



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 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 Ω	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

Conductor section

AWG

min	14
max	2

Flexible w/o lug conductor section

min	mm ²	1.5
max	mm ²	35

Flexible c/w lug conductor section

min	mm ²	1.5
max	mm ²	35

Power terminal protection according to IEC/EN 60529

IP20 front

Auxiliary contact characteristics

Operational current AC1 (≤40°C)

A 90

Operating current DC13

110V A Screw / DIN rail
35mm

Ambient conditions

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

m 3000

Operating position

normal
allowable Vertical plan
±30°

Mounting

Screw / DIN rail
35mm

Weight

g 1.02

Operations

Mechanical life

Cycles 15000000

Electrical life

Cycles 1400000

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

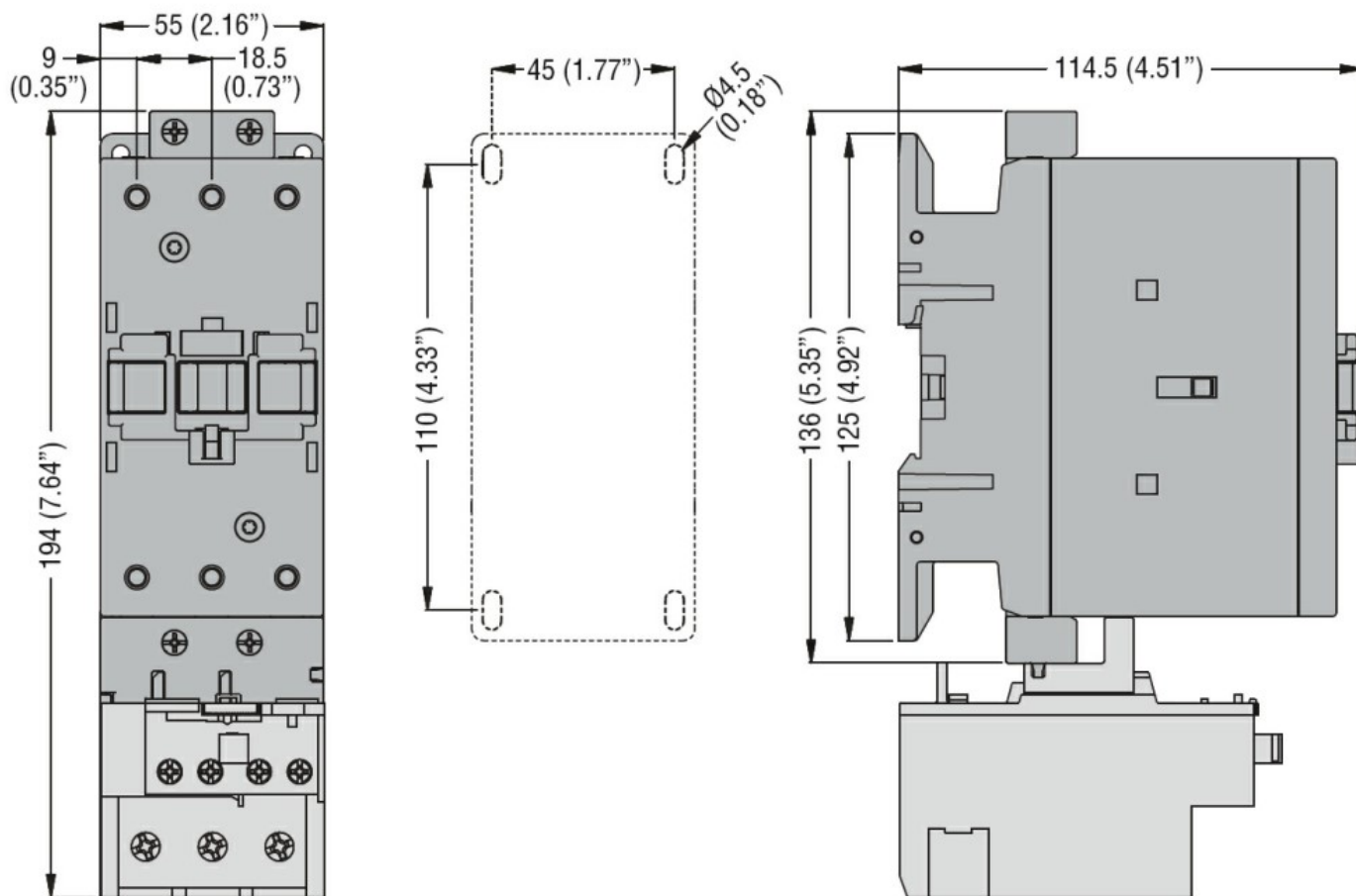
		min	%Us	0.2
		max	%Us	0.55
of 50/60Hz coil powered at 60Hz				
pick-up		min	%Us	0.85
		max	%Us	1.1
drop-out		min	%Us	0.4
		max	%Us	0.55
of 60Hz coil powered at 60Hz				
pick-up		min	%Us	0.8
		max	%Us	1.1
drop-out		min	%Us	0.2
		max	%Us	0.55
AC operating voltage				
of 50/60Hz coil powered at 50Hz		in-rush	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		5.0
Max cycles frequency				
Mechanical operations		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
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
General USE				
Contactor		AC current	A	32

Other features

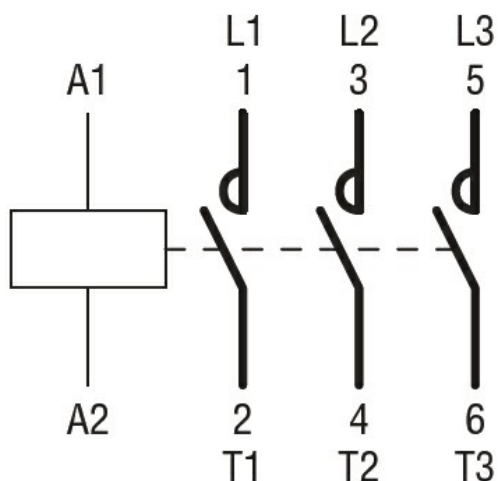
Pollution degree

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

UL 60947-4-1

Compliance

CCC

cULus

ETIM 6 classification

EC000066 - Power contactor, AC switching