



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 ($\leq 40^\circ C$)	A	250
	AC-1 ($\leq 55^\circ C$)	A	210
	AC-1 ($\leq 70^\circ C$)	A	180
	AC-3 ($\leq 440V \leq 55^\circ C$)	A	160
	AC-4 (400V)	A	75
Rated operational power AC-3 ($T \leq 55^\circ C$)			
	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 ($T \leq 55^\circ C$)			
	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 ($T \leq 40^\circ C$)			
	230V	kW	95
	400V	kW	165
	500V	kW	181
	690V	kW	284
IEC max current I_e in DC1 with $L/R \leq 1ms$ 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 $L/R \leq 1ms$ with 2 poles in series			
	≤24V	A	250

	48V	A	250
	75V	A	250
	110V	A	150
	220V	A	130
IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ 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 I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	250
	110V	A	250
	220V	A	250
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	80
	220V	A	—
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series			
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	A	120
	220V	A	90
IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ 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 I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ 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)		$\text{m}\Omega$	0.18

Power dissipation per pole (average value)

	I _{th}	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

Mechanical features

Operating position

	normal	Vertical plan
	allowable	±30°

Fixing

	Screw
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Weight

	g	3000
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Operations

Mechanical life	cycles	10000000
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Electrical life	cycles	1000000
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Safety related data

Performance level B10d according to EN/ISO 13489-1

rated load	cycles	1000000
mechanical load	cycles	10000000

EMC compatibility

AC coil operating

Rated AC voltage at 50/60Hz, 60Hz

min	V	60
max	V	130

AC operating voltage

of 50/60Hz coil powered at 50Hz		
pick-up	min	%Us

drop-out	max	%Us
	min	80 Us min

of 50/60Hz coil powered at 60Hz		
pick-up	min	%Us

drop-out	max	%Us
	min	80 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
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of 50/60Hz coil powered at 60Hz		
in-rush	VA	160...230

holding	VA	1.5...3.0
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of 60Hz coil powered at 60Hz		
in-rush	VA	160...230

holding	VA	1.5...3.0
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Dissipation at holding $\leq 20^\circ\text{C}$ 50Hz	W	1.5...3.0
DC coil operating		
DC rated control voltage	min max	V V 60 130
DC operating voltage		
pick-up	min max	%Us %Us 85 Us min 110 Us max
drop-out	max	%Us ≤ 70 Us min
Average coil consumption $\leq 20^\circ\text{C}$	in-rush holding	W W 160...230 1.5...3.0
Max cycles frequency		
Mechanical operation		cycles/h 1000
Operating times		
Average time for Us control		
in AC		
Closing NO	min max	ms ms 50 100
Opening NO	min max	ms ms 35 75
UL technical data		
Rated operational voltage AC (UL)	V	600
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 Fuse rating Fuse class	kA 100 A 400 J
Standard fault	Short circuit current Fuse rating Fuse class	kA 10 A 400 RK5
Ambient conditions		
Temperature	Operating temperature	min max ${}^\circ\text{C}$ -40 70
	Storage temperature	min max ${}^\circ\text{C}$ -50 80

Max altitude

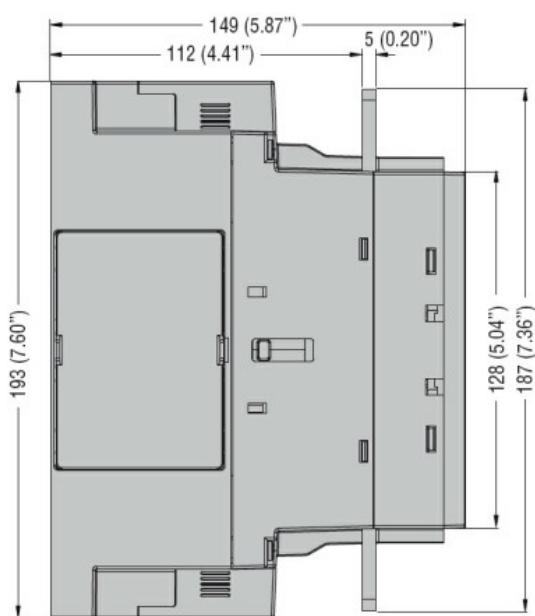
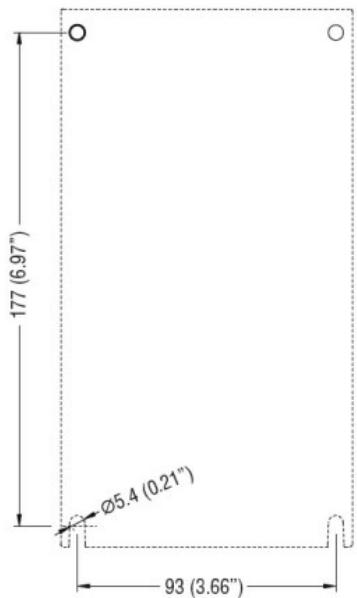
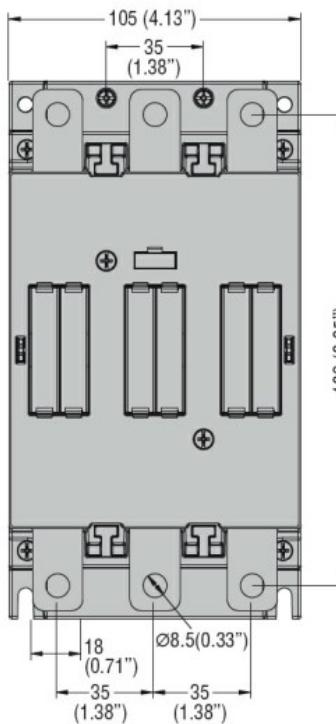
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Resistance & Protection

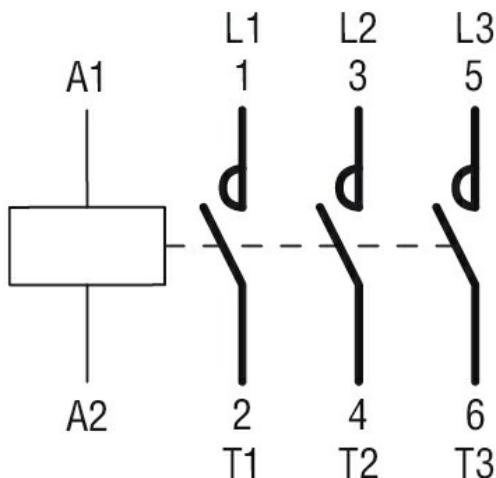
Pollution degree

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