



Product designation  
Product type designation

Power contactor  
BF50

**Contact characteristics**

Number of poles	Nr.	3
Rated insulation voltage U <sub>i</sub> IEC/EN	V	1000
Rated impulse withstand voltage U <sub>imp</sub>	kV	8
Operational frequency	min	Hz 25
	max	Hz 400
IEC Conventional free air thermal current I <sub>th</sub>	A	90
Operational current I <sub>e</sub>	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 11
	400V	kW 22
	415V	kW 22
	440V	kW 22
	500V	kW 22
	690V	kW 30
	1000V	kW 30
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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>th</sub>	W	6.5
	AC-3	W	2
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Tightening torque for terminals			

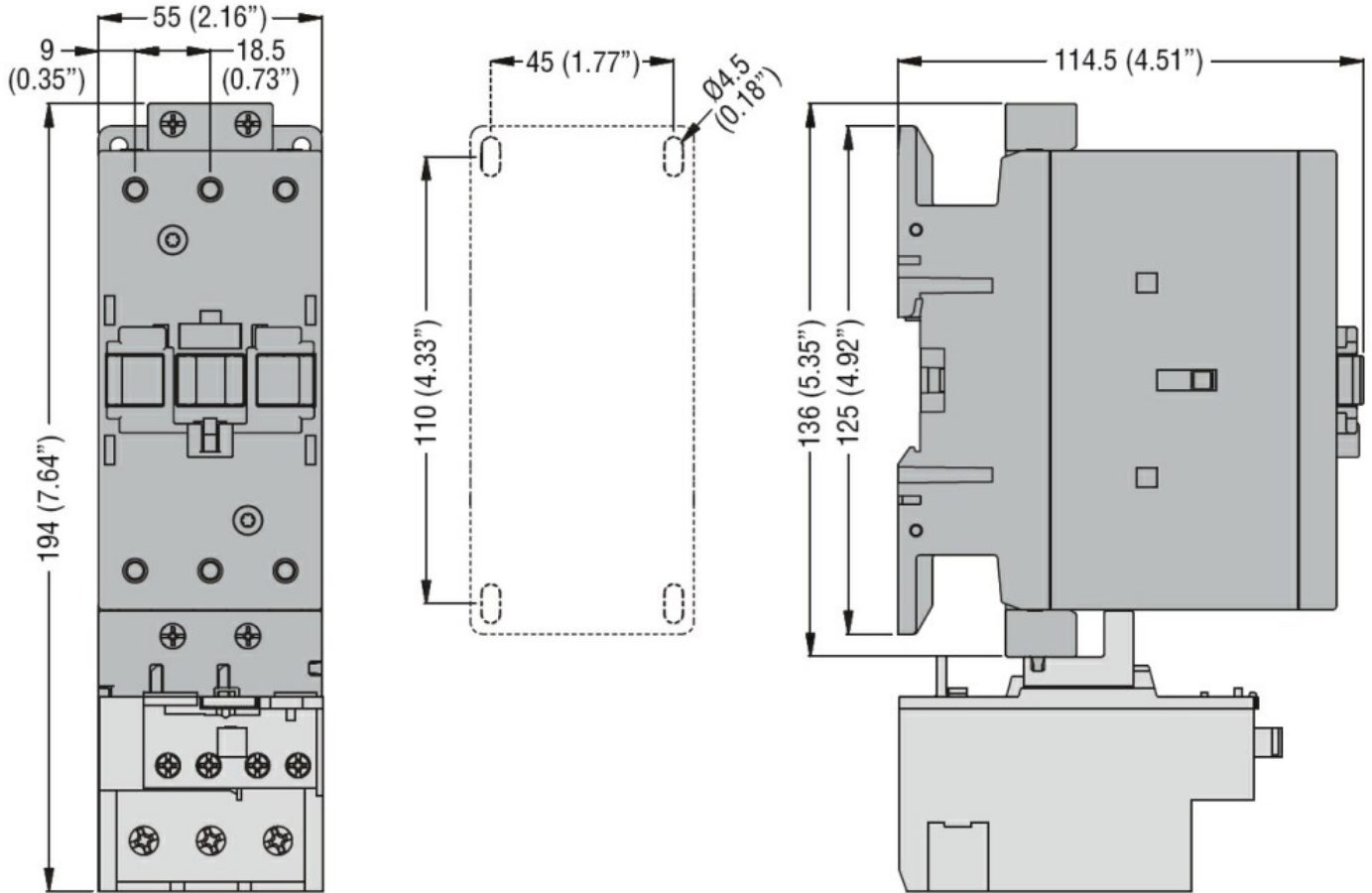
		min	Nm	4
		max	Nm	5
		min	Ibin	2.95
		max	Ibin	3.69
<b>Tightening torque for coil terminal</b>				
		min	Nm	0.8
		max	Nm	1
		min	Ibin	0.8
		max	Ibin	0.74
<b>Max number of wires simultaneously connectable</b>				Nr. 2
<b>Conductor section</b>				
	AWG/Kcmil			
		max		2
<b>Flexible w/o lug conductor section</b>				
		min	mm <sup>2</sup>	1.5
		max	mm <sup>2</sup>	35
<b>Flexible c/w lug conductor section</b>				
		min	mm <sup>2</sup>	1.5
		max	mm <sup>2</sup>	35
<b>Power terminal protection according to IEC/EN 60529</b>				IP20 front
<b>Mechanical features</b>				
<b>Operating position</b>				
		normal allowable		Vertical plan ±30°
<b>Fixing</b>				Screw / DIN rail 35mm
<b>Weight</b>				g 1020
<b>Conductor section</b>				
	AWG/kcmil conductor section			
		max		2
<b>Operations</b>				
<b>Mechanical life</b>				cycles 15000000
<b>Electrical life</b>				cycles 1400000
<b>Safety related data</b>				
<b>Performance level B10d according to EN/ISO 13489-1</b>				
		rated load	cycles	1400000
		mechanical load	cycles	15000000
<b>Mirror contacts according to IEC/EN 60947-4-1</b>				yes
<b>EMC compatibility</b>				yes
<b>AC coil operating</b>				
<b>Rated AC voltage at 60Hz</b>				V 220
<b>AC operating voltage</b>				
	of 60Hz coil powered at 60Hz			
	pick-up	min	%Us	80
		max	%Us	110
	drop-out	min	%Us	20
		max	%Us	55
<b>AC average coil consumption at 20°C</b>				
	of 60Hz coil powered at 60Hz			
		in-rush	VA	210
		holding	VA	15

Dissipation at holding ≤20°C 50Hz		W	5
<b>Max cycles frequency</b>			
Mechanical operation		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
in DC			
Closing NO		min	ms 40
		max	ms 85
Opening NO		min	ms 20
		max	ms 55
<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		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
<b>Ambient conditions</b>			
Temperature			
Operating temperature		min	°C -50
		max	°C 70
Storage temperature		min	°C -60
		max	°C 80
Max altitude		m	3000
<b>Resistance &amp; Protection</b>			

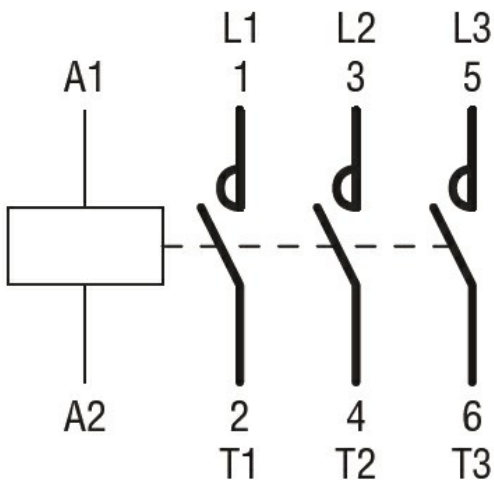
Pollution degree

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

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Certificates

CCC  
cULus

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ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching