

Product designation		Power contactor	
Product type designation		BF160	
Contact characteristics			
Number of poles	Nr.	3	
Rated insulation voltage Ui IEC/EN	V	1000	
Rated impulse withstand voltage Uimp	kV	8	
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith	A	250	
Operational current Ie	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 Ie 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 Ie 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 Ie 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
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 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)		m?	0.18
Power dissipation per pole (average value)			
	I <sub>th</sub>	W	11
	AC3	W	4.5
Tightening torque for terminals			
	min	Nm	18
	max	Nm	18
	min	lbin	159
	max	lbin	159
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
Power terminal protection according to IEC/EN 60529			IP00
<b>Mechanical features</b>			
Operating position			
	normal		Vertical plan

	allowable	±30°	
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	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
	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	60
	max	V	130
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	

## 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

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
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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
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## Resistance & Protection

Pollution degree

3

## ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching