



Product designation				Power contactor
Product type designation				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 (≤40°C)	A	250	
	AC-1 (≤55°C)	A	210	
	AC-1 (≤70°C)	A	180	
	AC-3 (≤440V ≤55°C)	A	160	
	AC-4 (400V)	A	75	
Rated operational power AC-3 (T≤55°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≤55°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≤40°C)	230V	kW	95	
	400V	kW	165	
	500V	kW	181	
	690V	kW	284	
IEC max current I _e in DC1 with L/R ≤ 1ms with 1 poles in series	≤24V	A	250	
	48V	A	250	
	75V	A	250	
	110V	A	110	
	220V	A	—	
IEC max current I _e in DC1 with L/R ≤ 1ms with 2 poles in series	≤24V	A	250	

	48V	A	250
	75V	A	250
	110V	A	150
	220V	A	130
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IEC max current I _e 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
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IEC max current I _e 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
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IEC max current I _e 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	–
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IEC max current I _e 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
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IEC max current I _e 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
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IEC max current I _e 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
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Short-time allowable current for 10s (IEC/EN60947-1)		A	1280
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Protection fuse			
	gG (IEC)	A	315
	aM (IEC)	A	200
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Making capacity (RMS value)		A	1360
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Breaking capacity at voltage			
	440V	A	1360
	500V	A	1326
	690V	A	1139
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Resistance per pole (average value)		mΩ	0.18

Power dissipation per pole (average value)

Ith	W	11
AC-3	W	4.5

Tightening torque for terminals

min	Nm	18
max	Nm	18
min	Ibin	159
max	Ibin	159

Tightening torque for coil terminal

min	Nm	0.8
max	Nm	1

Power terminal protection according to IEC/EN 60529

IP00

Mechanical features

Operating position

normal allowable	Vertical plan ±30°
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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
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EMC compatibility

yes

AC coil operating

Rated AC voltage at 50/60Hz, 60Hz

min	V	250
max	V	500

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
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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
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AC average coil consumption at 20°C

of 50/60Hz coil powered at 50Hz

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

of 50/60Hz coil powered at 60Hz

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

of 60Hz coil powered at 60Hz

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

Dissipation at holding ≤20°C 50Hz

W	1.5...3.0
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DC coil operating

DC rated control voltage		min	V	250
		max	V	500

DC operating voltage				
	pick-up	min	%Us	85 Us min
		max	%Us	110 Us max
	drop-out	max	%Us	≤70 Us min

Average coil consumption ≤20°C		in-rush	W	160...230
		holding	W	1.5...3.0

Max cycles frequency

Mechanical operation			cycles/h	1000
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Operating times

Average time for Us control				
	in AC			
		Closing NO		
			min	ms
			max	ms
		Opening NO		
			min	ms
			max	ms

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

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

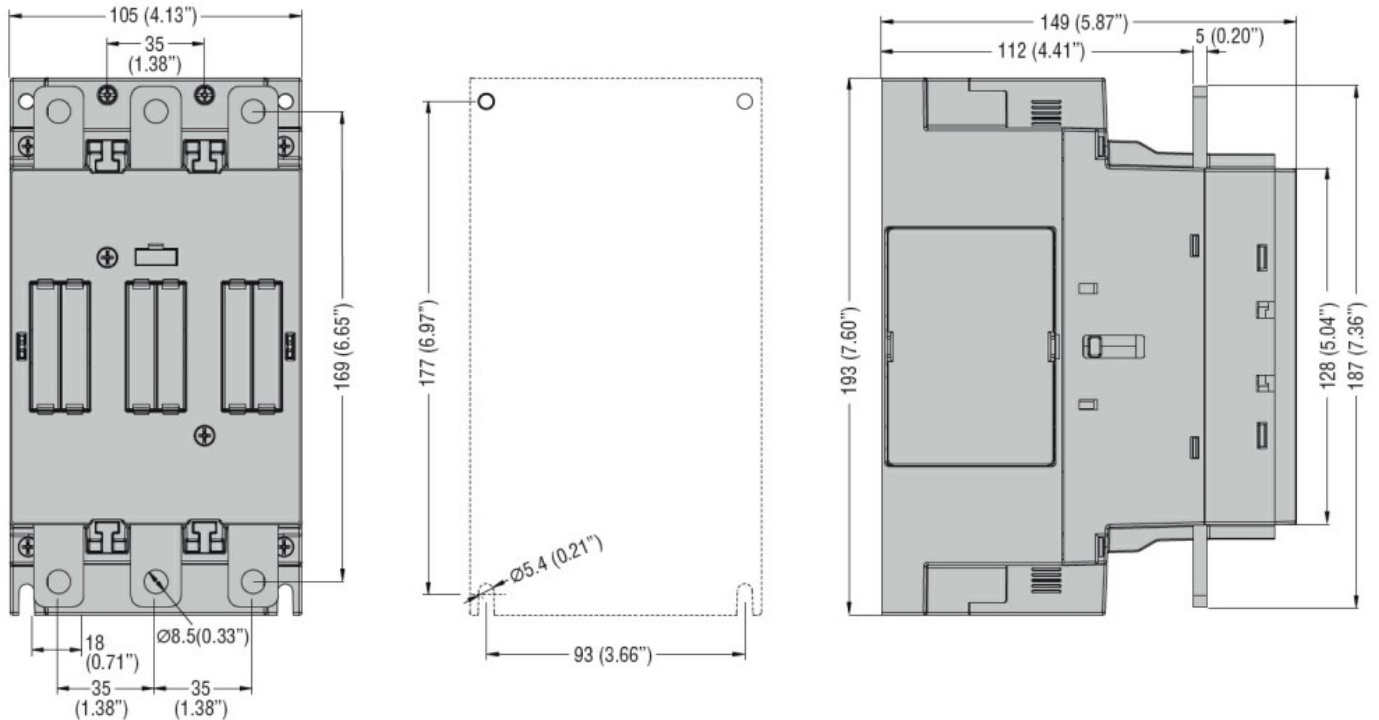
Ambient conditions

Temperature				
	Operating temperature			
		min	°C	-40
		max	°C	70
	Storage temperature			
		min	°C	-50
		max	°C	80
Max altitude			m	3000

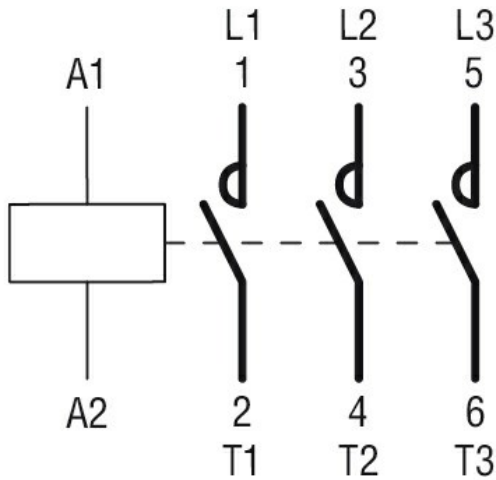
Resistance & Protection

Pollution degree				3
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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

cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching