



Power contactor
BF50

Product designation

Product type designation

Contact characteristics

Number of poles	nr.	3
Rated insulation voltage U_i	V	1000
Rated impulse withstand voltage U_{imp}	kV	8
Operating frequency		
	Operational frequency min	Hz 25
	Operational frequency max	Hz 400
Conventional free air thermal current I_{th}	A	90
Operating current		
	Operational current AC3 ($\leq 440V \leq 55^\circ C$)	A 50
	Operational current AC4 (400V)	A 28
Short-time allowable current for 10s (IEC/EN60947-1)	A	400
Protection fuse		
	gG (IEC)	A 100
	aM (IEC)	A 50
Making capacity (RMS value)	A	500
Breaking capacity at voltage		
	Breaking capacity 440V	A 400
	Breaking capacity 500V	A 352
	Breaking capacity 690V	A 312
Resistance per pole (average value)	mΩ	0.8
Power dissipation per pole (average value)		
	Power dissipation pole (average value) I_{th}	W 6.5
	AC3	W 2
Tightening torque for terminals		
	min	Nm 4
	max	Nm 5
	min	lbft 2.95
	max	lbft 3.69
Tightening torque for coil terminal		
	min	Nm 0.8
	max	Nm 1
	min	lbft 0.59
	max	lbft 0.74
max number of wires simultaneously connectable	nr.	2
Conductor section		
AWG		
	min	18
	max	2
Flexible w/o lug conductor section		
	min	mm ² 1.5
	max	mm ² 35
Power terminal protection according to IEC/EN 60529		IP20

Ambient conditions

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

m	3,000
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Operating position

normal allowable	Vertical plan ±30°
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Mounting

Screw / DIN rail
35mm

Weight

g	1
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Operations

Mechanical life

Cycles	15,000,000
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Electrical life

Cycles	1400000
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Safety related data

Mirror contacts according to IEC/EN 60947-4-1

Yes

EMC compatibility

Yes

AC coil operating

Rated AC voltage at 50/60Hz, 60Hz

min	V	12
max	V	600

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

of 60Hz coil powered at 60Hz pick-up

min	%Us	80
max	%Us	110

drop-out

min	%Us	20
max	%Us	55

AC operating voltage

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 operations	Cycles/h	3,600
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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

at 110/120V	hp	5
at 230V	hp	10

for three-phase AC motor

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

Contact rating of auxiliary contacts according to UL

SI - A600

General USE

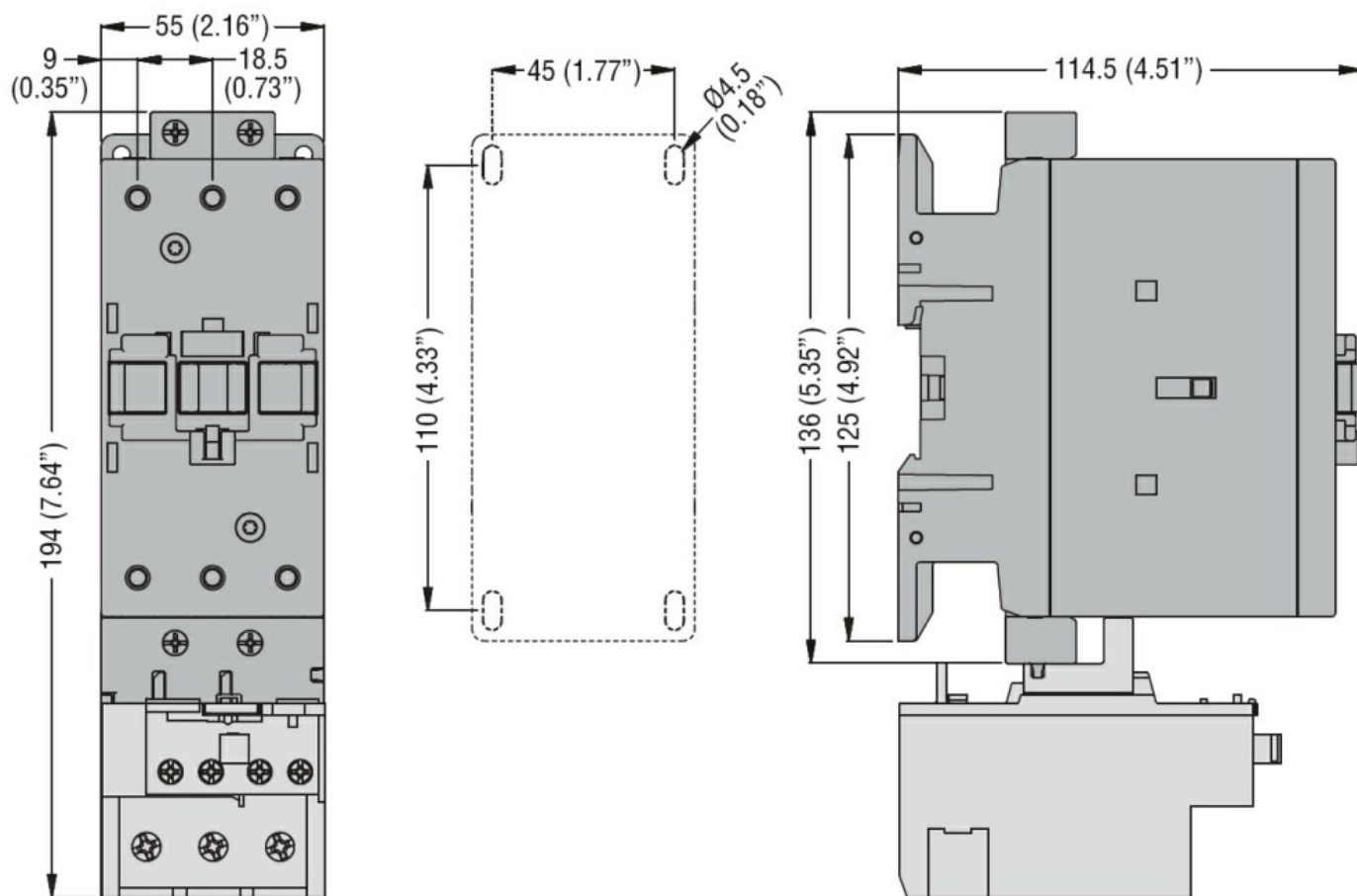
Contactor

AC current	A	32
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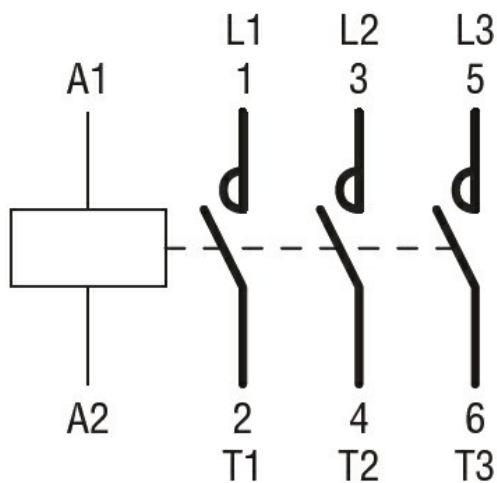
Auxiliary contacts

AC voltage	V	600
AC current	A	10
DC voltage	V	250
DC current	A	1

Dimensions



Wiring diagrams



Certifications and compliance

Certifications

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

Compliance

cULus

ETIM 6 classification

EC000066 - Power contactor, AC switching