

IEC style contactors, overload relays and manual motor starters

Section 12

IEC style contactors, overload relays and manual motor starters

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Ordering code construction



****low consumption coils**
***coils for AF400-AF750 only**
*****Configuration valid only for AFC16**
******coils for AFC09-AFC65 only**

AF Contactors

Full voltage non-reversing electronic contactors



		Main contacts					
		3 NO + 0 NC (30)				4 NO (40)	2 NO + 2 NC (22)
		Auxiliary contacts					
		none	1 NO	1 NC	1 NO + 1 NC	none	none
Coil Voltage	Rating	(00)	(10)	(01)	(11)	(00)	(00)
24–60 V AC/ 20–60 V DC (11)	25 A, 5 HP (09)	---	AF09-30-10-11	AF09-30-01-11	---	AF09-40-00-11	AF09-22-00-11
	28 A, 7.5 HP (12)	---	AF12-30-10-11	AF12-30-01-11	---	---	---
	30 A, 10 HP (16)	---	AF16-30-10-11	AF16-30-01-11	---	AF16-40-00-11	AF16-22-00-11
	45 A, 15 HP (26)	AF26-30-00-11	---	---	AF26-30-11-11	AF26-40-00-11	AF26-22-00-11
	50 A, 20 HP (30)	AF30-30-00-11	---	---	---	---	---
	50 A, 25 HP (38)	AF38-30-00-11	---	---	---	---	---
	60 A, 30 HP (40)	AF40-30-00-11	---	---	AF40-30-11-11	---	---
	80 A, 40 HP (52)	AF52-30-00-11	---	---	AF52-30-11-11	---	---
	90 A, 50 HP (65)	AF65-30-00-11	---	---	AF65-30-11-11	---	---
	105 A, 60 HP (80)	AF80-30-00-11	---	---	AF80-30-11-11	---	---
	115 A, 60 HP (96)	AF96-30-00-11	---	---	AF96-30-11-11	---	---
	160 A, 75 HP (116)	AF116-30-00-11	---	---	AF116-30-11-11	---	---
	200 A, 100 HP (140)	---	---	---	AF140-30-11-11	---	---
	200 A, 100 HP (146)	---	---	---	AF146-30-11-11	---	---
	250 A, 125 HP (190)	---	---	---	AF190-30-11-11	---	---
	300 A, 150 HP (205)	---	---	---	AF205-30-11-11	---	---
	350 A, 200 HP (265)	---	---	---	AF265-30-11-11	---	---
	400 A, 250 HP (305)	---	---	---	AF305-30-11-11	---	---
	520 A, 300 HP (370)	---	---	---	AF370-30-11-11	---	---
48–130 V AC/ DC (12)	25 A, 5 HP (09)	---	AF09-30-10-12	AF09-30-01-12	---	---	AF09-22-00-12
	28 A, 7.5 HP (12)	---	AF12-30-10-12	---	---	---	---
	30 A, 10 HP (16)	---	AF16-30-10-12	---	---	---	---
	45 A, 15 HP (26)	AF26-30-00-12	---	---	---	---	---
	50 A, 20 HP (30)	AF30-30-00-12	---	---	---	---	---
	50 A, 25 HP (38)	AF38-30-00-12	---	---	---	---	---
	60 A, 30 HP (40)	AF40-30-00-12	---	---	---	---	---
	80 A, 40 HP (52)	AF52-30-00-12	---	---	---	---	---
	90 A, 50 HP (65)	AF65-30-00-12	---	---	---	---	---
	105 A, 60 HP (80)	AF80-30-00-12	---	---	AF80-30-11-12	---	---
	115 A, 60 HP (96)	AF96-30-00-12	---	---	---	---	---
	160 A, 75 HP (116)	---	---	---	AF116-30-11-12	---	---
	200 A, 100 HP (140)	---	---	---	AF140-30-11-12	---	---
	200 A, 100 HP (146)	---	---	---	AF146-30-11-12	---	---
	250 A, 125 HP (190)	---	---	---	AF190-30-11-12	---	---
	300 A, 150 HP (205)	---	---	---	AF205-30-11-12	---	---

Table continues on next page.

AF Contactors

Full voltage non-reversing electronic contactors

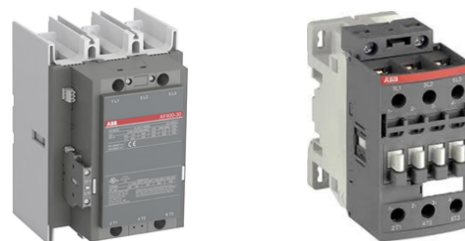


		Main contacts					
		3 NO + 0 NC (30)				4 NO (40)	2 NO + 2 NC (22)
		Auxiliary contacts					
		none	1 NO	1 NC	1 NO + 1 NC	none	none
Coil Voltage	Rating	(00)	(10)	(01)	(11)	(00)	(00)
48–130 V AC/ DC (12)	350 A, 200 HP (265)	---	---	---	AF265-30-11-12	---	---
	400 A, 250 HP (305)	---	---	---	AF305-30-11-12	---	---
	520 A, 300 HP (370)	---	---	---	AF370-30-11-12	---	---
100–250 V AC/ DC (13)	25 A, 5 HP (09)	---	AF09-30-10-13	AF09-30-01-13	---	AF09-40-00-13	AF09-22-00-13
	28 A, 7.5 HP (12)	---	AF12-30-10-13	AF12-30-01-13	---	---	---
	30 A, 10 HP (16)	---	AF16-30-10-13	AF16-30-01-13	---	AF16-40-00-13	AF16-22-00-13
	45 A, 15 HP (26)	AF26-30-00-13	---	---	AF26-30-11-13	AF26-40-00-13	AF26-22-00-13
	50 A, 20 HP (30)	AF30-30-00-13	---	---	AF30-30-11-13	---	---
	50 A, 25 HP (38)	AF38-30-00-13	---	---	AF38-30-11-13	AF38-40-00-13	AF38-22-00-13
	60 A, 30 HP (40)	AF40-30-00-13	---	---	AF40-30-11-13	AF40-40-00-13	AF40-22-00-13
	80 A, 40 HP (52)	AF52-30-00-13	---	---	AF52-30-11-13	---	---
	90 A, 50 HP (65)	AF65-30-00-13	---	---	AF65-30-11-13	---	---
	105 A, 60 HP (80)	AF80-30-00-13	---	---	AF80-30-11-13	---	---
	115 A, 60 HP (96)	AF96-30-00-13	---	---	AF96-30-11-13	---	---
	160 A, 75 HP (116)	AF116-30-00-13	---	---	AF116-30-11-13	---	---
	200 A, 100 HP (140)	---	---	---	AF140-30-11-13	---	---
	200 A, 100 HP (146)	---	---	---	AF146-30-11-13	---	---
	250 A, 125 HP (190)	AF190-30-00-13	---	---	AF190-30-11-13	---	---
	300 A, 150 HP (205)	AF205-30-00-13	---	---	AF205-30-11-13	---	---
	350 A, 200 HP (265)	---	---	---	AF265-30-11-13	---	---
	400 A, 250 HP (305)	---	---	---	AF305-30-11-13	---	---
	520 A, 300 HP (370)	---	---	---	AF370-30-11-13	---	---
250–500 V AC/ DC (14)	25 A, 5 HP (09)	---	AF09-30-10-14	---	---	AF09-40-00-14	---
	28 A, 7.5 HP (12)	---	AF12-30-10-14	---	---	---	---
	30 A, 10 HP (16)	---	AF16-30-10-14	---	---	AF16-40-00-14	---
	45 A, 15 HP (26)	AF26-30-00-14	---	---	---	AF26-40-00-14	---
	50 A, 20 HP (30)	AF30-30-00-14	---	---	---	---	---
	50 A, 25 HP (38)	AF38-30-00-14	---	---	---	---	---
	60 A, 30 HP (40)	AF40-30-00-14	---	---	AF40-30-11-14	---	---
	80 A, 40 HP (52)	AF52-30-00-14	---	---	AF52-30-11-14	---	---
	90 A, 50 HP (65)	AF65-30-00-14	---	---	AF65-30-11-14	---	---
	105 A, 60 HP (80)	AF80-30-00-14	---	---	AF80-30-11-14	---	---
	115 A, 60 HP (96)	AF96-30-00-14	---	---	AF96-30-11-14	---	---
	160 A, 75 HP (116)	---	---	---	AF116-30-11-14	---	---

Table continues on next page.

AF Contactors

Full voltage non-reversing electronic contactors



		Main contacts					
		3 NO + 0 NC (30)				4 NO (40)	2 NO + 2 NC (22)
		Auxiliary contacts					
		none	1 NO	1 NC	1 NO + 1 NC	none	none
Coil Voltage	Rating	(00)	(10)	(01)	(11)	(00)	(00)
250–500 V AC/ DC (14)	200 A, 100 HP (140)	---	---	---	AF140-30-11-14	---	---
	200 A, 100 HP (146)	---	---	---	AF146-30-11-14	---	---
	250 A, 125 HP (190)	---	---	---	AF190-30-11-14	---	---
	300 A, 150 HP (205)	---	---	---	AF205-30-11-14	---	---
	350 A, 200 HP (265)	---	---	---	AF265-30-11-14	---	---
	400 A, 250 HP (305)	---	---	---	AF305-30-11-14	---	---
	520 A, 300 HP (370)	---	---	---	AF370-30-11-14	---	---
20-60 V DC (68)	550 A, 350 HP (400)	---	---	---	AF400-30-11-68	---	---
	650 A, 400 HP (460)	---	---	---	AF460-30-11-68	---	---
	750 A, 500 HP (580)	---	---	---	AF580-30-11-68	---	---
	900 A, 600 HP (750)	---	---	---	AF750-30-11-68	---	---
48–130 V AC/ DC (69)	550 A, 350 HP (400)	---	---	---	AF400-30-11-69	---	---
	650 A, 400 HP (460)	---	---	---	AF460-30-11-69	---	---
100–250 V AC/ DC (70)	550 A, 350 HP (400)	---	---	---	AF400-30-11-70	---	---
	650 A, 400 HP (460)	---	---	---	AF460-30-11-70	---	---
	750 A, 500 HP (580)	---	---	---	AF580-30-11-70	---	---
	900 A, 600 HP (750)	---	---	---	AF750-30-11-70	---	---
	1210 A (1250)	---	---	---	AF1250-30-11-70	---	---
	1350 A, 800 HP (1350)	---	---	---	AF1350-30-11-70	---	---
	1650 A, 900 HP (1650)	---	---	---	AF1650-30-11-70	---	---
	2100 A (2050)	---	---	---	AF2050-30-11-70	---	---
	2700 A (2650)	---	---	---	AF2650-30-11-70	---	---
250 – 500 V AC/DC (71)	550 A, 350 HP (400)	---	---	---	AF400-30-11-71	---	---
	650 A, 400 HP (460)	---	---	---	AF460-30-11-71	---	---

AF Contactors

Electromagnetic contactors for AC control applications



		Main contacts						
		3 NO + 0 NC (30)			4 NO (40)		2 NO + 2 NC (22) 4 NC (04)	
		Auxiliary contacts						
		none	1 NO	1 NC	1 NO + 1 NC	none	none	
Coil Voltage	Rating	(00)	(10)	(01)	(11)	(00)	(00)	
24 V AC (81)	25 A, 5 HP (09)	---	AFC09-30-10-81	---	---	---	---	---
	28 A, 7.5 HP (12)	---	AFC12-30-10-81	---	---	---	---	---
	30 A, 10 HP (16)	---	AFC16-30-10-81	---	---	---	---	AFC16-04-00-81
	45 A, 15 HP (26)	---	---	---	---	---	---	---
	50 A, 20 HP (30)	---	---	---	---	---	---	---
	50 A, 25 HP (38)	---	---	---	---	---	---	---
	60 A, 30 HP (40)	AFC40-30-00-81	---	---	---	---	---	---
	80 A, 40 HP (52)	---	---	---	---	---	---	---
	90 A, 50 HP (65)	---	---	---	---	---	---	---
110-120 V AC (84)	25 A, 5 HP (09)	---	AFC09-30-10-84	AFC09-30-01-84	---	AFC09-40-00-84	AFC09-22-00-84	---
	28 A, 7.5 HP (12)	---	AFC12-30-10-84	AFC12-30-01-84	---	---	---	---
	30 A, 10 HP (16)	---	AFC16-30-10-84	AFC16-30-01-84	---	AFC16-40-00-84	AFC16-22-00-84	AFC16-04-00-84
	45 A, 15 HP (26)	AFC26-30-00-84	---	---	---	AFC26-40-00-84	AFC26-22-00-84	---
	50 A, 20 HP (30)	AFC30-30-00-84	---	---	---	---	---	---
	50 A, 25 HP (38)	AFC38-30-00-84	---	---	---	---	---	---
	60 A, 30 HP (40)	AFC40-30-00-84	---	---	AFC40-30-11-84	---	---	---
	80 A, 40 HP (52)	AFC52-30-00-84	---	---	---	---	---	---
	90 A, 50 HP (65)	AFC65-30-00-84	---	---	AFC65-30-11-84	---	---	---
220-240 V AC (80)	25 A, 5 HP (09)	---	AFC09-30-10-80	---	---	---	---	---
	28 A, 7.5 HP (12)	---	AFC12-30-10-80	---	---	---	---	---
	30 A, 10 HP (16)	---	AFC16-30-10-80	---	---	AFC16-40-00-80	---	---
	45 A, 15 HP (26)	---	---	---	---	---	---	---
	50 A, 20 HP (30)	---	---	---	---	---	---	---
	50 A, 25 HP (38)	---	---	---	---	---	---	---
	60 A, 30 HP (40)	---	---	---	---	---	---	---
	80 A, 40 HP (52)	---	---	---	---	---	---	---
	90 A, 50 HP (65)	---	---	---	---	---	---	---

AF Contactors

Push-in (PI) spring and safety application contactors



		Main contacts				
		3 NO + 0 NC (30)				
		Auxiliary contacts				
		none	1 NO	1 NC	1 NO + 1 NC	2 NO + 2 NC
Coil Voltage	Rating	(00)	(10)	(01)	(11)	(22)
Push-In (PI) Spring contactors						
24–60 V AC/	25 A, 5 HP (09)	---	AF09-30-10K-11	AF09-30-01K-11	---	---
20–60 V DC (11)	28 A, 7.5 HP (12)	---	AF12-30-10K-11	AF12-30-01K-11	---	---
	30 A, 10 HP (16)	---	AF16-30-10K-11	AF16-30-01K-11	---	---
	45 A, 15 HP (26)	AF26-30-00K-11	---	---	---	---
	50 A, 20 HP (30)	AF30-30-00K-11	---	---	---	---
	50 A, 25 HP (38)	AF38-30-00K-13	---	---	---	---
100–250 V AC/ DC (13)	25 A, 5 HP (09)	---	AF09-30-10K-13	AF09-30-01K-13	---	---
	28 A, 7.5 HP (12)	---	AF12-30-10K-13	AF12-30-01K-13	---	---
	30 A, 10 HP (16)	---	AF16-30-10K-13	AF16-30-01K-13	---	---
	45 A, 15 HP (26)	AF26-30-00K-13	---	---	---	---
	50 A, 20 HP (30)	AF30-30-00K-11	---	---	---	---
	50 A, 25 HP (38)	AF38-30-00K-13	---	---	---	---
Contactors for safety applications						
24–60 V AC/	25 A, 5 HP (09)	---	---	---	---	AFS09-30-22-11
20–60 V DC (11)	28 A, 7.5 HP (12)	---	---	---	---	AFS12-30-22-11
	30 A, 10 HP (16)	---	---	---	---	AFS16-30-22-11
	45 A, 15 HP (26)	---	---	---	---	AFS26-30-22-11
	50 A, 20 HP (30)	---	---	---	---	AFS30-30-22-11
	50 A, 25 HP (38)	---	---	---	---	AFS38-30-22-11
	80 A, 40 HP (52)	---	---	---	---	AFS52-30-22-11
	90 A, 50 HP (65)	---	---	---	---	AFS65-30-22-11
	105 A, 60 HP (80)	---	---	---	---	AFS80-30-22-11
	115 A, 60 HP (96)	---	---	---	---	AFS96-30-22-11
100–250 V AC/ DC (13)	25 A, 5 HP (09)	---	---	---	---	AFS09-30-22-13
	30 A, 10 HP (16)	---	---	---	---	AFS16-30-22-13
	45 A, 15 HP (26)	---	---	---	---	AFS26-30-22-13
	50 A, 20 HP (30)	---	---	---	---	AFS30-30-22-13
	80 A, 40 HP (52)	---	---	---	---	AFS40-30-22-13
	80 A, 40 HP (52)	---	---	---	---	AFS52-30-22-13
	90 A, 50 HP (65)	---	---	---	---	AFS65-30-22-13
	105 A, 60 HP (80)	---	---	---	---	AFS80-30-22-13
	115 A, 60 HP (96)	---	---	---	---	AFS96-30-22-13
Low consumption for safety applications						
24 V DC (30)	25 A, 5 HP (09)	---	---	---	AFS09Z-30-22-30	---
	28 A, 7.5 HP (12)	---	---	---	AFS12Z-30-22-30	---
	30 A, 10 HP (16)	---	---	---	AFS16Z-30-22-30	---
	45 A, 15 HP (26)	---	---	---	AFS26Z-30-22-30	---
	50 A, 20 HP (30)	---	---	---	AFS30Z-30-22-30	---
	50 A, 25 HP (38)	---	---	---	AFS38Z-30-22-30	---

AF Contactors

Pre-assembled Reversing contactors



		Main contacts				
		3 NO + 0 NC (30)				
		Auxiliary contacts				
		none	1 NO	1 NC	1 NO + 1 NC	2 NO + 2 NC
Coil Voltage	Rating	(00)	(10)	(01)	(11)	(22)
Reversing contactors						
24–60 V AC/20–60 V DC (11)	25 A, 5 HP (09)	---	---	---	---	AF09R-30-22-11
	28 A, 7.5 HP (12)	---	---	---	---	AF12R-30-22-11
	30 A, 10 HP (16)	---	---	---	---	AF16R-30-22-11
	45 A, 15 HP (26)	---	---	---	---	AF26R-30-22-11
100–250 V AC/DC (13)	25 A, 5 HP (09)	---	---	---	---	AF09R-30-22-13
	28 A, 7.5 HP (12)	---	---	---	---	AF12R-30-22-13
	30 A, 10 HP (16)	---	---	---	---	AF16R-30-22-13
	45 A, 15 HP (26)	---	---	---	---	AF26R-30-22-13

AF Contactors

NEMA contactors and bar connections



		Main contacts				
		3 NO + 0 NC (30)				
		Auxiliary contacts				
		none	1 NO	1 NC	1 NO + 1 NC	2 NO + 2 NC
Coil Voltage	Rating	(00)	(10)	(01)	(11)	(22)
NEMA contactors						
100–250 V AC/ DC (13)	NEMA 00 (25 A, 5 HP)	---	AF09N00-30-10-13	---	---	---
	NEMA 0 (28 A, 7.5 HP)	---	AF12N0-30-10-13	---	---	---
	NEMA 1 (45 A, 15 HP)	AF26N1-30-00-13	---	---	AF26N1-30-11-13	---
	NEMA 2 (60 A, 30 HP)	---	---	---	AF40N2-30-11-13	---
	NEMA 3 (105 A, 60 HP)	---	---	---	AF80N3-30-11-13	---
	NEMA 4 (200 A, 100 HP)	---	---	---	AF140N4-30-11-13	---
	NEMA 5 (350 A, 200 HP)	---	---	---	AF265N5-30-11-13	---
100-250 V AC/ DC (70)	NEMA 6 (50 A, 400 HP)	---	---	---	AF460N6-3011-70	---
	NEMA 7 (900 A, 600 HP)	---	---	---	AF750N7-3011-70	---
Bar Connections						
100-250 V AC/ DC (13)	200 A, 100 HP (146)	---	---	---	AF146-30-11B-13	---

AF Contactors

Low consumption (Z) coil

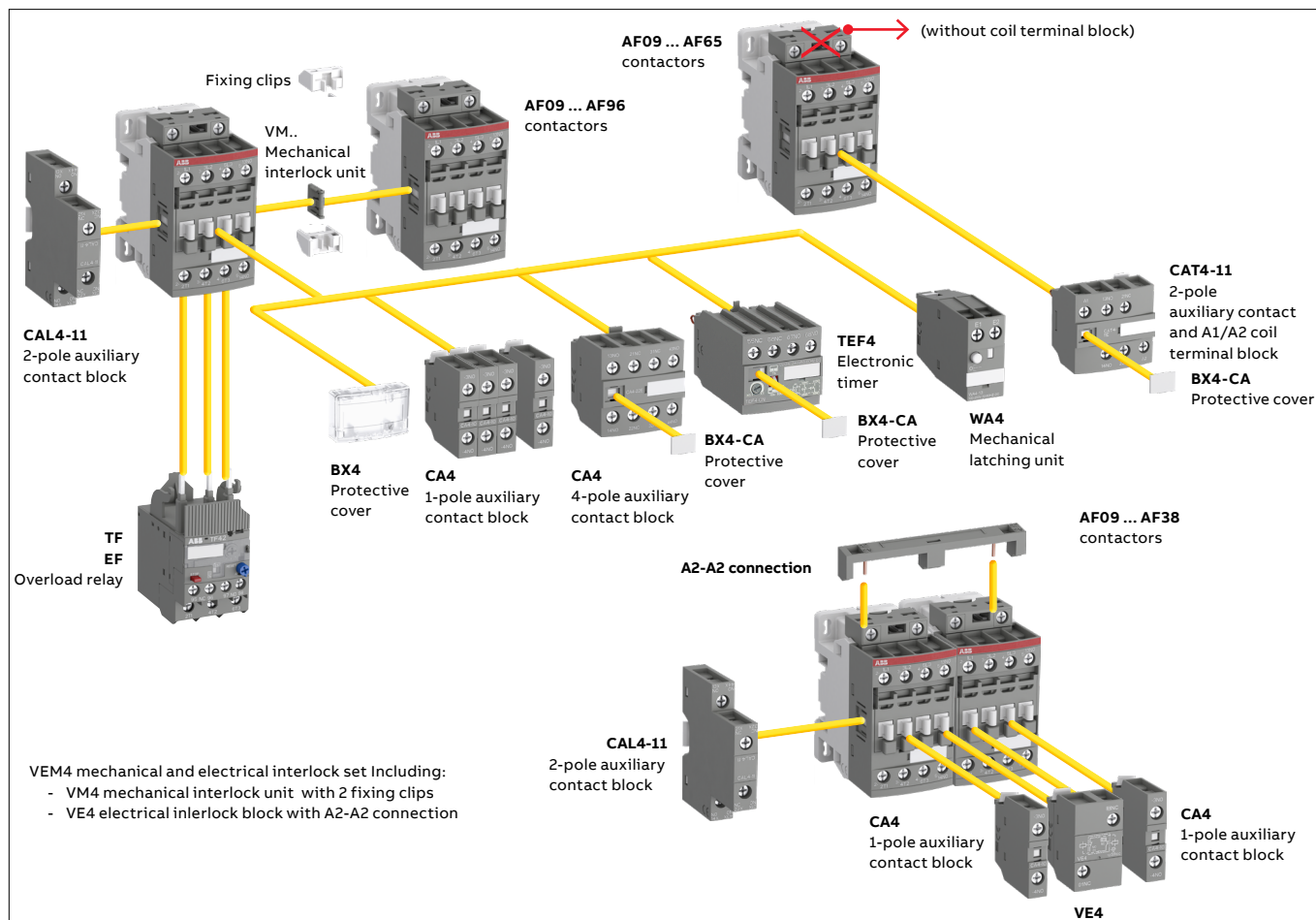


		Main contacts				
		3 NO + 0 NC (30)			4 NO (40)	
		Auxiliary contacts				
Coil voltage	Rating	n/a (00)	1 NO (10)	1 NC (01)	2 NO + 2 NC (22)	n/a (00)
Low consumption - standard						
12-20 V DC (20)	25 A, 5 HP (09)	---	AF09Z-30-10-20	---	---	---
	28 A, 7,5 HP (12)	---	AF12Z-30-10-20	---	---	---
	30 A, 10 HP (16)	---	AF16Z-30-10-20	---	---	---
	45 A, 15 HP (26)	AF26Z-30-00-20	---	---	---	---
	50 A 20 HP (30)	---	---	---	---	---
	50 A, 25 HP (38)	---	---	---	---	---
20-60 V AC/ DC (21)	25 A, 5 HP (09)	---	AF09Z-30-10-21	AF09Z-30-01-21	AF09Z-22-00-21	AF09Z-40-00-21
	28 A, 7,5 HP (12)	---	AF12Z-30-10-21	AF12Z-30-01-21	---	---
	30 A, 10 HP (16)	---	AF16Z-30-10-21	AF16Z-30-01-21	---	AF16Z-40-00-21
	45 A, 15 HP (26)	AF26Z-30-00-21	---	---	---	AF26Z-40-00-21
	50 A, 20 HP (30)	AF30Z-30-00-21	---	---	---	---
	50 A, 25 HP (38)	AF38Z-30-00-21	---	---	---	AF38Z-40-00-21
48-130 V AC/ DC (22)	25 A, 5 HP (09)	---	AF09Z-30-10-22	---	---	---
100-250 V AC/ DC (23)	25 A, 5 HP (09)	---	AF09Z-30-10-23	---	---	---
	28 A, 7,5 HP (12)	---	AF12Z-30-10-23	---	---	---
	30 A, 10 HP (16)	---	AF16Z-30-10-23	---	---	---
24 V DC (30)	25 A, 5 HP (09)	---	AF09Z-30-10-30	---	---	---
	28 A, 7,5 HP (12)	---	AF12Z-30-10-30	---	---	---
	30 A, 10 HP (16)	---	AF16Z-30-10-30	---	---	---
	45 A, 15 HP (26)	AF26Z-30-00-30	---	---	---	---
	50 A, 20 HP (30)	AF30Z-30-00-30	---	---	---	---
	50 A, 25 HP (38)	AF38Z-30-00-30	---	---	---	---
Low consumption - reversing						
20-60 V AC/DC (21)	25 A, 5 HP (09)	---	---	---	AF09ZR-30-22-21	---
	28 A, 7,5 HP (12)	---	---	---	AF12ZR-30-22-21	---
	30 A, 10 HP (16)	---	---	---	AF16ZR-30-22-21	---

Contact **Technical Support** for additional low consumption information.

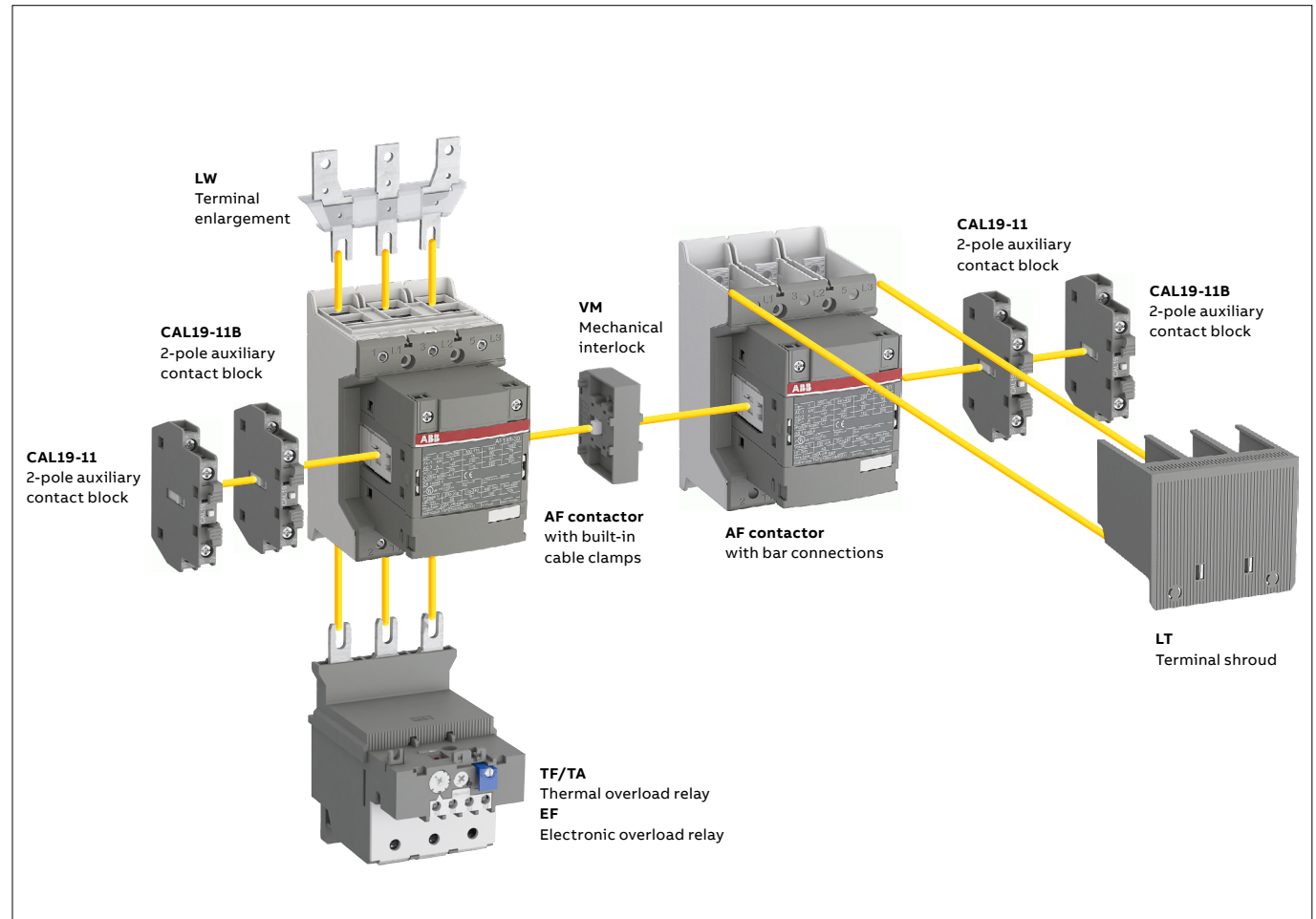
AF09 ... AF96 3-pole contactors

Contactors and main accessories



AF116 ... AF370 3-pole contactors

Contactors and main accessories



AF Contactors

Accessories



Auxiliary contacts

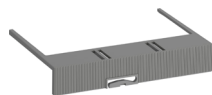
Contacts	For contactors	Ordering Code
Instantaneous auxiliary contact block - front mount		
1 NO	AF09-AF96	CA4-10
1 NC	AF09-AF96	CA4-01
2 NO + 2 NC	AF09-AF16	CA4-22M
3 NO + 1 NC	AF09-AF16	CA4-31M
1 NO + 3 NC	AF09-AF16	CA4-13M
4 NC	AF09-AF16	CA4-04M
2 NO + 2 NC	AF09-AF16	CA4-22U
3 NO + 1 NC	AF09-AF16	CA4-31U
4 NO	AF09-AF16	CA4-40U
2 NO + 2 NC	AF26-AF96	CA4-22E
3 NO + 1 NC	AF26-AF96	CA4-31E
4 NO	AF26-AF96	CA4-40E
4 NC	AF26-AF96	CA4-04E
4 NC	NF	CA4-04N
1 NO + 3 NC	NF	CA4-13N
2 NO + 2 NC	NF	CA4-22N
3 NO + 1 NC	NF	CA4-31N
4 NO	NF	CA4-40N
Auxiliary contact with NO leading and NC lagging contacts - front mount		
1 NO	AF09-AF96	CC4-10
1 NC	AF09-AF96	CC4-01
Instantaneous auxiliary contact block - side mount		
1 NO + 1 NC	AF09-AF96, NF	CAL4-11
1 NO + 1 NC	AF116-AF370	CAL19-11
1 NO + 1 NC	AF116-AF370	CAL19-11B
1 NO + 1 NC	AF400-AF2650	CAL18-11
1 NO + 1 NC	AF400-AF2650	CAL18-11B
Instantaneous auxiliary contact and A1/ A2 terminal blocks - front mount		
1 NO + 1 NC	AF09-16	CAT4-11M
1 NO + 1 NC	AF26-AF65	CAT4-11E
Auxiliary contacts for harsh environments		
1 NO	AF116-AF370	CEL19-10
1 NC	AF116-AF370	CEL19-01
1 NO with built-in micro switch IP67	AF400-AF2650	CEL18-10
1 NC with built-in micro switch IP67	AF400-AF2650	CEL18-01
Accessories for Push-In (PI) Spring AF-K contactors		
1 NO Auxiliary contact – Push In Spring	AF09K-AF96K	CA4-10K
1 NC Auxiliary contact – Push In Spring	AF09K-AF96K	CA4-01K
1 NO + 1 NC Auxiliary contact – Push In Spring	AF09K-AF96K	CAL4-11K
Additional coil terminal block	AF09K-AF96K, NF	LDC4K

Additional coil terminal block

Description	For contactors	Ordering Code
Additional coil terminal block	AF09-AF96, NF	LDC4

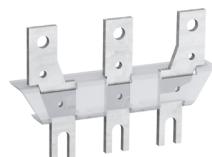
AF Contactors

Accessories



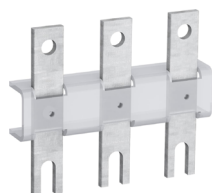
Terminal shrouds

For contactors	For use with	Ordering Code
AF190, AF205	with cable clamps	LT205-30C
AF190, AF205	with compression lugs	LT205-30L
AF190, AF205	shorting bar between contactor and OL	LT205-30Y
AF265-AF370	with cable clamps	LT370-30C
AF265-AF370	for use with terminal lugs ATK300/2	LT370-30D
AF265-AF370	with compression lugs	LT370-30L
AF400, AF460	with cable clamps	LT460-AC
AF400, AF460	with compression lugs	LT460-AL
AF580, AF750	with cable clamps	LT750-AC
AF580, AF750	with compression lugs	LT750-AL



Terminal enlargements

For contactors	Hole dia. mm	Bar mm	Ordering Code
AF116-AF146	6.5	13 X 3	LW140
AF190, AF205	10.5	17.5 X 5	LW205
AF265-AF370	10.5	20 X 5	LW370
AF400, AF460	10.5	25 X 5	LW460
AF580, AF750	13	40 X 6	LW750
AF1250	13	50 X 10	LW1250



Terminal extension

For contactors	Hole dia. mm	Bar mm	Ordering Code
AF116-AF146	6.5	13 X 3	LX140
AF190, AF205	8.5	17.5 X 5	LX205
AF265-AF370	10.5	20 X 5	LX370
AF400, AF460	10.5	25 X 5	LX460
AF580, AF750	13	40 X 6	LX750



Terminal connecting strips

For contactors	Max. nominal continuous current with 3 parallel poles (A)	Ordering Code
AF116-AF146	240	LY140
AF190, AF205	400	LY185
AF265-AF370	670	LY300

Connection sockets

For contactors	Type	Ordering Code
AF116-AF146	3-pole	LL146-30

Table continues on next page.

AF Contactors

Accessories

Terminal lug kits

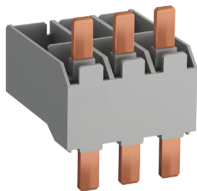
For contactors	Wire size	# lugs per kit	Ordering Code
AF190-AF205	4 AWG-300 MCM	3	ATK185
AF265-AF370	4 AWG-400 MCM	3	ATK300
AF265-AF370	4 AWG-500 MCM	3	ATK300/2
AF400-AF580	2/0 AWG-500 MCM	3	ATK580/2
AF580-AF750	2/0 AWG-500 MCM	3	ATK750/3
AF1350	4/0 AWG-500 MCM	3	ATK1350/4
AF1350-AF1650	1/0 AWG-750 MCM	3	ATK1650/4
AF1350-AF1650	1/0 AWG-750 MCM	3	ATK1650/6

Spare terminal hardware



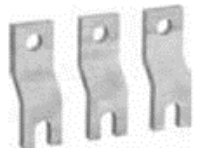
For contactors	Ordering Code
AF190, AF205	LE185
AF265-AF370	LE300
AF400-AF580	LE460
AF580, AF750	LE750

Connecting links — AF contactor to manual motor starter



Contactors	Manual motor starter	Ordering Code
AF09 - AF16	MS116-0.16-MS116-25	BEA16-4
	MS132-0.016-MS132-25	
AF26 - AF38	MS116-0.16-MS116-16	BEA26-4
	MS132-0.16-MS132-10	
	MS116-20-MS116-32	BEA38-4
	MS132-12-MS132-32	
AF40 - AF65	MS165-16-MS165-65	BEA65-4

Connection bars — AF contactor to MCCB
Vertical assembly

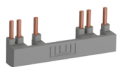
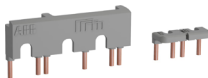
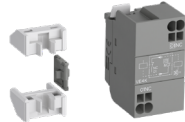
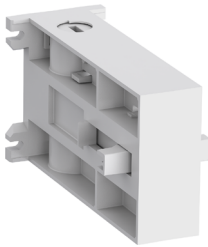
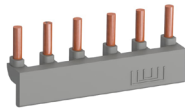
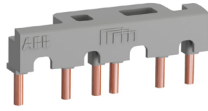


Contactors	MCCB	Ordering Code
AF116 - AF146	XT2	BEA140/XT2
AF116 - AF146	XT3	BEA140/XT3
AF116 - AF146	XT4	BEA140/XT4
AF190, AF205	XT4	BEA205/XT4
AF265, AF305, AF370	XT5	BEA370/XT5
AF400, AF460	XT5	BEA460/XT5
AF580, AF750	XT5	BEA750/XT5

Table continues on next page.

AF Contactors

Accessories



Connection set for reversing contactors

For contactors	Ordering Code
AF09-AF16	BER16-4
AF26-AF38	BER38-4
AF40-AF65	BER65-4
AF80-AF96	BER96-4
AF116-AF146	BER140-4
AF190-AF205	BER205-4
AF265-AF370	BER370-4
AF400-AF460	BEM460-30
AF580-AF750	BEM750-30

Mechanical interlock units

For contactors	Ordering Code
AF09-AF38	VM4
AF40-AF96	VM96-4
AF116-AF370	VM19
AF116-AF146, AF190, AF205	VM140/190
AF190, AF205, AF265-AF370	VM205/265
AF145-AF300	VM300H
AF400-AF1250	VM750H
AF1350-AF2650	VM1650H

Mechanical and electrical interlock set

For contactors	Ordering Code
AF09-AF38	VEM4

Phase-to-phase connection sets

For contactors	Ordering Code
AF116-AF146	BEP140-30
AF190-AF205	BEP205-30
AF265-AF370	BEP370-30
AF400-AF460	BES460-30
AF580-AF750	BES750-30

Star-delta starting connection sets

For contactors	Ordering Code
AF09-AF16	BEY16-4
AF26-AF38	BEY38-4
AF40-AF65	BEY65-4
AF80-AF96	BEY96-4
AF116-AF146	BEY140-4
AF190-AF205	BEY190-4

Table continues on next page.

AF Contactors

Accessories



Electronic timers

Time delay range	Delay type	Auxiliary contacts	Model	Ordering Code
0.1-1 s	ON-delay	1 NO + 1 NC	AF09-AF96	TEF4-ON
10-100 s	OFF-delay	1 NO + 1 NC	AF09-AF96	TEF4-OFF



Interface Relay

For contactors	Ordering Code
AF(Z)09-AF96	AF-RA4

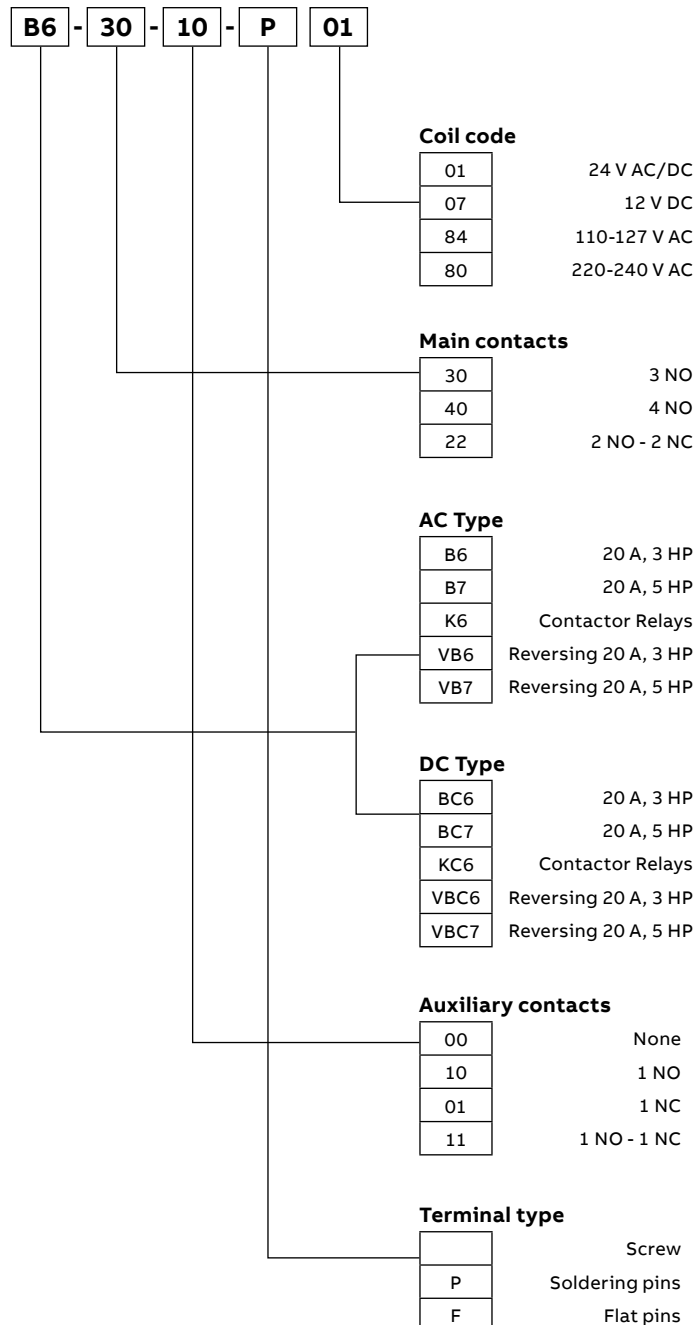
Surge suppressors for AFC only

For contactors	Rated Coil Voltage	Ordering Code
AFC09...AFC38	24...50	RC4-1/50
	50...130	RC4-1/130
	110...260	RC4-1/260
	50...130	RV4-1/130
	110...260	RV4-1/260
AFC40...AFC65	24...50	RC4-2/50
	50...130	RC4-2/130
	110...260	RC4-2/260
	250...440	RC4-2/440

RV4: Surge suppressor fitted with varistor circuit
RC4: Surge suppressor fitted with RC circuit
The use of a surge suppressor will modify the operating time of the contactor or contactor relay

B-Series mini contactors

Ordering code construction



Mini contactors

B-Series

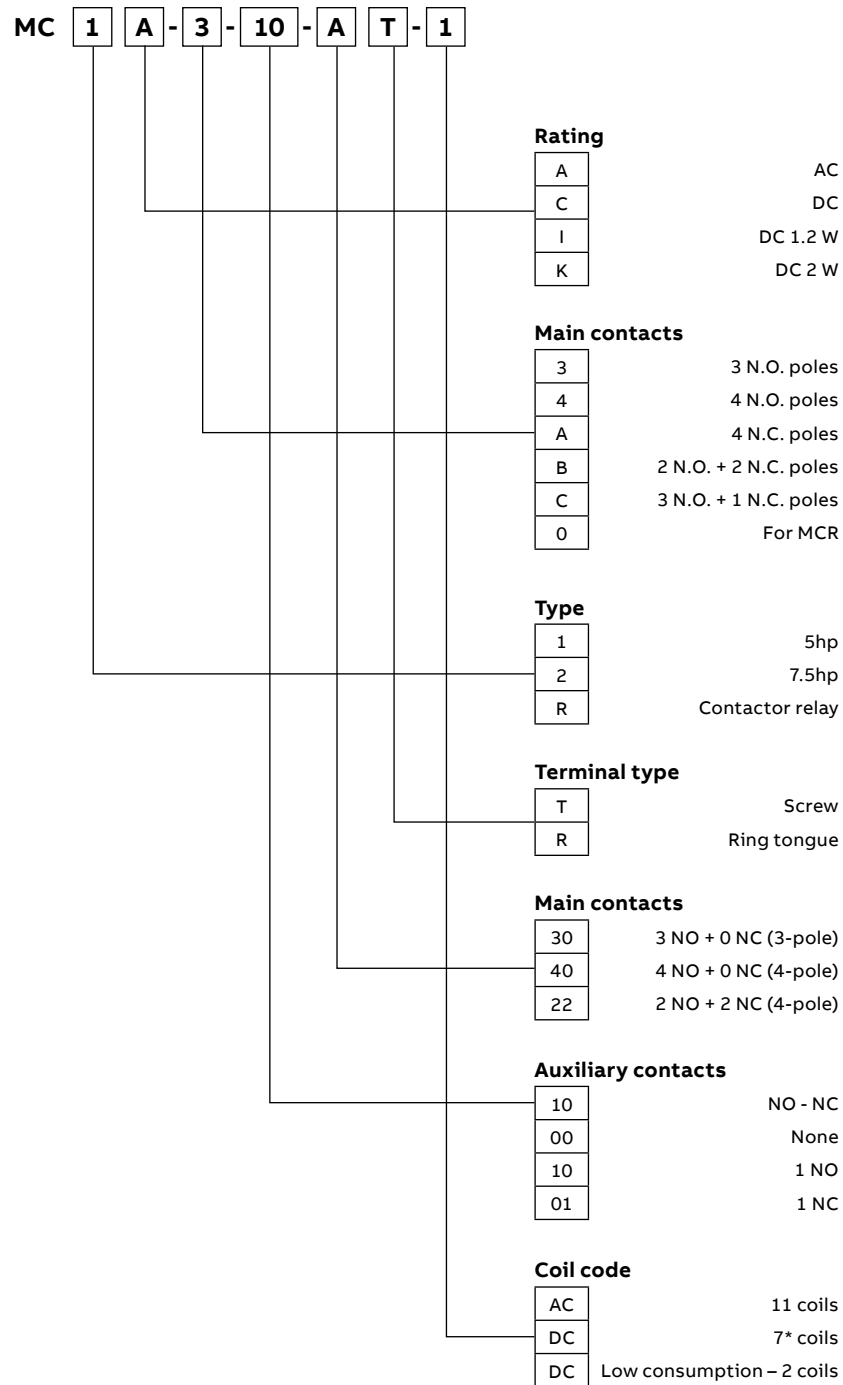
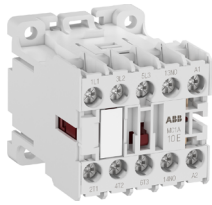


		Main contacts					
		3 NO + 0 NC (30)				4 NO (40)	2 NO + 2 NC (22)
		Auxiliary contacts					
		none	1 NO	1 NC	1 NO + 1 NC	none	none
AC Control Supply	Rating	(00)	(10)	(01)	(11)	(00)	(00)
Screw Terminals							
24 V AC (01)	20 A, 3 HP	---	B6-30-10-01	---	---	---	---
	20 A, 5 HP	---	B7-30-10-01	B7-30-01-01	---	---	B7-22-00-01
110-127 V AC (84)	20 A, 3 HP	---	B6-30-10-84	---	---	B6-40-00-84	---
	20 A, 5 HP	---	B7-30-10-84	B7-30-01-84	---	---	---
220-240 V AC (80)	20 A, 3 HP	---	B6-30-10-80	---	---	---	B6-22-00-80
	20 A, 5 HP	---	B7-30-10-80	---	---	---	---
Flat Pins							
24 V AC (01)	20 A, 5 HP	---	B7-30-10-F01	---	---	---	---
220-240 V AC (80)	20 A, 5 HP	---	---	---	---	B7-40-00-F-80	---
DC Control Supply							
Screw Terminals							
12 V DC (07)	20 A, 3 HP	---	BC6-30-10-07	---	---	---	---
	20 A, 5 HP	---	---	---	---	BC7-40-00-07	---
24 V DC (01)	20 A, 3 HP	---	BC6-30-10-01	BC6-30-01-01	---	BC6-40-00-01	---
	20 A, 5 HP	---	BC7-30-10-01	BC7-30-01-01	---	---	---
Flat Pins							
24 V AC (01)	20 A, 5 HP	---	---	---	---	BC7-40-00-F-01	---
Soldering Pins							
24 V DC (01)	20 A, 3 HP	---	BC6-30-10-P01	---	---	---	---
Reversing DC							
Screw Terminals							
24 V DC (01)	20 A, 3 HP	---	---	VBC6-30-01-01	---	---	---
	20 A, 5 HP	---	VBC7-30-10-01	VBC7-30-01-01	---	---	---
Soldering Pins							
24 V DC (01)	20 A, 3 HP	---	---	VBC6-30-01-P01	---	---	---
Reversing AC							
Screw Terminals							
110-127 V AC (84)	20 A, 3 HP	---	---	VB6-30-01-84	---	---	---
	20 A, 5 HP	---	VB7-30-10-84	VB7-30-01-84	---	---	---



M-Series mini contactors

Ordering code construction



Mini contactors

M-Series



		Main contacts					
		3 NO + 0 NC (30)				4 NO (40)	2 NO + 2 NC (22)
		Auxiliary contacts					
		none	1 NO	1 NC	1 NO + 1 NC	none	none
AC Control Supply	Rating	(00)	(10)	(01)	(11)	(00)	(00)
Screw Terminals							
24 V AC	20 A, 5 HP	---	MC1A-3-10-AT-1	MC1A-3-01-AT-1	---	---	---
	20 A, 7.5 HP	---	MC2A-3-10-AT-1	---	---	---	---
110-115 V AC	20 A, 5 HP	---	MC1A-3-10-AT-J	MC1A-3-01-AT-J	---	MC1A-4-00-AT-J	---
	20 A, 7.5 HP	---	MC2A-3-10-AT-J	---	---	---	---
220-240 V AC	20 A, 5 HP	---	---	MC1A-3-01-AT-N	---	---	---
DC Control Supply							
Screw Terminals							
12 V DC	20 A, 5 HP	---	MC1C-3-10-AT-B	---	---	---	---
24 V DC	20 A, 5 HP	---	MC1C-3-10-AT-D	MC1C-3-01-AT-D	---	---	---
Accessories							
Description		Variants			Ordering Code		
Side mounted instant AUX contact block		MC1-MC2			MACL1-10-AT		
Front mounted instant AUX contact block		MC1-MC2 (EN 50012)			MACN2-02-AT		
Front mounted instant AUX contact block		MC1-MC2 (EN 50005)			MARN4-22-AT		
Surge Suppressor		MC1-MC2 (AC)			MP0A-AE2		
Electronic Timers		MC1-MC2			MREB-C10-AC2		

Digital solutions

Novolink



SCV10-40.1



SC10-40.1



SFM1-A11.1



SFM-CAB-RJTB.1-500



SFM-CAB-S.1-50



SFM-CAB-S.1-25

Description

ABB`s Novolink devices consist of the smart function module SFM1 and the sensor module SCV10-40. They allow the remote control and monitoring of AF contactors via X20 bus from within a B&R PLC. The sensor module SCV10-40 is optional and can be connected to the SFM1 module and provides functions for motor and application protection. It provides data for measuring voltage, current, frequency and further derived physical quantities such as cos phi, real power etc.

The SFM1 can be snapped onto AF09...AF96 contactors with 24 V DC coil voltage. The module is equipped with two X2X interfaces for incoming and outgoing connections (daisy chain). The module and contactor are supplied via 24 V DC that are also used for the SCV10-40 module.

Ordering codes

Description	Type	Ordering code	Weight (1 pc) kg (lb)
Connection cable from PLC to first SFM1 module	SFM-CAB-RJTB.1-500	1SVM823000R0500	0.192 kg (0.423 lb)
Connection cable from SFM1 to SCV10, length 50 cm	SFM-CAB-S.1-50	1SVM811000R0050	0.015 kg (0.0331 lb)
Connection cable from SFM1 to SCV10, length 25 cm	SFM-CAB-S.1-25	1SVM811000R0025	0.008 kg (0.0176 lb)
Smart current and voltage sensor module	SCV10-40.1	1SVM320010R0000	0.23 kg (0. 507 lb)
Smart current sensor module	SC10-40.1	1SVM310010R0000	0.195 kg (0.429 lb)
Smart function module	SFM1-A11.1	1SVM120012R0000	0.11 kg (0.243 lb)

Mini contactor relays

K-Series, M-Series



K-Mini contactor stocked control relays

Control voltage type	2 NO + 2 NC	3 NO + 1 NC	4 NO + 0 NC
	(22)	(31)	(40)
AC Operated			
24 V AC (01)	K6-22Z-01	K6-31Z-01	---
110-127 V AC (84)	K6-22Z-84	K6-31Z-84	K6-40E-84
DC Operated			
12 V DC (07)	---	---	KC6-40E-07
24 V DC (01)	KC6-22Z-01	---	KC6-40E-01

K6/KC6 4-pole mini-contactor relays are space optimized control products mainly used for control functions or for small loads up to AC-15 4 A / 240 V

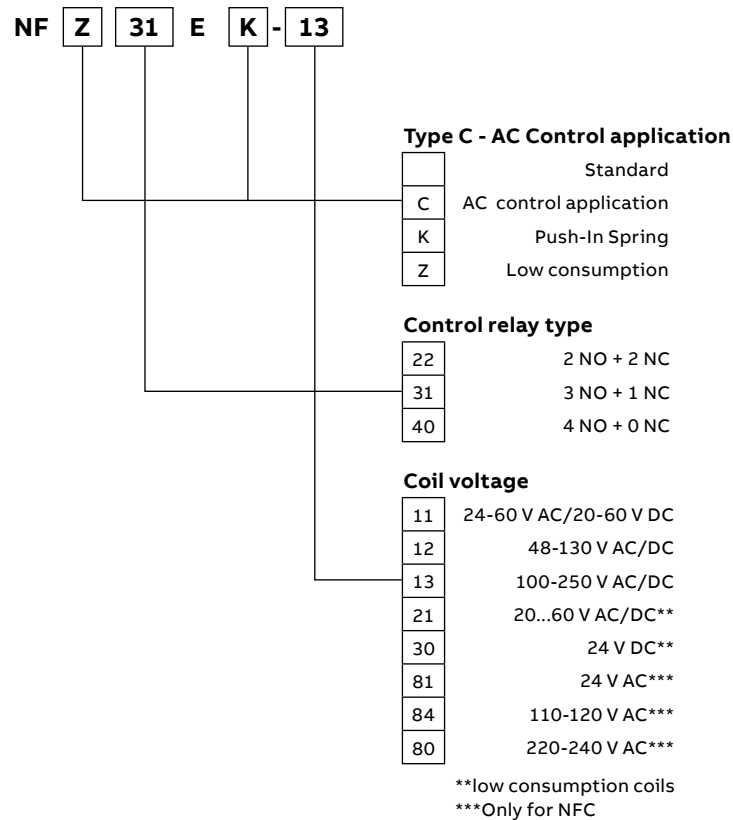
M-Mini contactor stocked control relays

Control voltage type	2 NO + 2 NC	3 NO + 1 NC	4 NO + 0 NC
	(22)	(31)	(40)
AC Operated			
110-115 V AC (J)	MCRA-0-22-AT-J	MCRA-0-31-AT-J	MCRA-0-40-AT-J
DC Operated			
12 V DC (B)	MCRC-0-22-AT-B	---	---
24 V DC (D)	MCRC-0-22-AT-D	MCRC-0-31-AT-D	MCRC-0-40-AT-D
24 V DC (D) - Low Consumption	---	---	MCRK-0-40-AT-D
87-162 V DC (WL)	MCRC-0-22-AT-WL	MCRC-0-31-AT-WL	---

MC mini-contactor relays are space optimized control products mainly used for control functions or for small loads up to AC-15 4 A / 240 V

Contactor relays

NF Series



Stocked control relays



Control voltage type			Ordering Code
	2 NO + 2 NC	3 NO + 1 NC	4 NO + 0 NC
	-22	-31	-40
Standard			Ordering Code
24-60 V AC/20-60 V DC	NF22E-11	NF31E-11	NF40E-11
48-130 V AC/DC	NF22E-12	NF31E-12	NF40E-12
100-250 V AC/DC	NF22E-13	NF31E-13	NF40E-13
Standard - AFC for AC control			Ordering Code
24 V AC	NFC22E-81	---	---
110-120 V AC	NFC22E-84	NFC31E-84	NFC40E-84
220-240 V AC	NFC22E-80	---	---
Standard - Push In (PI) Spring			Ordering Code
24-60 V AC/20-60 V DC	NF22EK-11	NF31EK-11	NF40EK-11
100-250 V AC/DC	NF22EK-13	NF31EK-13	NF40EK-13
Low consumption			Ordering Code
20-60 V AC/DC	NFZ22E-21	NFZ31E-21	NFZ40E-21
24 V DC	NFZ22E-30	NFZ31E-30	NFZ40E-30
Low consumption - Push In (PI) Spring			Ordering Code
20-60 V AC/DC	NFZ22EK-21	NFZ31EK-21	NFZ40EK-21

NF contactor relays are optimized control products mainly used for control functions up to AC-15 6A / 24-127 V 50/60 Hz

Overload relays

EF electronic overloads and accessories



Electronic overload ordering codes

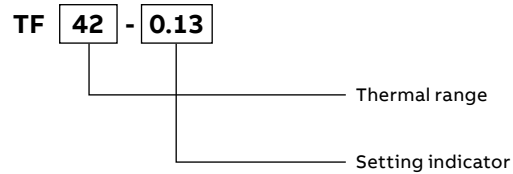
Setting range	Ordering Code
0.10–0.32 A	EF19-0.32
0.30–1.00 A	EF19-1.0
0.80–2.70 A	EF19-2.7
1.90–6.30 A	EF19-6.3
5.70–18.9 A	EF19-18.9
9.0–30.0 A	EF45-30
15.0–45.0 A	EF45-45
20.0–56.0 A	EF65-56
25.0–70.0 A	EF65-70
36.0–100 A	EF96-100
54–150 A	EF146-150
63–210 A	EF205-210
115–380 A	EF370-380
150–500 A	EF460
250–800 A	EF750

Overload accessories for separate/stand-alone mounting

For contactors	Description	Ordering Code
EF19	Single mounting kit	DB19EF
EF45	Single mounting kit	DB45EF

Overload relays

TF thermal overloads



Thermal overload ordering codes

3 phase hp rating at 480V	0.5-10hp	0.5-25hp	15.50hp	30-75hp	50-100hp	50-150hp
Setting range (A)						
0.10-0.13	---	TF42-0.13	---	---	---	---
0.13-0.17	---	TF42-0.17	---	---	---	---
0.17-0.23	---	TF42-0.23	---	---	---	---
0.23-0.31	---	TF42-0.31	---	---	---	---
0.31-0.41	---	TF42-0.41	---	---	---	---
0.41-0.55	---	TF42-0.55	---	---	---	---
0.55-0.74	---	TF42-0.74	---	---	---	---
0.74-1.00	T16-1.0	TF42-1.0	---	---	---	---
1.00-1.30	T16-1.3	TF42-1.3	---	---	---	---
1.30-1.70	T16-1.7	TF42-1.7	---	---	---	---
1.70-2.30	T16-2.3	TF42-2.3	---	---	---	---
2.30-3.10	T16-3.1	TF42-3.1	---	---	---	---
3.10-4.20	T16-4.2	TF42-4.2	---	---	---	---
4.20-5.70	T16-5.7	TF42-5.7	---	---	---	---
5.70-7.60	T16-7.6	TF42-7.6	---	---	---	---
7.60-10.0	T16-10	TF42-10	---	---	---	---
10.0-13.0	T16-13	TF42-13	---	---	---	---
13.0-16.0	T16-16	TF42-16	---	---	---	---
16.0-20.0	---	TF42-20	---	---	---	---
20.0-24.0	---	TF42-24	---	---	---	---
22.0-28.0	---	---	TF65-28	---	---	---
24.0-29.0	---	TF42-29	---	---	---	---
25.0-33.0	---	---	TF65-33	---	---	---
29.0-35.0	---	TF42-35	---	---	---	---
35.0-40.0	---	TF42-38	---	---	---	---
30-40	---	---	TF65-40	---	---	---
36-47	---	---	TF65-47	---	---	---
40-51	---	---	---	TF96-51	---	---
44-53	---	---	TF65-53	---	---	---
50-60	---	---	TF65-60	TF96-60	---	---
57-67	---	---	TF65-67	---	---	---
57-68	---	---	---	TF96-68	---	---
65-78	---	---	---	TF96-78	---	---
75-87	---	---	---	TF96-87	---	---

Table continues on next page.

Overload relays

TF thermal overloads

Thermal overload ordering codes continued

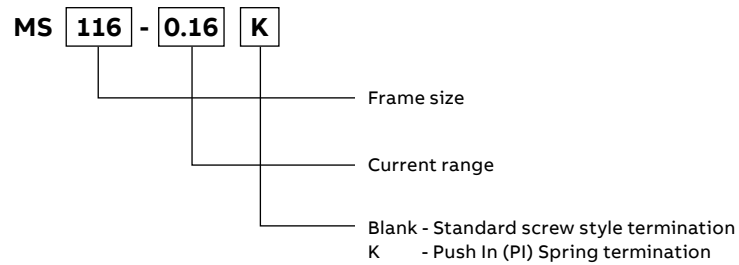
3 phase hp rating at 480V	0.5-10hp	0.5-25hp	15.50hp	30-75hp	50-100hp	50-150hp
Setting range (A)						
66-90	---	---	---	---	TF140DU-90	TA200DU90
84-96	---	---	---	TF96-96	---	---
80-110	---	---	---	---	TF140DU-110	TA200DU110
100-135	---	---	---	---	TF140DU-135	TA200DU135
110-142	---	---	---	---	TF140DU-142	---
110-150	---	---	---	---	---	TA200DU150
130-175	---	---	---	---	---	TA200DU175
150-200	---	---	---	---	---	TA200DU200

Overload accessories for separate/stand-alone mounting

For contactors	Description	Ordering Code
T16	Single mounting kit	DB16-ABB
TF42	Single mounting kit	DB42
TF65	Single mounting kit	DB65
TF96, EF96	Single mounting kit	DB96
TA200DU	Single mounting kit	DB200

Starters

Manual motor starters



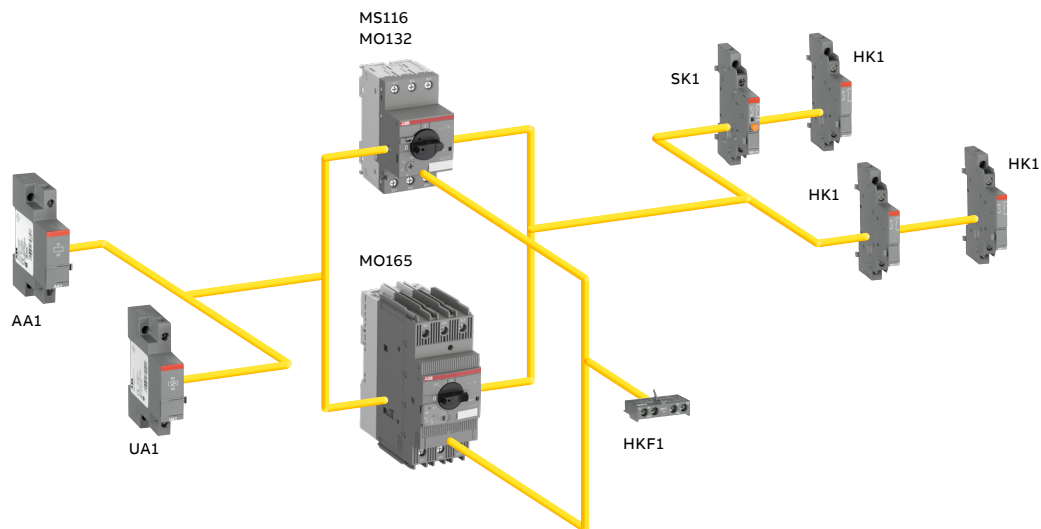
Electronic overload ordering codes

Setting range in Amps	HP @ 480 V	Screw termination				Push-In Spring
		MS116	MS132	MS165		MS132K
0.10–0.16	---	MS116-0.16	MS132-0.16	---		MS132-0.16K
0.16–0.25	---	MS116-0.25	MS132-0.25	---		MS132-0.25K
0.25–0.40	---	MS116-0.4	MS132-0.4	---		MS132-0.4K
0.40–0.63	---	MS116-0.63	MS132-0.63	---		MS132-0.63K
0.63–1.0	---	MS116-1.0	MS132-1.0	---		MS132-1.0K
1.0–1.6	3/4	MS116-1.6	MS132-1.6	---		MS132-1.6K
1.6–2.5	1	MS116-2.5	MS132-2.5	---		MS132-2.5K
2.5–4	2	MS116-4.0	MS132-4.0	---		MS132-4.0K
4–6.3	3	MS116-6.3	MS132-6.3	---		MS132-6.3K
6.3–10	5	MS116-10	MS132-10	---		MS132-10K
8–12	7.5	MS116-12	MS132-12	---		---
10–16	10	MS116-16	MS132-16	MS165-16		MS132-16K
16–20	10	MS116-20	MS132-20	MS165-20		MS132-20K
20–25	15	MS116-25	MS132-25	MS165-25		MS132-25K
25–32	20	MS116-32	MS132-32	MS165-32		MS132-32K
30–42	30	---	---	MS165-42		---
40–54	40	---	---	MS165-54		---
52–65	50	---	---	MS165-65		---
62–73	60	---	---	MS165-73		---
70–80	75	---	---	MS165-80		---

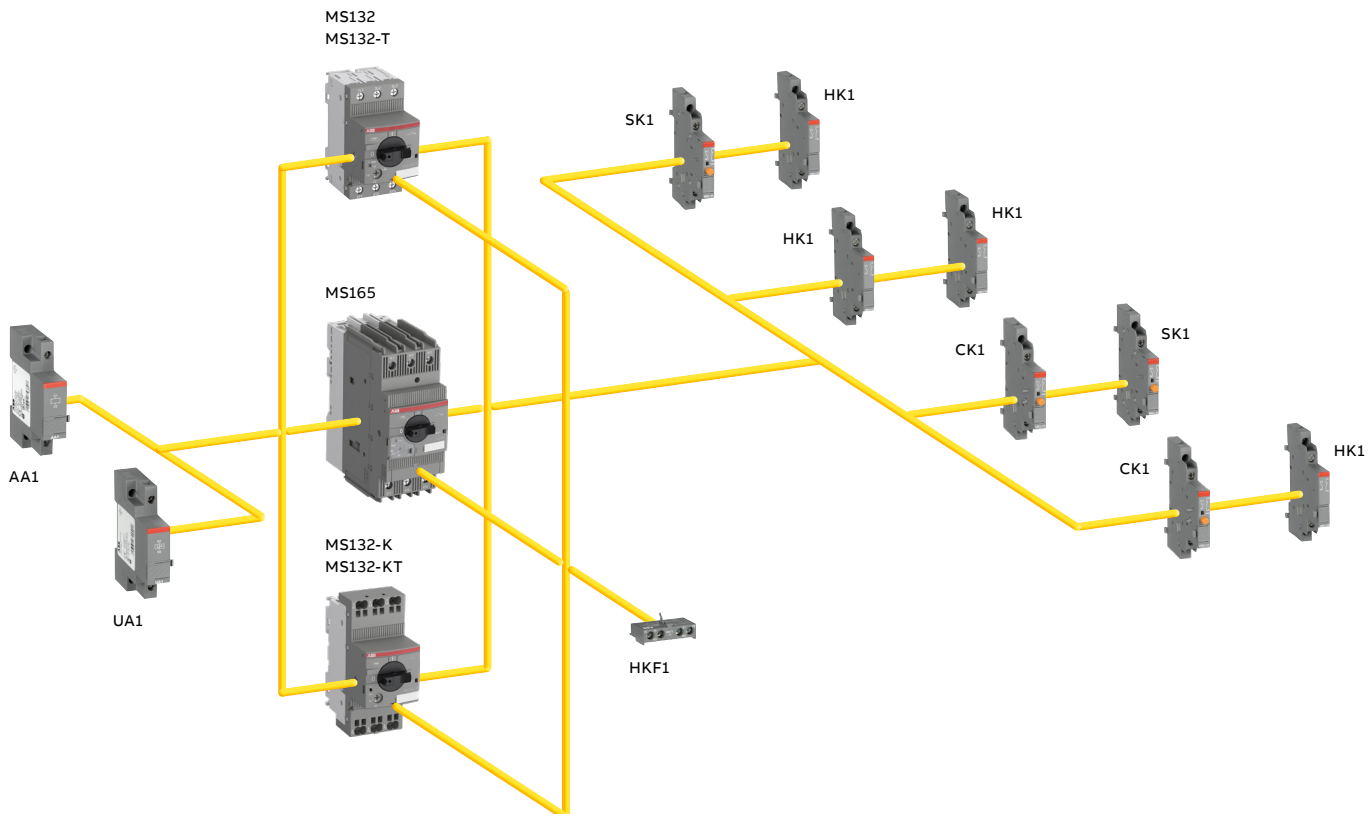
Accessories

MS116, MS132, MS165, MO132, MO165, MS132-T

Manual motor starters with accessories (MS116, MO132, MO165)



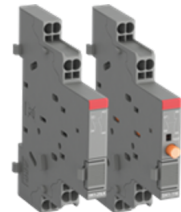
Manual motor starters (MS132, MS165) and circuit breakers for transformer protection (MS132-T) with accessories



Note: The combination of MS132-K + UA1 + CK1 is not possible

Starters

Manual motor starter accessories



Auxiliary contacts

Contacts	Type	Models	Ordering Code
Auxiliary contacts - front mount			
1 NO + 1 NC	---	MS116, MS132, MS165	HKF1-11
1 NO + 0 NC	---	MS116, MS132, MS165	HKF1-10
2 NO + 0 NC	---	MS116, MS132, MS165	HKF1-20
Auxiliary contacts, Push-in Spring - front mount			
2 NO + 0 NC	---	MS116K, MS132K, MS165K	HKF1-20K
Auxiliary contacts - right mount			
1 NO + 1 NC	---	MS116, MS132, MS165	HK1-11
2 NO + 0 NC	---	MS116, MS132, MS165	HK1-20
0 NO + 2 NC	---	MS116, MS132, MS165	HK1-02
Auxiliary contacts, Push-In Spring - right mount			
1 NO + 1 NC	---	MS116K, MS132K, MS165K	HK1-11K
2 NO + 0 NC	---	MS116K, MS132K, MS165K	HK1-20K
0 NO + 2 NC	---	MS116K, MS132K, MS165K	HK1-02K
Signaling contacts			
1 NO + 1 NC	for tripped alarm	MS116, MS132, MS165	SK1-11
1 NO + 1 NC	for short circuit alarm	MS132, MS165	CK1-11
Signaling contacts, Push-in Spring			
1 NO + 1 NC	for tripped alarm	MS116K, MS132K, MS165K	SK1-11K
2 NO + 0 NC	for tripped alarm	MS116K, MS132K, MS165K	SK1-20K
0 NO + 2 NC	for tripped alarm	MS116K, MS132K, MS165K	SK1-02K

Shunt trips - left mount

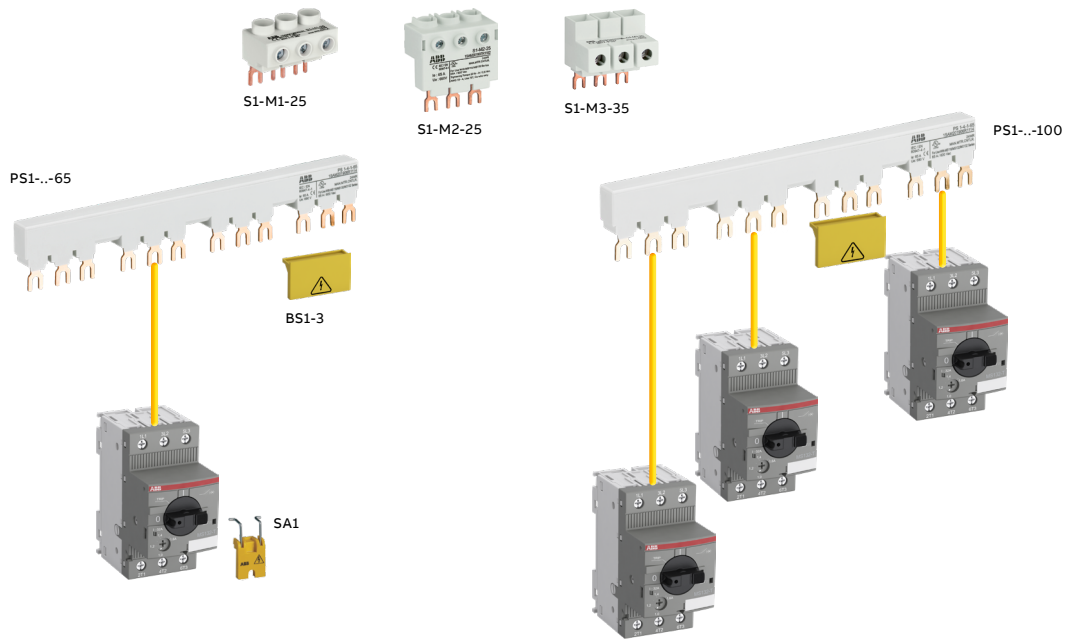
Control voltage 60 Hz	Models	Ordering Code
Shunt trips - left mount		
24 V AC	MS116, MS132, MS165	AA1-24
110 V AC	MS116, MS132, MS165	AA1-110
200-240 V AC	MS116, MS132, MS165	AA1-230
Undervoltage releases - left mount		
120 V AC	MS116, MS132, MS165	UA1-120
240 V AC	MS116, MS132, MS165	UA1-230
480 V AC	MS116, MS132, MS165	UA1-415

Table continues on next page.

Accessories

MS116, MS132, MS165, MO132, MO165

Manual motor starters with three-phase busbar systems (MS116, MS132, MO132)

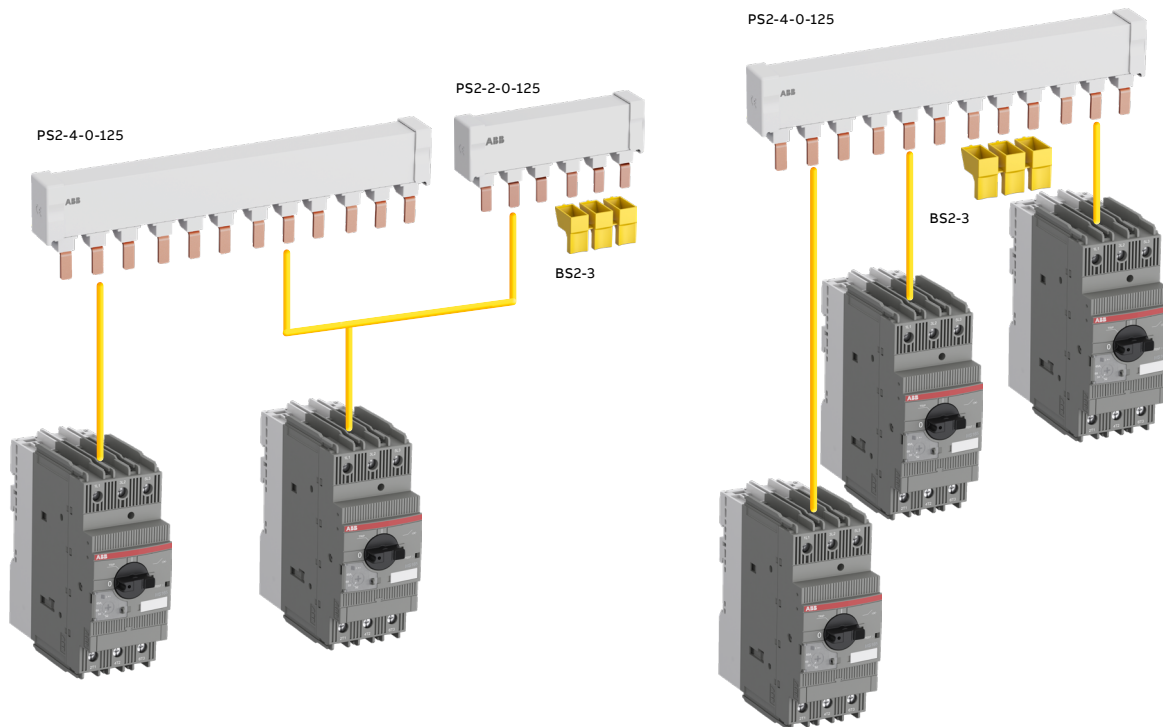


Three-phase busbar up to 65 A

Three-phase busbar up to 100 A

Note: busbars and feeder blocks are only suitable for screw versions.

Manual motor starters with three-phase busbar systems (MS165, MO165)

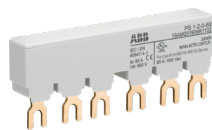


Three-phase busbar up to 125 A

Three-phase busbar up to 125 A

Starters

Manual motor starter accessories



Three-phase busbar

Operational current (A)	No. of MMS	No. of lateral aux.	Models	Ordering Code
65	2	0	MS116, MS132	PS1-2-0-65
65	3	0	MS116, MS132	PS1-3-0-65
65	4	0	MS116, MS132	PS1-4-0-65
65	5	0	MS116, MS132	PS1-5-0-65
65	2	1	MS116, MS132	PS1-2-1-65
65	3	1	MS116, MS132	PS1-3-1-65
65	4	1	MS116, MS132	PS1-4-1-65
65	5	1	MS116, MS132	PS1-5-1-65
65	2	2	MS116, MS132	PS1-2-2-65
65	3	2	MS116, MS132	PS1-3-2-65
65	4	2	MS116, MS132	PS1-4-2-65
65	5	2	MS116, MS132	PS1-5-2-65
92	3	0	MS116, MS132	PS1-3-0-100
92	4	0	MS116, MS132	PS1-4-0-100
92	5	0	MS116, MS132	PS1-5-0-100
92	3	1	MS116, MS132	PS1-3-1-100
92	4	1	MS116, MS132	PS1-4-1-100
92	5	1	MS116, MS132	PS1-5-1-100
125	3	0	MS165	PS2-2-0-125
125	2	2	MS165	PS2-2-2-125
125	2	0	MS165	PS2-3-0-125
125	3	2	MS165	PS2-3-2-125
125	3	0	MS165	PS2-4-0-125
125	4	2	MS165	PS2-4-2-125



Three-phase feeder terminals

Operational current (A)	Mounting form	Models	Ordering Code
63	Flat	MS116, MS132	S1-M1-25
63	High	MS116, MS132	S1-M2-25
63	UL/CSA Type E/F	MS116, MS132	S1-M3-25
92	UL/CSA Type E/F	MS116, MS132	S1-M3-35

Table continues on next page.

Starters

Manual motor starter accessories



General accessories

Description	Models	Ordering Code
Protection cover for busbars	MS116, MS132	BS1-3
Protection cover for busbars	MS165	BS2-3
Padlock + two keys	MS116, MS132	SA2
Lock handle	MS116	SA1
Terminal shroud	MS165	KA165
NEMA Type 12 yellow enclosure with red handle	MS116, MS132	IB132-Y
NEMA Type 12 grey enclosure with black handle	MS116, MS132	IB132-G
Door mount and handle for NEMA Type 12 yellow/red	MS116, MS132	DMS132-Y
Door mount and handle for NEMA Type 12 grey/black	MS116, MS132	DMS132-G
NEMA type 1, 3R, 12 black handle, IO/On-Off	MS116, MS132, MS165, MS49x	MSHD-LB
NEMA type 1, 3R, 12 yellow handle, IO/On-Off	MS116, MS132, MS165, MS49x	MSHD-LY
NEMA type 1, 3R, 12 black handle, IO/On-Off+trip	MS116, MS132, MS165, MS49x	MSHD-LTB
NEMA type 1, 3R, 12 yellow handle, IO/On-Off+trip	MS116, MS132, MS165, MS49x	MSHD-LTY
Shaft supporter	MS116, MS132, MS165, MS49x	MSAH1

Starters

Enclosed direct-on-line starters



DRAF UL enclosed direct-on-line starters

HP 3 phase		
440 V - 480 V	Control voltage	Ordering Code
5	24-60	DRAF09-11U
7.5	24-60	DRAF12-11U
7.5	100-250	DRAF12-13U
10	24-60	DRAF16-11U
10	100-250	DRAF16-13U