



Product designation				Power contactor
Product type designation				BF12
Contact characteristics				
Number of poles	nr.			3
Rated insulation voltage U_i IEC/EN	V			690
Rated impulse withstand voltage U_{imp}	kV			6
Operational frequency	min	Hz	25	
	max	Hz	400	
Conventional free air thermal current I_{th} IEC/EN	A			28
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A	28	
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	12	
	AC-4 (400V)	A	7.9	
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V	kW	10	
	400V	kW	18	
	500V	kW	23	
	690V	kW	32	
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	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	440V	A	96	
	500V	A	96	
	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 I _e AC-1 (≤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
Operational position	Operating position normal Operating position 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	Cicli	2000000
	mechanical load	Cicli	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

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

for single-phase AC motor

Yielded mechanical performance at 110/120V	hp	1
Yielded mechanical performance at 230V	hp	2

for three-phase AC motor

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

Contact rating of auxiliary contacts according to UL

A600 - P600

General USE

Contactor

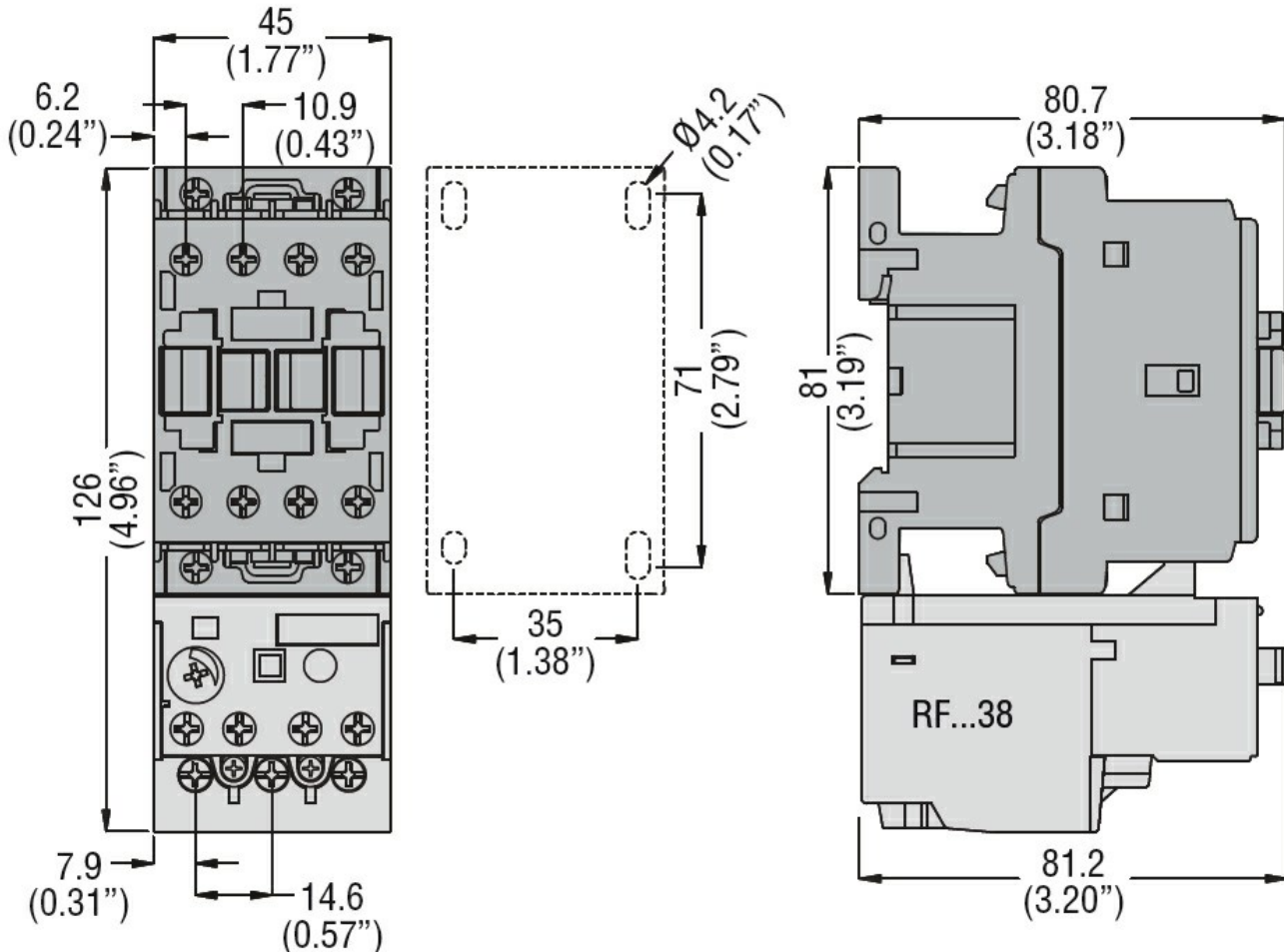
AC current	A	28
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Other features

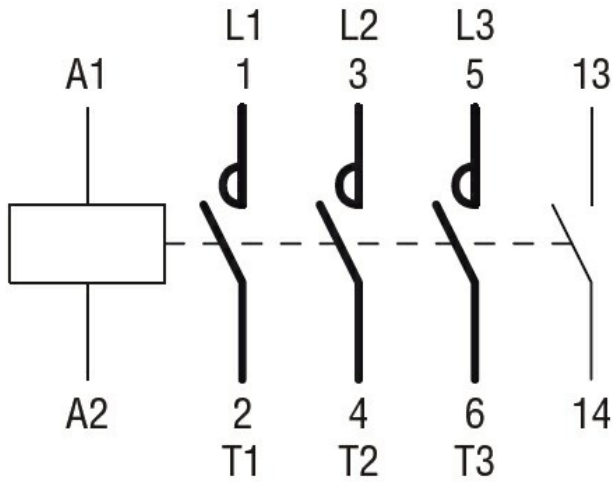
Pollution degree

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