



Power contactor
BF12

Product designation

Product type designation

Contact characteristics

Number of poles	nr.	3
Rated insulation voltage U_i	V	690
Rated impulse withstand voltage U_{imp}	kV	6
Operating frequency		
	Operational frequency min	Hz 25
	Operational frequency max	Hz 400
Conventional free air thermal current I_{th}	A	28
Operating current		
	Operational current AC1 ($\leq 40^\circ\text{C}$)	A 28
	Operational current AC3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A 12
	Operational current AC4 (400V)	A 7.9
Rated operational power AC1 ($T \leq 40^\circ\text{C}$)		
	230V kW	10
	400V kW	18
	500V kW	23
	690V kW	32
Rated operational power AC3A ($T \leq 55^\circ\text{C}$)		
	Rated operational power AC3 ($T \leq 55^\circ\text{C}$) 230V kW	3.2
	Rated operational power AC3 ($T \leq 55^\circ\text{C}$) 400V kW	5.7
	Rated operational power AC3 ($T \leq 55^\circ\text{C}$) 415V kW	6.2
	Rated operational power AC3 ($T \leq 55^\circ\text{C}$) 440V kW	6.2
	Rated operational power AC3 ($T \leq 55^\circ\text{C}$) 500V kW	7.5
	Rated operational power AC3 ($T \leq 55^\circ\text{C}$) 690V kW	10
Short-time allowable current for 10s (IEC/EN60947-1)	A	150
Protection fuse		
	gG (IEC)	A 32
	aM (IEC)	A 12
Making capacity (RMS value)	A	120
Breaking capacity at voltage		
	Breaking capacity 440V	A 96
	Breaking capacity 500V	A 96
	Breaking capacity 690V	A 94
Resistance per pole (average value)	m Ω	2.5
Power dissipation per pole (average value)		
	Power dissipation pole (average value) I_{th}	W 2
	AC3	W 0.4
Tightening torque for terminals		
	min	Nm 1.5
	max	Nm 1.8
	min	lbft 1.1
	max	lbft 1.5

Tightening torque for coil terminal

	min	Nm	0.8
	max	Nm	1
	min	lbft	0.8
	max	lbft	0.74
max number of wires simultaneously connectable	nr.		2
Conductor section			
AWG			
	min		16
	max		10
Flexible w/o lug conductor section			
	min	mm ²	1
	max	mm ²	6
Flexible c/w lug conductor section			
	min	mm ²	1
	max	mm ²	4
Flexible with insulated spade lug conductor section			
	min	mm ²	1
	max	mm ²	4
Power terminal protection according to IEC/EN 60529			IP20 when wired
Auxiliary contact characteristics			
Type of contact			1 NO
Thermal current I _{th}		A	10
IEC/EN 60947-5-1 designation			A600 - P600
Operational current AC1 (≤40°C)		A	28
Operating current AC15			
	230V	A	3
	400V	A	1.9
	500V	A	1.4
Operating current DC12			
	110V	A	5.7
Operating current DC13			
	24V	A	5.7
	48V	A	2.9
	60V	A	2.3
	110V	A	Screw / DIN rail 35mm
	125V	A	0.6
	220V	A	0.2
	600V	A	1.2
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	70
Storage temperature			
	min	°C	-60
	max	°C	80
Max altitude		m	3000
Operating position			
	normal allowable		Vertical plan ±30°
Mounting			Screw / DIN rail 35mm
Weight		g	0.365

Operations

Mechanical life	Cycles	20000000
Electrical life	Cycles	2000000

Safety related data

Performance level B10d according to EN/ISO 13489-1

	rated load mechanical load	Cicli Cicli	2000000 20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes

AC coil operating

AC operating voltage

of 50/60Hz coil powered at 50Hz
pick-up

min	%Us	0.8
max	%Us	1.1

drop-out

min	%Us	0.2
max	%Us	0.55

of 50/60Hz coil powered at 60Hz
pick-up

min	%Us	0.85
max	%Us	1.1

drop-out

min	%Us	0.2
max	%Us	0.55

of 60Hz coil powered at 60Hz
pick-up

min	%Us	0.8
max	%Us	1.1

drop-out

min	%Us	0.2
max	%Us	0.55

AC operating voltage

of 50/60Hz coil powered at 50Hz

in-rush	VA	75
holding	VA	9

of 50/60Hz coil powered at 60Hz

in-rush	VA	70
holding	VA	6.5

of 60Hz coil powered at 60Hz

in-rush	VA	75
holding	VA	9

Dissipation at holding $\leq 20^{\circ}\text{C}$ 50Hz

W	2.5
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Max cycles frequency

Mechanical operations	Cycles/h	3600
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Operating times

Average time for U_s control

in AC

Closing NO

min	ms	8
max	ms	24

Opening NO

min	ms	10
max	ms	20

Closing NC

min	ms	14
max	ms	28

Opening NC

min	ms	7
max	ms	18

UL technical data

Full-load current (FLA) for three-phase AC motor

at 480V	A	11
at 600V	A	11

Yielded mechanical performance

for single-phase AC motor

at 110/120V	hp	1
at 230V	hp	2

for three-phase AC motor

at 200/208V	hp	5
at 220/230V	hp	5
at 460/480V	hp	7.5
at 575/600V	hp	10

Contact rating of auxiliary contacts according to UL

A600 - P600

General USE

Contactor

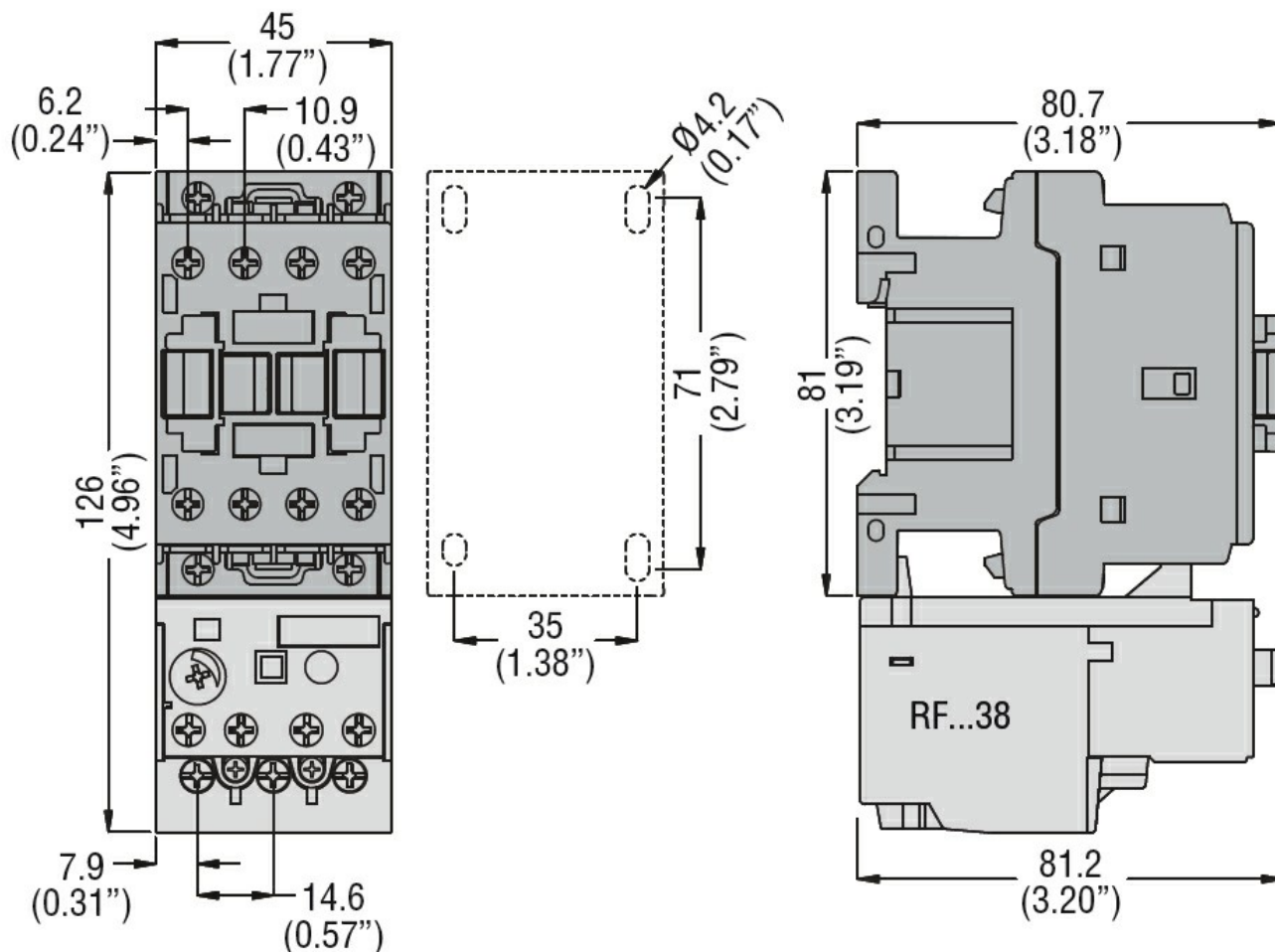
AC current	A	28
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Other features

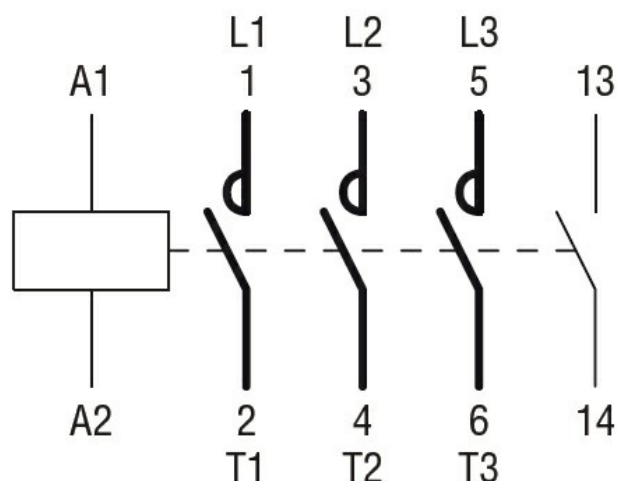
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Certifications

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN 60947-1

IEC/EN 60947-4-1

UL 60947-1

UL 60947-4-1

Compliance

CCC

cULus

EAC

ETIM 6 classification

EC000066 - Power contactor, AC switching