



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 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	
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
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
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	–
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
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
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
Short-time allowable current for 10s (IEC/EN60947-1)		A	640
Protection fuse			
	gG (IEC)	A	125
	aM (IEC)	A	80
Making capacity (RMS value)		A	800
Breaking capacity at voltage			
	440V	A	640
	500V	A	625
	690V	A	456
Resistance per pole (average value)		mΩ	0.6
Power dissipation per pole (average value)			
	I _{th}	W	7.9
	AC3	W	3.8
Tightening torque for terminals			
	min	Nm	4
	max	Nm	5
	min	I _{bin}	2.95
	max	I _{bin}	3.69
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1

	min	I _{bin}	0.8
	max	I _{bin}	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	230
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%U _s	80
	max	%U _s	110
drop-out	min	%U _s	20
	max	%U _s	55
of 50/60Hz coil powered at 60Hz			
pick-up	min	%U _s	85
	max	%U _s	110
drop-out	min	%U _s	40
	max	%U _s	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 $\leq 20^{\circ}\text{C}$ 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

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

Contactor

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	$^{\circ}\text{C}$	-50
max	$^{\circ}\text{C}$	70

Storage temperature

min	$^{\circ}\text{C}$	-60
max	$^{\circ}\text{C}$	80

Max altitude

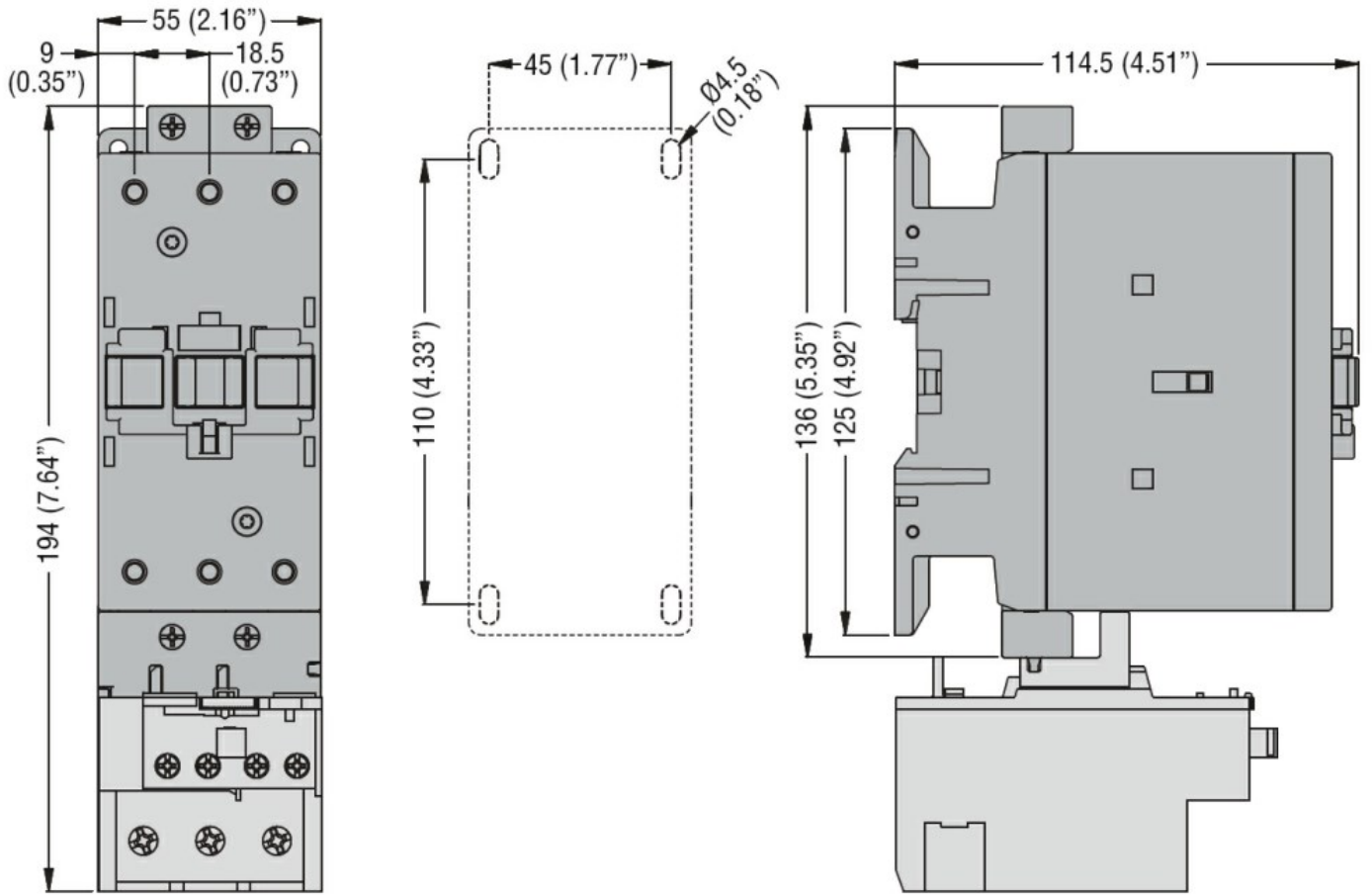
m	3000
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Resistance & Protection

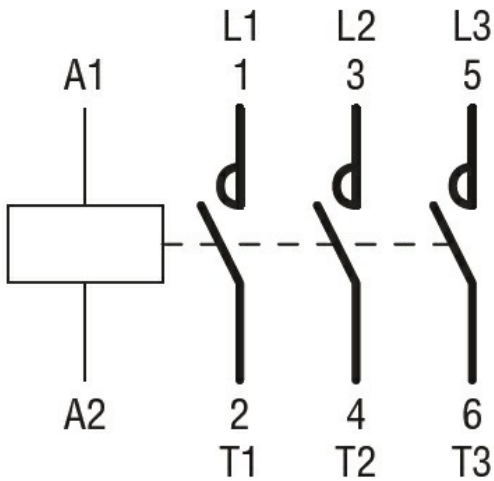
Pollution degree

3

Dimensions [mm (in)]



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