



			(der)
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		А	250
Operational current le			
	AC-1 (≤40°C)	А	250
	AC-1 (≤55°C)	А	210
	AC-1 (≤70°C)	А	180
	AC-3 (≤440V ≤55°C)	А	160
	AC-4 (400V)	А	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 current AC-3 (T≤55°C)			
	230V	А	160
	400V	А	160
	415V	А	160
	440V	А	160
	500V	А	150
	690V	А	135
	1000V	А	60
Rated operational power AC-1 (T≤40°C)			
	230V	kW	95
	400V	kW	165
	500V	kW	181
	690V	kW	284
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
•	≤24V	А	250
	48V	A	250
	75V	A	250
	110V	A	110
	220V	A	_
IEC max current le in DC1 with L/R \leq 1ms with 2 poles in series	•		

≤24V

250

А



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	48V	А	250
	75V	А	250
	110V	А	150
	220V	А	130
IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
	≤24V	А	250
	48V	А	250
	75V	А	250
	110V	А	160
	220V	А	150
	330V	А	130
IEC max current le in DC1 with $L/R \le 1$ ms with 4 poles in series			
	≤24V	А	250
	48V	А	250
	75V	А	250
	110V	А	250
	220V	А	250
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
•	≤24V	А	250
	48V	А	250
	75V	А	160
	110V	А	80
	220V	А	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	А	250
	48V	A	250
	75V	A	160
	110V	A	120
	220V	A	90
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	А	250
	48V	A	250
	75V	A	160
	110V	A	140
	220V	A	120
	330V	A	90
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	0001	7.	
	≤24V	А	250
	48V	A	250
	40V 75V	A	160
	110V	A	140
	220V	A	140
	330V	A	140
	460V	A	90
Short-time allowable current for 10s (IEC/EN60947-1)	100 V	A	1280
Protection fuse		,,	
	gG (IEC)	А	315
	aM (IEC)	A	200
Making capacity (RMS value)		A	1360
Breaking capacity at voltage		~	1000
Dreaking capacity at voltage	440V	٨	1360
	440V 500V	A A	1326
	500V 690V		1326
Pasistanas par pala (averago valua)	0907	A mΩ	
Resistance per pole (average value)		1112	0.18



Power dissipation per	nole (average value)			
i ower dissipation per	pole (average value)	lth	W	11
		AC-3	W	4.5
Tichtoning torque for t		AC-3	VV	4.5
Tightening torque for t	erminals		N.L.,	4.0
		min	Nm	18
		max	Nm	18
		min	Ibin	159
		max	lbin	159
Tightening torque for c	coil terminal			
		min	Nm	0.8
		max	Nm	1
Power terminal protect	tion according to IEC/EN 60529			IP00
Mechanical features	5			
Operating position				
eperating peetiter		normal		Vertical plan
		allowable		±30°
		allowable		
Fixing			_	Screw
Weight			g	3000
Operations				
Mechanical life			cycles	1000000
Electrical life			cycles	1000000
Safety related data				
Performance level B1	0d according to EN/ISO 13489-1			
		rated load	cycles	1000000
EMC compatibility				yes
AC coil operating				,
Rated AC voltage at 5	0/60Hz 60Hz			
			V	24
		min	v	/4
		min		
		min max	V V	60
AC operating voltage	of E0/60Hz apil powered at E0Hz			
AC operating voltage	of 50/60Hz coil powered at 50Hz			
AC operating voltage	of 50/60Hz coil powered at 50Hz pick-up	max	V	60
AC operating voltage	•	maxmin	V %Us	60 80 Us min
AC operating voltage	pick-up	max	V	60
AC operating voltage	•	maxmin	V %Us %Us	60 80 Us min 110 Us max
AC operating voltage	pick-up drop-out	maxmin	V %Us	60 80 Us min
AC operating voltage	pick-up	max min max	V %Us %Us	60 80 Us min 110 Us max
AC operating voltage	pick-up drop-out	max min max	V %Us %Us	60 80 Us min 110 Us max
AC operating voltage	pick-up drop-out of 50/60Hz coil powered at 60Hz	max min max	V %Us %Us	60 80 Us min 110 Us max
AC operating voltage	pick-up drop-out of 50/60Hz coil powered at 60Hz	max min max max	V %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min
AC operating voltage	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up	max min max max min	V %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 80 Us min
AC operating voltage	pick-up drop-out of 50/60Hz coil powered at 60Hz	max min max max min max	V %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max max min	V %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 80 Us min
AC operating voltage	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max max min max	V %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max max min max max	V %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max max min max max max	V %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 110 Us max
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out umption at 20°C of 50/60Hz coil powered at 50Hz	max min max max min max max	V %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max max min max max in-rush holding	V %Us %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 160230 1.53.0
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out umption at 20°C of 50/60Hz coil powered at 50Hz	max min max max max max max max max	V %Us %Us %Us %Us %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 160230 1.53.0 160230
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out umption at 20°C of 50/60Hz coil powered at 50Hz of 50/60Hz coil powered at 60Hz	max min max max min max max in-rush holding	V %Us %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 160230 1.53.0
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out umption at 20°C of 50/60Hz coil powered at 50Hz	max min max max max max max max max	V %Us %Us %Us %Us %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 10 Us max ≤70 Us min 100230 1.53.0 160230 1.53.0
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out umption at 20°C of 50/60Hz coil powered at 50Hz of 50/60Hz coil powered at 60Hz	max min max max max max max max max	V %Us %Us %Us %Us %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 160230 1.53.0 160230
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out umption at 20°C of 50/60Hz coil powered at 50Hz of 50/60Hz coil powered at 60Hz	max min max max max max max max in-rush holding	V %Us %Us %Us %Us %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 10 Us max ≤70 Us min 100230 1.53.0 160230 1.53.0
	pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out umption at 20°C of 50/60Hz coil powered at 50Hz of 50/60Hz coil powered at 60Hz of 60Hz coil powered at 60Hz	max min max max max max max max max max max	V %Us %Us %Us %Us %Us %Us %Us %Us %Us %Us	60 80 Us min 110 Us max ≤70 Us min 10 Us max ≤70 Us min 10 Us max ≤70 Us min 160230 1.53.0 160230 1.53.0

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DC coil operating					
DC rated control voltage	je				
			min	V	20
			max	V	60
DC operating voltage					
	pick-up				
			min	%Us	85 Us min
			max	%Us	110 Us max
	drop-out				
			max	%Us	≤70 Us min
Average coil consump	tion ≤20°C				
			in-rush	W	160230
			holding	W	1.53.0
Max cycles frequency					4000
Mechanical operation				cycles/h	1000
Operating times	· ·				
Average time for Us co					
	in AC				
		Closing NO			50
			min	ms	50
			max	ms	100
		Opening NO	min	-	25
			min	ms	35 75
UL technical data			max	ms	75
Yielded mechanical pe	rformance				
neideu mechanicai pe	for three-phase AC mc	tor			
	ior intee-phase AC inc	101	200/208V	HP	50
			200/200V 220/230V	HP	60
			460/480V	HP	125
			575/600V	HP	150
General USE					
	Contactor				
			AC current	А	250
Short-circuit protection	fuse. 600V				
	High fault				
	U		Short circuit current	kA	100
			Fuse rating	А	400
			Fuse class		J
	Standard fault				
			Short circuit current	kA	10
			Fuse rating	А	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 & Protectic	n				
Pollution degree					3

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The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



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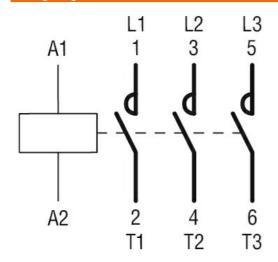
ENERGY AND AUTOMATION

Dimensions

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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

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