

Manual motor starter	Type	MS 116	MS 325	MS 450	MS 495
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General electrical data					
Rated insulation voltage U_i					
to EN 60947	V AC	690	690	690	690
to CSA / UL / NEMA	V AC	600	600	600	600
Rated operating voltage U_e up to	V	690 AC/440 DC	690 AC/440 DC	690 AC/440 DC	690 AC/440 DC
Rated impulse strength U_{imp}	kV	6	- / 6	6	6
Rated continuous thermal current I_{th}	A	16	25	50	100
Rated operating current I_e / AC 3 max.					
Rated frequency ¹⁾	Hz	50/60			
Rated current ranges I_e (number of ranges)	A		0.1 ... 25 (14)	11 ... 50 (7)	28 ... 100 (6)
Rated service short-circuit breaking capacity I_{cs} and max. permissible back-up fuses on request					
DC rated operating voltage in the case of series connection of 3 main circuits (wiring diagram on request)	DC 1, 60 V A	on request	25	50	100
	DC 3, 60 V A	on request	25	50	100
	DC 5, 60 V A	on request	25	50	100
Short circuit capacity for DC-rating		on request			

Auxiliary circuits				
Rated operating current I_e	at AC 15 to 24 V AC A	6	2.5	-
	230 V AC A	4	2	3 / 0.5 / 6
	400 V AC A	3	1	1.5 / - / 3
				^{1) 2)}
	at DC 13 to 24 V DC A	2	2.5	- / - / -
	60 V DC A	-	2.5	- / 0.15 / -
	110 V DC A	0.5	0.6	0.22 / - / 0.5
220 V DC A	0.25	0.25	0.1 / - / 0.25	
440 V DC A	0.1	-	- / - / 0.1	
Short-circuit protection back-up fuse	gL A	on request	10	gL / gG 10 A
	aM A		6	-

- 1) Correction factors for other frequencies on request
- 2) On front side 1 changeover contact/on front side 1 NO + 1 NC / at side 1 NO + 1 NC, 2 NO, 2 NC
- 3) Other data on request

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Manual Motor Starter

MS 116

Open design, enclosure IP 20, resistant to changeable climates. Quick fastening on mounting rails DIN EN 50 022, 35 mm without auxiliary switch.

Setting range A...A	Weight kg	Order code
MS 116 with thermal and electromagnetic trips, short-circuit-proof up to 50 kA		
0.10...0.16	0.268	MS 116 - 0.16
0.16...0.25	0.268	MS 116 - 0.25
0.25...0.40	0.268	MS 116 - 0.4
0.40...0.63	0.268	MS 116 - 0.63
0.63...1.00	0.268	MS 116 - 1.0
1.00...1.60	0.268	MS 116 - 1.6
1.60...2.50	0.268	MS 116 - 2.5
2.50...4.00	0.268	MS 116 - 4
4.00...6.30	0.268	MS 116 - 6.3
6.30...10.00	0.268	MS 116 - 10.0
10.00...16.00	0.268	MS 116 - 16.0



MS 116

SST11601



HKF 1-11

STC02014



MS 116 with mini contactor B6

MS116nc3b



MS 116 with A-contactor

MS116nc3b

Accessories

	Order code
Auxillary switches, for front-panel installation	
1 NO + 1 NC	HKF1-11
Auxiliary switches, lateral attachment at right	
1 NO + 1 NC	HK1-11
2 NO	HK1-20
2 NC	HK1-02
Signal kontakt for general "tripped" signal, lateral attachment at right	
1 NO + 1 NC	SK1-11
2 NO	SK1-20
2 NC	SK1-02
Undervoltage release, lateral attachment at left	
24 V, 50 Hz	UA1-24
48 V, 50 Hz	UA1-48
60 V, 50 Hz	UA1-60
110/120 V, 50/60 Hz	UA1-110
208 V, 60 Hz	UA1-208
230 V, 50 Hz	UA1-230
400 V, 50 Hz	UA1-400
415 V, 50 Hz	UA1-415

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Manual Motor Starter

MS116

Accessories

Description	Order code
Phase buses for cross wiring MS 116, 63 A, 690 V	
for 2 devices without auxiliary switches	PS1-2-0
for 3 devices without auxiliary switches	PS1-3-0
for 4 devices without auxiliary switches	PS1-4-0
for 5 devices without auxiliary switches	PS1-5-0
for 2 devices with 1 auxiliary switch	PS1-2-1
for 3 devices with 1 auxiliary switch	PS1-3-1
for 4 devices with 1 auxiliary switch	PS1-4-1
for 5 devices with 1 auxiliary switch	PS1-5-1
for 2 devices with 2 auxiliary switches	PS1-2-2
for 3 devices with 2 auxiliary switches	PS1-3-2
for 4 devices with 2 auxiliary switches	PS1-4-2
for 5 devices with 2 auxiliary switches	PS1-5-2
Busbar cover	BSI-3

Power infeed blocks, 63 A, 690 V, stranded 25 mm², flexible 16 mm²

flat	S1-M1
high	S1-M2

Mounted enclosure IP 65, triple lockable in Off position, with N- und PE-terminal, metric cable gland

Grey enclosure with black handle	IB 116-G
Yellow enclosure with red handle	IB 116-Y

Switch cubicle mounting kit IP 65, with axial extension triple lockable in Off position, locked in On position

Twist knob black	OHB2AJM
Twist knob red/yellow	OHY2AJM
axis 85 mm	OXS5X85
axis 105 mm	OXS5X105
axis 130 mm	OXS5X130
axis 180 mm	OXS5X180
driver ¹⁾	MSMN
driver spindle 32 mm ²⁾	MSOX

Locking device

lock adapter	SA1
locking device assy =(adaptor sai + padlock + 3 keys)	SA3

For connecting links between MMS + contactor (see page x/xx)

1) For accommodating spindle and attachment to manual motor starter
2) Is screwed directly onto the manual motor starter

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Manual Motor Starter

MS 325

Selection

Open design, enclosure IP 20, resistant to changeable climates. Quick fastening on mounting rails DIN EN 50 022, 35.

Setting range A...A	Weight kg	Order code
MS 325 with thermal and electromagnetic trips, short-circuit-proof up to 100 kA, resp.50 kA ¹⁾²⁾		
0.10....0.16	0.347	MS 325 – 0.16
0.16....0.25	0.347	MS 325 – 0.25
0.25....0.40	0.347	MS 325 – 0.4
0.40....0.63	0.347	MS 325 – 0.63
0.63....1.00	0.347	MS 325 – 1
1.00....1.60	0.347	MS 325 – 1.6
1.60....2.50	0.347	MS 325 – 2.5
2.50....4.00	0.347	MS 325 – 4
4.00....6.30	0.347	MS 325 – 6.3
6.30....9.00	0.347	MS 325 – 9
9.0012.50	0.347	MS 325 – 12.5
12.50....16.00	0.347	MS 325 – 16
16.00....20.00	0.347	MS 325 – 20
20.00....25.00	0.347	MS 325 – 25

Magnetic only versions on application

Accessories

Setting range	Weight kg	Order code
Auxiliary switches, lateral attachment at left, max. 2 pieces attachable		
1 NO + 1 NC	0.031	HK-11
2 NO	0.031	HK-20
2 NC	0.031	HK-02
Signal contact for general "tripped" signal, lateral attachment at the left max. 1 piece attachable		
1 NO + 1 NC	0.031	SK-11
Locking device		
lock adapter	0.004	SA1
locking device assy. (Adapter SA1 + padlock + 3 keys)	0.050	SA3

For other accessories please consult us.
For connecting links between MMS and contactor see page ??

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Manual Motor Starters

MS 4xx

Open design, enclosure IP 20, resistant to changeable climates. Quick fastening on mounting rails DIN EN 50 022, 35 mm without auxiliary switch



Setting range A . . . A	Weight kg	Order code
MS 450 with thermal and electromagnetic trips, tripping class 10, short-circuit-proof up to 50 kA		
11....16	0.96	MS 450 – 16
14....20	0.96	MS 450 – 20
18....25	0.96	MS 450 – 25
22....32	0.96	MS 450 – 32
28....40	0.96	MS 450 – 40
36....45	0.96	MS 450 – 45
40....50	0.96	MS 450 – 50

MS 495 with thermal and electromagnetic trips, tripping class 10, short-circuit-proof up to 50 kA

28....40	2.1	MS 495 – 40
36....50	2.1	MS 495 – 50
45....63	2.1	MS 495 – 63
57....75	2.1	MS 495 – 75
70....90	2.1	MS 495 – 90
80....100 ²⁾	2.1	MS 495 – 100

Magnetic only and heavy duty starving versions on application

Retrofittable accessories

These parts may be procured in addition to the MS 4xx. They must be mounted by the user.



Type	Weight kg	Order code
Auxiliary switches, for front panel installation		
1 NO + 1 NC	0.02	HK4-11
1 Changeover	0.02	HK4-W



Auxiliary switches, for lateral attachment at left, max. 1 mountable

1 NO + 1 NC	0.03	HKS4-11
2 NO	0.03	HKS4-20
2 NC	0.03	HKS4-02



Pilot switch, for separate signalling of short-circuit and general tripping, lateral attachment at left, max. 1 mountable, also together with auxiliary switch

for any signal 1 NO + 1 NC	0.07	SK4-11
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For other accessories please consult us.
For connecting links between MMS and contactor see page ??

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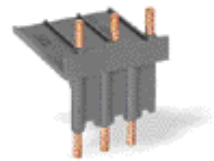
BEA 7 ... BEA 110

Connecting Links for Contactors and Manual Motor Starters



BEA 16/116

SEB261C3



BEA 40/450

SEB270C3



A 9-30-10 + BEA 16/116 + MS 116
DOL Starter Combination

SEB294C5

Application

The BEA... connecting link is used for direct linking between a contactor and the associated manual motor starter which are used together as DOL Starter Combination in type 1 or type 2 co-ordination, complying with IEC 60947-4-1 and EN 60947-4-1.



Database of co-ordination tables on the ABB Website:

www.abb.com/lowvoltage + left menu: "Low Voltage On-Line" + select: "Support Tools".

Description

The BEA... insulated 3-pole connecting link (touch safe) ensures the electrical linking between the contactor and the corresponding manual motor starter.

The BEA... connecting links can be used with the A... series contactors (including AF..., AE... versions) and the MS... manual motor starter as indicated in the table below.

For contactors & fixing	For MMS & fixing	Screws not supplied	Screws / rail not supplied	I _e max. AC-3 400 V A	Weight kg	Order code
B6, VB6A	-	MS116	15 x 35 mm	8	0.013	BEA7/116
B7, VB7A	-	MS116		11	0.013	BEA7/116
B6, VB6A	-	MS325		8	0.021	BEA7/325
B7, VB7A	-	MS325		11	0.021	BEA7/325
A 9	-	MS 116	15 x 35 mm	9	0.020	BEA 16/116
A 12	-	MS 116		12	0.020	BEA 16/116
A 16	-	MS 116		16	0.020	BEA 16/116
A 26	2 x M4	MS 116		25	0.024	BEA 26/116
A 9	-	MS 325	15 x 35 mm	9	0.031	BEA 16/325
A 12	-	MS 325		12	0.031	BEA 16/325
A 16	-	MS 325		16	0.031	BEA 16/325
A 26	2 x M4	MS 325		25	0.031	BEA 26/325
A 30	2 x M4	MS 450	2 x M5	32	0.061	BEA 40/450
A 40	2 x M4	MS 450	2 x M5	37	0.061	BEA 40/450
A 50	2 x M4	MS 450	2 x M5	50	0.062	BEA 50/450
A 50	2 x M6	MS 495	2 x M5	50	0.120	BEA 75/495
A 63	2 x M6	MS 495	2 x M5	63	0.120	BEA 75/495
A 75	2 x M6	MS 495	2 x M5	75	0.120	BEA 75/495
A 90	2 x M6	MS 495	2 x M5	90	0.124	BEA 110/495
A 110	2 x M6	MS 495	2 x M5	100	0.124	BEA 110/495

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