



Power contactor  
BF160

Product designation

Product type designation

**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 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
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	–
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
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
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
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)			
	I <sub>th</sub>	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
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EMC compatibility

yes

### AC coil operating

Rated AC voltage at 50/60Hz, 60Hz

min	V	100
max	V	250

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

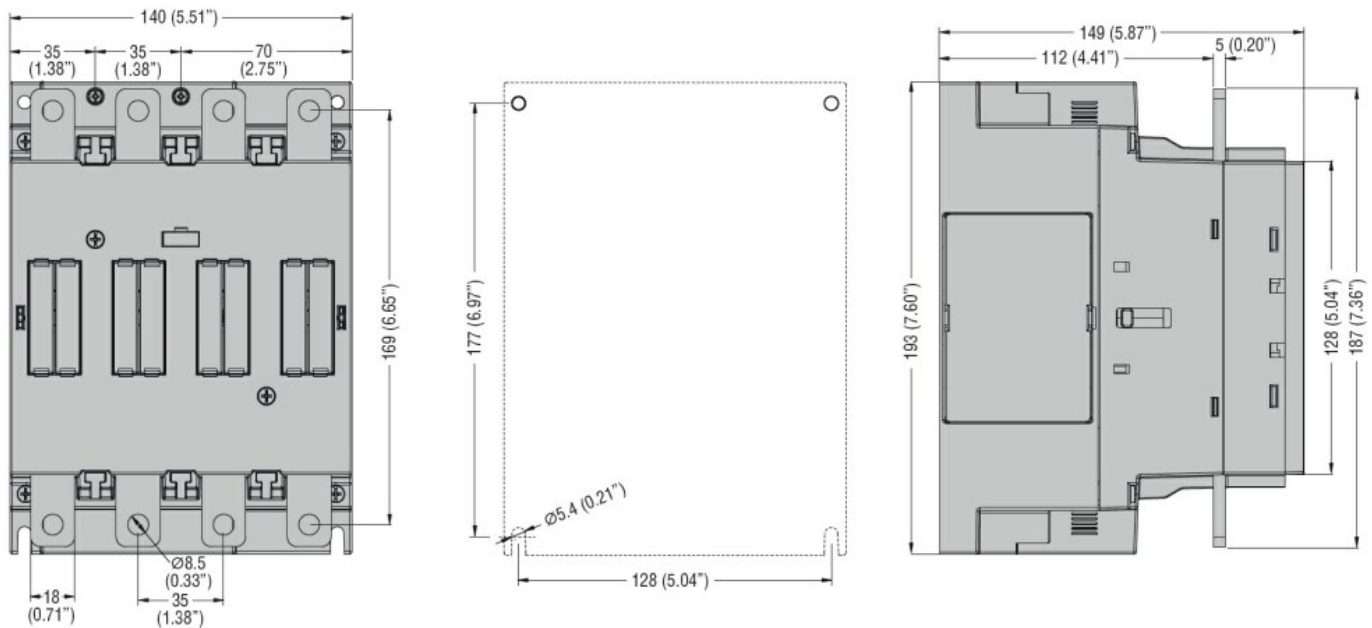
min	V	100
max	V	250

DC operating voltage

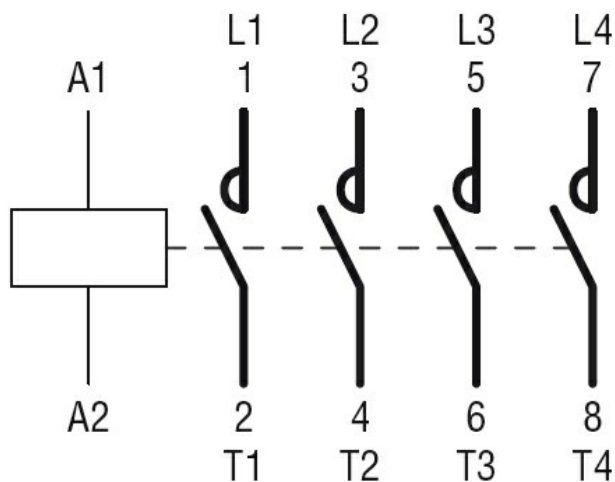
pick-up

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

drop-out		max	%Us	≤70 Us min	
Average coil consumption ≤20°C		in-rush 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					
Yielded mechanical performance for three-phase AC motor		200/208V 220/230V 460/480V 575/600V	HP HP HP HP	50 60 125 150	
General USE					
Contactor		AC current	A	250	
Short-circuit protection fuse, 600V High fault		Short circuit current Fuse rating Fuse class	kA A	100 400 J	
Standard fault		Short circuit current Fuse rating Fuse class	kA A	10 400 RK5	
Ambient conditions					
Temperature		Operating temperature	min max	°C °C	-40 70
		Storage temperature	min max	°C °C	-50 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