



Product designation
Product type designation

Power contactor
BF160

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	250
Operational current I_e	AC-1 ($\leq 40^\circ\text{C}$)	A 250
	AC-1 ($\leq 55^\circ\text{C}$)	A 210
	AC-1 ($\leq 70^\circ\text{C}$)	A 180
	AC-3 ($\leq 440\text{V} \leq 55^\circ\text{C}$)	A 160
	AC-4 (400V)	A 75
Rated operational power AC-3 ($T \leq 55^\circ\text{C}$)	230V kW	45
	400V kW	75
	415V kW	90
	440V kW	90
	500V kW	110
	690V kW	132
	1000V kW	75
Rated operational current AC-3 ($T \leq 55^\circ\text{C}$)	230V A	160
	400V A	160
	415V A	160
	440V A	160
	500V A	150
	690V A	135
	1000V A	60
Rated operational power AC-1 ($T \leq 40^\circ\text{C}$)	230V kW	95
	400V kW	165
	500V kW	181
	690V kW	284
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$ A	250
	48V A	250
	75V A	250
	110V A	110
	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	250

	48V	A	250
	75V	A	250
	110V	A	150
	220V	A	130
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	250
	110V	A	160
	220V	A	150
	330V	A	130
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	250
	110V	A	250
	220V	A	250
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	80
	220V	A	—
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	120
	220V	A	90
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	140
	220V	A	120
	330V	A	90
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	140
	220V	A	140
	330V	A	140
	460V	A	90
Short-time allowable current for 10s (IEC/EN60947-1)		A	1280
Protection fuse			
	gG (IEC)	A	315
	aM (IEC)	A	200
Making capacity (RMS value)		A	1360
Breaking capacity at voltage			
	440V	A	1360
	500V	A	1326
	690V	A	1139
Resistance per pole (average value)		mΩ	0.18

Power dissipation per pole (average value)	Ith AC-3	W W	11 4.5
Tightening torque for terminals	min max min max	Nm Nm lbin lbin	18 18 159 159
Tightening torque for coil terminal	min max	Nm Nm	0.8 1
Power terminal protection according to IEC/EN 60529	IP00		
Mechanical features			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw
Weight	g		3000
Operations			
Mechanical life	cycles		10000000
Electrical life	cycles		1000000
Safety related data			
Performance level B10d according to EN/ISO 13489-1	rated load	cycles	1000000
EMC compatibility	yes		
AC coil operating			
Rated AC voltage at 50/60Hz, 60Hz	min max	V V	60 130
AC operating voltage			
of 50/60Hz coil powered at 50Hz pick-up	min max	%Us %Us	80 Us min 110 Us max
drop-out	max	%Us	≤70 Us min
of 50/60Hz coil powered at 60Hz pick-up	min max	%Us %Us	80 Us min 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 holding	VA VA	160...230 1.5...3.0
of 50/60Hz coil powered at 60Hz	in-rush holding	VA VA	160...230 1.5...3.0
of 60Hz coil powered at 60Hz	in-rush holding	VA VA	160...230 1.5...3.0
Dissipation at holding ≤20°C 50Hz	W		1.5...3.0

DC coil operating

DC rated control voltage

min	V	60
max	V	130

DC operating voltage

pick-up

min	%Us	85 Us min
max	%Us	110 Us max

drop-out

max	%Us	≤70 Us min
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Average coil consumption ≤20°C

in-rush	W	160...230
holding	W	1.5...3.0

Max cycles frequency

Mechanical operation

cycles/h 1000

Operating times

Average time for Us control

in AC

Closing NO

min	ms	50
max	ms	100

Opening NO

min	ms	35
max	ms	75

UL technical data

Yielded mechanical performance

for three-phase AC motor

200/208V	HP	50
220/230V	HP	60
460/480V	HP	125
575/600V	HP	150

General USE

Contactor

AC current	A	250
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Short-circuit protection fuse, 600V

High fault

Short circuit current	kA	100
Fuse rating	A	400
Fuse class		J

Standard fault

Short circuit current	kA	10
Fuse rating	A	400
Fuse class		RK5

Ambient conditions

Temperature

Operating temperature

min	°C	-40
max	°C	70

Storage temperature

min	°C	-50
max	°C	80

Max altitude

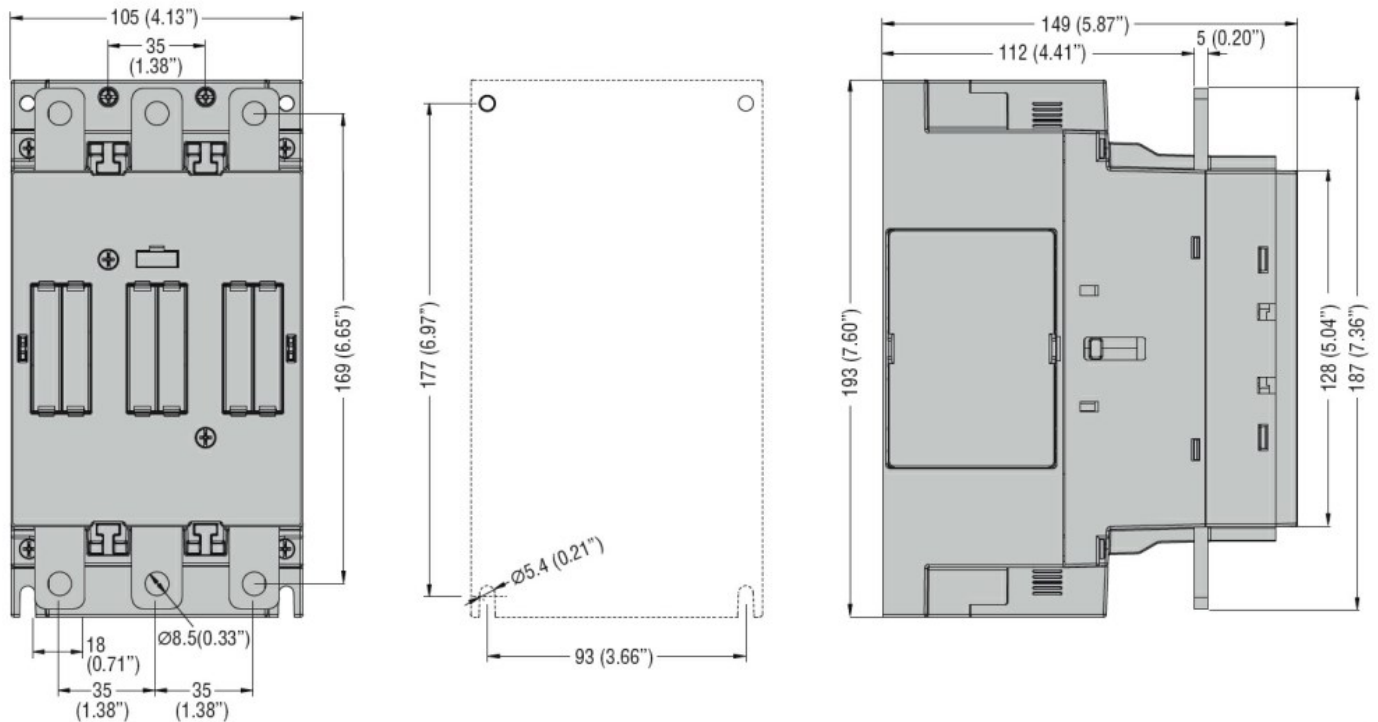
m	3000
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Resistance & Protection

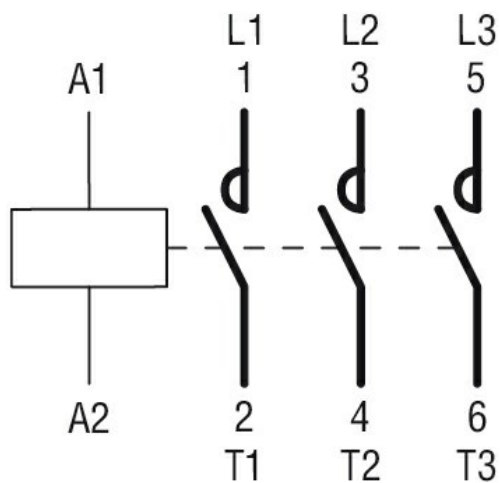
Pollution degree

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

cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching