

To All Customers

Rep No. C21011

November 11, 2021

Fuji Electric FA Components

& Systems Co., Ltd.

BM3 Series Manual Motor Starter Optional Products Notification regarding Production Discontinuation of Some Models

We would like to thank you for your continued patronage of Fuji products.

We are writing to announce the production discontinuation of some of our products.

Details are described below.

Please review the following information and take appropriate actions.

Please also inform all related sections of your company of this discontinuation.

We apologize for any inconvenience this discontinuance may cause.

Product name	Manual motor starter optional products
Series name	BM3 Series
Туре	Base plate: BZ0BPVE65A
1,720	Enclosure: All models
	Busbar: Some models
	For details, see Attachment (1).
Reason for termination	It has become difficult to continue production due to our contractor withdrawing from this line of business.
	We deeply apologize for any inconvenience this might cause.
Replacement models	For details, see Attachment (1).
Date of production termination	Immediately
Attachments	Attachment (1): List of Discontinued and Out-of-supply MMS Optional Products
	Attachment (2): Base Plate Alternatives
	Attachment (3): Enclosure Alternatives
Last order date	End of January 2022
	We are unable to accept last orders for some models due to procurement difficulties.
	When last orders are possible, please be aware that supplies may be limited.
	Please refer to Attachment (1) for details on the availability of last orders.
Maintenance parts	There are no maintenance parts.
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Others	
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November 01, 2021

Fuji Electric FA Components & Systems Co., Ltd.

Gr	Туре	Product specifications	Alternatives *1	Availability of last orders	
es	BZ0BPVE65A	Base plate	Please consider separate or baseless installation.	No	
typ	BZ0CCA	Conversion kit (for IP55)	No alternatives available.	Yes (supplies are limited)	
tion	BZ0CFLA	Flush mounting enclosure (IP41)	No alternatives available.	Yes (supplies are limited)	
Production discontinuation types	BZ0CFLB	Flush mounting enclosure (IP55) Conversion kit: With BZOCCA	No alternatives available.	Yes (supplies are limited)	
SCO	BZ0CKA	Padlocking device	No alternatives available.	Yes (supplies are limited)	
n di	BZ0CLCA	pilot light (opaque white, 100 to 120 V AC)	No alternatives available.	Yes (supplies are limited)	
ctio	BZ0CLCB	pilot light (opaque white, 200 to 240 V AC)	No alternatives available.	Yes (supplies are limited)	
npo.	BZ0CLCC	pilot light (opaque white, 380 to 440 V AC)	No alternatives available.	Yes (supplies are limited)	
<u>a</u>	BZ0CLCD	pilot light (opaque white, 480 to 500 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLCE	pilot light (opaque white, 500 to 600 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLGA	pilot light (green, 100 to 120 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLGB	pilot light (green, 200 to 240 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLGC	pilot light (green, 380 to 440 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLGD	pilot light (green, 480 to 500 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLGE	pilot light (green, 500 to 600 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLRA	pilot light (red, 100 to 120 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLRB	pilot light (red, 200 to 240 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLRC	pilot light (red, 380 to 440 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLRD	pilot light (red, 480 to 500 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CLRE	pilot light (red, 500 to 600 V AC)	No alternatives available.	Yes (supplies are limited)	
	BZ0CNA	Neutral connector	No alternatives available.	Yes (supplies are limited)	
	BZ0CPK	Emergency stop push button (key type)	No alternatives available.	Yes (supplies are limited)	
	BZ0CPL	Emergency stop push button (push-lock turn-reset type)	No alternatives available.	Yes (supplies are limited)	
	BZ0CPM	Emergency stop push button (momentary action type)	No alternatives available.	Yes (supplies are limited)	
	BZ0CSLA	Front mounting type enclosure (IP41)	No alternatives available.	No	
	BZ0CSLB	Front mounting type enclosure (IP55) Conversion kit: With BZOCCA	No alternatives available.	No	
	BZ0CUA	Re adapter set (BM3RS + adapter for auxiliary under voltage tripping)	No alternatives available.	Yes (supplies are limited)	
	BZ0BCVA	Busbar cover (for pin connection)	No alternatives available.	Yes (supplies are limited)	
	BZ0BR22A	Busbar (forks; for two units; 63 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0BR24A	Busbar (forks; for four units; 63 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0BV03A	Busbar (pins; for three units; 55 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0BV12A	Busbar (pins; for two units; 64 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0BV13A	Busbar (pins; for three units; 64 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0BV14A	Busbar (pins; for three units; 64 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0BV22A	Busbar (pins; for two units; 73 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0BV24A	Busbar (pins; for three units; 73 mm pitch)	No alternatives available.	Yes (supplies are limited)	
	BZ0LRC09AA	Connecting module (contactor AC or DC coil)	No alternatives available.	Yes (supplies are limited)	
Out-of-supply types	BZ0BPRE22A	Base plate	Until availability changes, please consider using the SK Series for replacement, separate installation, or baseless installation. (For details, see Attachment (2).)	Not applicable	
Out-of-	BZ0BPVE51A	Base plate	Until availability changes, please consider using the SK Series for replacement, separate installation, or baseless installation. (For details, see Attachment (2).)	Not applicable	
	BZ0BPRE32A	Base plate	Until availability changes, please consider using the SK Series for replacement, separate installation, or baseless installation. (For details, see Attachment (2).)	Not applicable	
	BZ0BPCA	Base plate coupling kit	No alternatives available.	Not applicable	

^{*2} Assembled products and special products that utilize the above types are also subject to the content of this attachment.

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[Base plate alternatives due to procurement difficulties]

- (1) Use a type that does not need a base plate. Applicable contactor types are SC-E02P to SC-E05P.
- (2) If a SC-E02 to SC-E1 contactor is used, change the contactor to a SK Series product and use it without a base plate. The performance and specifications are partially different, so please refer to Attachment (2) for details.
- (3) Install the MMS and contactor separately and connect them with wires (do not use a connecting module or base plate).

Table 1: Alternative applicability

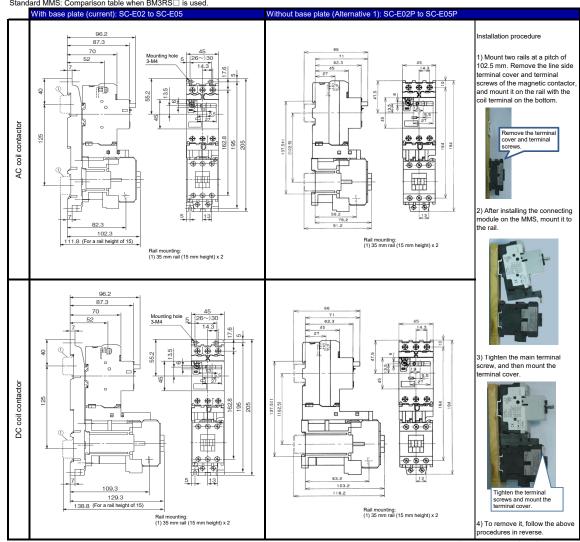
No.	Base plate type	Applicable MMS and contactors			Alternatives				
		MMS type		MMS type		Contactor type (AC coil or DC coil)	(1) Use without a base plate	(2) Change contactor to SK Series and use without a base plate	(3) Install the MMS and contactor separately and connect them with wires
					See this attachment for details.	See Attachment (2)-2 for details.	-		
1	BZ0BPRE22A	32AF	BM3RHB	SC-E02 to SC-E05	Needs to be changed to SC-E□P	✓ (SK12, SK18, SK22)	✓		
2			BM3RHR	SC-E02P to SC-E05P	/	✓ (SK12, SK18, SK22)	✓		
3	BZ0BPRE32A			SC-E1	Needs to be changed to SC-E□P	✓ (SK32)	1		
4				SC-E1P	1	✓ (SK32)	1		
5	BZ0BPVE51A	63AF	BM3VRSB	SC-E1 to SC-E2S	-	-	✓		
6			BM3VRHB	SC-E1P to SC-E2SP	-	-	✓		
7	BZ0BPVE65A	1		SC-E3	-	-	✓ ·		
8				SC-E3P	-	-	1		

[Alternative (1): Details of use without base plate]

As shown in Table 2, use two rails to mount the MMS and contactor. Also, mount the rail according to the following instructions.

* Please note that applicable contactors are P-types SC-E02P to SC-E05P.

Standard MMS: Comparison table when BM3RS \square is used.



The photos are for reference only.

	Item		Current		Alternative*		
Combination	MMS type		BM3RS□ BM3RH□	BM3RS□ BM3RH□	BM3RS□ BM3RH□	BM3RS□ BM3RH□	
	Contactor type		SC-E02	SC-E03	SK12	SK18	
	Link module type Contactor AC coil		BZ0LRE22AA	BZ0LRE22AA	BZ0LRK12AA	BZ0LRK22AA + BZ0LRKACA	
	Contactor DC coil		BZ0LRE22GA	BZ0LRE22GA	BZ0LRK12AA	BZ0LRK22AA	
	Base plate type		BZ0BPRE22A	BZ0BPRE22A	No	No	

	Base plate type				и	BZ0BPRE22A	BZ0BPRE22A	No No	No No
Specification						SC-E02, E02P	SC-E03, E03P	SK12	SK18
Rated insulation voltage						600 V	600 V	690 V	690 V
	Main circuit ra	Motor load (At	C-3)	200 to 240 V		2.2kW	2.7kW	2.2kW	3.7kW
		(AC-3/JIS ratir	ng)			11A	13A	12A	18A
				380 to 440 V		2.7kW	4.kW	5.5kW	7.5kW
						7A	9A	12A	18A
		Motor load (A		200 to 240 V		2.2kW	3.kW	3.kW	4.5kW
Contactor		(AC-3/IEC rati	ing)	380 to 440 V		9A	12A	12A	18A
specification				380 to 440 V		4.kW 9A	5.5kW 12A	5.5kW 12A	7.5kW 18A
specification		Danishing Israel	(40.4)	200 to 240 V		20A	20A	20A	32A
		Resistive load	(AC-1)						
	D bilit.	Mashariasi		380 to 440 V	(millions of times)	20A	20A	20A	32A
	Durability	Mechanical			(millions of	1000 200	1000 150	1000 100	500 100
		Electrical (AC-	-3/IEC rating)		times)	(400 V AC)	(400 V AC)	(200 V AC)	(200 V AC)
	Operating cyc	AC-3			(Times/hour)	1800	1800	1800	1800
	Terminal scre	Main circuit				M4	M4	M3.5	M4
		Control circuit				M3.5	M3.5	M3.5	M3.5
	Auxiliary cont	act				None	None	1NO or 1NC	1NO or 1NC
	Wire size	0-11-1	J	00.1//50.11=1	0.(4)	See Attachment (2)-3	See Attachment (2)-3	See Attachment (2)-3	See Attachment (2)-3
	AC coil	Coll character	Inrush VA (at 20		(VA)	90 95	90 05	22	90 95
		1	Inrush VA (at 22 Holding VA (at 2		(VA) (VA)	95 9	95 9	25 4.5	95 9
		1	Holding VA (at 2	220 V/60 Hz)	(VA)	9	9	4.5	9
		Operating time	e		(ms)	9 to 20	9 to 20	17 to 26	9 to 20
		Release time	<u> </u>		(ms)	5 to 16	5 to 16	8 to 11	5 to 16
			Width (W) x Hei	ght (H) x Depth (I		43*81*81	43*81*81	45*48*49	45*81*81
	DC coil	Coil character	Inrush VA (at 24	VDC)	(VA)	7	7	2.4	2.4
			Holding VA (at 2	24 V DC)	(VA)	7	7	2.4	2.4
		Operating time	e		(ms)	45 to 49	45 to 49	22 to 24	65 to 72
		Release time			(ms)	10 to 26	10 to 26	5 to 6	18 to 23
	ļ			ght (H) x Depth (I		43*81*108	43*81*108	45*48*49	45*81*94
		UL508, Type I	F	MMS rating: SC	CR value	0.25-1.6 A: 65 kA	6.3-13 A: 25 kA	0.25-1.6 A: 65 kA	0.25-1.6 A: 65 kA
BM3RS□ (s combination		SCCR value (4		(480VY/277V)		1.6-6.3 A : 50 kA		1.6-6.3 A : 50 kA	1.6-6.3 A : 50 kA
Combination						6.3-10 A : 25 kA		6.3-10 A : 25 kA 9-13 A : 10 kA	6.3-20 A : 25 kA
Check the co	atalog for the	r the				45*205*102	3	45*154.9*74.7	45*185*94
	igh breaking)					10 200 102	.0	10 10 10 1 111	10 100 01
combination.									
		Dimensions	Dimensions BM3RS□ + AC coil con		(mm)				
		l	1			Ĭ			
		1	I						
						45*205*129	.3	45*154.9*74.7	45*185*94
			BM3RS□ + DC	coil contactor	(mm)				
		l	1			Ĭ			
		1	I						
I		1	I			Ī			
		l	I			Ī			
									-
			Remarks			With base n	late	Without base plate	Without base plate
		Others	Remarks			With base p	late	Without base plate	Without base plate
* Select SK1	2 or SK18 dep	Others ending on the I		and closing opera	ations.	With base p	late	Without base plate	Without base plate

^{*} Select SK12 or SK18 depending on the number opening and closing operations.

	Item		Cui	rrent	Alterr	native*
Combination	MMS type		BM3RS□ BM3RH□	BM3RS□ BM3RH□	BM3RS□ BM3RH□	BM3RS□ BM3RH□
	Contactor type	Contactor type		SC-E05	SK18	SK22
	Link module type	module type Contactor AC coil		BZ0LRE22AA	BZ0LRK22AA + BZ0LRKACA	BZ0LRK22AA + BZ0LRKACA
		Contactor DC coil	BZ0LRE22GA	BZ0LRE22GA	BZ0LRK22AA	BZ0LRK22AA
	Base plate type		BZ0BPRE22A	BZ0BPRE22A	No	No

		Base plate type				BZ0BPRE22A	BZ0BPRE22A	No No	No No
							•		
		Specification				SC-E04, E04P	SC-E05, E05P	SK18	SK22
	Rated insulat					600 V	600 V	690 V	690 V
	Main circuit ra	Motor load (Al		200 to 240 V		3.7kW	4.kW	3.7kW	4.5kW
		(AC-3/JIS ration	ng)	380 to 440 V		18A 5.5kW	19A 7.5kW	18A 7.5kW	22A 10.kW
				360 to 440 V		13A	17A	18A	22A
		Motor load (A	C-3)	200 to 240 V		4.kW	5.5kW	4.5kW	6.5kW
		(AC-3/IEC rati	ing)			18A	25A	18A	22A
Contactor				380 to 440 V		7.6kW	11.kW	7.5kW	11.kW
specification						18A	25A	18A	22A
		Resistive load	I (AC-1)	200 to 240 V		25A	32A	32A	32A
				380 to 440 V		25A	32A	32A	32A
	Durability	Mechanical			(millions of times) (millions of	1000 150	1000 150	500 100	500 100
		Electrical (AC	-3/IEC rating)		times)	(400 V AC)	(400 V AC)	(200 V AC)	(200 V AC)
	Operating cyc	AC-3			(Times/hour)	1800	1200	1800	1800
	7				,				
	Terminal scre	Main circuit				M4	M4	M4	M4
	Auxiliary cont	Control circuit				M3.5 None	M3.5 None	M3.5 1NO or 1NC	M3.5 1NO or 1NC
		acı							See Attachment (2)-3
	Wire size AC coil	Coil character	Inrush VA (at 20	0 V/50 Hz)	(VA)	See Attachment (2)-3 90	See Attachment (2)-3 90	See Attachment (2)-3 90	90
	, .0 0011	Son Granacier	Inrush VA (at 20		(VA)	90 95	95	95	90 95
I	1	1	Holding VA (at 2		(VA)	9	9	9	9
			Holding VA (at 2	20 V/60 Hz)	(VA)	9	9	9	9
		Operating time		,	(ms)	9 to 20	9 to 20	9 to 20	9 to 20
		Release time			(ms)	5 to 16	5 to 16	5 to 16	5 to 16
		Dimensions		ght (H) x Depth (D	(mm)	43*81*81	43*81*81	45*81*81	45*81*81
	DC coil	Coil character		V DC)	(VA)	7	7	2.4	2.4
			Holding VA (at 2	4 V DC)	(VA)	7	7	2.4	2.4
		Operating time	е		(ms)	45 to 49	45 to 49	65 to 72	65 to 72
		Release time	ME-H- (M)	obs (II) Dougle (D	(ms)	10 to 26	10 to 26	18 to 23	18 to 23
Combination	characteristic	UL508, Type I		ght (H) x Depth (D MMS rating: SCC		43*81*108 11-20 A: 25 kA	43*81*108 19-25 A: 25 kA	45*81*94 0.25-1.6 A: 65 kA	45*81*94 0.25-1.6 A: 65 kA
BM3RS (st		SCCR value	F	(480VY/277V)	N value	11-20 A. 25 KA	19-23 A. 23 KA	1.6-6.3 A : 50 kA	1.6-6.3 A : 50 kA
combination	tandara)	OOOIT Value		(400 1 1/2/11 1)				6.3-20 A : 25 kA	6.3-25 A : 25 kA
Check the ca	atalog for the			U		45*205*102.3	3	45*185*94	I .
BM3RH□ (h	igh breaking)								
combination.									
		Dimensions	BM3RS□ + AC	coil contactor	(mm)				
		Dimensions	BIVISITSE 1 AC	Con contactor	(11111)				
						45*205*129.3	3	45*185*94	
		1	I					Ī	
		1	I					Ī	
			BM3RS□ + DC	coil contactor	(mm)				
								Ĭ	
		1	I					Ī	
		1	I					Ī	
		1	I					Ī	
			Remarks		1	With base p	late	Without bas	se plate
		Others				77.0.1 2000 p		Thin out but	I

	Item		Current	Alternative*
Combination	MMS type		BM3RS□ BM3RH□	BM3RS□ BM3RH□
	Contactor type		SC-E1	SK32
	Link module type	Contactor AC coil	BZ0LRE32AA	BZ0LRK32AA + BZ0LRKACA
	Contactor DC coil		BZ0LRE32GA	BZ0LRK32AA
	Base plate type		BZ0BPRE32A	No

	Base plate ty	JC .			BZ0BPRE32A	No
	0 ': ':				00.54.548	01/00
	Specification			SC-E1, E1P	SK32	
	sulation voltage	0.0)	000 / 040 //		600 V	600 V
Main cir	cuit ra Motor load (A	.C-3)	200 to 240 V		5.5kW	6.5kW
	(AC-3/JIS rati	ng)			26A	32A
			380 to 440 V		11.kW	15.kW
	M-4 I / / A	0.0)	200 +- 240 \/		25A	32A
	Motor load (A		200 to 240 V		7.5kW	7.5kW
044	(AC-3/IEC rat	ing)	200 to 440 V		32A	32A
Contactor			380 to 440 V		15.kW	15.kW
specification			200 to 240 V		32A	32A
	Resistive load	Resistive load (AC-1)			50A	40A
			380 to 440 V		50A	40A
Durabilit	y Mechanical			(millions of times)	1000	500
	Electrical (AC	-3/IEC rating)		(millions of	150	100
0 "				times)	(400 V AC)	(200 V AC)
Operatir	ig cycAC-3			(Times/hour)	1200 M5	1200
Tormino	I scre Main circuit				Box terminal	M4
Tellilla	i scie iviairi circuit				for direct-wried products	101-4
	Control circuit	1			M3.5	M3.5
Δuvilian	contact				None	1NO or 1NC
Wire siz					See Attachment (2)-3	See Attachment (2)-3
AC coil		ri Inrush VA (at 20	00 V/50 Hz\	(VA)	120	90
AC COII	Con Granacle	Inrush VA (at 20		(VA)	135	95
I I		Holding VA (at 2		(VA)	12.7	9
		Holding VA (at 2		(VA)	12.4	9
	Operating tim			(ms)	10 to 17	9 to 20
	Release time			(ms)	6 to 13	5 to 16
	Dimensions		ight (H) x Depth (D		54*90*96	53*81*81
DC coil	Coil characte			(VA)	9	2.4
50 00.1	Oon onaraoto	Holding VA (at 2	24 V DC)	(VA)	9	2.4
	Operating tim		/	(ms)	40 to 50	65 to 72
	Release time			(ms)	8 to 17	18 to 23
	Dimensions	Width (W) x Hei	ight (H) x Depth (E		54*90*121.5	53*81*94
Combination characte			MMS rating: SC0		24-32 A: 25 kA	0.25-1.6 A: 65 kA
BM3RS□ (standard)	SCCR value		(480VY/277V)			1.6-6.3 A : 50 kA
combination						6.3-32 A : 25 kA
Check the catalog for BM3RH□ (high break combination.		BM3RS□ + AC	coil contactor	(mm)	55°247°121	53*185*94
					55*247*146.5	53*185*94
		BM3RS□ + DC	coil contactor	(mm)	30 2.11 1.00	30 100 0
	Others	Remarks			With base plate 45 mm busbar not available	Without base plate 45 mm busbar not available

Attachment (2)-3 MMS Base Plate Alternatives
Comparison of wiring size between SC-E Series and SK Series

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Terminal	Specification			Current		Alternative		
location	Specification			SC-E02 to SC-E05	SC-E02P to SC-E05P	SK09 to SK12	SK18 to SK32	
Main	Screw size			M4	M4	M3.5	M4	
terminals	Direct connection	Solid wire	(mm)	1 x (Ф1.2 to 3.2)	1 x (Ф1.2 to 3.2)	1 x (Ф1.2 to 2.0)	1 x (Ф1.2 to 2.6)	
	Wire size			2 x (Ф1.2 to 2.6)	2 x (Ф1.2 to 2.6)	2 x (Ф1.2 to 1.6)	2 x (Ф1.2 to 1.6) 2 x (Ф1.6 to 2.0)	
						2 x (Φ1.6 to 2.0)	2 x (Ф1.6 to 2.0)	
			(AWG)	1 x (16 to 8)	1 x (16 to 8)	1 x (16 to 12)	1 x (16 to 10)	
				2 x (16 to 10)	2 x (16 to 10)	2 x (16 to 14)	2 x (16 to 14)	
						2 x (14 to 12)	2 x (14 to 12)	
		Twisted wire	(mm ²)	1 x (0.75 to 6)	1 x (0.75 to 6)	1 x (0.75 to 2.5)	1 x (0.75 to 5.5)	
				2 x (1 to 4)	2 x (1 to 4)	2 x (0.75 to 1.5)	2 x (0.75 to 1)	
				2 x (1.5 to 6)	2 x (1.5 to 6)	2 x (1.5 to 2.5)	2 x (1.0 to 1.5)	
							2 x (1.5 to 2.5)	
							2 x (2.5 to 4.0)	
			(AWG)	1 x (18 to 10)	1 x (18 to 10)	1 x (18 to 14)	1 x (18 to 10)	
				2 x (18 to 12)	2 x (18 to 12)	2 x (18 to 16)	2 x (16 to 14)	
				2 x (16 to 10)	2 x (16 to 10)	2 x (16 to 14)	2 x (14 to 12)	
			No. of strands	7 or less	7 or less	7 or less	7 or less	
	Crimp terminal	Twisted wire	(mm ²)	Not applicable	2 x (0.75 to 10)	2 x (0.75 to 4)	2 x (0.75 to 10)	
	connection							
	Wire size	Crimp terminal size	(mm)	Not applicable	9.7	7.7	9.7	
Control	Screw size			M3.5	M3.5	M3.5	M3.5	
circuit	Direct connection	Solid wire	(mm)	1 x (Φ1.2 to 2.0)	1 x (Φ1.2 to 2.0)	1 x (Φ1.2 to 2.0)	1 x (Ф1.2 to 2.0)	
	Wire size			2 x (Ф1.2 to 1.6)	2 x (Φ1.2 to 1.6)	2 x (Ф1.2 to 1.6) 2 x (Ф1.6 to 2.0)	2 x (Ф1.2 to 1.6)	
				2 x (Ф1.6 to 2.0)	2 x (Ф1.6 to 2.0)		2 x (Ф1.6 to 2.0)	
			(AWG)	1 x (16 to 12)	1 x (16 to 12)	1 x (16 to 12)	1 x (16 to 12)	
				2 x (16 to 14)	2 x (16 to 14)	2 x (16 to 14)	2 x (16 to 14)	
				2 x (14 to 12)	2 x (14 to 12)	2 x (14 to 12)	2 x (14 to 12)	
	Wire size	Twisted wire	(mm ²)	1 x (0.75 to 2.5)	1 x (0.75 to 2.5)	1 x (0.75 to 2.5)	1 x (0.75 to 2.5)	
				2 x (0.75 to 1.5)	2 x (0.75 to 1.5)	2 x (0.75 to 1.5)	2 x (0.75 to 1.5)	
				2 x (1.5 to 2.5)	2 x (1.5 to 2.5)	2 x (1.5 to 2.5)	2 x (1.5 to 2.5)	
	1		(AWG)	1 x (18 to 14)	1 x (18 to 14)	1 x (18 to 14)	1 x (18 to 14)	
	1			2 x (18 to 16)	2 x (18 to 16)	2 x (18 to 16)	2 x (18 to 16)	
	1			2 x (16 to 14)	2 x (16 to 14)	2 x (16 to 14)	2 x (16 to 14)	
			No. of strands	7 or less	7 or less	7 or less	7 or less	
		Crimp terminal Solid wire		2 x (0.75 to 2.5)	2 x (0.75 to 2.5)	2 x (0.75 to 2.5)	2 x (0.75 to 2.5)	
	connection							

MS MS MS MS MS MS MS MS	Current		Alternative
M5 (box terminal) 1 to pa also only (91 2 to 3.2) 1 x bottom side only (91 2 to 3.2) 2 x (91 2 to 1.6) 3 x to paid only (91 2 to 3.2) 1 x bottom side only (91 2 to 3.2) 1 x bottom side only (10 1 to 2.2) 1 x to paid only (10 to 2.2) 1 x bottom side only (10 to 2.2) 1 x bottom side only (10 to 2.2) 1 x bottom side only (10 to 3.2) 1 x bottom side only (10 x 5 mm²) 2 x (10 to 4.2) 2 x (10 to 4.2) 2 x (10 to 5.2) 1 x bottom side only (10 x 5 mm²) 2 x (10 to 4.2) 2 x (10 to 5.2) 1 x bottom side only (10 to 2.2 mm²) 2 x (10 to 4.2) 3 x (10 to 4.2) 1 x bottom side only (10 to 2.2 mm²) 2 x (10 to 6.2) 1 x bottom side only (10 to 2.2 mm²) 2 x (10 to 6.2) 1 x bottom side only (10 to 2.2 mm²) 2 x (10 to 6.2) 1 x bottom side only (10 to 2.2 mm²) 2 x (10 to 6.2) 1 x bottom side only (10 to 2.2 mm²) 2 x (10 to 6.2) 1 x bottom side only (10 to 2.2 mm²) 2 x (10 to 6.2) 3 x (10 to 6.2) 4 x (10 to 6.2) 1 x (10 to 6.2) 2 x (10 to 6.2) 1 x (10 to 6.2) 2 x (10 to 6.2) 2 x (10 to 6.2) 2 x (10 to 6.2) 3 x (10 to 6.2) 3 x (10 to 6.2) 2 x (10 to 6.2) 2 x (10 to 6.2) 2 x (10 to 6.2) 3 x (10 to 6.2)		SC-F1P	
1 x bop side only (012 to 32)			M4
1 x bottom side only (91 2 to 3.2)			
2. Top uside (91.2 to 3.2) +	1 x hottom side only (\$1.2 to 3.2)	1 X (42.0 to 0.2)	2 x (d) 1 2 to 1 6)
Bottom side (01.2 to 3.2) 1 x (op side (12.2 to 3.2) 1 x (op side (12.2 to 3.2) 1 x (12.2 to 8) 2 x (16.2 to 10) 2 x (op side (12.2 to 3.2) 1 x (0.2 to 10.2) 2 x (op side (12.2 to 10.2) 1 x (op side (12.2 to 10.2) 2 x (op side (12.2 to 10.2) 3 x (op side (12.2 to 10.2) 4 x (op side (12.2 to 10.2) 5 x (op side (12.2 to 10.2) 7 or less 7 or less 7 or less Not applicable 12 x (op side (12.2 to 10.2) 1 x (op side (12.2 to 10.2) 3 x (op side (12.2 to 10.2) 4 x (op side (12.2 to 10.2) 5 x (op side (12.2 to 10.2) 5 x (op side (12.2 to 10.2) 5 x (op side (12.2 to 10.2) 7 to less 7 to less 7 to less 7 to less 1 x (op side (12.2 to 10.2) 1 x (op side (12.2 to 10.2) 2 x (op side (12.2 to 10.2) 3 x (op side (12.2 to 10.2) 4 x (op side (12.2 to 10.2) 5 x (op side (12.2	2: Ton side (#1.2 to 2.2) +		3 × (Φ1.6 to 3.0)
1 x top side only (18 to 2) 1 x bottom side (18 to 3) 2 x (16 to 14) 2 x top side (18 to 3) + bottom side (18 to 3) 2 x (16 to 14) 2 x top side (18 to 3) + bottom side (18 to 3) 1 x bottom side only (18 x mm² to 28 mm²) 1 x bottom side only (18 x mm² to 28 mm²) 2 x (0.75 to 1.5) 2 x (1.5 to 4.0) 1 x bottom side (0.75 mm² to 28 mm²) 1 x bottom side (0.75 mm² to 28 mm²) 2 x (4.6 to 6.0) 2 x (1.5 to 2.5) 1 x bottom side only (18 to 2) 1 x (18 to 8) 1 x (18 to 8) 1 x (18 to 10) 2 x (16 to 14) 2 x (16 to 15) 2 x (16 to 16) 2 x (16 to			2 X (Ф 1.0 to 2.0)
1 x bottom side only (16 to 3) 2 x (16 to 14) 2 Top side (18 o3) + bottom side (16 to 3) 1 x 100 x 86 x 80 x 100 x		1 x (12 to 8)	1 x (16 to 10)
2 Top side (18 to 3) + bottom side (18 to 3) 1 x (0.75 to 8.0) 1 x (0.05 to 15) 1 x (0.05 to 15) 2 x (0.75 to 15) 2 x (1.5 to 2.5) 1 x top side only (18 to 2) 1 x (18 to 8) 1 x (18 to 8) 1 x (18 to 8) 1 x (18 to 10) 2 x (18 to 10) 3 x (18 to 10) 7 or less 7 or less Not applicable 1 x (18 to 20) 2 x (18 to 16) 2 x (18 to 16) 3 x (18 to 10) 3 x (18 to 14) 3 x (18 to 14	1 x hottom side only (18 to 3)		2 x (16 to 14)
1. bottom side only (0.2 km² to 2.5 mm² to	2: Top side (18 to 3) + bottom side (18 to 3)		2 x (14 to 12)
1. bottom side only (0.2 km² to 2.5 mm² to	1 x top side only (0.75 mm ² to 38 mm ²)	1 x (0.75 to 8.0)	1 x (0.75 to 5.5)
2 Top side (0.75 mm² to 25 mm²) + 2 x (1.5 to 4.0) 2 x (1.0 to 1.5) 8 bottom side (0.75 mm² to 25 mm²) x 2 x (4.6 to 6.0) 2 x (1.5 to 2.5) 1 x (18 to 6.5) 2 x (1.5 to 2.5) 1 x (18 to 6.5) 2 x (1.5 to 2.5) 1 x (18 to 6.5) 2 x (16 to 1.6) 2	1 x bottom side only (0.25 mm² to 25 mm²)	2 x (0.75 to 1.5)	2 x (0.75 to 1)
Bottom side (0.75 mm² to 25 mm²) 2 x 4 d b to 6.0 2 x (1.5 to 2.5)	2: Top side (0.75 mm² to 25 mm²) +	2 x (1.5 to 4.0)	2 x (1.0 to 1.5)
1 x top side only (18 to 2) 1 x (18 to 8) 1 x (18 to 10) 1 x (18 to 10) 2 x (18 to 16) 2 x (18 to 17) 2 x (18 to 18) 2 x (18 to 10) 3 x (18 t	Bottom side (0.75 mm² to 25 mm²)	2 x (4 0 to 6 0)	2 x (1.5 to 2.5)
1 h bottom side only (16 to 3) 2 x (16 to 16) 2 x (16 to 14) 2 x (16 to 10) 7 or less Not applicable 2 x (2 (2 to 10) Not applicable 12.4 9.7 Not applicable 12.4 9.7 Not applicable 12.4 9.7 Not 2 x (16 to 10) 1 x (16 12 to 20) 1 x (16 10 12) 1 x (16 to 12) 1 x (16 to 12) 1 x (16 to 12) 2 x (16 to 14) 2 x (16 to 14) 2 x (16 to 15) 2 x (16 to 16) 2 x (16 to 16			2 x (2.5 to 4.0)
1 h bottom side only (16 to 3) 2 x (16 to 16) 2 x (16 to 14) 2 x (16 to 10) 7 or less Not applicable 2 x (2 (2 to 10) Not applicable 12.4 9.7 Not applicable 12.4 9.7 Not applicable 12.4 9.7 Not 2 x (16 to 10) 1 x (16 12 to 20) 1 x (16 10 12) 1 x (16 to 12) 1 x (16 to 12) 1 x (16 to 12) 2 x (16 to 14) 2 x (16 to 14) 2 x (16 to 15) 2 x (16 to 16) 2 x (16 to 16	1 x top side only (18 to 2)	1 x (18 to 8)	1 x (18 to 10)
2x (14 to 10)	1 x bottom side only (18 to 3)	2 x (18 to 16)	2 x (16 to 14)
2x (14 to 10)	2: Top side (18 to 3) + bottom side (18 to 3)	2 x (16 to 14)	2 x (14 to 12)
7 or less 9 2 x (0.75 to 25) 2 x (0.75 to 10) Not applicable 12.4 9.7 M3.5 M3.5 M3.5 M3.5 M3.5 M3.5 M3.5 Ix (0.12 to 10.0) 2 x (0.12 to 10.0) 1 x (0.12 to 2.0) 1 x (0.12 to 10.0) 2 x (0.12 to 1.0) 1 x (16 to 12) 2 x (14 to 12) 2 x (14 to 12) 2 x (14 to 12) 2 x (14 to 12) 2 x (14 to 12) 2 x (14 to 12) 2 x (14 to 12) 2 x (14 to 12) 2 x (15 to 2.5) 1 x (0.75 to 2.5) 1 x (0.75 to 2.5) 2 x (1.5 to 2.5) 2 x (1.5 to 2.5) 2 x (1.5 to 2.5) 1 x (18 to 14) 2 x (16 to 14) 2 x (16 to 14) 2 x (16 to 14) 2 x (16 to 14) 7 or less		2 x (14 to 10)	
Not applicable 2 x (0.75 to 25) 2 x (0.75 to 10)		2 x (12 to 10)	
Not applicable 12.4 9.7			
M35 M35 M35 M35 M36 M36 M36 M37	Not applicable	2 x (0.75 to 25)	2 x (0.75 to 10)
M35 M35 M35 M35 M36 M36 M36 M37		40.4	
1 x (012 to 20)			
2 x (61.2 to 1.6) 2 x (61.2 to 1.6) 2 x (61.2 to 1.6) 2 x (61.6 to 2.0) 1 x (16 to 1.2) 1 x (16 to 1.2) 1 x (16 to 1.2) 2 x (16 to 1.4) 2 x (16 to 1.2) 2 x (14 to 1.2) 2 x (16 to 1.6) 2 x (0.75 to 2.5) 1 x (0.75 to 2.5) 1 x (0.75 to 2.5) 2 x (1.5 to 1.5) 2 x (0.75 to 1.5) 2 x (0.75 to 1.5) 2 x (0.75 to 1.5) 2 x (1.5 to 2.5) 1 x (1.6 to 1.4) 2 x (1.6 to 1.4) 7 roless 7 roless 7 roless 7 roless 2 x (0.75 to 2.5) 2 x (0.75 to 2.5) 2 x (0.75 to 2.5)			
2 x (491.6 to 2.0) 2 x (491.6 to 2.0) 2 x (491.6 to 2.0) 1 x (46 to 12) 2 x (46 to 14) 1 x (47.5 to 2.5) 2 x (47.5 to 2.5) 1 x (48.5 to 44) 1 x (48.5 to 44) 1 x (48.5 to 44) 2 x (48.5 to 44) 7 rol ress 7 rol ress 7 rol ress 7 rol ress 2 x (47.5 to 2.5) 2 x (47.5 to 2.5) 2 x (47.5 to 2.5)	1 X (Ψ1.2 to 2.0)	1 χ (Ψ1.2 to 2.0)	1 Χ (Ψ1.2 to 2.0)
1 x (16 to 12)	2 x (Ψ1.2 to 1.6)	2 χ (Ψ1.2 to 1.6)	2 Χ (Ψ1.2 to 1.6)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
2 x (14 to 12) 1 x (0.75 to 2.5) 1 x (0.75 to 1.5) 2 x (1.5 to 2.5) 1 x (1.8 to 14) 2 x (1.8 to 15)			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		2 X (16 to 14)	2 X (16 to 14)
2 x (0.75 to 1.5) 2 x (1.5 to 2.5) 2 x (1.6 to 1.4) 1 x (18 to 1.4) 1 x (18 to 1.4) 1 x (18 to 1.4) 2 x (18 to 1.6) 2 x (18 to			
2x(15 to 25) 2x(15 to 25) 2x(15 to 25) 1x(18 to 14) 1x(18 to 14) 1x(18 to 14) 2x(18 to 16) 2x(18 to 16) 2x(18 to 16) 2x(18 to 14) 2x(16 to 14) 2x(16 to 14) 7 or less 7 or less 7 or less 2x(0.75 to 2.5) 2x(0.75 to 2.5) 2x(0.75 to 2.5)		1 X (0.75 to 2.5)	1 X (0.75 to 2.5)
1x(18 to 14)	2 x (0.75 to 1.5)	2 x (0.75 to 1.5)	2 x (0.75 to 1.5)
2 x (18 to 16) 2 x (18 to 16) 2 x (18 to 16) 2 x (16 to 14) 2 x (16 to 14) 2 x (16 to 14) 7 or less 7 or less 7 or less 2 x (0.75 to 2.5) 2 x (0.75 to 2.5) 2 x (0.75 to 2.5)			
2 x (16 to 14) 2 x (16 to 14) 2 x (16 to 14) 7 or less 7 or less 7 or less 2 x (0.75 to 2.5) 2 x (0.75 to 2.5) 2 x (0.75 to 2.5)	1 X (16 to 14)	1 X (16 to 14)	1 X (16 to 14)
7 or less 7 or less 7 or less 7 or less 2 x (0.75 to 2.5) 2 x (0.75 to 2.5) 2 x (0.75 to 2.5)			
2 x (0.75 to 2.5) 2 x (0.75 to 2.5) 2 x (0.75 to 2.5)			
7.7 7.7 7.7	2 x (U./5 to 2.5)	2 x (U./5 to 2.5)	2 x (U.15 to 2.5)
	7.7	7.7	7.7