



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	575
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

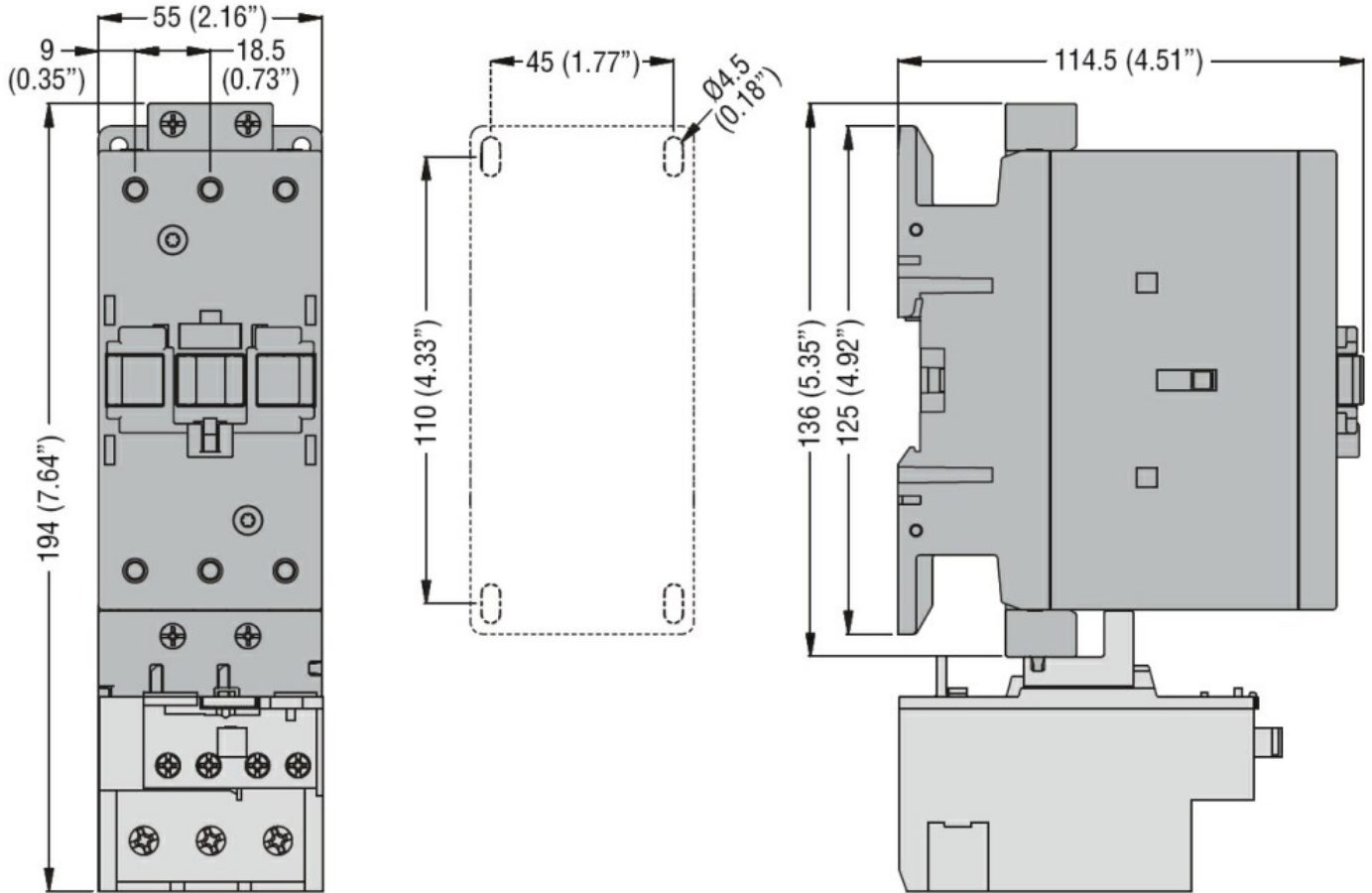
Dissipation at holding ≤20°C 50Hz		W	5
Max cycles frequency			
Mechanical operation		cycles/h	3600
Operating times			
Average time for Us control			
in AC			
Closing NO		min	ms 12
		max	ms 28
Opening NO		min	ms 8
		max	ms 22
in DC			
Closing NO		min	ms 40
		max	ms 85
Opening NO		min	ms 20
		max	ms 55
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

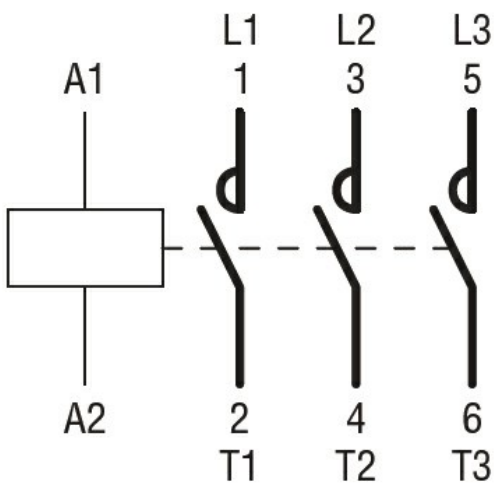
Pollution degree

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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