



			eller con
Product designation			Power contactor
Product type designation			BF160
Contact characteristics			
Number of poles		Nr.	4
Rated insulation voltage Ui IEC/EN		V	1000
Rated impulse withstand voltage Uimp		kV	8
Operational frequency			
Operational frequency	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith	IIIax	A	250
Operational current le		^	250
Operational current le	AC 1 (<10°C)	۸	250
	AC-1 (≤40°C)	A	250
	AC-1 (≤55°C)	A	210
	AC-1 (≤70°C)	A	180
	AC-3 (≤440V ≤55°C)	Α	160
	AC-4 (400V)	A	75
Rated operational current AC-3 (T≤55°C)			
	230V	Α	160
	400V	Α	160
	415V	Α	160
	440V	Α	160
	500V	Α	150
	690V	Α	135
	1000V	Α	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	Α	250
	48V	Α	250
	75V	Α	250
	110V	Α	110
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
	≤24V	Α	250
	48V	Α	250
	75V	Α	250
	110V	Α	150
	220V	Α	130
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series	<u> </u>		
	≤24V	Α	250
	48V	Α	250
	75V	Α	250
	701	, ,	



	110V	Α	160
	220V	Α	150
	330V	Α	130
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	250
	48V	Α	250
	75V	Α	250
	110V	Α	250
	220V	Α	250
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			_
·	≤24V	Α	250
	48V	Α	250
	75V	Α	160
	110V	Α	80
	220V	Α	-
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series		,,	_
	≤24V	Α	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	220 V		
TEC max current le in DC3-DC3 with L/R \(\) 13ms with 3 poles in series	≤24V	۸	250
	≥24 V 48 V	A A	250
	75V	A	160
	110V	A	140
	220V	A	120
IFO and a support to in DOO DOC with 1/D < 45 and with 4 and a in a win	330V	A	90
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	40.41.4	•	0.50
	≤24V	A	250
	48V	A	250
	75V	Α	160
	110V	Α	140
	220V	Α	140
	330V	Α	140
	460V	Α	90
Short-time allowable current for 10s (IEC/EN60947-1)		Α	1280
Protection fuse			
	gG (IEC)	Α	315
·	aM (IEC)	Α	200
Making capacity (RMS value)		Α	1360
Breaking capacity at voltage			
	440V	Α	1360
	500V	Α	1326
	690V	Α	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



BF160T4E024

Electrical life	Tightoning torque for a	oil tarminal			
Power terminal protection according to IEC/EN 60529 IPO0	rightening torque for c	on terminal	min	Nm	Λ 8
Power terminal protection according to IEC/EN 60529 P00					
Mechanical features	Power terminal protect	tion according to IFC/FN 60529	max	1 4111	
Operating position normal allowable Vertical plan allowable Fixing Screw Weight g 4000 Operations Mechanical life cycles 10000000 Electrical life cycles 10000000 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 24 AC coll operating voltage min %Us 80 Us min AC operating voltage min %Us 80 Us min Markety min %		ion about any to 120/214 00020			11 00
Prize Pri					
Screw Screw Screw Screw Screw Weight Sq. d. 4000 Sq. d.	operating position		normal		Vertical plan
Fixing Screw Weight g 4000 Operations Mechanical life cycles 10000000 Electrical life cycles 10000000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 1000000 EMC compatibility yes AC coil operating min V 24 Max V 60 AC operating voltage af 50/60Hz coil powered at 50Hz pick-up min % Us 80 Us min Max % Us 570 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz in-rush rowspan="2">in-rush rowspan="2">v N 100230 holding VA 1.53.0 holding VA 1.53.0 holding VA 1.53.0 No230 holding VA					
Weight	Fixing				
Operations Mechanical life cycles 10000000 Electrical life cycles 10000000 Safety related data rated load cycles 10000000 EMC compatibility rated load cycles 10000000 EMC compatibility yes AC coll operating min V 24 Max V 24 24 max %Us 80 Us min Max %Us 80 Us min Max %Us \$70 Us min of 50/60Hz coil powered at 60Hz min %Us \$80 Us min Max %Us \$70 Us min AC average coil consumption at 20°C fof 50/60Hz coil powered at 50Hz in-rush %Us \$70 Us min AC average coil consumption at 20°C fof 50/60Hz coil powered at 60Hz in-rush VA 160230 holding VA 153.0 VA 160230 holding VA 153.0 VA 153.0 Di				a	
Mechanical life					
Electrical life cycles 1000000 Safety related data Performance level B10d according to EN/ISO 13489-1 EMC compatibility rated load cycles 1000000 EMC conpatibility yes AC coll operating Rated AC voltage at 50/60Hz, 60Hz AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min max %Us 80 Us min max %Us 110 Us max drop-out max %Us 110 Us max drop-out max %Us 570 Us min max %Us 110 Us max drop-out max %Us 570 Us min max %Us 110 Us max drop-out max %Us 570 Us min max %Us 110 Us max drop-out max %Us 570 Us min max %Us 570 Us min max max %Us 570 Us min max max %Us 570 Us min max	Mechanical life			cycles	10000000
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1000000	Electrical life				
Performance level B10d according to EN/ISO 13489-1 EMC compatibility AC coll operating Rated AC voltage at 50/60Hz, 60Hz Rated AC voltage at 50/60Hz, 60Hz AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min max wus sous in under the foliage in the foliage	Safety related data				
EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz Rated AC voltage at 50/60Hz, 60Hz AC operating voltage of 50/60Hz coil powered at 50Hz pick-up for 50/60Hz coil powered at 60Hz pick-up of 50/60Hz coil powered at 60Hz pick-up for 50/60Hz coil powered at 60Hz pick-up anax %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 \$110 Us max drop-out max %Us \$70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 60Hz of 50/60Hz coil powered at 60Hz of 50/60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz C coil operating DC rated control voltage min V 20 max V 60 DC operating voltage		od according to EN/ISO 13489-1			
EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 24 max V 60 AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min max %Us 110 Us max drop-out max %Us 110 Us max of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us 570 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz W 1.53.0 Dissipation at holding ≤20°C 50Hz W 1.53.0 DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC operating voltage Min V 20 max V 60 DC		ŭ	rated load	cycles	1000000
AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 24 max V 60	EMC compatibility				ves
Rated AC voltage at 50/60Hz, 60Hz min					
Max	3	0/60Hz, 60Hz			
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min wus wus sol Us min max wus sol Us min wus sol Us min max wus sol Us max wus sol Us min max wus sol Us max wus sol Us min max wus sol Us	Ŭ		min	V	24
of 50/60Hz coil powered at 50Hz pick-up min			max	V	60
Pick-up min %Us 80 Us min max %Us 110 Us max Mus Mu	AC operating voltage				
Min Mount		of 50/60Hz coil powered at 50Hz			
Max Mus 110 Us max		pick-up			
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 Mus			min	%Us	80 Us min
Max %Us ≤70 Us min			max	%Us	110 Us max
of 50/60Hz coil powered at 60Hz pick-up min		drop-out			
Pick-up min max %Us 80 Us min max %Us 110 Us max Mus			max	%Us	≤70 Us min
Min Moderate Mo		of 50/60Hz coil powered at 60Hz			
Max Mus 110 Us max		pick-up			
AC average coil consumption at 20°C Of 50/60Hz coil powered at 50Hz In-rush holding VA 160230 holding VA 1.53.0			min	%Us	80 Us min
max %Us ≤70 Us min AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz in-rush vA 160230 holding vA 1.53.0 of 50/60Hz coil powered at 60Hz in-rush holding vA 1.53.0 of 60Hz coil powered at 60Hz in-rush vA 160230 holding vA 1.53.0 of 60Hz coil powered at 60Hz in-rush vA 160230 holding vA 1.53.0 Dissipation at holding ≤20°C 50Hz W 1.53.0 DC coil operating DC rated control voltage min V 20 max v 60 DC operating voltage			max	%Us	110 Us max
AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz in-rush		drop-out			
of 50/60Hz coil powered at 50Hz in-rush VA 160230 holding VA 1.53.0 of 50/60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage			max	%Us	≤70 Us min
in-rush VA 160230 holding VA 1.53.0 of 50/60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz W 1.53.0 DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage DC operating voltage DC operating voltage VA VA VA VA VA VA VA V	AC average coil consu	•			
holding VA 1.53.0 of 50/60Hz coil powered at 60Hz in-rush holding VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush holding VA 160230 holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz W 1.53.0 V 1.53.0 DC coil operating DC rated control voltage min V 20 max V 60 V 20 max V 60 DC operating voltage DC operating voltage DC operating voltage V 0 0		of 50/60Hz coil powered at 50Hz			
of 50/60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage					
in-rush VA 160230 holding VA 1.53.0			holding	VA	1.53.0
holding VA 1.53.0		of 50/60Hz coil powered at 60Hz			
of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz W 1.53.0 DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage					
in-rush		(0011 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	holding	VA	1.53.0
holding VA 1.53.0 Dissipation at holding ≤20°C 50Hz W 1.53.0 DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage		of 60Hz coil powered at 60Hz			400 000
Dissipation at holding ≤20°C 50Hz W 1.53.0 DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage					
DC coil operating DC rated control voltage min V 20 max V 60 DC operating voltage	D: : :: (1 1 1 2	40000 FOLL	holding		
DC rated control voltage min V 20 max V 60 DC operating voltage		\$20°C 50Hz		VV	1.53.0
min V 20 max V 60 DC operating voltage					
DC operating voltage	DC rated control voltag	ge		17	20
DC operating voltage					
	DO		max	V	60
pick-up	DC operating voltage				
		pick-up		04	
min %Us 85 Us min					
max %Us 110 Us max			max	%Us	110 Us max

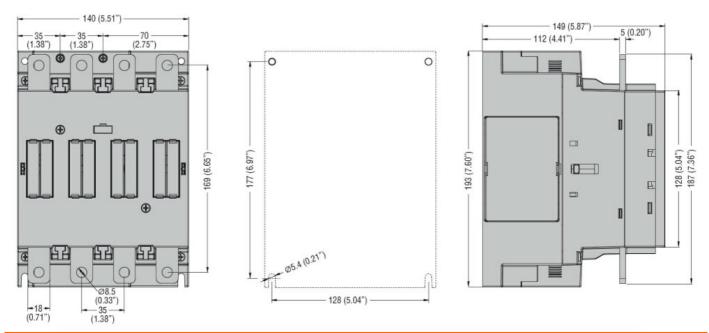




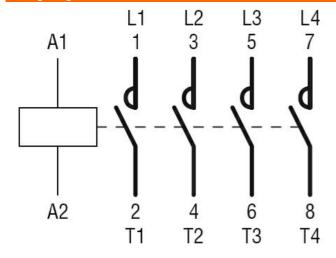
	drop-out			
		max	%Us	≤70 Us min
Average coil consump	tion ≤20°C			
		in-rush	W	160230
May avalos fraguesav		holding	W	1.53.0
Max cycles frequency Mechanical operation			cycles/h	1000
Operating times			Cycles/11	1000
Average time for Us of	ontrol			
Avorago amo los co o	in AC			
	Closing NO			
	G	min	ms	50
		max	ms	100
	Opening NO			
		min	ms	35
		max	ms	75
UL technical data	·			
Yielded mechanical pe				
	for three-phase AC motor	200/2001	LID	50
		200/208V 220/230V	HP HP	50 60
		460/480V	HP	125
		575/600V	HP	150
General USE		010/0001	- '''	100
Conoral CCL	Contactor			
		AC current	Α	250
Short-circuit protection	n fuse, 600V			
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	400
		Fuse class		J
	Standard fault	_		
		Short circuit current	kA	10
		Fuse rating	Α	400 DK5
Ambient conditions		Fuse class		RK5
Ambient conditions Temperature				
remperature	Operating temperature			
	Operating temperature	min	°C	-40
		max	°C	70
	Storage temperature	····		
		min	°C	-50
		max	°C	80
Max altitude			m	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 250A, AC/DC COIL, 24...60VAC - 20...60VDC



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