



Product designation			
Product type designation	Power contactor 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 AC3A ( $T \leq 55^\circ\text{C}$ )	Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ ) 230V	kW	15
	Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ ) 400V	kW	22
	Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ ) 415V	kW	30
	Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ ) 440V	kW	30
	Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ ) 500V	kW	30
	Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ ) 690V	kW	37
	Rated operational power AC3 ( $T \leq 55^\circ\text{C}$ ) 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	-40
max	°C	70

Storage temperature

min	°C	-50
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	1.06
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Operations

Mechanical life

Cycles	1500000
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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

		max	%Us	≤0.75 Us min
of 50/60Hz coil powered at 60Hz	pick-up	min	%Us	0.8
		max	%Us	1.1
	drop-out	max	%Us	0.75
<b>AC operating voltage</b>				
of 50/60Hz coil powered at 50Hz		in-rush	VA	40...130
		holding	VA	1.3...4.4
of 50/60Hz coil powered at 60Hz		in-rush	VA	40...130
		holding	VA	1.3...4.4
Dissipation at holding ≤20°C 50Hz			W	1...2.5
<b>DC coil operating</b>				
DC rated control voltage		min	V	20
<b>DC operating voltage</b>				
pick-up		min	%Us	0.8
		max	%Us	1.10
drop-out		min	%Us	0.2
		max	%Us	0.55
<b>Average coil consumption ≤20°C</b>				
		in-rush	W	60...125
		holding	W	1.7...2.3
<b>Max cycles frequency</b>				
Mechanical operations			Cycles/h	1500
<b>Operating times</b>				
<b>Average time for Us control</b>				
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
<b>UL technical data</b>				
<b>Full-load current (FLA) for three-phase AC motor</b>				
		at 480V	A	52
		at 600V	A	41
<b>Yielded mechanical performance</b>				
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

General USE

Contactor

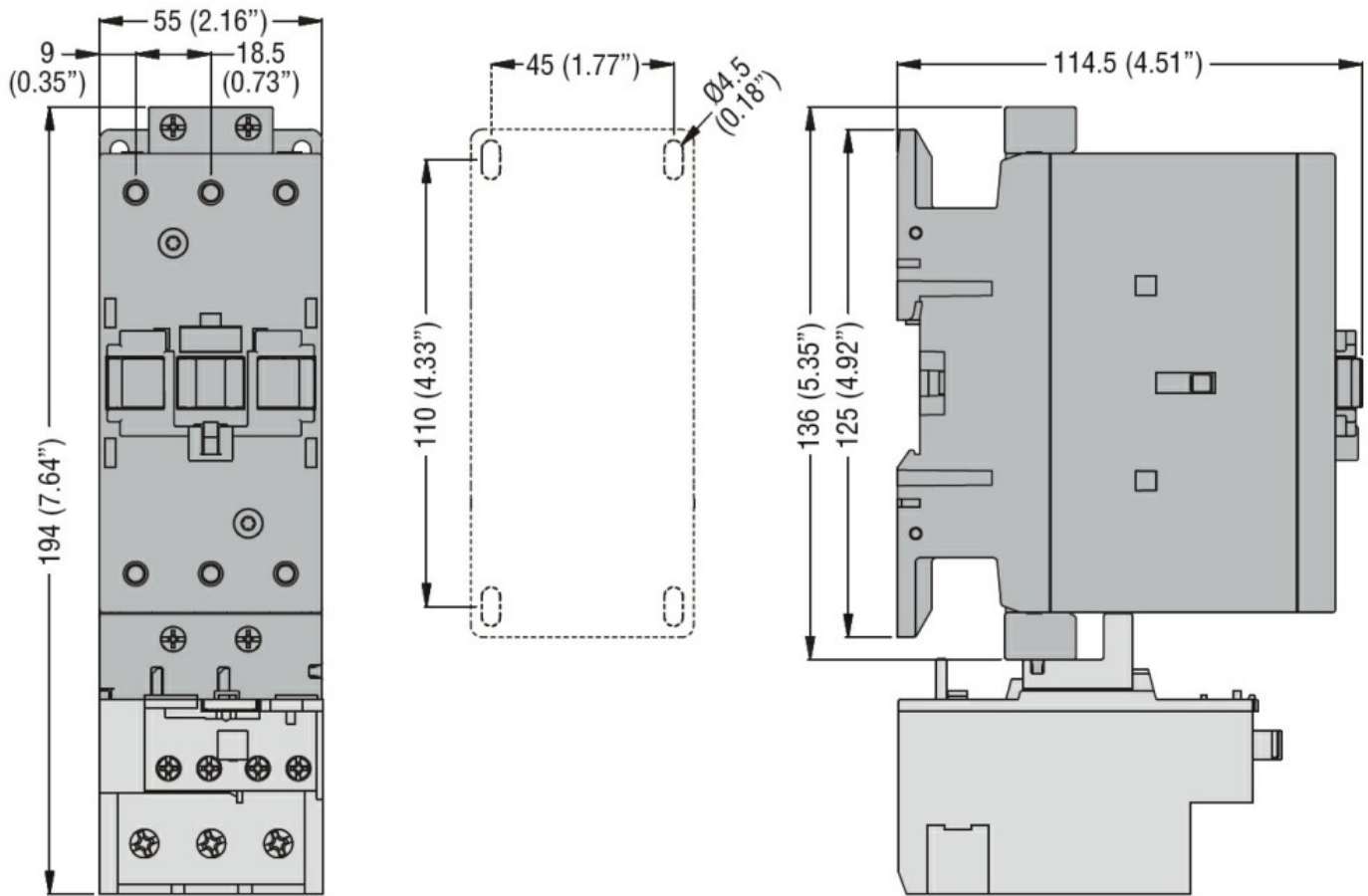
AC current	A	32
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Other features

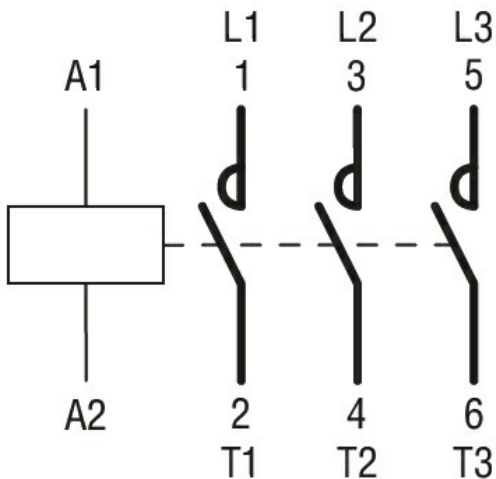
Pollution degree

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

UL 60947-4-1

Compliance

CCC

cULus

**ETIM 6 classification**

EC000066 - Power contactor, AC switching