



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 ($\leq 40^\circ\text{C}$)	A	90
	AC-1 ($\leq 55^\circ\text{C}$)	A	75
	AC-1 ($\leq 70^\circ\text{C}$)	A	65
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	50
	AC-4 (400V)	A	28
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	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 ($T \leq 55^\circ\text{C}$)	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 ($T \leq 40^\circ\text{C}$)	230V	kW	34
	400V	kW	59
	500V	kW	74
	690V	kW	102
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	45
	48V	A	40
	75V	A	40
	110V	A	8
	220V	A	—
	IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series	$\leq 24\text{V}$	A

	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	1020
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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				V	110
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AC operating voltage					
	of 50/60Hz coil powered at 50Hz				
	pick-up	min	%Us	80	
		max	%Us	110	
	drop-out	min	%Us	20	
		max	%Us	55	
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	of 50/60Hz coil powered at 60Hz				
	pick-up	min	%Us	85	
		max	%Us	110	

drop-out

min	%Us	40
max	%Us	55

AC average coil consumption at 20°C

of 50/60Hz coil powered at 50Hz

in-rush	VA	210
holding	VA	15

of 50/60Hz coil powered at 60Hz

in-rush	VA	195
holding	VA	13

of 60Hz coil powered at 60Hz

in-rush	VA	210
holding	VA	15

Dissipation at holding ≤20°C 50Hz

W	5
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Max cycles frequency

Mechanical operation

cycles/h	3600
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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

Contactors

AC current	A	90
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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

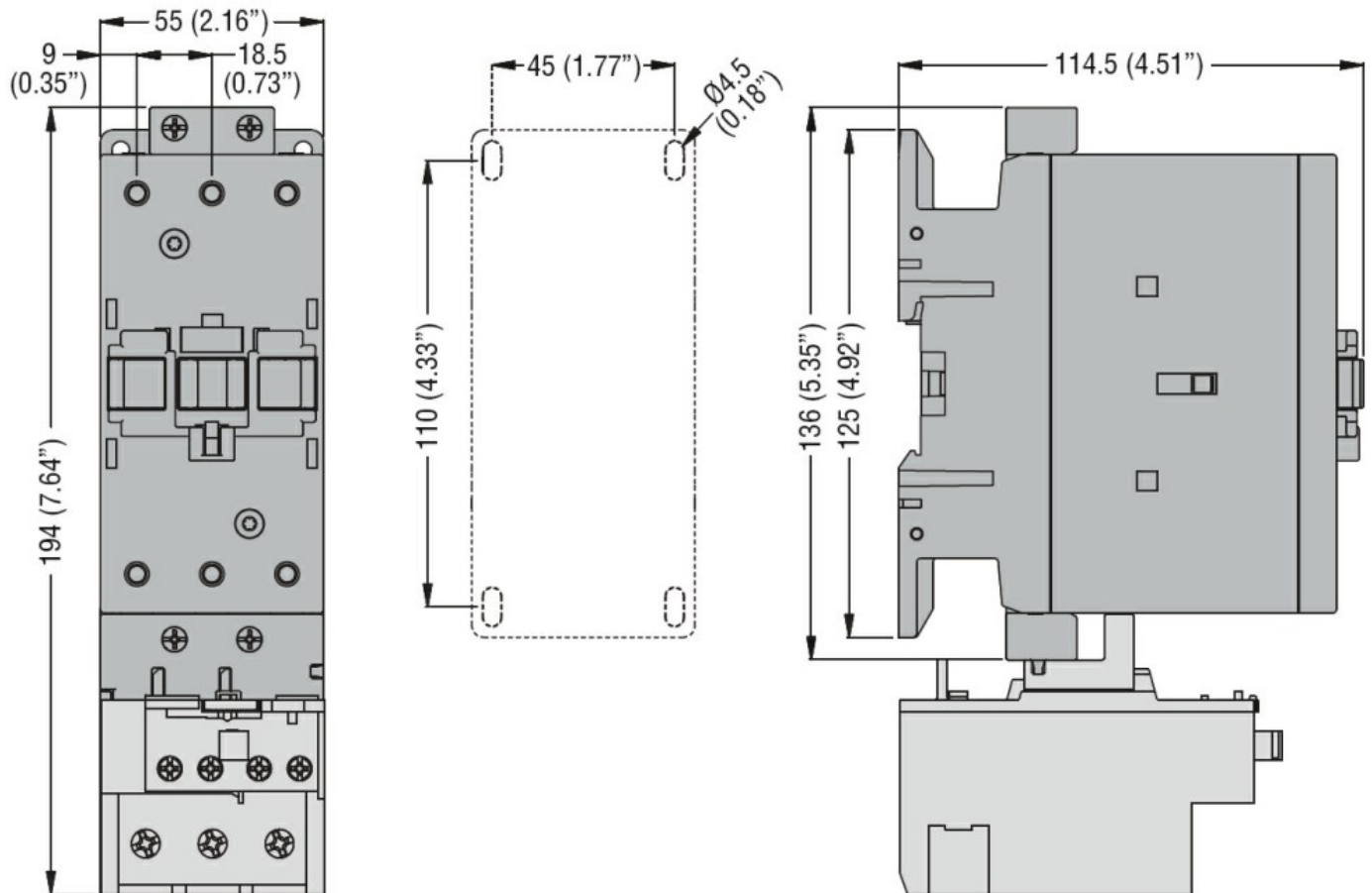
m	3000
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Resistance & Protection

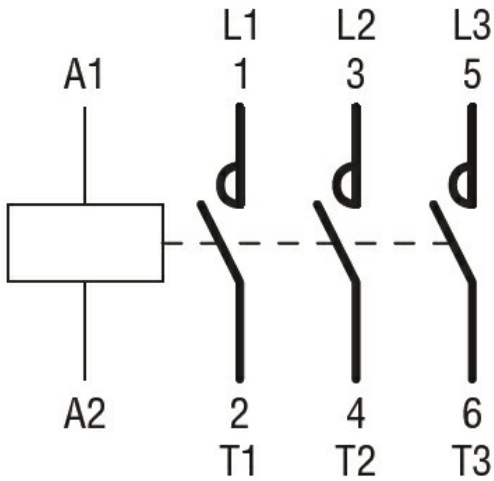
Pollution degree

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