



Product designation				Power contactor
Product type designation				BF50
<b>Contact characteristics</b>				
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 AC1 ( $\leq 40^\circ\text{C}$ )	A	90	
	Operational current AC3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ )	A	50	
	Operational current AC4 (400V)	A	28	
Rated operational power AC1 ( $T \leq 40^\circ\text{C}$ )	230V	kW	34	
	400V	kW	59	
	500V	kW	74	
	690V	kW	102	
Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ )	230V	kW	15	
	400V	kW	22	
	415V	kW	30	
	440V	kW	30	
	500V	kW	30	
	690V	kW	37	
	1000V	kW	22	
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)	m $\Omega$	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	0.8
max	lbft	0.74

max number of wires simultaneously connectable

nr.	2
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Conductor section

AWG

min	14
max	2

Flexible w/o lug conductor section

min	mm <sup>2</sup>	1.5
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

Auxiliary contact characteristics

Operational current AC1 (≤40°C)

A	90
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Operating current DC13

110V	A	Screw / DIN rail 35mm
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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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Operating position

normal allowable	Vertical plan ±30°
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Mounting

Screw / DIN rail  
35mm

Weight

g	1.02
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Operations

Mechanical life

Cycles	15000000
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Electrical life

Cycles	1400000
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Safety related data

Performance level B10d according to EN/ISO 13489-1

rated load	Cicli	1400000
mechanical load	Cicli	15000000

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

yes

EMC compatibility

yes

AC coil operating

AC operating voltage

of 50/60Hz coil powered at 50Hz  
pick-up

min	%Us	0.8
max	%Us	1.1

drop-out

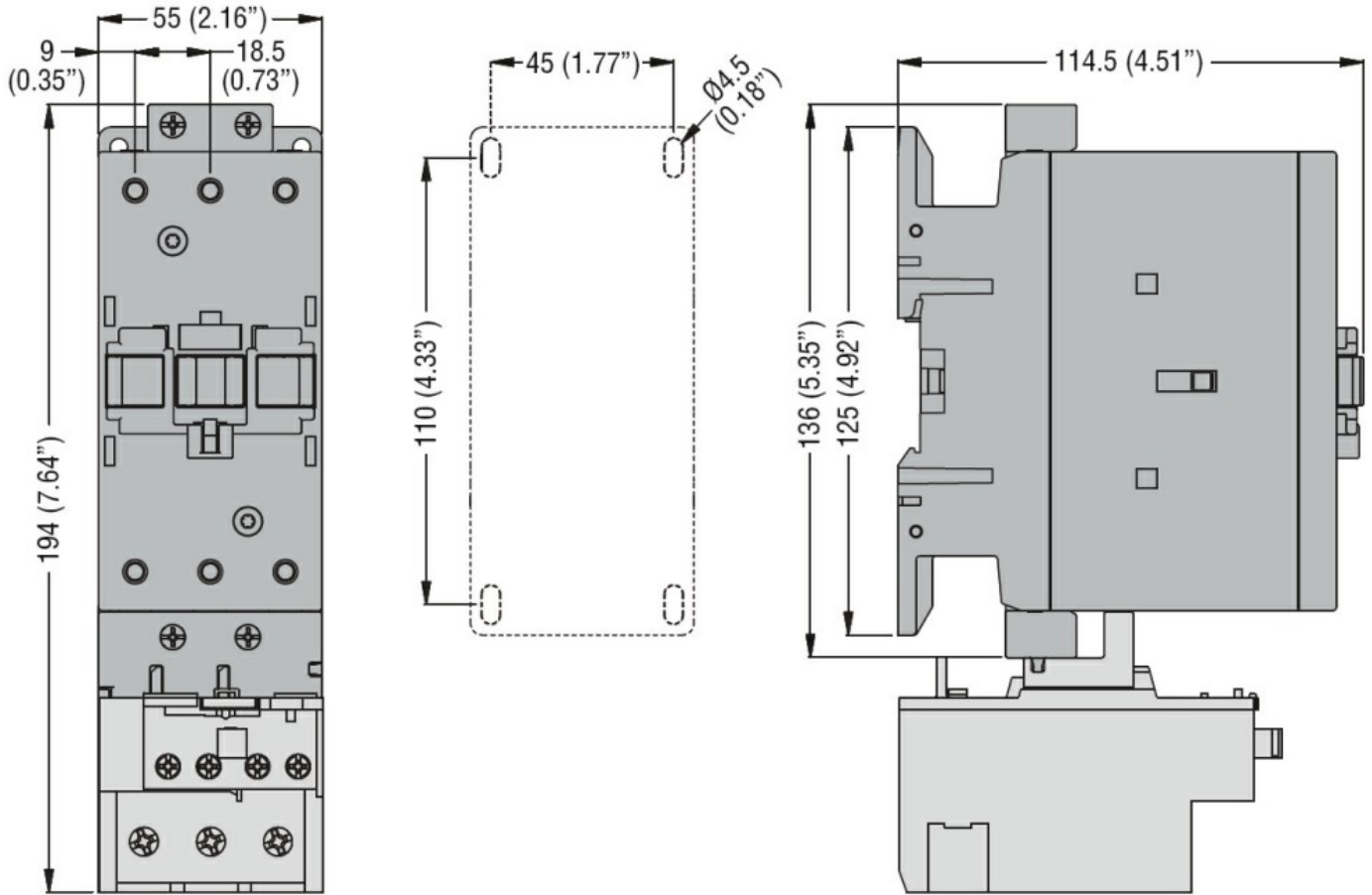
		min	%Us	0.2
		max	%Us	0.55
of 50/60Hz coil powered at 60Hz				
	pick-up	min	%Us	0.85
		max	%Us	1.1
	drop-out	min	%Us	0.4
		max	%Us	0.55
of 60Hz coil powered at 60Hz				
	pick-up	min	%Us	0.8
		max	%Us	1.1
	drop-out	min	%Us	0.2
		max	%Us	0.55
<b>AC operating voltage</b>				
of 50/60Hz coil powered at 50Hz				
		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 $\leq 20^{\circ}\text{C}$ 50Hz				
			W	5.0
<b>Max cycles frequency</b>				
Mechanical operations				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
<b>UL technical data</b>				
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
<b>General USE</b>				
Contactor				
		AC current	A	32

Other features

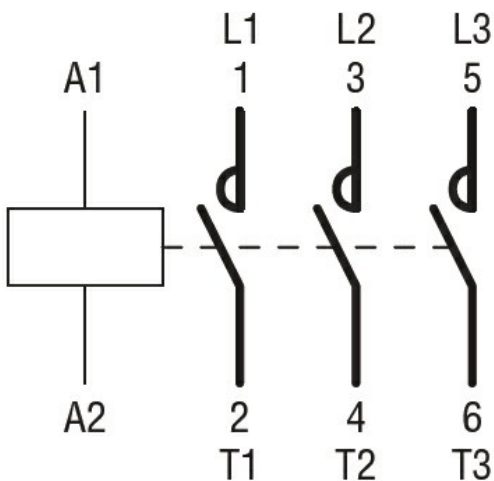
Pollution degree

3

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

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UL 60947-4-1

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Compliance

cULus

ETIM 6 classification

EC000066 - Power contactor, AC switching