



Product designation	Power contactor		
Product type designation	BF50		
<b>Contact characteristics</b>			
Number of poles	Nr.	4	
Rated insulation voltage U <sub>i</sub> IEC/EN	V	1000	
Rated impulse withstand voltage U <sub>imp</sub>	kV	8	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current I <sub>th</sub>	A	90	
Operational current I <sub>e</sub>	AC-1 (=40°C)	A	90
	AC-1 (=55°C)	A	75
	AC-1 (=70°C)	A	65
	AC-3 (=440V =55°C)	A	50
	AC-4 (400V)	A	28
Rated operational power AC-1 (T=40°C)	230V	kW	34
	400V	kW	59
	500V	kW	74
	690V	kW	102
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 1 poles in series	=24V	A	45
	48V	A	40
	75V	A	40
	110V	A	8
	220V	A	–
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 2 poles in series	=24V	A	60
	48V	A	60
	75V	A	60
	110V	A	50
	220V	A	7
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 3 poles in series	=24V	A	60
	48V	A	60
	75V	A	60
	110V	A	55
	220V	A	75
IEC max current I <sub>e</sub> in DC1 with L/R = 1ms with 4 poles in series	=24V	A	60
	48V	A	60
	75V	A	60
	110V	A	60
	220V	A	90

IEC max current I<sub>e</sub> in DC3-DC5 with L/R = 15ms with 1 poles in series

=24V	A	30
48V	A	25
75V	A	22
110V	A	3
220V	A	–

IEC max current I<sub>e</sub> in DC3-DC5 with L/R = 15ms with 2 poles in series

=24V	A	35
48V	A	35
75V	A	30
110V	A	25
220V	A	5

IEC max current I<sub>e</sub> in DC3-DC5 with L/R = 15ms with 3 poles in series

=24V	A	50
48V	A	50
75V	A	45
110V	A	30
220V	A	40

IEC max current I<sub>e</sub> in DC3-DC5 with L/R = 15ms with 4 poles in series

=24V	A	55
48V	A	55
75V	A	55
110V	A	45
220V	A	50

Short-time allowable current for 10s (IEC/EN60947-1)

A	400
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Protection fuse

gG (IEC)	A	100
aM (IEC)	A	50

Making capacity (RMS value)

A	500
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Breaking capacity at voltage

440V	A	400
500V	A	352
690V	A	312

Resistance per pole (average value)

m?	0.8
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Power dissipation per pole (average value)

I <sub>th</sub>	W	6.5
AC3	W	2

Tightening torque for terminals

min	Nm	4
max	Nm	5
min	I <sub>bin</sub>	2.95
max	I <sub>bin</sub>	3.69

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	2
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Flexible w/o lug conductor section

min	mm <sup>2</sup>	1.5
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		max	mm <sup>2</sup>	35
Flexible c/w lug conductor section		min	mm <sup>2</sup>	1.5
		max	mm <sup>2</sup>	35
Power terminal protection according to IEC/EN 60529				IP20 front
<b>Mechanical features</b>				
Operating position		normal allowable		Vertical plan ±30°
Fixing				Screw / DIN rail 35mm
Weight			g	1240
Conductor section	AWG/kcmil conductor section			
		max		2
<b>Operations</b>				
Mechanical life			cycles	15000000
Electrical life			cycles	1400000
<b>Safety related data</b>				
Performance level B10d according to EN/ISO 13489-1		rated load	cycles	1400000
		mechanical load	cycles	15000000
Mirror contacts according to IEC/EN 60947-4-1				yes
EMC compatibility				yes
<b>AC coil operating</b>				
Rated AC voltage at 60Hz			V	120
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	VA	210
		holding	VA	15
Dissipation at holding =20°C 50Hz			W	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	12
		max	ms	28
	Opening NO	min	ms	8
		max	ms	22
	in DC			
	Closing NO	min	ms	40
		max	ms	85

Opening NO

min	ms	20
max	ms	55

**UL technical data**

Full-load current (FLA) for three-phase AC motor

at 480V	A	52
at 600V	A	41

Yielded mechanical performance

for single-phase AC motor

110/120V	HP	5
230V	HP	10

for three-phase AC motor

200/208V	HP	15
220/230V	HP	20
460/480V	HP	40
575/600V	HP	40

General USE

Contactor

AC current	A	90
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Short-circuit protection fuse, 600V

High fault

Short circuit current	kA	100
Fuse rating	A	150
Fuse class		J

Standard fault

Short circuit current	kA	5
Fuse rating	A	150
Fuse class		RK5

**Ambient conditions**

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

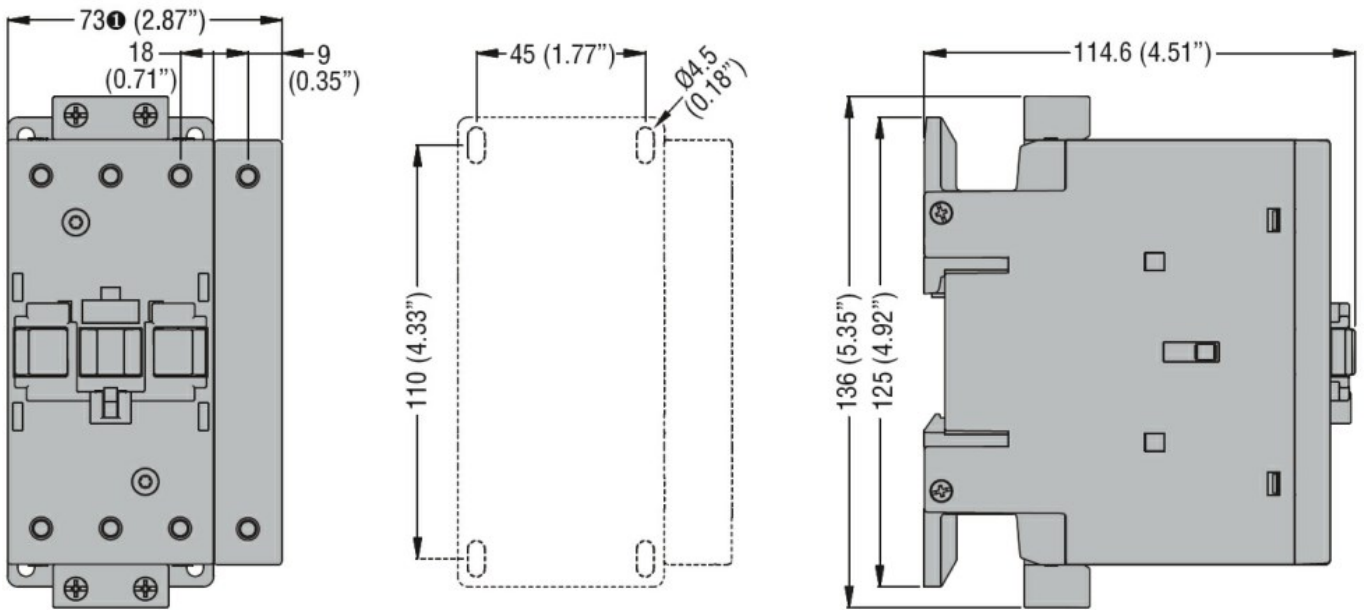
m	3000
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**Resistance & Protection**

Pollution degree

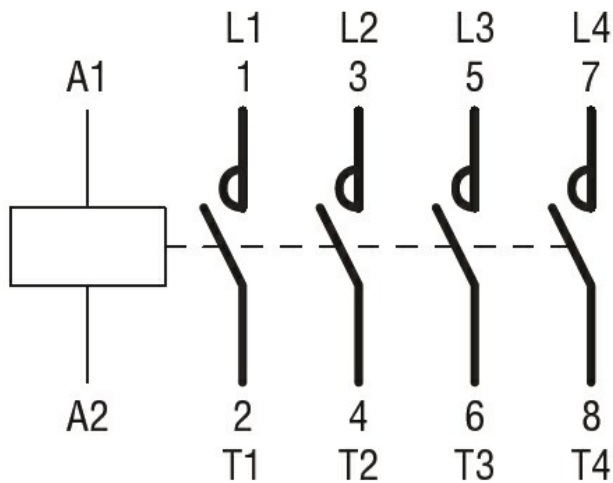
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**Dimensions**



① BF80T2 82mm/3.23"

### 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

### ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching