

Product designation	Power contactor		
Product type designation	BF160		
<b>Contact characteristics</b>			
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 ( $\leq 40^{\circ}\text{C}$ )	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 power AC-3 ( $T \leq 55^{\circ}\text{C}$ )	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 ( $T \leq 40^{\circ}\text{C}$ )	230V	kW	95
	400V	kW	165
	500V	kW	181
	690V	kW	284
IEC max current Ie 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 Ie 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 Ie 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 $L/R \leq 1\text{ms}$ with 4 poles in series	$\leq 24\text{V}$	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	$\leq 24\text{V}$ 48V 75V 110V 220V	A A A A A	250 250 160 80 —
IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series	$\leq 24\text{V}$ 48V 75V 110V 220V	A A A A A	250 250 160 120 90
IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 3 poles in series	$\leq 24\text{V}$ 48V 75V 110V 220V 330V	A A A A A A	250 250 160 140 120 90
IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 4 poles in series	$\leq 24\text{V}$ 48V 75V 110V 220V 330V 460V	A A A A A A A	250 250 160 140 140 140 90
Short-time allowable current for 10s (IEC/EN60947-1)		A	1280
Protection fuse	gG (IEC) aM (IEC)	A A	315 200
Making capacity (RMS value)		A	1360
Breaking capacity at voltage	440V 500V 690V	A A A	1360 1326 1139
Resistance per pole (average value)		m?	0.18
Power dissipation per pole (average value)	I <sub>th</sub> AC3	W W	11 4.5
Tightening torque for terminals	min max min max	Nm Nm lbin lbin	18 18 159 159
Tightening torque for coil terminal	min max	Nm Nm	0.8 1
Power terminal protection according to IEC/EN 60529			IP00
Mechanical features			
Operating position	normal		Vertical plan

	allowable	$\pm 30^\circ$	
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	$\leq 70$ 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	$\leq 70$ 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 $\leq 20^\circ\text{C}$ 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	$\leq 70$ Us min
Average coil consumption $\leq 20^\circ\text{C}$	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

**Resistance & Protection**

3

**Pollution degree**

**ETIM classification**

EC000066 -  
Power contactor,  
AC switching

**ETIM 8.0**