



Product designation	Power contactor		
Product type designation	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	11
	400V	kW	22
	415V	kW	22
	440V	kW	22
	500V	kW	22
	690V	kW	30
	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			

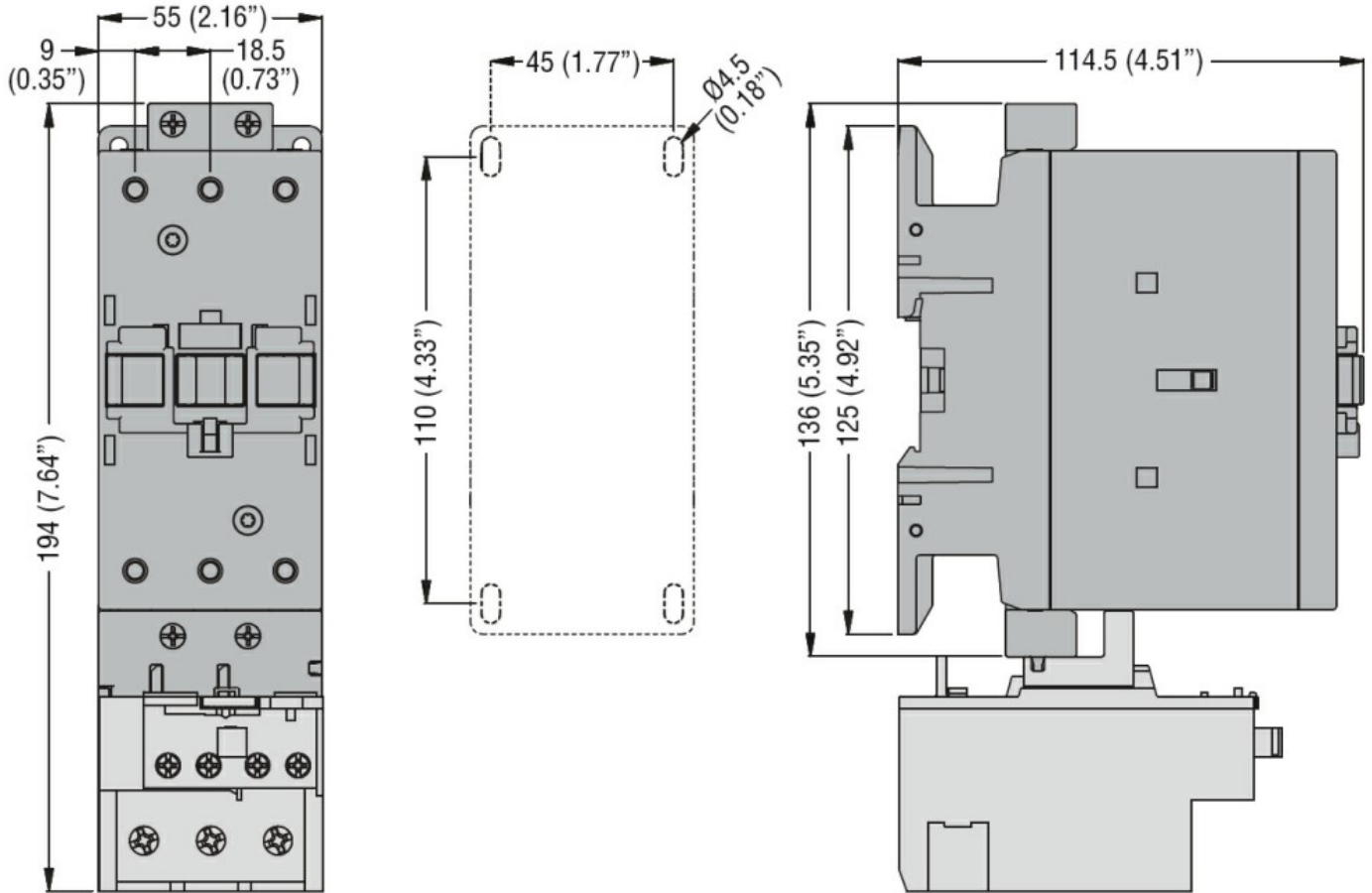
		min	Nm	4
		max	Nm	5
		min	Ibin	2.95
		max	Ibin	3.69
Tightening torque for coil terminal				
		min	Nm	0.8
		max	Nm	1
		min	Ibin	0.8
		max	Ibin	0.74
Max number of wires simultaneously connectable				
			Nr.	2
Conductor section				
	AWG/Kcmil			
		max		2
Flexible w/o lug conductor section				
		min	mm ²	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
Mechanical features				
Operating position				
		normal allowable		Vertical plan ±30°
Fixing				
				Screw / DIN rail 35mm
Weight				
			g	1020
Conductor section				
	AWG/kcmil conductor section			
		max		2
Operations				
Mechanical life				
			cycles	15000000
Electrical life				
			cycles	1400000
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load	cycles	1400000
		mechanical load	cycles	15000000
Mirror contacts according to IEC/EN 60947-4-1				
				yes
EMC compatibility				
				yes
AC coil operating				
Rated AC voltage at 60Hz				
			V	48
AC operating voltage				
	of 60Hz coil powered at 60Hz			
	pick-up	min	%Us	80
		max	%Us	110
	drop-out	min	%Us	20
		max	%Us	55
AC average coil consumption at 20°C				
	of 60Hz coil powered at 60Hz			
		in-rush	VA	210
		holding	VA	15

Dissipation at holding ≤20°C 50Hz		W	5
Max cycles frequency			
Mechanical operation		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
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 -50
		max	°C 70
Storage temperature		min	°C -60
		max	°C 80
Max altitude		m	3000
Resistance & Protection			

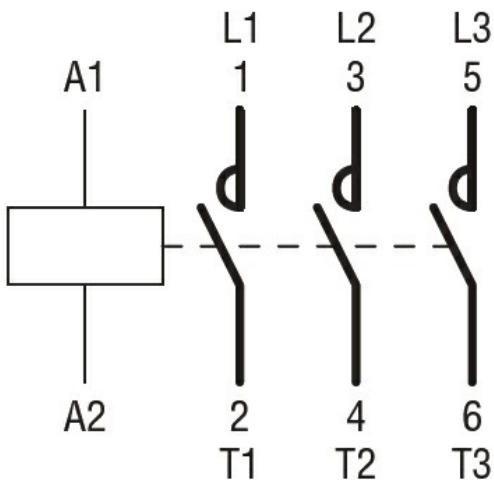
Pollution degree

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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