



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

	220V	A	11
IEC max current Ie 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 Ie 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 Ie 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 Ie 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 Ie 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)		m?	2.5
Power dissipation per pole (average value)			
	I _{th}	W	2
	AC3	W	0.4
Tightening torque for terminals			
	min	Nm	1.5
	max	Nm	1.8
	min	I _{bin}	1.1
	max	I _{bin}	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	I _{bin}	0.8

Max number of wires simultaneously connectable	max	lbin	0.74
Conductor section	Nr.	2	
AWG/Kcmil	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
Mechanical features			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight	g	354	
Conductor section			
AWG/kcmil conductor section	max		10
Auxiliary contact characteristics			
Thermal current Ith	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
Operations			
Mechanical life	cycles	20000000	
Electrical life	cycles	2000000	
Safety related data			
Performance level B10d according to EN/ISO 13489-1	rated load	cycles	2000000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 609474-4-1			yes
EMC compatibility			yes
AC coil operating			
Rated AC voltage at 50/60Hz	V	230	

AC operating voltage

of 50/60Hz coil powered at 50Hz	pick-up	min	%Us	80
	drop-out	max	%Us	110
	of 50/60Hz coil powered at 60Hz	min	%Us	20
		max	%Us	55
of 50/60Hz coil powered at 60Hz	pick-up	min	%Us	85
	drop-out	max	%Us	110
		min	%Us	20
		max	%Us	55

AC average coil consumption at 20°C

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 operation cycles/h 3600

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

110/120V HP 1
230V HP 2

for three-phase AC motor

200/208V HP 5
220/230V HP 5

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

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

Short-circuit protection fuse, 600V

High fault	Short circuit current	kA	100
	Fuse rating	A	30
	Fuse class		J
Standard fault	Short circuit current	kA	5
	Fuse rating	A	70

Contact rating of auxiliary contacts according to UL

A600 - P600

Ambient conditions

Temperature

Operating temperature	min	°C	-50
	max	°C	70
Storage temperature	min	°C	-60
	max	°C	80

Max altitude

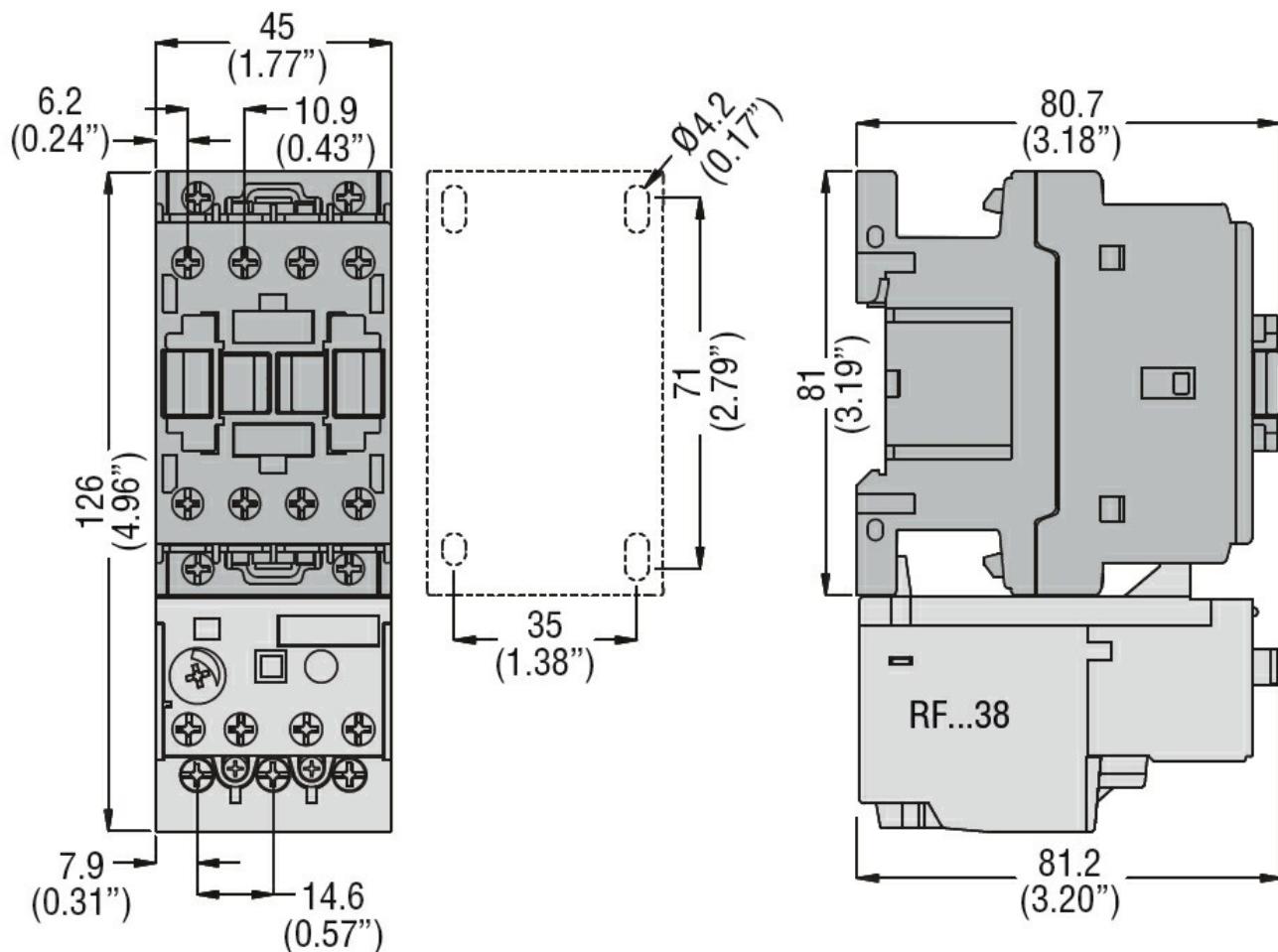
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Resistance & Protection

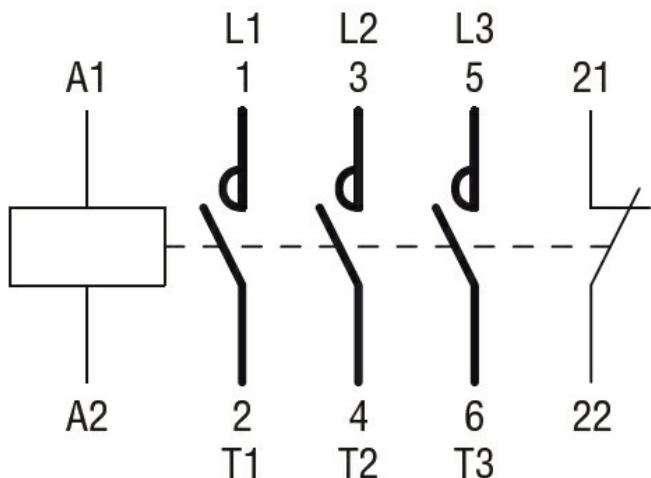
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Pollution degree

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

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching