



## FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 60HZ, 48VAC, 2NO AND 2NC



Product designation Power contactor Product type designation **BF38** Contact characteristics Nr. 4 Number of poles Rated insulation voltage Ui IEC/EN ٧ 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency Н 25 min Hz 400 max IEC Conventional free air thermal current Ith 56 Α Operational current le AC-1 (≤40°C) Α 56 AC-1 (≤40°C) with 16mm² wire and fork end lugA 60 AC-1 (≤55°C) 45 AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) 40 AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-3 (≤440V ≤55°C) Α 38 AC-4 (400V) 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 Short-time allowable current for 10s (IEC/EN60947-1) Α 320 Protection fuse gG (IEC) 63 Α aM (IEC) Α 40 Making capacity (RMS value) 380 Breaking capacity at voltage 440V Α 304 500V Α 240 690V Α 192 Resistance per pole (average value)  $m\Omega$ 2 Power dissipation per pole (average value) W lth 6 AC-3 W 2.9 Tightening torque for terminals 2.5 Nm min Nm max 3 min Ibin 1.8 2.2 max Ibin Tightening torque for coil terminal min Nm 0.8 max Nm 1





#### FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 60HZ, 48VAC, 2NO AND 2NC

Max number of wires simultaneously connectable   Nr.   2					
Max number of wires simultaneously connectable         Nr.         2           Conductor section         AWG/Kcmil         max         6           Flexible w/o lug conductor section         min         mmr²         2.5           Flexible c/w lug conductor section         min         mmr²         16           Flexible with insulated spade lug conductor section         min         mmr²         1           Flexible with insulated spade lug conductor section         min         mmr²         1           Power terminal protection according to IEC/EN 60529         min         mmr²         1           Power terminal protection according to IEC/EN 60529         vertical plan         100         P20 when properly wired           Power terminal position         normal         100         Pertical plan         100         P20 when properly wired         100         <			min	lbin Ibin	0.8
Conductor section         max         6           Flexible w/o lug conductor section         min min max         mm² 2 2.5           Flexible c/w lug conductor section         min max         mm² 2 1           Flexible with insulated spade lug conductor section         min min mm² 2 1         10           Power terminal protection according to IEC/EN 60529         min min min mm² 2 1         100           Power terminal protection according to IEC/EN 60529         normal min	Max number of wires s	simultaneously connectable	шах		
AWG/Kcmil   Flexible w/o lug conductor section   Flexible w/o lug conductor section   Flexible w/o lug conductor section   Flexible c/w lug conductor section   max   mm²   16   16   16   16   16   16   16   1		simulatiously connectable		141.	
Flexible w/o lug conductor section		AWG/Kcmil			
Flexible c/w lug conductor section			max		6
Flexible c/w lug conductor section		Flexible w/o lug conductor section			
Flexible c/w lug conductor section			min		
Previous			max	mm²	16
Prize   Pri		Flexible c/w lug conductor section		· · ?	4
Flexible with insulated spade lug conductor section   min   mm²   1   1   1   1   1   1   1   1   1					
min max         min max         mm² mm²         1 mm²         2 mm²		Flexible with insulated spade lug conductor section	пах	111111	10
Max		Tionible with inculated opade tag contactor decitor	min	mm²	1
Property wired   Pro			max		10
Mechanical features         Property wired           Operating position         normal allowable         ±30°           Fixing         g 514           Conductor section         max         6           AWG/kcmil conductor section         max         6           Operations         max         6           Mechanical life         cycles         20000000           Electrical life         cycles         1400000           Safety related data         rated load         cycles         1400000           Performance level B 10d according to EN/ISO 13489-1         rated load         cycles         1400000           Mirror contats according to IEC/EN 609474-4-1         yes         20000000           Mirror contats according to IEC/EN 609474-4-1         yes         3           EMC compatibility         yes         3           AC operating         yes         4           AC operating voltage         min         %Us         8           AC operating voltage         min         %Us         80           AC operating voltage         min         %Us         20           AC average coil consumption at 20°C         in-rush         %Us         5           AC average coil consumption at 20°C	Power terminal protec	tion according to IEC/EN 60520			IP20 when
Operating position         normal allowable         Vertical plan 430°           Fixing         Screw / DIN rai 35mm           Weight         g 514           Conductor section         max         6           Operations           Mechanical life         cycles         20000000           Electrical life         cycles         1400000           Safety related data           Performance level B10d according to EN/ISO 13489-1         rated load rechanical load cycles         1400000 rechanical load recording to IEC/EN 609474-4-1         YES           EMC compatibility         yes         AC 2000000000000000000000000000000000000		tion according to IEO/EN 00323			properly wired
Normal allowable   Screw / DIN rai allowable   Screw /					
Second	Operating position	_	ormal		Vartical plan
Fixing         Screw / DIN raid 35mm           Weight         g         514           Conductor section         max         6           AWG/kcmil conductor section           max         6           Operations           Mechanical life         cycles         20000000           Electrical life         cycles         1400000           Safety related data           Performance level B10d according to EN/ISO 13489-1         rated load mechanical load cycles         1400000           Mirror contats according to IEC/EN 609474-4-1         yES         Security           EMC compatibility         yES         Security           AC coll operating           Rated AC voltage at 60Hz         V         48           AC operating voltage         max         %Us         80           AC operating voltage         max         %Us         80           Max         %Us         110           drop-out         min         %Us         80           max         %Us         55           AC average coil consumption at 20°C         for folhz coil powered at 60Hz         in-rush         VA         75 <t< td=""><td></td><td>•</td><td></td><td></td><td></td></t<>		•			
#####################################		allo	wabie		
Conductor section  AWG/kcmil conductor section  max 6  Operations  Mechanical life cycles 20000000  Electrical life cycles 1400000  Safety related data  Performance level B10d according to EN/ISO 13489-1  rated load cycles 1400000  mechanical load cycles 200000000  mechanical load cycles 200000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility  AC coil operating  Rated AC voltage at 60Hz  pick-up  min %Us 80  max %Us 110  drop-out  min %Us 80  max %Us 110  drop-out  min %Us 20  max %Us 155  AC average coil consumption at 20°C  of 60Hz coil powered at 60Hz  in-rush voltage in-rush	Fixing				
AWG/kcmil conductor section    max	Weight			g	514
max         6           Operations         Cycles         20000000           Mechanical life         cycles         20000000           Safety related data         cycles         1400000           Performance level B10d according to EN/ISO 13489-1         rated load mechanical load cycles         1400000 cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         yES         20000000           EMC compatibility         y         48           AC coil operating         V         48           AC operating voltage         min         %Us         80           AC operating voltage         min         %Us         80           Max         %Us         110           drop-out         min         %Us         20           MC average coil consumption at 20°C         of 60Hz coil powered at 60Hz         in-rush holding %Us         75           AC average coil consumption at 20°C         in-rush holding %Us         75         holding         VA         75           AD Dissipation at holding <20°C 50Hz         Wa         25         Mechanical operation         cycles/h         6600	Conductor section				
Operations         Cycles         20000000           Electrical life         cycles         1400000           Safety related data           Tated load mechanical load cycles         1400000 cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         Tated load mechanical load cycles         1400000 cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         YES           EMC compatibility         YES           AC operating         V         48           AC operating voltage         min min max		AWG/kcmil conductor section			
Mechanical life         cycles         20000000           Electrical life         cycles         1400000           Safety related data           rated load performance level B10d according to EN/ISO 13489-1         rated load performance level B10d according to EN/ISO 13489-1         rated load performance levels         1400000 performance levels         2000000000         200000000         200000000         200000000         200000000         200000000         200000000         200000000         200000000         2000000000         2000000000         2000000000         2			max		6
Electrical life cycles 1400000  Safety related data  Performance level B10d according to EN/ISO 13489-1  rated load cycles 1400000  mechanical load cycles 200000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility yes  AC coil operating  Rated AC voltage at 60Hz  AC operating voltage  of 60Hz coil powered at 60Hz  pick-up  min %Us 80  max %Us 110  drop-out  min %Us 20  max %Us 55  AC average coil consumption at 20°C  of 60Hz coil powered at 60Hz  in-rush VA 75  holding VA 9  Dissipation at holding ≤20°C 50Hz  Mechanical operation  Cycles/h 3600	<u> </u>				2222222
Safety related data         Performance level B10d according to EN/ISO 13489-1       rated load mechanical load cycles       1400000 2000000         Mirror contats according to IEC/EN 609474-4-1       YES         EMC compatibility       yes         AC coil operating       V48         Rated AC voltage at 60Hz       V48         AC operating voltage       min win will will will will will will wil					
Performance level B10d according to EN/ISO 13489-1  rated load cycles 1400000 mechanical load cycles 20000000  Mirror contats according to IEC/EN 609474-4-1  EMC compatibility yes  AC coil operating  Rated AC voltage at 60Hz  AC operating voltage  of 60Hz coil powered at 60Hz  pick-up  min %Us 80  max %Us 110  drop-out  min %Us 20  max %Us 55  AC average coil consumption at 20°C  of 60Hz coil powered at 60Hz  in-rush VA 75  holding VA 9  Dissipation at holding ≤20°C 50Hz  Mechanical operation  cycles/h 3600				cycles	1400000
rated load   cycles   1400000   mechanical load   cycles   20000000     Mirror contats according to IEC/EN 609474-4-1   YES     EMC compatibility   yes     AC coil operating     Rated AC voltage at 60Hz   V 48     AC operating voltage	•	Od according to EN/ISO 13489-1			
Mirror contats according to IEC/EN 609474-4-1         wechanical load         cycles         20000000           Mirror contats according to IEC/EN 609474-4-1         YES           EMC compatibility         yes           AC coil operating         V48           Rated AC voltage at 60Hz         V48           AC operating voltage         min         %Us         80           pick-up         min         %Us         110           drop-out         min         %Us         20           max         %Us         55           AC average coil consumption at 20°C         in-rush         %U         55           AC average coil consumption at 20°C of 60Hz coil powered at 60Hz         in-rush         VA         75           holding         VA         9           Dissipation at holding ≤20°C 50Hz         W         2.5           Max cycles frequency           Mechanical operation         cycles/h         3600	T offormation lover B1		load	cvcles	1400000
Mirror contats according to IEC/EN 609474-4-1  EMC compatibility  AC coil operating  Rated AC voltage at 60Hz  AC operating voltage  of 60Hz coil powered at 60Hz  pick-up  min %Us 80  max %Us 110  drop-out  min %Us 20  max %Us 55  AC average coil consumption at 20°C  of 60Hz coil powered at 60Hz  in-rush VA 75  holding VA 9  Dissipation at holding ≤20°C 50Hz  Mechanical operation  yes  AS average voltage  in-rush VA 75  holding VA 9  Dissipation at holding ≤20°C 50Hz  Mechanical operation  yes  AS average voltage voltage value				•	
AC coil operating  Rated AC voltage at 60Hz  AC operating voltage  of 60Hz coil powered at 60Hz  pick-up  min %Us 80  max %Us 110  drop-out  min %Us 20  max %Us 55  AC average coil consumption at 20°C  of 60Hz coil powered at 60Hz  in-rush VA 75  holding VA 9  Dissipation at holding ≤20°C 50Hz  Max cycles frequency  Mechanical operation  v 48  V 48  A 75  holding %Us 80  max %Us 55  AC average coil consumption at 20°C  of 60Hz coil powered at 60Hz  in-rush VA 75  holding VA 9  Z.5	Mirror contats accordi	ng to IEC/EN 609474-4-1			YES
Rated AC voltage at 60Hz         AC operating voltage       0f 60Hz coil powered at 60Hz         pick-up       min %Us 80         max %Us 1110         drop-out       min %Us 20         max %Us 55         AC average coil consumption at 20°C       in-rush VA 75         of 60Hz coil powered at 60Hz       in-rush VA 9         Dissipation at holding ≤20°C 50Hz       W 2.5         Max cycles frequency         Mechanical operation       cycles/h 3600	EMC compatibility				yes
AC operating voltage  of 60Hz coil powered at 60Hz pick-up  min %Us 80 max %Us 110  drop-out  min %Us 20 max %Us 55  AC average coil consumption at 20°C of 60Hz coil powered at 60Hz  in-rush VA 75 holding VA 9  Dissipation at holding ≤20°C 50Hz  Max cycles frequency  Mechanical operation  cycles/h 3600	AC coil operating				
of 60Hz coil powered at 60Hz pick-up  min %Us 80 max %Us 110  drop-out  min %Us 20 max %Us 55  AC average coil consumption at 20°C of 60Hz coil powered at 60Hz  in-rush VA 75 holding VA 9  Dissipation at holding ≤20°C 50Hz  W 2.5  Max cycles frequency  Mechanical operation  cycles/h 3600		0Hz		V	48
pick-up  min %Us 80 max %Us 110  drop-out  min %Us 20 max %Us 55  AC average coil consumption at 20°C of 60Hz coil powered at 60Hz  in-rush VA 75 holding VA 9  Dissipation at holding ≤20°C 50Hz  Max cycles frequency  Mechanical operation  cycles/h 3600	AC operating voltage	(001)			
min %Us 80 max %Us 110         drop-out         min min %Us 20 max %Us 55         AC average coil consumption at 20°C of 60Hz coil powered at 60Hz       in-rush VA 75 holding VA 9         Dissipation at holding ≤20°C 50Hz       W 2.5         Max cycles frequency       W 2.5         Mechanical operation       cycles/h 3600		•			
drop-out    max   %Us   110     min   %Us   20     max   %Us   55     AC average coil consumption at 20°C     of 60Hz coil powered at 60Hz     in-rush   VA   75     holding   VA   9     Dissipation at holding ≤20°C 50Hz   W   2.5     Max cycles frequency     Mechanical operation   cycles/h   3600		ріск-ир	min	%l le	80
drop-out         min       %Us       20         max       %Us       55         AC average coil consumption at 20°C       of 60Hz coil powered at 60Hz       in-rush       VA       75         holding       VA       9         Dissipation at holding ≤20°C 50Hz       W       2.5         Max cycles frequency         Mechanical operation       cycles/h       3600					
min %Us 20 max %Us 55  AC average coil consumption at 20°C of 60Hz coil powered at 60Hz  in-rush VA 75 holding VA 9  Dissipation at holding ≤20°C 50Hz  Max cycles frequency  Mechanical operation  cycles/h 3600		drop-out	mux	7003	
max %Us 55  AC average coil consumption at 20°C     of 60Hz coil powered at 60Hz		1	min	%Us	20
of 60Hz coil powered at 60Hz  in-rush VA 75 holding VA 9  Dissipation at holding ≤20°C 50Hz  Max cycles frequency  Mechanical operation  cycles/h 3600			max		55
in-rush bolding         VA value         75 bolding         VA value         9           Dissipation at holding ≤20°C 50Hz         W value         2.5           Max cycles frequency         Cycles/h value         3600	AC average coil consu	umption at 20°C			
holdingVA9Dissipation at holding ≤20°C 50HzW2.5Max cycles frequencycycles/h3600		·			
Dissipation at holding ≤20°C 50Hz W 2.5  Max cycles frequency  Mechanical operation cycles/h 3600					
Max cycles frequency Mechanical operation cycles/h 3600	District Co. C. L.		olding		
Mechanical operation cycles/h 3600		≤20°C 50HZ		VV	2.5
				cycles/b	3600
Operating times	Operating times			Cycles/11	3000



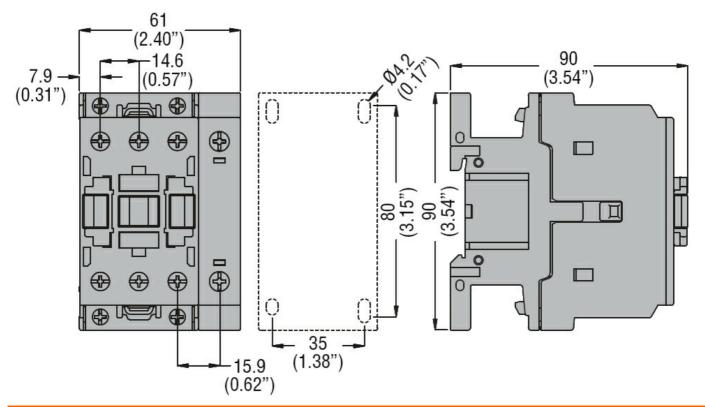


FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 60HZ, 48VAC, 2NO AND 2NC

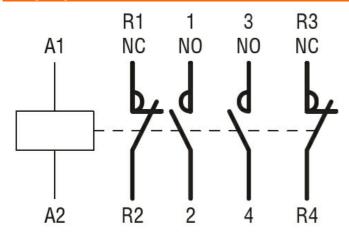
Average time for Us co	ontrol			
	in AC			
	Closing NO			
		min	ms	8
		max	ms	24
	Opening NO			_
		min	ms	5
		max	ms	15
	Closing NC	•.		44
		min	ms	11
	Opening NC	max	ms	29
	Opening NC	min	mo	6
			ms	6
UL technical data		max	ms	14
	for three-phase AC motor			
i dii-load current (i LA)	Tol tillee-pliase AC motor	at 480V	Α	40
		at 600V	A	32
Yielded mechanical pe	arformance	at 000 v		32
rielded medianical pe	for single-phase AC motor			
	ioi single-phase Ao motor	110/120V	HP	3
		230V	HP	7.5
	for three-phase AC motor	2001	• • • •	7.0
	Tot till co prideo / to motor	200/208V	HP	10
		220/230V	HP	15
		460/480V	HP	30
		575/600V	HP	30
General USE				
	Contactor			
		AC current	Α	55
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-50
		max	°C	70
	Storage temperature			
		min	°C	-60
		max	°C	80
Max altitude			m	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions				

**ENERGY AND AUTOMATION** 

# FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 60HZ, 48VAC, 2NO AND 2NC



#### 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

CCC

cULus

EAC

#### ETIM classification

**ETIM 8.0** 

EC000066 -Power contactor, AC switching