



Product designation

Power contactor

Product type designation

BF50

Contact characteristics

Number of poles	Nr.	4
Rated insulation voltage U_i IEC/EN	V	1000
Rated impulse withstand voltage U_{imp}	kV	8
Operational frequency	min Hz	25
	max Hz	400
IEC Conventional free air thermal current I_{th}	A	90
Operational current I_e	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_e 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_e 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_e 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_e 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 Ie 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 Ie 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 Ie 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 Ie 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)

Ith	W	6.5
AC3	W	2

Tightening torque for terminals

min	Nm	4
max	Nm	5
min	lbin	2.95
max	lbin	3.69

Tightening torque for coil terminal

min	Nm	0.8
max	Nm	1
min	lbin	0.8
max	lbin	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 ²	1.5
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		max	mm²	35
	Flexible c/w lug conductor section			
		min	mm²	1.5
		max	mm²	35
Power terminal protection according to IEC/EN 60529				IP20 front
Mechanical features				
Operating position		normal allowable		Vertical plan ±30°
Fixing				Screw / DIN rail 35mm
Weight			g	1240
Conductor section				
AWG/kcmil conductor section				
		max		2
Operations				
Mechanical life			cycles	15000000
Electrical life			cycles	1400000
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load	cycles	1400000
		mechanical load	cycles	15000000
Mirror contats 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
		max	%Us	110
	drop-out			
		min	%Us	20
		max	%Us	55
	of 50/60Hz coil powered at 60Hz			
	pick-up	min	%Us	85
		max	%Us	110
	drop-out			
		min	%Us	40
		max	%Us	55
AC average coil consumption at 20°C				
	of 50/60Hz coil powered at 50Hz			
		in-rush	VA	210
		holding	VA	15
	of 50/60Hz coil powered at 60Hz			
		in-rush	VA	195
		holding	VA	13
	of 60Hz coil powered at 60Hz			
		in-rush	VA	210
		holding	VA	15
Dissipation at holding =20°C 50Hz			W	5
Max cycles frequency				
Mechanical operation			cycles/h	3600

Operating times

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

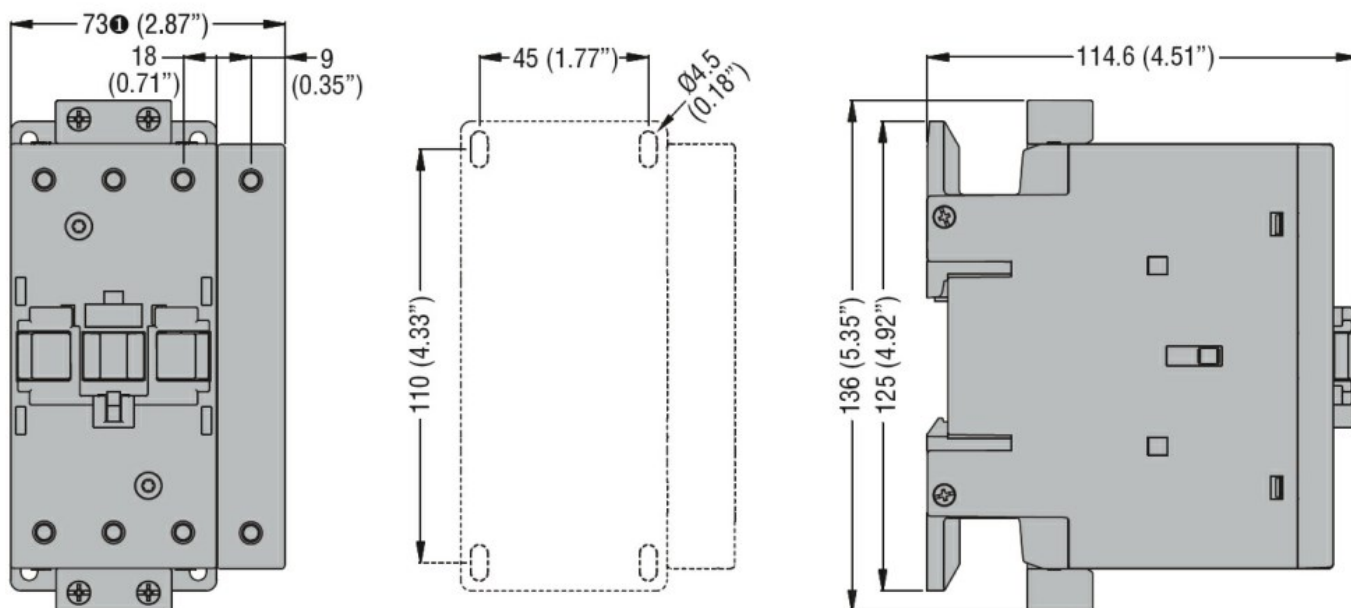
m	3000
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Resistance & Protection

Pollution degree

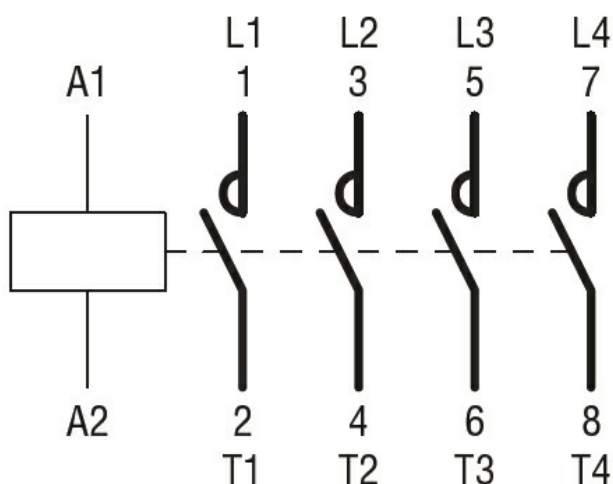
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Dimensions



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 60947-1
IEC/EN 60947-4-1
UL 60947-1
UL 60947-4-1

Certificates

CCC
cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching