



Product designation

Power contactor

Product type designation

BF160

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	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 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 I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series		
	$\leq 24\text{V}$	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	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	4000
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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

yes

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	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

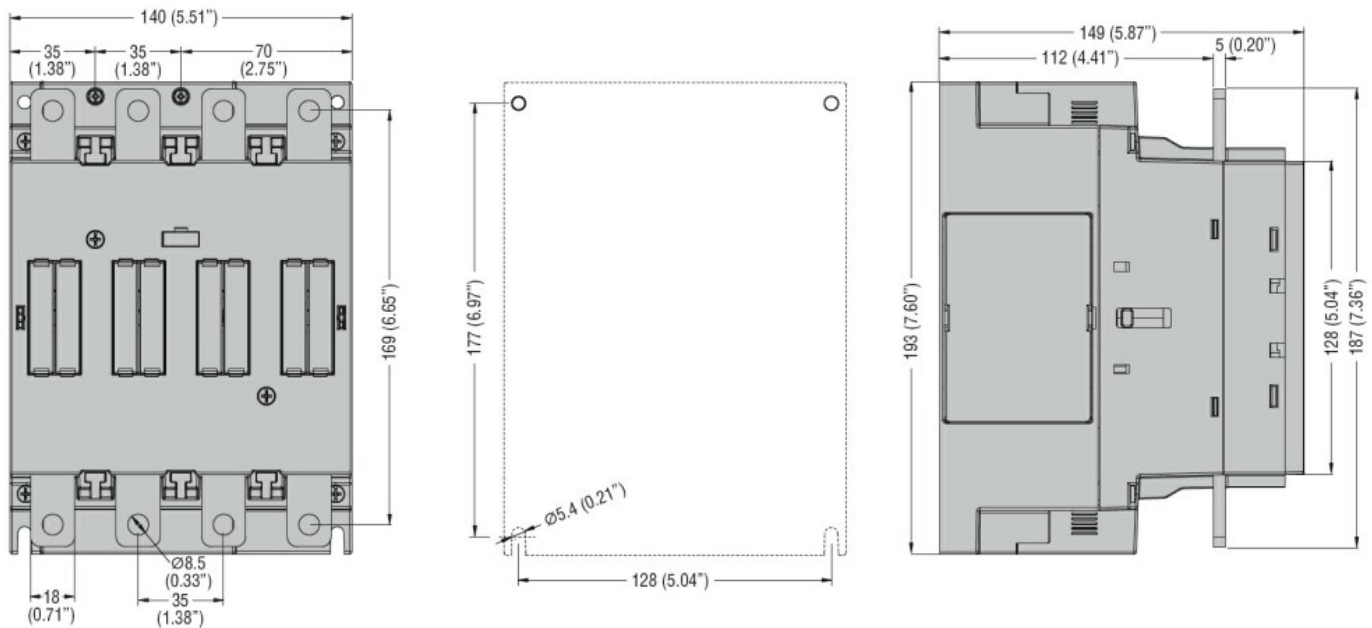
min	V	60
max	V	130

DC operating voltage

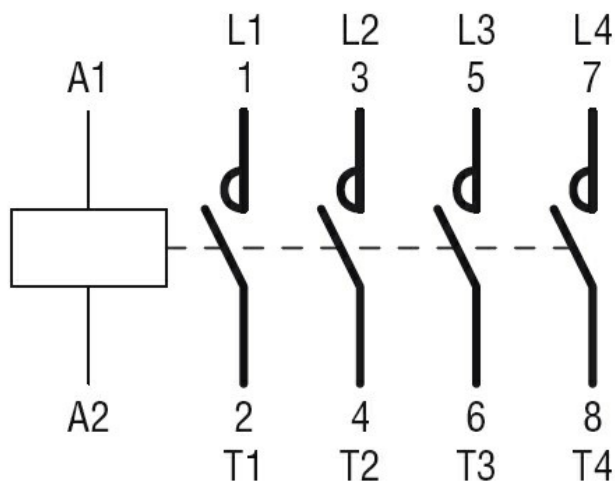
pick-up

min	%Us	85 Us min
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		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
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				
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	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
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