

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 50/60HZ, 24VAC, 2NO AND 2NC



Product designation Product type designation			Power contactor BF38
Contact characteristics			DI 00
Number of poles		Nr.	4
Rated insulation voltage Ui IEC/EN		V	690
Rated impulse withstand voltage Uimp		kV	6
Operational frequency			
, ,	min	Hz	25
	max	Hz	400
IEC Conventional free air thermal current Ith		Α	56
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)	Α	45
	AC-1 (≤55°C) with 16mm² wire and fork end	lugA	48
	AC-1 (≤70°C)	A	40
	AC-1 (≤70°C) with 16mm² wire and fork end		42
	AC-3 (≤440V ≤55°C)	A	38
	AC-4 (400V)	Α	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/EN6		Α	320
Protection fuse	,		
	gG (IEC)	Α	63
	aM (IEC)	Α	40
Making capacity (RMS value)	,	Α	380
Breaking capacity at voltage			
3 1 7 3	440V	Α	304
	500V	Α	240
	690V	Α	192
Resistance per pole (average value)		mΩ	2
Power dissipation per pole (average value)			
, , ,	Ith	W	6
	AC-3	W	2.9
Tightening torque for terminals			
	min	Nm	2.5
	max	Nm	3
	min	lbin	1.8
	max	lbin	2.2
Tightening torque for coil terminal	ax		
3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	min	Nm	0.8
	max	Nm	1
	max	. 4111	•



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Max number of wires simultaneously connectable		min	lhin	0.8
Max number of wires simultaneously connectable Nr. 2 Conductor section max 6 Flexible w/o lug conductor section min mm² 2.5 Flexible c/w lug conductor section min mm² 1.6 Flexible with insulated spade lug conductor section min mm² 1.0 Power terminal protection according to IEC/EN 60529 IP20 when property wired Mechanical features Vertical plan ±30° 25° Operating position mormal allowable ±30° Fixing Screw / DIN ra 35mm Weight Screw / DIN ra 35mm Conductor section max 6 Weight Screw / DIN ra 35mm Conductor section max 6 Weight Screw / DIN ra 35mm Conductor section max 6 Operations max 6 Weight get section 20000000 Electrical life cycles 20000000 Safety related data cycles 1400000		min max	lbin Ibin	
AWG/Kcmil	Max number of wires s			
Flexible w/o lug conductor section		minaneous, comissions		
Flexible w/o lug conductor section		AWG/Kcmil		
Pickible civil lug conductor section		max		6
Flexible c/w lug conductor section		Flexible w/o lug conductor section		
Flexible c/w lug conductor section		min		
Plexible with insulated spade lug conductor section			mm²	16
Personance level B10d according to EN/ISO 13489-1 Performance level B10d accordin		_	2	4
Flexible with insulated spade lug conductor section min mmx mm² 10 max mm² max ma				
Minimax mini			111111	10
Max			mm²	1
Property wired Mechanical features Mechanical features Normal allowable \$\frac{1}{2}30^{\circ}\$ \$\frac				
Mechanical features	Dower terminal protect	tion apparding to IEC/EN 60520		IP20 when
Normal allowable Normal Samm		tion according to IEC/EN 60329		properly wired
Normal allowable Some Some Some DIN rate DIN				
Fixing Screw / Dity ray	Operating position			
Screw / DIN ra 35mm				·
Name		allowable		
Weight g 516 Conductor section AWG/kcmil conductor section Machanical 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 cycles 20000000 Mirror contats according to IEC/EN 609474-4-1 yes YES EMC compatibility yes 24 AC coil operating Rated AC voltage at 50/60Hz y 24 AC operating voltage max %Us 110 drop-out min %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 min %Us 85 min %Us 110 drop-out min %Us 110 min %Us 55	Fixing			
AWG/kcmil conductor section max 6	Weight		a	
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 Performance level B10d according to EN/ISO 13489-1 Privated 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 50/60Hz AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 80 max %Us 110 drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110			<u> </u>	
Operations Mechanical life cycles 20000000 Electrical life cycles 1400000 Safety related data rated load mechanical load mechan		AWG/kcmil conductor section		
Mechanical life cycles 20000000 Electrical life cycles 1400000 Safety related data rated load mechanical load cycles 1400000 cycles 20000000 Mirror contats according to IEC/EN 609474-4-1 rated load cycles 20000000 Mirror contats according to IEC/EN 609474-4-1 yES EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz V 24 AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 80 max Mirror contats according to IEC/EN 609474-4-1 min %Us 110 AC coil operating v 24 AC coil operating min %Us 80 min %Us 80 min %Us 20 min %Us 20 min %Us 85 min %Us 85		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 20000000 Mirror contats according to IEC/EN 609474-4-1 EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz of 50/60Hz coil powered at 50Hz pick-up min %Us 80 max %Us 110 drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110	•			
Performance level B10d according to EN/ISO 13489-1 rated load cycles 1400000 mechanical load cycles 20000000				
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 50/60Hz Of 50/60Hz coil powered at 50Hz pick-up min %Us 80 max %Us 110 drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110			cycles	1400000
rated load cycles 1400000 mechanical load cycles 20000000	-	2 Lanca Line to EN/100 40400 4		
mechanical load cycles 20000000 Mirror contats according to IEC/EN 609474-4-1 YES EMC compatibility yes AC coil operating V 24 AC operating voltage V 24 AC operating voltage min %Us 80 pick-up min %Us 110 drop-out min %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110	Performance level B10	_	ovoloo	1400000
Mirror contats according to IEC/EN 609474-4-1 YES EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz			•	
EMC compatibility AC coil operating Rated AC voltage at 50/60Hz Of 50/60Hz coil powered at 50Hz pick-up min %Us 80 max %Us 110 drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110	Mirror contats according		cycles	
AC coil operating Rated AC voltage at 50/60Hz V 24		ig to 120/214 000474 4 1		
Rated AC voltage at 50/60Hz V 24				you
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 80 max %Us 110 drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110	-	0/60Hz	V	24
pick-up min %Us 80 max %Us 110 drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110 drop-out min %Us 20	AC operating voltage			
min %Us 80 max %Us 110 drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 85 max %Us 110 drop-out min %Us 20		of 50/60Hz coil powered at 50Hz		
max %Us 110		pick-up		
drop-out min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 20				
min %Us 20 max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 20			%Us	110
max %Us 55 of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 20		·	0/110	20
of 50/60Hz coil powered at 60Hz pick-up min %Us 85 max %Us 110 drop-out min %Us 20				
pick-up min %Us 85 max %Us 110 drop-out min %Us 20			/0US	JJ
min %Us 85 max %Us 110 drop-out min %Us 20		•		
max %Us 110 drop-out min %Us 20			%Us	85
drop-out min %Us 20				
min %Us 20				
may 9/11c 55			%Us	20
AC average coil consumption at 20°C		max	%Us	55



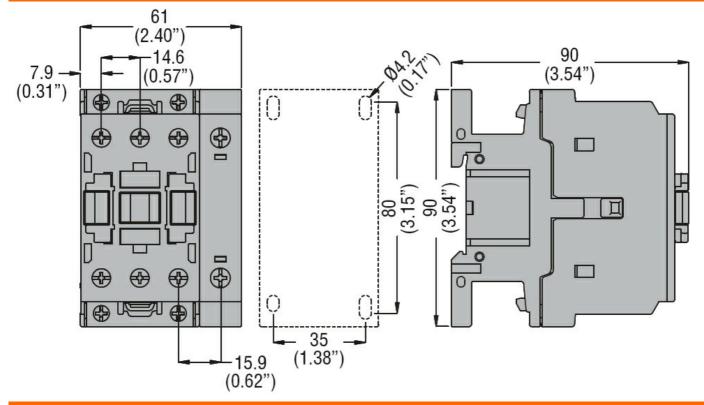
FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 50/60HZ, 24VAC, 2NO AND 2NC

	of 50/60Hz coil powered at 50Hz				
		in-rush	VA	75	
		holding	VA	9	
	of 50/60Hz coil powered at 60Hz				
	01 00/00112 0011 poworod at 00112	in-rush	VA	70	
		holding	VA	6.5	
	of 60Hz coil powered at 60Hz	Holding	VA	0.0	
	or our iz con powered at our iz	in-rush	VA	75	
		holding	VA	9	
Dissipation at holding	<20°C 50H-2	Holding	W	2.5	
Max cycles frequency			VV	2.5	
Mechanical operation			cycles/h	3600	
-			cycles/i	3000	
Operating times	control				
Average time for Us of					
	in AC				
	Closing NO			0	
		min	ms	8	
	0.1.1.00	max	ms	24	
	Opening NO			_	
		min	ms	5	
		max	ms	15	
	Closing NC				
		min	ms	11	
		max	ms	29	
	Opening NC				
		min	ms	6	
		max	ms	14	
UL technical data					
	a) for three-phase AC motor				
	s) for three-phase AC motor	at 480V	A	40	
Full-load current (FLA		at 480V at 600V	A A	40 32	
Full-load current (FLA					
Full-load current (FLA	erformance				_
Full-load current (FLA	erformance	at 600V	Α	32	
Full-load current (FLA	erformance	at 600V 110/120V	A HP	32	_
Full-load current (FLA	erformance for single-phase AC motor	at 600V 110/120V	A HP	32	_
Full-load current (FLA	erformance for single-phase AC motor	at 600V 110/120V 230V	A HP HP	32 3 7.5	
Full-load current (FLA	erformance for single-phase AC motor	at 600V 110/120V 230V 200/208V	HP HP	32 3 7.5	_
Full-load current (FLA	erformance for single-phase AC motor	at 600V 110/120V 230V 200/208V 220/230V	HP HP HP	32 3 7.5 10 15	
Full-load current (FLA	erformance for single-phase AC motor	at 600V 110/120V 230V 200/208V 220/230V 460/480V	HP HP HP HP	32 3 7.5 10 15 30	
Full-load current (FLA	erformance for single-phase AC motor for three-phase AC motor	at 600V 110/120V 230V 200/208V 220/230V 460/480V	HP HP HP HP	32 3 7.5 10 15 30	
Full-load current (FLA	erformance for single-phase AC motor	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V	HP HP HP HP HP	32 3 7.5 10 15 30 30	_
Full-load current (FLA	erformance for single-phase AC motor for three-phase AC motor	at 600V 110/120V 230V 200/208V 220/230V 460/480V	HP HP HP HP	32 3 7.5 10 15 30	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions	erformance for single-phase AC motor for three-phase AC motor	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V	HP HP HP HP HP	32 3 7.5 10 15 30 30	
Full-load current (FLA	erformance for single-phase AC motor for three-phase AC motor Contactor	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V	HP HP HP HP HP	32 3 7.5 10 15 30 30	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions	erformance for single-phase AC motor for three-phase AC motor	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current	HP HP HP HP HP	32 3 7.5 10 15 30 30	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions	erformance for single-phase AC motor for three-phase AC motor Contactor	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current	HP HP HP HP HP	32 3 7.5 10 15 30 30 30	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions	erformance for single-phase AC motor for three-phase AC motor Contactor Operating temperature	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current	HP HP HP HP HP	32 3 7.5 10 15 30 30	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions	erformance for single-phase AC motor for three-phase AC motor Contactor	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current min max	HP HP HP HP HP	32 3 7.5 10 15 30 30 30 55	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions	erformance for single-phase AC motor for three-phase AC motor Contactor Operating temperature	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current min max min	A HP HP HP HP HP C C C C	32 3 7.5 10 15 30 30 30 55 -50 70 -60	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions Temperature	erformance for single-phase AC motor for three-phase AC motor Contactor Operating temperature	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current min max	A HP HP HP HP HP C°C °C	32 3 7.5 10 15 30 30 30 55 -50 70 -60 80	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions Temperature	erformance for single-phase AC motor for three-phase AC motor Contactor Operating temperature Storage temperature	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current min max min	A HP HP HP HP HP C C C C	32 3 7.5 10 15 30 30 30 55 -50 70 -60	
Full-load current (FLA Yielded mechanical p General USE Ambient conditions Temperature	erformance for single-phase AC motor for three-phase AC motor Contactor Operating temperature Storage temperature	at 600V 110/120V 230V 200/208V 220/230V 460/480V 575/600V AC current min max min	A HP HP HP HP HP C°C °C	32 3 7.5 10 15 30 30 30 55 -50 70 -60 80	

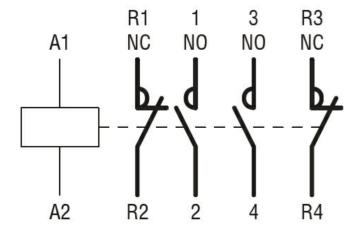
ENERGY AND AUTOMATION

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 50/60HZ, 24VAC, 2NO AND 2NC

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

CCC

cULus

EAC

ETIM classification



BF38T2A024

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 50/60HZ, 24VAC, 2NO AND 2NC

ETIM 8.0

EC000066 -Power contactor, AC switching