

AF38-30-00-.. / AF38Z-30-00-.. 3-pole Contactors AC / DC Operated - with Screw Terminals

AF38(Z) contactors are used for controlling power circuits up to 690 V AC and 220 V DC. They are mainly used for controlling 3-phase motors, non-inductive or slightly inductive loads.

- AF..(Z) contactors include an electronic coil interface providing reduced pull-in and holding consumption, particularly for AC control circuits
- Only four coils are needed to cover control voltages between 24...500 V 50/60 Hz or 20...500 V DC.
- AF..(Z) offer extended operating limits and are suitable worldwide for different control voltages. e.g.: the coil 100...250 V 50/60 Hz - DC is suitable for Europe (230 V 50 Hz) and for North America (120 V 60 Hz and 208 V 60 Hz).
- AF..(Z) contactors can manage large control voltage variations
- AF.Z contactors equipped with a 24...60 V 50/60 Hz - 20...60 V DC coil allow direct control by 24 V DC 500 mA PLC-output
- AF.Z contactors withstand short voltage dips and voltage sags (SEMI F47-0706 compliance)
- AF..(Z) contactors have built-in surge protection and do not require additional surge suppressors.



		18.5 kW	
		20 hp	

3D CAD outline drawings available on «Control Product 3D» portal

Ordering Details

IEC	UL/CSA	Control voltage		Main contacts	Auxiliary contacts fitted	Type	Order code	EAN	Weight
Rated power	3-phase motor rating	Uc min. ... Uc max.							Pack ^(ing)
400 V	480 V	V 50/60 Hz	V DC						1 piece
AC-3	hp								kg
kW									

3-pole Contactors

18.5	20	24...60	20...60	3	0	0	0	AF38-30-00-11	1SBL 297 001 R1100	3471523111516	0.310
		48...130	48...130	3	0	0	0	AF38-30-00-12	1SBL 297 001 R1200	3471523111523	0.310
		100...250	100...250	3	0	0	0	AF38-30-00-13	1SBL 297 001 R1300	3471523111530	0.310
		250...500	250...500	3	0	0	0	AF38-30-00-14	1SBL 297 001 R1400	3471523111547	0.350

Note: AF38-30-00-11 not suitable for a direct control by PLC-output. AF38-30-00-11 available in some countries: please consult your ABB representative.

3-pole Contactors - Low Consumption



18.5	20	-	12...20	3	0	0	0	AF38Z-30-00-20	1SBL 296 001 R2000	3471523114708	0.350
		24...60	20...60	3	0	0	0	AF38Z-30-00-21	1SBL 296 001 R2100	3471523114715	0.350
		48...130	48...130	3	0	0	0	AF38Z-30-00-22	1SBL 296 001 R2200	3471523114722	0.350
		100...250	100...250	3	0	0	0	AF38Z-30-00-23	1SBL 296 001 R2300	3471523114739	0.350

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

Certifications and Approvals

CE	cULus	CCC	PG	C-Tick							

Main Pole - Utilization Characteristics according to IEC

Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1	
Rated operational voltage U_e max.	690 V	
Rated frequency limits	25 ... 400 Hz	
Conventional free-air thermal current I_{th} acc. to IEC 60947-4-1, open contactors, $\theta \leq 40^\circ\text{C}$	50 A	
with conductor cross-sectional area	10 mm ²	
AC-1 Utilization category for air temperature close to contactor		
I_e / AC-1 rated operational current	$\theta \leq 40^\circ\text{C}$	50 A
U_e max. $\leq 690\text{ V}$, 50/60 Hz	$\theta \leq 60^\circ\text{C}$	42 A
	$\theta \leq 70^\circ\text{C}$	37 A
with conductor cross-sectional area	10 mm ²	
AC-3 Utilization category for air temperature close to contactor $\theta \leq 60^\circ\text{C}$ (for 1500 r.p.m., 50 Hz or 1800 r.p.m., 60 Hz, 3-phase motors)		
I_e / AC-3 max. rated operational current	220-230-240 V	40 A
 3-phase motors	380-400 V	38 A
	415 V	38 A
	440 V	38 A
	500 V	33 A
	690 V	24 A
	AC-3 rated operational power	220-230-240 V
 1500 r.p.m. 50 Hz 1800 r.p.m. 60 Hz 3-phase motors	380-400 V	18.5 kW
	415 V	18.5 kW
	440 V	22 kW
	500 V	22 kW
	690 V	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 - $U_e 400\text{ V}$ - $\theta \leq 40^\circ\text{C}$)		
I_e / AC-8a rated operational current	50 A	
AC-8a rated operational power	25 kW	
Short-circuit protection for contactors without thermal O/L relay - Motor protection excluded $U_e \leq 500\text{ V AC}$ - gG type fuse	63 A	
Rated short-time withstand current I_{cw} at 40°C ambient temperature, in free air from a cold state	1 s	700 A
	10 s	350 A
	30 s	225 A
	1 min	150 A
	15 min	50 A
Maximum breaking capacity $\cos \phi = 0.45$	at 440 V	500 A
	at 690 V	200 A
Heat dissipation per pole	I_e / AC-1	2.4 W
	I_e / AC-3	1.3 W
Max. electrical switching frequency	AC-1	600 cycles/h
	AC-3	1200 cycles/h
	AC-2, AC-4	150 cycles/h

Main Pole - Utilization Characteristics according to UL / NEMA / CSA

Standards	UL 508, CSA C22.2 N°14	
Rated operational voltage Ue max.	600 V	
NEMA size	-	
NEMA continuous amp rating	thermal current	
NEMA maximum H.P. ratings 1-phase, 60 Hz	115 V AC	
	230 V AC	
NEMA maximum H.P. ratings 3-phase, 60 Hz	200 V AC	
	230 V AC	
	460 V AC	
	575 V AC	
UL General use rating		
600 V AC	50 A	
With conductor cross-sectional area	AWG 8	
80 V DC - 1-pole	50 A	
With conductor cross-sectional area	AWG 8	
UL maximum 1-phase motor rating		
Amp-rating	120 V AC	24 A
	240 V AC	28 A
Motor power	120 V AC	2 hp
	240 V AC	5 hp
UL maximum 3-phase motor rating		
Amp-rating	200-208 V AC	32.2 A
	220-240 V AC	28 A
	440-480 V AC	27 A
	550-600 V AC	On request
	Motor power	200-208 V AC
(for 1500 r.p.m., 50 Hz or 1800 r.p.m., 60 Hz 3-phase motors)	220-240 V AC	10 hp
	440-480 V AC	20 hp
	550-600 V AC	On request
Short-circuit protection		
for contactors without thermal O/L relay - Motor protection excluded		
Fuse rating	150 A	
Fuse type, 600 V	NTD	
Max. electrical switching frequency		
for general use	600 cycles/h	
for motor use	1200 cycles/h	