZ0KIA, BZ0KIB</u>	NO	Open (no change)	Open (no change)	Closes	
	NC	Closed (no change)	Closed (no change)	Opens	
AUX & ALARM CONTACT <u>BZ0WKUAA</u>	NO (AUX)	Open	Closed	Opens	
	NO (ALM)	Open (no change)	Open (no change)	Closes	
SHORT-CIRCUIT CONTACT <u>BZ0TKUAB</u>	NO	Open (no change)	Open (no change)	Open (no change)	Closes
	NC	Closed (no change)	Closed (no change)	Closed (no change)	Opens

Fuji Duo Series Manual Motor Starters

Accessories

Accessories (continued)



Shunt trip devices

Shunt Trip Devices						
Part Number	Price	Description	Starter Type	Mounting	Contact Arrangement	Weight (g/lb)
BZ0FAZU BZ0FDZU	\$31.00	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 50Hz/120V 60Hz	115/0.25
BZ0FKZUD	\$31.00				24-60VDC (time rating of coil is 5s)	



Undervoltage trip devices

Undervoltage Trip Devices						
Part Number	Price	Description	Starter Type	Mounting	Contact Arrangement	Weight (g/lb)
BZ0RDZU	\$31.00	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 50Hz/120V 60Hz	115/0.25
BZ0R4ZU	\$31.00				415-440V 50Hz/460-480V 60Hz	



Push-in lug

Push-in Lug				
Part Number	Price	Description	Starter type	Weight (g/lb)
BZ0SET	\$10.50	Push-in mounting lug. Required for screw mounting of MMS; qty: 10/pkg	BM3RHB-xxx	2.0/.004

Note: See page MRC-tMRC-73 for installation instructions



Terminal Cover

Terminal Cover			
Part Number	Price	Description	Starter Type
BZ0TCRE	\$15.00	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****BZ0VYRL**

External Operating Handles					
Part Number	Price	Description	Starter Type	Handle Type	Weight (g/lb)
<u>BZ0VBBL</u>	\$45.00	- 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
<u>BZ0VYRL</u>	\$47.00			Emergency (red/yellow)	160/0.35
<u>BZ0VBBM</u>	\$45.00		BM3VHB-xxx	Standard (black)	160/0.35
<u>BZ0VYRM</u>	\$47.00			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	Auxiliary contact block/side	Alarm contact block	Aux. and alarm contact block	Short-circuit alarm contact block
		<u>BZ0WIA, BZ0WIB</u> (note 3)	<u>BZ0WUAA</u> <u>BZ0WUABL</u> <u>BZ0WUBBL</u>	<u>BZ0KIA, BZ0KIB</u> (note 3)	<u>BZ0WKUAA</u>	<u>BZ0TKUAB</u>
Standard		IEC 60947-5-1, UL 508				
Rated Operational Current (A)	48VAC AC-15 (note 2)	5	6	5	6	6
	125VAC	3	4	3	4	4
	230VAC	1.5	4	1.5	4	4
	400VAC	(note 3)	2.2	(note 3)	2.2	2.2
	500VAC		1.5		1.5	1.5
	690VAC		0.6		0.6	0.6
	48VDC DC-13 (note 2)	1.38	5	1.38	5	5
	110VDC	0.55	1.3	0.55	1.3	1.3
	220VDC	0.27	0.5	0.27	0.5	0.5
Contact Rating Code UL 508 (note 1)		AC	B300	A600	B300	A600
		DC	Q300	P300	Q300	P300
Min. Voltage and Current		17V / 5mA				

Note 1: NEMA ICS 5-2000. For more information, refer to Control Circuit Contact Electrical Ratings, page MRC-tMRC-130.

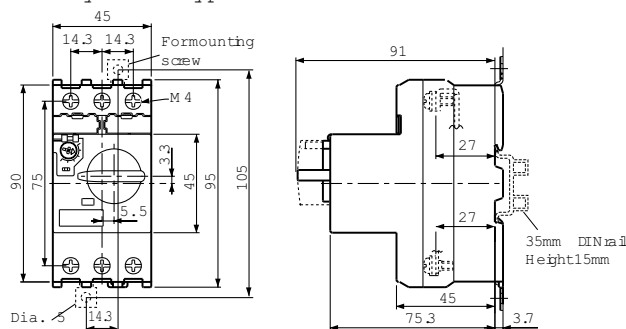
Note 2: IEC utilization category. For more information, refer to page MRC-tMRC-131.

Note 3: The indicated contacts should not be used in control circuits higher than 300V.

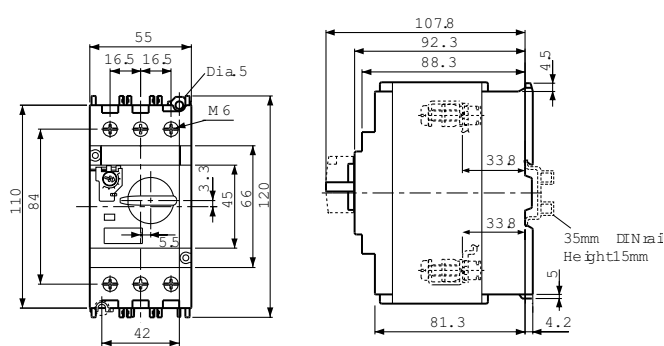
Dimensions [mm]

Manual motor starters

Rotary handletypes BM3HB-xxx



Rotary handletypes BM3VHB-xxx



Fuji Duo Series Manual Motor Starters

Accessories

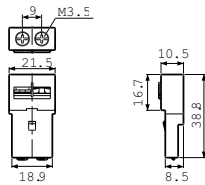
Dimensions (continued)

[mm]

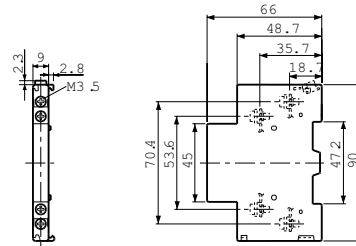
Accessories



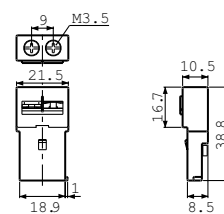
Auxiliary contacts front mounting
BZ0WIA, BZ0WIB



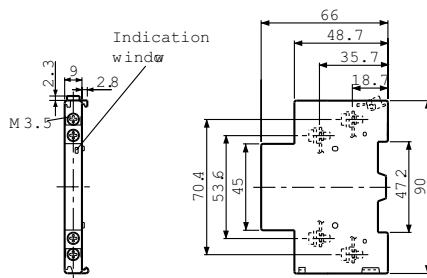
Auxiliary contacts side mounting
BZ0WU AAL, BZ0WU ABL, BZ0WUBBL



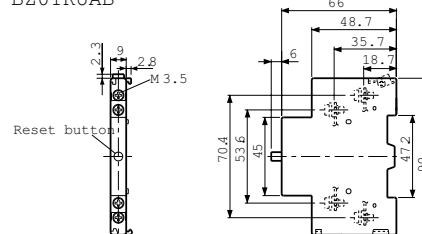
Alarm contacts front mounting
BZ0KIA, BZ0KIB



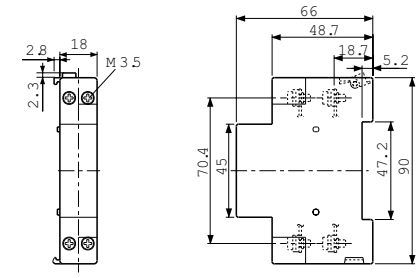
Auxiliary and alarm contacts
BZ0WU AA



Short-circuit alarm contact block
BZ0TKUAB

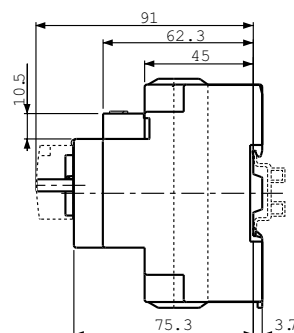
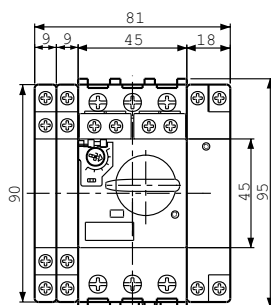


Shunt trip devices BZ0Fxxxx
Undervoltage trip devices BZ0Vxxxx

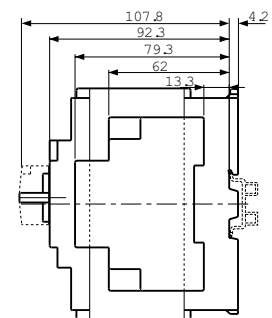
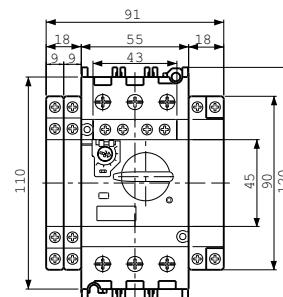


MMS with accessories

BM3RHB-xxx + BZ0xxxxx



BM3VHB-xxx + BZ0xxxxx



Fuji Duo Series Manual Motor Starters Accessories

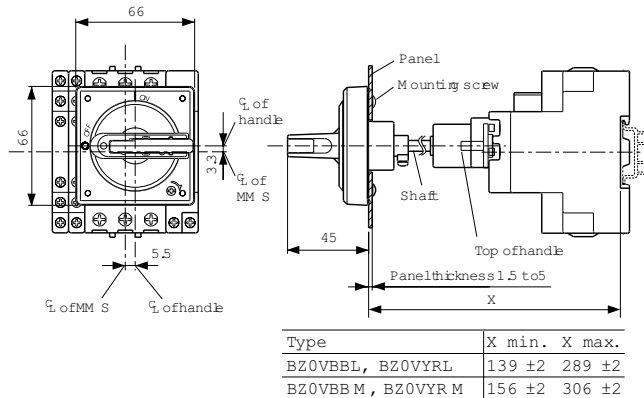
Dimensions (continued)

[mm]

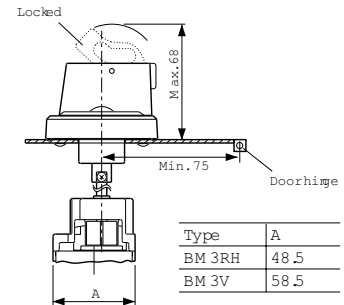
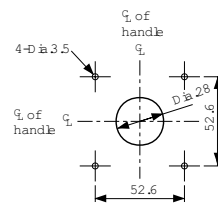


Accessories

External operation handle BZ0Vxxx

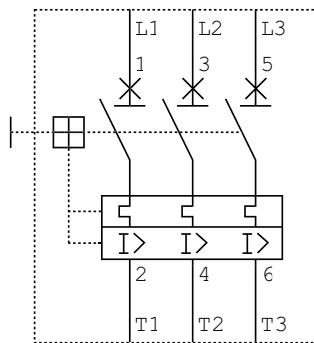
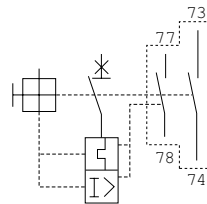


Panel drilling



Wiring Diagrams

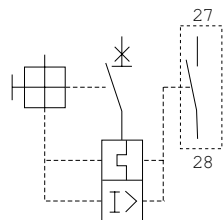
MMS

Auxiliary and alarm contact blocks
BZ0WKU AA

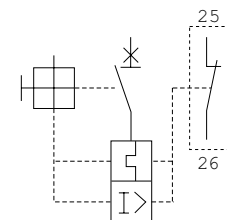
Alarm contact blocks

Front mounting

BZ0KIA



BZ0KIB



For control circuit design, see design standards such as NEC 430 "Electrical Arrangement of control Circuits" or UL508A Section 38 "Wiring methods, wire routing, and separation of circuits for internal wiring of a control circuit."

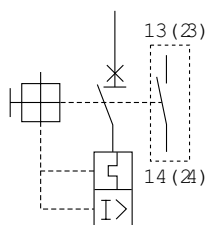
Fuji Duo Series Manual Motor Starters Accessories

Wiring Diagrams (continued)

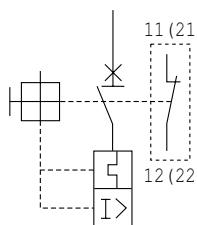
Auxiliary contact blocks

Front mounting

BZ0WIA

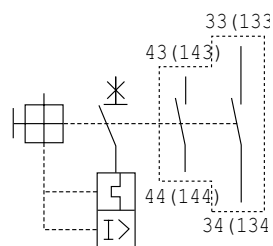


BZ0WIB

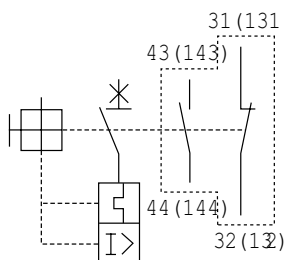


Side mounting

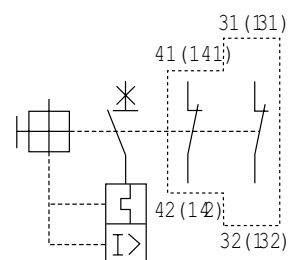
BZ0WUABL



BZ0WUABL

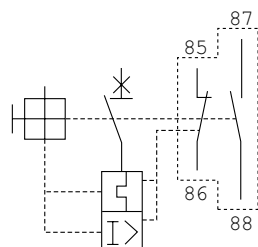


BZ0WUBBL



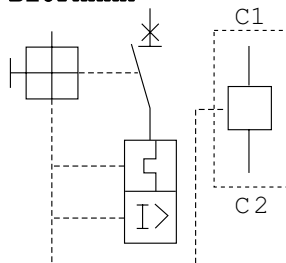
Short-circuit and
contact blocks

BZ0TKUAB



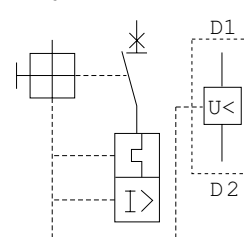
Shunt trip devices

BZ0Fxxxx



Undervoltage trip device

BZ0Rxxxx



For control circuit design, see design standards such as NEC 430 "Electrical Arrangement of control Circuits" or UL508A section 38 "Wiring methods, wire routing, and separation of circuits for internal wiring of a control circuit."

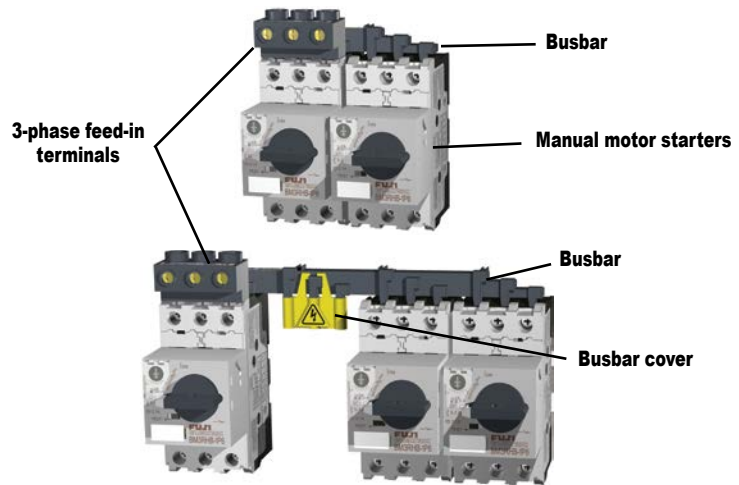
Fuji Duo Series Manual Motor Starters

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 nonconnected 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	\$23.00	Busbar	BM3R	Continuous current: 64A max. pin connection	2-BM3R, modular space: 45mm	30
BZ0BR03A	\$20.50				3-BM3R, modular space: 45mm	50
BZ0BR04A	\$24.50				4-BM3R, modular space: 45mm	70
BZ0BR05A	\$26.00				5-BM3R, modular space: 45mm	90
BZ0BR12A	\$19.50				2-BM3R, modular space: 54mm	30
BZ0BR13A	\$23.50		BM3R+ 1 external accessory, 9mm wide		3-BM3R, modular space: 54mm	55
BZ0BR14A	\$26.00				4-BM3R, modular space: 54mm	80
BZ0BR15A	\$27.50				5-BM3R, modular space: 54mm	105
BZ0BV02A	\$37.00		BM3V	Continuous current: 126A max. pin connection	2-BM3V, modular space: 55mm	140
BZ0BV03A	Retired				3-BM3V, modular space: 55mm	240
BZ0BV04A	\$55.00				4-BM3V, modular space: 55mm	340
BZ0BV12A	\$39.50				2-BM3V, modular space: 64mm	150
BZ0BV13A	Retired		3-BM3V, modular space: 64mm		270	
BZ0BV14A	Retired		BM3V + 1 external accessory, 9mm wide		4-BM3V, modular space: 64mm	380
BZ0BFRA	\$20.50	3-phase feed-in terminal		BM3R	Continuous current: 64A max. Applicable cable size: 25mm ² max.	40
BZ0BFVA	\$41.50		BM3V	Continuous current: 126A max. Applicable cable size: 50mm ² max.	170	
BZ0BCRA	\$5.50	Busbar cover	BZ0BR	For pin connection	10	
BZ0BCVA	Retired		BZ0BV	NOTE: Some fine tuning and fitting adjustments may be needed.	5	

Fuji Duo Series Manual Motor Starters

Accessories

Busbar system (continued)

Dimensions

(mm)



BZ0BV04A



BZ0BV12A



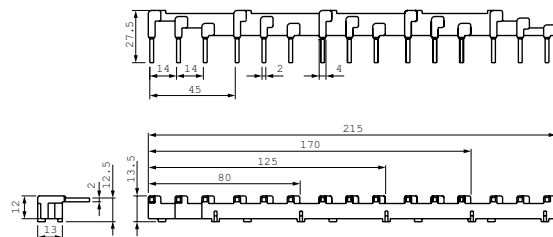
BZ0BV13A



BZ0BV14A

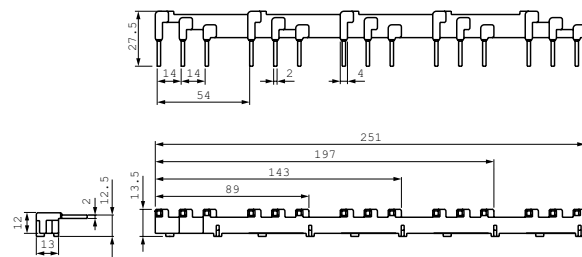
For BM3RHB-xxx

BZ0BR0xx Without external accessory



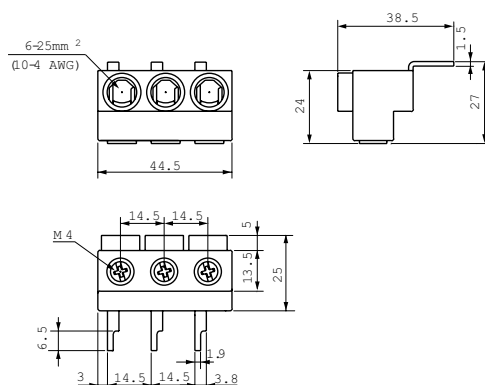
BZ0BR02A: 80 mm
BZ0BR03A: 125 mm
BZ0BR04A: 170 mm
BZ0BR05A: 215 mm

BZ0BR1xx With 1 external accessory



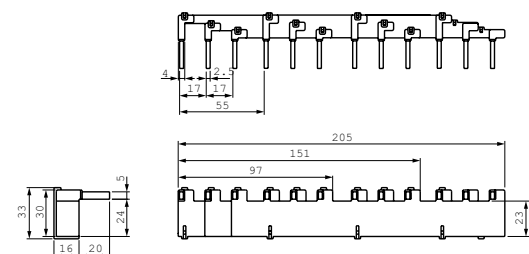
BZ0BR12A: 89 mm
BZ0BR13A: 143mm
BZ0BR14A: 197 mm
BZ0BR15A: 251 mm

BZ0BFRA 3-phase feed-in terminals



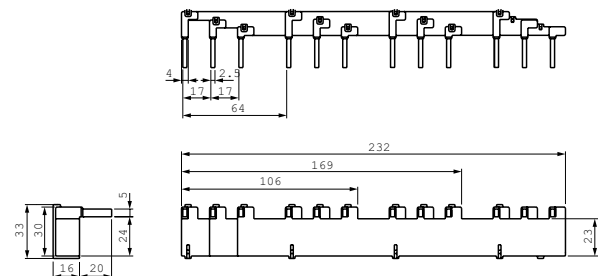
For BM3VHB-xxx

BZ0BV0xx Without external accessory



BZ0BV02A: 97 mm
BZ0BV03A: 151 mm
BZ0BV04A: 205 mm

BZ0BV1xx With 1 external accessory, 9mm wide



BZ0BV12A: 106 mm
BZ0BV13A: 169 mm
BZ0BV14A: 232 mm

BZ0BFVA

