



Power contactor  
BF12

Product designation

Product type designation

**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
IEC Conventional free air thermal current $I_{th}$	A	28
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A 28
	AC-1 ( $\leq 55^\circ\text{C}$ )	A 23
	AC-1 ( $\leq 70^\circ\text{C}$ )	A 20
	AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ )	A 12
	AC-4 (400V)	A 7.9
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 5.5
	500V	kW 5
	690V	kW 5
Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )	230V	kW 10
	400V	kW 18
	500V	kW 23
	690V	kW 32
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A 17
	48V	A 15
	75V	A 13
	110V	A 6
	220V	A –
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series	$\leq 24\text{V}$	A 20
	48V	A 20
	75V	A 18
	110V	A 13
	220V	A 1
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A 22
	48V	A 22
	75V	A 20
	110V	A 16

	220V	A	11
IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series	≤24V	A	20
	48V	A	20
	75V	A	20
	110V	A	16
	220V	A	12
IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series	≤24V	A	12
	48V	A	11
	75V	A	10
	110V	A	2
	220V	A	–
IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	≤24V	A	15
	48V	A	13
	75V	A	12
	110V	A	8
	220V	A	2
IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	≤24V	A	18
	48V	A	18
	75V	A	15
	110V	A	12
	220V	A	6
IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	≤24V	A	15
	48V	A	15
	75V	A	15
	110V	A	16
	220V	A	7
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)		mΩ	2.5
Power dissipation per pole (average value)	I <sub>th</sub>	W	2
	AC3	W	0.4
Tightening torque for terminals	min	Nm	1.5
	max	Nm	1.8
	min	I <sub>bin</sub>	1.1
	max	I <sub>bin</sub>	1.5
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	I <sub>bft</sub>	0.8

	max	lbft	0.74
Max number of wires simultaneously connectable		nr.	2
Conductor section			
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>Mechanical features</b>			
Operating position			
	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	360
<b>Auxiliary contact characteristics</b>			
Type of contact			1 NC
Thermal current I <sub>th</sub>		A	10
IEC/EN 60947-5-1 designation			A600 - P600
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	1.25
	125V	A	1.1
	220V	A	0.55
	600V	A	0.2
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	2000000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1	rated load mechanical load	cycles	2000000
		cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 50/60Hz, 60Hz	min	V	12
	max	V	600
AC operating voltage			of 50/60Hz coil powered at 50Hz

	pick-up	max	%Us	110		
	drop-out	min	%Us	20		
		max	%Us	55		
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	of 50/60Hz coil powered at 60Hz					
	pick-up	min	%Us	85		
		max	%Us	110		
	drop-out	min	%Us	20		
		max	%Us	55		
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AC operating voltage at 20°C						
	of 50/60Hz coil powered at 50Hz					
		in-rush	VA	75		
		holding	VA	9		
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	of 50/60Hz coil powered at 60Hz					
		in-rush	VA	70		
		holding	VA	6.5		
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	of 60Hz coil powered at 60Hz					
		in-rush	VA	75		
		holding	VA	9		
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Dissipation at holding ≤20°C 50Hz				W	2.5	
<b>DC coil operating</b>						
DC rated control voltage				max	V	250
<b>Max cycles frequency</b>						
Mechanical operation				cycles/h	3600	
<b>Operating times</b>						
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		
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<b>UL technical data</b>						
Full-load current (FLA) for three-phase AC motor				at 480V	A	11
				at 600V	A	11
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Yielded mechanical performance						
	for single-phase AC motor					
		110/120V	hp	1		
		230V	hp	2		
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	for three-phase AC motor					
		200/208V	hp	5		
		220/230V	hp	5		

460/480V	hp	7.5
575/600V	hp	10

Contact rating of auxiliary contacts according to UL A600 - P600

General USE

Contactor	AC current	A	28
Auxiliary contacts	AC voltage	V	600
	AC current	A	10
	DC voltage	V	250
	DC current	A	1

**Ambient conditions**

Temperature

Operating temperature	min	°C	-50
	max	°C	70

Storage temperature

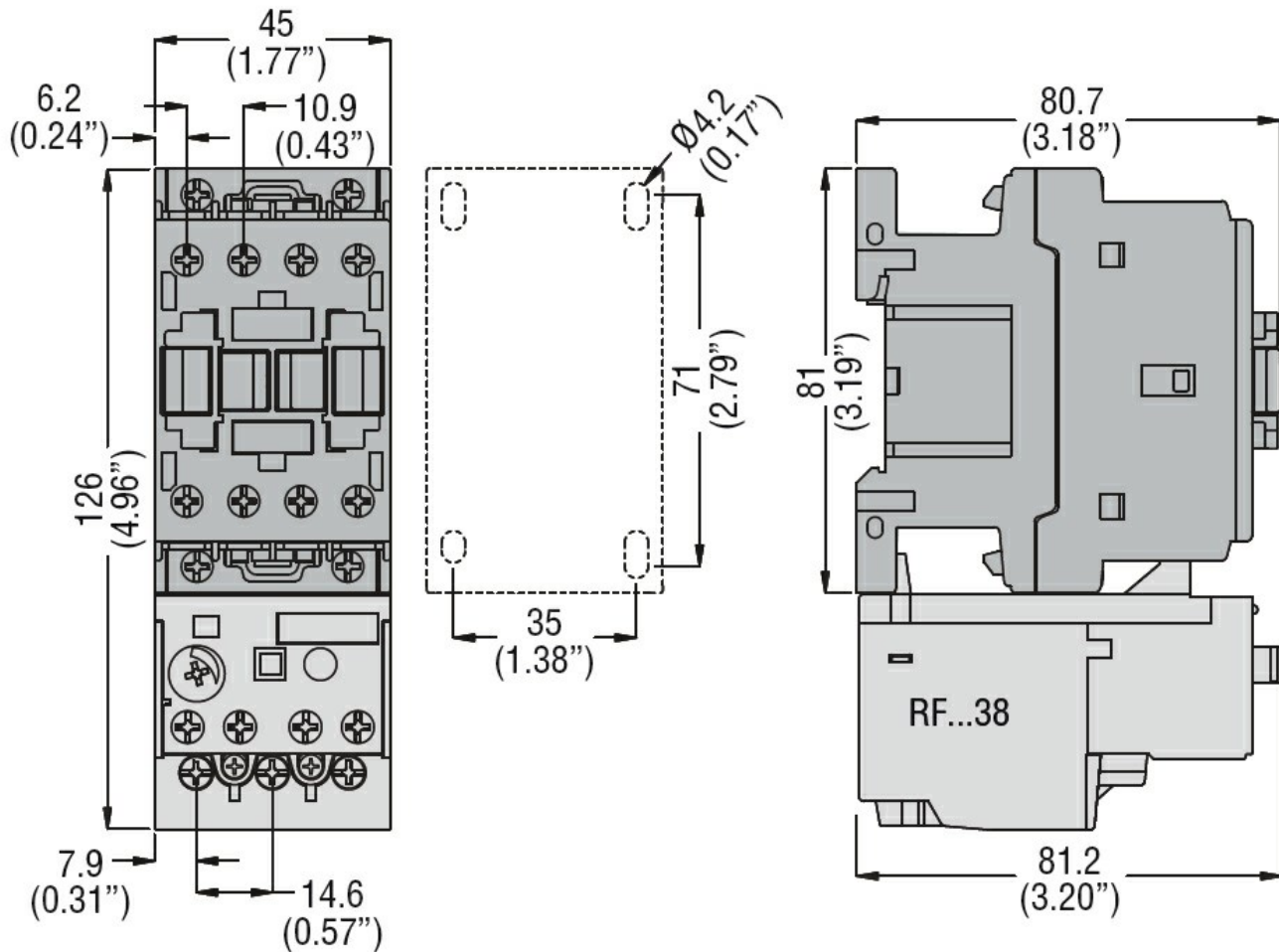
min	°C	-60
max	°C	80

Max altitude m 3000

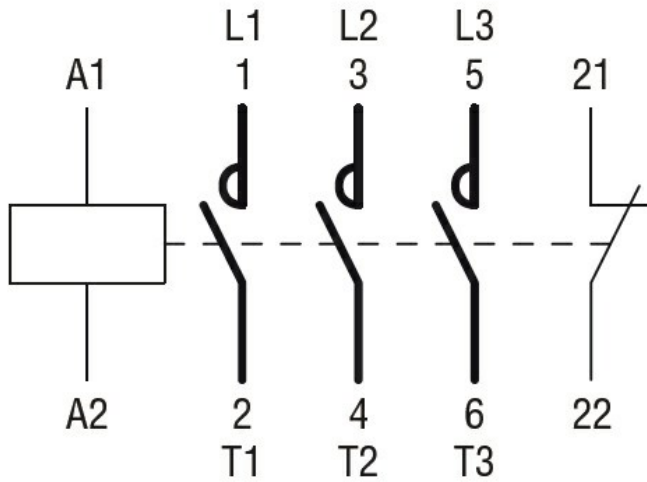
**Resistance & Protection**

Pollution degree 3

**Dimensions**



**Wiring diagrams**



**Certifications and compliance**

Compliance

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

Certificates

CCC

cULus

EAC