



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			
	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)	Α	38
Rated operational current AC-3 (T≤55°C)			
	230V	Α	80
	400V	Α	80
	415V	Α	80
	440V	Α	80
	500V	Α	78
	690V	Α	57
	1000V	Α	28
Rated operational power AC-1 (T≤40°C)			
	230V	kW	43
	400V	kW	76
	500V	kW	95
	690V	kW	120
Short-time allowable current for 10s (IEC/EN60947-1)		Α	640
Protection fuse			
	gG (IEC)	Α	125
	aM (IEC)	Α	80
Making capacity (RMS value)	, ,	Α	800
Breaking capacity at voltage			
3 1 7 3	440V	Α	640
	500V	Α	625
	690V	Α	456
Resistance per pole (average value)		mΩ	0.6
Power dissipation per pole (average value)			
and a series for the forest fo	Ith	W	7.9
	AC-3	W	3.8
Tightening torque for terminals	,,,,,,		
gs.mg torquo for torrinidio	min	Nm	4
	max	Nm	5
	HUX	. 4111	-



Min						
Tightening torque for coil terminal			min	Ibin	2.95	
Max number of wires simultaneously connectable Nit 1			max	Ibin	3.69	
Max number of wires simultaneously connectable Max number of wires wires number of wires number of wires number of simultaneously number of simultaneo	Tightening torque for	coil terminal				
Max number of wires simultaneously connectable Nr. 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 mmx 1.5 Power terminal protection according to IEC/EN 60529 min mm² 1.5 Power terminal protection according to IEC/EN 60529 mover terminal protection according to IEC/EN 6042/kcmil conductor section mover terminal protection according to IEC/EN 60040 according to IEC/EN 60040000 max 2 Coperations Mechanical life cycles 15000000 Electorical life cycles 15000000 Mirror contats according to IEC/EN 609474-4-1 rated load cycles 1300000 Mi			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 min max mm² 1.5 max mm² 35 mm²		AWG/Kcmil				
Flexible w/o lug conductor section min max mm² 1.5 max mm² 35			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	THOM:			
Power terminal protection according to IEC/EN 60529		rickible of wing conductor accitor	min	mm²	1.5	
Power terminal protection according to IEC/EN 60529						
Netron Normal N	Power terminal protoc	ction according to IEC/EN 60520	IIIdX	111111		
Operating position Normal allowable Vertical plan 430° Fixing Screw / DIN rail 35mm Weight g 1360 Conductor section max g 1360 Conductor section max cycles 15000000 Electrical life cycles 1500000 Electrical life cycles 1500000 Electrical life cycles 1500000 Electrical life cycles 1500000 Electrical life cycles 1500000 <th colspa<="" td=""><td></td><td>CHOIT ACCURATING TO TEC/EN 00329</td><td></td><td></td><td>IF ZU HUHL</td></th>	<td></td> <td>CHOIT ACCURATING TO TEC/EN 00329</td> <td></td> <td></td> <td>IF ZU HUHL</td>		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 - مستم		\/ortical plan	
Screw / DIN rail 35mm Scre						
Name			allowable			
Weight Similar	Fixing					
AWG/kcmil conductor section max 2 2 2 2 2 2 2 2 2	- <u></u>					
AWG/kcmil conductor section max				g	1360	
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 20 max AC operating voltage min voltage V 48 AC operating voltage min voltage S5 Us min max of 50/60Hz coil powered at 50Hz pick-up min voltage \$70 Us min of 50/60Hz coil powered at 60Hz pick-up min voltage \$85 Us min min min voltage min voltage \$85 Us min max voltage voltage \$110 Us max	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 20 max AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 85 Us min max drop-out max %Us < 70 Us min		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 20 max 20 max V 48 AC operating voltage AC operating voltage min %Us 85 Us min max %Us 110 Us max drop-out max %Us 270 Us min of 50/60Hz coil powered at 60Hz pick-up min %Us 85 Us min max min %Us 85 Us min min max min min %Us 85 Us min min max min min %Us 85 Us min min max 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 of 50/60Hz coil powered at 50Hz pick-up min %Us 85 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 85 Us min max %Us ≤70 Us min of 50/60Hz coil powered at 60Hz pick-up						
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1300000 mechanical load cycles 15000000 mechanical load cycles 150000000 mechanical load cycles 15000000 mechanical load cycles 150000000 mechanical load				-		
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 20 max V 48 AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min wus 85 Us min max wus 470 Us min of 50/60Hz coil powered at 60Hz pick-up min wus 85 Us min max wus 470 Us min of 50/60Hz coil powered at 60Hz pick-up min wus 85 Us min max wus 85 Us min min wus				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 1500000000000000 mechanical load cycles	Safety related data					
Mirror contats according to IEC/EN 609474-4-1 YES EMC compatibility yes AC coil operating min V 20 max V 48 AC operating voltage min V 50 6 50/60Hz coil powered at 50Hz min V 50 6 50/60Hz coil powered at 60Hz min V 50 9 50/60Hz coil powered at 60Hz min V 50 9 50/60Hz coil powered at 60Hz min V 50 9 50/60Hz coil powered at 60Hz min V 50 9 50/60Hz coil powered at 60Hz min V 50 9 50/60Hz coil powered at 60Hz min V 50 9 50/60Hz coil powered at 60Hz min V 50 9 50/60Hz min V 50 10 0 s max min V 50 110 0 s max	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 20 max V 48 AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 85 Us min max %Us 110 Us max of 50/60Hz coil powered at 60Hz pick-up min %Us ≤70 Us min min %Us 85 Us min max %Us 110 Us max of 50/60Hz coil powered at 60Hz pick-up min %Us 85 Us min max %Us 110 Us max min %Us 85 Us min max %Us 110 Us max min %Us 85 Us min max %Us 110 Us max min %Us 85 Us min max %Us 110 Us max min %Us 85 Us min max %Us 110 Us max min %Us 85 Us min max %Us 110 Us max min %Us 85 Us min max %Us 110 Us max m			rated load	cycles	1300000	
EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 20 max V 48 AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 85 Us min max %Us 110 Us max of 50/60Hz coil powered at 60Hz pick-up min %Us ≤70 Us min max %Us 85 Us min max %Us ≤70 Us min max %Us 85 Us			mechanical load	cycles	15000000	
AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 20 max V 48 AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 85 Us min max %Us 110 Us max of 50/60Hz coil powered at 60Hz pick-up min %Us 85 Us min max %Us ≤70 Us min min %Us 85 Us min max %Us 110 Us max max %Us	Mirror contats accord	ing to IEC/EN 609474-4-1			YES	
Rated AC voltage at 50/60Hz, 60Hz min	EMC compatibility				yes	
Rated AC voltage at 50/60Hz, 60Hz min						
Min V 20 max V 48		50/60Hz, 60Hz				
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 85 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 85 Us min max %Us ≤10 Us min max %Us 110 Us max	9	•	min	V	20	
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 85 Us min max %Us 110 Us max drop-out of 50/60Hz coil powered at 60Hz pick-up min %Us 85 Us min max %Us ≤70 Us min min %Us 85 Us min max %Us 110 Us max						
of 50/60Hz coil powered at 50Hz pick-up min %Us 85 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 85 Us min max %Us 110 Us max	AC operating voltage			<u> </u>	-	
pick-up min %Us 85 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 85 Us min max %Us 110 Us max	7 to operating vertage					
min %Us 85 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 85 Us min max %Us 110 Us max		•				
max %Us 110 Us max		pick-up	min	%l le	85 He min	
drop-out max %Us ≤70 Us min of 50/60Hz coil powered at 60Hz pick-up min %Us 85 Us min max %Us 110 Us max						
		dran aut	max	/005	i IU US IIIdX	
of 50/60Hz coil powered at 60Hz pick-up min %Us 85 Us min max %Us 110 Us max		drop-out	200	0/110	<70 Ha min	
pick-up min %Us 85 Us min max %Us 110 Us max		- # FO/0011 "	max	%US	≥/U US MIN	
min %Us 85 Us min max %Us 110 Us max		·				
max %Us 110 Us max		pick-up		0411	0511	
drop-out			max	%Us	110 Us max	
		drop-out				



		max	%Us	≤70 Us min
AC average coil consumpt				
of	50/60Hz coil powered at 50Hz			
		in-rush	VA	35120
		holding	VA	1.53.7
of	50/60Hz coil powered at 60Hz			/
		in-rush	VA	35120
D: : :: : : : : : : : : : : : : : : : :	0.501	holding	VA	1.53.7
Dissipation at holding ≤20°	C 50Hz		W	12.5
DC coil operating				
DC rated control voltage				00
		min	V	20
DC on a voting voltage		max	V	48
DC operating voltage	ale un			
pic	ck-up	min	%Us	80 Us min
		min max	%Us %Us	110 Us min
dr	op-out	шах	/oUS	1 10 05 IIIaX
uit	ορ-ουι 	max	%Us	≤70 Us min
Average coil consumption	<20°C	IIIaX	/003	=1 0 03 Hill
Average con consumption	-20 0	in-rush	W	2368
		holding	W	1.21,9
Max cycles frequency		Holding	VV	1.21,0
Mechanical operation			cycles/h	1500
Operating times			0 y 0 10 0 / 11	1000
Average time for Us contro				
	AC			
	Closing NO			
		min	ms	12
		min max	ms ms	12 28
	Opening NO			
	Opening NO			28
	Opening NO	max	ms	
in	Opening NO	max min	ms ms	28
in		max min	ms ms	28
in	DC	max min	ms ms	28
in	DC	max min max	ms ms ms	28 8 22
in	DC	max min max min	ms ms ms	28 8 22 40
in	DC Closing NO	max min max min	ms ms ms	28 8 22 40 85 20
	DC Closing NO	max min max min max	ms ms ms	28 8 22 40 85
UL technical data	DC Closing NO Opening NO	max min max min max min max	ms ms ms	28 8 22 40 85 20
	DC Closing NO Opening NO	max min max min max min max	ms ms ms ms ms	28 8 22 40 85 20 55
UL technical data	DC Closing NO Opening NO	max min max min max min max at 480V	ms ms ms ms ms ms	28 8 22 40 85 20 55
UL technical data Full-load current (FLA) for	DC Closing NO Opening NO three-phase AC motor	max min max min max min max	ms ms ms ms ms	28 8 22 40 85 20 55
UL technical data Full-load current (FLA) for Yielded mechanical perform	DC Closing NO Opening NO three-phase AC motor mance	max min max min max min max at 480V	ms ms ms ms ms ms	28 8 22 40 85 20 55
UL technical data Full-load current (FLA) for Yielded mechanical perform	DC Closing NO Opening NO three-phase AC motor	max min max min max min max at 480V at 600V	ms ms ms ms ms ms	28 8 22 40 85 20 55
UL technical data Full-load current (FLA) for Yielded mechanical perform	DC Closing NO Opening NO three-phase AC motor mance	max min max min max min max at 480V at 600V	ms ms ms ms ms ms	28 8 22 40 85 20 55 77 77
UL technical data Full-load current (FLA) for Yielded mechanical perform	DC Closing NO Opening NO three-phase AC motor mance	max min max min max min max at 480V at 600V 200/208V 220/230V	ms ms ms ms ms A A	28 8 22 40 85 20 55 77 77 25 30
UL technical data Full-load current (FLA) for Yielded mechanical perform	DC Closing NO Opening NO three-phase AC motor mance	max min max min max min max at 480V at 600V 200/208V 220/230V 460/480V	ms ms ms ms ms ms hs	28 8 22 40 85 20 55 77 77 77 25 30 60
UL technical data Full-load current (FLA) for Yielded mechanical perform for	DC Closing NO Opening NO three-phase AC motor mance	max min max min max min max at 480V at 600V 200/208V 220/230V	ms ms ms ms ms A A	28 8 22 40 85 20 55 77 77 25 30
UL technical data Full-load current (FLA) for Yielded mechanical perform for	Closing NO Opening NO three-phase AC motor mance three-phase AC motor	max min max min max min max at 480V at 600V 200/208V 220/230V 460/480V	ms ms ms ms ms ms hs	28 8 22 40 85 20 55 77 77 77 25 30 60
UL technical data Full-load current (FLA) for Yielded mechanical perform for	DC Closing NO Opening NO three-phase AC motor mance	max min max min max min max at 480V at 600V 200/208V 220/230V 460/480V 575/600V	ms ms ms ms ms ms HP HP HP	28 8 22 40 85 20 55 77 77 77 25 30 60 75
UL technical data Full-load current (FLA) for Yielded mechanical perform for	Closing NO Opening NO three-phase AC motor mance three-phase AC motor	max min max min max min max at 480V at 600V 200/208V 220/230V 460/480V	ms ms ms ms ms ms hs	28 8 22 40 85 20 55 77 77 77 25 30 60



Temperature

Operating temperature

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

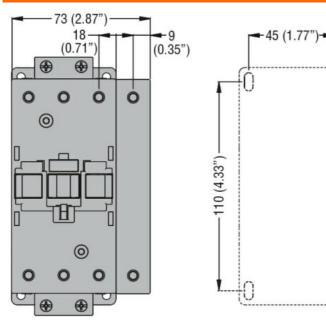
Resistance & Protection

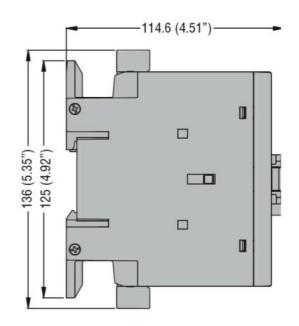
Pollution degree

3

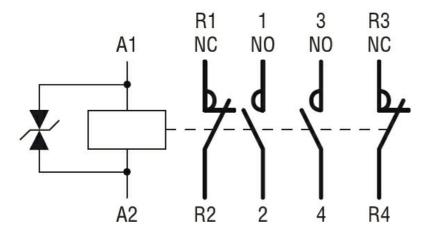
Dimensions

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



BF80T2E024

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 115A, AC/DC COIL, 24VAC/DC, 2NO AND 2NC

CCC
cULus

ETIM classification

ETIM 8.0

EC000066 -Power contactor, AC switching