



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)			
	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	Α	160
	400V	Α	160
	415V	Α	160
	440V	Α	160
	500V	Α	150
	690V	Α	135
	1000V	A	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			
·	≤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			
	≤24V	Α	250
	48V	Α	250
	75V	Α	160
	110V	Α	120
	220V	Α	90
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	Α	250
	48V	Α	250
	75V	Α	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			
J1 7	440V	Α	1360
	500V	A	1326
	690V	A	1139
Resistance per pole (average value)	2301	mΩ	0.18
		.1124	3.10



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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	lbin	159
Tightening torque for	coil terminal			
		min	Nm	0.8
		max	Nm	1
Power terminal protec	ction according to IEC/EN 60529	Пах	1 1111	IP00
Mechanical features	ction according to IEO/EIN 00323			11 00
Operating position				
operating position		normal		Vertical plan
		normal		Vertical plan
		allowable		±30°
Fixing				Screw
Weight			g	3000
Operations				100000
Mechanical life			cycles	1000000
Electrical life			cycles	1000000
Safety related data				
Performance level B1	10d according to EN/ISO 13489-1			
		rated load	cycles	1000000
EMC compatibility				yes
AC soil enerating				
AC coil operating				
	50/60Hz, 60Hz			
	50/60Hz, 60Hz	min	V	60
	50/60Hz, 60Hz	min max	V V	
Rated AC voltage at 5	50/60Hz, 60Hz			60 130
Rated AC voltage at 5				
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz			
Rated AC voltage at 5		max	V	130
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz	max min	V %Us	130 80 Us min
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up	max	V	130
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz	max min max	V %Us %Us	80 Us min 110 Us max
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up drop-out	max min	V %Us	130 80 Us min
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz	max min max	V %Us %Us	80 Us min 110 Us max
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up drop-out	max min max max	V %Us %Us %Us	80 Us min 110 Us max ≤70 Us min
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz	max min max max	V %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 80 Us min
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up	max min max max	V %Us %Us %Us	80 Us min 110 Us max ≤70 Us min
Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz	max max max max	%Us %Us %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 80 Us min 110 Us max
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out	max min max max	V %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 80 Us min
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out drop-out	max max max max	%Us %Us %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 80 Us min 110 Us max
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out	max max max max	%Us %Us %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 80 Us min 110 Us max
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out drop-out	max max max max	%Us %Us %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 80 Us min 110 Us max
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out drop-out	min max max min max min max	%Us %Us %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out drop-out	min max min max max max in-rush	%Us %Us %Us %Us %Us %Us	80 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min 110 Us max ≤70 Us min
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out drop-out	min max max min max min max in-rush holding	%Us %Us %Us %Us %Us %Us	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
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out drop-out	min max max min max max in-rush holding in-rush	%Us %Us %Us %Us %Us %Us VA	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
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz 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	min max max min max min max in-rush holding	%Us %Us %Us %Us %Us %Us	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
Rated AC voltage at 6	of 50/60Hz coil powered at 50Hz pick-up drop-out of 50/60Hz coil powered at 60Hz pick-up drop-out drop-out	min max max min max min max in-rush holding in-rush holding	%Us %Us %Us %Us %Us %Us VA VA	80 Us min 110 Us max ≤70 Us min 80 Us min 110 Us max ≤70 Us min 160230 1.53.0 160230 1.53.0
Rated AC voltage at 8 AC operating voltage AC average coil cons	of 50/60Hz coil powered at 50Hz 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	min max max min max max in-rush holding in-rush	%Us %Us %Us %Us %Us %Us VA	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

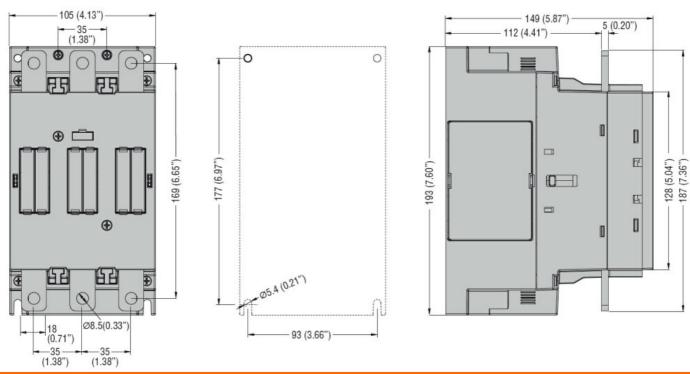
ENERGY AND AUTOMATION

DC coil operating					
DC rated control voltage	je				
			min	V	60
-			max	V	130
DC operating voltage					
	pick-up				
			min	%Us	85 Us min
			max	%Us	110 Us max
	drop-out			0/11-	<70 Hz
Average coil consumpt	tion <20°C		max	%Us	≤70 Us min
Average con consump	lion ≥20 C		in-rush	W	160230
			holding	W	1.53.0
Max cycles frequency			Holding	VV	1.55.0
Mechanical operation				cycles/h	1000
Operating times				Cy ClCC/11	1000
Average time for Us co	ontrol				
<u> </u>	in AC				
		Closing NO			
		-	min	ms	50
			max	ms	100
		Opening NO			
			min	ms	35
			max	ms	75
UL technical data					
Yielded mechanical pe		•			
	for three-phase AC mo	otor	200/208V	HP	50
			200/208V 220/230V	пг HP	60
			460/480V	HP	125
			575/600V	HP	150
General USE					
	Contactor				
			AC current	Α	250
Short-circuit protection	fuse, 600V				
	High fault				
			Short circuit current	kA	100
			Fuse rating	Α	400
			Fuse class		J
	Standard fault		Ole and other tr		40
			Short circuit current	kA ^	10
			Fuse rating Fuse class	Α	400 RK5
Ambient conditions			ruse ciass		IXIXO
Temperature					
· simporaturo	Operating temperature				
	approximg tomporatore		min	°C	-40
			max	°C	70
	Storage temperature				
	- ,		min	°C	-50
			max	°C	80
Max altitude				m	3000
Resistance & Protection	on				
Pollution degree					3

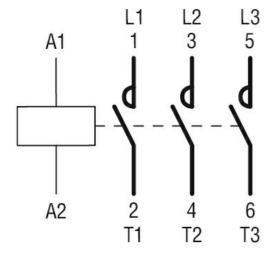
ENERGY AND AUTOMATION

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 160A, AC/DC COIL, 60... 130VAC/DC

Dimensions



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