



Product designation  
Product type designation

Power contactor  
BF12

**Contact characteristics**

Number of poles	Nr.	4
Rated insulation voltage U <sub>i</sub> IEC/EN	V	690
Rated impulse withstand voltage U <sub>imp</sub>	kV	6
Operational frequency	min	Hz 25
	max	Hz 400
IEC Conventional free air thermal current I <sub>th</sub>	A	28
Operational current I <sub>e</sub>	AC-1 (=40°C)	A 28
	AC-1 (=55°C)	A 23
	AC-1 (=70°C)	A 20
	AC-3 (=440V =55°C)	A 12
	AC-4 (400V)	A 7.9
Rated operational power AC-1 (T=40°C)	230V	kW 10
	400V	kW 18
	500V	kW 23
	690V	kW 32
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 1 poles in series	=24V	A 17
	48V	A 15
	75V	A 13
	110V	A 6
	220V	A –
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 2 poles in series	=24V	A 20
	48V	A 20
	75V	A 18
	110V	A 13
	220V	A 1
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 3 poles in series	=24V	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
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Protection fuse

gG (IEC)	A	32
aM (IEC)	A	12

Making capacity (RMS value)

A	120
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Breaking capacity at voltage

440V	A	96
500V	A	96
690V	A	94

Resistance per pole (average value)

m?	2.5
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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>bin</sub>	0.8
max	I <sub>bin</sub>	0.74

Max number of wires simultaneously connectable

Nr.	2
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Conductor section

AWG/Kcmil

max	10
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Flexible w/o lug conductor section

min	mm <sup>2</sup>	1
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	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	350
Conductor section			
AWG/kcmil conductor section	max		10
<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 60Hz		V	460
AC operating voltage			
of 60Hz coil powered at 60Hz			
pick-up	min	%Us	80
	max	%Us	110
drop-out	min	%Us	20
	max	%Us	55
AC average coil consumption at 20°C			
of 60Hz coil powered at 60Hz	in-rush holding	VA	75
		VA	9
Dissipation at holding =20°C 50Hz		W	2.5
<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

**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
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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

**Ambient conditions**

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

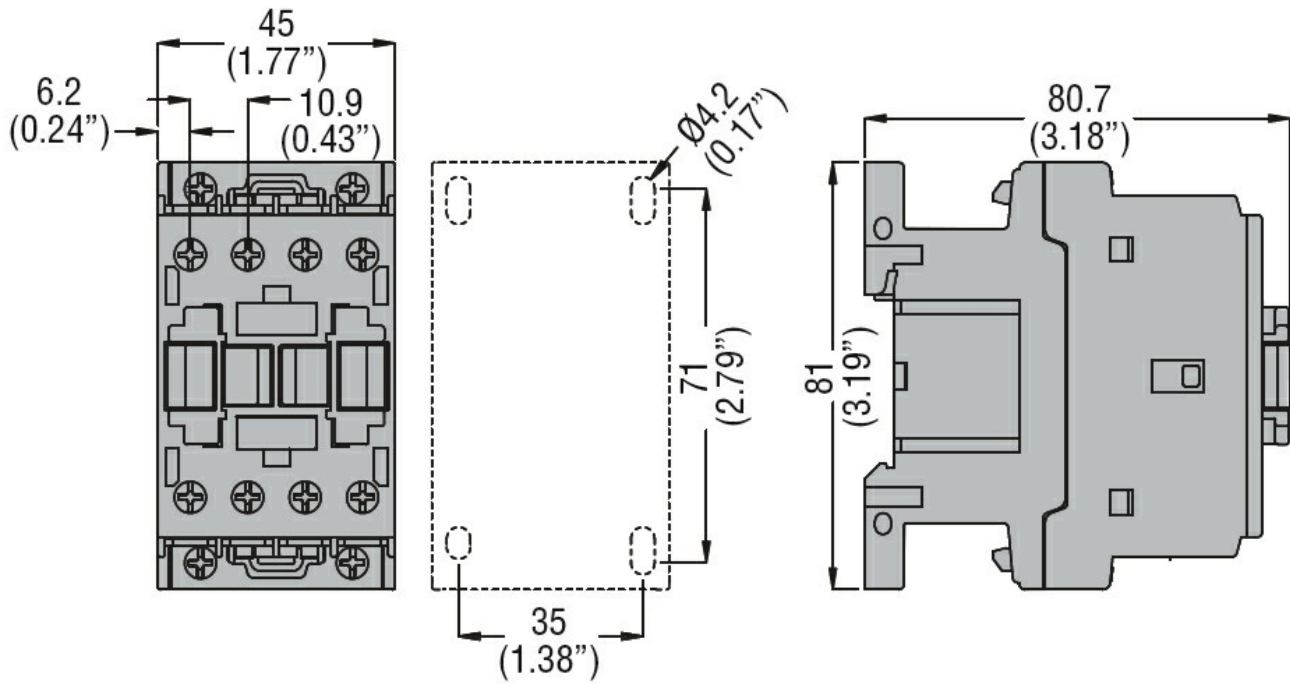
m	3000
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**Resistance & Protection**

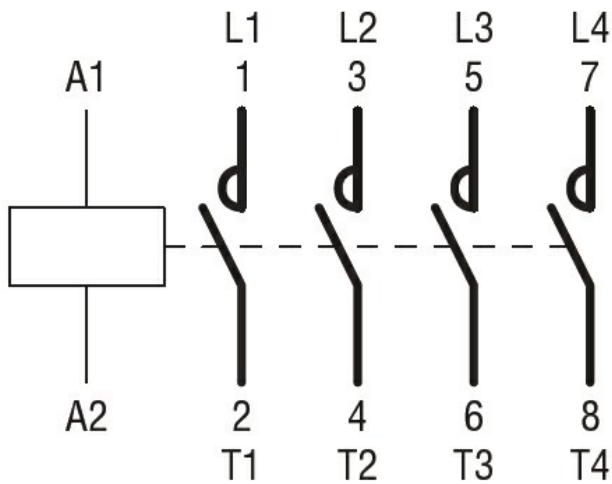
Pollution degree

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