



Product designation Product type designation			Power contactor 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		Α	250
Operational current le			
	AC-1 (≤40°C)	Α	250
	AC-1 (≤55°C)	Α	210
	AC-1 (≤70°C)	Α	180
	AC-3 (≤440V ≤55°C)	Α	160
	AC-4 (400V)	A	75
Rated operational power AC-3 (T≤55°C)	2001		
	230V	kW	45
	400V	kW	75
	415V	kW	90
	440V	kW	90
	500V	kW	110
	690V	kW	132
Detect or cretional nervey AC 4 (T<40°C)	1000V	kW	75
Rated operational power AC-1 (T≤40°C)	2201/	LAAZ	0.5
	230V	kW	95
	400V 500V	kW kW	165
	690V	kW	181 284
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series	090 v	KVV	204
TEC max current le in DCT with L/N = mis with 1 poles in series	≤24V	۸	250
	≤24∨ 48∨	A A	250
	75V	A	250
	110V	A	110
	220V	A	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series	220 V		
TEO THAN OUT OF THE DOT WITH ETY = THIS WITH 2 POICS IN SCHOOL	≤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			
	≤24V	Α	250
	48V	Α	250
	75V	Α	250
	. • •		



	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	2201	- / \	
120 max carrent to in 200 200 with LTC 2 forms with 2 poice in series	≤24V	Α	250
	48V	A	250
	75V	A	160
	110V		
		A A	120 90
IFC may assemble in DC2 DC5 with L/D < 45 may with 2 males in parise	220V	A	90
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	40 A) /	Δ.	050
	≤24V	A	250
	48V	A	250
	75V	A	160
	110V	Α	140
	220V	Α	120
	330V	Α	90
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	Α	250
	48V	Α	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	lbin	159
	max	Ibin	159
	mux		



BF16000E230

Weight g 3000  Degrations  Mechanical life cycles 10000000					
Provide terminal protection according to IEC/EN 60529   1000000   1000000   10000000   10000000   100000000	Tightening torque for co	oil terminal	_		
Pool					
Departing position   Section   Sec			max	Nm	
Departing position		ion according to IEC/EN 60529			IP00
Main					
Screw   Scr	Operating position				
Screw   Screw   Screw   Screw   Screw   Selections   Screw					•
Neight   Special Content			allowable		
Departions	Fixing				Screw
Mechanical life cycles 10000000 Electrical life cycles 10000000 Electrical life cycles 10000000 Electrical life cycles 1000000000000000000000000000000000000	Weight			g	3000
Caretrical life	Operations				
Performance level B10d according to EN/ISO 13489-1   rated load   cycles   1000000	Mechanical life			cycles	10000000
Performance level B10d according to EN/ISO 13489-1   rated load   cycles   1000000	Electrical life			cycles	1000000
Performance level B10d according to EN/ISO 13489-1   rated load   cycles   1000000   yes	Safety related data				
EMC compatibility  VC coil operating  Rated AC voltage at 50/60Hz, 60Hz  Rated AC voltage at 50/60Hz, 60Hz  Rated AC voltage at 50/60Hz, 60Hz  Rated AC voltage at 50/60Hz coil powered at 50Hz  pick-up  min   Wus   80 Us min   max   Wus   110 Us max   drop-out   max   Wus   150 Us min   drop-out   max   wus   150 Us	•	d according to EN/ISO 13489-1			
EMC compatibility yes  Cooli operating Rated AC voltage at 50/60Hz, 60Hz  Pick-up  Rated AC voltage at 50/60Hz coil powered at 50Hz  Pick-up  Rated AC voltage at 50/60Hz coil powered at 60Hz  Pick-up  Rated AC voltage at 50/60Hz coil powered at 60Hz  Rated AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  Rated AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  Rated AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  Rated AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  Rated AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  Rated AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  Rated AC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  Rated AC voltage at 50/4		, a according to 1, w. C o 10 100 1	rated load	cycles	1000000
No coil operating   Rated AC voltage at 50/60Hz, 60Hz   min   V   100   max   V   250	FMC compatibility		Tatod Ioaa	0,0.00	
Rated AC voltage at 50/60Hz, 60Hz    min					, 55
MC operating voltage   of 50/60Hz coil powered at 50Hz   pick-up   min   max   %Us   80 Us min   max   %Us   110 Us max   drop-out   min   max   %Us   \$70 Us min   max   \$70 Us min   \$70 Us max   \$70 Us max   \$70 Us min   \$70 Us max   \$70 Us max   \$70 Us min   \$70 Us max   \$70 Us		0/60Hz 60Hz			
AC operating voltage  of 50/60Hz coil powered at 50Hz pick-up  drop-out  min	Nated Ao voltage at 30	0/00/12, 00/12	ma!	17	100
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  MAC average coil consumption at 20°C of 50/60Hz coil powered at 50Hz  accepted 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  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  of 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0  or 60Hz coil powered at 60Hz  in-rush VA 160230 holding VA 1.53.0					
of 50/60Hz coil powered at 50Hz pick-up    min   max	A O		max	V	250
Pick-up   Min   MUS   80 Us min   max   MUS   110 Us max   MuS	AC operating voltage	( FO/OOLL			
Min   Mus   80 Us min   max   Mus   110 Us max   Mus   Mus   110 Us max   Mus   Mus   110 Us max   Mus					
Max   Mus   110 Us max		pick-up		0/11	
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   Mus   110 Us max   Mus					
Max   Wus   ≤70 Us min   of 50/60Hz coil powered at 60Hz   pick-up   min   wus   80 Us min   max   wus   110 Us   wus			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 ≤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 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  Occordioperating  OC rated control voltage  pick-up  min V 100 max V 250  OC operating voltage		drop-out			
Pick-up   min   max   %Us   80 Us min   max   %Us   110 Us max   MC average coil consumption at 20°C   of 50/60Hz coil powered at 50Hz   in-rush   VA   160230   holding   VA   1.53.0   holding   VA   1		-	max	%Us	≤70 Us min
Min   Mus		·			
Max   Mus   110 Us max     Max   Mus		pick-up			
Max			min		
Max			max	%Us	110 Us max
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   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     OC coil operating   DC rated control voltage   min   V   100     max   V   250     DC operating voltage   pick-up   min   %Us   85 Us min		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  VX 1.53.0  OC coil operating  OC rated control voltage  min V 100 max V 250  OC operating voltage  pick-up  min %Us 85 Us min			max	%Us	≤70 Us min
in-rush   VA   160230   holding   VA   1.53.0	AC average coil consu	mption at 20°C			
holding		of 50/60Hz coil powered at 50Hz			
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  Dissipation at holding ≤20°C 50Hz  Coil operating  DC rated control voltage  min V 100 max V 250  DC operating voltage  pick-up  min %Us 85 Us min			in-rush	VA	160230
in-rush			holding	VA	1.53.0
in-rush		of 50/60Hz coil powered at 60Hz			
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       100 max v       250         DC operating voltage       pick-up       min %Us 85 Us min		•	in-rush	VA	160230
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 100 max V 250  DC operating voltage  pick-up  min %Us 85 Us min					
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   100     max   V   250     DC operating voltage   pick-up   min   %Us   85 Us min		of 60Hz coil powered at 60Hz			
holding         VA         1.53.0           Dissipation at holding ≤20°C 50Hz         W         1.53.0           DC coil operating         DC rated control voltage           min         V         100           max         V         250           DC operating voltage         pick-up         min         %Us         85 Us min		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	in-rush	VA	160230
Dissipation at holding ≤20°C 50Hz  Cool operating  Cool operating  Cool operating  M 1.53.0					
DC coil operating  DC rated control voltage  min V 100 max V 250  DC operating voltage  pick-up  min %Us 85 Us min	Dissination at holding s	<20°C 50Hz	Holding		
DC rated control voltage  min V 100 max V 250  DC operating voltage pick-up min %Us 85 Us min				V V	1.00.0
min V 100 max V 250  OC operating voltage pick-up min %Us 85 Us min		10			
DC operating voltage pick-up max V 250  min %Us 85 Us min	o rated control voltag	y <del>c</del>	ma!	17	100
DC operating voltage pick-up min %Us 85 Us min					
pick-up min %Us 85 Us min	DO		max	V	200
min %Us 85 Us min	DC operating voltage				
		pick-up			
max %Us 110 Us max			min		
			max	%Us	110 Us max

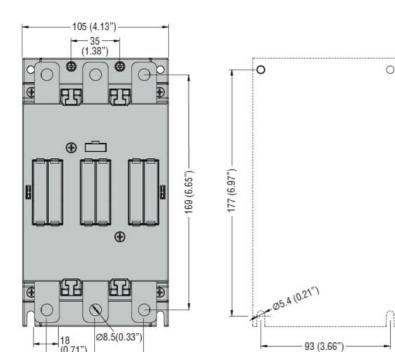


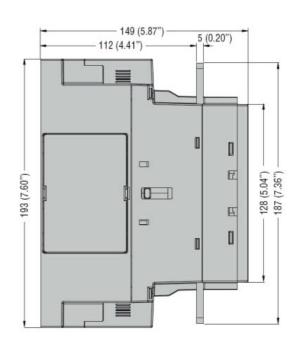


	drop-out			
	arop out	max	%Us	≤70 Us min
Average coil consump	tion ≤20°C			
		in-rush	W	160230
		holding	W	1.53.0
Max cycles frequency				
Mechanical operation			cycles/h	1000
Operating times	antical .			
Average time for Us of	in AC			
	Closing NO			
	Closling NO	min	ms	50
		max	ms	100
	Opening NO	max	1113	100
	Spering No.	min	ms	35
		max	ms	75
UL technical data				
Yielded mechanical pe	erformance			
·	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	Α	250
Short-circuit protection				
	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
Ambient conditions		Fuse class		RK5
Ambient conditions Temperature				
remperature	Operating temperature			
	Operating temperature	min	°C	-40
		max	°C	70
	Storage temperature	max		. •
	2.2.2.90 10	min	°C	-50
		max	°C	80
Max altitude			m	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions				

**ENERGY AND AUTOMATION** 

## THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 160A, AC/DC COIL, 100...250VAC/DC



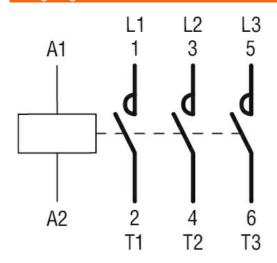


### Wiring diagrams

(0.71") -35---

(1.38")

—35— (1.38")



### 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