

Built-in Auxiliary Contacts according to IEC

Rated operational voltage U _e max.		690 V
Conventional free air thermal current I _{th} - θ ≤ 40 °C		16 A
Rated frequency limits		25 ... 400 Hz
Rated operational current I _e / AC-15		
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
Rated operational current I _e / DC-13		
acc. to IEC 60947-5-1	24 V DC	16 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 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
Heat dissipation per pole at 6 A		0.1 W
Max. electrical switching frequency	AC-15	1200 cycles/h
	DC-13	900 cycles/h

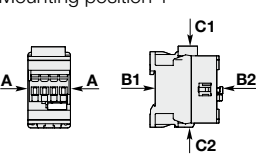
Main Pole - Utilization Characteristics according to UL / NEMA / CSA

Standards		UL 508, CSA C22.2 N°14
Rated operational voltage U _e max.		600 V
NEMA size		00
NEMA continuous amp rating	thermal current	9 A
NEMA maximum H.P. ratings 1-phase, 60 Hz	115 V AC	1/3 hp
	230 V AC	1 hp
NEMA maximum H.P. ratings 3-phase, 60 Hz	200 V AC	1-1/2 hp
	230 V AC	1-1/2 hp
	460 V AC	2 hp
	575 V AC	2 hp
UL General use rating		
600 V AC		25 A
With conductor cross-sectional area		AWG 10
80 V DC - 1-pole		25 A
With conductor cross-sectional area		AWG 10
UL maximum 1-phase motor rating		
Amp-rating	120 V AC	13.8 A
	240 V AC	10 A
Motor power	120 V AC	3/4 hp
	240 V AC	1-1/2 hp
UL maximum 3-phase motor rating		
Amp-rating	200-208 V AC	7.8 A
	220-240 V AC	6.8 A
	440-480 V AC	7.6 A
	550-600 V AC	9 A
Motor power	200-208 V AC	2 hp
(for 1500 r.p.m., 50 Hz or 1800 r.p.m., 60 Hz 3-phase motors)	220-240 V AC	2 hp
	440-480 V AC	5 hp
	550-600 V AC	7.5 hp
Short-circuit protection		
for contactors without thermal O/L relay - Motor protection excluded		
Fuse rating		60 A
Fuse type, 600 V		NTD
Max. electrical switching frequency		
for general use		600 cycles/h
for motor use		1200 cycles/h

Built-in Auxiliary Contacts according to UL / CSA

Max. rated operational voltage U_e max.	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

General Technical Data

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
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
Operating altitude	≤ 3000 m
Mechanical durability	
Number of operating cycles	10 millions operating cycles
Max. switching frequency	3600 cycles/h
Shock withstand acc. 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
A	30 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
	4 g Closed position / 2 g Open position

Magnet System Characteristics

Coil operating limits acc. to IEC 60947-4-1	AC supply	at $\theta \leq 60$ °C 0.85 x U_c min ... 1.1 x U_c max at $\theta \leq 70$ °C 0.85 x U_c min ... U_c max
	DC supply	at $\theta \leq 60$ °C 0.85 x U_c min ... 1.1 x U_c max at $\theta \leq 70$ °C (AF) 0.85 x U_c min ... U_c max - (AF..Z) 0.85 x U_c min ... 1.1 x U_c max
AC control voltage 50/60 Hz	Rated control circuit voltage U_c	24 ... 500 V AC
	Coil consumption	Average pull-in value (AF) 50 VA - (AF..Z) 16 VA Average holding value (AF) 2.2 VA / 2 W - (AF..Z) 1.7 VA / 1.5 W
DC control voltage	Rated control circuit voltage U_c	12 ... 500 V DC
	Coil consumption	Average pull-in value (AF) 50 W - (AF..Z) 12 ... 16 W Average holding value (AF) 2 W - (AF..Z) 1.7 W
PLC-Output control		(AF..Z) ≥ 500 mA 24 V DC
Drop-out voltage in % of U_c min.		≤ 60 % U_c min
Voltage sag immunity according to SEMI F47-0706		(AF..Z) conditions of use on request
Dips withstand (level 0% according to IEC 61000-4-11) -20 °C ≤ θ ≤ +60 °C		(AF..Z) 22 ms average for $U_c = 24$... 250 V 50/60Hz
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