



Product designation
Product type designation

Power contactor
BF50

Contact characteristics

Number of poles	Nr.	3
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-3 (T≤55°C)	230V	kW 15
	400V	kW 22
	415V	kW 30
	440V	kW 30
	500V	kW 30
	690V	kW 37
	1000V	kW 22
Rated operational current AC-3 (T≤55°C)	230V	A 50
	400V	A 50
	415V	A 50
	440V	A 50
	500V	A 44
	690V	A 39
	1000V	A 23
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
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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
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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
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IEC max current I _e 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	–
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IEC max current I _e 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
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IEC max current I _e 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
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IEC max current I _e 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
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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
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Making capacity (RMS value)		A	500
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Breaking capacity at voltage	440V	A	400
	500V	A	352
	690V	A	312
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Resistance per pole (average value)		mΩ	0.8
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Power dissipation per pole (average value)	I _{th}	W	6.5
	AC-3	W	2
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Tightening torque for terminals			

	min	Nm	4
	max	Nm	5
	min	Ibin	2.95
	max	Ibin	3.69
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Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8
	max	Ibin	0.74
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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
	max	mm ²	35
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Flexible c/w lug conductor section			
	min	mm ²	1.5
	max	mm ²	35
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Power terminal protection according to IEC/EN 60529			IP20 front
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Mechanical features			
Operating position			
	normal allowable		Vertical plan ±30°
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Fixing			Screw / DIN rail 35mm
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Weight			g 1060
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Conductor section			
AWG/kcmil conductor section			
	max		2
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Operations			
Mechanical life			cycles 15000000
Electrical life			cycles 1400000
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Safety related data			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	1400000
	mechanical load	cycles	15000000
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Mirror contacts according to IEC/EN 60947-4-1			yes
EMC compatibility			yes
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AC coil operating			
Rated AC voltage at 50/60Hz, 60Hz			
	min	V	20
	max	V	48
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AC operating voltage			
	of 50/60Hz coil powered at 50Hz pick-up		
	min	%Us	85 Us min
	drop-out		
	max	%Us	≤70 Us min
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	of 50/60Hz coil powered at 60Hz pick-up		
	min	%Us	85 Us min
	max	%Us	110 Us max

drop-out		max	%Us	≤70 Us min
AC average coil consumption at 20°C				
of 50/60Hz coil powered at 50Hz		in-rush	VA	35...120
		holding	VA	1.5...3.7
of 50/60Hz coil powered at 60Hz				
		in-rush	VA	35...120
		holding	VA	1.5...3.7
Dissipation at holding ≤20°C 50Hz			W	1...2.5
DC coil operating				
DC rated control voltage				
		min	V	20
		max	V	48
DC operating voltage				
pick-up		min	%Us	80 Us min
		max	%Us	110 Us max
drop-out		max	%Us	≤70 Us min
Average coil consumption ≤20°C				
		in-rush	W	23...68
		holding	W	1.2...1,9
Max cycles frequency				
Mechanical operation			cycles/h	1500
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
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	-40
max	°C	70

Storage temperature

min	°C	-50
max	°C	80

Max altitude

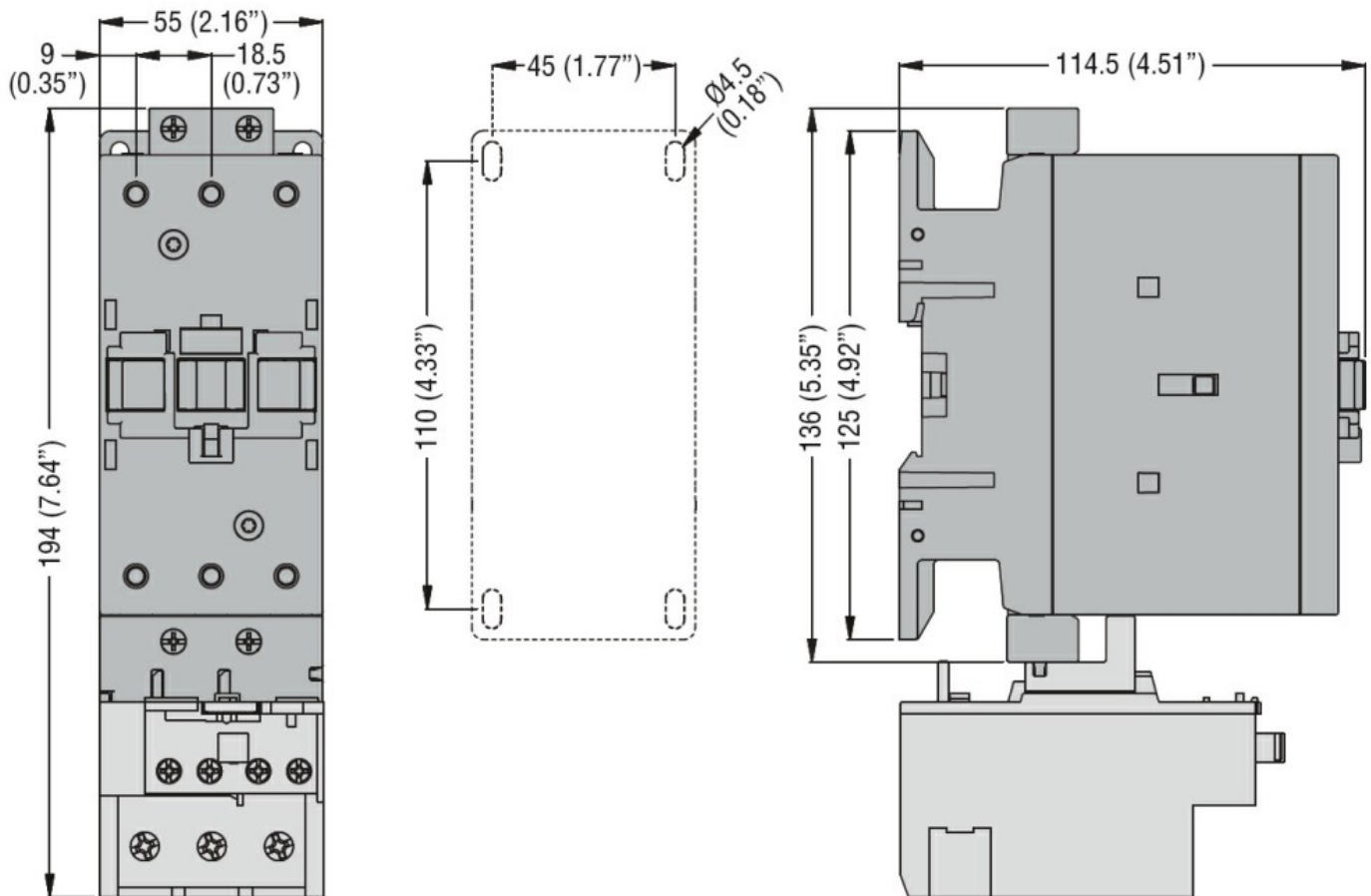
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Resistance & Protection

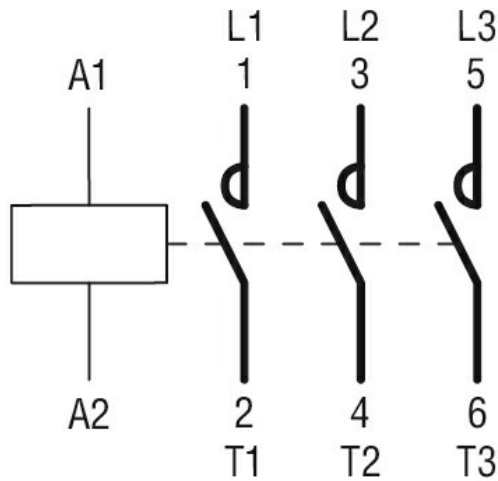
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

cULus

ETIM classification

ETIM 8.0

EC000066 -
 Power contactor,
 AC switching