



Product designation				Power contactor
Product type designation				BF80
Contact characteristics				
Number of poles	Nr.			4
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 ($\leq 40^\circ\text{C}$)	A	115	
	AC-1 ($\leq 55^\circ\text{C}$)	A	95	
	AC-1 ($\leq 70^\circ\text{C}$)	A	80	
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A	80	
	AC-4 (400V)	A	38	
Rated operational current AC-3 ($T \leq 55^\circ\text{C}$)	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 ($T \leq 40^\circ\text{C}$)	230V	kW	43	
	400V	kW	76	
	500V	kW	95	
	690V	kW	120	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A	70	
	48V	A	60	
	75V	A	60	
	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	100	
	48V	A	100	
	75V	A	100	
	110V	A	80	
	220V	A	9	
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	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	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	I _{bin}	0.59
	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	1280
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, 60Hz			
	min	V	100
	max	V	250
AC operating voltage			
of 50/60Hz coil powered at 50Hz			
pick-up	min	%Us	80 Us min
	max	%Us	110 Us max
drop-out	max	%Us	≤70 Us min
of 50/60Hz coil powered at 60Hz			
pick-up	min	%Us	80 Us min
	max	%Us	110 Us max
drop-out	max	%Us	≤70 Us min
AC average coil consumption at 20°C			
of 50/60Hz coil powered at 50Hz			
	in-rush	VA	35...120
	holding	VA	1.5...3.7

of 50/60Hz coil powered at 60Hz

in-rush	VA	35...120
holding	VA	1.5...3.7

of 60Hz coil powered at 60Hz

in-rush	VA	210
holding	VA	15

Dissipation at holding $\leq 20^{\circ}\text{C}$ 50Hz

W	1...2.5
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DC coil operating

DC rated control voltage

min	V	100
max	V	250

DC operating voltage

pick-up

min	%Us	80 Us min
max	%Us	110 Us max

drop-out

max	%Us	≤ 70 Us min
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Average coil consumption $\leq 20^{\circ}\text{C}$

in-rush	W	23...68
holding	W	1.2...1.9

Max cycles frequency

Mechanical operation

cycles/h	1500
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Operating times

Average time for Us control

in AC

Closing NO

min	ms	40
max	ms	85

Opening NO

min	ms	20
max	ms	55

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

Contactor

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

High fault

Short circuit current	kA	100
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	Fuse rating	A	200
	Fuse class		J
Standard fault	Short circuit current	kA	10
	Fuse rating	A	200
	Fuse class		RK5
Max altitude		m	3000

Ambient conditions

Temperature

Operating temperature

min	°C	-40
max	°C	70

Storage temperature

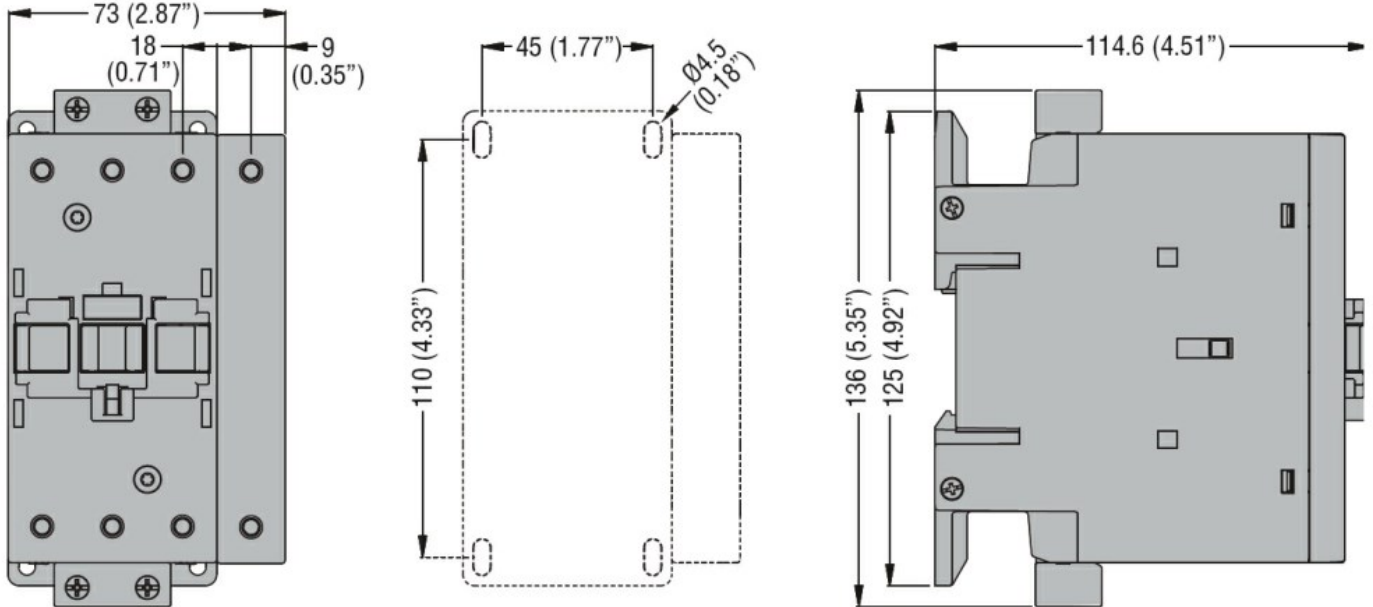
min	°C	-50
max	°C	80

Resistance & Protection

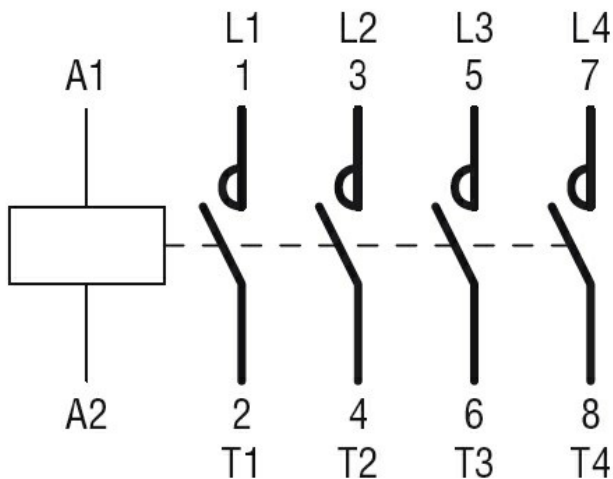
Pollution degree

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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