



			GC.
Product designation			Power contactor
Product type designation			BF230
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	max	A	350
Operational current le		- / \	
Operational current le	AC-1 (≤40°C)	Α	350
	AC-1 (≤40 C) AC-1 (≤55°C)		290
	AC-1 (≤33 C) AC-1 (≤70°C)	A	250
	AC-1 (≤70 C) AC-3 (≤440V ≤55°C)	A	
	AC-3 (≤440V ≤55 C) AC-4 (400V)	A	230
D-1-1	AC-4 (400V)	Α	110
Rated operational power AC-3 (T≤55°C)	0001/		
	230V	kW	55
	400V	kW	110
	415V	kW	110
	440V	kW	132
	500V	kW	132
	690V	kW	160
	1000V	kW	110
Rated operational current AC-3 (T≤55°C)			
	230V	Α	230
	400V	Α	230
	415V	Α	230
	440V	Α	230
	500V	Α	184
	690V	Α	165
	1000V	Α	100
Rated operational power AC-1 (T≤40°C)			
	230V	kW	132
	400V	kW	230
	500V	kW	253
	690V	kW	397
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
	≤24V	Α	350
	48V	Α	350
	75V	Α	350
	110V	Α	145
	220V	Α	_
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series	<u>-</u>		
, , , , , , , , , , , , , , , , , , , ,	≤24V	Α	350



	48V	Α	350
	75V	Α	350
	110V	Α	270
	220V	Α	225
IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			_
· ·	≤24V	Α	350
	48V	Α	350
	75V	Α	350
	110V	Α	270
	220V	Α	270
	330V	Α	225
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
	≤24V	Α	350
	48V	Α	350
	75V	Α	350
	110V	Α	350
	220V	Α	350
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
·	≤24V	Α	350
	48V	Α	350
	75V	Α	250
	110V	Α	135
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			_
·	≤24V	Α	350
	48V	Α	350
	75V	Α	250
	110V	Α	225
	220V	Α	180
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
·	≤24V	Α	350
	48V	Α	350
	75V	Α	250
	110V	Α	250
	220V	Α	225
	330V	Α	180
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
·	≤24V	Α	350
	48V	Α	350
	75V	Α	250
	110V	Α	250
	220V	Α	225
	330V	Α	210
	460V	Α	180
Short-time allowable current for 10s (IEC/EN60947-1)		Α	1840
Protection fuse			
	gG (IEC)	Α	400
	aM (IEC)	Α	250
Making capacity (RMS value)		Α	2300
Breaking capacity at voltage			
	440V	Α	1840
	500V	Α	1472
	690V	Α	1296
Resistance per pole (average value)		mΩ	0.18



Power dissipation per pole (average value)					
AC-3	Power dissipation per pole ((average value)			
Tightening torque for terminals min			Ith	W	21
Min			AC-3	W	9.3
Min	Tightening torque for termin	als			
Max	3 3 1		min	Nm	18
Min					
Tightening torque for coil terminal for coil te					
Tightening torque for coil terminal min					
Min	Tightening torque for coil te	 rminal	THOX		
Max	rightering terque for center		min	Nm	0.8
Power terminal protection according to IEC/EN 60529					
Mechanical features	Power terminal protection a	uccording to IEC/EN 60529	Пих	1 4111	
Operating position normal allowable signs allowable signs some state of \$1.00 cm and allowable signs some signs allowable signs some signs allowable signs some signs allowable signs some signs allowable signs signs allowable signs signs allowable signs s	-	ecording to IEC/EIN 00329			11 00
Normal allowable Normal allo					
Screw Scre	Operating position				\/antical mlan
Screw Scr					
Weight			allowable		
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 min V 24 Rated AC voltage at 50/60Hz, 60Hz min V 24 AC operating voltage min V 24 AC operating voltage min %Us 80 Us min Max %Us 110 Us max drop-out max %Us 80 Us min max %Us 110 Us max drop-out max %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 rerush VA 160230					
Mechanical life				g	3000
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 of 50/60Hz coil powered at 50Hz pick-up according to EN/ISO 13489-1 from v 24 max v 60 AC operating voltage of 50/60Hz coil powered at 50Hz pick-up according to EN/ISO 10 min max	_ .				1000
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1000000					
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1000000 yes				cycles	1000000
EMC compatibility Rated AC voltage at 50/60Hz, 60Hz Rated AC voltage at 50/60Hz, 60Hz Pick-up Pick-up Max Max Mus Mus Mus Mus Mus Mus Mus Mu					
EMC compatibility 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 80 Us min max %Us 110 Us max drop-out max %Us ≤70 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 570 Us min	Performance level B10d ac	cording to EN/ISO 13489-1			
Rated AC voltage at 50/60Hz, 60Hz min			rated load	cycles	1000000
Rated AC voltage at 50/60Hz, 60Hz min	EMC compatibility				yes
Min V 24 Max V 60 AC operating voltage	AC coil operating				
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 80 Us min max %Us ≤70 Us min max %Us ≤70 Us min of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us ≤70 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 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 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0	Rated AC voltage at 50/60F	łz, 60Hz			
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 max %Us ≤70 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 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0	_		min	V	24
of 50/60Hz coil powered at 50Hz pick-up min			max	V	60
of 50/60Hz coil powered at 50Hz pick-up min max %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 max %Us 80 Us min max %Us 80 Us min max %Us 110 Us max drop-out min max %Us 110 Us max drop-out max %Us ≤70 Us min max %Us 570 Us min max %Us 570 Us min in-rush 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	AC operating voltage	_			
Pick-up min %Us 80 Us min max %Us 110 Us max		50/60Hz coil powered at 50Hz			
Min Mus 80 Us min max Mus 110 Us max Mus Mu	0. 0	-			
drop-out max %Us 110 Us max max %Us ≤70 Us min		рюк ир	min	%l le	80 Hs min
drop-out max %Us ≤70 Us min					
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 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 holding VA 1.53.0		drop out	Παλ	/003	110 05 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		αιορ-οαι	may	0/ L Io	<70 He min
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 E	50/60Hz asil newared at 60Hz	IIIdX	/008	270 05 111111
min max %Us 110 Us max	OT 5	•			
max %Us 110 Us max 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		ріск-ир	·•	0/11-	00 1
AC average coil consumption at 20°C Of 50/60Hz coil powered at 50Hz in-rush VA 160230 holding VA 1.53.0					
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			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		drop-out		0.41.4	-70.1.
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		1,000	max	%Us	≤/U 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	•				
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 5	60/60Hz 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					
in-rush VA 160230 holding VA 1.53.0 of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0			holding	VA	1.53.0
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 5	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			in-rush	VA	160230
of 60Hz coil powered at 60Hz in-rush VA 160230 holding VA 1.53.0					
in-rush VA 160230 holding VA 1.53.0	of 6	60Hz coil powered at 60Hz	<u> </u>		
holding VA 1.53.0	01.0		in-rush	VA	160230
•					
	Dissipation at holding <20°C	Tiolaing	W	1.53.0	

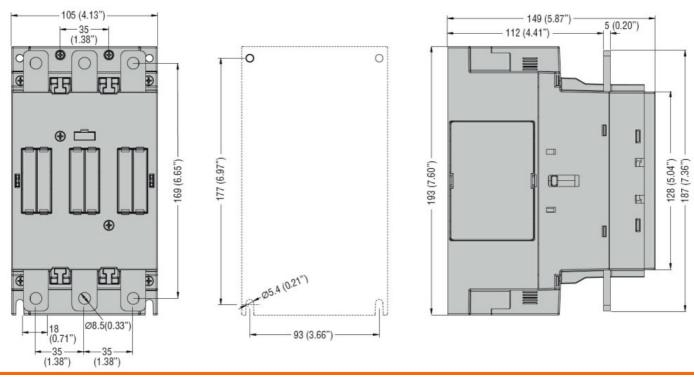


DC coil operating					
DC rated control voltag	е				
			min	V	20
DC an arethra a 1100			max	V	60
DC operating voltage	niak un				
	pick-up		min	%Us	85 Us min
			min max	%Us %Us	110 Us max
	drop-out		IIIdX	/005	1 TO US IIIAX
	arop out		max	%Us	≤70 Us min
Average coil consumpt	ion ≤20°C		max	,,,,,	
<u> </u>			in-rush	W	160230
			holding	W	1.53.0
Max cycles frequency					
Mechanical operation				cycles/h	1000
Operating times					
Average time for Us co					
	in AC	.			
		Closing NO			50
			min	ms	50
		Opening NO	max	ms	100
		Opening NO	min	me	30
			min max	ms ms	75
UL technical data			IIIdA	1113	, ,
Yielded mechanical per	rformance				
	for three-phase AC mo	otor			
	. ,		200/208V	HP	75
			220/230V	HP	75
			460/480V	HP	150
			575/600V	HP	200
General USE					
	Contactor			_	
01 1 1 1 1 1 1			AC current	Α	350
Short-circuit protection					
	High fault		Chart aireasit accordent	LΛ	100
			Short circuit current Fuse rating	kA A	100 400
			Fuse rating Fuse class	Α	J
	Standard fault		1 430 01433		
			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			0.0	5 0
			min	°C	-50
Max altitude			max	°C	80
Resistance & Protectio	n			m	3000
Pollution degree					3
- Junion degree					<u> </u>

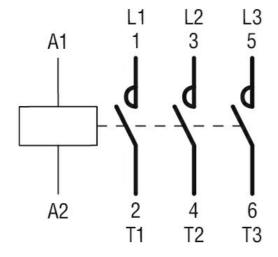
ENERGY AND AUTOMATION

3-POLIGES SCHÜTZ, IEC BETRIEBSSTROM LE (AC3) = 230A, AC/DC-SPULE, 24...60VAC - 20...60VDC

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