



Product designation				Power contactor
Product type designation				BF80
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			115
Operational current I _e	AC-1 (≤40°C)	A	115	
	AC-1 (≤55°C)	A	95	
	AC-1 (≤70°C)	A	80	
	AC-3 (≤440V ≤55°C)	A	80	
	AC-4 (400V)	A	38	
Rated operational power AC-3 (T≤55°C)	230V	kW	22	
	400V	kW	45	
	415V	kW	45	
	440V	kW	45	
	500V	kW	55	
	690V	kW	55	
	1000V	kW	37	
Rated operational current AC-3 (T≤55°C)	230V	A	80	
	400V	A	80	
	415V	A	80	
	440V	A	80	
	500V	A	78	
	690V	A	57	
	1000V	A	28	
Rated operational power AC-1 (T≤40°C)	230V	kW	43	
	400V	kW	76	
	500V	kW	95	
	690V	kW	120	
IEC max current I _e in DC1 with L/R ≤ 1ms with 1 poles in series	≤24V	A	70	
	48V	A	60	
	75V	A	60	
	110V	A	8	
	220V	A	—	
IEC max current I _e in DC1 with L/R ≤ 1ms with 2 poles in series	≤24V	A	100	

	48V	A	100
	75V	A	100
	110V	A	80
	220V	A	9
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IEC max current I _e in DC1 with L/R ≤ 1ms with 3 poles in series	≤24V	A	100
	48V	A	100
	75V	A	100
	110V	A	85
	220V	A	95
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IEC max current I _e in DC1 with L/R ≤ 1ms with 4 poles in series	≤24V	A	100
	48V	A	100
	75V	A	100
	110V	A	100
	220V	A	115
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IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 1 poles in series	≤24V	A	40
	48V	A	30
	75V	A	30
	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	60
	48V	A	50
	75V	A	50
	110V	A	40
	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	80
	48V	A	70
	75V	A	70
	110V	A	60
	220V	A	64
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IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	≤24V	A	90
	48V	A	90
	75V	A	90
	110V	A	75
	220V	A	80
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Short-time allowable current for 10s (IEC/EN60947-1)		A	640
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Protection fuse	gG (IEC)	A	125
	aM (IEC)	A	80
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Making capacity (RMS value)		A	800
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Breaking capacity at voltage	440V	A	640
	500V	A	625
	690V	A	456
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Resistance per pole (average value)		mΩ	0.6
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Power dissipation per pole (average value)	I _{th}	W	7.9
	AC-3	W	3.8
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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	1300000
Safety related data				
Performance level B10d according to EN/ISO 13489-1				
		rated load	cycles	1300000
		mechanical load	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	400
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
	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	77
at 600V	A	77

Yielded mechanical performance

for three-phase AC motor

200/208V	HP	25
220/230V	HP	30
460/480V	HP	60
575/600V	HP	75

General USE

Contactors

AC current	A	115
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Short-circuit protection fuse, 600V

High fault

Short circuit current	kA	100
Fuse rating	A	200
Fuse class		J

Standard fault

Short circuit current	kA	10
Fuse rating	A	200
Fuse class		RK5

Ambient conditions

Temperature

Operating temperature

min	°C	-50
max	°C	70

Storage temperature

min	°C	-60
max	°C	80

Max altitude

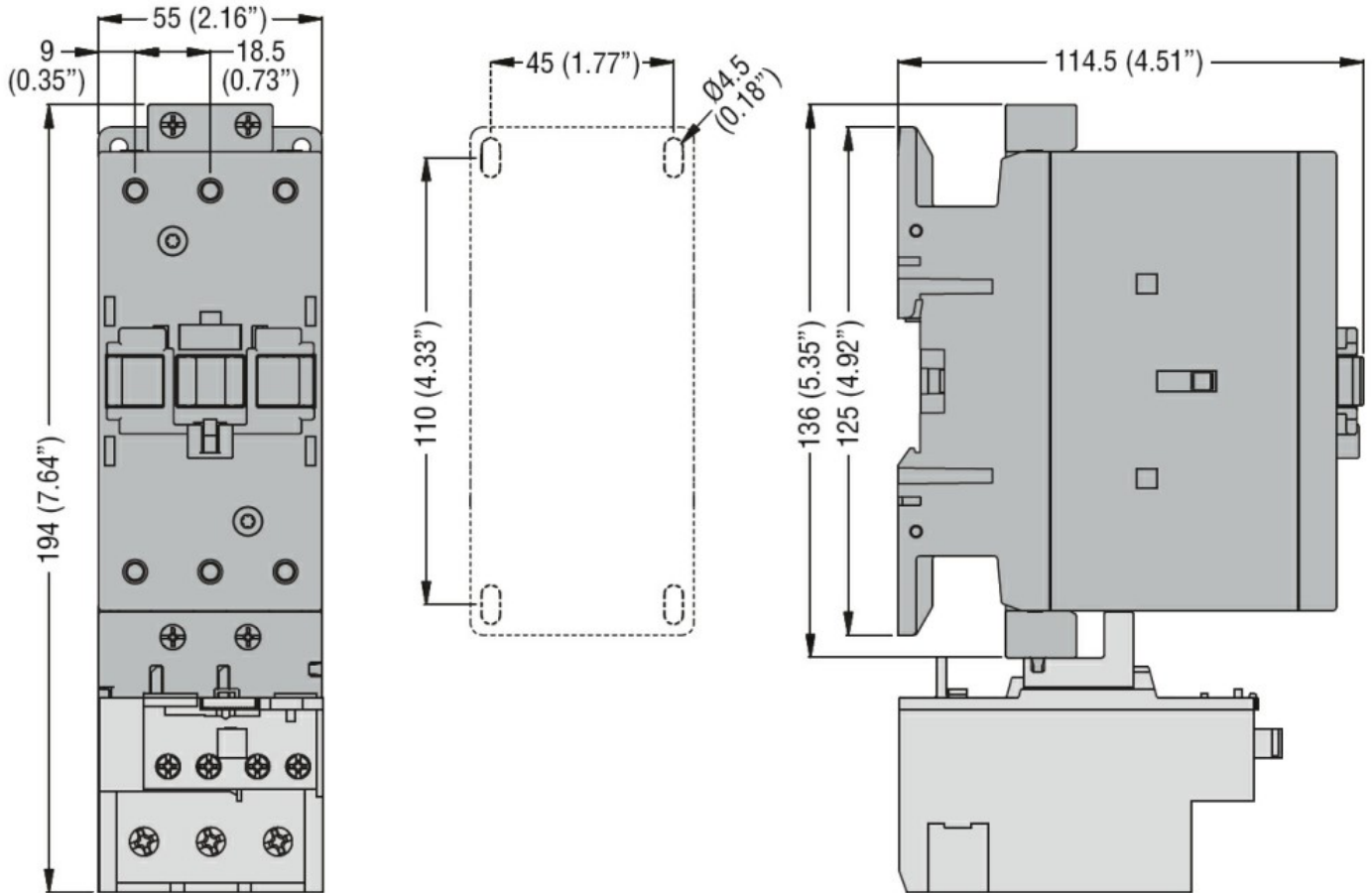
m	3000
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Resistance & Protection

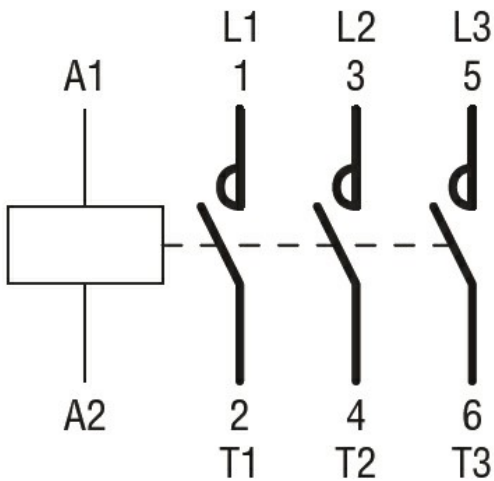
Pollution degree

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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