



Product designation Power contactor Product type designation BF80

Product type designation			BF80
Contact characteristics			
Number of poles		Nr.	4
Rated insulation voltage Ui IEC/EN		V	1000
Rated impulse withstand voltage Uimp		kV	8
Operational frequency			
2 t	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	115
Operational current le			
	AC-1 (≤40°C)	Α	115
	AC-1 (≤55°C)	Α	95
	AC-1 (≤70°C)	Α	80
	AC-3 (≤440V ≤55°C)	Α	80
	AC-4 (400V)	A	38
Rated operational current AC-3 (T≤55°C)	710 4 (4007)		
Nated operational current AO-0 (1300 O)	230V	Α	80
	400V	A	80
	400 V 415 V		80
		A	
	440V	A	80
	500V	A	78 57
	690V	A	57
Data dan anational narrows AC 4 (Tx40°C)	1000V	Α	28
Rated operational power AC-1 (T≤40°C)	0001/		40
	230V	kW	43
	400V	kW	76
	500V	kW	95
01 11 11 11 11 11 11 11 11 11 11 11 11 1	690V	kW	120
Short-time allowable current for 10s (IEC/EN60947-1)		Α	640
Protection fuse			
	gG (IEC)	Α	125
	aM (IEC)	A	80
Making capacity (RMS value)		Α	800
Breaking capacity at voltage			
	440V	Α	640
	500V	Α	625
	690V	Α	456
Resistance per pole (average value)		mΩ	0.6
Power dissipation per pole (average value)			
	Ith	W	7.9
	AC-3	W	3.8
Tightening torque for terminals			
	min	Nm	4
	max	Nm	5



Min					
Tightening torque for coil terminal			min	Ibin	2.95
Max number of wires simultaneously connectable Nit 0.8 max Nim 1 min Nim 0.8 max Nim 2 2 2 2 2 2 3 3 3 3			max	Ibin	3.69
Max number of wires simultaneously connectable Nr. 2	Tightening torque for	coil terminal			
Max number of wires simultaneously connectable Nit 2			min	Nm	0.8
Max number of wires simultaneously connectable Nr. 2			max	Nm	1
Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil max 2 Flexible w/o lug conductor section min mm² 1.5 Power terminal protection according to IEC/EN 60529 min mm² 1.5 Power terminal protection according to IEC/EN 60529 mm² 1.5 Mechanical features Operating position normal allowable vertical plan Fixing Screw / DIN rail 35mm Weight gerw / DIN rail 35mm Weight gerw / DIN rail 35mm Vertical plan Fixing AWG/kcmil conductor section max 2 Operations max 2 Mechanical life cycles 15000000 Electrical life cycles 15000000 Mirror contats acc			min	Ibin	0.8
AWG/Kcmil			max	lbin	0.74
AWG/Kcmil	Max number of wires	simultaneously connectable		Nr.	2
Flexible w/o lug conductor section min max max mm² 1.5 mmax mm² 1.5 mmax mm² 3.5 mm²		·			
Flexible w/o lug conductor section		AWG/Kcmil			
Flexible w/o lug conductor section			max		2
Plexible c/w lug conductor section		Flexible w/o lug conductor section			
Persible c/w lug conductor section		The second of th	min	mm²	1.5
Flexible c/w lug conductor section					
Main		Flexible c/w lug conductor section	THOX		
Power terminal protection according to IEC/EN 60529		Tickible of wind conductor accitor	min	mm²	1.5
Power terminal protection according to IEC/EN 60529					
Netro	Power terminal protoc	ction according to IEC/EN 60520	IIIax	111111	
Operating position Normal allowable Vertical plan 430° Fixing Screw / DIN rail 35mm Weight g 13429 Conductor section max g 13429 Conductor section max g 13429 Operations max cycles 15000000 Electrical life cycles 1500000 Electrical li		CHOIT ACCURATING TO TEC/EN 00329			IF ZU HUHL
Normal allowable Normal allo					
Fixing Screw / DIN rail and some with properties of 50/60Hz coil powered at 50Hz pick-up Fixing	Operating position		ا - ممسم مر		\/ortical plan
Screw / DIN rail 35mm Scre					
Name			allowable		
Weight Softmin	Fixing				
AWG/kcmil conductor section max	·				
AWG/kcmil conductor section max				g	13429
max 2 Operations Mechanical life cycles 15000000 Electrical life cycles 1300000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 1300000 cycles 15000000 Mirror contats according to IEC/EN 609474-4-1 yes YES EMC compatibility yes AC coll operating Rated AC voltage at 50/60Hz, 60Hz min voltage V 100 max AC operating voltage min voltage V 250 AC operating voltage min voltage 80 Us min max of 50/60Hz coil powered at 50Hz pick-up max vuls \$70 Us min of 50/60Hz coil powered at 60Hz pick-up min volts 80 Us min max wuls \$70 Us min	Conductor section				
Operations Mechanical life cycles 15000000 Electrical life cycles 1300000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 1300000 Mirror contats according to IEC/EN 609474-4-1 YES EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 100 max V 250 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 80 Us min max %Us 110 Us max		AWG/kcmil conductor section			
Mechanical life cycles 15000000 Electrical life cycles 1300000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 1300000 mechanical load cycles 15000000 Mirror contats according to IEC/EN 609474-4-1 yES YES EMC compatibility yes YES AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 100 max 100 max V 250 AC operating voltage 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 270 Us min < 70 Us min			max		2
Electrical life cycles 1300000 Safety related data Performance level B10d according to EN/ISO 13489-1 rated load cycles 1300000 mechanical load cycles 15000000 Mirror contats according to IEC/EN 609474-4-1 EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 100 max V 250 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 80 Us mi					
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1300000 mechanical load cycles 15000000				-	
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1300000 mechanical load cycles 15000000 Mirror contats according to IEC/EN 609474-4-1 EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min wax wus 110 Us max drop-out max wus 40 s 70 Us min max wus 80 Us min max wus 110 Us max 110 Us max 110 Us max				cycles	1300000
rated load cycles 1300000 mechanical load cycles 15000000 mechanical load cycles 150000000 mechanical load cycles 15000000 mechanical load cycles 150000000 mechanical load cycles 1500000000 mechanical load cycles 15000000000 mechanical load cycles 1500000000000 mechanical load cycles	Safety related data				
Mirror contats according to IEC/EN 609474-4-1 YES EMC compatibility yes AC coil operating min V 100 max V 250 AC operating voltage min V 250 AC operating voltage min WUs 80 Us min max WUs 110 Us max 4 drop-out min WUs 80 Us min max WUs 50/60Hz coil powered at 60Hz pick-up 4 drop-out min WUs 80 Us min max WUs 50/60Hz coil powered at 60Hz pick-up 4 min WUs 80 Us min max WUs 50/60Hz coil powered at 60Hz pick-up min WUs 80 Us min min with with with with with with with with	Performance level B1	10d according to EN/ISO 13489-1			
Mirror contats according to IEC/EN 609474-4-1 EMC compatibility AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 100 max V 250			rated load	cycles	1300000
EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 100 max V 250 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 ≤70 Us min min %Us 80 Us min min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us 110 Us max max %Us 110 Us max 110 Us max 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max of 50/60Hz coil powered min %Us 80 Us min max %Us 110 Us max %Us			mechanical load	cycles	15000000
AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 100 max V 250 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 of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us 110 Us max	Mirror contats accord	ing to IEC/EN 609474-4-1			YES
Rated AC voltage at 50/60Hz, 60Hz min V 100 max V 250	EMC compatibility				yes
Rated AC voltage at 50/60Hz, 60Hz min V 100 max V 250					
Min V 100 max V 250		50/60Hz, 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 of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us ≤70 Us min min %Us 80 Us min max %Us 110 Us max	9	•	min	V	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 of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us ≤70 Us min min %Us 80 Us min max %Us 110 Us max					
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	AC operating voltage			<u> </u>	
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	7 to operating vertage				
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		•			
max %Us 110 Us max		ριοκ-αρ	min	%l le	80 He min
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					
		dran aut	max	/0US	1 10 05 IIIdX
of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us 110 Us max		drop-out	ma:	0/110	<70 Ha min
pick-up min %Us 80 Us min max %Us 110 Us max		(50/0011	max	%US	≥/U US MIN
min %Us 80 Us min max %Us 110 Us max		·			
max %Us 110 Us max		pick-up			
drop-out			max	%Us	110 Us max
		drop-out			



			max	%Us	≤70 Us min
AC average coil consu	•				
	of 50/60Hz coil po	wered at 50Hz			
			in-rush	VA	35120
			holding	VA	1.53.7
	of 50/60Hz coil po	wered at 60Hz			
			in-rush	VA	35120
	.0000 =011		holding	VA	1.53.7
Dissipation at holding:	≤20°C 50Hz			W	12.5
DC coil operating					
DC rated control voltage	ge			17	400
			min	V V	100 250
DC operating voltage			max	V	250
DC operating voltage	pick-up				
	ріск-ир		min	%Us	80 Us min
			max	%Us %Us	110 Us max
	drop-out		IIIaX	/005	1 TO US IIIAX
	αιορ-οαι		max	%Us	≤70 Us min
Average coil consump	tion ≤20°C		IIIdX	/003	-, 0 00 111111
, wordgo oon oonsump			in-rush	W	2368
			holding	W	1.21,9
Max cycles frequency			- Iolaling	**	,0
Mechanical operation				cycles/h	1500
Operating times				0,0.00,	.000
Average time for Us co	ontrol				
J	in AC				
	-	Closing NO			
		Ğ	min	ms	12
			max	ms	28
		Opening NO			
		-	min	ms	8
			max	ms	
	in DC			1110	22
	in DC			1110	22
	III DC	Closing NO		1110	
	III DC	Closing NO	min	ms	40
	III DC				
	III DC	Closing NO Opening NO	min	ms	40 85
	III DC		min max min	ms ms	40 85 20
	III DC		min max	ms ms	40 85
UL technical data		Opening NO	min max min	ms ms	40 85 20
UL technical data Full-load current (FLA)		Opening NO	min max min max	ms ms ms	40 85 20 55
		Opening NO	min max min max at 480V	ms ms ms ms	40 85 20 55
Full-load current (FLA)	for three-phase AC	Opening NO	min max min max	ms ms ms	40 85 20 55
	for three-phase AC	Opening NO motor	min max min max at 480V	ms ms ms ms	40 85 20 55
Full-load current (FLA)	for three-phase AC	Opening NO motor	min max min max at 480V at 600V	ms ms ms ms	40 85 20 55 77 77
Full-load current (FLA)	for three-phase AC	Opening NO motor	min max min max at 480V at 600V	ms ms ms A A	40 85 20 55 77 77
Full-load current (FLA)	for three-phase AC	Opening NO motor	min max min max at 480V at 600V	ms ms ms ms	40 85 20 55 77 77 25 30
Full-load current (FLA)	for three-phase AC	Opening NO motor	min max min max at 480V at 600V 200/208V 220/230V 460/480V	ms ms ms ms HP HP	40 85 20 55 77 77 77 25 30 60
Full-load current (FLA) Yielded mechanical pe	for three-phase AC	Opening NO motor	min max min max at 480V at 600V	ms ms ms ms	40 85 20 55 77 77 25 30
Full-load current (FLA)	o for three-phase AC erformance for three-phase AC	Opening NO motor	min max min max at 480V at 600V 200/208V 220/230V 460/480V	ms ms ms ms HP HP	40 85 20 55 77 77 77 25 30 60
Full-load current (FLA) Yielded mechanical pe	for three-phase AC	Opening NO motor	min max min max at 480V at 600V 200/208V 220/230V 460/480V 575/600V	ms ms ms ms	40 85 20 55 77 77 77 25 30 60 75
Full-load current (FLA) Yielded mechanical pe	o for three-phase AC erformance for three-phase AC	Opening NO motor	min max min max at 480V at 600V 200/208V 220/230V 460/480V	ms ms ms ms HP HP	40 85 20 55 77 77 77 25 30 60

BF80T2E230



Temperature

Operating temperature

	min	°C	-40	
	max	°C	70	
Storage temperature				
	min	°C	-50	
	max	°C	80	
		m	3000	

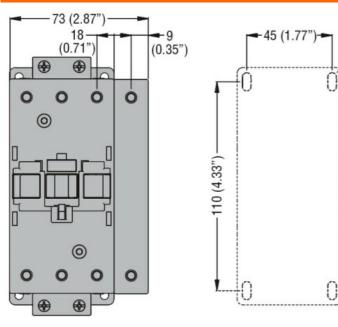
Resistance & Protection

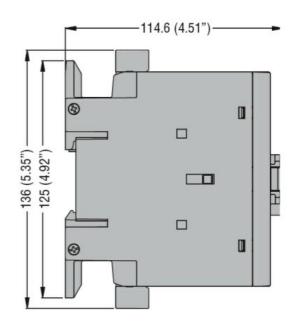
Pollution degree

3

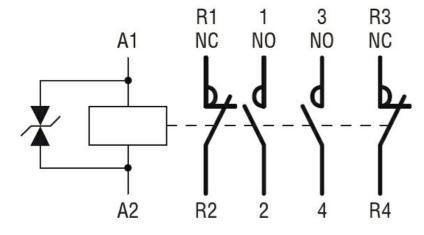
Dimensions

Max altitude





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



BF80T2E230

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 115A, AC/DC COIL, 230VAC/DC, 2NO AND 2NC

CCC
cULus

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching