



Power contactor  
BF160

Product designation

Product type designation

**Contact characteristics**

Number of poles	Nr.	3
Rated insulation voltage U <sub>i</sub> IEC/EN	V	1000
Rated impulse withstand voltage U <sub>imp</sub>	kV	8
Operational frequency	min	Hz 25
	max	Hz 400
IEC Conventional free air thermal current I <sub>th</sub>	A	250
Operational current I <sub>e</sub>	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 power AC-1 (T≤40°C)	230V	kW 95
	400V	kW 165
	500V	kW 181
	690V	kW 284
IEC max current I <sub>e</sub> 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 <sub>e</sub> 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
IEC max current I <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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 <sub>e</sub> 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
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Power dissipation per pole (average value)			
	I <sub>th</sub>	W	11
	AC3	W	4.5
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Tightening torque for terminals			
	min	Nm	18
	max	Nm	18
	min	I <sub>bin</sub>	159
	max	I <sub>bin</sub>	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

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

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	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

**DC coil operating**

DC rated control voltage

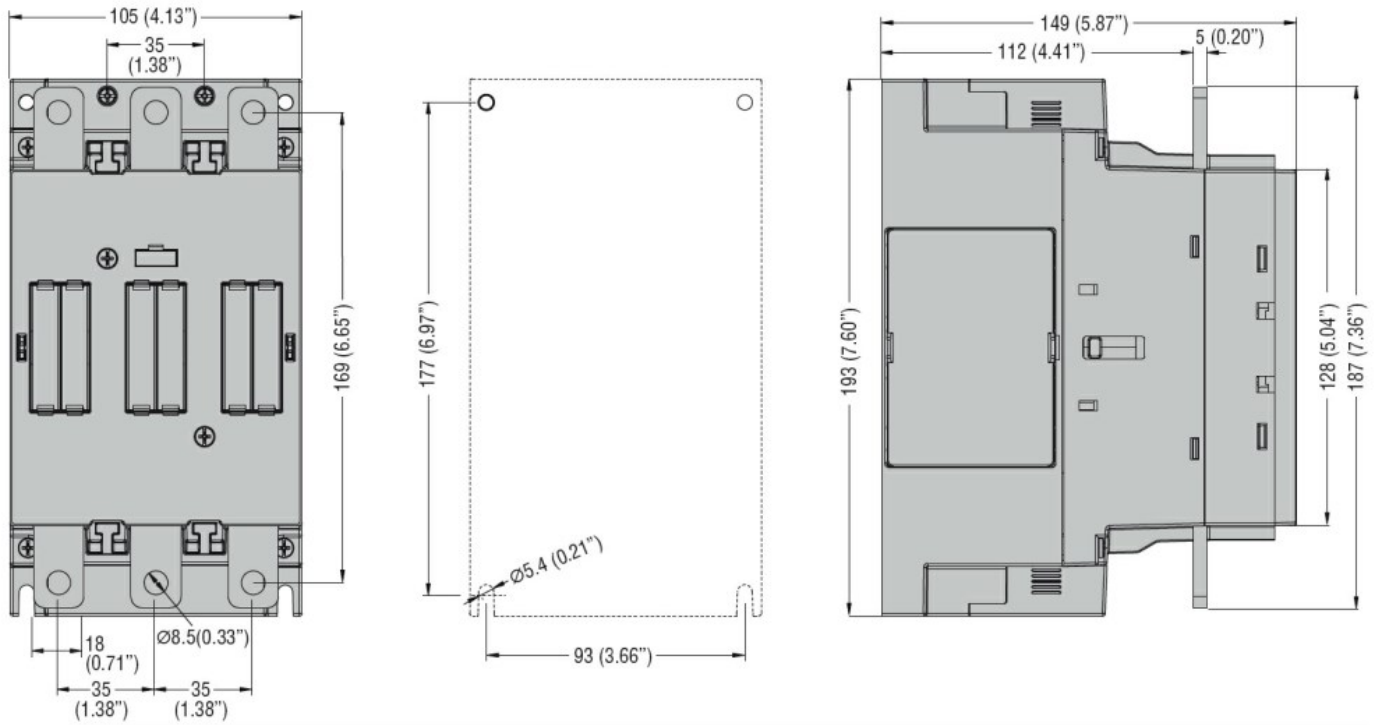
min	V	250
max	V	500

DC operating voltage

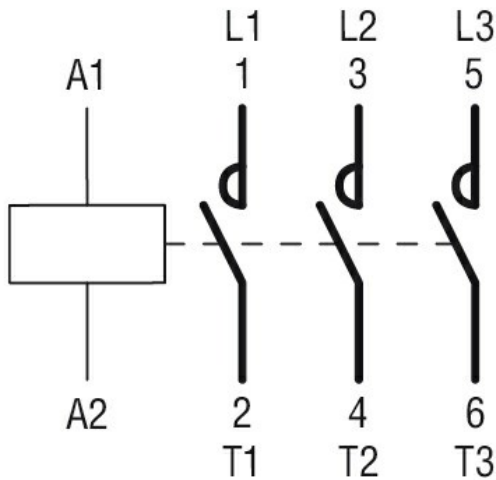
pick-up

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
<b>Max cycles frequency</b>				
Mechanical operation			cycles/h	1000
<b>Operating times</b>				
Average time for Us control				
	in AC			
		Closing NO		
			min	ms
			max	ms
		Opening NO		
			min	ms
			max	ms
<b>UL technical data</b>				
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
<b>Ambient conditions</b>				
Temperature				
	Operating temperature			
		min	°C	-40
		max	°C	70
	Storage temperature			
		min	°C	-50
		max	°C	80
Max altitude			m	3000
<b>Resistance &amp; Protection</b>				
Pollution degree				3
<b>Dimensions</b>				



### 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