



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 ($\leq 40^\circ\text{C}$)	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	6.2
	500V	kW	7.5
	690V	kW	10
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_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	20 20 20 16 12
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	12 11 10 2 —
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	15 13 12 8 2
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 3 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	18 18 15 12 6
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 4 poles in series	$\leq 24V$ 48V 75V 110V 220V	A	15 15 15 16 7
Short-time allowable current for 10s (IEC/EN60947-1)		A	150
Protection fuse	gG (IEC) aM (IEC)	A	32 12
Making capacity (RMS value)		A	120
Breaking capacity at voltage	440V 500V 690V	A	96 96 94
Resistance per pole (average value)		$\text{m}\Omega$	2.5
Power dissipation per pole (average value)	I _{th} AC-3	W	2 0.4
Tightening torque for terminals	min max min max	Nm Nm I _{bin} I _{bin}	1.5 1.8 1.1 1.5
Tightening torque for coil terminal	min max min	Nm Nm I _{bin}	0.8 1 0.8

	max	Ibin	0.74
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
AWG/Kcmil			
Flexible w/o lug conductor section	max		10
	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 properly wired
Mechanical features			
Operating position	normal		Vertical plan
	allowable		±30°
Fixing			Screw / DIN rail 35mm
Weight	g		400
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
EMC compatibility			yes
DC coil operating			
DC rated control voltage	V		12
DC operating voltage			
pick-up	min	%Us	70

	max	%Us	125
drop-out			
	min	%Us	10
	max	%Us	40
Average coil consumption $\leq 20^{\circ}\text{C}$			
	in-rush	W	5.4
	holding	W	5.4
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
in DC			
Closing NO		min	ms 54
		max	ms 66
Opening NO		min	ms 14
		max	ms 17
UL technical data			
Rated operational voltage AC (UL)		V	600
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

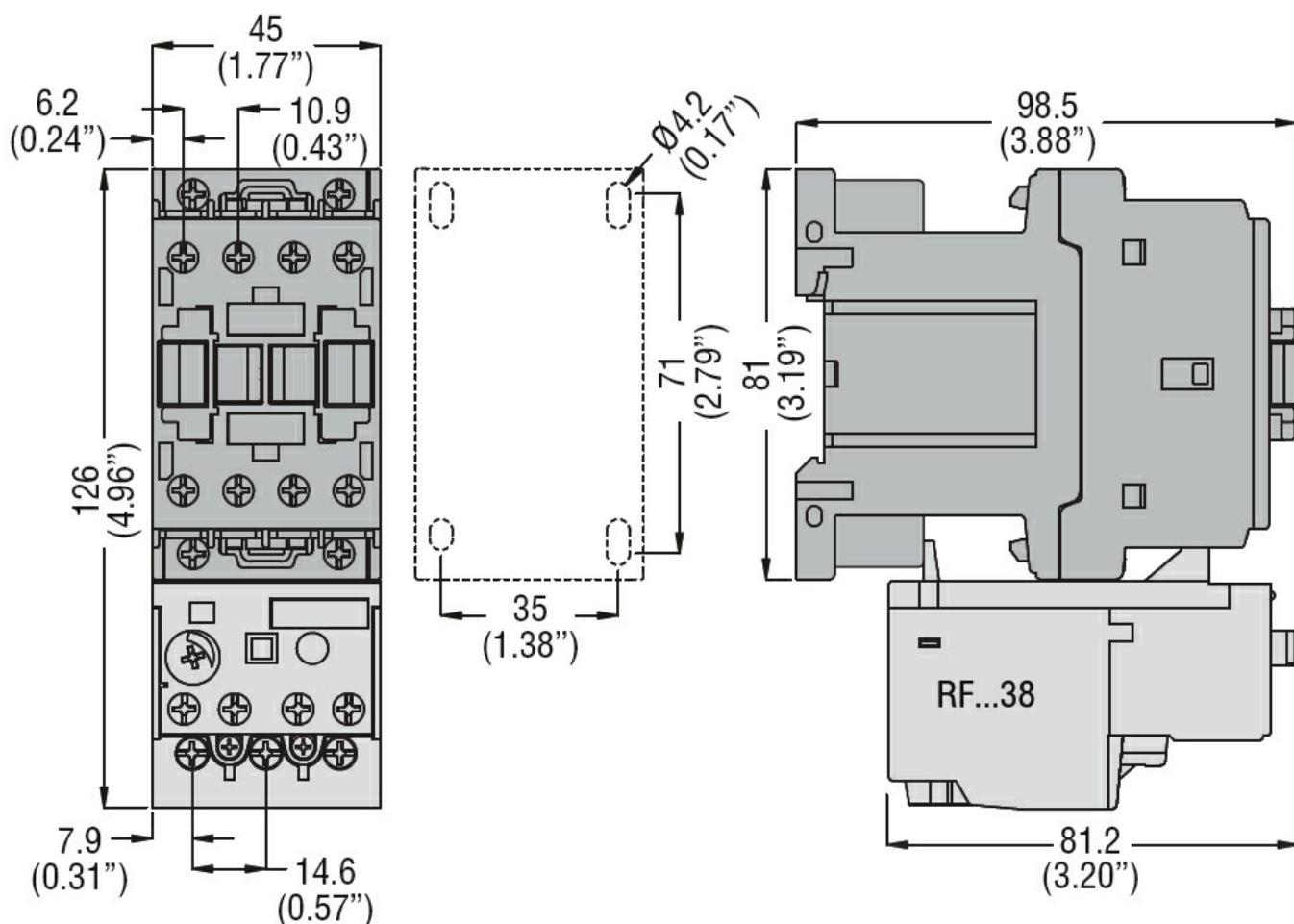
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Resistance & Protection

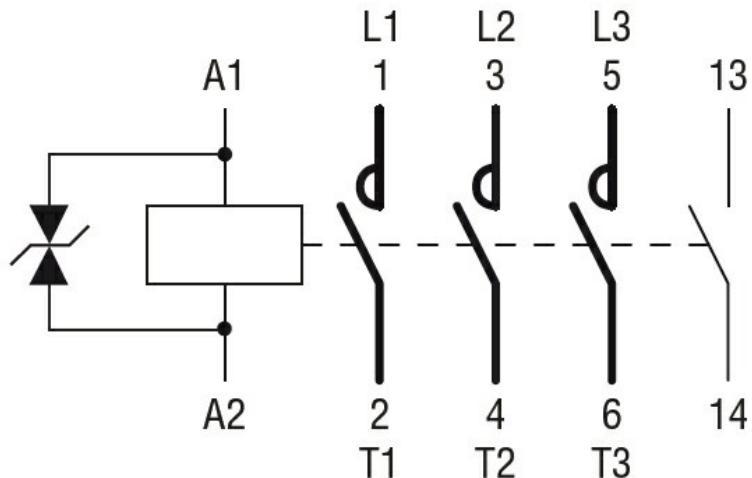
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

cULus

EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching