



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	18.5
	415V	kW	22
	440V	kW	22
	500V	kW	22
	690V	kW	30
	1000V	kW	18.5
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
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
	AC3	W	2
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Tightening torque for terminals			
	min	Nm	4
	max	Nm	5
	min	I _{bin}	2.95
	max	I _{bin}	3.69
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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	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	
Operations			
Mechanical life		cycles	15000000
Electrical life		cycles	1400000
Safety related data			
Performance level B10d according to EN/ISO 13489-1	rated load mechanical load	cycles	1400000
		cycles	15000000
Mirror contacts according to IEC/EN 60947-4-1	yes		
EMC compatibility	yes		
AC coil operating			
Rated AC voltage at 50/60Hz	V	230	
AC operating voltage	of 50/60Hz coil powered at 50Hz		
	pick-up		
	max	%Us	110
	drop-out		
	min	%Us	20
	max	%Us	55
	of 50/60Hz coil powered at 60Hz		
	pick-up		
	min	%Us	85
	max	%Us	110
	drop-out		
	min	%Us	40
	max	%Us	55
AC operating voltage at 20°C	of 50/60Hz coil powered at 50Hz		
	in-rush holding	VA	210
		VA	15
	of 50/60Hz coil powered at 60Hz		
	in-rush holding	VA	195
		VA	13
	of 60Hz coil powered at 60Hz		
	in-rush holding	VA	210
		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

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
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Ambient conditions

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

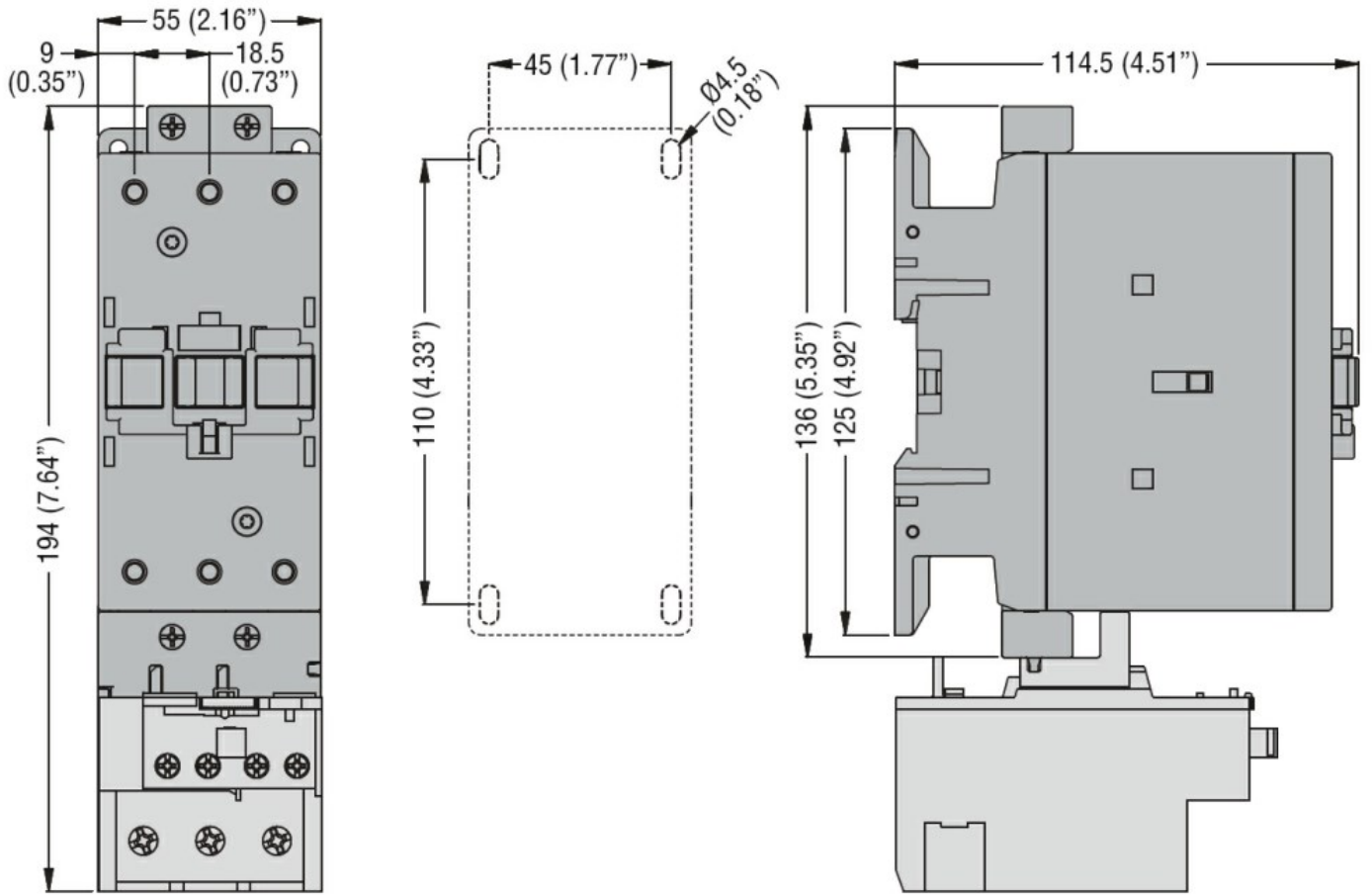
m	3000
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Resistance & Protection

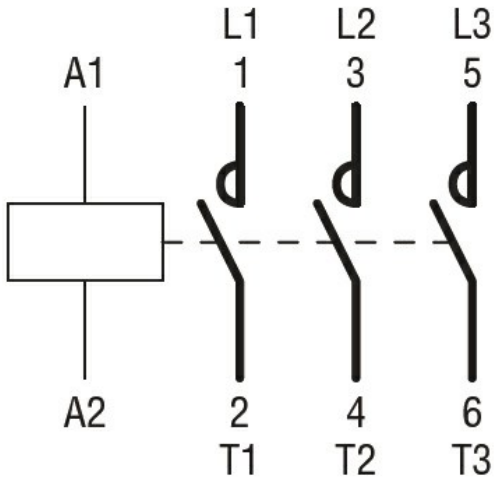
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1
CSA C22.2 n° 60947-4-1
IEC/EN 60947-1
IEC/EN 60947-4-1
UL 60947-1
UL 60947-4-1

Certificates

CCC

cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching