



Product designation				Power contactor
Product type designation				BF12
<b>Contact characteristics</b>				
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 AC3 ( $T \leq 55^\circ\text{C}$ )	230V	kW	3.2	
	400V	kW	5.7	
	415V	kW	6.2	
	440V	kW	6.2	
	500V	kW	7.5	
	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 $\Omega$	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 <sup>2</sup>	1
	max	mm <sup>2</sup>	6
Flexible c/w lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
Flexible with insulated spade lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	4
Power terminal protection according to IEC/EN 60529			IP20 when wired
<b>Auxiliary contact characteristics</b>			
Type of contact			1 NO
Thermal current I <sub>th</sub>		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
<b>Ambient conditions</b>			
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 contats according to IEC/EN 609474-4-1			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 ≤20°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 Us 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

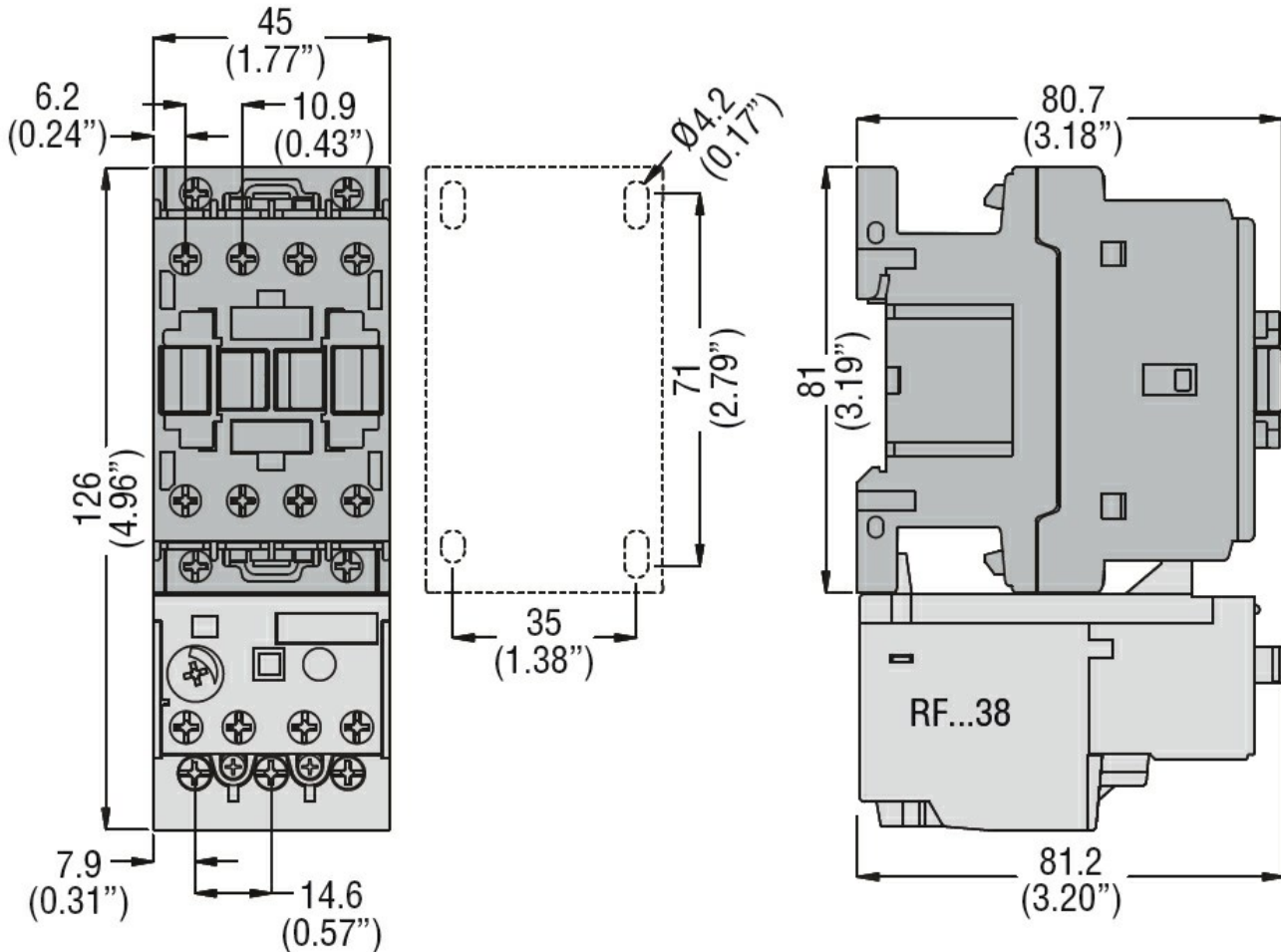
AC current	A	28
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**Other features**

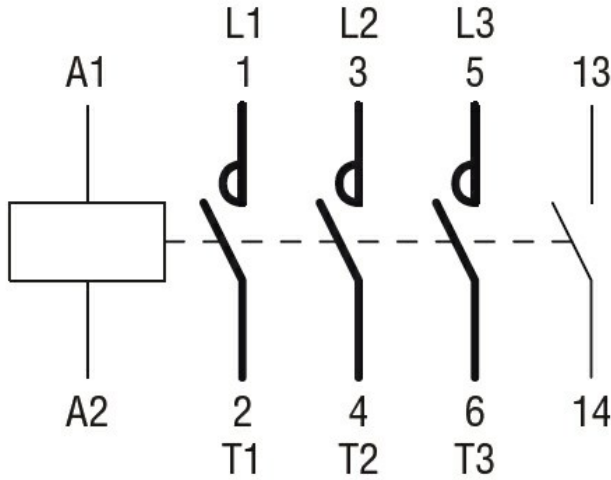
Pollution degree

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