

AF 3-pole contactors

[Overview](#) 5/80

Ordering details

4 to 45 kW / 5 to 60 hp

AF09 ... AF38	AC / DC operated	5/82
AF09Z ... AF38Z	AC / DC operated - low consumption	5/83
AF40 ... AF96	AC / DC operated	5/84
Main accessories		5/86

55 to 200 kW / 75 to 350 hp

AF116 ... AF146	AC / DC operated	5/88
AF190 ... AF370	AC / DC operated	5/90
Main accessories		5/92
AF116 ... AF146	AC / DC operated with 1 N.O. + 1 N.C.	5/94
AF190 ... AF370	AC / DC operated with 1 N.O. + 1 N.C.	5/96
Main accessories		5/98

200 to 560 kW / 350 to 900 hp

AF400 ... AF750	AC / DC operated with 1 N.O. + 1 N.C.	5/100
AF1250 ... AF2650	AC / DC operated with 1 N.O. + 1 N.C.	5/101
Main accessories		5/102

4 to 45 kW / 5 to 60 hp - 2-stack

AF09 ... AF38	AC / DC operated	5/104
AF09Z ... AF38Z	AC / DC operated - low consumption	5/105
AF40 ... AF65	AC / DC operated	5/106
AF80 ... AF96	AC / DC operated	5/107
Main accessories		5/108

55 to 560 kW / 75 to 900 hp

AF116 ... AF146	AC / DC operated with 2 N.O. + 2 N.C.	5/110
AF190 ... AF370	AC / DC operated with 2 N.O. + 2 N.C.	5/112
Main accessories		5/114
AF400 ... AF750	AC / DC operated with 2 N.O. + 2 N.C.	5/116
AF1250 ... AF2650	AC / DC operated with 2 N.O. + 2 N.C.	5/117
Main accessories		5/118

[Technical data](#) 5/120

Electrical durability 5/137

[Terminal marking and positioning](#) 5/141

[Main dimensions](#) 5/144

[Voltage code table](#) 5/392

3-pole contactors, for motor control and power switching



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AC / DC Control supply			Type	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96		
IEC	AC-3	Rated operational power $\theta \leq 60^\circ\text{C}$ for AF09 ... AF370 $\theta \leq 55^\circ\text{C}$ for AF400 ... AF2650	220 - 230 - 240 V	kW	2.2	3	4	6.5	9	11	11	15	18.5	22	25	
			380 - 400 V	kW	4	5.5	7.5	11	15	18.5	18.5	22	30	37	45	
			415 V	kW	4	5.5	9	11	15	18.5	22	30	37	45	55	
			440 V	kW	4	5.5	9	15	18.5	22	22	30	37	45	55	
			500 V	kW	5.5	7.5	9	15	18.5	22	22	30	37	45	55	
			690 V	kW	5.5	7.5	9	15	18.5	22	22	30	37	45	55	
			1000 V	kW	—	—	—	—	—	—	—	—	—	—	—	—
	Rated operational current	380 - 400 V	A	9	12	18	26	32	38	40	53	65	80	96		
AC-1	Rated operational current	$\theta \leq 40^\circ\text{C}$, 690 V	A	25	28	30	45	50	50	70	100	105	125	130		

UL / CSA	1-phase motor rating	120 V	hp	0.75	1	1.5	2	2	2	3	3	5	7.5	7.5
		240 V	hp	1.5	2	3	3	5	5	7.5	10	15	15	20
	3-phase motor rating	200 - 208 V	hp	2	3	5	7.5	10	10	10	15	20	25	30
		220 - 240 V	hp	2	3	5	7.5	10	10	15	20	25	30	30
		440 - 480 V	hp	5	7.5	10	15	20	25	30	40	50	60	60
		550 - 600 V	hp	7.5	10	15	20	25	30	40	50	60	75	75
	General use rating	600 V	A	25	28	30	45	50	50	60	80	90	105	115
NEMA	NEMA Size			00	0	—	1	—	—	2	—	—	3	—

Main accessories

Auxiliary contact blocks	Front mounting	CA4-10 (1 x N.O.) CA4-01 (1 x N.C.)
	Side mounting	CAL4-11 (1 x N.O. + 1 x N.C.)
Timers	Electronic	TEF4-ON TEF4-OFF
	Mechanical	VM4 VM96-4
Interlocking units	Mechanical / Electrical	VEM4
	For reversing contactors	BER16-4 BER38-4 BER65-4 BER96-4
Connection sets		Built-in surge protection
Surge suppressors		

Overload relays

Thermal relays	Class 10 (Class 10A for TF140, TA200DU)	TF42 (0.10...38 A)	TF65 (22...67 A)	TF96 (40...96 A)
Electronic relays	Class 10E, 20E, 30E	EF19 (0.10...18.9 A)	EF19 (0.10...18.9 A) EF45 (9...45 A)	EF65 (20...70 A) EF96 (36...100 A)

Manual motor starters

Thermal / magnetic protection Class 10	MS116 (0.10...32 A) Ics up to 50 kA for class 10 A	MS450 (28...50 A) Ics up to 50 kA
	MS132 (0.10...32 A) Ics up to 100 kA	MS495 (45...100 A) Ics up to 50 kA
Magnetic only types	MO132 (0.16...32 A) Ics up to 100 kA	MS497 (22...100 A) Ics up to 100 kA
		MO496 (32...100 A) Ics up to 100 kA
Accessories	BEA16-4	MO450 (40...50 A) Ics up to 50 kA
	BEA38-4	MO495 (63...100 A) Ics up to 50 kA



	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
	30	37	45	55	55	75	90	110	110	132	160	220	—	257	315	—	—
	55	75	75	90	110	132	160	200	200	250	315	400	—	475	560	—	—
	55	75	75	90	110	132	160	200	220	250	355	425	—	500	600	—	—
	75	90	90	110	132	160	160	200	220	250	355	450	—	560	670	—	—
	75	90	90	110	132	160	200	250	250	315	400	520	—	560	700	—	—
	55	75	90	132	160	200	250	315	315	355	500	600	—	750	900	—	—
	—	—	75	110	132	132	132	132	220	280	355	400	—	—	—	—	—
	116	140	146	190	205	265	305	370	400	460	580	750	—	860	1050	—	—
	160	200	225	275	350	400	500	600	600	700	800	1050	1260	1350	1650	2050	2650

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—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	40	40	50	60	75	100	125	125	150	150	200	250	—	—	—	—	—
40	50	50	60	75	100	125	150	150	200	250	300	—	—	400	450	—	—
75	100	100	125	150	200	250	300	350	400	500	600	—	—	800	900	—	—
100	125	125	150	200	250	300	350	400	500	600	700	—	—	1000	1150	—	—
160	200	200	250	300	350	400	520	550	650	750	900	1210	—	1350	1650	2100	2700
—	4	—	—	—	5	—	—	—	6	—	7	—	—	—	8	—	—

CAL19-11 (1 x N.O. + 1 x N.C.)				CAL18-11 (1 x N.O. + 1 x N.C.)									
VM19 (for same size contactors)				VM750H VM750V				VM1650H					
BER140-4		BER205-4		BER370-4		BEM460-30		BEM750-30					

TF140DU (66...142 A) $\theta \leq 55^\circ\text{C}$	TA200DU (66...200 A) $\theta \leq 55^\circ\text{C}$		
EF146 (54...150 A)	EF205 (63...210 A)	EF370 (115...380 A)	EF460 (150...500 A)
		EF750 (250...800 A)	E1250DU (375...1250 A)

Short-circuit protection devices

MCCB and switch-fuses



1SEC101908S0201

AF09 ... AF38 3-pole contactors

4 to 18.5 kW

AC / DC operated



AF09-30-10



AF26-30-00

5

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

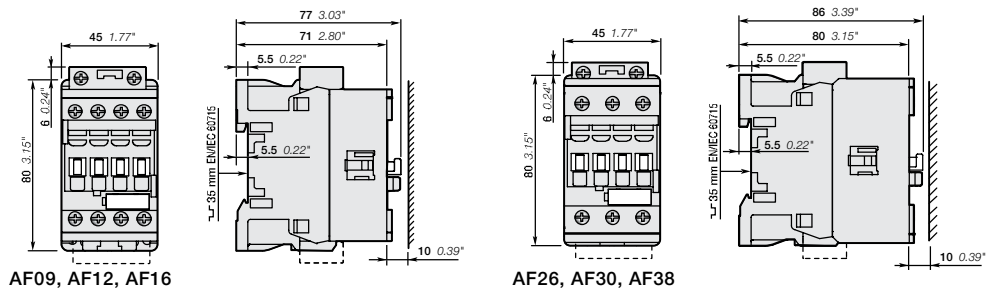
IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted	Type (1)	Order code	Weight	
Rated operational power	current	3-phase motor rating	General use rating	Uc min. ... Uc max.						
400 V AC-3	$\theta \leq 40^\circ\text{C}$	480 V	600 V AC	V 50/60 Hz	V DC				Pkg (1 pce)	
kW	A	hp	A						kg	
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	
						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	
						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	
						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
				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
				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
				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.-30-.-11 (see voltage code table).

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

Main dimensions mm, inches



AF09, AF12, AF16

AF26, AF30, AF38

AF09Z ... AF38Z 3-pole contactors

4 to 18.5 kW

AC / DC operated - low consumption



AF09Z-30-10



AF26Z-30-00

Description

AF09Z ... AF38Z 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...250 V 50/60 Hz and 12...250 V DC
- can manage large control voltage variations
- allow direct control by PLC-output ≥ 24 V DC 500 mA
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47-0706 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

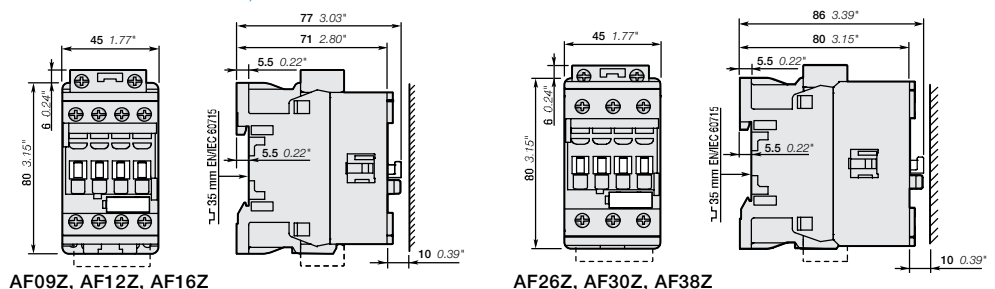
Ordering details

IEC Rated power 400 V AC-3 kW	operational current $\theta \leq 40^\circ\text{C}$ A	UL/CSA 3-phase motor rating 480 V hp	General use rating 600 V AC A	Rated control circuit voltage Uc min. ... Uc max.		Auxiliary contacts fitted	Type (1)	Order code	Weight Pkg (1 pce) kg	
				V 50/60 Hz	V DC					
4	25	5	25	-	12...20	1 0	AF09Z-30-10-20	1SBL136001R2010	0.310	
						0 1	AF09Z-30-01-20	1SBL136001R2001	0.310	
						1 0	AF09Z-30-10-21	1SBL136001R2110	0.310	
						0 1	AF09Z-30-01-21	1SBL136001R2101	0.310	
						1 0	AF09Z-30-10-22	1SBL136001R2210	0.310	
						0 1	AF09Z-30-01-22	1SBL136001R2201	0.310	
5.5	28	7.5	28	-	12...20	1 0	AF12Z-30-10-20	1SBL156001R2010	0.310	
						0 1	AF12Z-30-01-20	1SBL156001R2001	0.310	
						1 0	AF12Z-30-10-21	1SBL156001R2110	0.310	
						0 1	AF12Z-30-01-21	1SBL156001R2101	0.310	
						1 0	AF12Z-30-10-22	1SBL156001R2210	0.310	
						0 1	AF12Z-30-01-22	1SBL156001R2201	0.310	
7.5	30	10	30	-	12...20	1 0	AF16Z-30-10-20	1SBL176001R2010	0.310	
						0 1	AF16Z-30-01-20	1SBL176001R2001	0.310	
						1 0	AF16Z-30-10-21	1SBL176001R2110	0.310	
						0 1	AF16Z-30-01-21	1SBL176001R2101	0.310	
						1 0	AF16Z-30-10-22	1SBL176001R2210	0.310	
						0 1	AF16Z-30-01-22	1SBL176001R2201	0.310	
11	45	15	45	-	12...20	0 0	AF26Z-30-00-20	1SBL236001R2000	0.350	
						0 0	AF26Z-30-00-21	1SBL236001R2100	0.350	
						0 0	AF26Z-30-00-22	1SBL236001R2200	0.350	
						0 0	AF26Z-30-00-23	1SBL236001R2300	0.350	
						12...20	0 0	AF30Z-30-00-20	1SBL276001R2000	0.350
						20...60	0 0	AF30Z-30-00-21	1SBL276001R2100	0.350
15	50	20	50	-	12...20	0 0	AF30Z-30-00-22	1SBL276001R2200	0.350	
						0 0	AF30Z-30-00-23	1SBL276001R2300	0.350	
						20...60	0 0	AF38Z-30-00-20	1SBL296001R2000	0.350
						20...60	0 0	AF38Z-30-00-21	1SBL296001R2100	0.350
						48...130	0 0	AF38Z-30-00-22	1SBL296001R2200	0.350
						48...130	0 0	AF38Z-30-00-23	1SBL296001R2300	0.350

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

Note: Only AF.Z contactors with DC control voltage 12...20 V DC need to respect the connection polarities indicated close to the coil terminals: A1+ for the positive pole and A2- for the negative pole.

Main dimensions mm, inches



AF09Z, AF12Z, AF16Z

AF26Z, AF30Z, AF38Z

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.

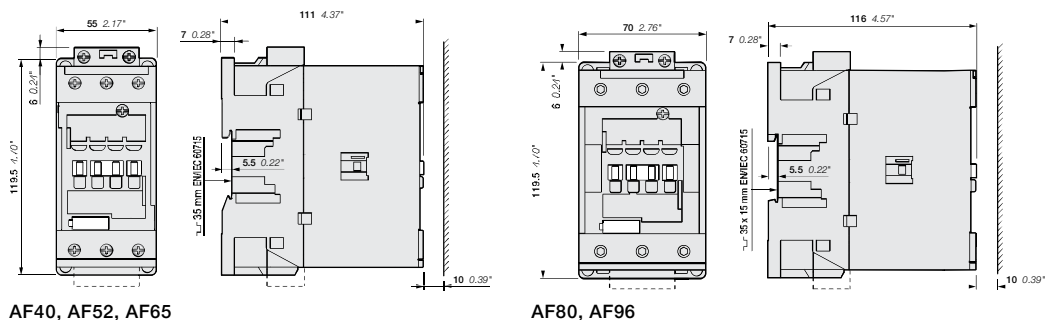
Ordering details

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.

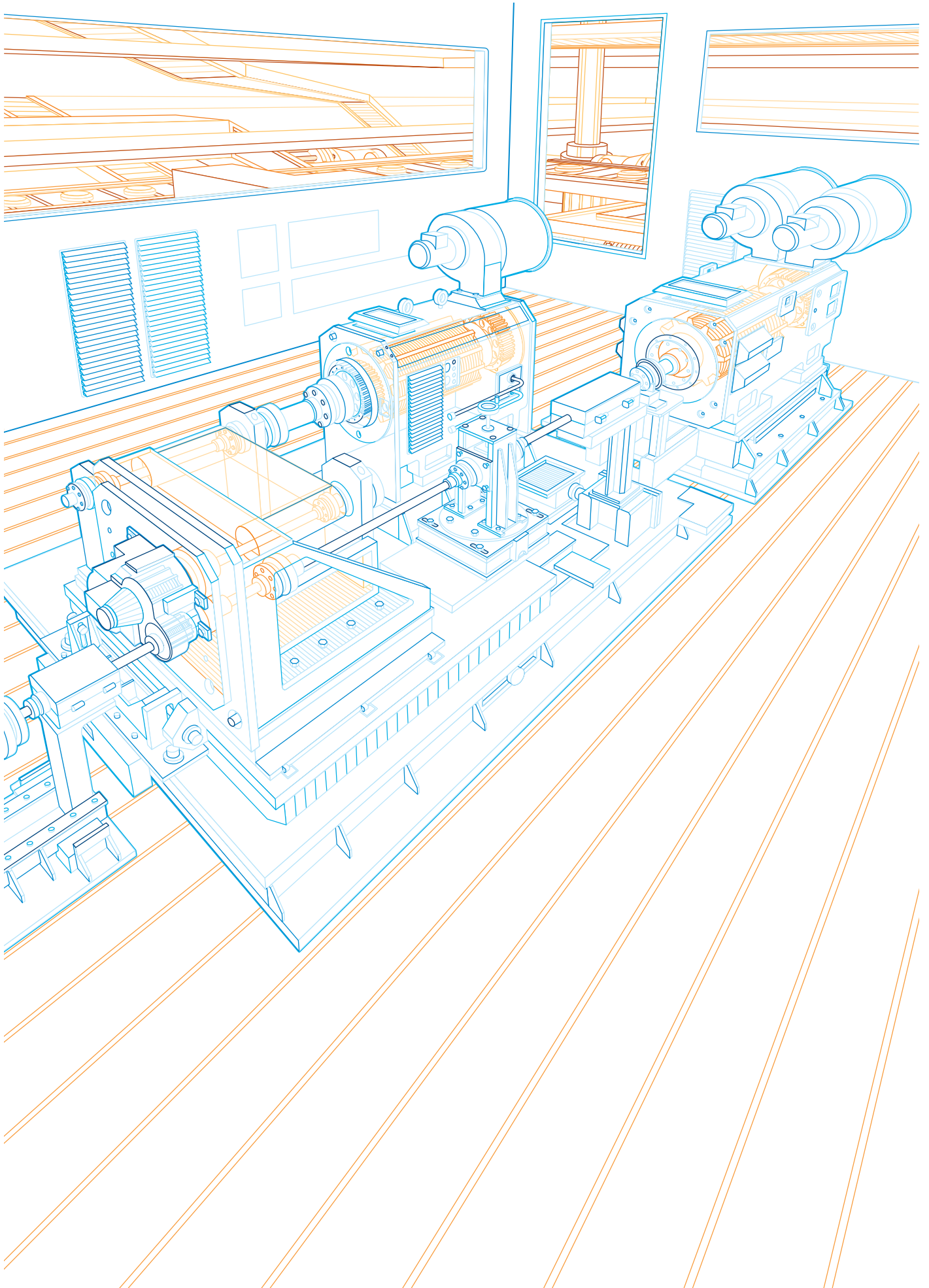
(2) AF...-30...-11 not suitable for direct control by PLC-output.

Main dimensions mm, inches



AF40, AF52, AF65

AF80, AF96



AF09 ... AF96 3-pole contactors

Main accessories



CA4-10

1SBC100001V0014



CAL4-11

1SBC100007V0014



CA4-22E

1SBC100068V0014



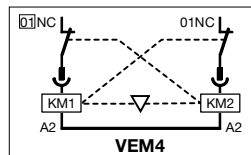
CAT4-11E

1SBC100002V0014



VEM4

1SBC100011V0014



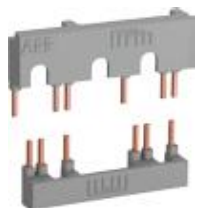
TEF4-ON

1SBC100004V0014



BEA16-4

1SBC100014V0014



BER16-4

1SBC100016V0014

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

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.

AF116 ... AF146 3-pole contactors

55 to 75 kW

AC / DC operated



AF146-30-00

1SFC101008C0201



AF146-30-00B

1SFC101008C0201

Description

AF116 ... AF146 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC, AF146 up to 1000 V AC. 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 coils to cover control voltages between 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
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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		Y Y			

For connection with built-in cable clamps

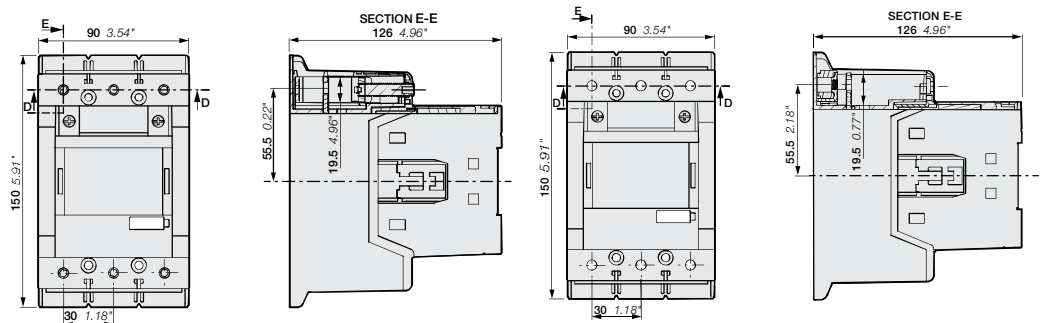
55	160	75	160	24...60	20...60	0 0	AF116-30-00-11	1SFL427001R1100	1.750
				48...130	48...130	0 0	AF116-30-00-12	1SFL427001R1200	1.750
				100...250	100...250	0 0	AF116-30-00-13	1SFL427001R1300	1.750
				250...500	250...500	0 0	AF116-30-00-14	1SFL427001R1400	1.750
75	200	100	200	24...60	20...60	0 0	AF140-30-00-11	1SFL447001R1100	1.750
				48...130	48...130	0 0	AF140-30-00-12	1SFL447001R1200	1.750
				100...250	100...250	0 0	AF140-30-00-13	1SFL447001R1300	1.750
				250...500	250...500	0 0	AF140-30-00-14	1SFL447001R1400	1.750
75	225	100	200	24...60	20...60	0 0	AF146-30-00-11	1SFL467001R1100	1.750
				48...130	48...130	0 0	AF146-30-00-12	1SFL467001R1200	1.750
				100...250	100...250	0 0	AF146-30-00-13	1SFL467001R1300	1.750
				250...500	250...500	0 0	AF146-30-00-14	1SFL467001R1400	1.750

With bar connections

55	160	75	160	24...60	20...60	0 0	AF116-30-00B-11	1SFL427002R1100	1.500
				48...130	48...130	0 0	AF116-30-00B-12	1SFL427002R1200	1.500
				100...250	100...250	0 0	AF116-30-00B-13	1SFL427002R1300	1.500
				250...500	250...500	0 0	AF116-30-00B-14	1SFL427002R1400	1.500
75	200	100	200	24...60	20...60	0 0	AF140-30-00B-11	1SFL447002R1100	1.500
				48...130	48...130	0 0	AF140-30-00B-12	1SFL447002R1200	1.500
				100...250	100...250	0 0	AF140-30-00B-13	1SFL447002R1300	1.500
				250...500	250...500	0 0	AF140-30-00B-14	1SFL447002R1400	1.500
75	225	100	200	24...60	20...60	0 0	AF146-30-00B-11	1SFL467002R1100	1.500
				48...130	48...130	0 0	AF146-30-00B-12	1SFL467002R1200	1.500
				100...250	100...250	0 0	AF146-30-00B-13	1SFL467002R1300	1.500
				250...500	250...500	0 0	AF146-30-00B-14	1SFL467002R1400	1.500

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

Main dimensions mm, inches



AF116, AF140, AF146-30-00

AF116, AF140, AF146-30-00B

AF116 ... AF146 3-pole contactors with built-in PLC interface

55 to 75 kW

AC / DC operated



1SFC101182V0001

AF146-30-00



1SFC101185V0001

AF146-30-00B

Description

AF116 ... AF146 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC, AF146 up to 1000 V AC. 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...500 V AC and DC), only 2 coils to cover control voltages between 100...500 V 50/60 Hz and 100...250 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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						

For connection with built-in cable clamps

55	160	75	160	100...250	100...250	0	0	AF116-30-00-33	1SFL427001R3300	1.750
				250...500	250...500	0	0	AF116-30-00-34	1SFL427001R3400	1.750
75	200	100	200	100...250	100...250	0	0	AF140-30-00-33	1SFL447001R3300	1.750
				250...500	250...500	0	0	AF140-30-00-34	1SFL447001R3400	1.750
75	225	100	200	100...250	100...250	0	0	AF146-30-00-33	1SFL467001R3300	1.750
				250...500	250...500	0	0	AF146-30-00-34	1SFL467001R3400	1.750

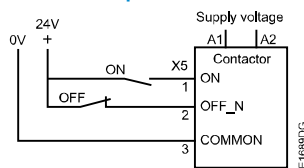
With bar connections

55	160	75	160	100...250	100...250	0	0	AF116-30-00B-33	1SFL427002R3300	1.500
				250...500	250...500	0	0	AF116-30-00B-34	1SFL427002R3400	1.500
75	200	100	200	100...250	100...250	0	0	AF140-30-00B-33	1SFL447002R3300	1.500
				250...500	250...500	0	0	AF140-30-00B-34	1SFL447002R3400	1.500
75	225	100	200	100...250	100...250	0	0	AF146-30-00B-33	1SFL467002R3300	1.500
				250...500	250...500	0	0	AF146-30-00B-34	1SFL467002R3400	1.500

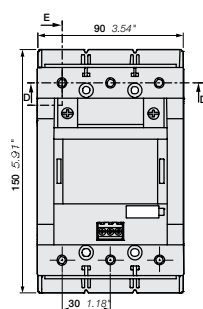
(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

AF116 ... AF146 are equipped with low voltage inputs for control, for example by a PLC.

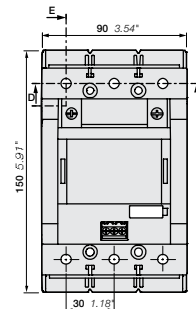
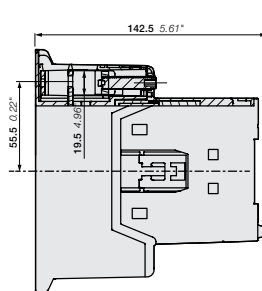
Control inputs



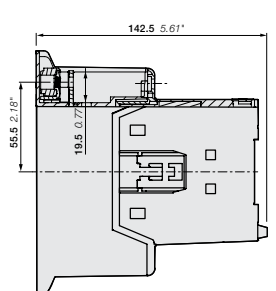
Main dimensions mm, inches



AF116, AF140, AF146-30-00



AF116, AF140, AF146-30-00B



1SFC101164C0201

AF190 ... AF370 3-pole contactors

90 to 200 kW

AC / DC operated



AF205-30-00

1SFC101012V0001



AF370-30-00

1SFC101017V0001

Description

AF190 ... AF370 contactors are mainly used for controlling 3-phase motors and power circuits up to 1000 V AC. These contactors are of the block type design with 3 main poles.

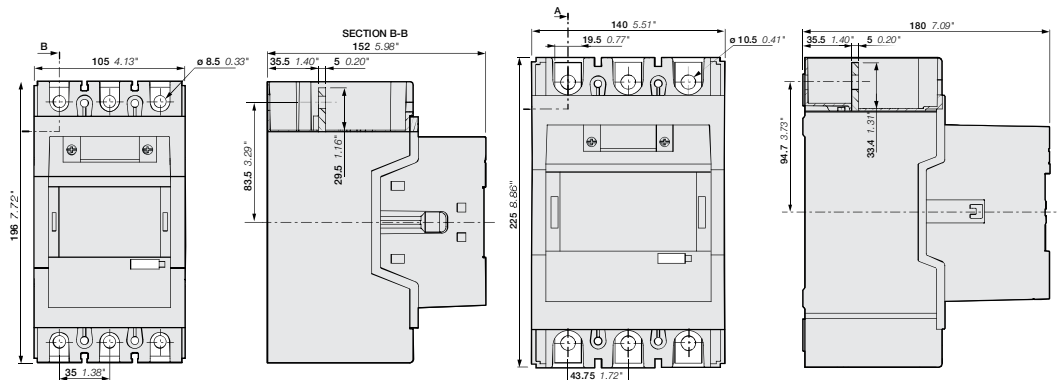
- control circuit: AC or DC operated with electronic coil interface accepting a wide control voltage range (e.g. 100...250 V AC and DC), only 4 coils to cover control voltages between 24...500 V 50/60 Hz and 20...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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							
90	275	125	250	24...60	20...60	0 0	AF190-30-00-11	1SFL487002R1100	3,000	
				48...130	48...130	0 0	AF190-30-00-12	1SFL487002R1200	3,000	
				100...250	100...250	0 0	AF190-30-00-13	1SFL487002R1300	3,000	
				250...500	250...500	0 0	AF190-30-00-14	1SFL487002R1400	3,000	
110	350	150	300	24...60	20...60	0 0	AF205-30-00-11	1SFL527002R1100	3,000	
				48...130	48...130	0 0	AF205-30-00-12	1SFL527002R1200	3,000	
				100...250	100...250	0 0	AF205-30-00-13	1SFL527002R1300	3,000	
				250...500	250...500	0 0	AF205-30-00-14	1SFL527002R1400	3,000	
140	400	200	350	24...60	20...60	0 0	AF265-30-00-11	1SFL547002R1100	4,605	
				48...130	48...130	0 0	AF265-30-00-12	1SFL547002R1200	4,605	
				100...250	100...250	0 0	AF265-30-00-13	1SFL547002R1300	4,605	
				250...500	250...500	0 0	AF265-30-00-14	1SFL547002R1400	4,605	
160	500	250	400	24...60	20...60	0 0	AF305-30-00-11	1SFL587002R1100	4,605	
				48...130	48...130	0 0	AF305-30-00-12	1SFL587002R1200	4,605	
				100...250	100...250	0 0	AF305-30-00-13	1SFL587002R1300	4,605	
				250...500	250...500	0 0	AF305-30-00-14	1SFL587002R1400	4,605	
200	600	300	520	24...60	20...60	0 0	AF370-30-00-11	1SFL607002R1100	4,605	
				48...130	48...130	0 0	AF370-30-00-12	1SFL607002R1200	4,605	
				100...250	100...250	0 0	AF370-30-00-13	1SFL607002R1300	4,605	
				250...500	250...500	0 0	AF370-30-00-14	1SFL607002R1400	4,605	

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

Main dimensions mm, inches



AF190, AF205

AF265, AF305, AF370

1SFC101089C0201 - Rev. D

AF190 ... AF370 3-pole contactors with built-in PLC interface

90 to 200 kW

AC / DC operated



1SFC101167X0001

AF205-30-00



1SFC101132X0001

AF370-30-00

Description

AF190 ... AF370 contactors are mainly used for controlling 3-phase motors and power circuits up to 1000 V AC. 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 2 coils to cover control voltages between 100...500 V 50/60 Hz and 100...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

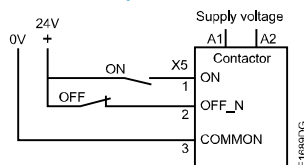
Ordering details

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.		Y Y				Pkg (1 pce)
				480 V	600 V AC	V 50/60 Hz	V DC			
90	275	125	250	100...250	100...250	0	0	AF190-30-00-33	1SFL487002R3300	3.000
				250...500	250...500	0	0	AF190-30-00-34	1SFL487002R3400	3.000
110	350	150	300	100...250	100...250	0	0	AF205-30-00-33	1SFL527002R3300	3.000
				250...500	250...500	0	0	AF205-30-00-34	1SFL527002R3400	3.000
140	400	200	350	100...250	100...250	0	0	AF265-30-00-33	1SFL547002R3300	4.605
				250...500	250...500	0	0	AF265-30-00-34	1SFL547002R3400	4.605
160	500	250	400	100...250	100...250	0	0	AF305-30-00-33	1SFL587002R3300	4.605
				250...500	250...500	0	0	AF305-30-00-34	1SFL587002R3400	4.605
200	600	300	520	100...250	100...250	0	0	AF370-30-00-33	1SFL607002R3300	4.605
				250...500	250...500	0	0	AF370-30-00-34	1SFL607002R3400	4.605

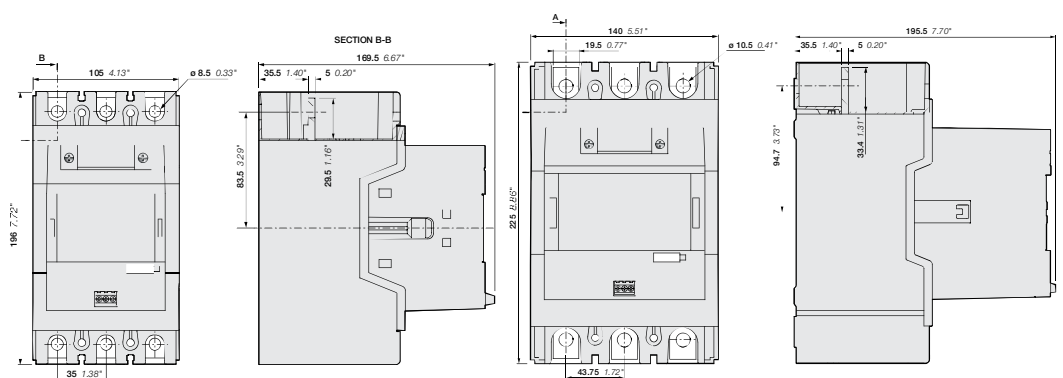
(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

AF190 ... AF370 are equipped with low voltage inputs for control, for example by a PLC.

Control inputs



Main dimensions mm, inches



AF190, AF205

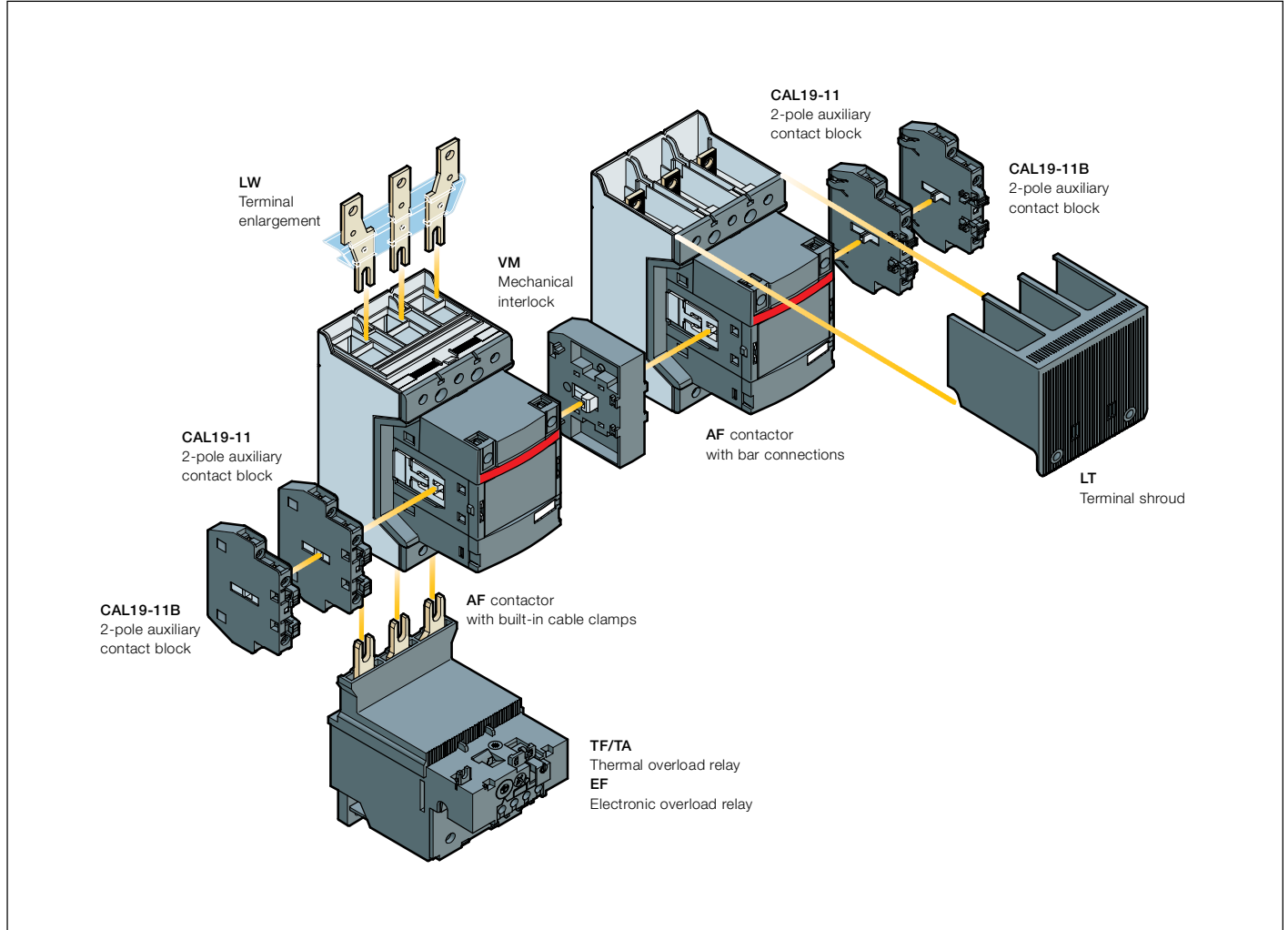
AF265, AF305, AF370

1SFC101165C0201

AF116 ... AF370 3-pole contactors

Main accessories

Main accessories (other accessories available)



Main accessory fitting details

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories		
			Auxiliary contact blocks		Mechanical interlock units (between two contactors)
			CAL19-11	CAL19-11B	
AF116 ... AF370	3	0 0 0	2 x CAL19-11	+ 2 x CAL19-11B	-
AF116 ... AF370	3	0 0 0	2 x CAL19-11 (1)	+ 2 x CAL19-11B (1)	+ VM... (2)

(1) Total number of auxiliary contact blocks for the two contactors.

(2) Interlock type, according to the contactor ratings (see "Accessories").

Overload relays fitting details (1)

Contactor types	Thermal overload relays	Electronic overload relays
AF116 ... AF140	TF140DU (66...142 A)	EF146 (54...150 A)
AF146	-	EF146 (54...150 A)
AF190, AF205	TA200DU (66...200 A)	EF205 (63...210 A)
AF265 ... AF370	-	EF370 (115...380 A)

The addition of a thermal or electronic overload relay on the contactor does not prevent fitting of many other accessories as shown in "Main accessory fitting details" table.

(1) Direct mounting - No kit required.

AF116 ... AF370 3-pole contactors

Main accessories



1SFC101071V0001

CAL19-11



1SFC101039V0001

VM19



1SFC101041V0001

LT370-30C



1SFC101049V0001

LX140

Ordering details (1)

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

Side-mounted instantaneous auxiliary contact blocks

AF116 ... AF370	1	1	CAL19-11	1SFN010820R1011	2	0.050
	1	1	CAL19-11B	1SFN010820R3311	2	0.050

Mechanical interlock unit

AF116 ... AF370		VM19	1SFN030300R1000	1	0.054
AF116 ... AF146 and AF190, AF205		VM140/190	1SFN034403R1000	1	0.088
AF190, AF205 and AF265 ... AF370		VM205/265	1SFN035203R1000	1	0.090

Terminal shrouds

AF116 ... AF146, with compression lugs		LT140-30L	1SFN124203R1000	2	0.070
AF190, AF205, with cable clamps		LT205-30C	1SFN124801R1000	2	0.050
AF190, AF205, with compression lugs		LT205-30L	1SFN124803R1000	2	0.220
AF190, AF205, with shorting bar or between contactor and TOL/EOL in DOL-starters		LT205-30Y	1SFN124804R1000	1	0.050
AF265 ... AF370, with cable clamps		LT370-30C	1SFN125401R1000	2	0.035
AF265 ... AF370, with compression lugs		LT370-30L	1SFN125403R1000	2	0.280
AF265 ... AF370, with shorting bar or between contactor and TOL/EOL in DOL-starters		LT370-30Y	1SFN125404R1000	1	0.075
AF265 ... AF370, for use with extending cable clamps, ATK300/2 and OZXB4		LT370-30D	1SFN125406R1000	1	0.150

For contactors	Dimensions		Type	Order code	Pkg qty	Weight (1 pce)
	hole Ø mm	bar mm				kg

Terminal enlargements

AF116 ... AF146	6.5	13 x 3	LW140	1SFN074207R1000	1	0.115
AF190 ... AF205	10.5	17.5 x 5	LW205	1SFN074807R1000	1	0.260
AF265 ... AF370	10.5	20 x 5	LW370	1SFN075407R1000	1	0.340

Terminal extension

AF116 ... AF146	6.5	13 x 3	LX140	1SFN074210R1000	1	0.072
AF190 ... AF250	8.5	17.5 x 5	LX205	1SFN074810R1000	1	0.180
AF265 ... AF370	10.5	20 x 5	LX370	1SFN075410R1000	1	0.234

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

AF116 ... AF146 3-pole contactors

55 to 75 kW

AC / DC operated with 1 N.O. + 1 N.C. auxiliary contacts



AF146-30-11

1SFC101008V0001

Description

AF116 ... AF146 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC, AF146 up to 1000 V AC. 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 coils to cover control voltages between 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
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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 Pkg (1 pce)
Rated operational power	current	3-phase motor rating	General use rating	Uc min. ... Uc max.	Uc max.				
400 V AC-3	AC-1	480 V	600 V AC	V 50/60 Hz	V DC				kg
kW	A	hp	A						

For connection with built-in cable clamps

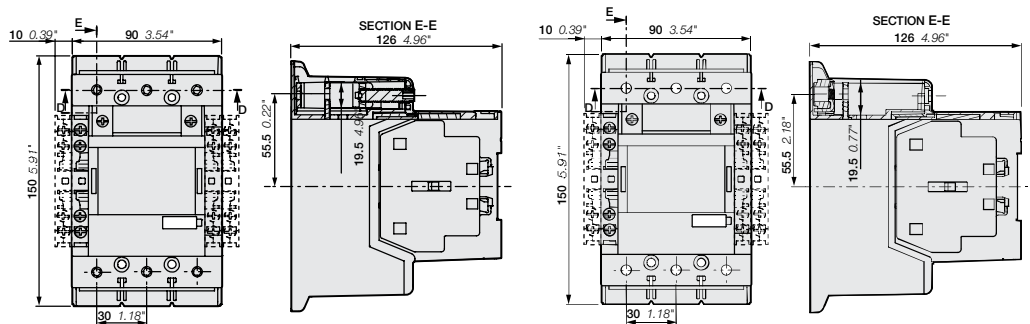
Rated operational power (kW)	Rated current (A)	3-phase motor rating (hp)	General use rating (A)	Uc min. (V 50/60 Hz)	Uc max. (V DC)	Number of NO contacts	Number of NC contacts	Type	Order code	Weight (kg)
55	160	75	160	24...60	20...60	1	1	AF116-30-11-11	1SFL427001R1111	1.750
				48...130	48...130	1	1	AF116-30-11-12	1SFL427001R1211	1.750
				100...250	100...250	1	1	AF116-30-11-13	1SFL427001R1311	1.750
				250...500	250...500	1	1	AF116-30-11-14	1SFL427001R1411	1.750
75	200	100	200	24...60	20...60	1	1	AF140-30-11-11	1SFL447001R1111	1.750
				48...130	48...130	1	1	AF140-30-11-12	1SFL447001R1211	1.750
				100...250	100...250	1	1	AF140-30-11-13	1SFL447001R1311	1.750
				250...500	250...500	1	1	AF140-30-11-14	1SFL447001R1411	1.750
75	225	100	200	24...60	20...60	1	1	AF146-30-11-11	1SFL467001R1111	1.750
				48...130	48...130	1	1	AF146-30-11-12	1SFL467001R1211	1.750
				100...250	100...250	1	1	AF146-30-11-13	1SFL467001R1311	1.750
				250...500	250...500	1	1	AF146-30-11-14	1SFL467001R1411	1.750

With bar connections

Rated operational power (kW)	Rated current (A)	3-phase motor rating (hp)	General use rating (A)	Uc min. (V 50/60 Hz)	Uc max. (V DC)	Number of NO contacts	Number of NC contacts	Type	Order code	Weight (kg)
55	160	75	160	24...60	20...60	1	1	AF116-30-11B-11	1SFL427002R1111	1.500
				48...130	48...130	1	1	AF116-30-11B-12	1SFL427002R1211	1.500
				100...250	100...250	1	1	AF116-30-11B-13	1SFL427002R1311	1.500
				250...500	250...500	1	1	AF116-30-11B-14	1SFL427002R1411	1.500
75	200	100	200	24...60	20...60	1	1	AF140-30-11B-11	1SFL447002R1111	1.500
				48...130	48...130	1	1	AF140-30-11B-12	1SFL447002R1211	1.500
				100...250	100...250	1	1	AF140-30-11B-13	1SFL447002R1311	1.500
				250...500	250...500	1	1	AF140-30-11B-14	1SFL447002R1411	1.500
75	225	100	200	24...60	20...60	1	1	AF146-30-11B-11	1SFL467002R1111	1.500
				48...130	48...130	1	1	AF146-30-11B-12	1SFL467002R1211	1.500
				100...250	100...250	1	1	AF146-30-11B-13	1SFL467002R1311	1.500
				250...500	250...500	1	1	AF146-30-11B-14	1SFL467002R1411	1.500

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

Main dimensions mm, inches



AF116, AF140, AF146-30-11

AF116, AF140, AF146-30-11B

AF116 ... AF146 3-pole contactors with built-in PLC interface

55 to 75 kW

AC / DC operated with 1 N.O. + 1 N.C. auxiliary contacts



AF146-30-11



AF146-30-11B

Description

AF116 ... AF140 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC, AF146 up to 1000 V AC. 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 2 coils to cover control voltages between 100...500 V 50/60 Hz and 100...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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

For connection with built-in cable clamps

55	160	75	160	100...250	100...250	1	1	AF116-30-11-33	1SFL427001R3311	1.750
				250...500	250...500	1	1	AF116-30-11-34	1SFL427001R3411	1.750
75	200	100	200	100...250	100...250	1	1	AF140-30-11-33	1SFL447001R3311	1.750
				250...500	250...500	1	1	AF140-30-11-34	1SFL447001R3411	1.750
75	225	100	200	100...250	100...250	1	1	AF146-30-11-33	1SFL467001R3311	1.750
				250...500	250...500	1	1	AF146-30-11-34	1SFL467001R3411	1.750

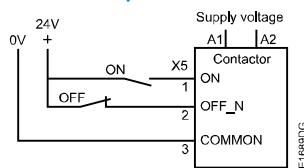
With bar connections

55	160	75	160	100...250	100...250	1	1	AF116-30-11B-33	1SFL427002R3311	1.500
				250...500	250...500	1	1	AF116-30-11B-34	1SFL427002R3411	1.500
75	200	100	200	100...250	100...250	1	1	AF140-30-11B-33	1SFL447002R3311	1.500
				250...500	250...500	1	1	AF140-30-11B-34	1SFL447002R3411	1.500
75	225	100	200	100...250	100...250	1	1	AF146-30-11B-33	1SFL467002R3311	1.500
				250...500	250...500	1	1	AF146-30-11B-34	1SFL467002R3411	1.500

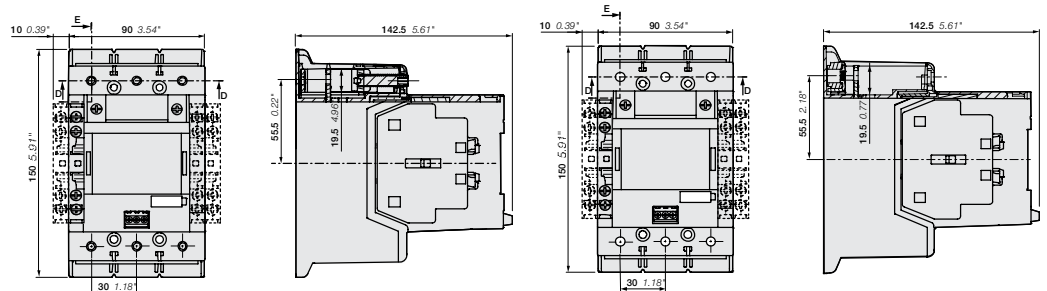
(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

AF116 ... AF146 are equipped with low voltage inputs for control, for example by a PLC.

Control inputs



Main dimensions mm, inches



AF116, AF140, AF146-30-11

AF116, AF140, AF146-30-11B

1SFC101166C0201

AF190 ... AF370 3-pole contactors

90 to 200 kW

AC / DC operated with 1 N.O. + 1 N.C. auxiliary contacts



AF205-30-11

1SFC101013W0001



AF370-30-11

1SFC101018V0001

Description

AF190 ... AF370 contactors are mainly used for controlling 3-phase motors and power circuits up to 1000 V AC. These contactors are of the block type design with 3 main poles.

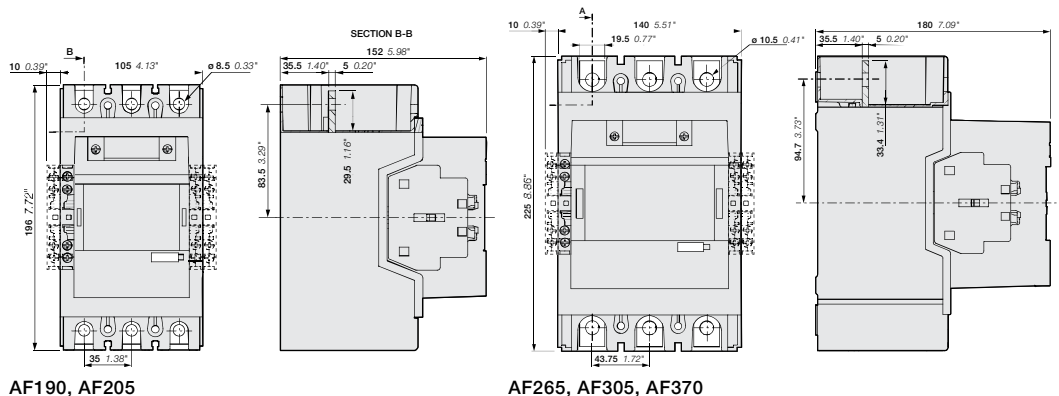
- control circuit: AC or DC operated with electronic coil interface accepting a wide control voltage range (e.g. 100...250 V AC and DC), only 4 coils to cover control voltages between 24...500 V 50/60 Hz and 20...500 V DC
 - can manage large control voltage variations
 - reduced panel energy consumption
 - very distinct closing and opening
 - can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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			
kW	A	hp	A			Y Y				
90	275	125	250	24...60	20...60	1	1	AF190-30-11-11	1SFL487002R1111	3,000
				48...130	48...130	1	1	AF190-30-11-12	1SFL487002R1211	3,000
				100...250	100...250	1	1	AF190-30-11-13	1SFL487002R1311	3,000
				250...500	250...500	1	1	AF190-30-11-14	1SFL487002R1411	3,000
110	350	150	300	24...60	20...60	1	1	AF205-30-11-11	1SFL527002R1111	3,000
				48...130	48...130	1	1	AF205-30-11-12	1SFL527002R1211	3,000
				100...250	100...250	1	1	AF205-30-11-13	1SFL527002R1311	3,000
				250...500	250...500	1	1	AF205-30-11-14	1SFL527002R1411	3,000
140	400	200	350	24...60	20...60	1	1	AF265-30-11-11	1SFL547002R1111	4,640
				48...130	48...130	1	1	AF265-30-11-12	1SFL547002R1211	4,640
				100...250	100...250	1	1	AF265-30-11-13	1SFL547002R1311	4,640
				250...500	250...500	1	1	AF265-30-11-14	1SFL547002R1411	4,640
160	500	250	400	24...60	20...60	1	1	AF305-30-11-11	1SFL587002R1111	4,640
				48...130	48...130	1	1	AF305-30-11-12	1SFL587002R1211	4,640
				100...250	100...250	1	1	AF305-30-11-13	1SFL587002R1311	4,640
				250...500	250...500	1	1	AF305-30-11-14	1SFL587002R1411	4,640
200	600	300	520	24...60	20...60	1	1	AF370-30-11-11	1SFL607002R1111	4,640
				48...130	48...130	1	1	AF370-30-11-12	1SFL607002R1211	4,640
				100...250	100...250	1	1	AF370-30-11-13	1SFL607002R1311	4,640
				250...500	250...500	1	1	AF370-30-11-14	1SFL607002R1411	4,640

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

Main dimensions mm, inches



1SFC101091C0201 - Rev. D

AF190 ... AF370 3-pole contactors with built-in PLC interface

90 to 200 kW

AC / DC operated with 1 N.O. + 1 N.C. auxiliary contacts



1SFC101165V0001

AF205-30-11



1SFC01153W0001

AF370-30-11

Description

AF190 ... AF370 contactors are mainly used for controlling 3-phase motors and power circuits up to 1000 V AC. 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 2 coils to cover control voltages between 100...500 V 50/60 Hz and 100...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

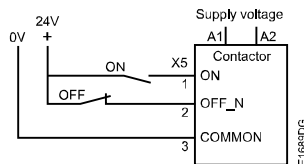
Ordering details

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.		Y Y				Pkg (1 pce)
				480 V	600 V AC	V 50/60 Hz	V DC			
90	275	125	250	100...250	100...250	1	1	AF190-30-11-33	1SFL487002R3311	3.000
				250...500	250...500	1	1	AF190-30-11-34	1SFL487002R3411	3.000
110	350	150	300	100...250	100...250	1	1	AF205-30-11-33	1SFL527002R3311	3.000
				250...500	250...500	1	1	AF205-30-11-34	1SFL527002R3411	3.000
140	400	200	350	100...250	100...250	1	1	AF265-30-11-33	1SFL547002R3311	4.640
				250...500	250...500	1	1	AF265-30-11-34	1SFL547002R3411	4.640
160	500	250	400	100...250	100...250	1	1	AF305-30-11-33	1SFL587002R3311	4.640
				250...500	250...500	1	1	AF305-30-11-34	1SFL587002R3411	4.640
200	600	300	520	100...250	100...250	1	1	AF370-30-11-33	1SFL607002R3311	4.640
				250...500	250...500	1	1	AF370-30-11-34	1SFL607002R3411	4.640

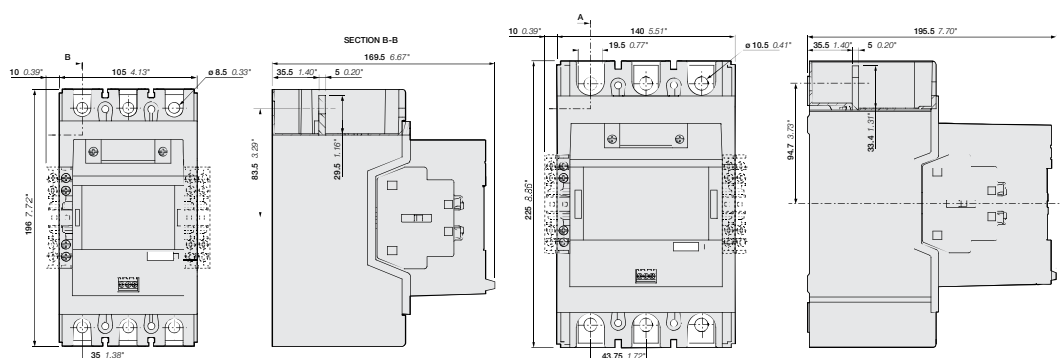
(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

AF190 ... AF370 are equipped with low voltage inputs for control, for example by a PLC.

Control inputs



Main dimensions mm, inches



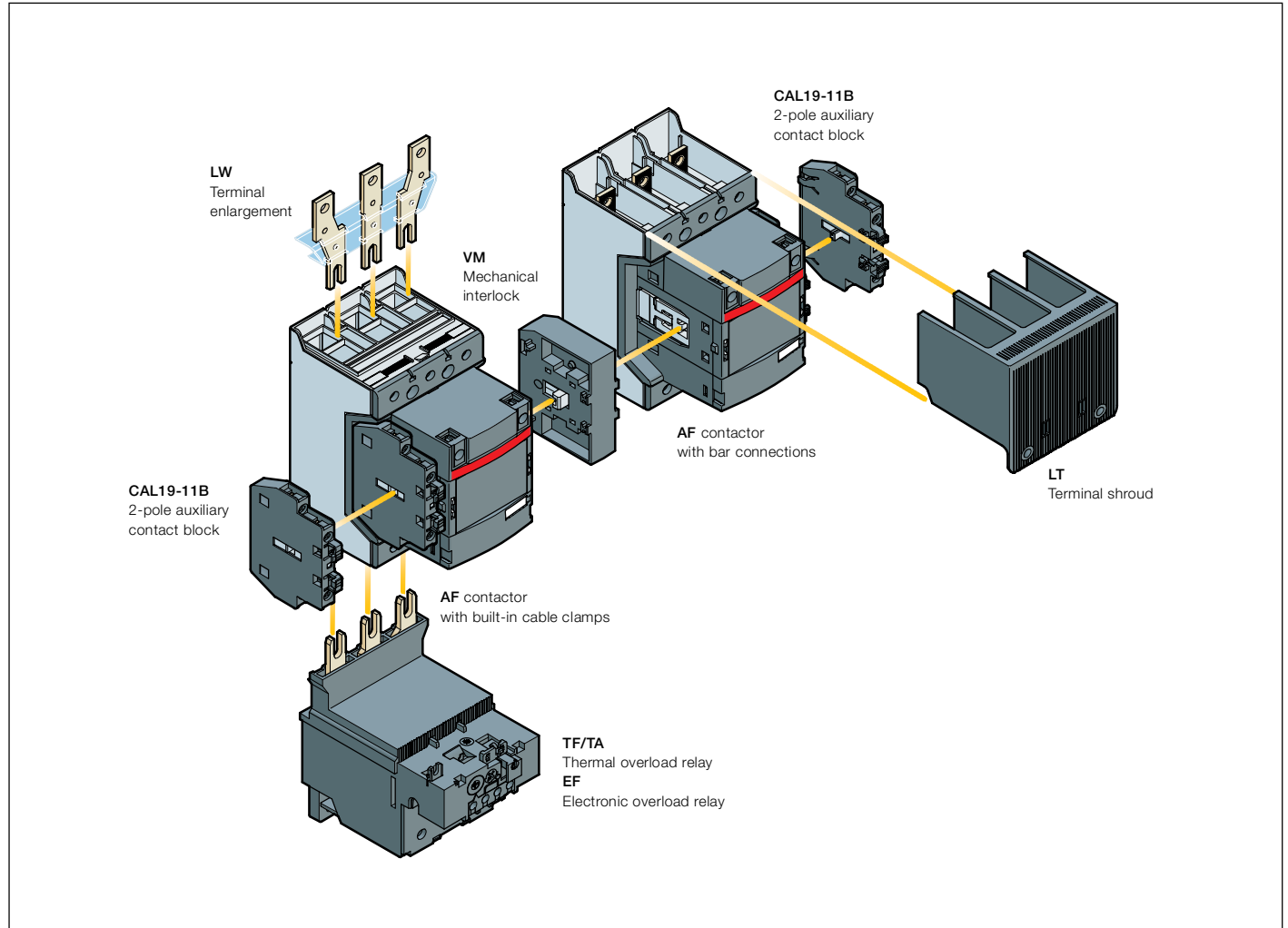
AF190, AF205

AF265, AF305, AF370

1SFC01167C0201

AF116 ... AF370 3-pole contactors with 1 N.O. + 1 N.C. auxiliary contacts Main accessories

Main accessories (other accessories available)



Main accessory fitting details

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories		
			Auxiliary contact blocks		Mechanical interlock units (between two contactors)
			CAL19-11	CAL19-11B	
AF116 ... AF370	3	0 1 1	1 x CAL19-11	+ 2 x CAL19-11B	-
AF116 ... AF370	3	0 1 1	-	+ 2 x CAL19-11B (1)	+ VM... (2)

(1) Total number of auxiliary contact blocks for the two contactors.

(2) Interlock type, according to the contactor ratings (see "Accessories").

Overload relays fitting details (1)

Contactor types	Thermal overload relays	Electronic overload relays
	AF116 ... AF140	TF140DU (66...142 A)
AF146	-	EF146 (54...150 A)
AF190, AF205	TA200DU (66...200 A)	EF205 (63...210 A)
AF265 ... AF370	-	EF370 (115...380 A)

The addition of a thermal or electronic overload relay on the contactor does not prevent fitting of many other accessories as shown in "Main accessory fitting details" table.

(1) Direct mounting - No kit required.

AF116 ... AF370 3-pole contactors with 1 N.O. + 1 N.C. auxiliary contacts Main accessories



1SFC101071V0001

CAL19-11



1SFC101035V0001

VM19



1SFC101041V0001

LT370-30C



1SFC101049V0001

LX140

Ordering details (1)

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

Side-mounted instantaneous auxiliary contact blocks

AF116 ... AF370	1	1	CAL19-11	1SFN010820R1011	2	0.050
	1	1	CAL19-11B	1SFN010820R3311	2	0.050

Mechanical interlock unit

AF116 ... AF370		VM19	1SFN030300R1000	1	0.054
AF116 ... AF146 and AF190, AF205		VM140/190	1SFN034403R1000	1	0.088
AF190, AF205 and AF265 ... AF370		VM205/265	1SFN035203R1000	1	0.090

Terminal shrouds

AF116 ... AF146, with compression lugs		LT140-30L	1SFN124203R1000	2	0.070
AF190, AF205, with cable clamps		LT205-30C	1SFN124801R1000	2	0.050
AF190, AF205, with compression lugs		LT205-30L	1SFN124803R1000	2	0.220
AF190, AF205, with shorting bar or between contactor and TOL/EOL in DOL-starters		LT205-30Y	1SFN124804R1000	1	0.050
AF265 ... AF370, with cable clamps		LT370-30C	1SFN125401R1000	2	0.035
AF265 ... AF370, with compression lugs		LT370-30L	1SFN125403R1000	2	0.280
AF265 ... AF370, with shorting bar or between contactor and TOL/EOL in DOL-starters		LT370-30Y	1SFN125404R1000	1	0.075
AF265 ... AF370, for use with extending cable clamps, ATK300/2 and OZXB4		LT370-30D	1SFN125406R1000	1	0.150

For contactors	Dimensions		Type	Order code	Pkg qty	Weight (1 pce)
	hole Ø	bar				kg
	mm	mm				

Terminal enlargements

AF116...AF146	6.5	13 x 3	LW140	1SFN074207R1000	1	0.115
AF190...AF205	10.5	17.5 x 5	LW205	1SFN074807R1000	1	0.260
AF265...AF370	10.5	20 x 5	LW370	1SFN075407R1000	1	0.340

Terminal extension

AF116...AF146	6.5	13 x 3	LX140	1SFN074210R1000	1	0.072
AF190...AF250	8.5	17.5 x 5	LX205	1SFN074810R1000	1	0.180
AF265...AF370	10.5	20 x 5	LX370	1SFN075410R1000	1	0.234

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

AF400 ... AF750 3-pole contactors

200 to 400 kW

AC / DC operated with 1 N.O. + 1 N.C. auxiliary contacts



AF460-30-11

1SFC1010229/0001



AF750-30-11

1SFC1010289/0001

Description

AF400 ... AF750 contactors are mainly used for controlling 3-phase motors and power circuits up to 1000 V AC or 600 V DC (2). 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 coils to cover control voltages between 48...500 V 50/60 Hz and 24...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltages sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

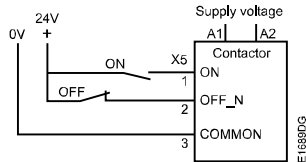
Ordering details

IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted	Type	Order code	Weight
Rated operational power	current	3-phase motor rating	General use rating	Uc min. ... Uc max.					
400 V AC-3	$\theta \leq 40^\circ\text{C}$ 690 V AC-1	hp	600 V AC	V 50/60 Hz	V DC				kg
200	600	350	550	-	24...60	1 1	AF400-30-11	1SFL577001R6811 (1)	12.000
				48...130	48...130	1 1	AF400-30-11	1SFL577001R6911	12.000
				100...250	100...250	1 1	AF400-30-11	1SFL577001R7011	12.000
				250...500	250...500	1 1	AF400-30-11	1SFL577001R7111	12.000
250	700	400	650	-	24...60	1 1	AF460-30-11	1SFL597001R6811 (1)	12.000
				48...130	48...130	1 1	AF460-30-11	1SFL597001R6911	12.000
				100...250	100...250	1 1	AF460-30-11	1SFL597001R7011	12.000
				250...500	250...500	1 1	AF460-30-11	1SFL597001R7111	12.000
315	800	500	750	-	24...60	1 1	AF580-30-11	1SFL617001R6811 (1)	15.000
				48...130	48...130	1 1	AF580-30-11	1SFL617001R6911	15.000
				100...250	100...250	1 1	AF580-30-11	1SFL617001R7011	15.000
				250...500	250...500	1 1	AF580-30-11	1SFL617001R7111	15.000
400	1050	600	900	-	24...60	1 1	AF750-30-11	1SFL637001R6811 (1)	15.000
				48...130	48...130	1 1	AF750-30-11	1SFL637001R6911	15.000
				100...250	100...250	1 1	AF750-30-11	1SFL637001R7011	15.000
				250...500	250...500	1 1	AF750-30-11	1SFL637001R7111	15.000

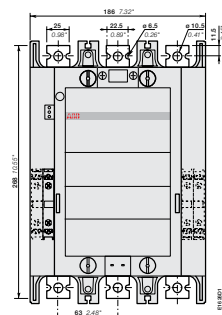
(1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole.
 (2) Up to 850 V DC for AF580, AF750.

AF400 ... AF750 are equipped with low voltage inputs for control, for example by a PLC.

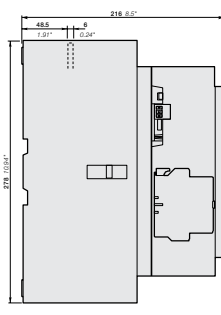
Control inputs



Main dimensions mm, inches



AF400, AF460



AF580, AF750

AF1250 ... AF2650 3-pole contactors

475 to 560 kW and 1260 to 2650 A AC-1

AC / DC operated with 1 N.O. + 1 N.C. auxiliary contacts



AF1250-30-11

1SFC101027V0001



AF2650-30-11

1SFC101031V0001

Description

AF1250 ... AF2050 contactors are mainly used for controlling power circuits up to 1000 V AC or 850 V DC, AF2650 for controlling power up to 1000 V AC. 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 coils for AF1250 to cover control voltages between 48...500 V 50/60 Hz and 24...500 V DC
- only 1 coil for AF1350 ... AF2650 to cover control voltages between 100...250 V 50/60 Hz and 100...250 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltages sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

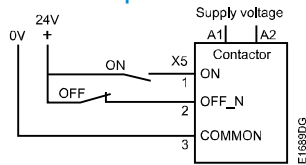
Ordering details

IEC		UL/CSA		Rated control circuit voltage U _c		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	current θ ≤ 40 °C	3-phase motor rating	General use rating	(1)		1 1				Pkg (1 pce)
400 V AC-3	690 V AC-1	480 V	600 V AC	V 50/60 Hz	V DC	1 1				kg
-	1260	-	1210	-	24...60	1	1	AF1250-30-11	1SFL647001R6811 (1)	16.000
				48...130	48...130	1	1	AF1250-30-11	1SFL647001R6911	16.000
				100...250	100...250	1	1	AF1250-30-11	1SFL647001R7011	16.000
				250...500	250...500	1	1	AF1250-30-11	1SFL647001R7111	16.000
475	1350	800	1350	100...250	100...250	1	1	AF1350-30-11	1SFL657001R7011	34.000
560	1650	900	1650	100...250	100...250	1	1	AF1650-30-11	1SFL677001R7011	35.000
-	2050	-	2100	100...250	100...250	1	1	AF2050-30-11	1SFL707001R7011	35.000
-	2650	-	2700	100...250	100...250	1	1	AF2650-30-11	1SFL667001R7011	45.000

(1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole.
 (2) AF2650: Maximum operational voltage = 1000 V according to UL / CSA.

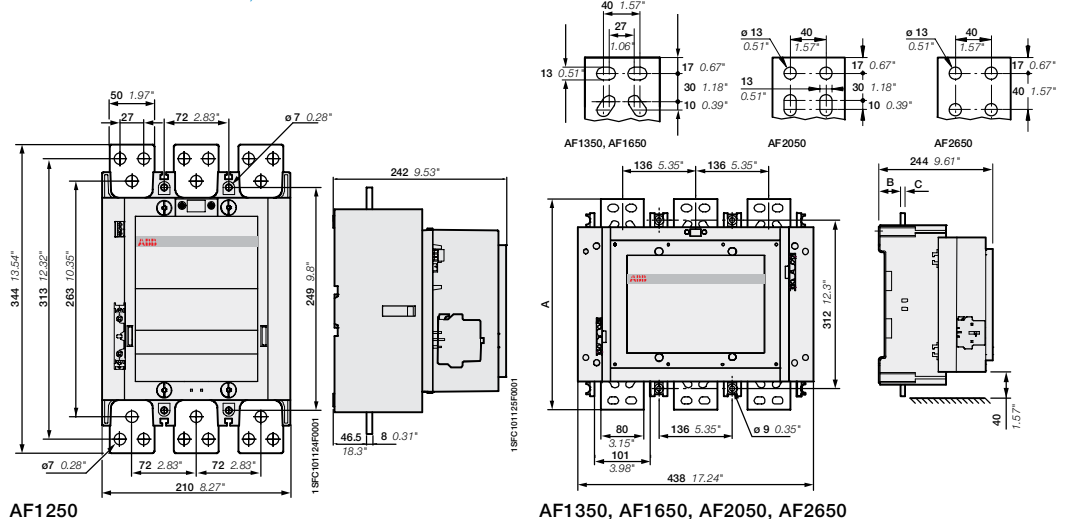
AF1250 ... AF2650 are equipped with low voltage inputs for control, for example by a PLC

Control inputs



	AF1350, AF1650, AF2050	AF2650
A	392 mm / 15.43"	422 mm / 16.61"
B	47 mm / 1.85"	53 mm / 2.09"
C	10 mm / 0.39"	25 mm / 0.98"

Main dimensions mm, inches

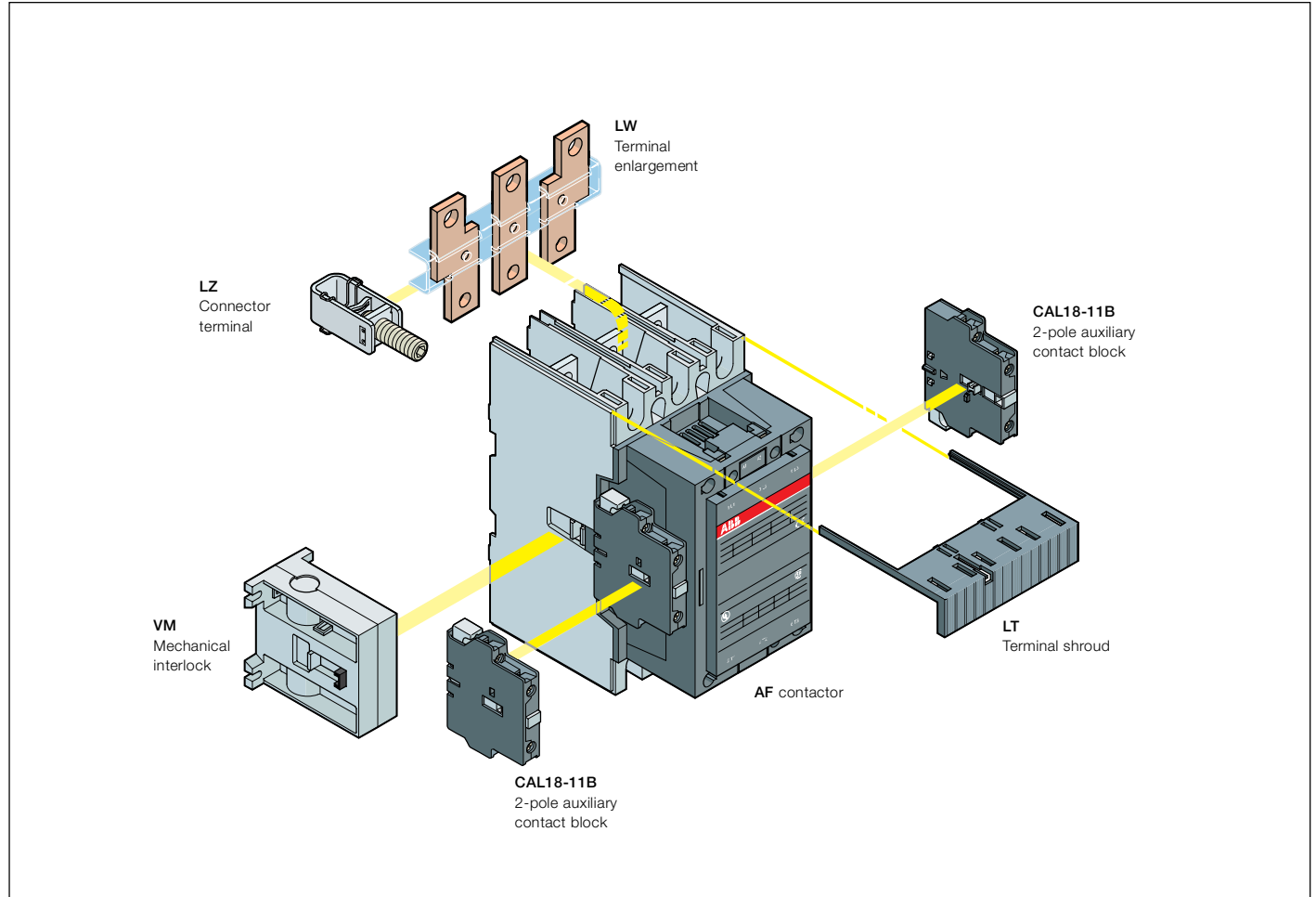


AF1250

AF1350, AF1650, AF2050, AF2650

AF400 ... AF2650 3-pole contactors with 1 N.O. + 1 N.C. auxiliary contacts Main accessories

Main accessories (other accessories available)



Main accessory fitting details

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories	
			Auxiliary contact blocks	Mechanical interlock units (between two contactors)
			CAL18-11	CAL18-11B (3)

Contactors + auxiliary contact blocks

AF400 ... AF2650	3	0	1	1	1 x CAL18-11	+	2 x CAL18-11B	-
------------------	---	---	---	---	--------------	---	---------------	---

Contactors with mechanical interlocking + auxiliary contact blocks

AF400 ... AF2650	3	0	1	1	2 x CAL18-11 (1)	+	4 x CAL18-11B (1)	+	VM...H (2)
------------------	---	---	---	---	------------------	---	-------------------	---	------------

(1) Total number of auxiliary contact blocks for the two contactors.

(2) Interlock type, according to the contactor ratings (see "Accessories").

(3) The CEL18-.. auxiliary contact blocks can replace the CAL18-11 and CAL18-11B. Though, no auxiliary contact block can be mounted outside the CEL18-..

Overload relays fitting details

Contactor types	Thermal overload relays	Electronic overload relays
AF400, AF460	-	EF460 (150...500 A) (4)
AF580, AF750	-	EF750 (250...800 A) (4)
AF1350, AF1650	-	E1250DU (375...1250 A) (4)

The addition of a thermal or electronic overload relay on the contactor does not prevent fitting of many other accessories as shown in "Main accessory fitting details" table.

(4) Mounting kit required (see "Motor protection").

AF400 ... AF2650 3-pole contactors with 1 N.O. + 1 N.C. auxiliary contacts Main accessories



CAL18-11

1SFC101082V0001



VM750H

1SFC101084V0001



LT460-AC

1SFC101085V0001

Ordering details (1)

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

Side-mounted instantaneous auxiliary contact blocks

AF400 ... AF2650	1	1	CAL18-11	1SFN010720R1011	2	0.050
	1	1	CAL18-11B	1SFN010720R3311	2	0.050

Mechanical interlock unit

AF400 ... AF1250	VM750H	1SFN035700R1000	1	0.200
AF1350 ... AF2650	VM1650H	1SFN036503R1000	1	6.000

Terminal shrouds

AF400, AF460 with connectors	LT460-AC	1SFN125701R1000	2	0.100
AF400, AF460 with lugs	LT460-AL	1SFN125703R1000	2	0.800
AF580 ... AF750 with connectors	LT750-AC	1SFN126101R1000	2	0.120
AF580 ... AF750 with lugs	LT750-AL	1SFN126103R1000	2	0.825

5

For contactors	Dimensions		Type	Order code	Pkg qty	Weight (1 pce)
	hole Ø	bar				kg
	mm	mm				

Terminal enlargements

AF400, AF460	10.5	25 x 5	LW460	1SFN075707R1000	1	0.730
AF580, AF750	13	40 x 6	LW750	1SFN076107R1000	1	1.230
AF1250	13	50 x 10	LW1250	1SFN076407R1000	1	2.000

Terminal extension

AF400, AF460	10.5	25 x 5	LX460	1SFN075710R1000	1	0.500
AF580, AF750	13	40 x 6	LX750	1SFN076110R1000	1	0.850

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

AF09 ... AF38 2-stack 3-pole contactors

4 to 18.5 kW

AC / DC operated



AF09-30-22

1SBC1010029/0014



AF26-30-11

1SBC1010030/0014



AF26-30-22

1SBC1010040/0014

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 (1st stack):

- 2nd stack with permanently fixed auxiliary contact block. The built-in auxiliary contact elements are mechanically linked (side-marked symbol) and the N.C. auxiliary contacts are mirror contacts
- 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 side mounting and a wide range of accessories.

Ordering details

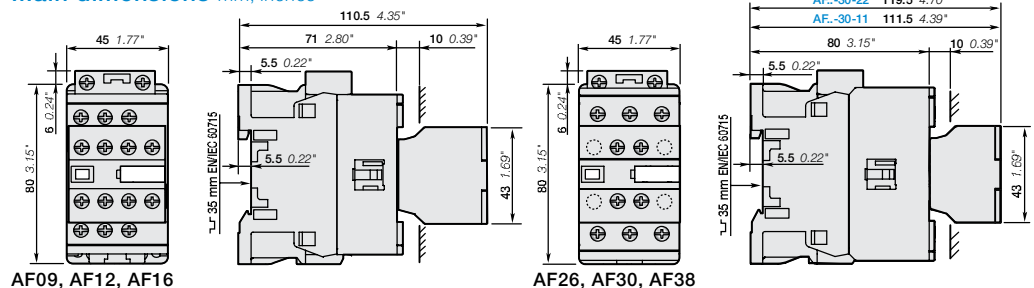
IEC Rated operational power 400 V AC-3 kW	Rated operational current $\theta \leq 40^\circ\text{C}$ A	UL/CSA 3-phase motor rating 480 V hp	General use rating 600 V AC A	Rated control circuit voltage Uc min. ... Uc max.		Auxiliary contacts fitted	Type (1)	Order code	Weight Pkg (1 pce) kg
				V 50/60 Hz	V DC				
4	25	5	25	24...60	-	(2) 2 2	AF09-30-22-41	1SBL137001R4122	0.320
				48...130	48...130	2 2	AF09-30-22-12	1SBL137001R1222	0.320
				100...250	100...250	2 2	AF09-30-22-13	1SBL137001R1322	0.320
				250...500	250...500	2 2	AF09-30-22-14	1SBL137001R1422	0.360
5.5	28	7.5	28	24...60	-	(2) 2 2	AF12-30-22-41	1SBL157001R4122	0.320
				48...130	48...130	2 2	AF12-30-22-12	1SBL157001R1222	0.320
				100...250	100...250	2 2	AF12-30-22-13	1SBL157001R1322	0.320
				250...500	250...500	2 2	AF12-30-22-14	1SBL157001R1422	0.360
7.5	30	10	30	24...60	-	(2) 2 2	AF16-30-22-41	1SBL177001R4122	0.320
				48...130	48...130	2 2	AF16-30-22-12	1SBL177001R1222	0.320
				100...250	100...250	2 2	AF16-30-22-13	1SBL177001R1322	0.320
				250...500	250...500	2 2	AF16-30-22-14	1SBL177001R1422	0.360
11	45	15	45	24...60	-	(2) 1 1	AF26-30-11-41	1SBL237001R4111	0.350
						2 2	AF26-30-22-41	1SBL237001R4122	0.360
				48...130	48...130	1 1	AF26-30-11-12	1SBL237001R1211	0.350
						2 2	AF26-30-22-12	1SBL237001R1222	0.360
				100...250	100...250	1 1	AF26-30-11-13	1SBL237001R1311	0.350
						2 2	AF26-30-22-13	1SBL237001R1322	0.360
				250...500	250...500	1 1	AF26-30-11-14	1SBL237001R1411	0.390
						2 2	AF26-30-22-14	1SBL237001R1422	0.400
15	50	20	50	24...60	-	(2) 1 1	AF30-30-11-41	1SBL277001R4111	0.350
						2 2	AF30-30-22-41	1SBL277001R4122	0.360
				48...130	48...130	1 1	AF30-30-11-12	1SBL277001R1211	0.350
						2 2	AF30-30-22-12	1SBL277001R1222	0.360
				100...250	100...250	1 1	AF30-30-11-13	1SBL277001R1311	0.350
						2 2	AF30-30-22-13	1SBL277001R1322	0.360
				250...500	250...500	1 1	AF30-30-11-14	1SBL277001R1411	0.390
						2 2	AF30-30-22-14	1SBL277001R1422	0.400
18.5	50	25	50	24...60	-	(2) 1 1	AF38-30-11-41	1SBL297001R4111	0.350
						2 2	AF38-30-22-41	1SBL297001R4122	0.360
				48...130	48...130	1 1	AF38-30-11-12	1SBL297001R1211	0.350
						2 2	AF38-30-22-12	1SBL297001R1222	0.360
				100...250	100...250	1 1	AF38-30-11-13	1SBL297001R1311	0.350
						2 2	AF38-30-22-13	1SBL297001R1322	0.360
				250...500	250...500	1 1	AF38-30-11-14	1SBL297001R1411	0.390
						2 2	AF38-30-22-14	1SBL297001R1422	0.400

(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..-30-..-11 (see voltage code table).

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

Main dimensions mm, inches



1SBC10137350201 - Rev. B

AF09Z ... AF38Z 2-stack 3-pole contactors

4 to 18.5 kW

AC / DC operated - Low consumption



AF09Z-30-22

1SBC10100200014



AF26Z-30-11

1SBC10100300014



AF26Z-30-22

1SBC10100400014

Description

AF09Z ... AF38Z 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 (1st stack):

- 2nd stack with permanently fixed auxiliary contact block. The built-in auxiliary contact elements are mechanically linked (side-marked symbol) and the N.C. auxiliary contacts are mirror contacts
- 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...250 V 50/60 Hz and 12...250 V DC
- can manage large control voltage variations, allow direct control by PLC-output ≥ 24 V DC 500 mA, reduced panel energy consumption, very distinct closing and opening,
- can withstand short voltage dips and voltage sags (SEMI F47-0706 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

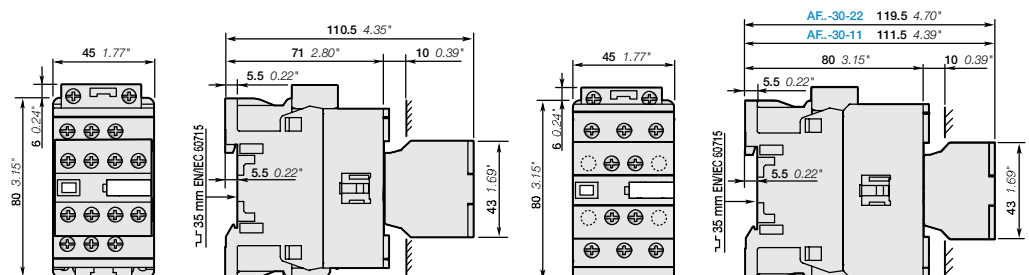
Ordering details

IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted		Type (1)	Order code	Weight
Rated operational power	Rated operational current $\theta \leq 40^\circ\text{C}$	3-phase motor rating	General use rating	Uc min. ... Uc max.	Uc min. ... Uc max.	Type (1)				Pkg (1 pce)
400 V AC-3	AC-1	480 V	600 V AC	V 50/60 Hz	V DC	Type (1)				kg
kW	A	hp	A			Type (1)				
4	25	5	25	-	12...20	2	2	AF09Z-30-22-20	1SBL136001R2022	0.360
				24...60	20...60	2	2	AF09Z-30-22-21	1SBL136001R2122	0.360
				48...130	48...130	2	2	AF09Z-30-22-22	1SBL136001R2222	0.360
				100...250	100...250	2	2	AF09Z-30-22-23	1SBL136001R2322	0.360
5.5	28	7.5	28	-	12...20	2	2	AF12Z-30-22-20	1SBL156001R2022	0.360
				24...60	20...60	2	2	AF12Z-30-22-21	1SBL156001R2122	0.360
				48...130	48...130	2	2	AF12Z-30-22-22	1SBL156001R2222	0.360
				100...250	100...250	2	2	AF12Z-30-22-23	1SBL156001R2322	0.360
7.5	30	10	30	-	12...20	2	2	AF16Z-30-22-20	1SBL176001R2022	0.360
				24...60	20...60	2	2	AF16Z-30-22-21	1SBL176001R2122	0.360
				48...130	48...130	2	2	AF16Z-30-22-22	1SBL176001R2222	0.360
				100...250	100...250	2	2	AF16Z-30-22-23	1SBL176001R2322	0.360
11	45	15	45	-	12...20	1	1	AF26Z-30-11-20	1SBL236001R2011	0.390
				-	12...20	2	2	AF26Z-30-22-20	1SBL236001R2022	0.400
				24...60	20...60	1	1	AF26Z-30-11-21	1SBL236001R2111	0.390
				-	20...60	2	2	AF26Z-30-22-21	1SBL236001R2122	0.400
				48...130	48...130	1	1	AF26Z-30-11-22	1SBL236001R2211	0.390
				-	20...60	2	2	AF26Z-30-22-22	1SBL236001R2222	0.400
				100...250	100...250	1	1	AF26Z-30-11-23	1SBL236001R2311	0.390
				-	100...250	2	2	AF26Z-30-22-23	1SBL236001R2322	0.400
15	50	20	50	-	12...20	1	1	AF30Z-30-11-20	1SBL276001R2011	0.390
				-	12...20	2	2	AF30Z-30-22-20	1SBL276001R2022	0.400
				24...60	20...60	1	1	AF30Z-30-11-21	1SBL276001R2111	0.390
				-	20...60	2	2	AF30Z-30-22-21	1SBL276001R2122	0.400
				48...130	48...130	1	1	AF30Z-30-11-22	1SBL276001R2211	0.390
				-	20...60	2	2	AF30Z-30-22-22	1SBL276001R2222	0.400
				100...250	100...250	1	1	AF30Z-30-11-23	1SBL276001R2311	0.390
				-	100...250	2	2	AF30Z-30-22-23	1SBL276001R2322	0.400
18.5	50	25	50	-	12...20	1	1	AF38Z-30-11-20	1SBL296001R2011	0.390
				-	12...20	2	2	AF38Z-30-22-20	1SBL296001R2022	0.400
				24...60	20...60	1	1	AF38Z-30-11-21	1SBL296001R2111	0.390
				-	20...60	2	2	AF38Z-30-22-21	1SBL296001R2122	0.400
				48...130	48...130	1	1	AF38Z-30-11-22	1SBL296001R2211	0.390
				-	20...60	2	2	AF38Z-30-22-22	1SBL296001R2222	0.400
				100...250	100...250	1	1	AF38Z-30-11-23	1SBL296001R2311	0.390
				-	100...250	2	2	AF38Z-30-22-23	1SBL296001R2322	0.400

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

Note: Only AF.Z contactors with DC control voltage 12...20 V DC need to respect the connection polarities indicated close to the coil terminals: A1+ for the positive pole and A2- for the negative pole

Main dimensions mm, inches



AF09Z, AF12Z, AF16Z

AF26Z, AF30Z, AF38Z

1SBC101374S0201 - Rev. B

AF40 ... AF65 2-stack 3-pole contactors

18.5 to 30 kW

AC / DC operated



AF40-30-11

1SBC101005V0014

Description

AF40 ... AF65 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 (1st stack);

- 2nd stack with permanently fixed auxiliary contact block. The built-in auxiliary contact elements are mechanically linked (side-marked symbol) and the N.C. auxiliary contacts are mirror contacts
- 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 side mounting and a wide range of accessories.

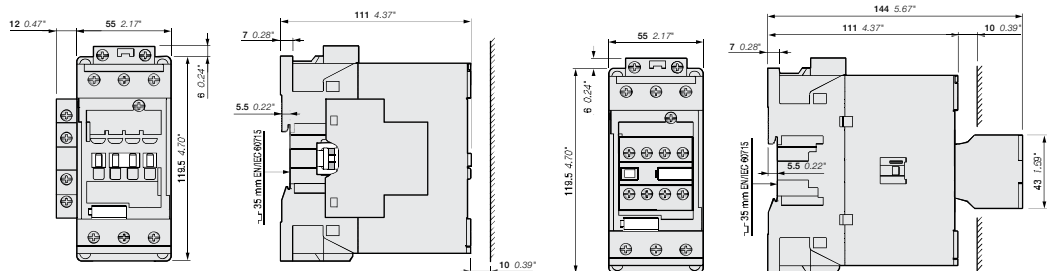
Ordering details

IEC		UL / CSA		Rated control circuit voltage		Auxiliary contacts fitted	Type (1)	Order code	Weight Pkg (1 pce)				
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				
kW	A	hp	A										
18.5	70	30	60	24...60	-	1 1	AF40-30-11-41	1SBL347001R4111	1.010				
							AF40-30-22-41	1SBL347001R4122	1.020				
				24...60	20...60 (2)	1 1	AF40-30-11-11	1SBL347001R1111	1.010				
							AF40-30-22-11	1SBL347001R1122	1.020				
				48...130	48...130	1 1	AF40-30-11-12	1SBL347001R1211	1.010				
							AF40-30-22-12	1SBL347001R1222	1.020				
				100...250	100...250	1 1	AF40-30-11-13	1SBL347001R1311	0.990				
							AF40-30-22-13	1SBL347001R1322	1.000				
				250...500	250...500	1 1	AF40-30-11-14	1SBL347001R1411	0.990				
							AF40-30-22-14	1SBL347001R1422	1.000				
				22	100	40	80	24...60	-	1 1	AF52-30-11-41	1SBL367001R4111	1.010
											AF52-30-22-41	1SBL367001R4122	1.020
24...60	20...60 (2)	1 1	AF52-30-11-11					1SBL367001R1111	1.010				
			AF52-30-22-11					1SBL367001R1122	1.020				
48...130	48...130	1 1	AF52-30-11-12					1SBL367001R1211	1.010				
			AF52-30-22-12					1SBL367001R1222	1.020				
100...250	100...250	1 1	AF52-30-11-13					1SBL367001R1311	0.990				
			AF52-30-22-13					1SBL367001R1322	1.000				
250...500	250...500	1 1	AF52-30-11-14					1SBL367001R1411	0.990				
			AF52-30-22-14					1SBL367001R1422	1.000				
30	105	50	90					24...60	-	1 1	AF65-30-11-41	1SBL387001R4111	1.010
											AF65-30-22-41	1SBL387001R4122	1.020
				24...60	20...60 (2)	1 1	AF65-30-11-11	1SBL387001R1111	1.010				
							AF65-30-22-11	1SBL387001R1122	1.020				
				48...130	48...130	1 1	AF65-30-11-12	1SBL387001R1211	1.010				
							AF65-30-22-12	1SBL387001R1222	1.020				
				100...250	100...250	1 1	AF65-30-11-13	1SBL387001R1311	0.990				
							AF65-30-22-13	1SBL387001R1322	1.000				
				250...500	250...500	1 1	AF65-30-11-14	1SBL387001R1411	0.990				
							AF65-30-22-14	1SBL387001R1422	1.000				

(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, AF65-30-11-...

AF40, AF52, AF65-30-22-...

1SBC101741S0201 - Rev. A

AF80 ... AF96 2-stack 3-pole contactors

37 to 45 kW

AC / DC operated



1SBC101017V0014

AF80-30-11



1SBC101007V0014

AF80-30-22

Description

AF80 ... 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 (1st stack):

- 2nd stack with permanently fixed auxiliary contact block. The built-in auxiliary contact elements are mechanically linked (side-marked symbol) and the N.C. auxiliary contacts are mirror contacts
- 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 side mounting and a wide range of accessories.

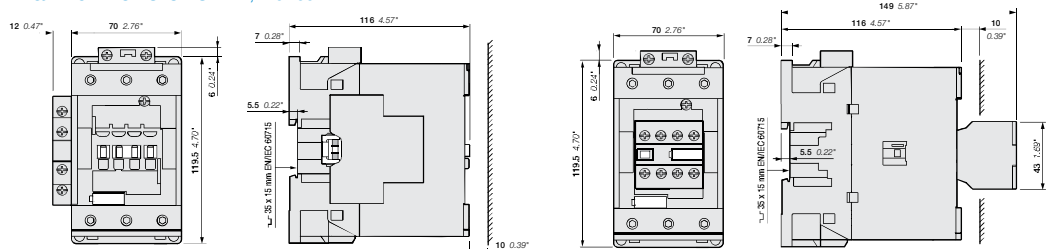
Ordering details

IEC		UL / CSA		Rated control circuit voltage Uc min. ... Uc max.		Auxiliary contacts fitted	Type (1)	Order code	Weight Pkg (1 pce) kg
Rated operational power 400 V AC-3 kW	current θ ≤ 40 °C AC-1 A	3-phase motor rating 480 V hp	General use rating 600 V AC A	V 50/60 Hz	V DC				
37	125	60	105	24...60	-	1 1	AF80-30-11-41	1SBL397001R41111	1.260
							2 2	AF80-30-22-41	1SBL397001R41222
				24...60	20...60 (2)	1 1	AF80-30-11-11	1SBL397001R11111	1.260
							2 2	AF80-30-22-11	1SBL397001R11222
				48...130	48...130	1 1	AF80-30-11-12	1SBL397001R12111	1.260
							2 2	AF80-30-22-12	1SBL397001R12222
				100...250	100...250	1 1	AF80-30-11-13	1SBL397001R13111	1.210
							2 2	AF80-30-22-13	1SBL397001R13222
				250...500	250...500	1 1	AF80-30-11-14	1SBL397001R14111	1.210
							2 2	AF80-30-22-14	1SBL397001R14222
45	130	60	115	24...60	-	1 1	AF96-30-11-41	1SBL407001R41111	1.260
							2 2	AF96-30-22-41	1SBL407001R41222
				24...60	20...60 (2)	1 1	AF96-30-11-11	1SBL407001R11111	1.260
							2 2	AF96-30-22-11	1SBL407001R11222
				48...130	48...130	1 1	AF96-30-11-12	1SBL407001R12111	1.260
							2 2	AF96-30-22-12	1SBL407001R12222
				100...250	100...250	1 1	AF96-30-11-13	1SBL407001R13111	1.210
							2 2	AF96-30-22-13	1SBL407001R13222
				250...500	250...500	1 1	AF96-30-11-14	1SBL407001R14111	1.210
							2 2	AF96-30-22-14	1SBL407001R14222

(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



AF80, AF96-30-11-...

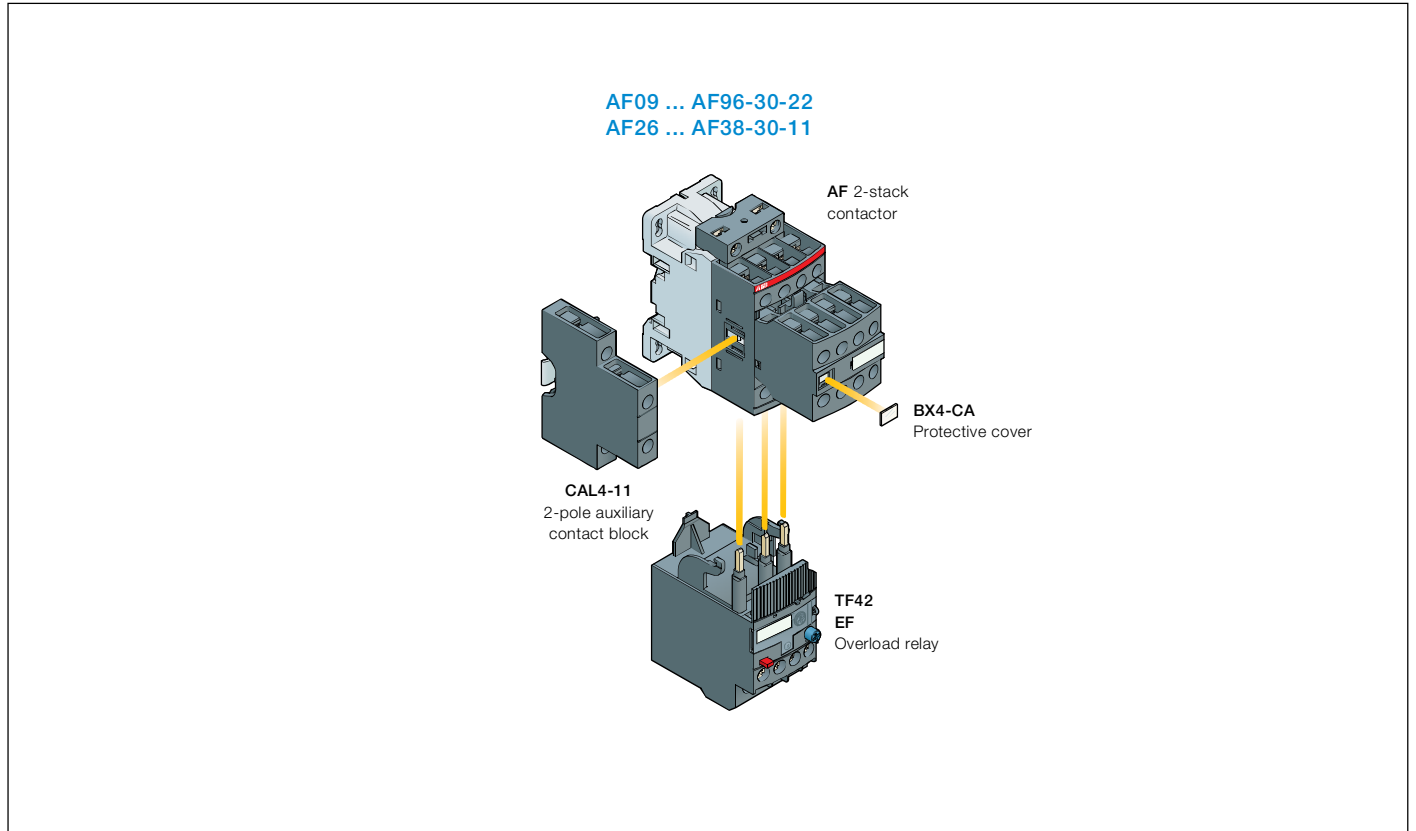
AF80, AF96-30-22-...

1SBC101742S0201 - Rev. A

AF09 ... AF96 2-stack 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					Side-mounted accessories					
	I	L	I	L	Auxiliary contact blocks			Electronic timer	Electrical and mechanical interlock set (between 2 contactors)		Auxiliary contact blocks				
					1-pole CA4	1-pole CC4	2-pole CAT4-11	4-pole CA4	TEF4	VEM4	Left side 2-pole CAL4-11	Right side			
AF26 ... AF38	3	0	1	1	-	-	-	-	-	-	+	1	+	1	
AF40 ... AF65	3	0	1	1	4 max.	or 1	or 1	or 1	or 1	-	-	-	+	1	
AF80 ... AF96	3	0	1	1	4 max.	-	or 1	or 1	or 1	-	-	-	+	1	
AF09 ... AF96	3	0	2	2	-	-	-	-	-	-	-	+	1	-	
AF40 ... AF96	3	0	2	2	-	-	-	-	-	-	-	+	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 2-stack 3-pole contactors

Main accessories



CAL4-11



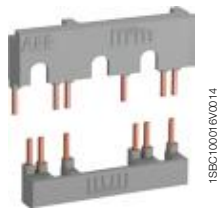
VM4



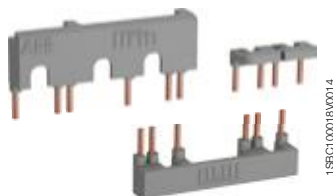
BEA16-4



TEF4-ON





BER16-4



BEY16-4

Ordering Details (1)

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


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

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.

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

Electronic timers

AF40 ... AF96-30-11	0.1...1 s	ON-delay	1 1	TEF4-ON	1SBN020112R1000	1	0.065
	1...10 s	OFF-delay	1 1	TEF4-OFF	1SBN020114R1000	1	0.065
	10...100 s						

Note: Rated control circuit voltage U_c 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

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 "Accessories" section.

AF116 ... AF146 3-pole contactors

55 to 75 kW

AC / DC operated with 2 N.O. + 2 N.C. auxiliary contacts



AF146-30-22

1SFC101009V0001



AF146-30-22B

1SFC101010V0001

Description

AF116 ... AF146 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC, AF146 up to 1000 V AC. 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 coils to cover control voltages between 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
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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	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					

For connection with built-in cable clamps

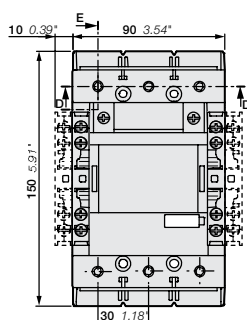
Rated operational power (kW)	Current (A)	3-phase motor rating (hp)	General use rating (A)	Uc min. (V)	Uc max. (V)	Number of NO contacts	Number of NC contacts	Type	Order code	Weight (kg)
55	160	75	160	24...60	20...60	2	2	AF116-30-22-11	1SFL427001R1122	1.750
				48...130	48...130	2	2	AF116-30-22-12	1SFL427001R1222	1.750
				100...250	100...250	2	2	AF116-30-22-13	1SFL427001R1322	1.750
				250...500	250...500	2	2	AF116-30-22-14	1SFL427001R1422	1.750
75	200	100	200	24...60	20...60	2	2	AF140-30-22-11	1SFL447001R1122	1.750
				48...130	48...130	2	2	AF140-30-22-12	1SFL447001R1222	1.750
				100...250	100...250	2	2	AF140-30-22-13	1SFL447001R1322	1.750
				250...500	250...500	2	2	AF140-30-22-13	1SFL447001R1422	1.750
75	225	100	200	24...60	20...60	2	2	AF146-30-22-11	1SFL467001R1122	1.750
				48...130	48...130	2	2	AF146-30-22-12	1SFL467001R1222	1.750
				100...250	100...250	2	2	AF146-30-22-13	1SFL467001R1322	1.750
				250...500	250...500	2	2	AF146-30-22-14	1SFL467001R1422	1.750

With bar connections

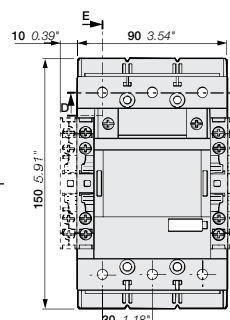
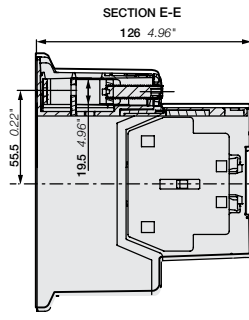
Rated operational power (kW)	Current (A)	3-phase motor rating (hp)	General use rating (A)	Uc min. (V)	Uc max. (V)	Number of NO contacts	Number of NC contacts	Type	Order code	Weight (kg)
55	160	75	160	24...60	20...60	2	2	AF116-30-22B-11	1SFL427002R1122	1.500
				48...130	48...130	2	2	AF116-30-22B-12	1SFL427002R1222	1.500
				100...250	100...250	2	2	AF116-30-22B-13	1SFL427002R1322	1.500
				250...500	250...500	2	2	AF116-30-22B-14	1SFL427002R1422	1.500
75	200	100	200	24...60	20...60	2	2	AF140-30-22B-11	1SFL447002R1122	1.500
				48...130	48...130	2	2	AF140-30-22B-12	1SFL447002R1222	1.500
				100...250	100...250	2	2	AF140-30-22B-13	1SFL447002R1322	1.500
				250...500	250...500	2	2	AF140-30-22B-14	1SFL447002R1422	1.500
75	225	100	200	24...60	20...60	2	2	AF146-30-22B-11	1SFL467002R1122	1.500
				48...130	48...130	2	2	AF146-30-22B-12	1SFL467002R1222	1.500
				100...250	100...250	2	2	AF146-30-22B-13	1SFL467002R1322	1.500
				250...500	250...500	2	2	AF146-30-22B-14	1SFL467002R1422	1.500

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

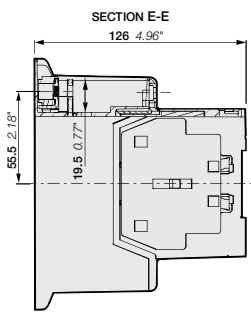
Main dimensions mm, inches



AF116, AF140, AF146-30-22



AF116, AF140, AF146-30-22B



AF116 ... AF146 3-pole contactors with built-in PLC interface

55 to 75 kW

AC / DC operated with 2 N.O. + 2 N.C. auxiliary contacts



AF146-30-22

1SFC101168V0001



AF146-30-22B

1SFC101168T0001

Description

AF116 ... AF146 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC, AF146 up to 1000 V AC. 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 2 coils to cover control voltages between 100...500 V 50/60 Hz and 100...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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.	I L				Pkg (1 pce)
400 V AC-3	AC-1	480 V	600 V AC	V 50/60 Hz	V DC					kg
55	160	75	160	100...250	100...250	2	2	AF116-30-22-33	1SFL427001R3322	1.750
				250...500	250...500	2	2	AF116-30-22-34	1SFL427001R3422	1.750
75	200	100	200	100...250	100...250	2	2	AF140-30-22-33	1SFL447001R3322	1.750
				250...500	250...500	2	2	AF140-30-22-33	1SFL447001R3422	1.750
75	225	100	200	100...250	100...250	2	2	AF146-30-22-33	1SFL467001R3322	1.750
				250...500	250...500	2	2	AF146-30-22-34	1SFL467001R3422	1.750

For connection with built-in cable clamps

55	160	75	160	100...250	100...250	2	2	AF116-30-22-33	1SFL427001R3322	1.750
				250...500	250...500	2	2	AF116-30-22-34	1SFL427001R3422	1.750
75	200	100	200	100...250	100...250	2	2	AF140-30-22-33	1SFL447001R3322	1.750
				250...500	250...500	2	2	AF140-30-22-33	1SFL447001R3422	1.750
75	225	100	200	100...250	100...250	2	2	AF146-30-22-33	1SFL467001R3322	1.750
				250...500	250...500	2	2	AF146-30-22-34	1SFL467001R3422	1.750

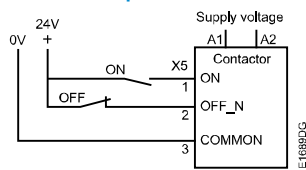
With bar connections

55	160	75	160	100...250	100...250	2	2	AF116-30-22B-33	1SFL427002R3322	1.500
				250...500	250...500	2	2	AF116-30-22B-34	1SFL427002R3422	1.500
75	200	100	200	100...250	100...250	2	2	AF140-30-22B-33	1SFL447002R3322	1.500
				250...500	250...500	2	2	AF140-30-22B-34	1SFL447002R3422	1.500
75	225	100	200	100...250	100...250	2	2	AF146-30-22B-33	1SFL467002R3322	1.500
				250...500	250...500	2	2	AF146-30-22B-34	1SFL467002R3422	1.500

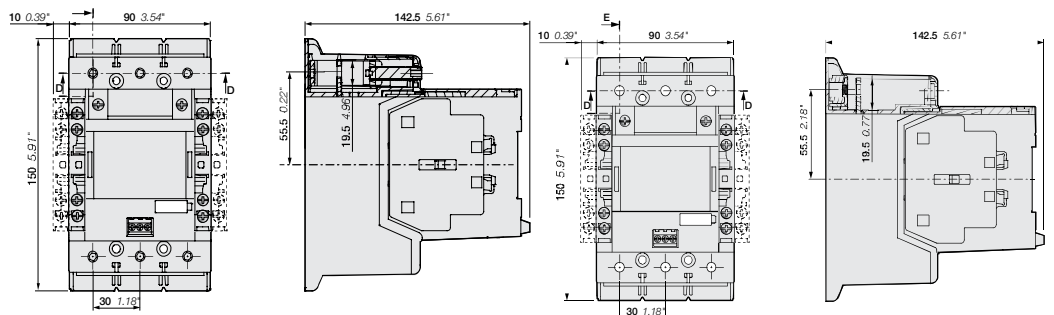
(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

AF116 ... AF146 are equipped with low voltage inputs for control, for example by a PLC.

Control inputs



Main dimensions mm, inches



AF116, AF140, AF146-30-22

AF116, AF140, AF146-30-22B

1SFC101168C0201

AF190 ... AF370 3-pole contactors

90 to 200 kW

AC / DC operated with 2 N.O. + 2 N.C. auxiliary contacts



AF205-30-22



AF370-30-22

Description

AF190 ... AF370 contactors are mainly used for controlling 3-phase motors and power circuits up to 1000 V AC. These contactors are of the block type design with 3 main poles.

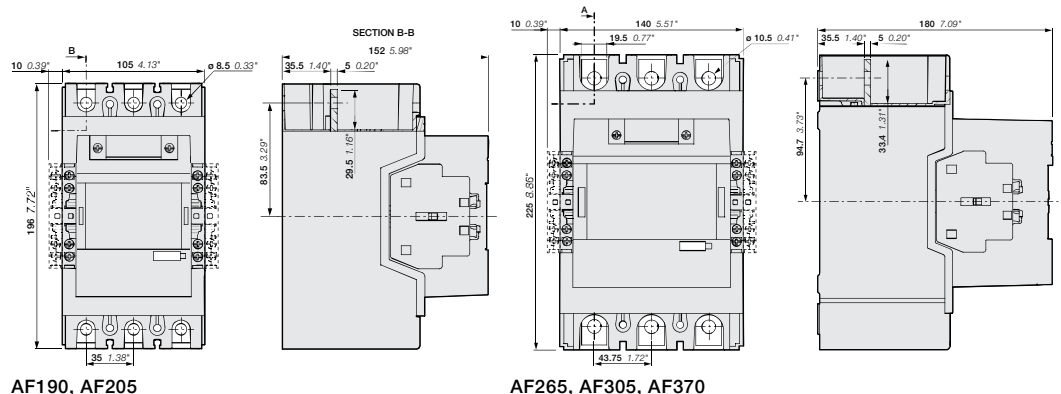
- control circuit: AC or DC operated with electronic coil interface accepting a wide control voltage range (e.g. 100...250 V AC and DC), only 4 coils to cover control voltages between 24...500 V 50/60 Hz and 20...500 V DC
 - can manage large control voltage variations
 - reduced panel energy consumption
 - very distinct closing and opening
 - can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for 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)
				480 V	600 V AC	V 50/60 Hz	V DC			
kW	A	hp	A							
90	275	125	250	24...60	20...60	2	2	AF190-30-22-11	1SFL487002R1122	3,000
				48...130	48...130	2	2	AF190-30-22-12	1SFL487002R1222	3,000
				100...250	100...250	2	2	AF190-30-22-13	1SFL487002R1322	3,000
				250...500	250...500	2	2	AF190-30-22-14	1SFL487002R1422	3,000
110	350	150	300	24...60	20...60	2	2	AF205-30-22-11	1SFL527002R1122	3,000
				48...130	48...130	2	2	AF205-30-22-12	1SFL527002R1222	3,000
				100...250	100...250	2	2	AF205-30-22-13	1SFL527002R1322	3,000
				250...500	250...500	2	2	AF205-30-22-14	1SFL527002R1422	3,000
140	400	200	350	24...60	20...60	2	2	AF265-30-22-11	1SFL547002R1122	4,675
				48...130	48...130	2	2	AF265-30-22-12	1SFL547002R1222	4,675
				100...250	100...250	2	2	AF265-30-22-13	1SFL547002R1322	4,675
				250...500	250...500	2	2	AF265-30-22-14	1SFL547002R1422	4,675
160	500	250	400	24...60	20...60	2	2	AF305-30-22-11	1SFL587002R1122	4,675
				48...130	48...130	2	2	AF305-30-22-12	1SFL587002R1222	4,675
				100...250	100...250	2	2	AF305-30-22-13	1SFL587002R1322	4,675
				250...500	250...500	2	2	AF305-30-22-14	1SFL587002R1422	4,675
200	600	300	520	24...60	20...60	2	2	AF370-30-22-11	1SFL607002R1122	4,675
				48...130	48...130	2	2	AF370-30-22-12	1SFL607002R1222	4,675
				100...250	100...250	2	2	AF370-30-22-13	1SFL607002R1322	4,675
				250...500	250...500	2	2	AF370-30-22-14	1SFL607002R1422	4,675

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

Main dimensions mm, inches



AF190 ... AF370 3-pole contactors with built-in PLC interface

90 to 200 kW

AC / DC operated with 2 N.O. + 2 N.C. auxiliary contacts



AF205-30-22



AF370-30-22

Description

AF190 ... AF370 contactors are mainly used for controlling 3-phase motors and power circuits up to 1000 V AC. 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 2 coils to cover control voltages between 100...500 V 50/60 Hz and 100...500 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltage sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

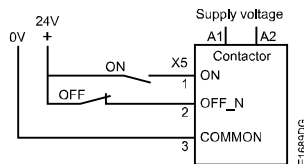
Ordering details

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)
				480 V	600 V AC					
90	275	125	250	100...250	100...250	2	2	AF190-30-22-33	1SFL487002R3322	3.000
				250...500	250...500	2	2	AF190-30-22-34	1SFL487002R3422	3.000
110	350	150	300	100...250	100...250	2	2	AF205-30-22-33	1SFL527002R3322	3.000
				250...500	250...500	2	2	AF205-30-22-34	1SFL527002R3422	3.000
140	400	200	350	100...250	100...250	2	2	AF265-30-22-33	1SFL547002R3322	4.675
				250...500	250...500	2	2	AF265-30-22-34	1SFL547002R3422	4.675
160	500	250	400	100...250	100...250	2	2	AF305-30-22-33	1SFL587002R3322	4.675
				250...500	250...500	2	2	AF305-30-22-34	1SFL587002R3422	4.675
200	600	300	520	100...250	100...250	2	2	AF370-30-22-33	1SFL607002R3322	4.675
				250...500	250...500	2	2	AF370-30-22-34	1SFL607002R3422	4.675

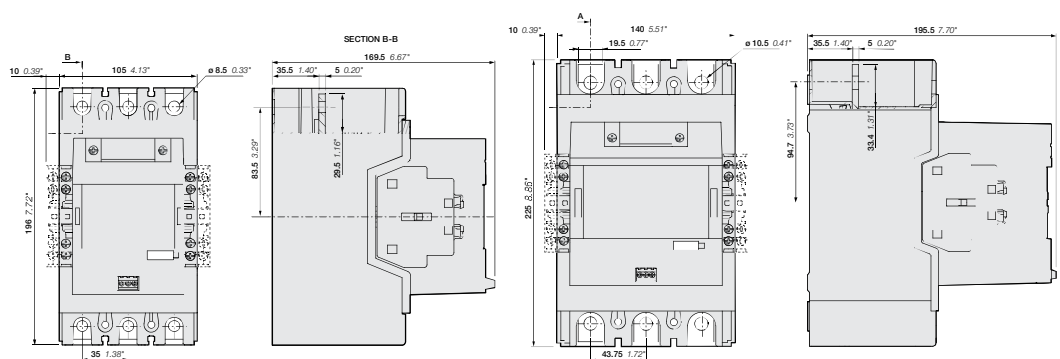
(1) For other auxiliary contacts arrangements, please contact your ABB local sales organization.

AF190 ... AF370 are equipped with low voltage inputs for control, for example by a PLC.

Control inputs



Main dimensions mm, inches



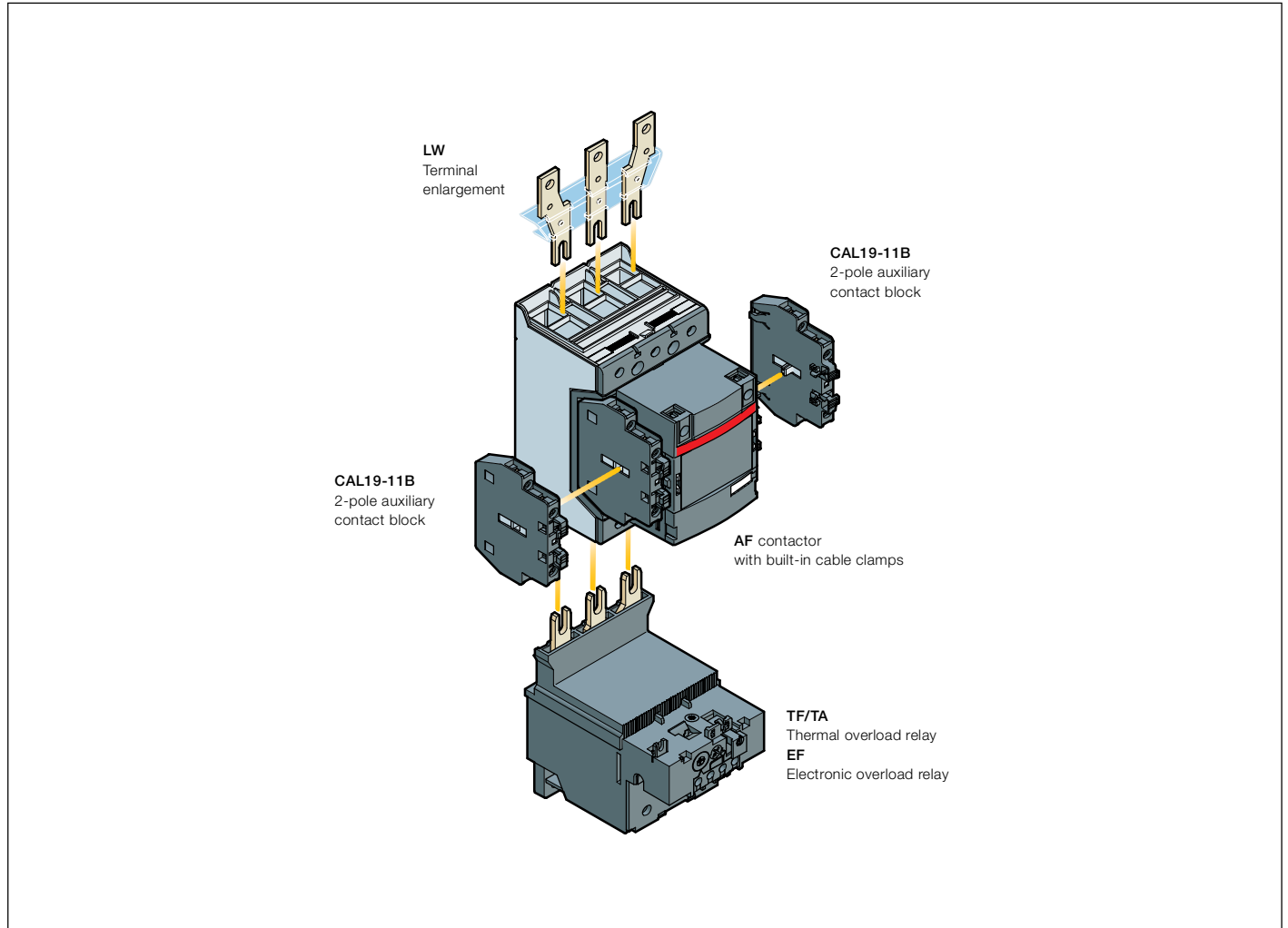
AF190, AF205

AF265, AF305, AF370

1SFC101168C0201

AF116 ... AF370 3-pole contactors with 2 N.O. + 2 N.C. auxiliary contacts Main accessories

Main accessories (other accessories available)



Main accessory fitting details

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories		
			Auxiliary contact blocks		Mechanical interlock units (between two contactors)
			CAL19-11	CAL19-11B	
AF116 ... AF370	3	0 2 2	-	+ 2 x CAL19-11B	-

Overload relays fitting details (1)

Contactor types	Thermal overload relays	Electronic overload relays
AF116 ... AF140	TF140DU (66...142 A)	EF146 (54...150 A)
AF146	-	EF146 (54...150 A)
AF190, AF205	TA200DU (66...200 A)	EF205 (63...210 A)
AF265 ... AF370	-	EF370 (115...380 A)

The addition of a thermal or electronic overload relay on the contactor does not prevent fitting of many other accessories as shown in "Main accessory fitting details" table.

(1) Direct mounting - No kit required.

AF116 ... AF370 3-pole contactors with 2 N.O. + 2 N.C. auxiliary contacts

Main accessories



1SFC101071V0001

CAL19-11



1SFC101041V0001

LT370-30C



1SFC101049V0001

LX140

Ordering details (1)

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

Side-mounted instantaneous auxiliary contact blocks

AF116 ... AF370	1	1	CAL19-11B	1SFN010820R3311	2	0.050
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Terminal shrouds

AF116 ... AF146, with compression lugs	LT140-30L	1SFN124203R1000	2	0.070
AF190, AF205, with cable clamps	LT205-30C	1SFN124801R1000	2	0.050
AF190, AF205, with compression lugs	LT205-30L	1SFN124803R1000	2	0.220
AF190, AF205, with shorting bar or between contactor and TOL/EOL in DOL-starters	LT205-30Y	1SFN124804R1000	1	0.050
AF265 ... AF370, with cable clamps	LT370-30C	1SFN125401R1000	2	0.035
AF265 ... AF370, with compression lugs	LT370-30L	1SFN125403R1000	2	0.280
AF265 ... AF370, with shorting bar or between contactor and TOL/EOL in DOL-starters	LT370-30Y	1SFN125404R1000	1	0.075
AF265 ... AF370, for use with extending cable clamps, ATK300/2 and OZXB4	LT370-30D	1SFN125406R1000	1	0.150

For contactors	Dimensions		Type	Order code	Pkg qty	Weight (1 pce)
	hole Ø mm	bar mm				

Terminal enlargements

AF116...AF146	6.5	13 x 3	LW140	1SFN074207R1000	1	0.115
AF190...AF205	10.5	17.5 x 5	LW205	1SFN074807R1000	1	0.260
AF265...AF370	10.5	20 x 5	LW370	1SFN075407R1000	1	0.340

Terminal extension

AF116...AF146	6.5	13 x 3	LX140	1SFN074210R1000	1	0.072
AF190...AF250	8.5	17.5 x 5	LX205	1SFN074810R1000	1	0.180
AF265...AF370	10.5	20 x 5	LX370	1SFN075410R1000	1	0.234

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

AF400 ... AF750 3-pole contactors

200 to 400 kW

AC / DC operated with 2 N.O. + 2 N.C. auxiliary contacts



AF460-30-22



AF750-30-22

Description

- AF400 ... AF750 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC or 600 V DC (2). 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 coils to cover control voltages between 48...500 V 50/60 Hz and 24...500 V DC
 - can manage large control voltage variations
 - reduced panel energy consumption
 - very distinct closing and opening
 - can withstand short voltage dips and voltages sags (SEMI F47 conditions of use on request).
 - built-in surge suppression
 - add-on auxiliary contact blocks for side mounting and a wide range of accessories.

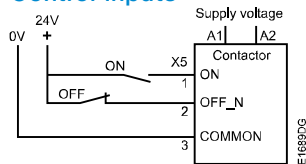
Ordering details

IEC		UL/CSA		Rated control circuit voltage U _c		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	current I _n ≤ 40 °C	3-phase motor rating	General use rating	U _c		2 N.O. + 2 N.C.				Pkg (1 pce)
400 V AC-3	690 V AC-1	hp	A	V 50/60 Hz	V DC					kg
200	600	350	550	-	24...60	2	2	AF400-30-22	1SFL577001R6822 (1)	12.000
				48...130	48...130	2	2	AF400-30-22	1SFL577001R6922	12.000
				100...250	100...250	2	2	AF400-30-22	1SFL577001R7022	12.000
				250...500	250...500	2	2	AF400-30-22	1SFL577001R7122	12.000
				-	24...60	2	2	AF460-30-22	1SFL597001R6822 (1)	12.000
250	700	400	650	-	24...60	2	2	AF460-30-22	1SFL597001R6922	12.000
				48...130	48...130	2	2	AF460-30-22	1SFL597001R7022	12.000
				100...250	100...250	2	2	AF460-30-22	1SFL597001R7122	12.000
				250...500	250...500	2	2	AF460-30-22	1SFL597001R7122	12.000
				-	24...60	2	2	AF580-30-22	1SFL617001R6822 (1)	15.000
315	800	500	750	-	24...60	2	2	AF580-30-22	1SFL617001R6922	15.000
				48...130	48...130	2	2	AF580-30-22	1SFL617001R7022	15.000
				100...250	100...250	2	2	AF580-30-22	1SFL617001R7122	15.000
				250...500	250...500	2	2	AF580-30-22	1SFL617001R7122	15.000
				-	24...60	2	2	AF750-30-22	1SFL637001R6822 (1)	15.000
400	1050	600	900	-	24...60	2	2	AF750-30-22	1SFL637001R6922	15.000
				48...130	48...130	2	2	AF750-30-22	1SFL637001R7022	15.000
				100...250	100...250	2	2	AF750-30-22	1SFL637001R7122	15.000
				250...500	250...500	2	2	AF750-30-22	1SFL637001R7122	15.000
				-	24...60	2	2	AF750-30-22	1SFL637001R7122	15.000

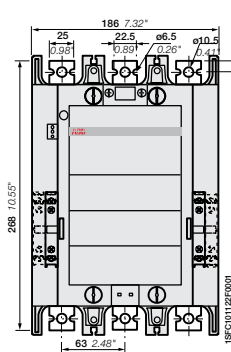
- (1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole.
 (2) Up to 850 V DC for AF580, AF750.

AF400...AF750 are equipped with low voltage inputs for control, for example by a PLC.

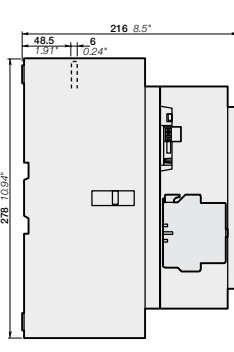
Control inputs



Main dimensions mm, inches



AF400, AF460



AF580, AF750

AF1250 ... AF2650 3-pole contactors

475 to 560 kW and 1260 to 2650 A AC-1

AC / DC operated with 2 N.O. + 2 N.C. auxiliary contacts



AF1250-30-22



AF2650-30-22

Description

AF1250 ... AF2050 contactors are mainly used for controlling power circuits up to 1000 V AC or 850 V DC, AF2650 for controlling power up to 1000 V AC. 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 coils for AF1250 to cover control voltages between 48...500 V 50/60 Hz and 24...500 V DC
- only 1 coil for AF1350 ... AF2650 to cover control voltages between 100...250 V 50/60 Hz and 100...250 V DC
- can manage large control voltage variations
- reduced panel energy consumption
- very distinct closing and opening
- can withstand short voltage dips and voltages sags (SEMI F47 conditions of use on request).
- built-in surge suppression
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

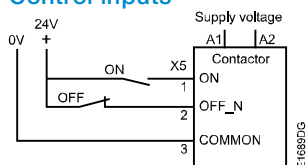
Ordering details

IEC		UL/CSA		Rated control circuit voltage		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	current $\theta \leq 40^\circ\text{C}$	3-phase motor rating	General use rating	Uc (1)						Pkg (1 pce)
				V 50/60 Hz	V DC					
400 V AC-3	690 V AC-1	480 V	600 V AC (2)	-	-	2	2	AF1250-30-22	1SFL647001R6822 (1)	16.000
kW	A	hp	A	-	24...60	2	2	AF1250-30-22	1SFL647001R6922	16.000
				-	48...130	2	2	AF1250-30-22	1SFL647001R7022	16.000
				-	100...250	2	2	AF1250-30-22	1SFL647001R7122	16.000
				-	250...500	2	2	AF1250-30-22	1SFL647001R7122	16.000
475	1350	800	1350	100...250	100...250	2	2	AF1350-30-22	1SFL657001R7022	34.000
560	1650	900	1650	100...250	100...250	2	2	AF1650-30-22	1SFL677001R7022	35.000
				2050	2100	100...250	100...250	2	2	AF2050-30-22
-	2650	-	2700	100...250	100...250	2	2	AF2650-30-22	1SFL667001R7022	45.000

(1) The connection polarities indicated close to the coil terminals must be respected: A1 for the positive pole and A2 for the negative pole.
 (2) AF2650 : Maximum operational voltage = 1000 V according to UL / CSA.

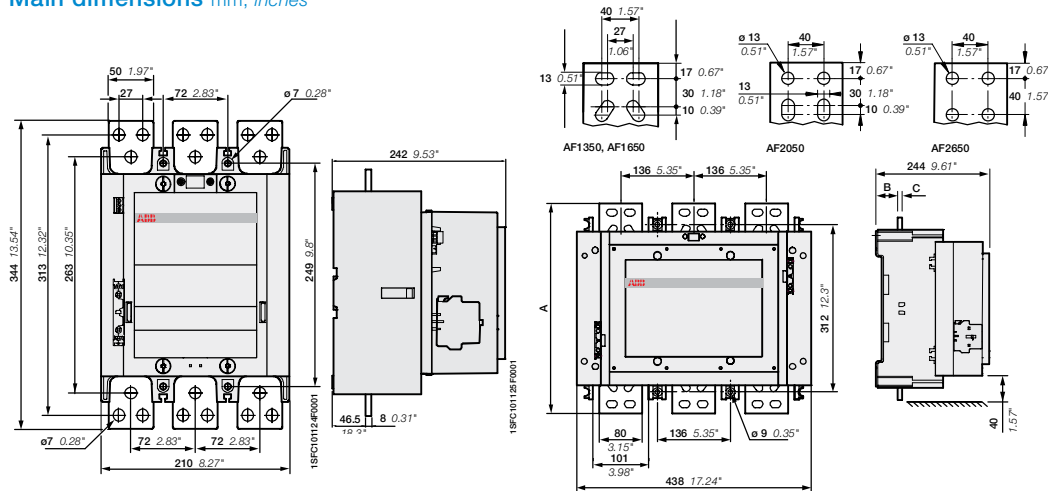
AF1250 ... AF2650 are equipped with low voltage inputs for control, for example by a PLC.

Control inputs



	AF1350, AF1650, AF2050	AF2650
A	392 mm / 15.43"	422 mm / 16.61"
B	47 mm / 1.85"	53 mm / 2.11"
C	10 mm / 0.39"	25 mm / 0.98"

Main dimensions mm, inches

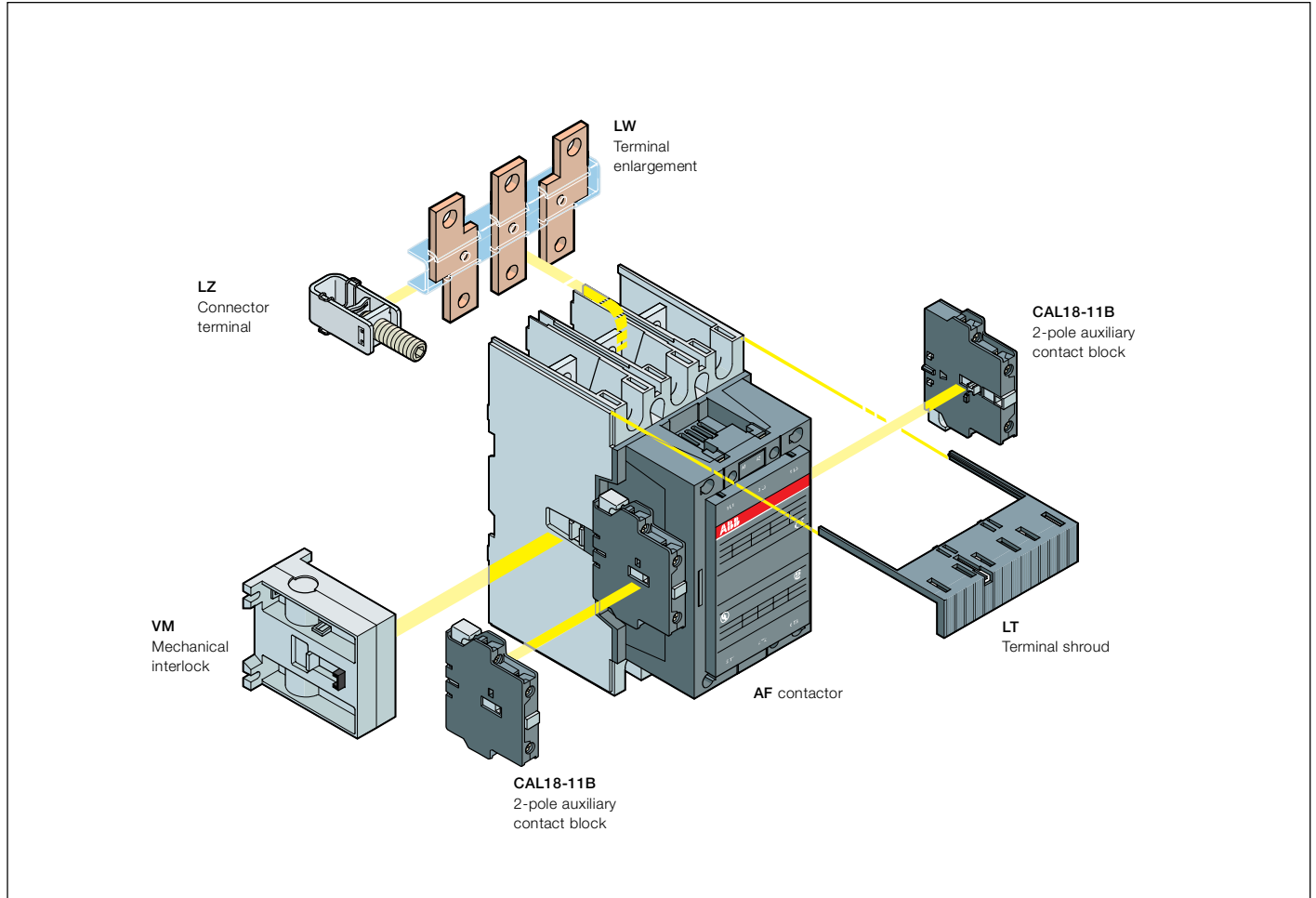


AF1250

AF1350, AF1650, AF2050, AF2650

AF400... AF2650 3-pole contactors with 2 N.O. + 2 N.C. auxiliary contacts Main accessories

Main accessories (other accessories available)



Main accessory fitting details

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories		Mechanical interlock units (between two contactors)
			Auxiliary contact blocks		
			CAL18-11	CAL18-11B (2)	
Contactors + auxiliary contact blocks					
AF145 ... AF2650	3	0 2 2	-	2 x CAL18-11B	-
Contactors with mechanical interlocking + auxiliary contact blocks					
AF400 ... AF2650	3	0 2 2	-	4 x CAL18-11B	+ VM...H (1)

(1) Interlock type, according to the contactor ratings (see "Accessories").

(2) The CEL18-... auxiliary contact blocks can replace the CAL18-11 and CAL18-11B. Though, no auxiliary contact block can be mounted outside the CEL18-...

Overload relays fitting details

Contactor types	Thermal overload relays	Electronic overload relays
AF400, AF460	-	EF460 (150...500 A) (3)
AF580, AF750	-	EF750 (250...800 A) (3)
AF1350, AF1650	-	E1250DU (375...1250 A) (3)

The addition of a thermal or electronic overload relay on the contactor does not prevent fitting of many other accessories as shown in "Main accessory fitting details" table.

(3) Mounting kit required (see "Motor protection").

AF400 ... AF2650 3-pole contactors with 2 N.O. + 2 N.C. auxiliary contacts

Main accessories



CAL18-11

1SFC101028V0001



VM750H

1SFC101064V0001



LT460-AC

1SFC101038V0001

Ordering details (1)

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

Side-mounted instantaneous auxiliary contact blocks

AF400 ... AF2650	1	1	CAL18-11B	1SFN010720R3311	2	0.050
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Mechanical interlock unit

AF400 ... AF1250			VM750H	1SFN035700R1000	1	0.200
AF1350 ... AF2650			VM1650H	1SFN036503R1000	1	6.000

Terminal shrouds

AF400, AF460 with connectors			LT460-AC	1SFN125701R1000	2	0.100
AF400, AF460 with lugs			LT460-AL	1SFN125703R1000	2	0.800
AF580 ... AF750 with connectors			LT750-AC	1SFN126101R1000	2	0.120
AF580 ... AF750 with lugs			LT750-AL	1SFN126103R1000	2	0.825

For contactors	Dimensions		Type	Order code	Pkg qty	Weight (1 pce)
	hole Ø mm	bar mm				

Terminal enlargements

AF400, AF460	10.5	25 x 5	LW460	1SFN075707R1000	1	0.730
AF580, AF750	13	40 x 6	LW750	1SFN076107R1000	1	1.230
AF1250	13	50 x 10	LW1250	1SFN076407R1000	1	2.000

Terminal extension

AF400, AF460	10.5	25 x 5	LX460	1SFN075710R1000	1	0.500
AF580, AF750	13	40 x 6	LX750	1SFN076110R1000	1	0.850

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

AF09 ... AF38 3-pole contactors

Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1					
Rated operational voltage U_e max.		690 V					
Rated frequency (without derating)		50 / 60 Hz					
Conventional free-air thermal current I_{th}							
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40^\circ\text{C}$		35 A	35 A	35 A	50 A	50 A	50 A
With conductor cross-sectional area		6 mm ²	6 mm ²	6 mm ²	10 mm ²	10 mm ²	10 mm ²
AC-1 Utilization category							
For air temperature close to contactor							
I_e / Rated operational current AC-1	$\theta \leq 40^\circ\text{C}$	25 A	28 A	30 A	45 A	50 A	50 A
U_e max. ≤ 690 V, 50/60 Hz	$\theta \leq 60^\circ\text{C}$	25 A	28 A	30 A	40 A	42 A	42 A
	$\theta \leq 70^\circ\text{C}$	22 A	24 A	26 A	32 A	37 A	37 A
With conductor cross-sectional area		4 mm ²	6 mm ²	6 mm ²	10 mm ²	10 mm ²	10 mm ²
AC-3 Utilization category							
For air temperature close to contactor $\theta \leq 60^\circ\text{C}$							
I_e / Max. rated operational current AC-3 (1)							
	220-230-240 V	9 A	12 A	18 A	26 A	33 A	40 A
	380-400 V	9 A	12 A	18 A	26 A	32 A	38 A
	415 V	9 A	12 A	18 A	26 A	32 A	38 A
	440 V	9 A	12 A	18 A	26 A	32 A	38 A
	500 V	9.5 A	12.5 A	15 A	23 A	28 A	33 A
	690 V	7 A	9 A	10.5 A	17 A	21 A	24 A
Rated operational power AC-3 (1)							
	220-230-240 V	2.2 kW	3 kW	4 kW	6.5 kW	9 kW	11 kW
	380-400 V	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
	415 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
	440 V	4 kW	5.5 kW	9 kW	15 kW	18.5 kW	22 kW
	500 V	5.5 kW	7.5 kW	9 kW	15 kW	18.5 kW	22 kW
	690 V	5.5 kW	7.5 kW	9 kW	15 kW	18.5 kW	22 kW
Rated making capacity AC-3		10 x I_e AC-3 acc. to IEC 60947-4-1					
Rated breaking capacity AC-3		8 x I_e AC-3 acc. to IEC 60947-4-1					
AC-8a Utilization category							
(without thermal overload relay - U_e 400 V 50/60 Hz - $\theta \leq 40^\circ\text{C}$)							
I_e / Rated operational current AC-8a		12 A	16 A	22 A	30 A	40 A	50 A
Rated operational power AC-8a		5.5 kW	7.5 kW	11 kW	15 kW	20 kW	25 kW
Short-circuit protection device for contactors							
without thermal overload relay - Motor protection excluded (2)							
$U_e \leq 500$ V AC - gG type fuse		25 A	32 A	32 A	50 A	63 A	63 A
Rated short-time withstand current I_{cw}							
at 40°C ambient temperature, in free air from a cold state							
	1 s	300 A	300 A	300 A	700 A	700 A	700 A
	10 s	150 A	150 A	150 A	350 A	350 A	350 A
	30 s	80 A	80 A	80 A	225 A	225 A	225 A
	1 min	60 A	60 A	60 A	150 A	150 A	150 A
	15 min	35 A	35 A	35 A	50 A	50 A	50 A
Maximum breaking capacity							
$\cos \varphi = 0.45$							
	at 440 V	250 A	250 A	250 A	500 A	500 A	500 A
	at 690 V	106 A	106 A	106 A	200 A	200 A	200 A
Power dissipation per pole							
	I_e / AC-1	0.8 W	1 W	1.2 W	1.8 W	2.4 W	2.4 W
	I_e / AC-3	0.1 W	0.2 W	0.35 W	0.6 W	0.9 W	1.3 W
Max. electrical switching frequency							
	AC-1	600 cycles/h					
	AC-3	1200 cycles/h					
	AC-2, AC-4	300 cycles/h				150 cycles/h	

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m. 50 Hz or 1800 r.p.m. 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".



3-phase motors



1500 r.p.m. 50 Hz
1800 r.p.m. 60 Hz
3-phase motors

AF40 ... AF96 3-pole contactors

Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1				
Rated operational voltage U _e max.		690 V				
Rated frequency (without derating)		50 / 60 Hz				
Conventional free-air thermal current I _{th}						
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40\text{ }^\circ\text{C}$		105 A	105 A	105 A	130 A	130 A
With conductor cross-sectional area		35 mm ²	35 mm ²	35 mm ²	50 mm ²	50 mm ²
AC-1 Utilization category						
For air temperature close to contactor						
I_e / Rated operational current AC-1	$\theta \leq 40\text{ }^\circ\text{C}$	70 A	100 A	105 A	125 A	130 A
U _e max. $\leq 690\text{ V}$, 50/60 Hz	$\theta \leq 60\text{ }^\circ\text{C}$	60 A	80 A	90 A	100 A	105 A
	$\theta \leq 70\text{ }^\circ\text{C}$	50 A	70 A	80 A	85 A	90 A
With conductor cross-sectional area		25 mm ²	35 mm ²	35 mm ²	50 mm ²	50 mm ²
AC-3 Utilization category						
For air temperature close to contactor $\theta \leq 60\text{ }^\circ\text{C}$						
I_e / Max. rated operational current AC-3 (1)						
	220-230-240 V	40 A	53 A	65 A	80 A	96 A
	380-400 V	40 A	53 A	65 A	80 A	96 A
	415 V	40 A	53 A	65 A	80 A	96 A
	440 V	40 A	53 A	65 A	80 A	96 A
	500 V	35 A	45 A	55 A	65 A	80 A
	690 V	25 A	35 A	39 A	49 A	57 A
	1000 V	-	-	-	25 A	30 A
Rated operational power AC-3 (1)						
	220-230-240 V	11 kW	15 kW	18.5 kW	22 kW	25 kW
	380-400 V	18.5 kW	22 kW	30 kW	37 kW	45 kW
	415 V	22 kW	30 kW	37 kW	45 kW	55 kW
	440 V	22 kW	30 kW	37 kW	45 kW	55 kW
	500 V	22 kW	30 kW	37 kW	45 kW	55 kW
	690 V	22 kW	30 kW	37 kW	45 kW	55 kW
	1000 V	-	-	-	35 kW	40 kW
Rated making capacity AC-3		10 x I _e AC-3 acc. to IEC 60947-4-1				
Rated breaking capacity AC-3		8 x I _e AC-3 acc. to IEC 60947-4-1				
AC-8a Utilization category						
(without thermal overload relay - U _e 400 V 50/60 Hz - $\theta \leq 40\text{ }^\circ\text{C}$)						
I_e / Rated operational current AC-8a		53 A	70 A	85 A	105 A	120 A
Rated operational power AC-8a		25 kW	37 kW	45 kW	55 kW	65 kW
Short-circuit protection device for contactors						
without thermal overload relay - Motor protection excluded (2)						
U _e $\leq 500\text{ V AC}$ - gG type fuse		100 A	125 A	160 A	160 A	200 A
Rated short-time withstand current I_{sw}						
at 40 °C ambient temperature,	1 s	1000 A	1000 A	1000 A	1200 A	1200 A
in free air from a cold state	10 s	600 A	600 A	600 A	780 A	780 A
	30 s	350 A	350 A	350 A	450 A	450 A
	1 min	250 A	250 A	250 A	300 A	300 A
	15 min	110 A	110 A	110 A	140 A	140 A
Maximum breaking capacity						
cos $\phi = 0.45$	at 440 V	950 A	950 A	950 A	1150 A	1150 A
	at 690 V	600 A	600 A	600 A	750 A	750 A
Power dissipation per pole						
	I _e / AC-1	3 W	6.3 W	7 W	7.6 W	8.2 W
	I _e / AC-3	1 W	1.7 W	2.7 W	3 W	4.5 W
Max. electrical switching frequency						
	AC-1	600 cycles/h				
	AC-3	1200 cycles/h				
	AC-2, AC-4	150 cycles/h				



3-phase motors



1500 r.p.m. 50 Hz
1800 r.p.m. 60 Hz
3-phase motors

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m. 50 Hz or 1800 r.p.m. 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".

AF116 ... AF370 3-pole contactors

Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1							
Rated operational voltage U_e max.		690 V	690 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
Rated frequency (without derating)		50 / 60 Hz							
Conventional free-air thermal current I_{th}		160 A							
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40^\circ\text{C}$		70 mm ²							
With conductor cross-sectional area		200 A	225 A	275 A	350 A	400 A	500 A	600 A	
		95 mm ²	95 mm ²	150 mm ²	240 mm ² (3)	240 mm ²	300 mm ² (4)	2 x 185 mm ² (4)	
AC-1 Utilization category									
For air temperature close to contactor									
I_e / Rated operational current AC-1	$\theta \leq 40^\circ\text{C}$	160 A	200 A	225 A	275 A	350 A	400 A	500 A	600 A
U_e max. $\leq 690\text{ V}$, 50/60 Hz	$\theta \leq 60^\circ\text{C}$	145 A	175 A	200 A	250 A	300 A	350 A	400 A	500 A
	$\theta \leq 70^\circ\text{C}$	130 A	160 A	175 A	200 A	240 A	290 A	325 A	400 A
I_e / Rated operational current AC-1	$\theta \leq 40^\circ\text{C}$	—	—	225 A	250 A	275 A	350 A	375 A	400 A
U_e max. $\leq 1000\text{ V}$, 50/60 Hz	$\theta \leq 60^\circ\text{C}$	—	—	200 A	225 A	250 A	300 A	325 A	350 A
	$\theta \leq 70^\circ\text{C}$	—	—	175 A	185 A	200 A	240 A	260 A	290 A
With conductor cross-sectional area		70 mm ²	95 mm ²	95 mm ²	150 mm ²	240 mm ² (3)	240 mm ²	300 mm ² (4)	2 x 185 mm ² (4)
AC-3 Utilization category									
For air temperature close to contactor $\theta \leq 60^\circ\text{C}$									
I_e / Max. rated operational current AC-3 (1)									
	220-230-240 V	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
	380-400 V	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
	415 V	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
	440 V	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
	500 V	110 A	130 A	130 A	135 A	165 A	250 A	290 A	315 A
	690 V	65 A	80 A	93 A	135 A	165 A	250 A	290 A	315 A
	1000 V	—	—	60 A	85 A	100 A	100 A	100 A	100 A
Rated operational power AC-3 (1)									
	220-230-240 V	30 kW	37 kW	45 kW	55 kW	55 kW	75 kW	90 kW	110 kW
	380-400 V	55 kW	75 kW	75 kW	90 kW	110 kW	132 kW	160 kW	200 kW
	415 V	55 kW	75 kW	75 kW	90 kW	110 kW	132 kW	160 kW	200 kW
	440 V	75 kW	90 kW	90 kW	110 kW	132 kW	160 kW	160 kW	200 kW
	500 V	75 kW	90 kW	90 kW	90 kW	110 kW	200 kW	200 kW	250 kW
	690 V	55 kW	75 kW	90 kW	132 kW	160 kW	200 kW	250 kW	315 kW
	1000 V	—	—	75 kW	110 kW	132 kW	132 kW	132 kW	132 kW
Rated making capacity AC-3		10 x I_e AC-3 acc. to IEC 60947-4-1							
Rated breaking capacity AC-3		8 x I_e AC-3 acc. to IEC 60947-4-1							
Short-circuit protection device for contactors									
without thermal overload relay - Motor protection excluded (2)									
$U_e \leq 500\text{ V AC}$ - gG type fuse		250 A	315 A	315 A	355 A	400 A	500 A	500 A	630 A
Rated short-time withstand current I_{cw}									
at 40 °C ambient temperature,	1 s	1300 A	1460 A	1460 A	1900 A	2050 A	2650 A	3050 A	3700 A
in free air from a cold state	10 s	928 A	1168 A	1168 A	1520 A	1640 A	2120 A	2440 A	2960 A
	30 s	536 A	674 A	674 A	878 A	947 A	1224 A	1409 A	1709 A
	1 min	379 A	477 A	477 A	621 A	670 A	865 A	996 A	1208 A
	15 min	160 A	200 A	225 A	275 A	350 A	400 A	500 A	600 A
Maximum breaking capacity									
$\cos \varphi = 0.45$	at 440 V	2000 A	3000 A	3000 A	3300 A	3500 A	3800 A	4600 A	5000 A
($\cos \varphi = 0.35$ for $I_e > 100\text{ A}$)	at 690 V	1000 A	1500 A	1500 A	2200 A	2500 A	3300 A	3800 A	4000 A
Power dissipation per pole									
	I_e / AC-1	12 W	18 W	23 W	15 W	25 W	32 W	50 W	72 W
	I_e / AC-3	6 W	9 W	10 W	7 W	8 W	14 W	19 W	27 W
Maximum electrical switching frequency									
	AC-1	300 cycles/h							
	AC-3	300 cycles/h							
	AC-2, AC-4	150 cycles/h							

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m., 50 Hz or 1800 r.p.m., 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".

(3) For currents above 275A use terminal enlargements or terminal extensions.

(4) For currents above 450A use terminal enlargements or terminal extensions.



3-phase motors



1500 r.p.m. 50 Hz
1800 r.p.m. 60 Hz
3-phase motors

AF400 ... AF2650 3-pole contactors

Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1								
Rated operational voltage U _e max.		1000 V								
Rated frequency (without derating)		50/60 Hz								
Conventional free-air thermal current I _{th}										
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40^\circ\text{C}$		600 A	700 A	800 A	1050 A	1260 A	1350 A	1650 A	2050 A	2650 A
With conductor cross-sectional area (3)		2x185 mm ²	2x240 mm ²	2x240 mm ²	800 mm ² (4)	1000 mm ² (4)	1000 mm ² (5)	1500 mm ² (5)	2000 mm ² (5)	3000 mm ² (5)
AC-1 Utilization category										
For air temperature close to contactor										
I_e / Rated operational current AC-1	$\theta \leq 40^\circ\text{C}$	600 A	700 A	800 A	1050 A	1260 A	1350 A	1650 A	2050 A	2650 A
U _e max. $\leq 690\text{ V}$, 50/60 Hz	$\theta \leq 55^\circ\text{C}$	500 A	600 A	700 A	875 A	1040 A	1150 A	1450 A	1750 A	2350 A
	$\theta \leq 70^\circ\text{C}$	400 A	480 A	580 A	720 A	875 A	1000 A	1270 A	1500 A	2120 A
I_e / Rated operational current AC-1	$\theta \leq 40^\circ\text{C}$	600 A	700 A	800 A	1000 A	1260 A	1350 A	1650 A	2050 A	2650 A
U _e max. $\leq 1000\text{ V}$, 50/60 Hz	$\theta \leq 55^\circ\text{C}$	500 A	600 A	700 A	875 A	1040 A	1150 A	1450 A	1750 A	2350 A
	$\theta \leq 70^\circ\text{C}$	400 A	480 A	580 A	720 A	875 A	1000 A	1270 A	1500 A	2120 A
With conductor cross-sectional area		2x185 mm ²	2x240 mm ²	2x240 mm ²	800 mm ² (4)	1000 mm ² (4)	1000 mm ² (5)	1500 mm ² (5)	2000 mm ² (5)	3000 mm ² (5)
AC-3 Utilization category										
For air temperature close to contactor $\theta \leq 55^\circ\text{C}$										
I_e / Max. rated operational current AC-3 (1)										
	220-230-240 V	400 A	460 A	580 A	750 A	-	860 A	1060 A	1060 A	-
	380-400 V	400 A	460 A	580 A	750 A	-	860 A	1060 A	1060 A	-
	415 V	400 A	460 A	580 A	750 A	-	860 A	1060 A	1060 A	-
	440 V	400 A	460 A	580 A	750 A	-	860 A	1060 A	1060 A	-
	500 V	400 A	460 A	580 A	750 A	-	800 A	970 A	970 A	-
	690 V	350 A	400 A	500 A	650 A	-	800 A	970 A	970 A	-
	1000 V	155 A	200 A	250 A	300 A	-	-	-	-	-
Rated operational power AC-3 (1)										
	220-230-240 V	110 kW	132 kW	160 kW	220 kW	-	257 kW	315 kW	-	-
	380-400 V	200 kW	250 kW	315 kW	400 kW	-	475 kW	560 kW	-	-
	415 V	220 kW	250 kW	355 kW	425 kW	-	500 kW	630 kW	630 kW	-
	440 V	220 kW	250 kW	355 kW	450 kW	-	560 kW	710 kW	710 kW	-
	500 V	250 kW	315 kW	400 kW	520 kW	-	560 kW	700 kW	-	-
	690 V	315 kW	355 kW	500 kW	600 kW	-	800 kW	1000 kW	1000 kW	-
	1000 V	220 kW	280 kW	355 kW	400 kW	-	-	-	-	-
Rated making capacity AC-3		10 x I _e AC-3 acc. to IEC 60947-4-1								
Rated breaking capacity AC-3		8 x I _e AC-3 acc. to IEC 60947-4-1								
Short-circuit protection device for contactors										
without thermal overload relay										
Motor protection excluded (2)										
U _e $\leq 500\text{ V}$ AC - gG type fuse		630 A	800 A	1000 A	1000 A	Please consult us for coordination with circuit-breaker				
Rated short-time withstand current I_{sw}	1 s	4600 A	4600 A	7000 A	7000 A	8000 A	10000 A	12000 A	12000 A	12000 A
	10 s	4400 A	4400 A	6400 A	6400 A	7200 A	8000 A	10000 A	10000 A	10000 A
	30 s	3100 A	3100 A	4500 A	4500 A	5200 A	6000 A	7500 A	7500 A	7500 A
	1 min	2500 A	2500 A	3500 A	3500 A	4000 A	4500 A	5500 A	5500 A	5500 A
	15 min	840 A	840 A	1300 A	1300 A	1500 A	1600 A	2200 A	2200 A	2800 A
Maximum breaking capacity										
cos $\phi = 0.45$	at 440 V	4000 A	5000 A	6000 A	7500 A	-	10000 A	12000 A	8400 A	8400 A
(cos $\phi = 0.35$ for I _e > 100 A)	at 690 V	3500 A	4500 A	5000 A	7000 A	-	-	-	-	-
Power dissipation per pole										
	I_e / AC-1	30 W	42 W	32 W	50 W	80 W	80 W	80 W	125 W	200 W
	I_e / AC-3	16 W	21 W	17 W	28 W	-	50 W	50 W	-	-
Max. electrical switching frequency										
	AC-1	300 cycles/h			300 cycles/h	300 cycles/h	60 cycles/h	60 cycles/h	60 cycles/h	15 cycles/h
	AC-3	300 cycles/h			300 cycles/h	-	60 cycles/h	-	-	-
	AC-2, AC-4	60 cycles/h			60 cycles/h	-	60 cycles/h	-	-	-



3-phase motors



1500 r.p.m. 50 Hz
1800 r.p.m. 60 Hz
3-phase motors

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".

(3) Conductors with preparation.

(4) Max. connection bar width 50 mm.

(5) Max. connection bar width 100 mm.

AF09 ... AF38 3-pole contactors

Technical data

Main pole - Utilization characteristics according to UL / NEMA / CSA

Contactors types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Standards		UL 508, CSA C22.2 N°60947-4-1					
Max. operational voltage		600 V					
NEMA size		00	0	-	1	-	-
NEMA continuous amp rating	Thermal current	9 A	18 A		27 A		
NEMA maximum horse power ratings							
1-phase, 60 Hz	115 V AC	1/3 hp	1 hp		2 hp		
	230 V AC	1 hp	2 hp		3 hp		
NEMA maximum horse power ratings							
3-phase, 60 Hz	200 V AC	1-1/2 hp	3 hp		7-1/2 hp		
	230 V AC	1-1/2 hp	3 hp		7-1/2 hp		
	460 V AC	2 hp	5 hp		10 hp		
	575 V AC	2 hp	5 hp		10 hp		
UL / CSA general use rating							
600 V AC		25 A	28 A	30 A	45 A	50 A	50 A
With conductor cross-sectional area		AWG 10	AWG 10	AWG 10	AWG 8	AWG 8	AWG 8
UL / CSA maximum 1-phase motor rating							
Full load current	120 V AC	13.8 A	16 A	20 A	24 A	24 A	24 A
	240 V AC	10 A	12 A	17 A	17 A	28 A	28 A
Horse power rating	120 V AC	3/4 hp	1 hp	1-1/2 hp	2 hp	2 hp	2 hp
	240 V AC	1-1/2 hp	2 hp	3 hp	3 hp	5 hp	5 hp
UL / CSA maximum 3-phase motor rating							
Full load current (1)	200-208 V AC	7.8 A	11 A	17.5 A	25.3 A	32.2 A	32.2 A
	220-240 V AC	6.8 A	9.6 A	15.2 A	22 A	28 A	28 A
	440-480 V AC	7.6 A	11 A	14 A	21 A	27 A	34 A (3)
	550-600 V AC	9 A	11 A	17 A	22 A	27 A (2)	32 A (3)
Horse power rating (1)	200-208 V AC	2 hp	3 hp	5 hp	7-1/2 hp	10 hp	10 hp
	220-240 V AC	2 hp	3 hp	5 hp	7-1/2 hp	10 hp	10 hp
	440-480 V AC	5 hp	7-1/2 hp	10 hp	15 hp	20 hp	25 hp (3)
	550-600 V AC	7-1/2 hp	10 hp	15 hp	20 hp	25 hp (2)	30 hp (3)
Short-circuit protection device for contactors							
without thermal overload relay - Motor protection excluded							
High fault current		100 kA					
Fuse rating		30 A	30 A	60 A	60 A	100 A	100 A
Fuse type, 600 V		J					
Max. electrical switching frequency							
For general use		600 cycles/h					
For motor use		1200 cycles/h					

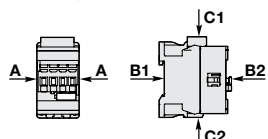
(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

(2) For contactors produced since week 49-2011.

(3) For contactors produced since week 36-2014.

General technical data

Contactors types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Rated insulation voltage Ui		690 V					
acc. to IEC 60947-4-1		600 V					
acc. to UL / CSA		6 kV					
Rated impulse withstand voltage Uimp.		6 kV					
Electromagnetic compatibility		Devices complying with IEC 60947-1 / EN 60947-1 - Environment A					
Ambient air temperature close to contactor							
Operation	Fitted with thermal overload relay	-25...+60 °C					
	Without thermal overload relay	-40...+70 °C					
Storage		-60...+80 °C					
Climatic withstand		Category B according to IEC 60947-1 Annex Q					
Maximum operating altitude (without derating)		3000 m					
Mechanical durability							
Number of operating cycles		10 millions operating cycles					
Max. switching frequency		3600 cycles/h					
Shock withstand							
acc. to IEC 60068-2-27 and EN 60068-2-27							
Mounting position 1							
	Shock direction	1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position					
	A	30 g					
	B1	25 g closed position / 5 g open position					
	B2	15 g					
	C1	25 g					
	C2	25 g					
Vibration withstand		5...300 Hz					
acc. to IEC 60068-2-6		4 g closed position / 2 g open position					



AF40 ... AF96 3-pole contactors

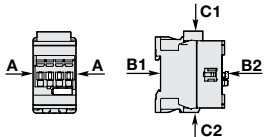
Technical data

Main pole - Utilization characteristics according to UL / NEMA / CSA

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96	
Standards		UL 60947-4-1, CSA C22.2 N°60947-4-1					
Maximum operational voltage		600 V					
NEMA size		2	-	-	3	-	
NEMA continuous amp rating	Thermal current	45 A	-	-	90 A	-	
NEMA maximum horse power ratings 1-phase, 60 Hz	115 V AC	3 hp	-	-	-	-	
	230 V AC	7.5 hp	-	-	-	-	
NEMA maximum horse power ratings 3-phase, 60 Hz	200 V AC	10 hp	-	-	25 hp	-	
	230 V AC	15 hp	-	-	30 hp	-	
	460 V AC	25 hp	-	-	50 hp	-	
	575 V AC	25 hp	-	-	50 hp	-	
UL / CSA general use rating 600 V AC		60 A	80 A	90 A	105 A	115 A	
	With conductor cross-sectional area	AWG 6	AWG 4	AWG 3	AWG 2	AWG 2	
UL / CSA maximum 1-phase motor rating	Full load current	120 V AC	34 A	34 A	56 A	80 A	80 A
		240 V AC	40 A	50 A	68 A	68 A	88 A
	Horse power rating	120 V AC	3 hp	3 hp	5 hp	7-1/2 hp	7-1/2 hp
		240 V AC	7-1/2 hp	10 hp	15 hp	15 hp	20 hp
UL / CSA maximum 3-phase motor rating	Full load current (1)	200-208 V AC	32.2 A	48.3 A	62.1 A	78.2 A	92 A
		220-240 V AC	42 A	54 A	68 A	80 A	80 A
		440-480 V AC	40 A	52 A	65 A	77 A	77 A
		550-600 V AC	41 A	52 A	62 A	77 A	77 A
	Horse power rating (1)	200-208 V AC	10 hp	15 hp	20 hp	25 hp	30 hp
		220-240 V AC	15 hp	20 hp	25 hp	30 hp	30 hp
		440-480 V AC	30 hp	40 hp	50 hp	60 hp	60 hp
		550-600 V AC	40 hp	50 hp	60 hp	75 hp	75 hp
Short-circuit protection device for contactors without thermal overload relay - Motor protection excluded							
High fault current		100 kA					
Fuse rating		150 A	150 A	150 A	200 A	200 A	
Fuse type, 600 V		J					
Maximum electrical switching frequency							
For general use		600 cycles/h					
For motor use		1200 cycles/h					

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

General technical data

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Rated insulation voltage U_i	acc. to IEC 60947-4-1	690 V				
	acc. to UL / CSA	600 V				
Rated impulse withstand voltage U_{imp}		6 kV				
Electromagnetic compatibility		Devices complying with IEC 60947-1 / EN 60947-1 - Environment A and B				
Ambient air temperature close to contactor						
Operation	Fitted with thermal overload relay	-25...+60 °C				
	Without thermal overload relay	-40...+70 °C				
Storage		-60...+80 °C				
Climatic withstand		Category B according to IEC 60947-1 Annex Q				
Maximum operating altitude (without derating)		3000 m				
Mechanical durability						
Number of operating cycles		10 millions operating cycles				
Maximum switching frequency		3600 cycles/h				
Shock withstand						
acc. to IEC 60068-2-27 and EN 60068-2-27						
Mounting position 1						
	Shock direction	1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position				
	A	25 g				
	B1	25 g closed position / 5 g open position				
	B2	15 g				
	C1	25 g				
	C2	25 g				
Vibration withstand						
acc. to IEC 60068-2-6						
		5...300 Hz				
		3 g closed position / 3 g open position				

AF116 ... AF370 3-pole contactors

Technical data

Main pole - Utilization characteristics according to UL / NEMA / CSA

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Standards		UL 60947-1 / 60947-4-1A and CSA 60947-1 / 60947-4-1A							
Maximum operational voltage		600V							
NEMA size		—	4	—	—	—	5	—	—
NEMA continuous amp rating	Thermal current	—	135 A	—	—	—	270 A	—	—
NEMA maximum horse power ratings									
1-phase, 60 Hz	115 V AC	—	—	—	—	—	—	—	—
	230 V AC	—	—	—	—	—	—	—	—
NEMA maximum horse power ratings									
3-phase, 60 Hz	200 V AC	—	40 hp	—	—	—	75 hp	—	—
	230 V AC	—	50hp	—	—	—	100 hp	—	—
	460 V AC	—	100 hp	—	—	—	200 hp	—	—
	575 V AC	—	100 hp	—	—	—	200 hp	—	—
UL / CSA general use rating									
600 V AC		160 A	200 A	200 A	250 A	300 A	350 A	400 A	520 A
With conductor cross-sectional area		AWG 2/0	AWG 3/0	AWG 3/0	MCM 250	MCM 350 (2)	MCM 500	2//AWG 3/0	2//MCM 300
UL / CSA maximum 1-phase motor rating									
Full load current	120 V AC	—	—	—	—	—	—	—	—
	240 V AC	—	—	—	—	—	—	—	—
Horse power rating	120 V AC	—	—	—	—	—	—	—	—
	240 V AC	—	—	—	—	—	—	—	—
UL / CSA maximum 3-phase motor rating									
Full load current (1)	200-208 V AC	92 A	120 A	120 A	150 A	177 A	221 A	285 A	359 A
	220-240 V AC	104 A	130 A	130 A	154 A	192 A	248 A	312 A	360 A
	440-480 V AC	96 A	124 A	124 A	156 A	180 A	240 A	302 A	361 A
	550-600 V AC	99 A	125 A	125 A	144 A	192 A	242 A	289 A	336 A
Horse power rating (1)	200-208 V AC	30 hp	40 hp	40 hp	50 hp	60 hp	75 hp	100 hp	125 hp
	220-240 V AC	40 hp	50 hp	50 hp	60 hp	75 hp	100 hp	125 hp	150 hp
	440-480 V AC	75 hp	100 hp	100 hp	125 hp	150 hp	200 hp	250 hp	300 hp
	550-600 V AC	100 hp	125 hp	125 hp	150 hp	200 hp	250 hp	300 hp	350 hp
Short-circuit protection device for contactors									
without thermal overload relay - Motor protection excluded									
High fault current		100 kA							
Fuse rating		225 A	250 A	250 A	450 A	400 A	500 A	600 A	800 A
Fuse type, 600 V		J							
Maximum electrical switching frequency									
For general use		300 cycles/h							
For motor use		300 cycles/h							

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

(2) For conductor cross-sectional area above MCM 300 use terminal enlargements LW205.

General technical data

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Rated insulation voltage Ui									
acc. to IEC 60947-4-1		1000 V							
acc. to UL / CSA		600 V							
Rated impulse withstand voltage Uimp.		8 kV							
Electromagnetic compatibility		AF contactors comply with IEC 60947-1 / EN 60947-1 - Environment A							
Ambient air temperature close to contactor									
Operation	Fitted with thermal overload relay	-25 to +55 °C							
	Without thermal overload relay	-40 to +70 °C							
Storage		-40 to +70 °C							
Maximum operating altitude (without derating)		3000 m							
Mechanical durability									
Number of operating cycles		5 million operating cycles							
Maximum switching frequency		300 cycles/h							

AF400 ... AF2650 3-pole contactors

Technical data

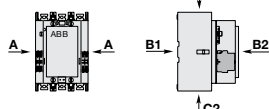
Main pole - Utilization characteristics according to UL / NEMA / CSA

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650	
Standards		UL 508, CSA C22.2 N°14									
Maximum operational voltage		600 V					1000 V				
NEMA size		6			7			8			
NEMA maximum horse power ratings											
1-phase, 60 Hz	115 V AC	-									
	230 V AC	-									
NEMA maximum horse power ratings											
3-phase, 60 Hz	200 V AC	-	150 hp	-	-	-	-	-	-	-	
	230 V AC	-	200 hp	-	300 hp	-	450 hp	-	-	-	
	460 V AC	-	400 hp	-	600 hp	-	900 hp	-	-	-	
	575 V AC	-	400 hp	-	600 hp	-	900 hp	-	-	-	
UL / CSA general use rating											
1000 V AC		550 A	650 A	750 A	900 A	1210 A	1350 A	1650 A	2100 A	2700 A	
UL / CSA maximum 1-phase motor rating											
Full load current	120 V AC	-	-	-	-	-	-	-	-	-	
	240 V AC	-	-	-	-	-	-	-	-	-	
Horse power rating	120 V AC	-	-	-	-	-	-	-	-	-	
	240 V AC	-	-	-	-	-	-	-	-	-	
UL / CSA maximum 3-phase motor rating											
Full load current (1)	200-208 V AC	358.8 A	414 A	552 A	692.3 A	-	954 A	1030 A	-	-	
	220-240 V AC	360 A	480 A	604 A	722 A	-	954 A	1030 A	-	-	
	440-480 V AC	414 A	477 A	590 A	722 A	-	954 A	1030 A	-	-	
	550-600 V AC	382 A	472 A	578 A	672 A	-	944 A	1050 A	-	-	
Horse power rating (1)	200-208 V AC	125 hp	150 hp	200 hp	250 hp	-	-	-	-	-	
	220-240 V AC	150 hp	200 hp	250 hp	300 hp	-	400 A	450 hp	-	-	
	440-480 V AC	350 hp	400 hp	500 hp	600 hp	-	800 A	900 hp	-	-	
	550-600 V AC	400 hp	500 hp	600 hp	700 hp	-	1000 A	1150 hp	-	-	
Short-circuit protection device for contactors											
without thermal overload relay - Motor protection excluded											
Fuse rating		1000 A			1200 A			Please consult us for coordination with circuit-breaker			
Fuse type, 600 V		L									
Maximum electrical switching frequency											
For general use		300 cycles/h					60 cycles/h			15 cycles/h	
For motor use		300 cycles/h					60 cycles/h			-	

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".

General technical data

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650	
Rated insulation voltage Ui											
acc. to IEC 60947-4-1		1000 V									
acc. to UL / CSA		600 V					1000 V				
Rated impulse withstand voltage Uimp.		8 kV									
Electromagnetic compatibility		AF contactors complying with IEC 60947-1 / EN 60947-1 - Environment A									
Ambient air temperature close to contactor											
Operation	Fitted with electronic overload relay	-25 to +70 °C									
	Without electronic overload relay	-40 to +70 °C									
Storage		-40 to +70 °C									
Maximum operating altitude (without derating)		3000 m									
Mechanical durability											
Number of operating cycles		3 millions operating cycles				0.5 million operating cycles			0.3 million operating cycles		
Max. switching frequency		300 cycles/h					60 cycles/h				
Shock withstand											
acc. to IEC 60068-2-27 and EN 60068-2-27											
Mounting position 1											
	Shock direction	1/2 sinusoidal shock for 30 ms: no change in contact position, closed or open position									
	A	5 g									
	B1	5 g									
	B2	5 g									
	C1	5 g									
	C2	5 g									



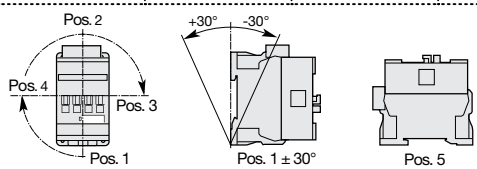
AF09 ... AF38 3-pole contactors

Technical data

Magnet system characteristics

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Coil operating limits acc. to IEC 60947-4-1	AC supply	At $\theta \leq 60^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$. At $\theta \leq 70^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots U_c \text{ max}$.					
	DC supply	At $\theta \leq 60^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$. At $\theta \leq 70^\circ\text{C}$ (AF) $0.85 \times U_c \text{ min} \dots U_c \text{ max}$. - (AF..Z) $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$.					
AC control voltage 50/60 Hz		24...500 V AC					
Rated control circuit voltage U_c	Average pull-in value	(AF) 50 VA - (AF..Z) 16 VA					
Coil consumption	Average holding value	(AF) 2.2 VA / 2 W - (AF..Z) 1.7 VA / 1.5 W					
DC control voltage		12...500 V DC					
Rated control circuit voltage U_c	Average pull-in value	(AF) 50 W - (AF..Z) 12...16 W					
Coil consumption	Average holding value	(AF) 2 W - (AF..Z) 1.7 W					
PLC-output control		(AF..Z) $\geq 500 \text{ mA}$ 24 V DC					
Drop-out voltage		$\leq 60\%$ of $U_c \text{ min}$.					
Voltage sag immunity acc. to SEMI F47-0706		(AF..Z) conditions of use on request					
Dips withstand $-20^\circ\text{C} \leq \theta \leq +60^\circ\text{C}$		(AF..Z) 22 ms average for $U_c \geq 24 \text{ V}$ 50/60 Hz or $U_c \geq 20 \text{ V}$ DC					
Operating time							
Between coil energization and:	N.O. contact closing	40...95 ms					
	N.C. contact opening	38...90 ms					
Between coil de-energization and:	N.O. contact opening	11...95 ms					
	N.C. contact closing	13...98 ms					

Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Mounting positions							
Mounting distances		The contactors can be assembled side by side					
Fixing							
On rail according to IEC 60715, EN 60715		35 x 7.5 mm or 35 x 15 mm					
By screws (not supplied)		2 x M4 screws placed diagonally					

AF40 ... AF96 3-pole contactors

Technical data

Magnet system characteristics

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Coil operating limits acc. to IEC 60947-4-1	AC supply	At $\theta \leq 70^\circ\text{C}$ $0.85 \times U_c \text{ min.} \dots 1.1 \times U_c \text{ max.}$				
	DC supply	At $\theta \leq 70^\circ\text{C}$ $0.85 \times U_c \text{ min.} \dots 1.1 \times U_c \text{ max.}$				
AC control voltage 50/60 Hz						
Rated control circuit voltage U_c		24...500 V AC				
Coil consumption	Average pull-in value	25 VA				
	Average holding value	4 VA / 2 W				
DC control voltage						
Rated control circuit voltage U_c		20...500 V DC				
Coil consumption	Average pull-in value	25 W				
	Average holding value	2 W				
PLC-output control		-				
Drop-out voltage		$\leq 60\%$ of $U_c \text{ min.}$				
Voltage sag immunity acc. to SEMI F47-0706		conditions of use on request				
Dips withstand $-20^\circ\text{C} \leq \theta \leq +60^\circ\text{C}$		24 ms average				
Operating time						
Between coil energization and:	N.O. contact closing	42...100 ms				
	N.C. contact opening	38...95 ms				
Between coil de-energization and:	N.O. contact opening	17...100 ms				
	N.C. contact closing	19...105 ms				

Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Mounting positions						
Mounting distances		Max. N.C. built-in and add-on N.C. auxiliary contacts: see accessory fitting details for a 3-pole contactor AF40 ... AF96				
Fixing		The contactors can be assembled side by side				
On rail according to IEC 60715, EN 60715		35 x 7.5 mm or 35 x 15 mm				
	By screws (not supplied)	2 x M4 or 2 x M6 screws placed diagonally				

AF116 ... AF370 3-pole contactors

Technical data

Magnet system characteristics

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Coil operating limits acc. to IEC 60947-4-1	AC supply	At $\theta \leq 70^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$							
	DC supply	At $\theta \leq 70^\circ\text{C}$ $0.80 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$							
Rated control circuit voltage U_c		24...500 V AC, 20...500 V DC							
Coil consumption									
AC control voltage 50/60 Hz									
24...60 V AC	Average pull-in value	225 VA			165 VA		475 VA		
	Average holding value	5.5 VA			6 VA		8.5 VA		
48...130 V AC	Average pull-in value	170 VA			175 VA		340 VA		
	Average holding value	4 VA			4 VA		17 VA		
100...250 V AC	Average pull-in value	130 VA			220 VA		385 VA		
	Average holding value	6 VA			7 VA		17.5 VA		
250...500 V AC	Average pull-in value	205 VA			185 VA		420 VA		
	Average holding value	16 VA			16 VA		21 VA		
DC control voltage									
20...60 V DC	Average pull-in value	210 W			205 W		400 W		
	Average holding value	2.5 W			2.5 W		3.5 W		
48...130 V DC	Average pull-in value	130 W			130 W		360 W		
	Average holding value	2.5 W			2.5 W		2.5 W		
100...250 V DC	Average pull-in value	135 W			190 W		410 W		
	Average holding value	3 W			2.5 W		4.5 W		
250...500 V DC	Average pull-in value	205 W			190 W		600 W		
	Average holding value	4 W			4 W		4.7 W		
Drop-out voltage		55 % of $U_c \text{ min}$							
Operating time									
Coil supply between A1 - A2									
Between coil energization and:	N.O. contact closing	20...55 ms			25...60 ms		30...60 ms		
Between coil de-energization and:	N.O. contact opening	40...70 ms			45...80 ms		45...80 ms		

Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Mounting positions									
		Max. add-on N.O. or N.C. auxiliary contacts: see accessory fitting details for 3-pole contactor AF116 ... AF370							
Mounting distances		The contactors can be assembled side by side							
Fixing									
On rail acc. to IEC 60715, EN 60715		-							
By screws (not supplied)		4 x M5							

AF400 ... AF2650 3-pole contactors

Technical data

Magnet system characteristics

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650	
Coil operating limits	AC supply	At $\theta \leq 70^\circ\text{C}$ $0.85 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$									
acc. to IEC 60947-4-1	DC supply	At $\theta \leq 70^\circ\text{C}$ $0.80 \times U_c \text{ min} \dots 1.1 \times U_c \text{ max}$									
Rated control circuit voltage U_c		24...500 V AC, 20...500 V DC					100...250 V AC or DC				
Coil consumption											
AC control voltage 50/60 Hz											
24...60 V AC	Average pull-in value	900 VA			780 VA			-			
	Average holding value	12 VA			12 VA			-			
48...130 V AC	Average pull-in value	1215 VA			1100 VA			-			
	Average holding value	12 VA			12 VA			-			
100...250 V AC	Average pull-in value	955 VA			880 VA			2450 VA			
	Average holding value	12 VA			12 VA			48 VA			
250 ... 500 V AC	Average pull-in value	950 VA			985 VA			-			
	Average holding value	12 VA			12 VA			-			
DC control voltage											
20...60 V DC	Average pull-in value	900 VA			785 VA			-			
	Average holding value	5 VA			5.5 VA			-			
48...130 V DC	Average pull-in value	1150 VA			1020 VA			-			
	Average holding value	5 VA			5 VA			-			
100...250 V DC	Average pull-in value	895 VA			880 VA			2290 VA			
	Average holding value	5 VA			5 VA			20.5 VA			
250 ... 500 V DC	Average pull-in value	885 VA			910 VA			-			
	Average holding value	7.5 VA			7.5 VA			-			
Drop-out voltage		55 % of $U_c \text{ min}$.									
Voltage sag immunity		Conditions of use on request									
acc. to SEMI F47											
Dips withstand		$\geq 20 \text{ ms}$									
Operating time											
Coil supply between A1 - A2											
Between coil energization and:	Main contact closing	50...120 ms				50...80 ms					
Between coil de-energization and:	Main contact opening	33...70 ms				35...55 ms					
Control input for PLC's											
Between coil energization and:	Main contact closing	40...60 ms			40...90 ms			40...65 ms			
Between coil de-energization and:	Main contact opening	10...30 ms			10...30 ms						
















Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650	
Mounting positions											
		Max. add-on N.O. or N.C. auxiliary contacts: see accessory fitting details for 3-pole contactor AF400 ... AF2650									
Mounting distances		The contactors can be assembled side by side									
Fixing											
On rail according to IEC 60715, EN 60715		-									
By screws (not supplied)		4 x M5			4 x M6			4 x M8			

AF09 ... AF38 3-pole contactors

Technical data

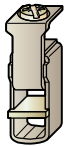
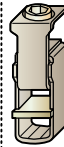














Connecting characteristics

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Main terminals		 Screw terminals with cable clamp					
Connection capacity (min. ... max.)							
Main conductors (poles)							
 Rigid	Solid ($\leq 4 \text{ mm}^2$)	} 1 x	1...6 mm ²			2.5...10 mm ²	
 Stranded ($\geq 6 \text{ mm}^2$)			2 x 1...6 mm ²			2.5...10 mm ²	
 Flexible with non insulated ferrule		1 x	0.75...6 mm ²			1.5...10 mm ²	
 Flexible with insulated ferrule		2 x	0.75...6 mm ²			1.5...10 mm ²	
 Flexible with insulated ferrule		1 x	0.75...4 mm ²			1.5...10 mm ²	
 Flexible with insulated ferrule		2 x	0.75...2.5 mm ²			1.5...4 mm ²	
 Bars or lugs		L <	9.6 mm			12.5 mm	
Connection capacity acc. to UL/CSA		1 or 2 x	AWG 16...10			AWG 14...8	
Stripping length			10 mm			14 mm	
Tightening torque			1.5 Nm / 13 lb.in			2.5 Nm / 22 lb.in	
Auxiliary conductors							
(built-in auxiliary terminals + coil terminals)							
 Rigid solid		1 x	1...2.5 mm ²				
 Rigid solid		2 x	1...2.5 mm ²				
 Flexible with non insulated ferrule		1 x	0.75...2.5 mm ²				
 Flexible with non insulated ferrule		2 x	0.75...2.5 mm ²				
 Flexible with insulated ferrule		1 x	0.75...2.5 mm ²				
 Flexible with insulated ferrule		2 x	0.75...1.5 mm ²				
 Lugs		L <	8 mm				
Connection capacity acc. to UL/CSA		1 or 2 x	AWG 18...14				
Stripping length			10 mm				
Tightening torque			1.2 Nm / 11 lb.in				
Coil terminals			1.2 Nm / 11 lb.in				
Built-in auxiliary terminals			1.2 Nm / 11 lb.in				
Degree of protection							
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529							
Main terminals			IP20				
Coil terminals			IP20				
Built-in auxiliary terminals			IP20				
Screw terminals							
Delivered in open position, screws of unused terminals must be tightened							
Main terminals			M3.5			M4	
		Screwdriver type	Flat Ø 5.5 / Pozidriv 2			Flat Ø 6.5 / Pozidriv 2	
Coil terminals			M3.5				
		Screwdriver type	Flat Ø 5.5 / Pozidriv 2				
Built-in auxiliary terminals			M3.5				
		Screwdriver type	Flat Ø 5.5 / Pozidriv 2				

AF40 ... AF96 3-pole contactors

Technical data

Connecting characteristics

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Main terminals		 <p>Screw terminals with double connector 2 x (9.3 width x 7.9/10.3 depth)</p>			 <p>Screw terminals with double connector 2 x (12.4 width x 9.3/11.1 depth)</p>	
Connection capacity (min. ... max.)						
Main conductors (poles)						
	Rigid	Solid ($\leq 4 \text{ mm}^2$)	} 1 x	6...35 mm ²		6...70 mm ²
		Stranded ($\geq 6 \text{ mm}^2$)		2 x	6...35 mm ²	
	Flexible with non insulated ferrule		1 x	4...35 mm ²		6...50 mm ²
	Flexible with insulated ferrule		2 x	4...35 mm ²		6...50 mm ²
	Flexible with insulated ferrule		1 x	4...35 mm ²		6...50 mm ²
	Flexible with insulated ferrule		2 x	4...35 mm ²		6...50 mm ²
	Bars or lugs		L <	9.2 mm		12.2 mm
Connection capacity acc. to UL/CSA			1 or 2 x	AWG 10...2		AWG 6...1
Stripping length				16 mm		17 mm
Tightening torque				4 Nm / 35 lb.in		6 Nm / 53 lb.in
Auxiliary conductors						
(built-in auxiliary terminals + coil terminals)						
	Rigid solid		1 x	1...2.5 mm ²		
			2 x	1...2.5 mm ²		
	Flexible with non insulated ferrule		1 x	0.75...2.5 mm ²		
			2 x	0.75...2.5 mm ²		
	Flexible with insulated ferrule		1 x	0.75...2.5 mm ²		
			2 x	0.75...1.5 mm ²		
	Lugs		L <	8 mm		
Connection capacity acc. to UL/CSA			1 or 2 x	AWG 18...14		
Stripping length				10 mm		
Tightening torque				1.2 Nm / 11 lb.in		
Coil terminals				1.2 Nm / 11 lb.in		
Built-in auxiliary terminals				1.2 Nm / 11 lb.in		
Degree of protection						
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529						
Main terminals				IP10		
Coil terminals				IP20		
Built-in auxiliary terminals				IP20		
Screw terminals						
Main terminals				Delivered in open position, screws of unused terminals must be tightened		
				M6	M8	
		Screwdriver type		Flat Ø 6.5 / Pozidriv 2		Hexagon socket (s = 4 mm)
Coil terminals				M3.5		
		Screwdriver type		Flat Ø 5.5 / Pozidriv 2		
Built-in auxiliary terminals				M3.5		
		Screwdriver type		Flat Ø 5.5 / Pozidriv 2		

AF116 ... AF370 3-pole contactors

Technical data

Connecting characteristics

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Main terminals									
Flat type									
Connection capacity (min. ... max.)									
Main conductors (poles)									
	Cu cable - Stranded	1 x	10...95 mm ²		6...150 mm ²		16...300 mm ²		
	Clamp type		LD... included (1)		1SDA066917R1		1SDA055016R1		
	Tightening torque		8 Nm		14 Nm		25 Nm		
	Cu cable - Stranded	2 x	10...95 mm ²		50...120 mm ²		70...185 mm ²		
	Clamp type		LD... included (1)		1SFN074709R1000, LZ185-2C/120		1SCA022194R0890, OZXB4		
	Tightening torque		8 Nm		16 Nm		22 Nm		
	Al cable - Stranded	1 x	-		95...185 mm ²		185...240 mm ²		
	Clamp type		-		1SDA054988R1		1SDA055020R1		
	Tightening torque		-		31 Nm		43 Nm		
	Cu cable - Flexible	1 x	10...70 mm ²		6...120 mm ²		16...240 mm ²		
	Clamp type		LD... included (1)		1SDA066917R1		1SDA055016R1		
	Tightening torque		8 Nm		14 Nm		25 Nm		
	Cu cable - Flexible	2 x	10...70 mm ²		50...95 mm ²		70...185 mm ²		
	Clamp type		LD... included (1)		1SFN074709R1000, LZ185-2C/120		1SCA022194R0890, OZXB4		
	Tightening torque		8 Nm		16 Nm		22 Nm		
	Lugs	W ≤	22 mm (.866 in)		24 mm (.945 in)		32 mm (1.260 in)		
		Ø >	6 mm (.236 in)		8 mm (.315 in)		10 mm (.394 in)		
	Socket type		LL... included		LL... included		LL... included		
	Tightening torque		9 Nm / 80 lb.in		18 Nm / 160 lb.in		28 Nm / 248 lb.in		
	Connection capacity acc. to UL / CSA	1 x	AWG 6...3/0		6...300 MCM		4...400 MCM		
	Clamp type		LD... included (1)		ATK185 (2)		ATK300 (2)		
	Tightening torque		8 Nm / 71 lb.in		34 Nm / 301 lb.in		42 Nm / 372 lb.in		
	Connection capacity acc. to UL / CSA	2 x	AWG 6...3/0		-		4...500 MCM		
	Clamp type		LD... included (1)		-		ATK300/2 (2)		
	Tightening torque		8 Nm / 71 lb.in		-		42 Nm / 372 lb.in		
Auxiliary conductors									
(coil terminals)									
	Solid / stranded	1 x	1...4 mm ²						
		2 x	1...4 mm ²						
	Flexible	1 x	0.75...2.5 mm ²						
		2 x	0.75...2.5 mm ²						
	Flexible with non insulated ferrule	1 x	0.75...2.5 mm ²						
		2 x	0.75...2.5 mm ²						
	Flexible with insulated ferrule	1 x	0.75...2.5 mm ²						
		2 x	0.75...2.5 mm ²						
	Lugs	L <	8 mm						
		L >	3.5 mm						
	Connection capacity acc. to UL / CSA	1 or 2 x	AWG 18...14						
	Stripping length		9 mm						
	Tightening torque		1.00 Nm / 9 lb.in						
Degree of protection									
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529									
	Main terminals		IP00						
	Coil terminals		IP20						
Screw terminals									
	Main terminals		M6		M8		M10		
		Screwdriver type	Screws and bolts						
	Coil terminals (delivered in open position)		M3.5						
		Screwdriver type	Flat Ø 5.5 mm / Pozidriv 2						

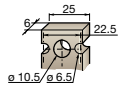
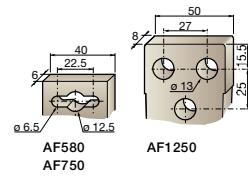
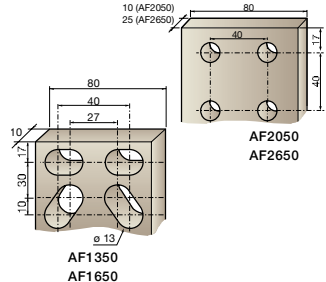










(1) LD... not included for AF116 ... AF146-30-.B.

(2) Available in North America only.

AF400 ... AF2650 3-pole contactors

Technical data

Connecting characteristics

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Main terminals										
Flat type										
										
Connection capacity (min. ... max.)										
Main conductors (poles)										
	Cu cable - Stranded	2 x	240 mm ²		-		-		-	
	Clamp type		1SDA013922R1		-		-		-	
	Tightening torque		35 Nm		-		-		-	
	Cu cable - Stranded	3 x	-		185 mm ²		-		-	
	Clamp type		-		1SDA013956R1		-		-	
	Tightening torque		35 Nm		45 Nm		-		-	
	Al cable - Stranded	2 x	240 mm ²		-		-		-	
	Clamp type		1SDA013922R1		-		-		-	
	Tightening torque		35 Nm		-		-		-	
		3 x	-		185 mm ²		-		-	
	Clamp type		-		1SDA013956R1		-		-	
	Tightening torque		35 Nm		45 Nm		-		-	
	Lugs	W ≤	47 mm		50 mm		100 mm			
		Ø >	10 mm		12 mm					
	Tightening torque		35 Nm / 310 lb.in		45 Nm / 398 lb.in					
Connection capacity acc. to UL / CSA										
		2 x	250-500 MCM alt. 2/0 AWG-400 MCM		-		2// 3 x 0.25 in		4/0 AWG - 500 MCM 4//4 x 0.25 in	
	Clamp type		K6TH alt. ATK580		-		bars, use LW1250		K7TK bars	
	Tightening torque		275 lb.in		-		375 lb.in		-	
Connection capacity acc. to UL / CSA										
		3 x	2/0 AWG-400 MCM		2/0 AWG-500 MCM		1/0-750 MCM		-	
	Clamp type		K6TJ		ATK750/3		K8TL, K8TM, ATK1650/4		K8TL, K8TM, ATK1650/4, ATK1650/6	
	Tightening torque		275 lb.in		375 lb.in		500 lb.in		-	
Auxiliary conductors										
(coil terminals)										
	Solid / stranded	1 x	1...4 mm ²							
		2 x	1...4 mm ²							
	Flexible	1 x	0.75...2.5 mm ²							
		2 x	0.75...2.5 mm ²							
	Flexible with non insulated ferrule	1 x	0.75...2.5 mm ²							
		2 x	0.75...2.5 mm ²							
	Flexible with insulated ferrule	1 x	0.75...2.5 mm ²							
		2 x	0.75...2.5 mm ²							
	Lugs	L ≤	8 mm							
		l >	3.7 mm							
Connection capacity acc. to UL / CSA										
		1 or 2 x	AWG 18...14							
	Tightening torque	Recommended	1.00 Nm / 9 lb.in							
		Max.	1.20 Nm							
Degree of protection										
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529										
	Main terminals	IP00								
	Coil terminals	IP20								
Screw terminals										
	Main terminals	M10		M12						
	Coil terminals (delivered in open position)	Screws and bolts M3.5								
	Screwdriver type	Flat Ø 5.5 mm / Pozidriv 2								

AF09 ... AF96 3-pole contactors

Technical data

Built-in auxiliary contacts according to IEC

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
Rated operational voltage U _e max.		690 V										
Rated frequency (without derating)		50 / 60 Hz										
Conventional free air thermal current I _{th} - θ ≤ 40 °C		16 A										
le / Rated operational current AC-15		16 A										
acc. to IEC 60947-5-1												
	24-127 V 50/60 Hz	6 A										
	220-240 V 50/60 Hz	4 A										
	400-440 V 50/60 Hz	3 A										
	500 V 50/60 Hz	2 A										
	690 V 50/60 Hz	2 A										
Making capacity AC-15		10 x I _e AC-15 acc. to IEC 60947-5-1										
Breaking capacity AC-15		10 x I _e AC-15 acc. to IEC 60947-5-1										
le / Rated operational current DC-13		16 A										
acc. to IEC 60947-5-1												
	24 V DC	6 A / 144 W										
	48 V DC	2.8 A / 134 W										
	72 V DC	1 A / 72 W										
	110 V DC	0.55 A / 60 W										
	125 V DC	0.55 A / 69 W										
	220 V DC	0.27 A / 60 W										
	250 V DC	0.27 A / 68 W										
	400 V DC	0.15 A / 60 W										
	500 V DC	0.13 A / 65 W										
	600 V DC	0.1 A / 60 W										
Short-circuit protection device gG type fuse		10 A										
Rated short-time withstand current I _{cw}	for 1.0 s	100 A										
	for 0.1 s	140 A										
Minimum switching capacity		12 V / 3 mA										
with failure rate acc. to IEC 60947-5-4		10 ⁻⁷										
Non-overlapping time between N.O. and N.C. contacts		≥ 2 ms										
Power dissipation per pole at 6 A		0.1 W										
Max. electrical switching frequency	AC-15	1200 cycles/h										
	DC-13	900 cycles/h										
Mechanically linked contacts		Built-in N.O. or N.C. auxiliary contacts and additional N.O. or N.C. auxiliary contacts (CA4, CAL4, CAT4 aux. contact blocks) are mechanically linked contacts.										
acc. to annex L of IEC 60947-5-1												
Mirror contacts		Built-in N.C. auxiliary contacts or additional N.C. auxiliary contacts (CA4, CAL4, CAT4 aux. contact blocks) are mirror contacts.										
acc. to annex F of IEC 60947-4-1												

Built-in auxiliary contacts according to UL / CSA

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
Max. operational voltage		600 V AC, 600 V DC										
Pilot duty		A600, Q600										
AC thermal rated current		10 A										
AC maximum volt-ampere making		7200 VA										
AC maximum volt-ampere breaking		720 VA										
DC thermal rated current		2.5 A										
DC maximum volt-ampere making-breaking		69 VA										

3-pole contactors

Electrical durability and utilization categories

General

Utilization categories determine the current making and breaking conditions relating to the characteristics of the loads to be controlled by the contactors. International standard IEC 60947-4-1 and European standard EN 60947-4-1 are the standards to be referred to.

If I_c is the current to be broken by the contactor and I_e the rated operational current normally drawn by the load, then:

- Categories AC-1 and AC-3: $I_c = I_e$
- Category AC-2: $I_c = 2.5 \times I_e$
- Category AC-4: $I_c = 6 \times I_e$

Generally speaking $I_c = m \times I_e$ where m is a multiple of the load operational current.

On next pages, the curves corresponding to categories AC-1, AC-3 and AC-4 represent the electrical durability variation of standard contactors in relation to the breaking current I_c .

Electrical durability is expressed in millions of operating cycles.

Curve utilization mode

Electrical durability forecast and contactor selection for categories AC-1, AC-2, AC-3 or AC-4

- Note the characteristics of the load to be controlled:
 - Operational voltage U_e
 - Current normally drawn I_e ($U_e / I_e / kW$ relation for motors, see "Motor rated operational powers and currents").
 - Utilization category AC-1, AC-2, AC-3 or AC-4
 - Breaking current $I_c = I_e$ for AC-1 and for AC-3 ; $I_c = 2.5 \times I_e$ for AC-2 ; $I_c = 6 \times I_e$ for AC-4
- Define the number of operating cycles N required.
- On the diagram corresponding to the operational category, select the contactor with the curve immediately above the intersection point ($I_c ; N$).

Electrical durability forecast and contactor selection for mixed duty motor control: AC-3 ($I_c = I_e$) type switching off while "motor running" and, occasionally, AC-4 ($I_c = 6 \times I_e$) type switching off while "motor accelerating"

- Note the characteristics of the motor to be controlled:
 - Operational voltage U_e
 - Current normally drawn while "motor running" I_e ($U_e / I_e / kW$ relation for motors, see "Motor rated operational powers and currents")
 - Breaking current for AC-3 $I_c = I_e$
 - Breaking current for AC-4 while "motor accelerating" $I_c = 6 \times I_e$
 - Percentage of AC-4 operating cycles K (on the basis of the total number of operating cycles)
- Define the total number of operating cycles N required.
- Note the smallest contactor rating compatible for AC-3 (U_e / I_e) on Main pole utilization characteristic table (see "Technical data").
- For the selected contactor make a note of the following in relation to the voltage using diagram AC-3 in next pages:
 - The number of operating cycles A for $I_c = I_e$ (AC-3)
 - The number of operating cycles B for $I_c = 6 \times I_e$ (AC-4)
- Calculate the estimated number of cycles N' (N' is always below A)

$$N' = \frac{A}{1 + 0.01 K (A/B - 1)}$$

- If N' is too low in relation to the target N , calculate the estimated number of cycles for a higher contactor rating.

Case of uninterrupted duty

For uninterrupted duty, some verifications of preventing maintenance are necessary to check the functionality of the concerned product (consult us).

The combined effect of environmental conditions and the proper temperature of the product may require some disposals. As a matter of fact, for this duty, the use duration prevails over the number of operating cycles.

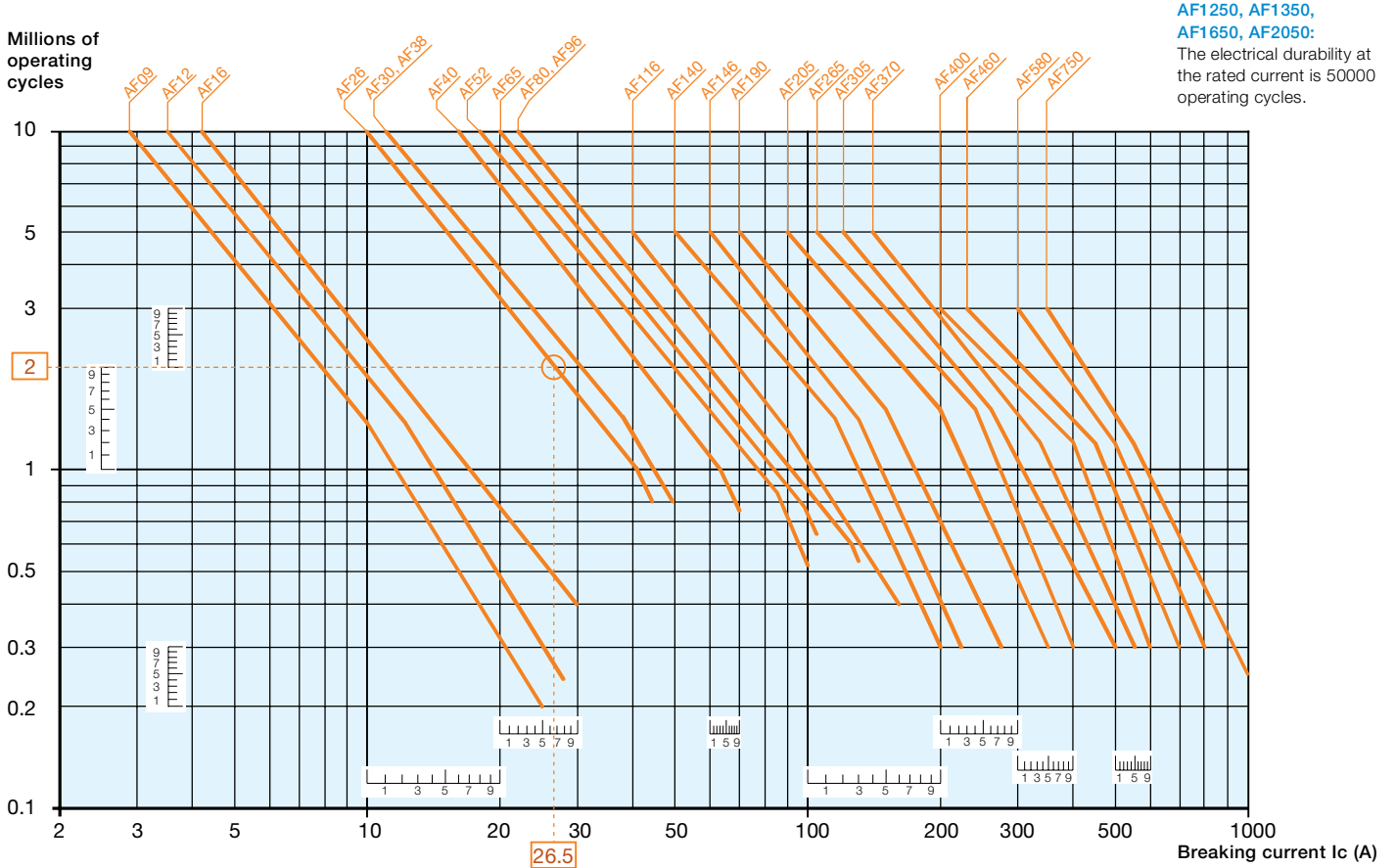
3-pole contactors

Electrical durability

Electrical durability for AC-1 utilization category - $U_e \leq 690\text{ V}$

Switching non-inductive or slightly inductive loads. The breaking current I_c for AC-1 is equal to the rated operational current of the load.

Ambient temperature and maximum electrical switching frequency: see "Technical data".



**AF1250, AF1350,
AF1650, AF2050:**
The electrical durability at the rated current is 50000 operating cycles.

Example:

$I_c / AC-1 = 26.5\text{ A}$ – Electrical durability required = 2 millions operating cycles.

Using the AC-1 curves above select the AF26 contactor at intersection "○" (26.5 A / 2 millions operating cycles).

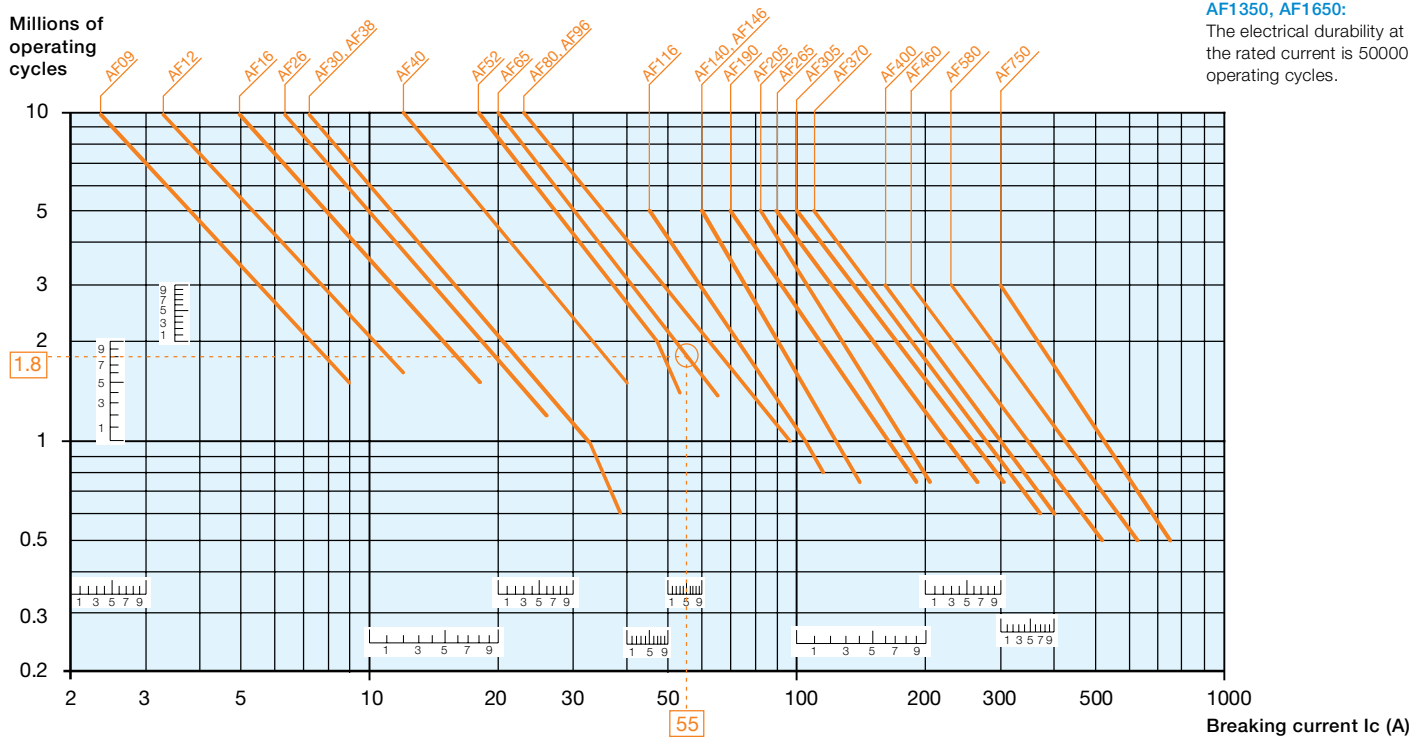
3-pole contactors

Electrical durability

Electrical durability for AC-3 utilization category - $U_e \leq 440$ V.

Switching cage motors: starting and switching off running motors. The breaking current I_c for AC-3 is equal to the rated operational current I_e (I_e = motor full load current).

Ambient temperature and maximum electrical switching frequency: see "Technical data".



Example:

Motor power 30 kW for AC-3 - $U_e = 400$ V and $I_e = 55$ A utilization – Electrical durability required = 1.8 million operating cycles. For AC-3: $I_c = I_e$. Select the AF65 contactor at intersection "O" (55 A / 1.8 million operating cycles) on the curves (AC-3 - $U_e \leq 440$ V).

3-pole contactors

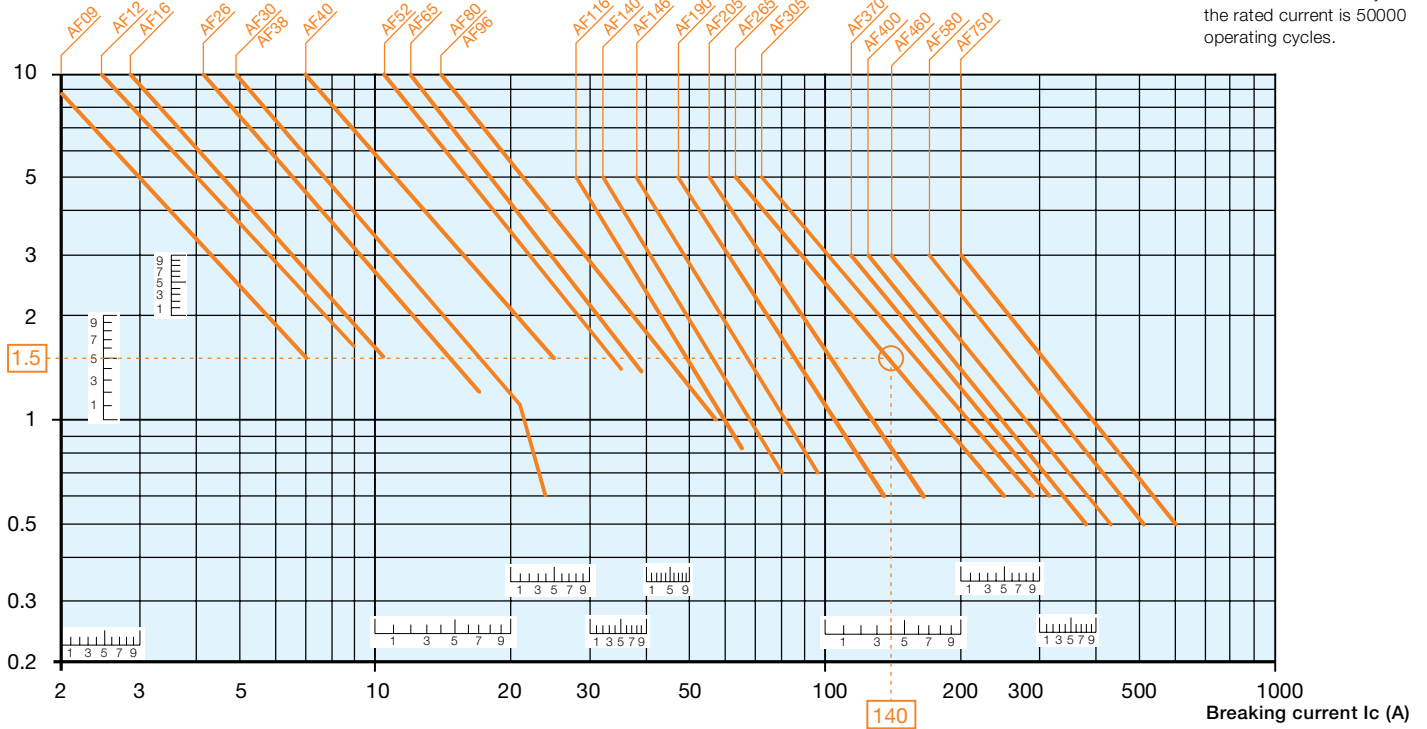
Electrical durability

Electrical durability for AC-3 utilization category - $440\text{ V} < U_e \leq 690\text{ V}$.

Switching cage motors: starting and switching off running motors. The breaking current I_c for AC-3 is equal to the rated operational current I_e (I_e = motor full load current).

Ambient temperature and maximum electrical switching frequency: see "Technical data".

Millions of operating cycles



AF1350, AF1650:
The electrical durability at the rated current is 50000 operating cycles.

Example:

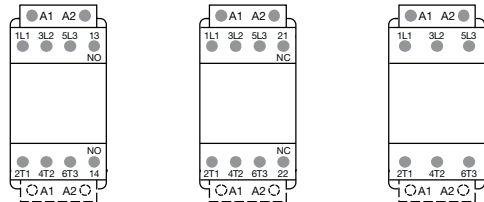
Motor power 132 kW for AC-3 - $U_e = 660\text{ V}$ and $I_e = 140\text{ A}$ utilization – Electrical durability required = 1.5 million operating cycles.
For AC-3: $I_c = I_e$. Select the AF265 contactor at intersection "O" (140 A / 1.5 million operating cycles) on the curves (AC-3 - $440\text{ V} < U_e \leq 690\text{ V}$).

AF09 ... AF96 3-pole contactors

Terminal marking and positioning

AF09 ... AF96 contactors - AC / DC operated

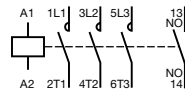
Standard devices without addition of auxiliary contacts



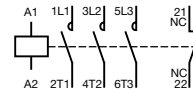
AF09 ... AF16..-30-10

AF09 ... AF16..-30-01

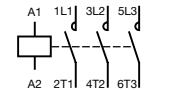
AF26 ... AF96..-30-00



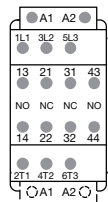
AF09 ... AF16..-30-10



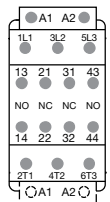
AF09 ... AF16..-30-01



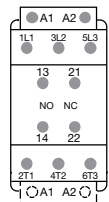
AF26 ... AF96..-30-00



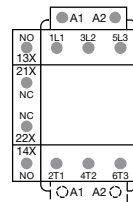
AF09 ... AF16..-30-22



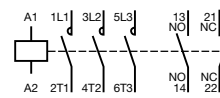
AF26 ... AF96..-30-22



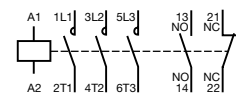
AF26 ... AF38..-30-11



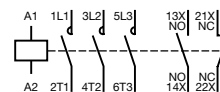
AF40 ... AF96..-30-11



AF09 ... AF96..-30-22

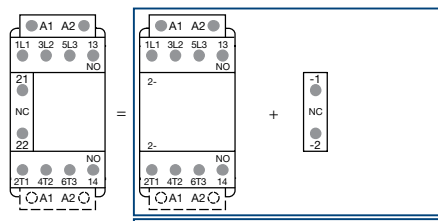


AF26 ... AF38..-30-11

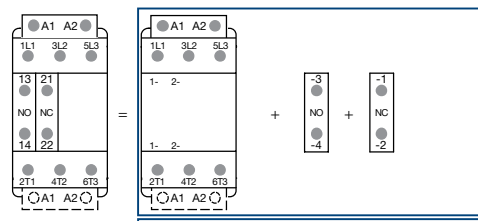


AF40 ... AF96..-30-11

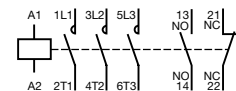
Other possible contact combinations with auxiliary contacts added by the user



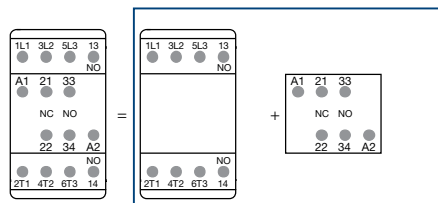
Combination 11 = AF09 ... AF16..-30-10 + CA4-01



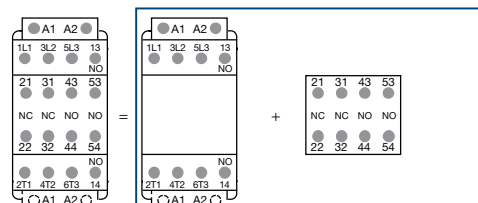
Combination 11 = AF26 ... AF96..-30-00 + CA4-10 + CA4-01



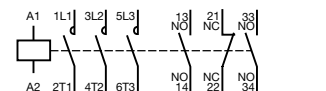
Combination 11



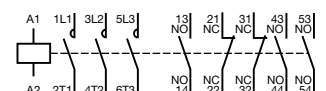
Combination 21 = AF09 ... AF16..-30-10 + CAT4-11M



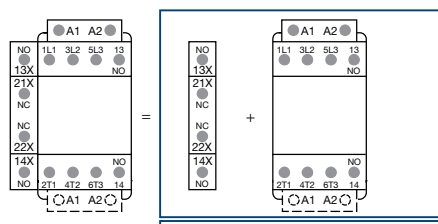
Combination 32 = AF09 ... AF16..-30-10 + CA4-22M



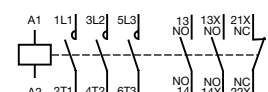
Combination 21



Combination 32



Combination 21 = CAL4-11 + AF09 ... AF16..-30-10



Combination 21

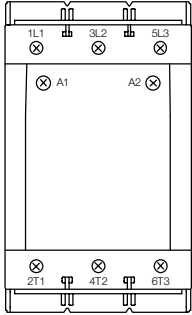
Note: Only AF.Z contactor with DC control voltage 12...20 V DC need to respect the connection polarities indicated close to the coil terminals: A1+ for the positive pole and A2- for the negative pole

AF116 ... AF370 3-pole contactors

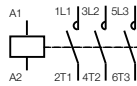
Terminal marking and positioning

AF116 ... AF370 contactors - AC / DC operated

Standard devices without addition of auxiliary contacts



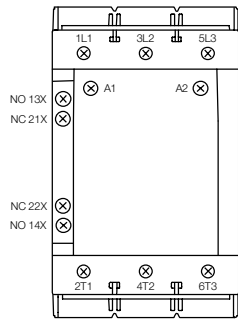
AF116 ... AF370-30-00



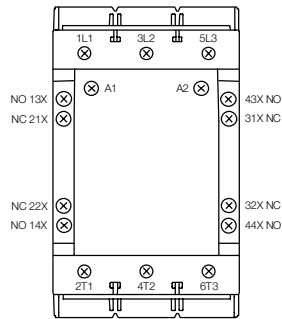
AF116 ... AF370-30-00

5

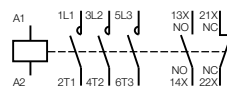
Standard devices with factory mounted auxiliary contacts



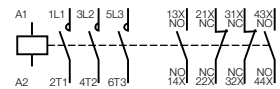
AF116 ... AF370-30-11



AF116 ... AF370-30-22



AF116 ... AF370-30-11



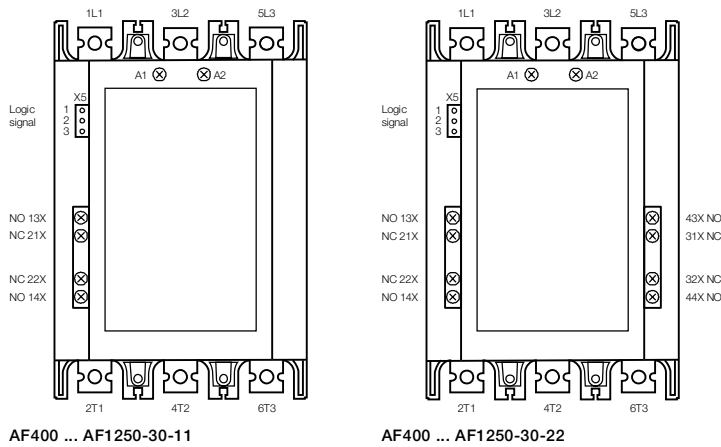
AF116 ... AF370-30-22

AF400 ... AF2650 3-pole contactors

Terminal marking and positioning

AF400 ... AF1250 contactors - AC / DC operated

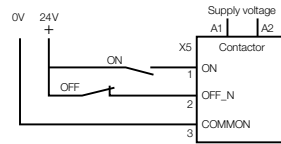
Standard devices with factory mounted auxiliary contacts



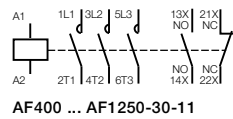
AF400 ... AF1250-30-11

AF400 ... AF1250-30-22

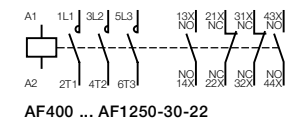
Control with logic signal



AF400 ... AF1250-30-11, AF400 ... AF1250-30-22



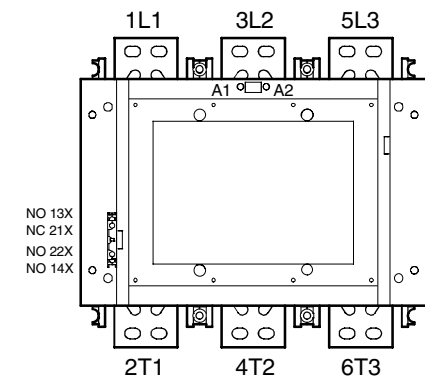
AF400 ... AF1250-30-11



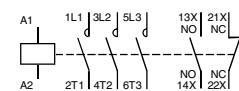
AF400 ... AF1250-30-22

AF1350 ... AF2650 contactors - AC / DC operated

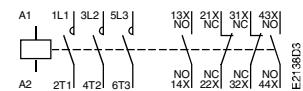
Standard devices with factory mounted auxiliary contacts



AF1350 ... AF2650-30-11



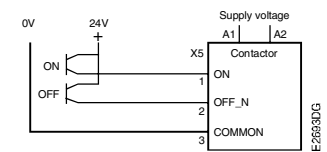
AF1350 ... AF2650-30-11



AF1350 ... AF2650-30-22

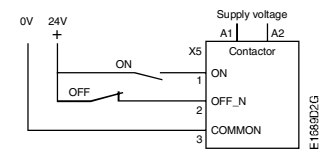
Wiring diagrams

when used with transistor output



AF1350, AF1650

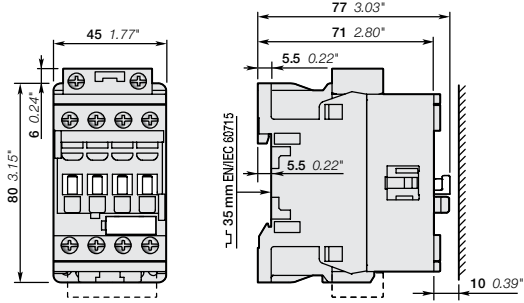
when used with transistor output



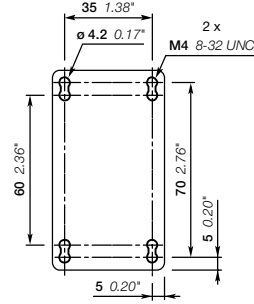
AF1350, AF2650

AF09, AF12, AF16 3-pole contactors

Main dimensions mm, inches

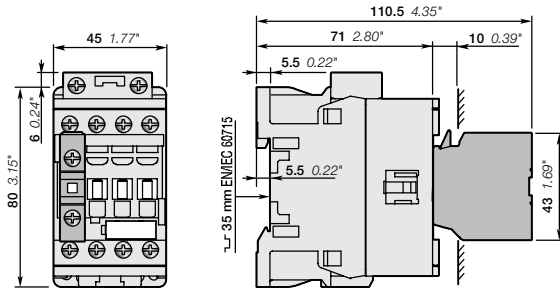


AF09, AF12, AF16

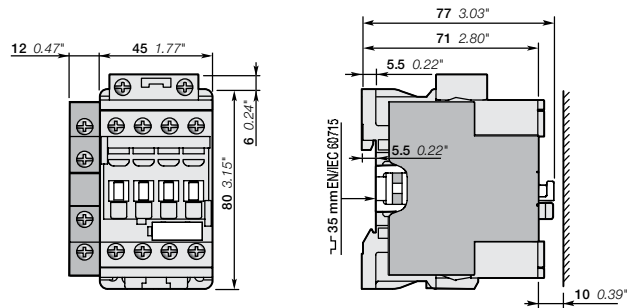


AF09, AF12, AF16

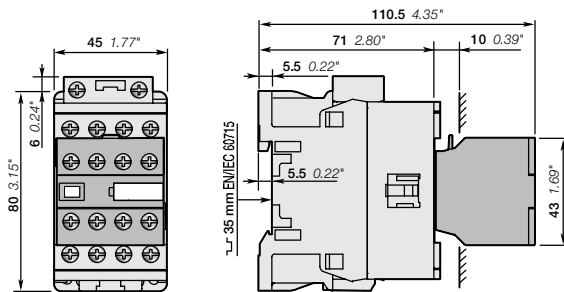
5



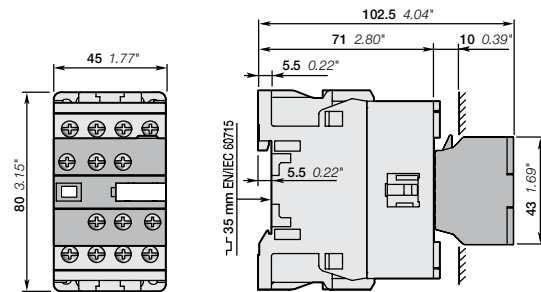
AF09, AF12, AF16
+ CA4, CC4 1-pole auxiliary contact block



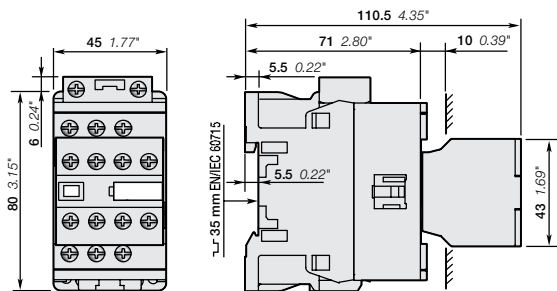
AF09, AF12, AF16
+ CAL4-11 2-pole auxiliary contact block



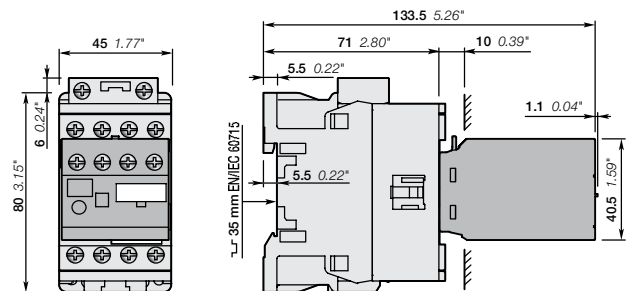
AF09, AF12, AF16
+ CA4 4-pole auxiliary contact block



AF09, AF12, AF16
+ CAT4 2-pole auxiliary contact and coil terminal block



AF09, AF12, AF16...-30-22

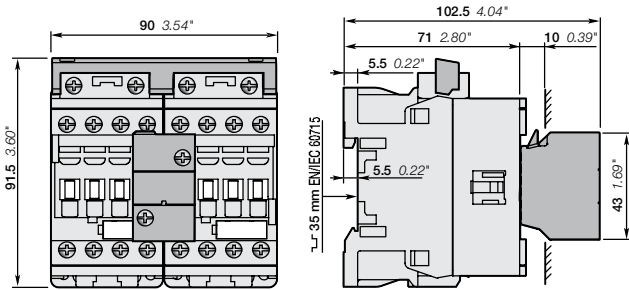


AF09, AF12, AF16
+ TEF4 electronic timer

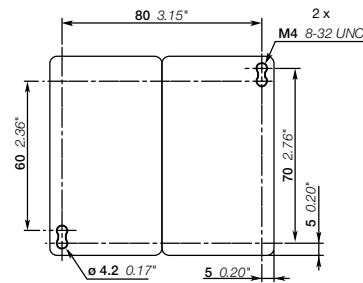
Note: contactor lateral distance to grounded component 2 mm 0.08" min.

AF09, AF12, AF16 3-pole contactors

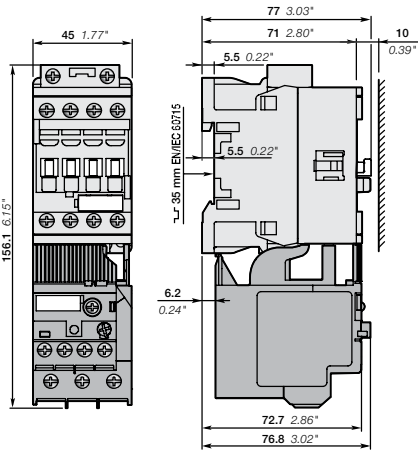
Main dimensions mm, inches



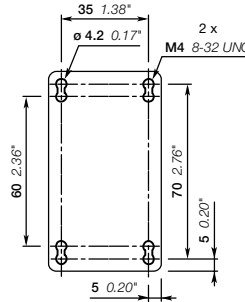
AF09, AF12, AF16
+ VEM4 mechanical and electrical interlock set



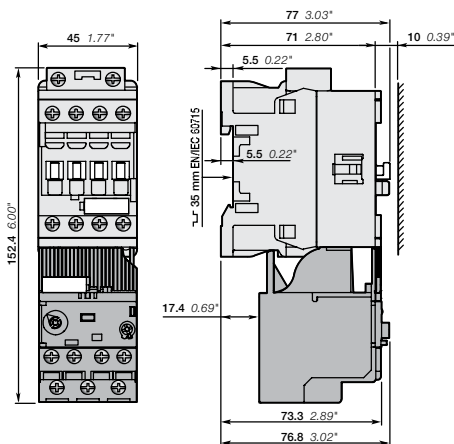
AF09, AF12, AF16
+ VEM4 mechanical and electrical interlock set



AF09, AF12, AF16
+ TF42 thermal overload relay



AF09, AF12, AF16
+ TF42, EF19

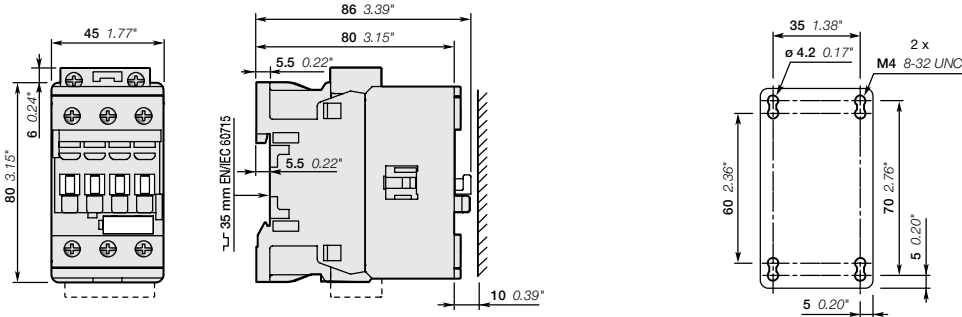


AF09, AF12, AF16 3-pole contactors
+ EF19 electronic overload relay

Note: contactor lateral distance to grounded component 2 mm 0.08" min.

AF26, AF30, AF38 3-pole contactors

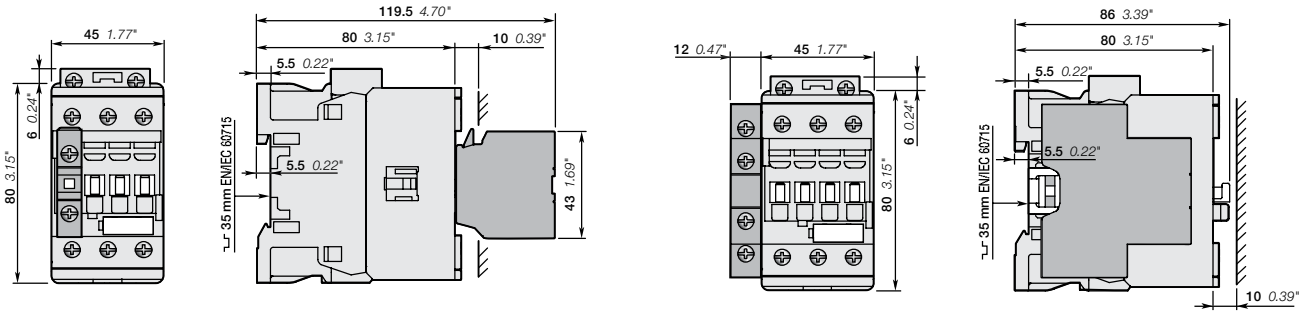
Main dimensions mm, inches



AF26, AF30, AF38

AF26, AF30, AF38

5

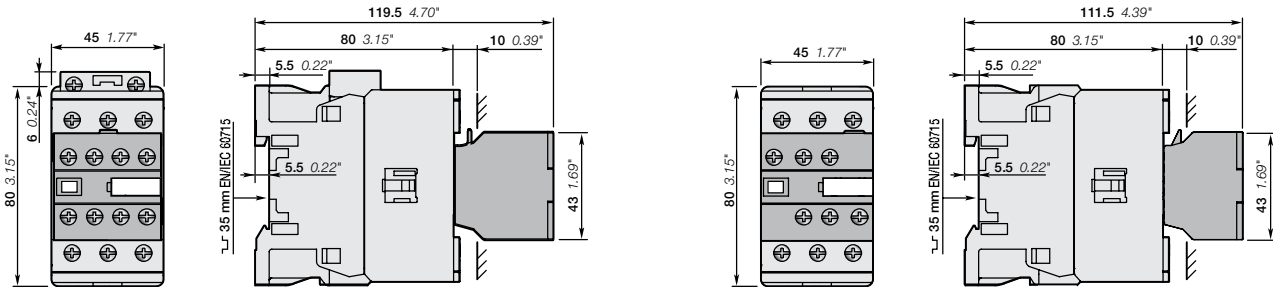


AF26, AF30, AF38

+ CA4, CC4 1-pole auxiliary contact block

AF26, AF30, AF38

+ CAL4-11 2-pole auxiliary contact block

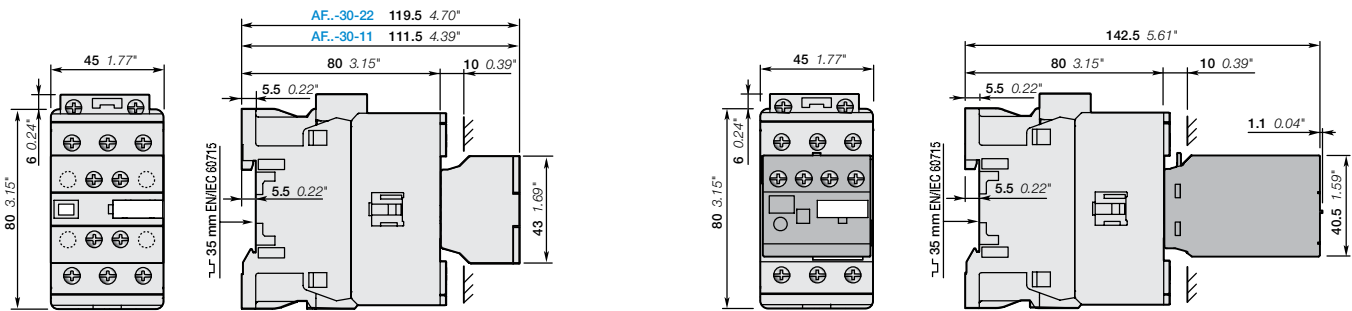


AF26, AF30, AF38

+ CA4 4-pole auxiliary contact block

AF26, AF30, AF38

+ CAT4 2-pole auxiliary contact and coil terminal block



AF26, AF30, AF38...-30-11

AF26, AF30, AF38...-30-22

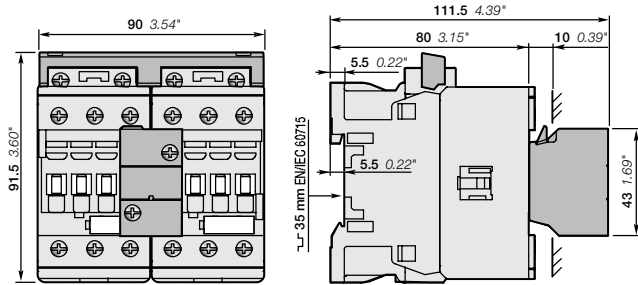
AF26, AF30, AF38

+ TEF4 electronic timer

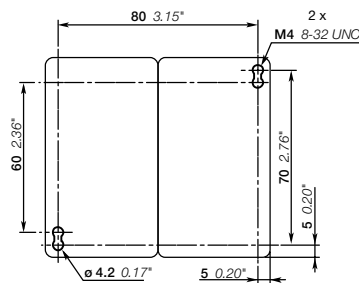
Note: contactor lateral distance to grounded component 2 mm 0.08" min.

AF26, AF30, AF38 3-pole contactors

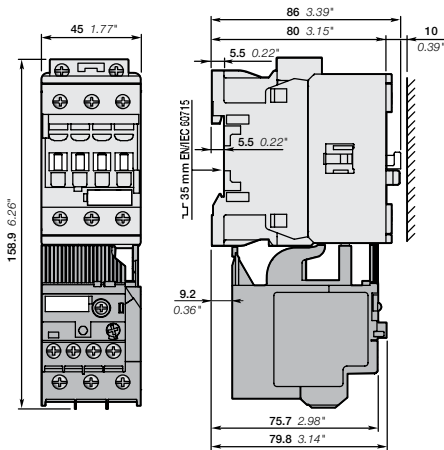
Main dimensions mm, inches



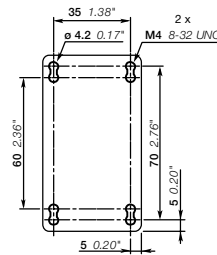
AF26, AF30, AF38
+ VEM4 mechanical and electrical interlock set



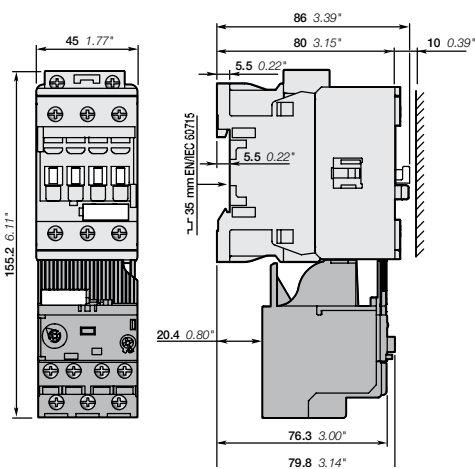
AF26, AF30, AF38
+ VEM4 mechanical and electrical interlock set



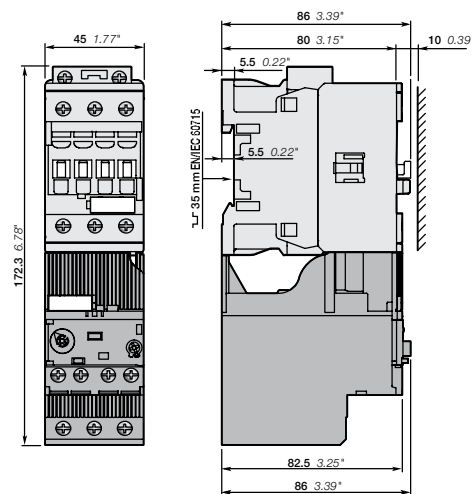
AF26, AF30, AF38
+ TF42 thermal overload relay



AF26, AF30, AF38
+ TF42, EF19, EF45



AF26 3-pole contactors
+ EF19 electronic overload relay

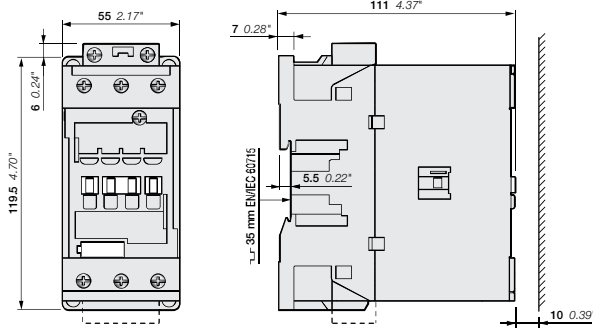


AF26, AF30, AF38 3-pole contactors
+ EF45 electronic overload relay

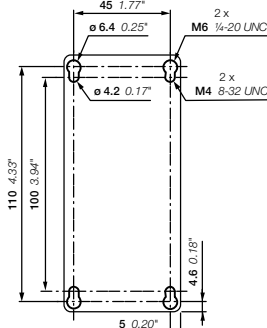
Note: contactor lateral distance to grounded component 2 mm 0.08" min.

AF40 ... AF65 3-pole contactors

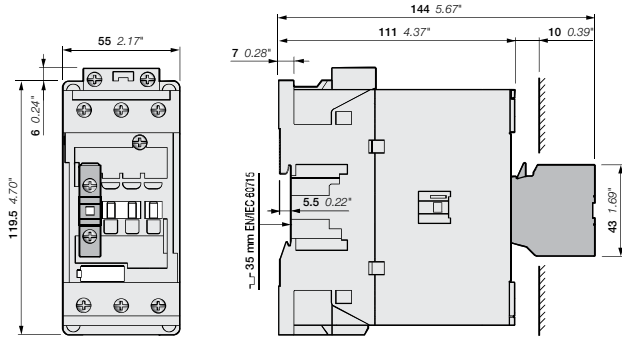
Main dimensions mm, inches



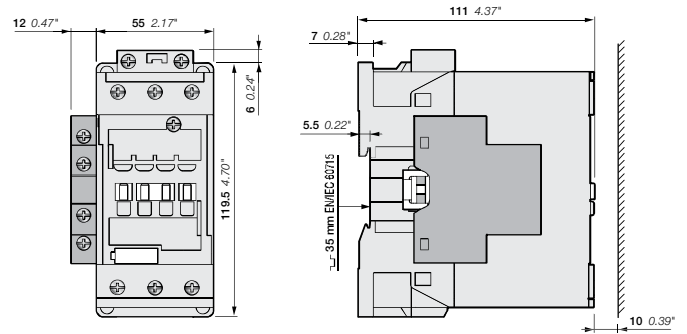
AF40, AF52, AF65



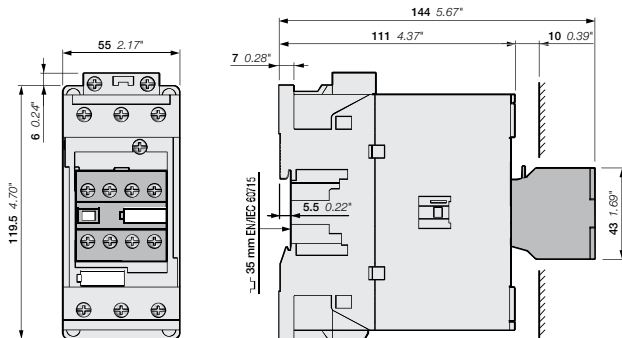
AF40, AF52, AF65



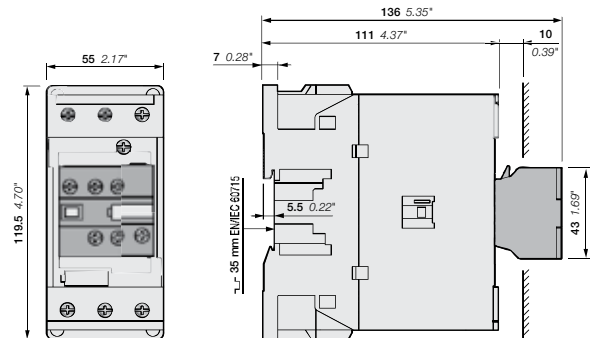
AF40, AF52, AF65
+ CA4, CC4 1-pole auxiliary contact block



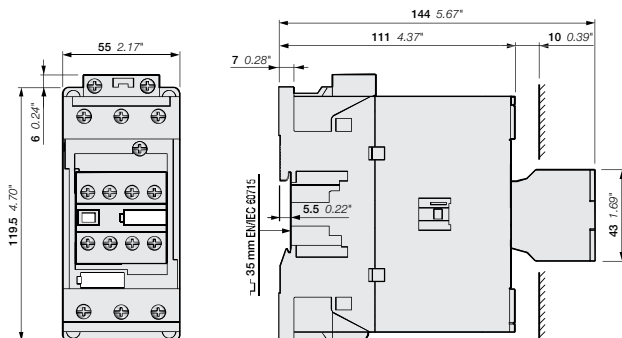
AF40, AF52, AF65-30-00 + CAL4-11 2-pole auxiliary contact block
AF40, AF52, AF65-30-11



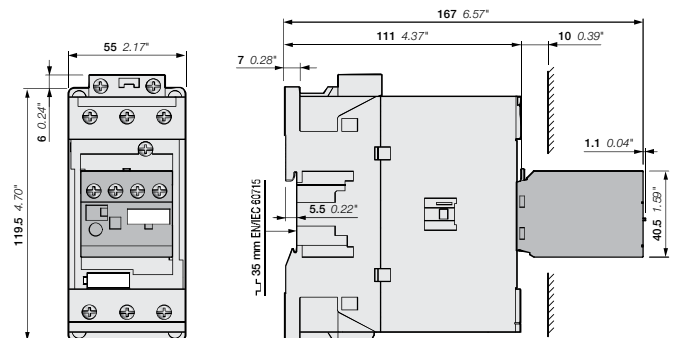
AF40, AF52, AF65
+ CA4 4-pole auxiliary contact block



AF40, AF52, AF65
+ CAT4 2-pole auxiliary contact and coil terminal block



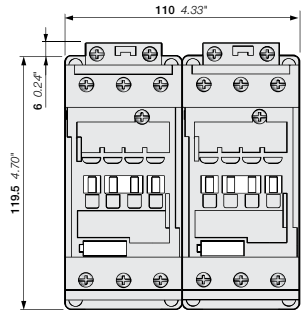
AF40, AF52, AF65...-30-22



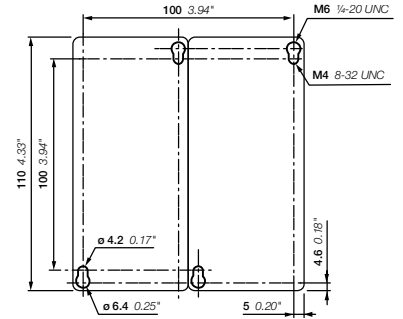
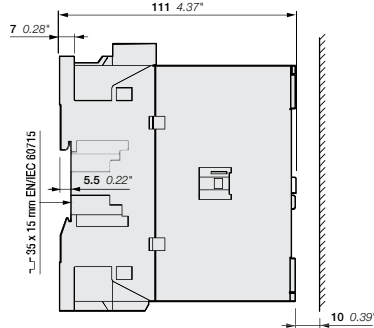
AF40, AF52, AF65
+ TEF4 electronic timer

AF40 ... AF65 3-pole contactors

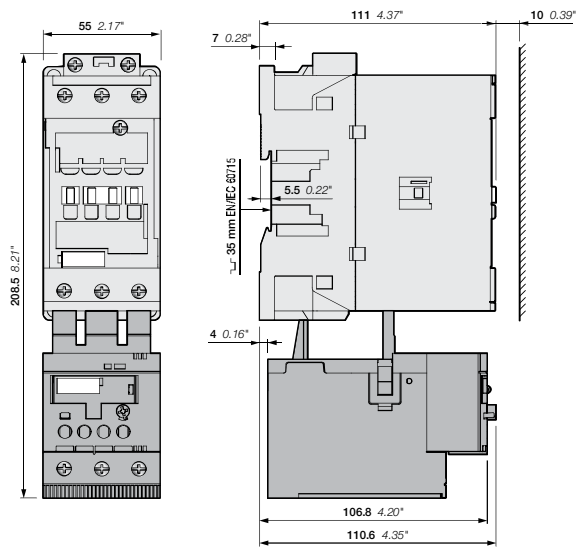
Main dimensions mm, inches



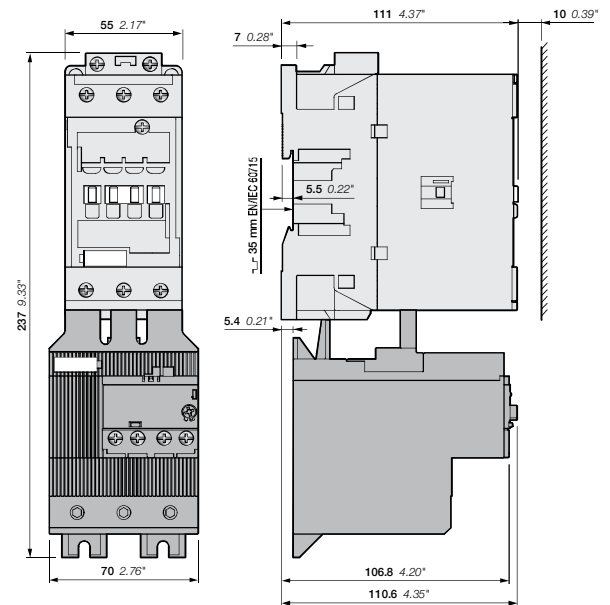
AF40, AF52, AF65
+ VM96-4 mechanical interlock unit



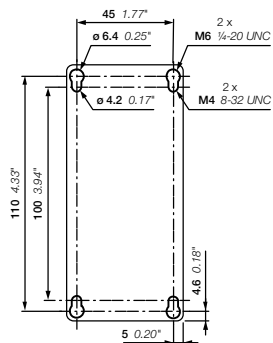
AF40, AF52, AF65
+ VM96-4 mechanical interlock set



AF40, AF52, AF65
+ TF65 thermal overload relay



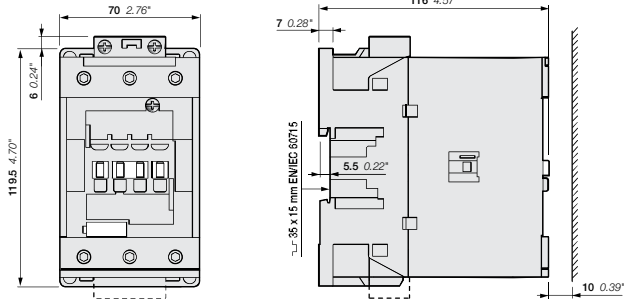
AF40, AF52, AF65
+ EF65 electronic overload relay



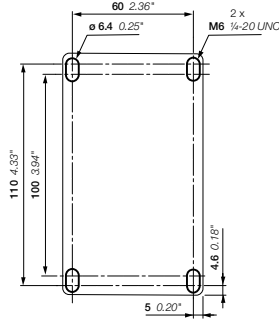
AF40, AF52, AF65
+ TF65, EF65

AF80 ... AF96 3-pole contactors

Main dimensions mm, inches

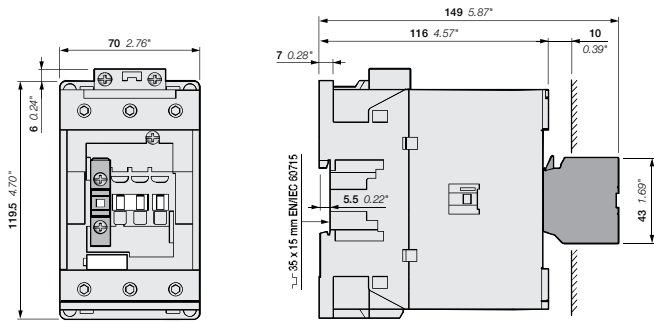


AF80, AF96

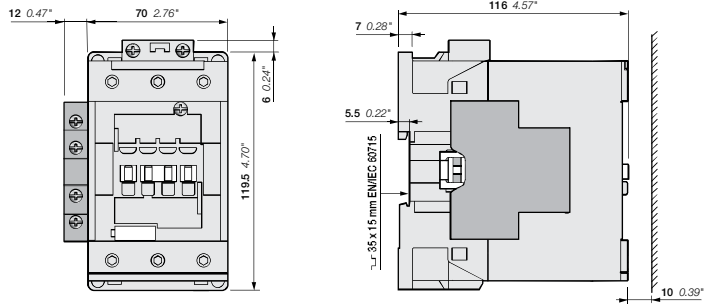


AF80, AF96

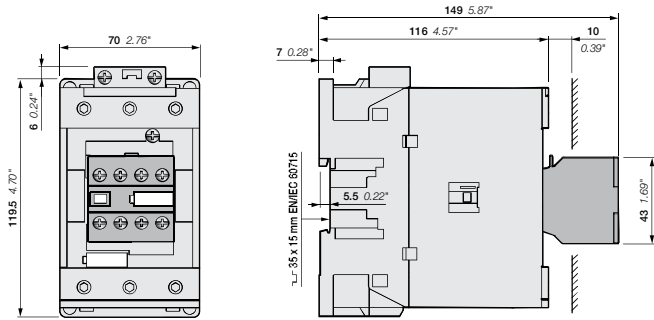
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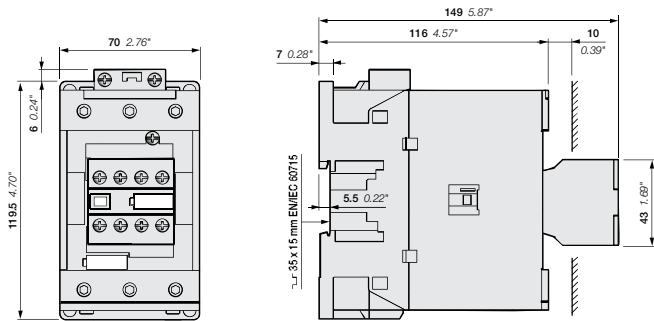
AF80, AF96
+ CA4, CC4 1-pole auxiliary contact block



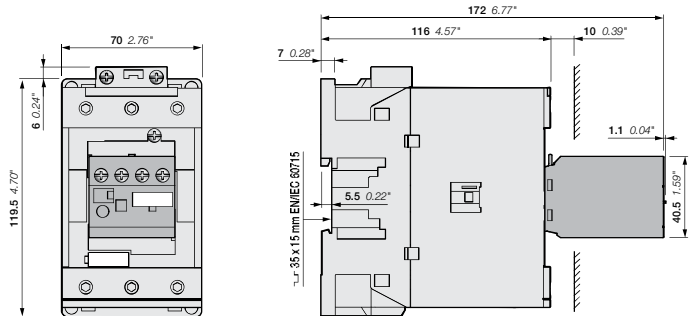
AF80, AF96-30-00 + CAL4-11 2-pole auxiliary contact block
AF80, AF96-30-11



AF80, AF96
+ CA4 4-pole auxiliary contact block



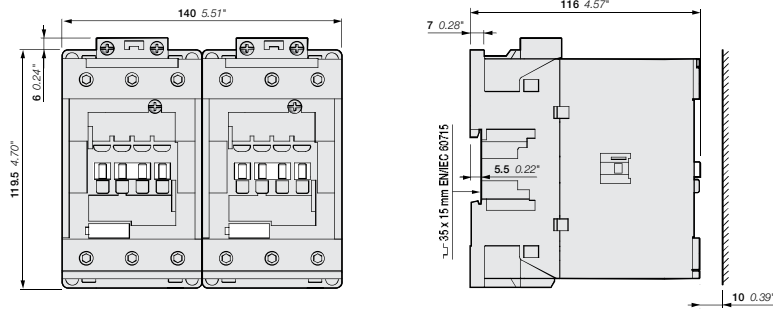
AF80, AF96...-30-22



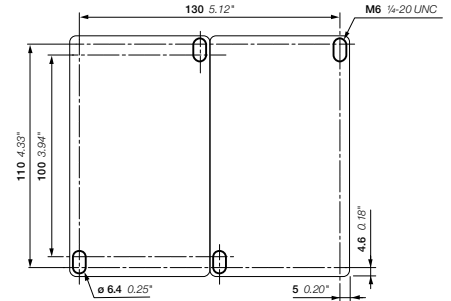
AF80, AF96
+ TEF4 electronic timer

AF80 ... AF96 3-pole contactors

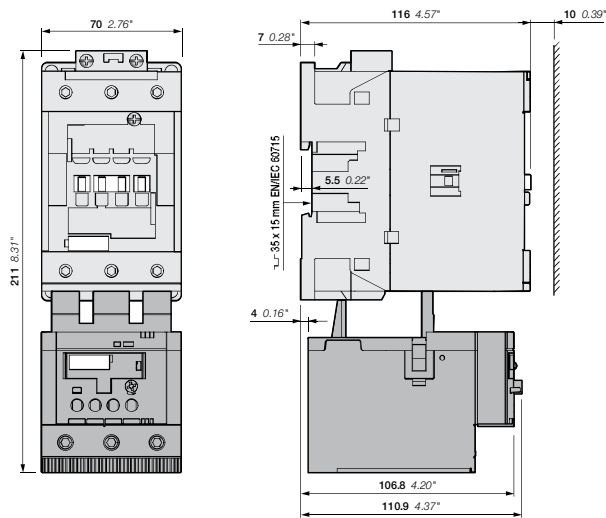
Main dimensions mm, inches



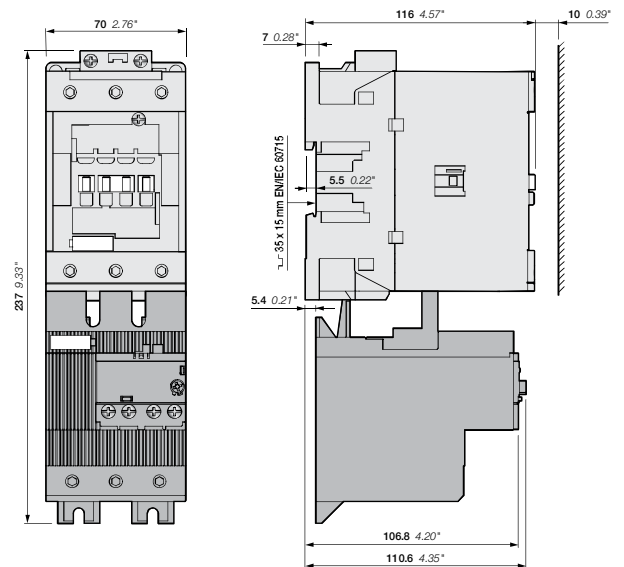
AF80, AF96
+ VM96-4 mechanical interlock unit



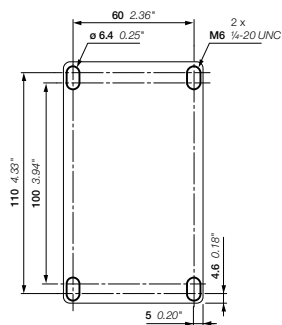
AF80, AF96
+ VM96-4 mechanical interlock set



AF80, AF96
+ TF96 thermal overload relay



AF80, AF96
+ EF96 electronic overload relay

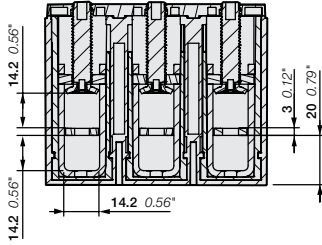


AF80, AF96
+ TF96, EF96

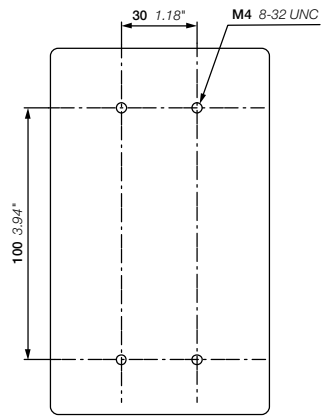
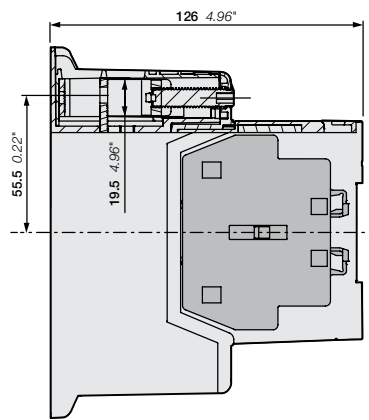
AF116, AF140, AF146 3-pole contactors

Main dimensions mm, inches

SECTION D-D



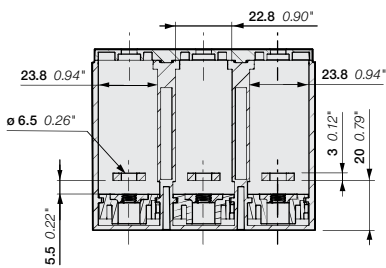
SECTION E-E



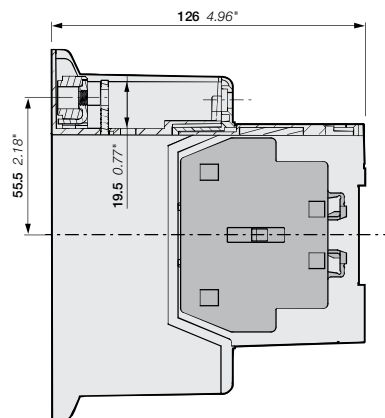
AF116, AF140, AF146-30-00 + CAL19 2-pole auxiliary contact block
AF116, AF140, AF146-30-11

AF116, AF140, AF146-30...(B)

SECTION D-D



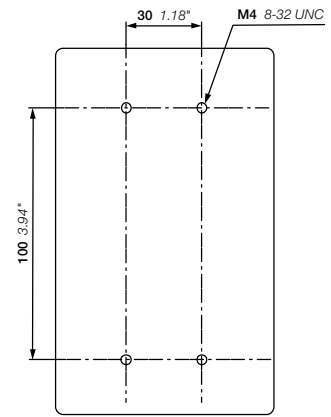
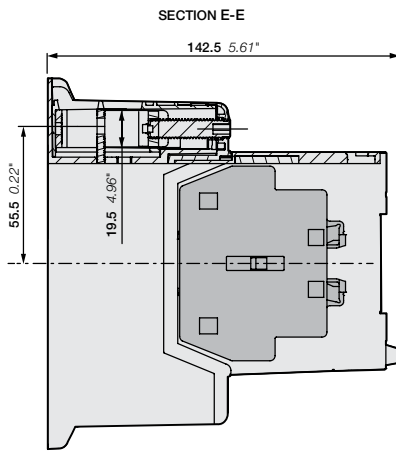
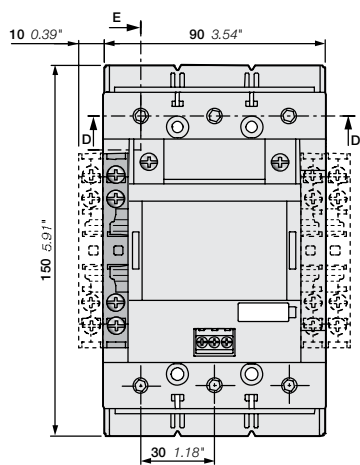
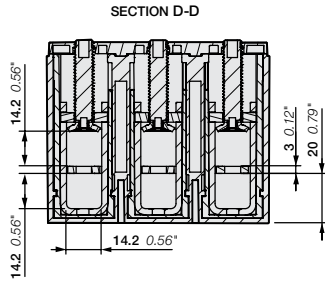
SECTION E-E



AF116, AF140, AF146-30-00B + CAL19 2-pole auxiliary contact block
AF116, AF140, AF146-30-11B

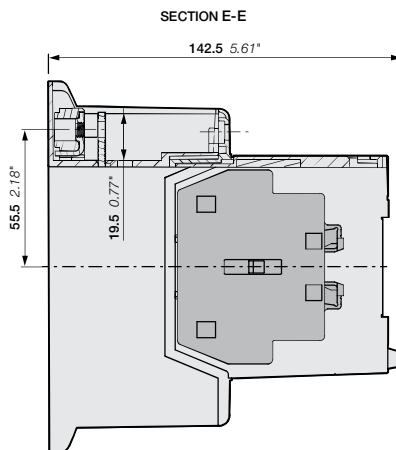
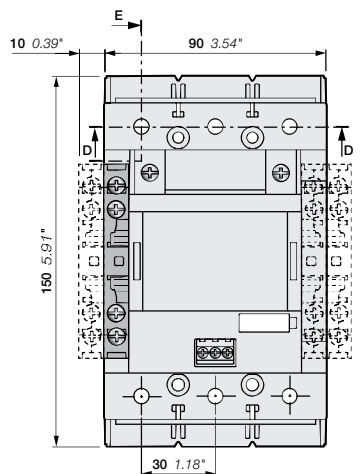
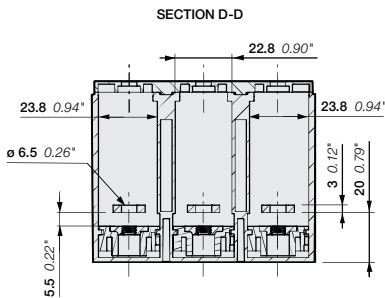
AF116, AF140, AF146 3-pole contactors With built-in PLC interface (coil code 33, 34)

Main dimensions mm, inches



AF116, AF140, AF146-30-00 + CAL19 2-pole auxiliary contact block
AF116, AF140, AF146-30-11

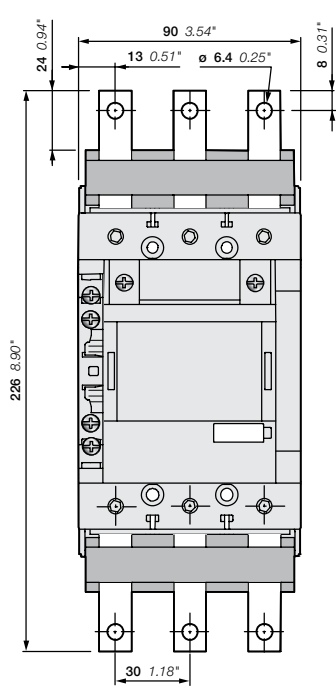
AF116, AF140, AF146-30-...(B)



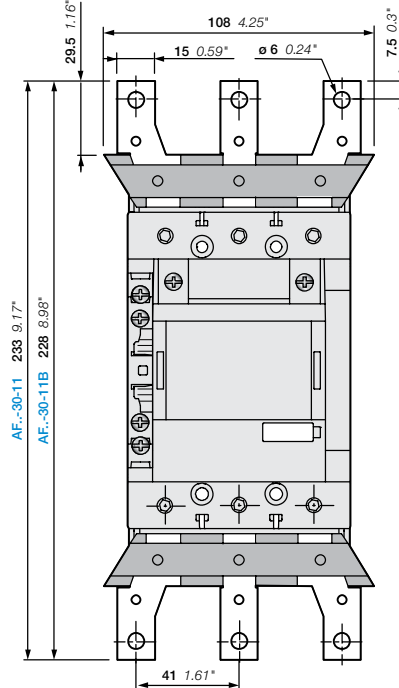
AF116, AF140, AF146-30-00B + CAL19 2-pole auxiliary contact block
AF116, AF140, AF146-30-11B

AF116, AF140, AF146 3-pole contactors

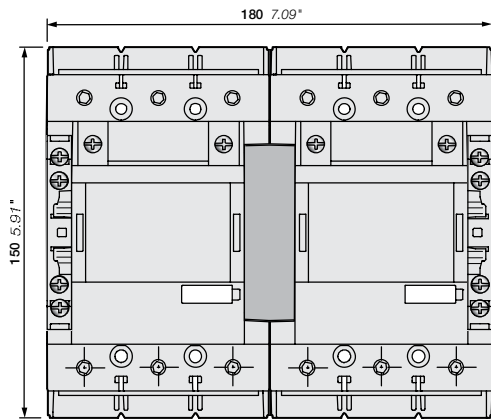
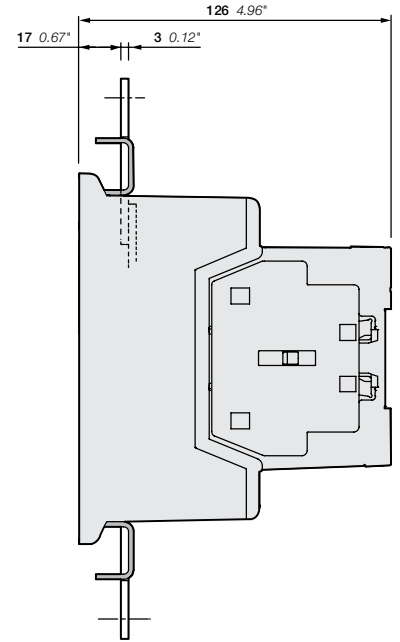
Main dimensions mm, inches



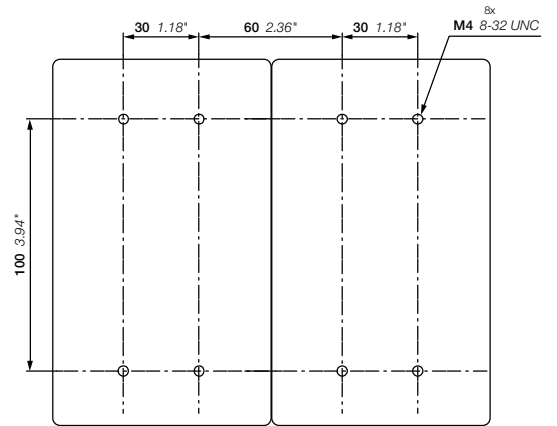
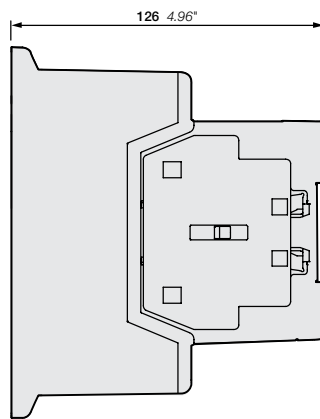
AF116, AF140, AF146-30-11
+ LX140 terminal extension



AF116, AF140, AF146-30-11(B)
+ LW140(B) terminal enlargement



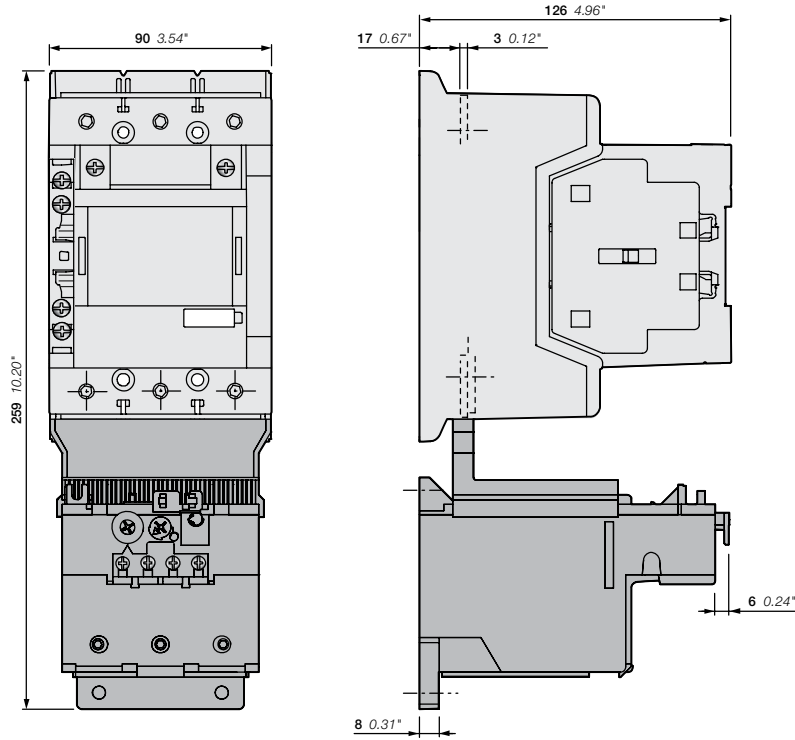
AF116, AF140, AF146-30-11(B)
+ VM19 mechanical interlocking unit



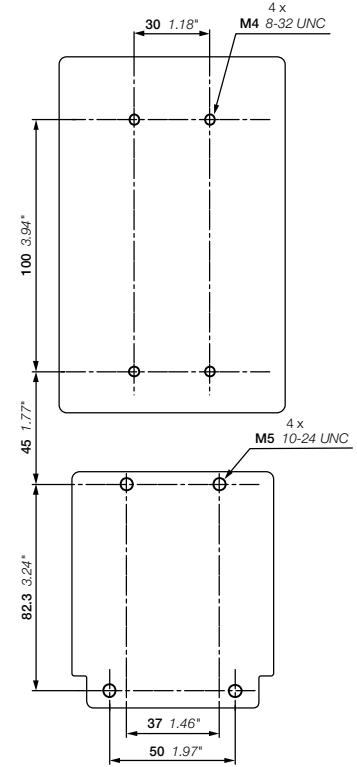
AF116, AF140, AF146-30-11(B)
+ VM19 mechanical interlocking unit

AF116, AF140, AF146 3-pole contactors

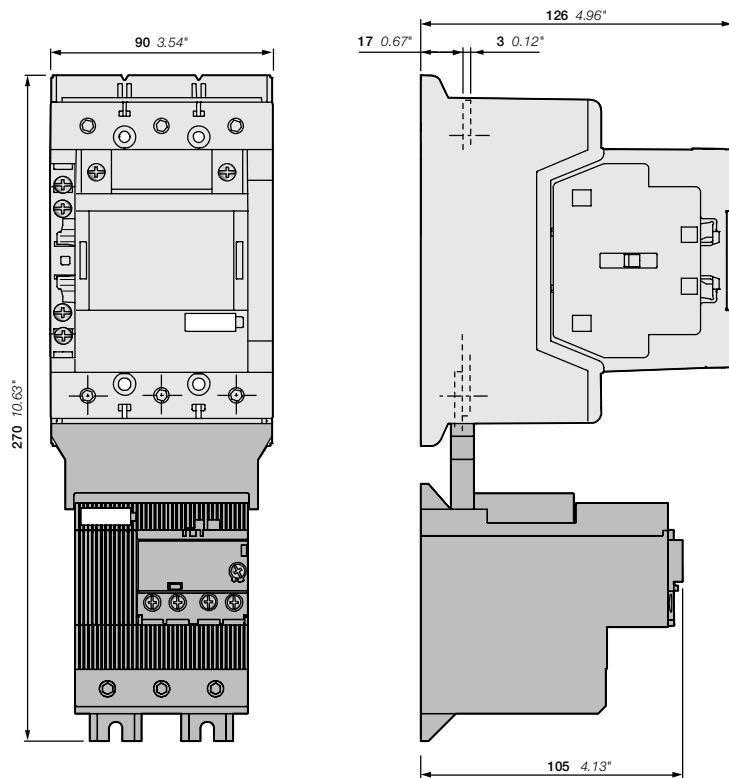
Main dimensions mm, inches



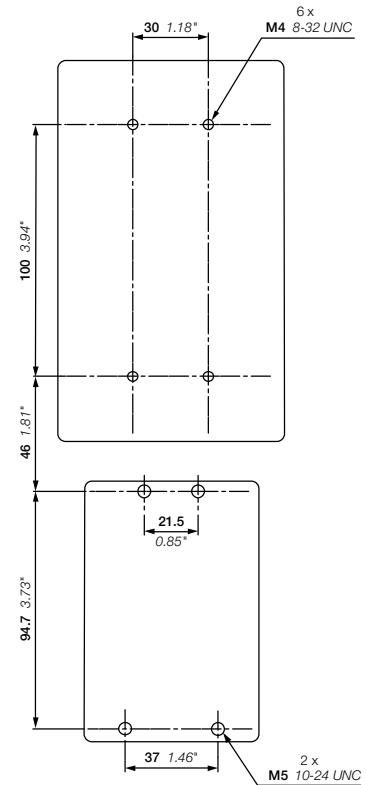
AF116, AF140-30-11(B)
+ TF140 thermal overload relay



AF116, AF140-30-11(B)
+ TF140 thermal overload relay



AF116, AF140, AF146-30-11(B)
+ EF146 electronic overload relay

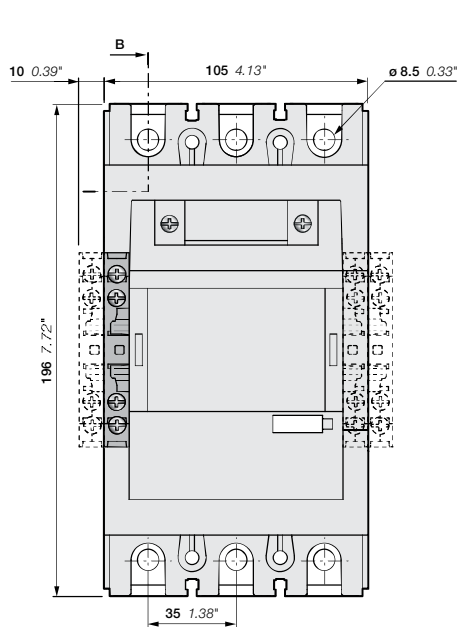


AF116, AF140, AF146-30-11(B)
+ EF146 electronic overload relay

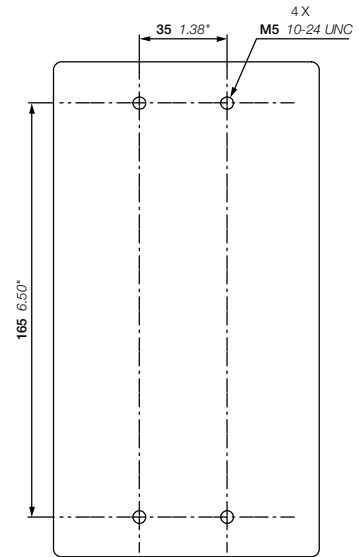
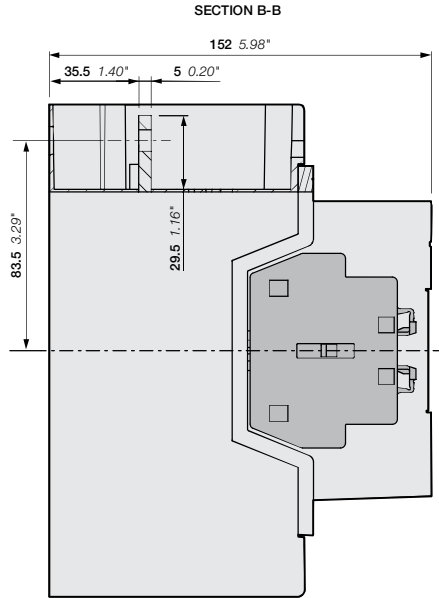
AF190, AF205 3-pole contactors

Main dimensions mm, inches

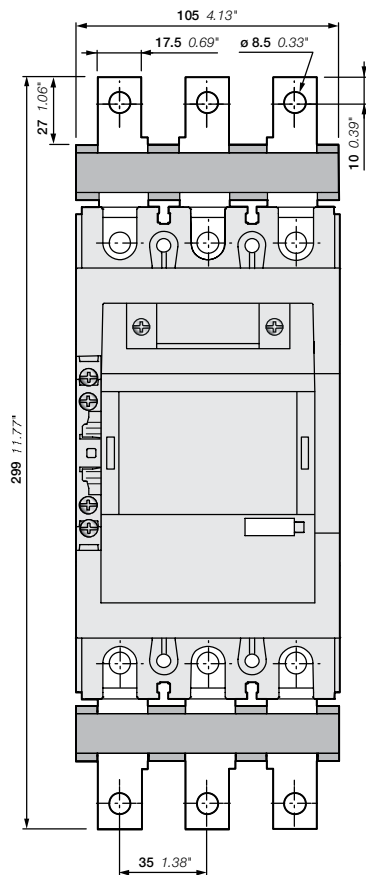
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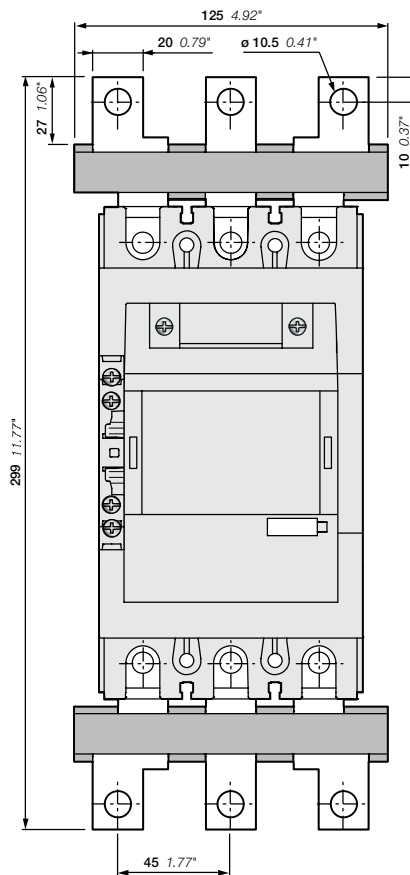
AF190, AF205-30-00 + CAL19 2-pole auxiliary contact block
AF190, AF205-30-11



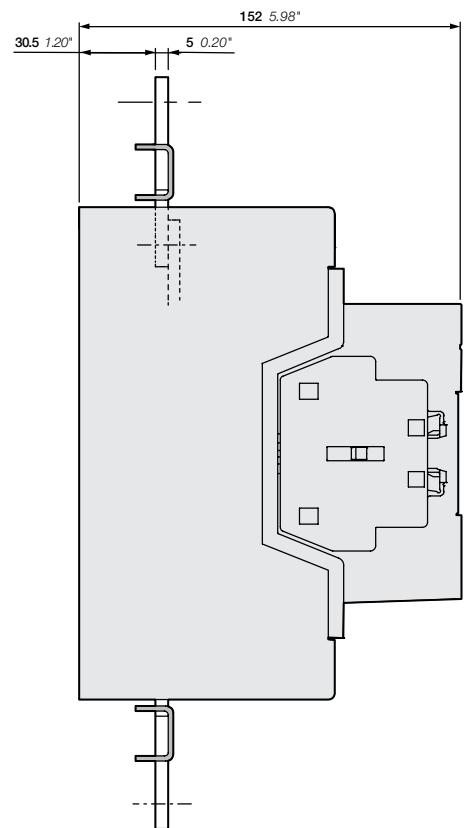
AF190, AF205



AF190, AF205-30-11
+ LX185 terminal extension



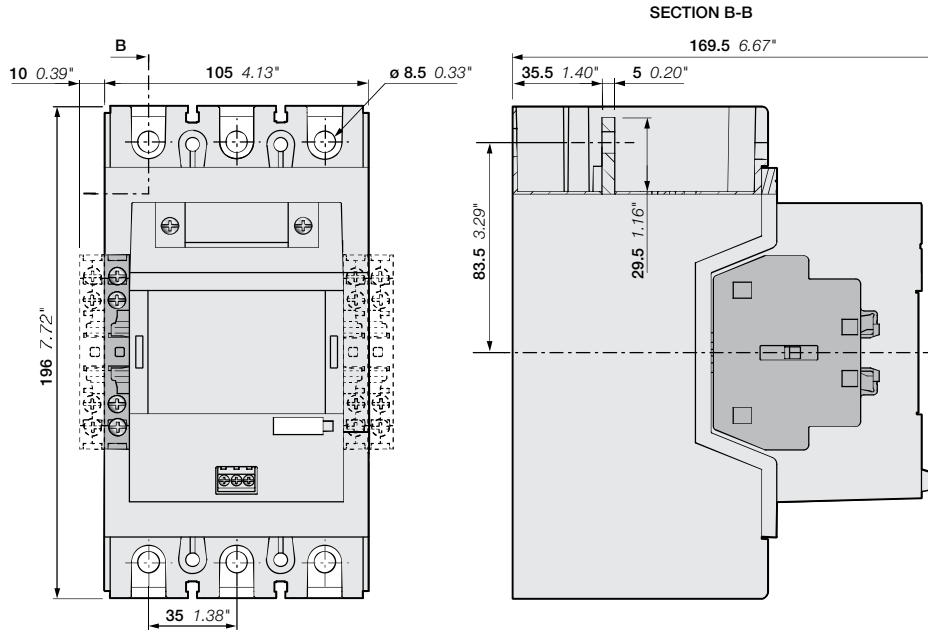
AF190, AF205-30-11
+ LW185 terminal enlargement



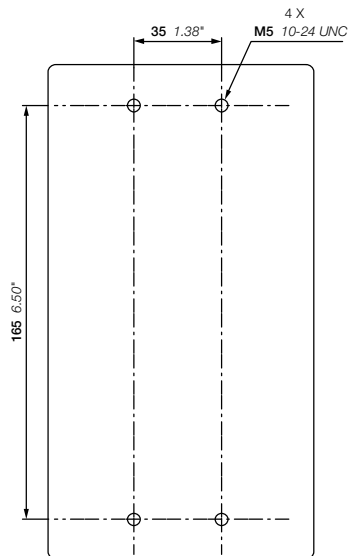
AF190, AF205 3-pole contactors

With built-in PLC interface (coil code 33, 34)

Main dimensions mm, inches



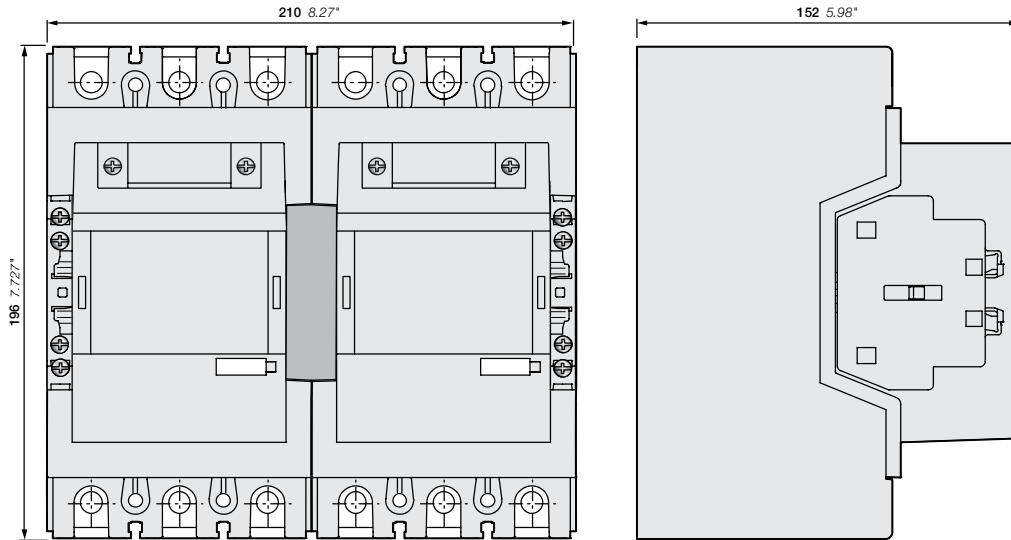
AF190, AF205-30-00 + CAL19 2-pole auxiliary contact block
 AF190, AF205-30-11



AF190, AF205

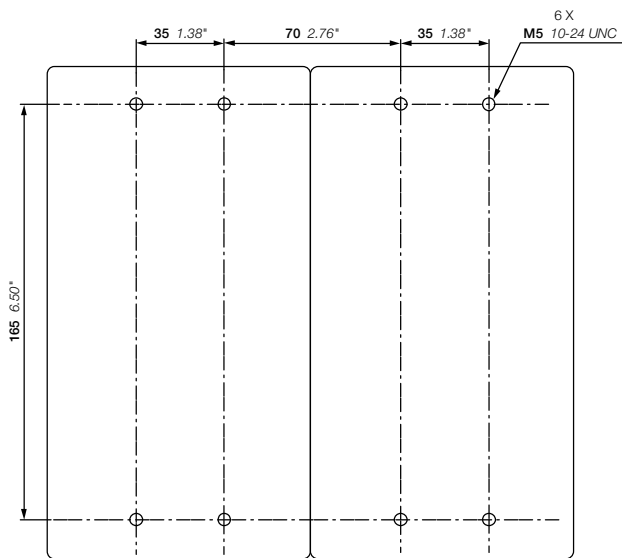
AF190, AF205 3-pole contactors

Main dimensions mm, inches



5

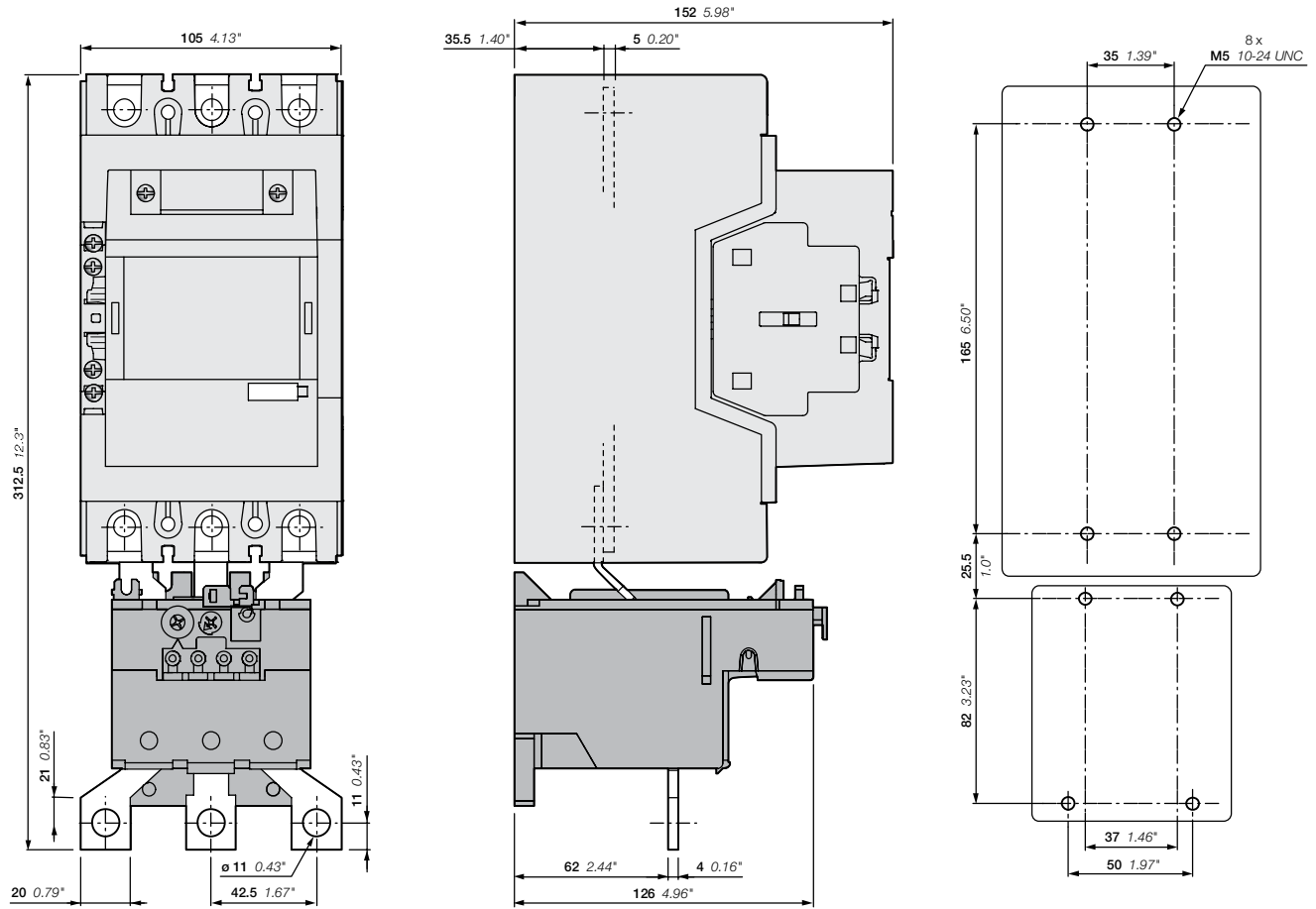
AF190, AF205-30-11
+ VM19 mechanical interlocking unit



AF190, AF205
+ VM19 mechanical interlocking unit

AF190, AF205 3-pole contactors

Main dimensions mm, inches



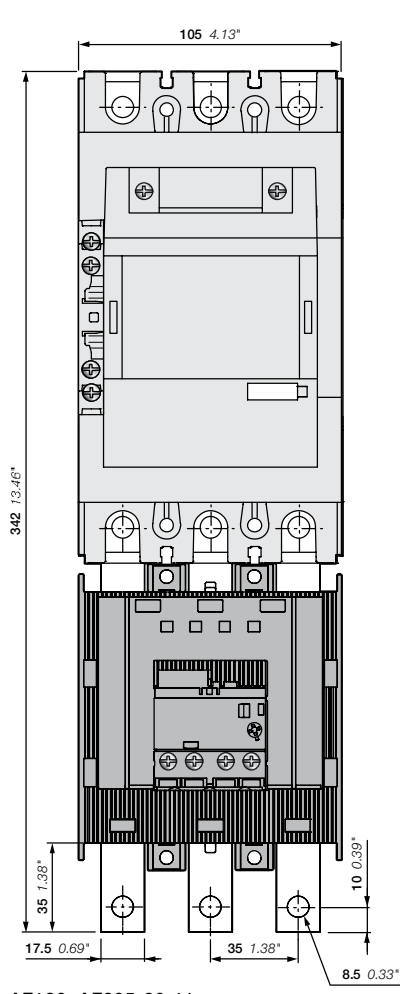
AF190, AF205-30-11
+ TA200DU thermal overload relay

AF190, AF205
+ TA200DU thermal overload relay

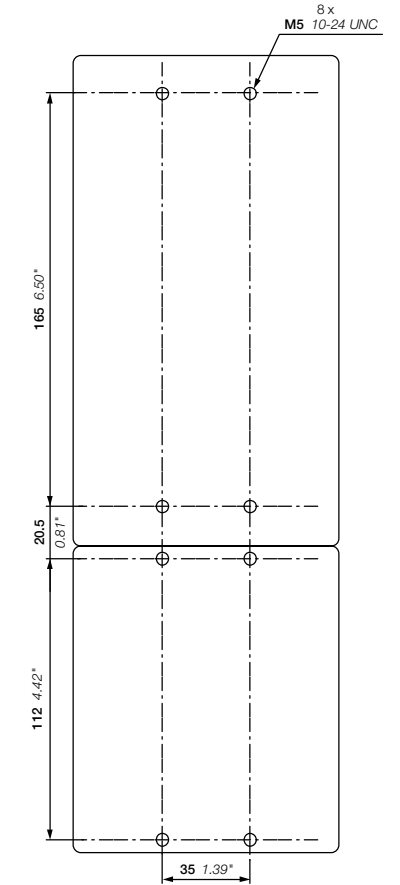
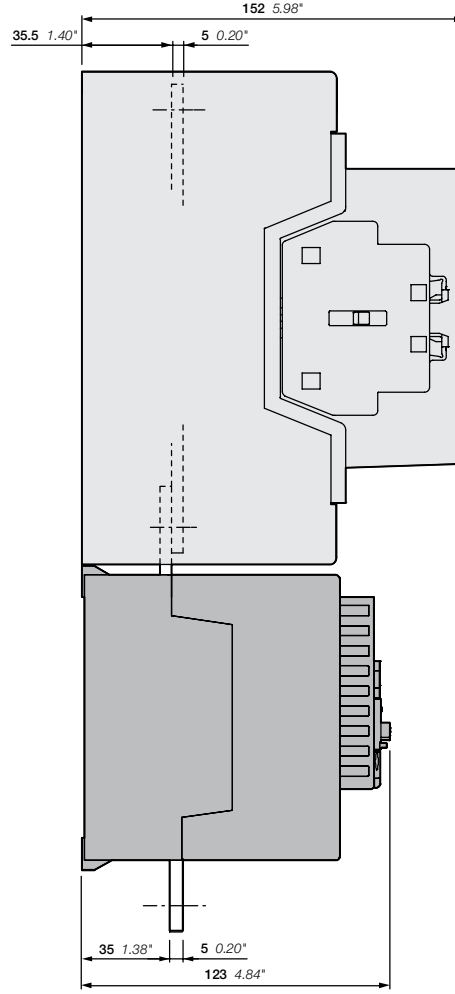
AF190, AF205 3-pole contactors

Main dimensions mm, inches

5



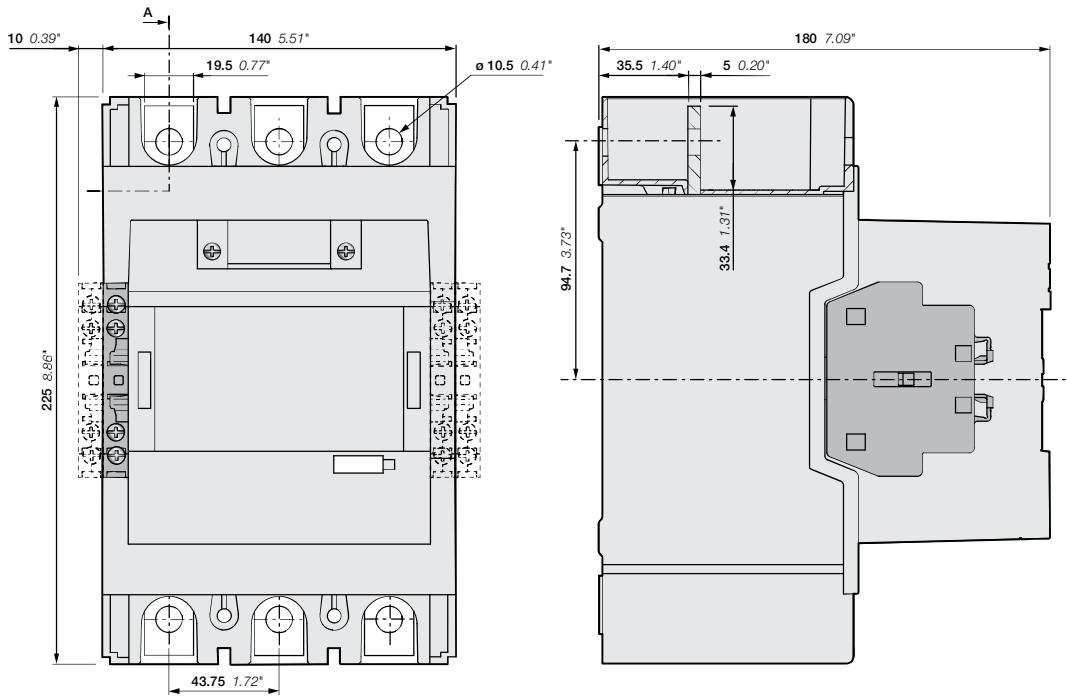
AF190, AF205-30-11
+ EF205 electronic overload relay



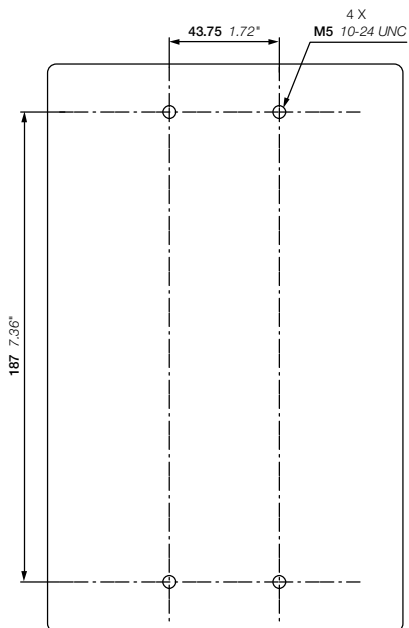
AF190, AF205
+ EF205 electronic overload relay

AF265, AF305, AF370 3-pole contactors

Main dimensions mm, inches



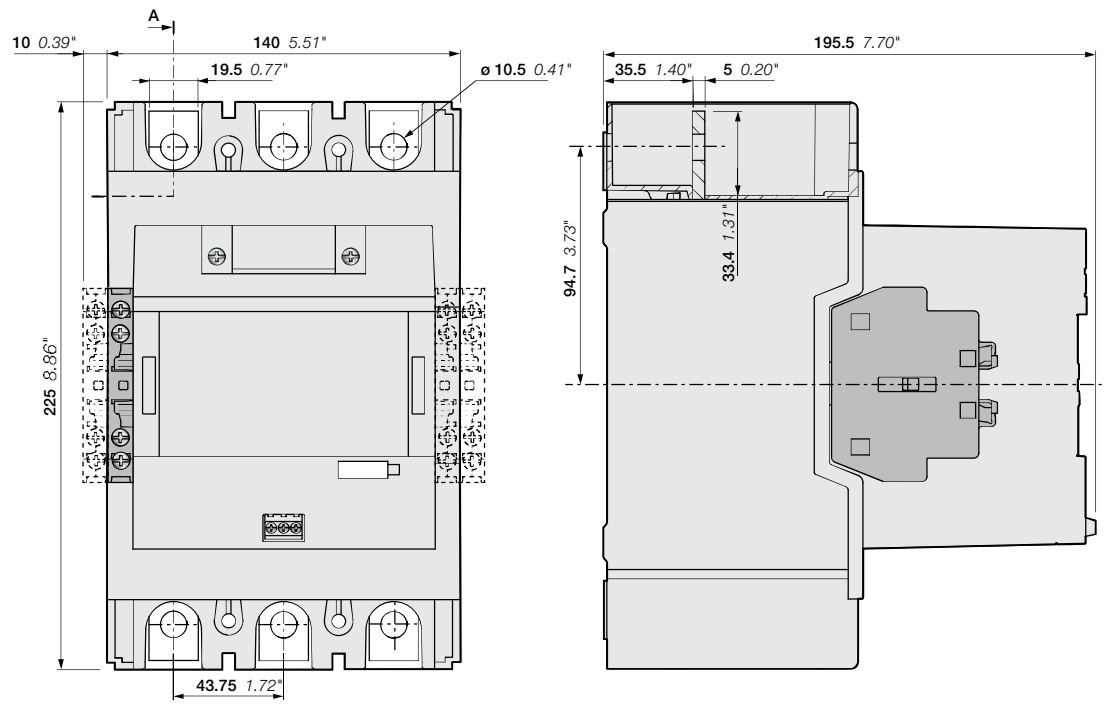
AF265, AF305, AF370-30-00 + CAL19 2-pole contact block
 AF265, AF305, AF370-30-11



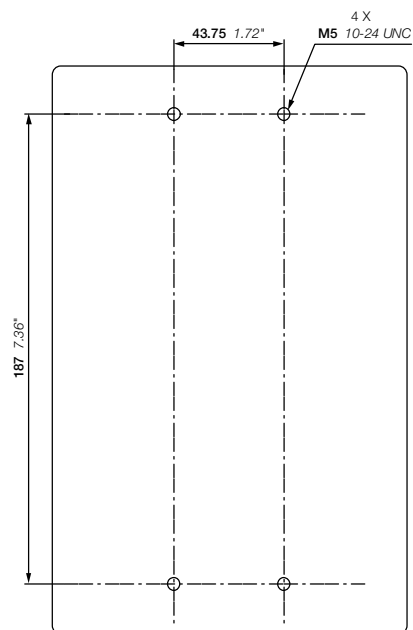
AF265, AF305, AF370

AF265, AF305, AF370 3-pole contactors With built-in PLC interface (coil code 33, 34)

Main dimensions mm, inches



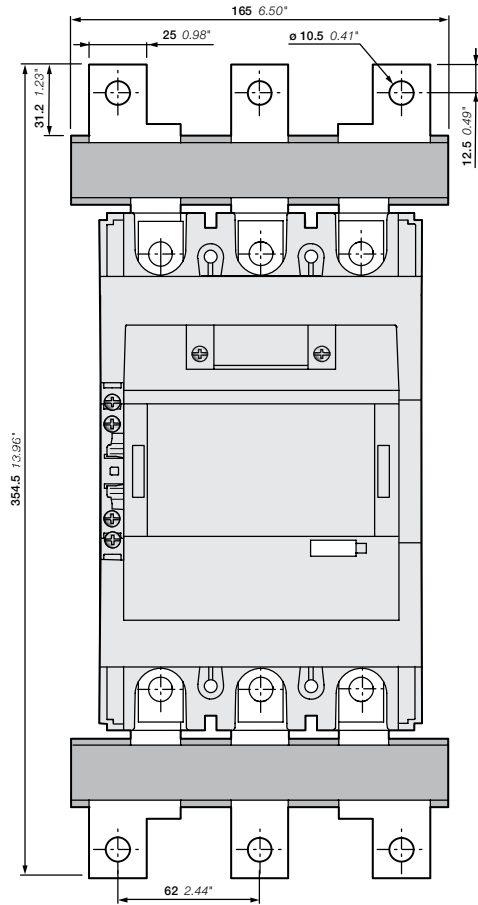
AF265, AF305, AF370-30-00 + CAL19 2-pole contact block
AF265, AF305, AF370-30-11



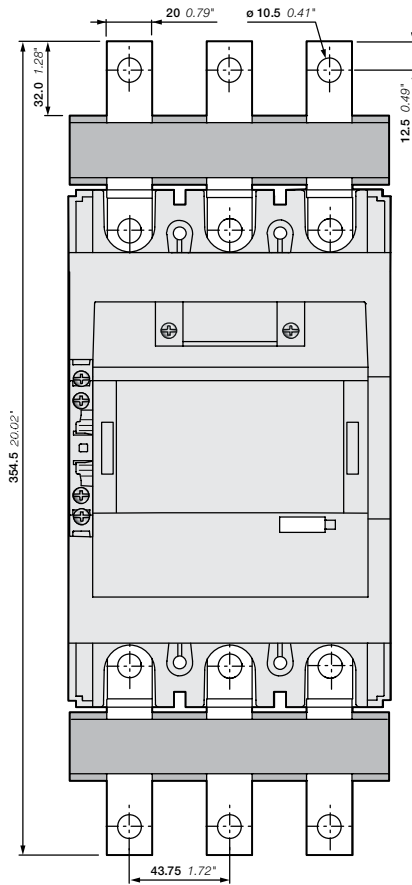
AF265, AF305, AF370

AF265, AF305, AF370 3-pole contactors

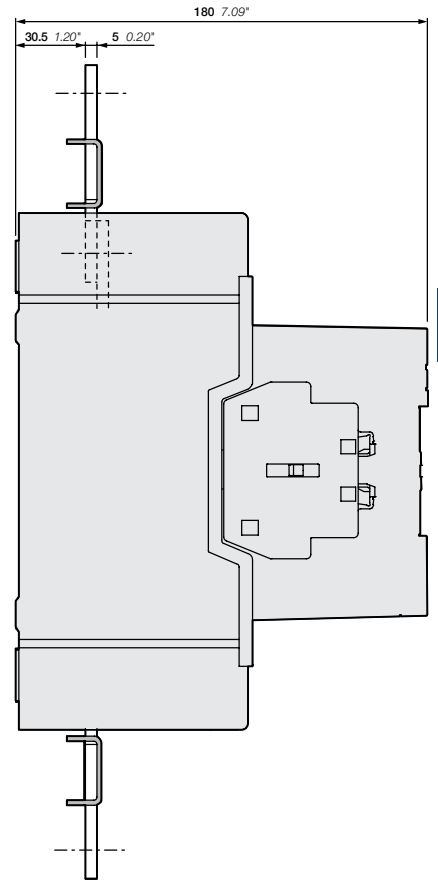
Main dimensions mm, inches



AF265, AF305, AF370-30-11
+ LX300 terminal extension



AF265, AF305, AF370-30-11
+ LW300 terminal enlargement

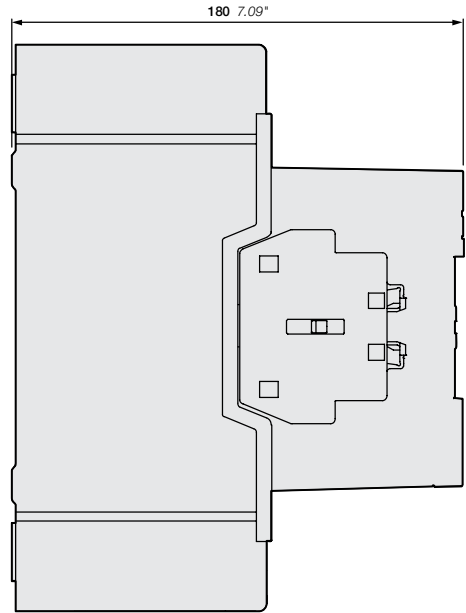
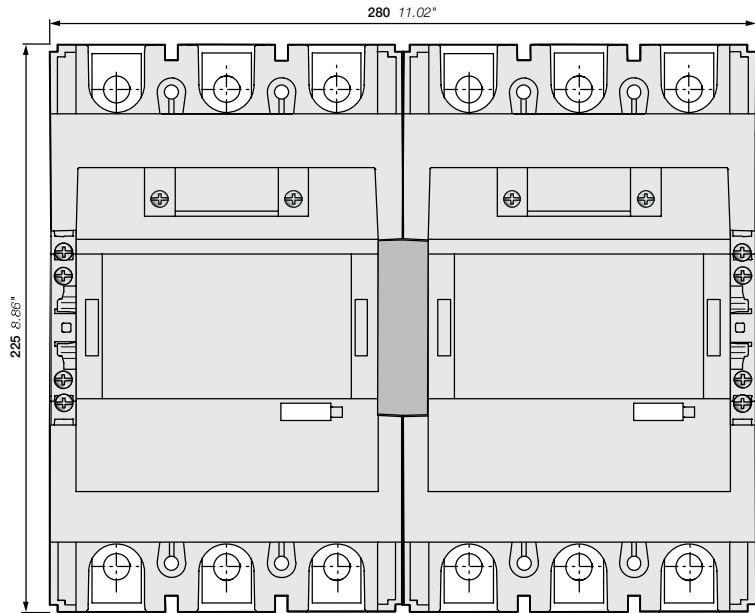


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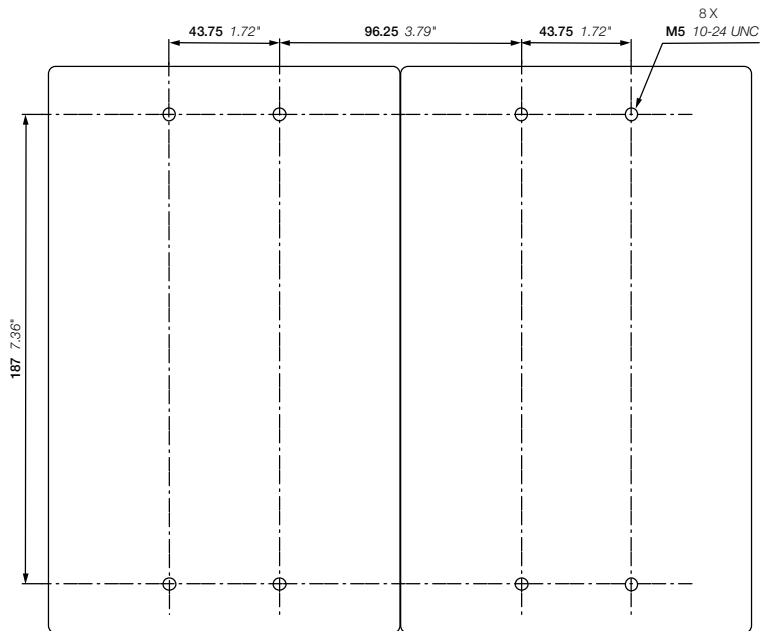
AF265, AF305, AF370 3-pole contactors

Main dimensions mm, inches

5



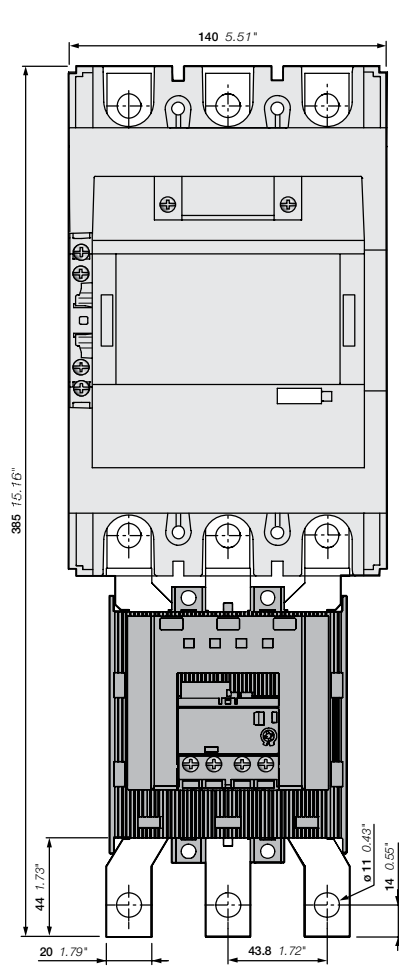
AF265, AF305, AF370-30-11
+ VM19 mechanical interlocking unit



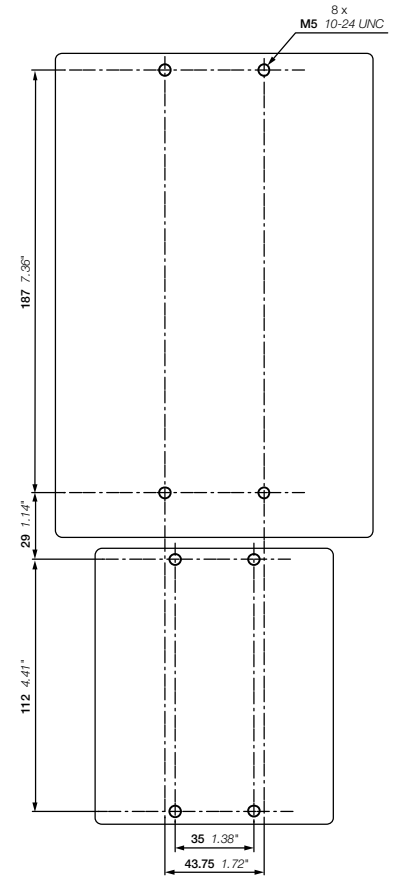
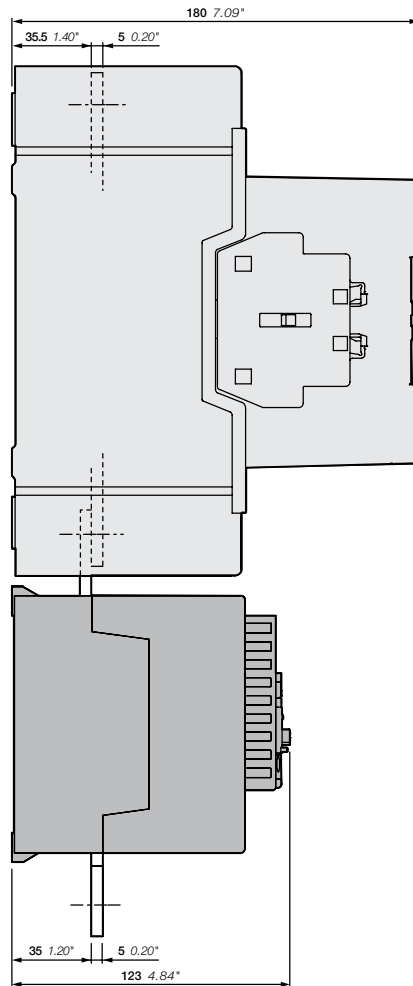
AF265, AF305, AF370
+ VM19 mechanical interlocking unit

AF265, AF305, AF370 3-pole contactors

Main dimensions mm, inches



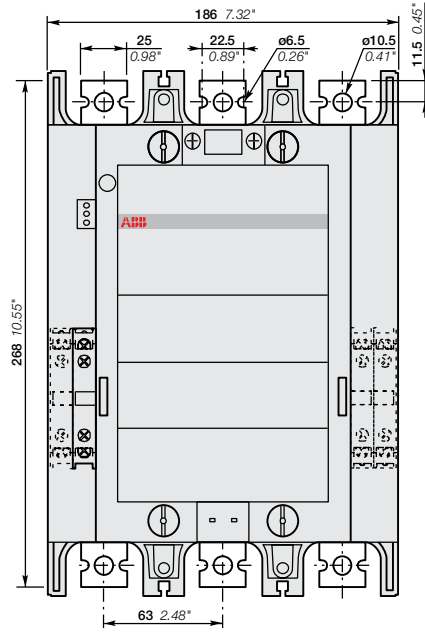
AF265, AF305, AF370-30-11
+ EF370 electronic overload relay



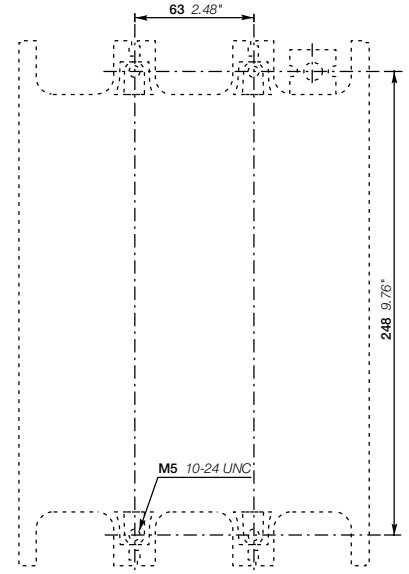
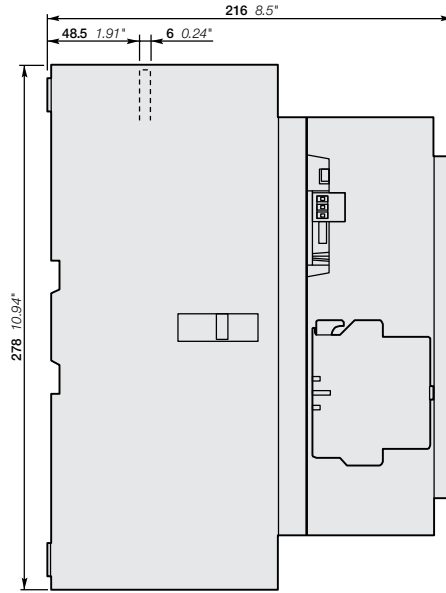
AF265, AF305, AF370
+ EF370 electronic overload relay

AF400 and AF460 3-pole contactors

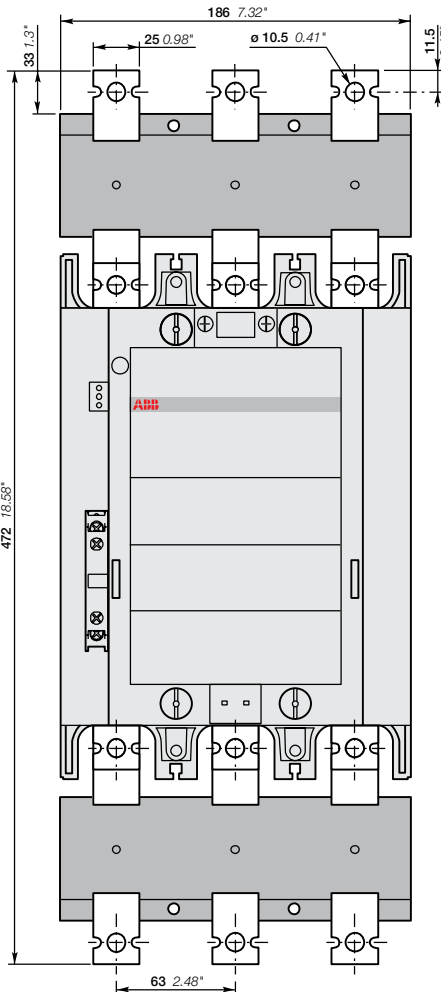
Main dimensions mm, inches



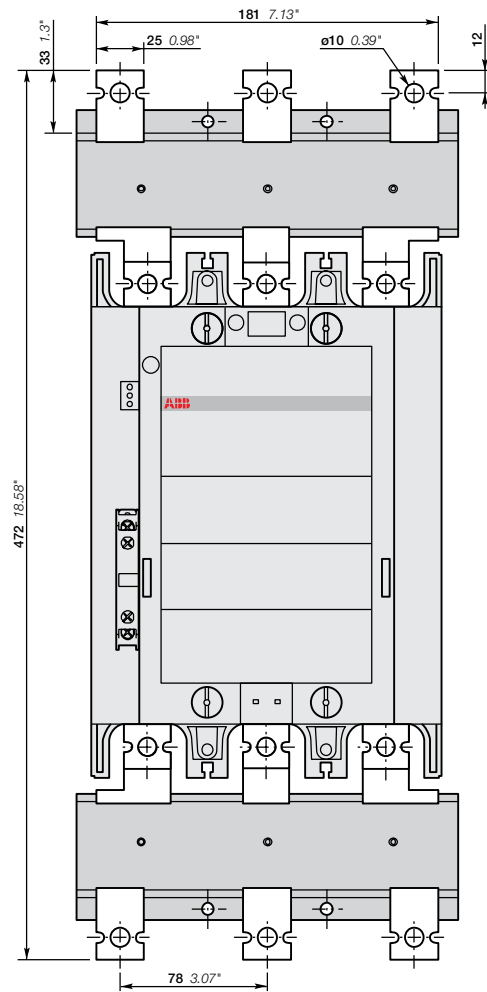
AF400, AF460-30-11



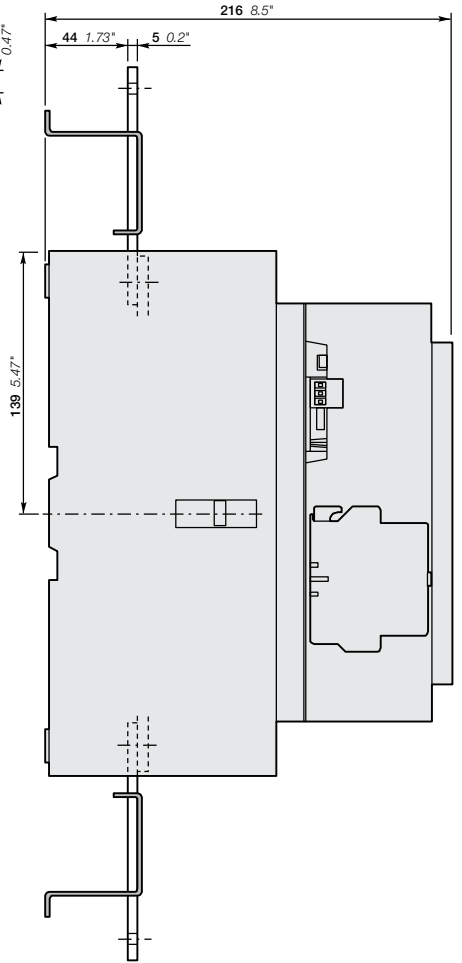
AF400, AF460



AF400, AF460-30-11
+ LX460 terminal extension

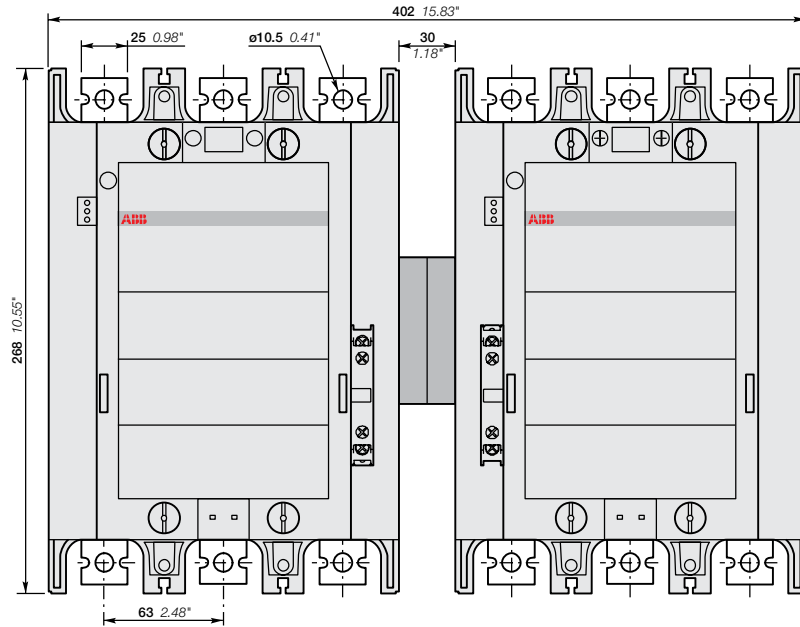


AF400, AF460-30-11
+ LW460 terminal enlargement

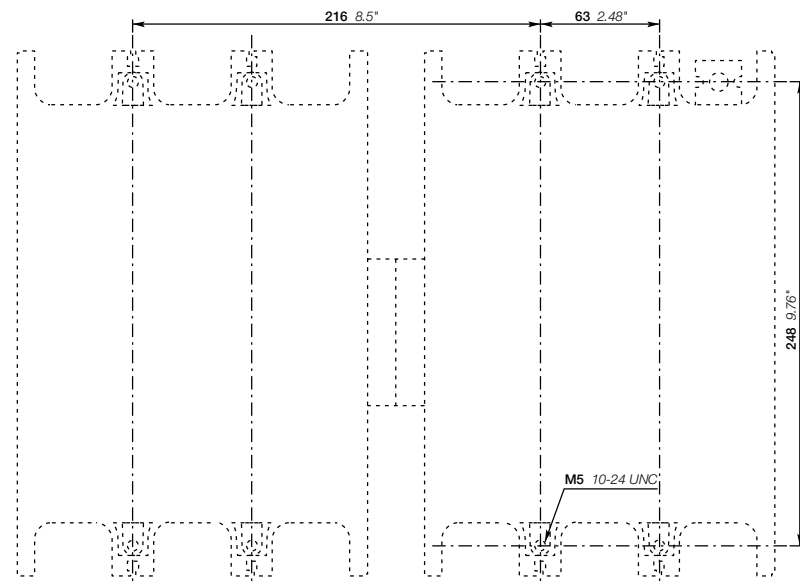
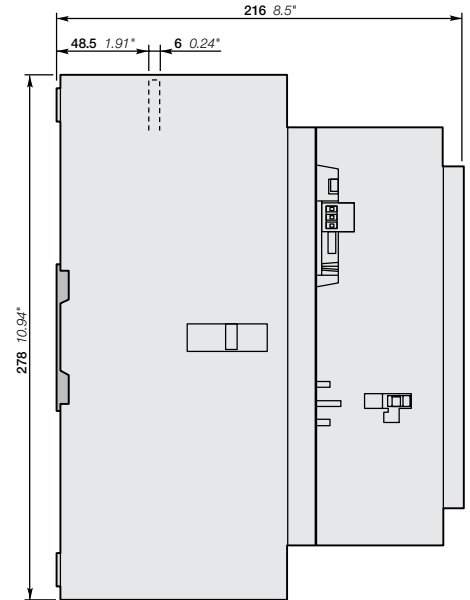


AF400 and AF460 3-pole contactors

Main dimensions mm, inches



AF400, AF460-30-11
+ VM750H mechanical interlock unit

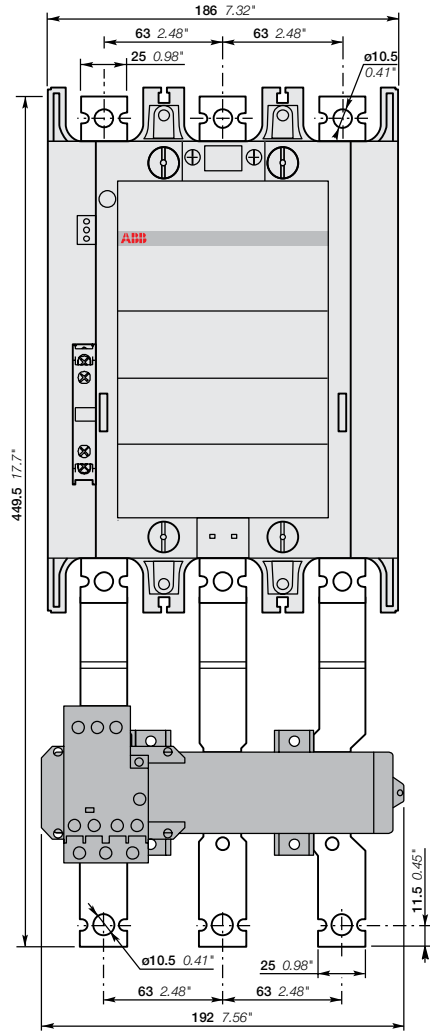


AF400, AF460
+ VM750H mechanical interlock unit

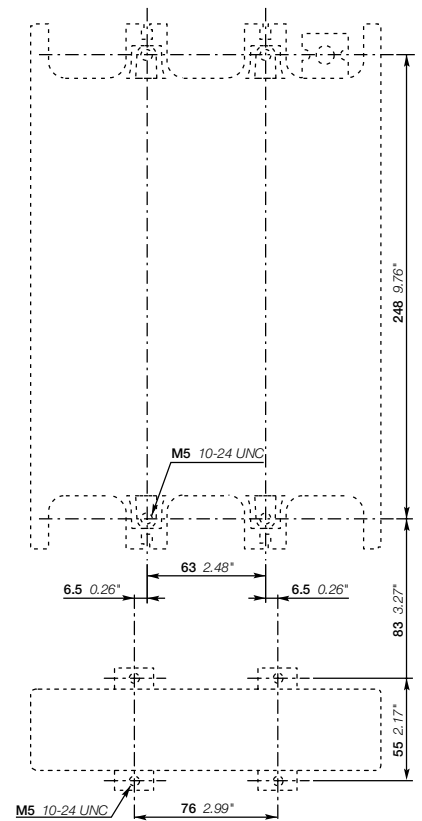
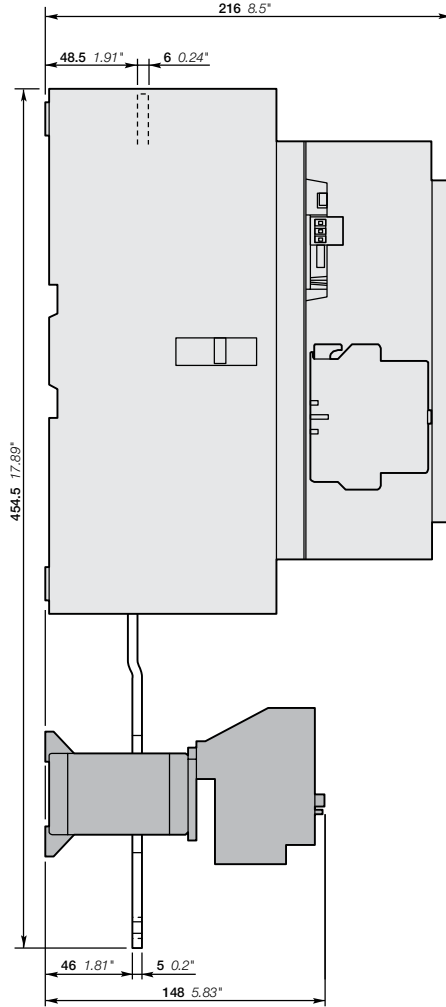
AF400 and AF460 3-pole contactors

Main dimensions mm, inches

5



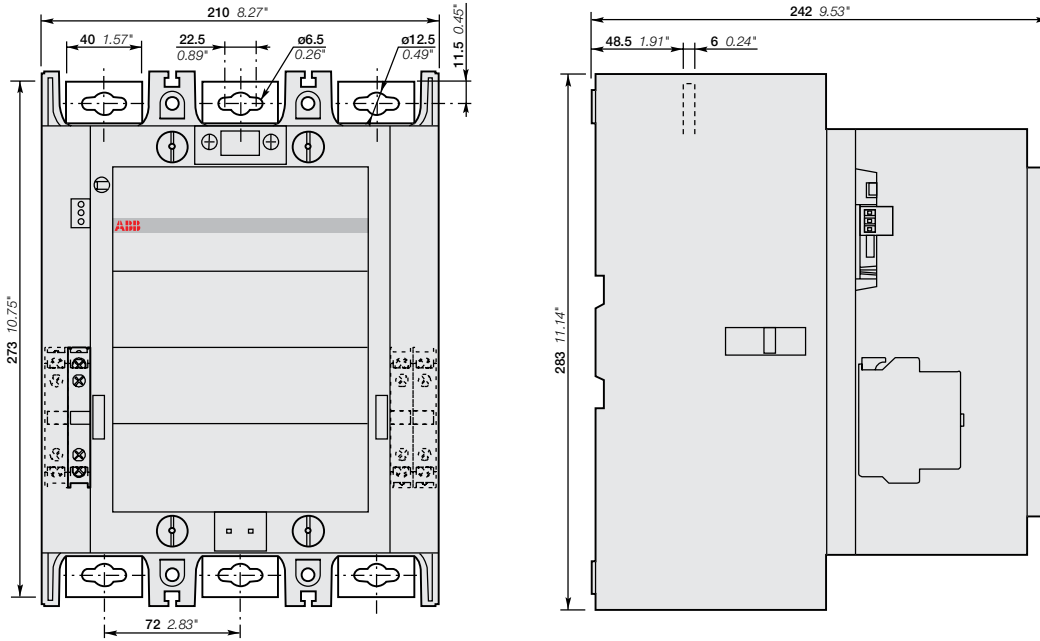
AF400, AF460-30-11
+ E500DU electronic O/L relay



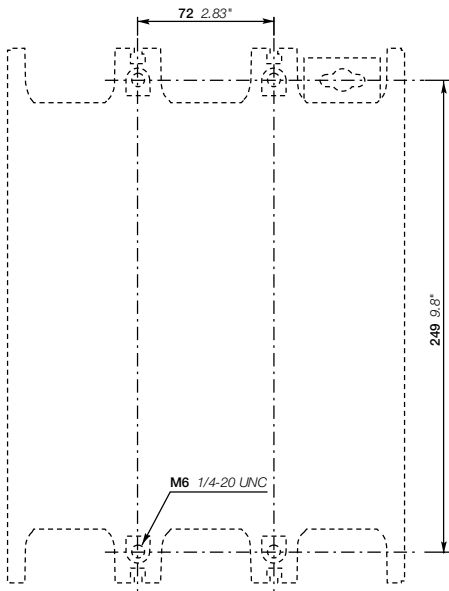
AF400, AF460
+ E500DU electronic O/L relay

AF580 and AF750 3-pole contactors

Main dimensions mm, inches



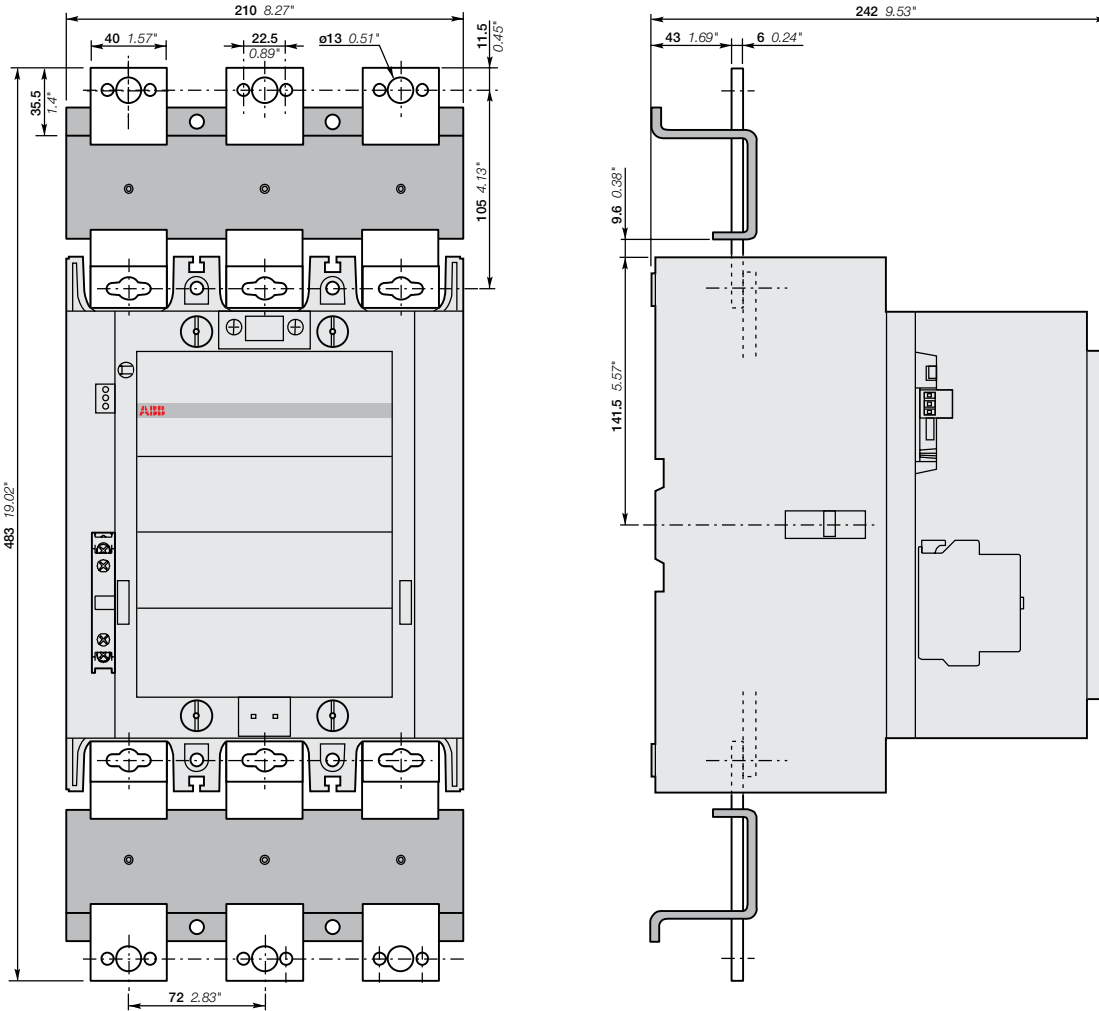
AF580 and AF750-30-11



AF580 and AF750

AF580 and AF750 3-pole contactors

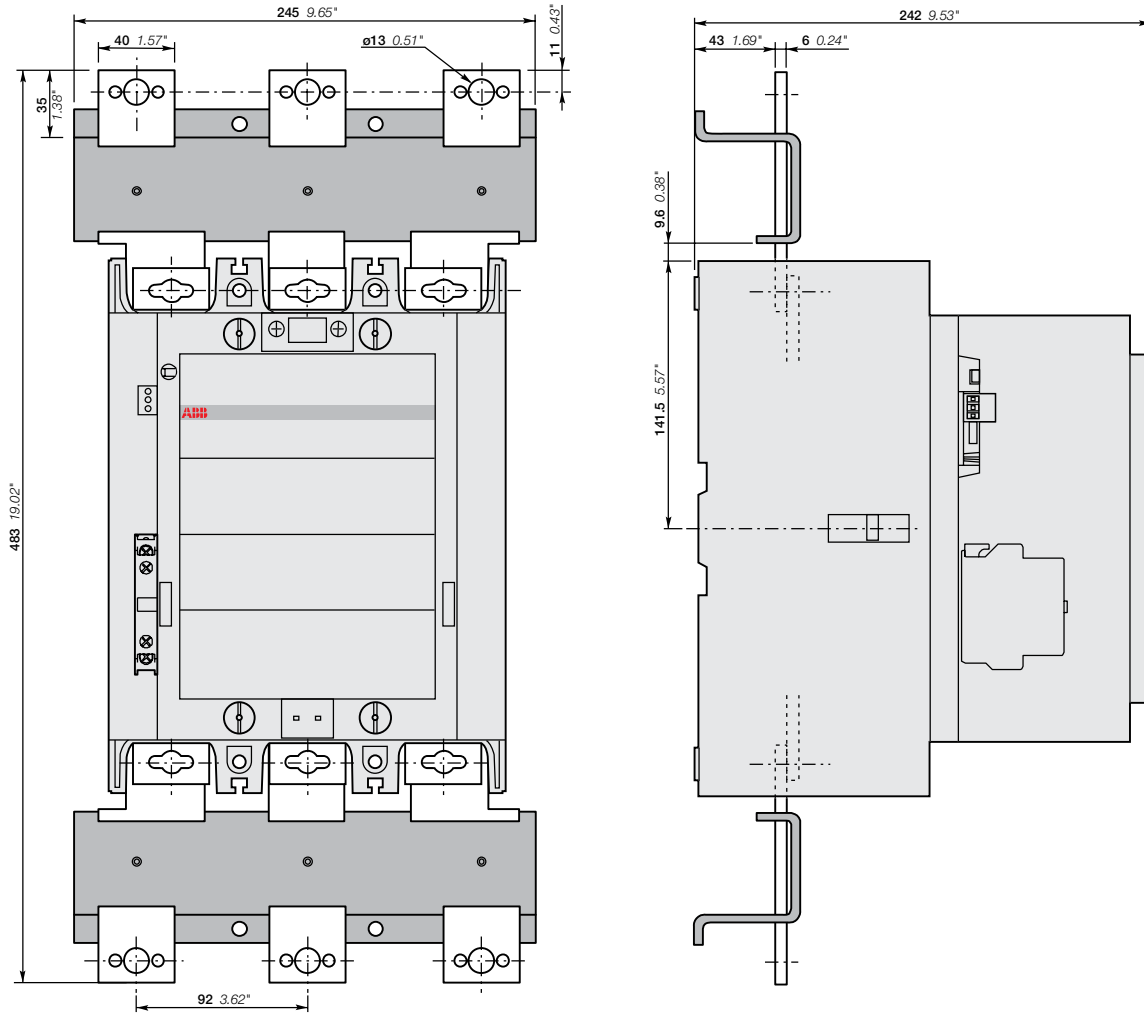
Main dimensions mm, inches



AF580 and AF750-30-11
+ LX750 terminal extension

AF580 and AF750 3-pole contactors

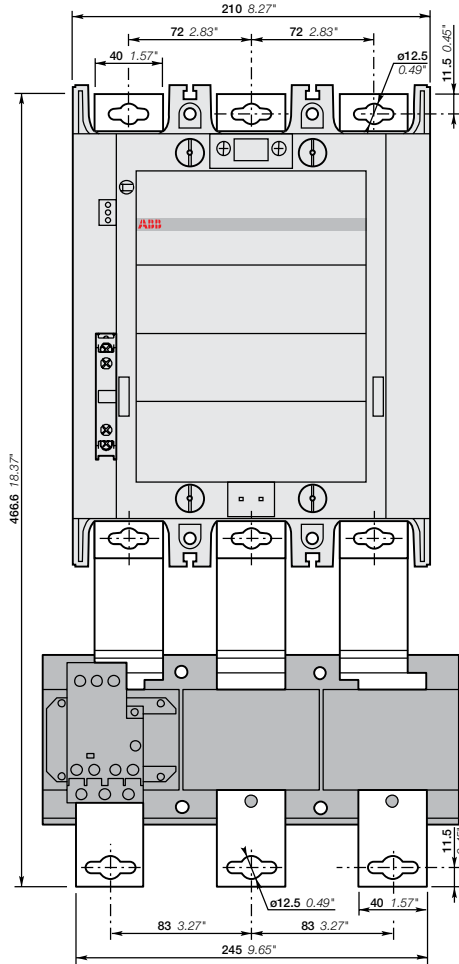
Main dimensions mm, inches



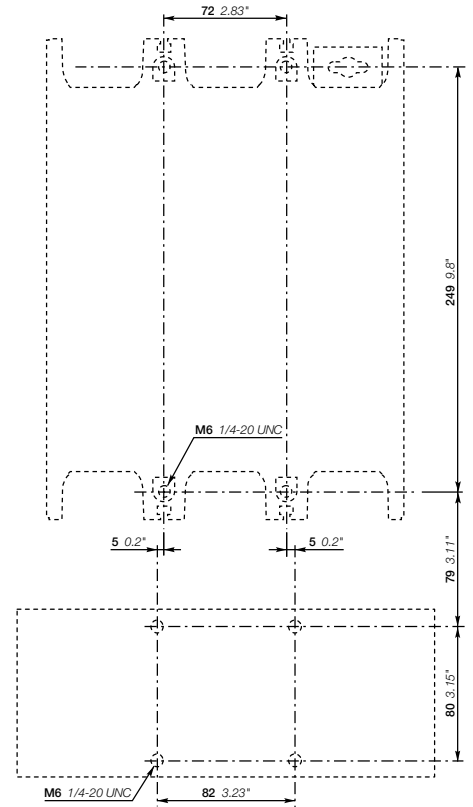
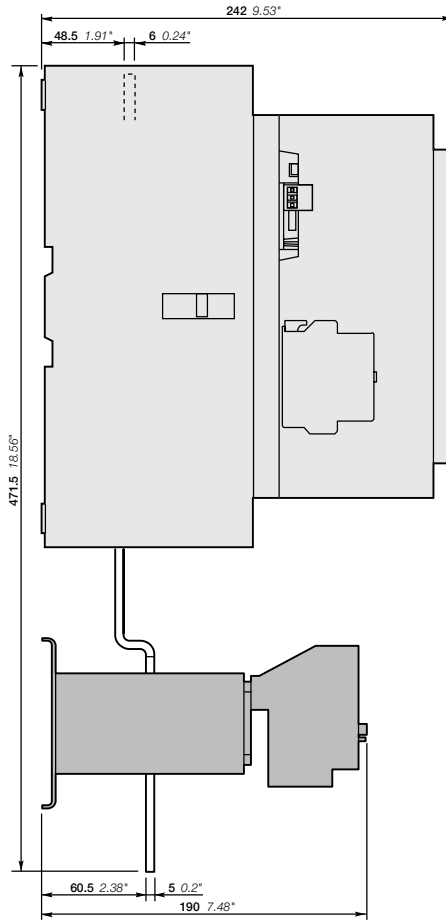
AF580 and AF750-30-11
+ LW750 terminal enlargement

AF580 and AF750 3-pole contactors

Main dimensions mm, inches



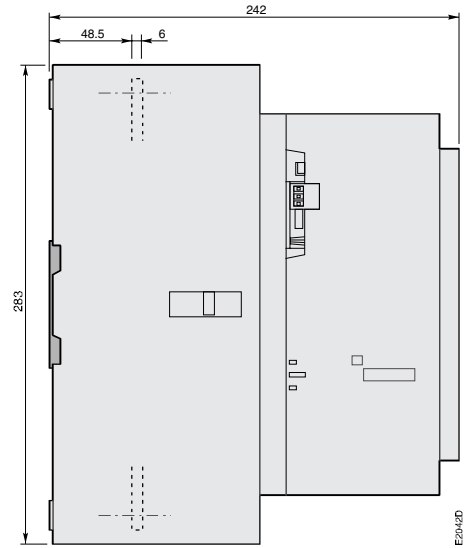
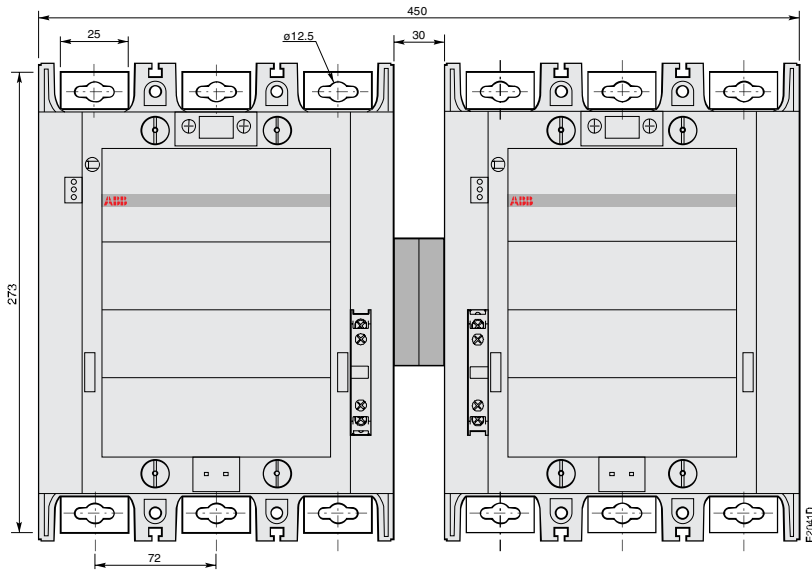
AF580 and AF750-30-11
+ E800DU electronic O/L relay



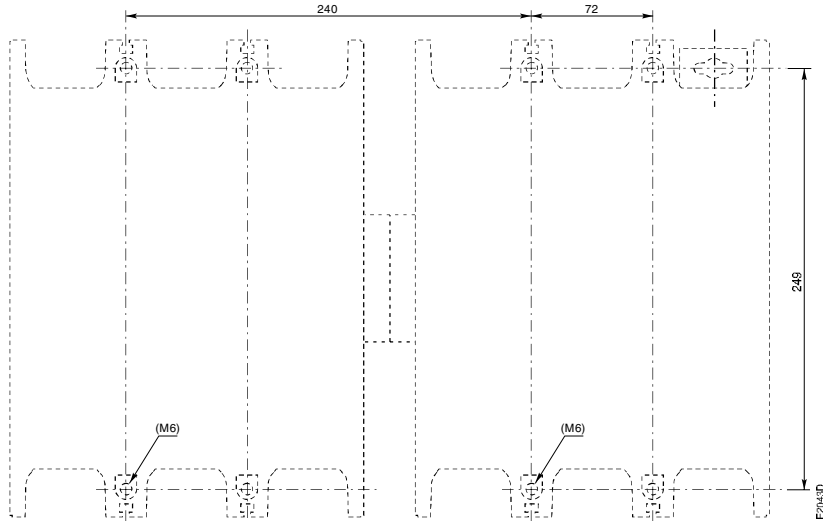
AF580 and AF750
+ E800DU electronic O/L relay

AF580 and AF750 3-pole contactors

Main dimensions mm, inches



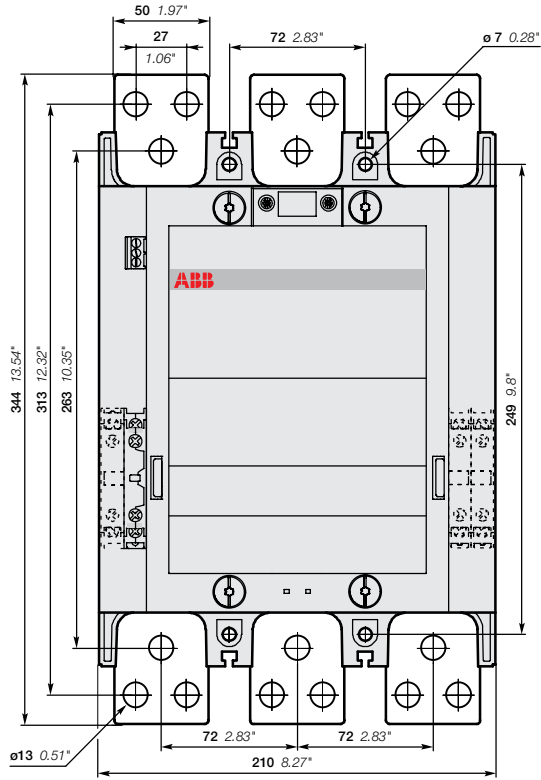
AF580 and AF750-30-11
+ VM 750H mechanical interlock unit



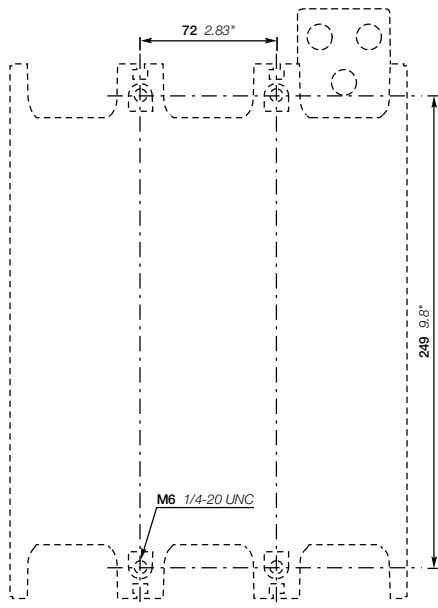
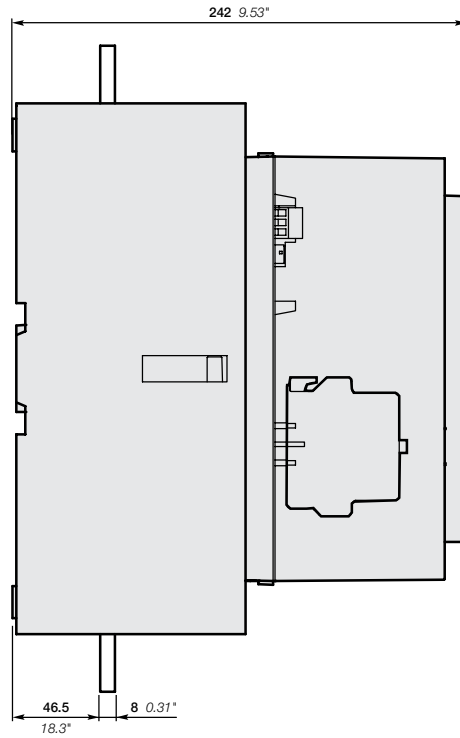
AF580 and AF750
+ VM 750H mechanical interlock unit

AF1250 3-pole contactors

Main dimensions mm, inches



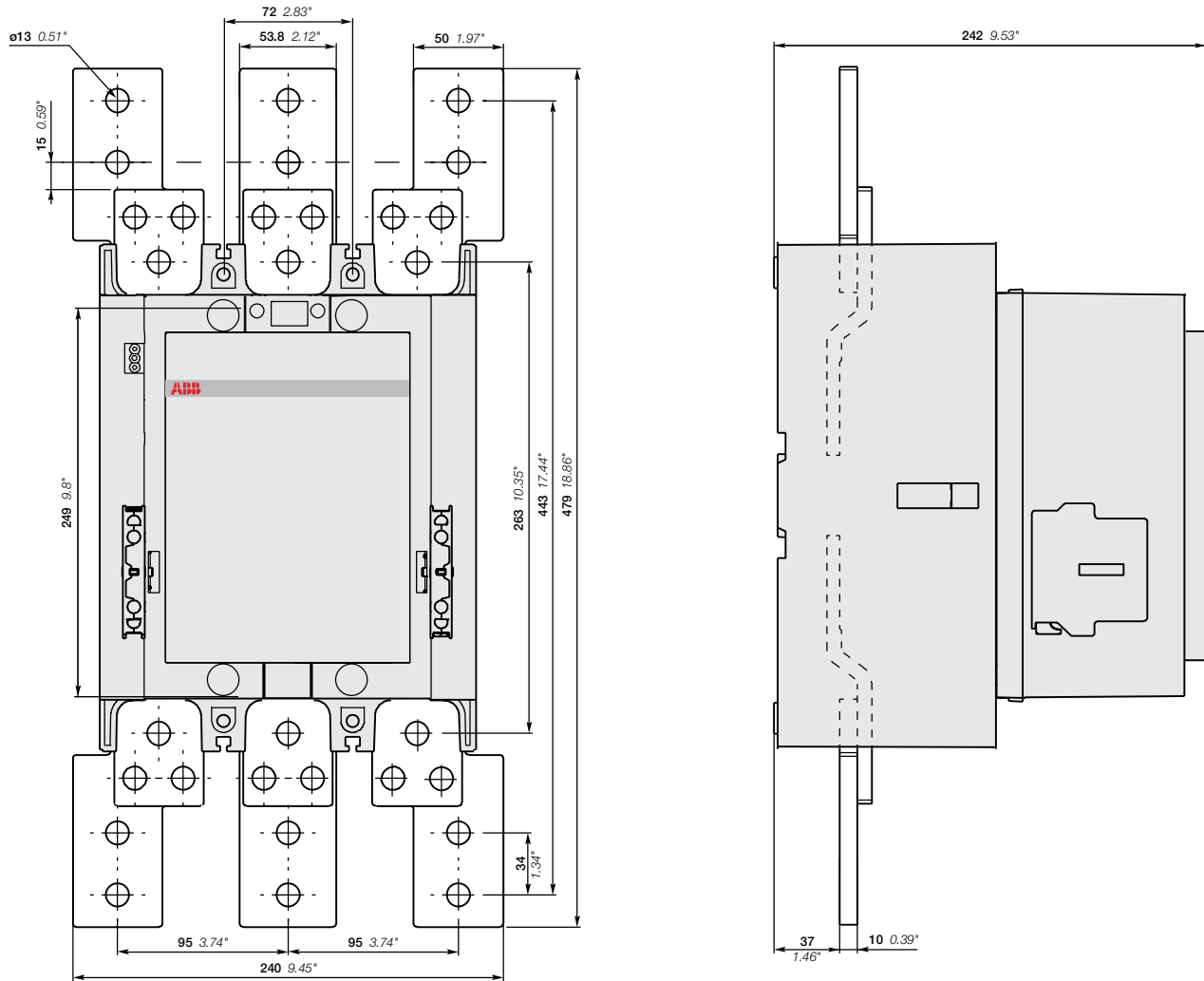
AF1250-30-11



AF1250

AF1250 3-pole contactors

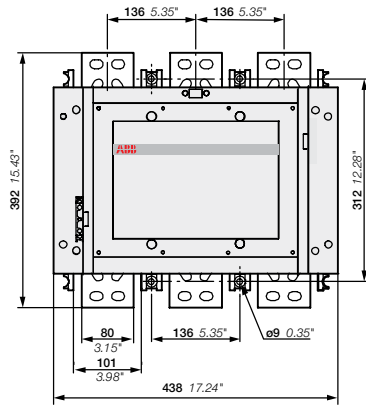
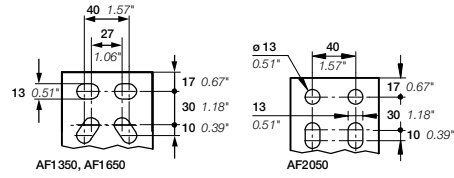
Main dimensions mm, inches



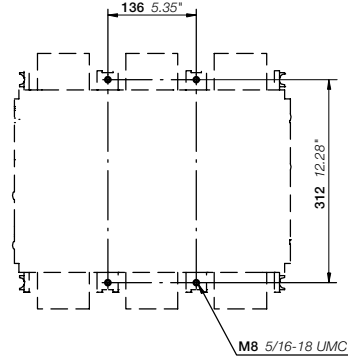
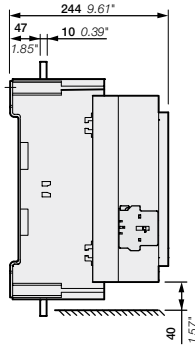
AF1250-30-11
+ LW1250 terminal enlargement

AF1350, AF1650, AF2050 and AF2650 3-pole contactors

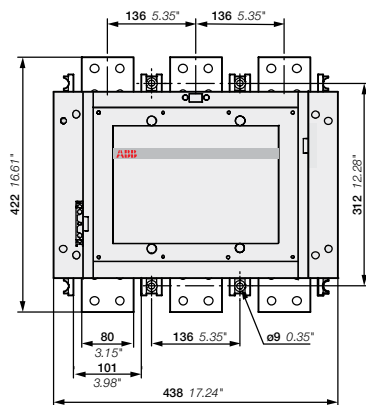
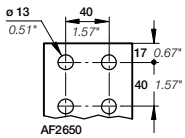
Main dimensions mm, inches



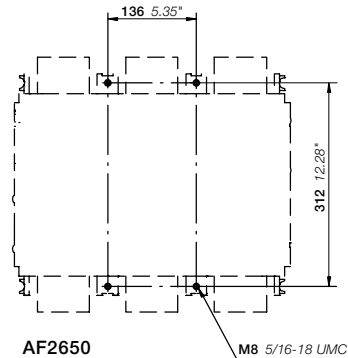
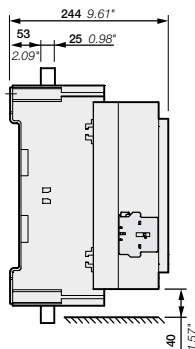
AF1350, AF1650, AF2050-30-11



AF1350, AF1650, AF2050



AF2650-30-11

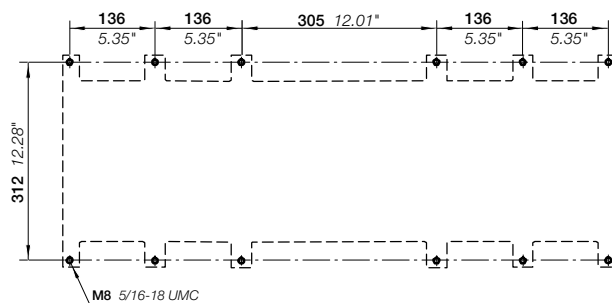
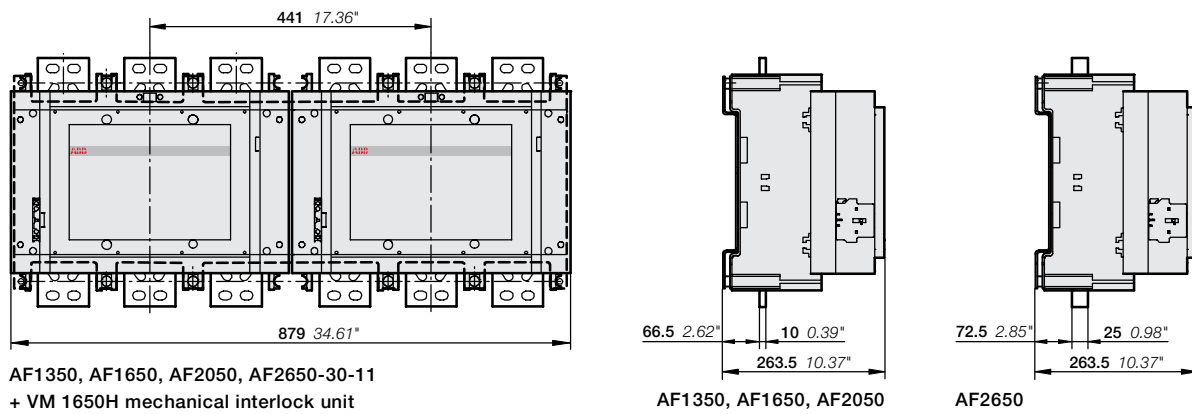
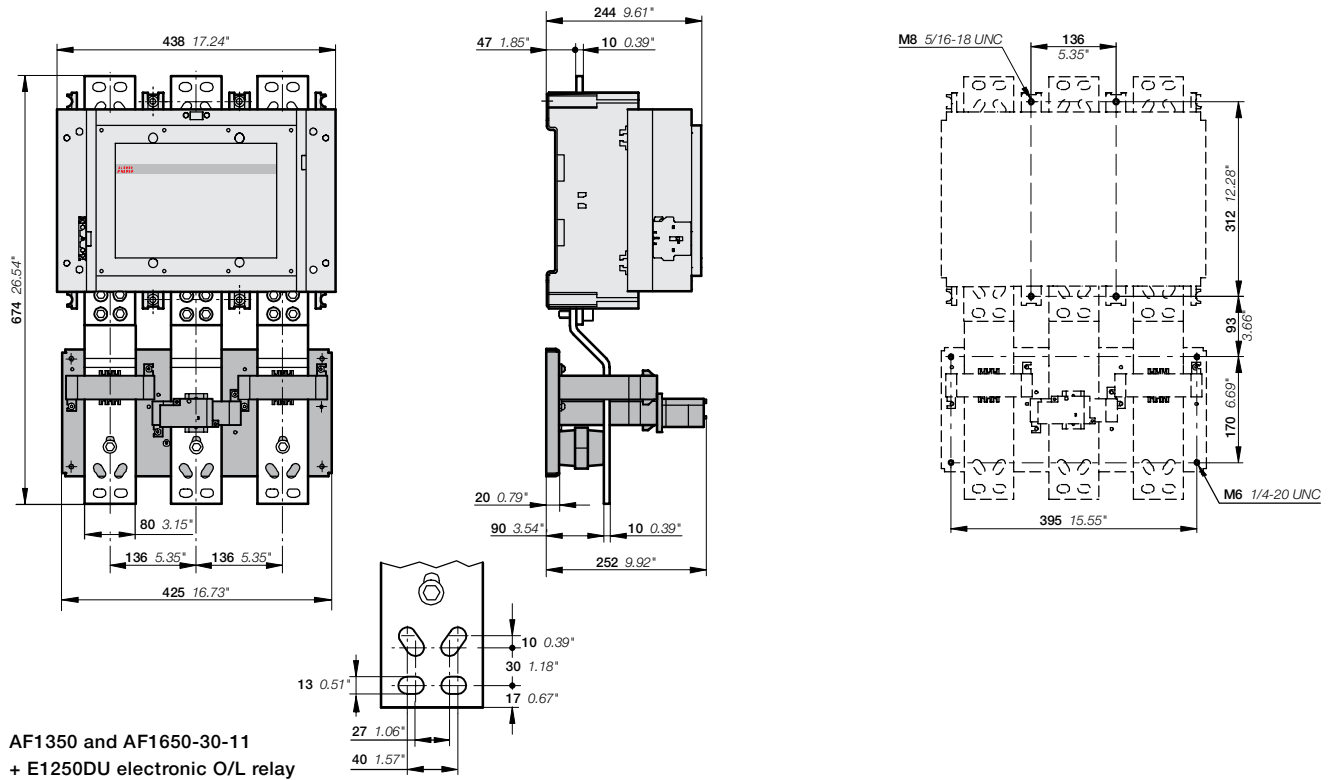


AF2650

M8 5/16-18 UMC

AF1350, AF1650, AF2050 and AF2650 3-pole contactors

Main dimensions mm, inches



AF1350, AF1650, AF2050, AF2650
+ VM 1650H mechanical interlock unit