

AF09 ... AF38 3-pole contactors

4 to 18.5 kW

AC / DC operated



AF09-30-10



AF26-30-00

Description

AF09 ... AF38 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC and 220 V DC. These contactors are of the block type design with 3 main poles.

- control circuit: AC or DC operated with electronic coil interface accepting a wide control voltage range (e.g. 100...250 V AC and DC), only 4 control voltage ranges covering 24...500V 50/60 Hz and 20...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening.
- built-in surge suppression
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

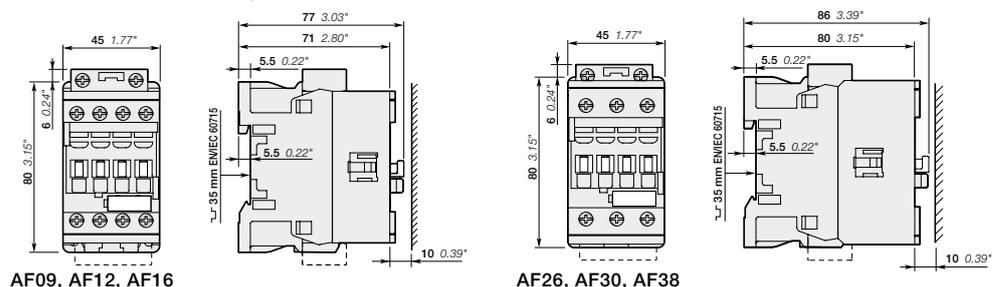
Ordering details

IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted		Type (1)	Order code	Weight				
Rated operational power	current $\theta \leq 40^\circ\text{C}$	3-phase motor rating	General use rating	Uc min. ... Uc max.						Pkg (1 pce)				
400 V AC-3	AC-1	480 V	600 V AC	V 50/60 Hz	V DC					kg				
kW	A	hp	A											
4	25	5	25	24...60	-	(2)	1 0	AF09-30-10-41	1SBL137001R4110	0.270				
							0 1	AF09-30-01-41	1SBL137001R4101	0.270				
				48...130	48...130	1 0	AF09-30-10-12	1SBL137001R1210	0.270					
						0 1	AF09-30-01-12	1SBL137001R1201	0.270					
				100...250	100...250	1 0	AF09-30-10-13	1SBL137001R1310	0.270					
						0 1	AF09-30-01-13	1SBL137001R1301	0.270					
				250...500	250...500	1 0	AF09-30-10-14	1SBL137001R1410	0.310					
						0 1	AF09-30-01-14	1SBL137001R1401	0.310					
				5.5	28	7.5	28	24...60	-	(2)	1 0	AF12-30-10-41	1SBL157001R4110	0.270
											0 1	AF12-30-01-41	1SBL157001R4101	0.270
48...130	48...130	1 0	AF12-30-10-12					1SBL157001R1210	0.270					
		0 1	AF12-30-01-12					1SBL157001R1201	0.270					
100...250	100...250	1 0	AF12-30-10-13					1SBL157001R1310	0.270					
		0 1	AF12-30-01-13					1SBL157001R1301	0.270					
250...500	250...500	1 0	AF12-30-10-14					1SBL157001R1410	0.310					
		0 1	AF12-30-01-14					1SBL157001R1401	0.310					
7.5	30	10	30					24...60	-	(2)	1 0	AF16-30-10-41	1SBL177001R4110	0.270
											0 1	AF16-30-01-41	1SBL177001R4101	0.270
				48...130	48...130	1 0	AF16-30-10-12	1SBL177001R1210	0.270					
						0 1	AF16-30-01-12	1SBL177001R1201	0.270					
				100...250	100...250	1 0	AF16-30-10-13	1SBL177001R1310	0.270					
						0 1	AF16-30-01-13	1SBL177001R1301	0.270					
				250...500	250...500	1 0	AF16-30-10-14	1SBL177001R1410	0.310					
						0 1	AF16-30-01-14	1SBL177001R1401	0.310					
				11	45	15	45	24...60	-	(2)	0 0	AF26-30-00-41	1SBL237001R4100	0.310
											0 0	AF26-30-00-12	1SBL237001R1200	0.310
48...130	48...130	0 0	AF26-30-00-13					1SBL237001R1300	0.310					
		0 0	AF26-30-00-14					1SBL237001R1400	0.350					
100...250	100...250	0 0	AF26-30-00-13					1SBL237001R1300	0.310					
		0 0	AF26-30-00-14	1SBL237001R1400	0.350									
15	50	20	50	24...60	-	(2)	0 0	AF30-30-00-41	1SBL277001R4100	0.310				
							0 0	AF30-30-00-12	1SBL277001R1200	0.310				
				48...130	48...130	0 0	AF30-30-00-13	1SBL277001R1300	0.310					
						0 0	AF30-30-00-14	1SBL277001R1400	0.350					
				100...250	100...250	0 0	AF30-30-00-13	1SBL277001R1300	0.310					
0 0	AF30-30-00-14	1SBL277001R1400	0.350											
18.5	50	25	50	24...60	-	(2)	0 0	AF38-30-00-41	1SBL297001R4100	0.310				
							0 0	AF38-30-00-12	1SBL297001R1200	0.310				
				48...130	48...130	0 0	AF38-30-00-12	1SBL297001R1200	0.310					
						0 0	AF38-30-00-13	1SBL297001R1300	0.310					
				100...250	100...250	0 0	AF38-30-00-13	1SBL297001R1300	0.310					
0 0	AF38-30-00-14	1SBL297001R1400	0.350											

(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

(2) For 24...60 V 50/60 Hz - 20...60 V DC, use AF.Z-30...-21.

Main dimensions mm, inches



AF40 ... AF96 3-pole contactors

18.5 to 45 kW

AC / DC operated



AF40-30-00



AF80-30-00

Description

AF40 ... AF96 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC and 220 V DC. These contactors are of the block type design with 3 main poles.

- control circuit: AC or DC operated with electronic coil interface accepting a wide control voltage range (e.g. 100...250 V AC and DC), only 4 control voltage ranges covering 24...500 V 50/60 Hz and 20...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening.
- built-in surge suppression
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

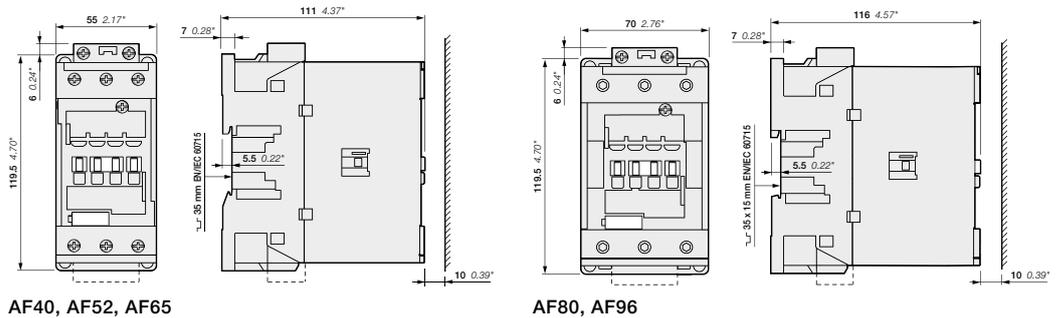
Ordering details

IEC		UL / CSA		Rated control circuit voltage		Auxiliary contacts fitted	Type (1)	Order code	Weight
Rated operational power	current $\theta \leq 40^\circ\text{C}$	3-phase motor rating	General use rating	Uc min. ... Uc max.					
400 V AC-3	AC-1	480 V	600 V AC	V 50/60 Hz	V DC			kg	
18.5	70	30	60	24...60	-	0 0	AF40-30-00-41	1SBL347001R4100	0.970
				24...60	20...60 (2)	0 0	AF40-30-00-11	1SBL347001R1100	0.970
				48...130	48...130	0 0	AF40-30-00-12	1SBL347001R1200	0.970
				100...250	100...250	0 0	AF40-30-00-13	1SBL347001R1300	0.950
				250...500	250...500	0 0	AF40-30-00-14	1SBL347001R1400	0.950
22	100	40	80	24...60	-	0 0	AF52-30-00-41	1SBL367001R4100	0.970
				24...60	20...60 (2)	0 0	AF52-30-00-11	1SBL367001R1100	0.970
				48...130	48...130	0 0	AF52-30-00-12	1SBL367001R1200	0.970
				100...250	100...250	0 0	AF52-30-00-13	1SBL367001R1300	0.950
				250...500	250...500	0 0	AF52-30-00-14	1SBL367001R1400	0.950
30	105	50	90	24...60	-	0 0	AF65-30-00-41	1SBL387001R4100	0.970
				24...60	20...60 (2)	0 0	AF65-30-00-11	1SBL387001R1100	0.970
				48...130	48...130	0 0	AF65-30-00-12	1SBL387001R1200	0.970
				100...250	100...250	0 0	AF65-30-00-13	1SBL387001R1300	0.950
				250...500	250...500	0 0	AF65-30-00-14	1SBL387001R1400	0.950
37	125	60	105	24...60	-	0 0	AF80-30-00-41	1SBL397001R4100	1.220
				24...60	20...60 (2)	0 0	AF80-30-00-11	1SBL397001R1100	1.220
				48...130	48...130	0 0	AF80-30-00-12	1SBL397001R1200	1.220
				100...250	100...250	0 0	AF80-30-00-13	1SBL397001R1300	1.170
				250...500	250...500	0 0	AF80-30-00-14	1SBL397001R1400	1.170
45	130	60	115	24...60	-	0 0	AF96-30-00-41	1SBL407001R4100	1.220
				24...60	20...60 (2)	0 0	AF96-30-00-11	1SBL407001R1100	1.220
				48...130	48...130	0 0	AF96-30-00-12	1SBL407001R1200	1.220
				100...250	100...250	0 0	AF96-30-00-13	1SBL407001R1300	1.170
				250...500	250...500	0 0	AF96-30-00-14	1SBL407001R1400	1.170

(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

(2) AF...-30...-11 not suitable for direct control by PLC-output.

Main dimensions mm, inches



AF40, AF52, AF65

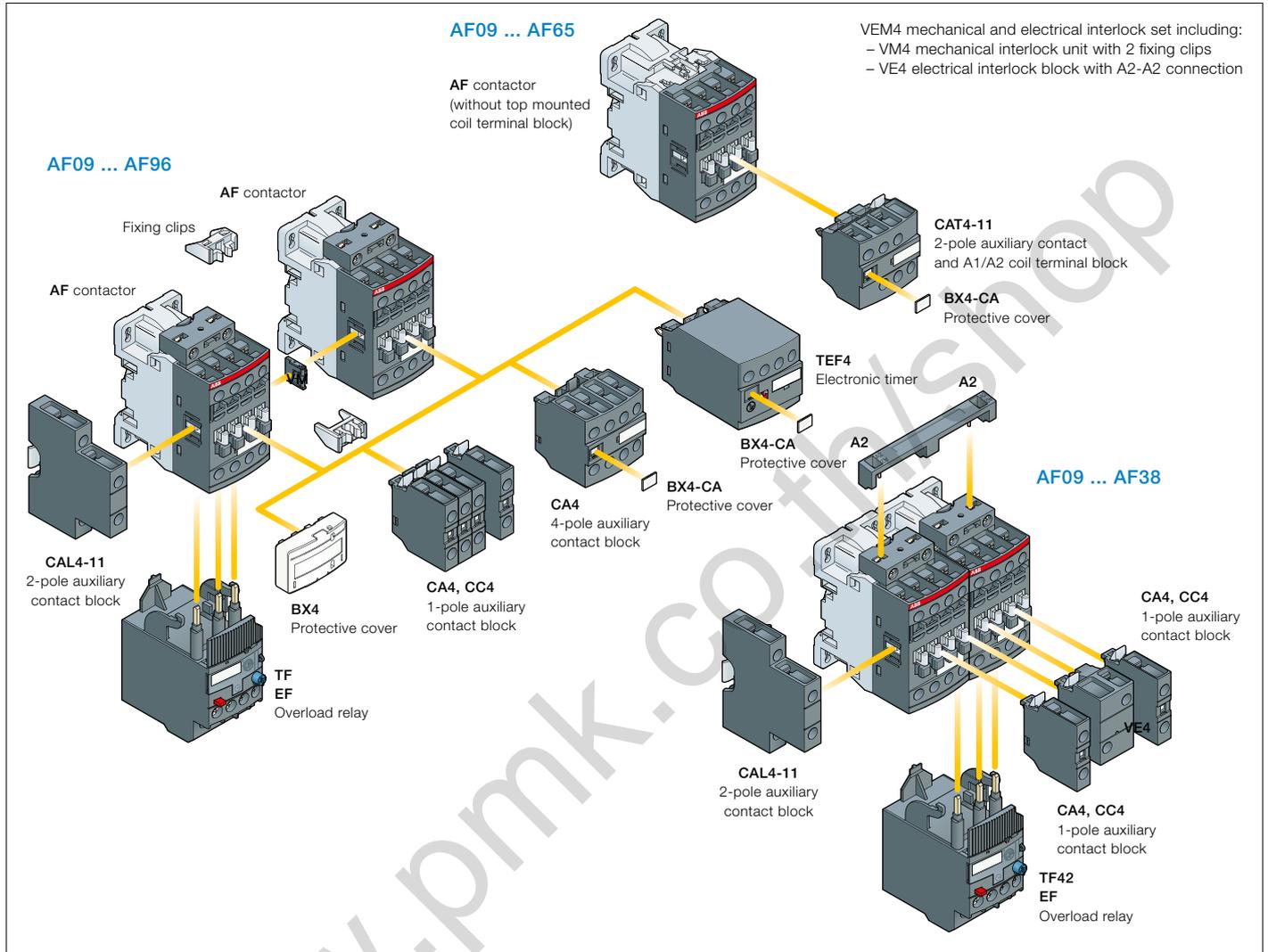
AF80, AF96

1SBC101740S0201 - Rev. A

AF09 ... AF96 3-pole contactors

Main accessories

Contactor and main accessories (other accessories available)



Main accessory fitting details

Many configurations of accessories are possible depending on whether these are front-mounted or side-mounted.

Contactor types	Main poles	Built-in auxiliary contacts	Front-mounted accessories				Electronic timer	Electrical and mechanical interlock set (between 2 contactors)	Side-mounted accessories		
			Auxiliary contact blocks						Auxiliary contact blocks		
			1-pole CA4	1-pole CC4	2-pole CAT4-11	4-pole CA4	TEF4 <th>VEM4</th> <th>Left side</th> <th>Right side</th>	VEM4	Left side	Right side	
			Max. N.C. built-in and add-on N.C. auxiliary contacts: 4 N.C. max. on positions 1, 2, 3, 4 and 3 N.C. max. on positions 1 ±30°, 5								
AF09 ... AF16	3	0	0	1	4 max.	or 1	or 1	or 1	-	+ 1	-
AF09 ... AF16	3	0	1	0	2 max.	or 1	-	or 1	-	+ 1	+ 1
AF26 ... AF38	3	0	0	0	3 max.	-	-	-	+ 1	+ 1	or 1
			Max. add-on N.C. auxiliary contacts: 6 N.C. max. on positions 1, 1 ±30°, 2, 3, 4, 5								
AF40 ... AF65	3	0	0	0	4 max.	or 1	or 1	or 1	-	+ 1	+ 1
AF80, AF96	3	0	0	0	4 max.	-	or 1	or 1	-	+ 1	+ 1

Overload relays fitting details (1)

Contactor types	Thermal overload relays	Electronic overload relays
AF09 ... AF38	TF42 (0.10...38 A)	EF19 (0.10...19 A)
AF26 ... AF38	TF42 (0.10...38 A)	EF45 (9...45 A)
AF40 ... AF65	TF65 (22...67 A)	EF65 (20...70 A)
AF80, AF96	TF96 (40...96 A)	EF96 (36...100 A)

The addition of an overload relay on the contactor does not prevent fitting of many other accessories as shown above.

(1) Direct mounting - No kit required.

AF09 ... AF96 3-pole contactors

Main accessories



CA4-10



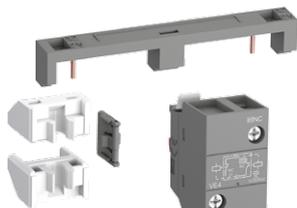
CAL4-11



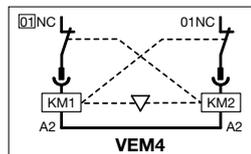
CA4-22E



CAT4-11E



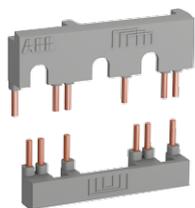
VEM4



TEF4-ON



BEA16-4



BER16-4

Ordering details (1)

For contactors	Auxiliary contacts	Type	Order code	Pkg qty	Weight (1 pce)
					kg

Front-mounted instantaneous auxiliary contact blocks

AF09 ... AF96	1 0	--	CA4-10	1SBN010110R1010	1	0.014
	1 0	--	CA4-10-T	1SBN010110T1010	10	0.014
	0 1	--	CA4-01	1SBN010110R1001	1	0.014
	0 1	--	CA4-01-T	1SBN010110T1001	10	0.014
AF09 ... AF16...-30-10	2 2	--	CA4-22M	1SBN010140R1122	1	0.055
AF26 ... AF96...-30-00	2 2	--	CA4-22E	1SBN010140R1022	1	0.055
AF09 ... AF16...-30-01	2 2	--	CA4-22U	1SBN010140R1322	1	0.055

Front-mounted auxiliary contact blocks with N.O. leading contact and N.C. lagging contact

AF09 ... AF96	--	1 0	CC4-10	1SBN010111R1010	1	0.014
	--	0 1	CC4-01	1SBN010111R1001	1	0.014

Side-mounted instantaneous auxiliary contact blocks

AF09 ... AF96	1 1	--	CAL4-11	1SBN010120R1011	1	0.040
	1 1	--	CAL4-11-T	1SBN010120T1011	10	0.040

Front-mounted instantaneous auxiliary contact and A1/A2 coil terminal blocks

AF09 ... AF16...-30-10	1 1	--	CAT4-11M	1SBN010151R1111	1	0.040
AF26 ... AF65...-30-00	1 1	--	CAT4-11E	1SBN010151R1011	1	0.040
AF09 ... AF16...-30-01	1 1	--	CAT4-11U	1SBN010151R1311	1	0.040

Note: CAT4 not suitable for AF..Z contactors with DC control voltage 12...20 V DC.

Mechanical interlock unit

AF09 ... AF38			VM4	1SBN030105T1000	10	0.005
AF40 ... AF96			VM96-4	1SBN033405T1000	10	0.006

Note: VM4 and VM96-4 include 2 fixing clips (BB4) to maintain together both contactors.

Mechanical and electrical interlock set

AF09 ... AF16	0 2	--	VEM4	1SBN030111R1000	1	0.035
AF26 ... AF38						

Note: - VEM4 includes a VM4 mechanical interlock unit with 2 fixing clips (BB4), a VE4 electrical interlock block. VE4 block must be used with A2-A2 connection to respect the electrical connection diagram.
- VEM4 not suitable for AF..Z contactors with DC control voltage 12...20 V DC.

For contactors	Time delay range	Delay type	Auxiliary contacts	Type	Order code	Pkg qty	Weight (1 pce)
	selected by switch						kg

Electronic timers

AF09 ... AF96	0.1...1 s	ON-delay	1 1	TEF4-ON	1SBN020112R1000	1	0.065
	1...10 s						
	10...100 s	OFF-delay	1 1	TEF4-OFF	1SBN020114R1000	1	0.065

Note: Rated control circuit voltage Uc 24...240 V 50/60 Hz or DC.

Connecting links with manual motor starters

AF09 ... AF16	with	MS116-0.16 ... MS116-25, MS132-0.16 ... MS132-25		BEA16-4	1SBN081306T1000	10	0.025
AF26 ... AF38	with	MS116-0.16 ... MS116-16, MS132-0.16 ... MS132-10		BEA26-4	1SBN082306T1000	10	0.025
	with	MS116-20 ... MS116-32, MS132-12 ... MS132-32		BEA38-4	1SBN082306T2000	10	0.030
AF40 ... AF65	with	MS165-16 ... MS165-65		BEA65-4	1SBN083406R1000	1	0.090

Connection sets for reversing contactors

AF09 ... AF16				BER16-4	1SBN081311R1000	1	0.045
AF26 ... AF38				BER38-4	1SBN082311R1000	1	0.100
AF40 ... AF65				BER65-4	1SBN083411R1000	1	0.175
AF80 ... AF96				BER96-4	1SBN083911R1000	1	0.250

Connection sets for star-delta starting

AF09 ... AF16	With or without VM4			BEY16-4	1SBN081313R2000	1	0.050
AF26 ... AF38	With or without VM4			BEY38-4	1SBN082713R2000	1	0.110
AF40 ... AF65	With or without VM96-4			BEY65-4	1SBN083413R2000	1	0.200
AF80 ... AF96	With or without VM96-4			BEY96-4	1SBN083913R2000	1	0.250

(1) For more information, refer to main catalog "Accessories" section.