

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, DC COIL, 24VDC, 2NO AND 2NC



Contact characteristics Number of poles Nr. 4 4 Acated insulation voltage Ui IEC/EN V 690 690 Rated insulation voltage Uimp kV 6 8 8 8 <t< th=""><th>Product designation Product type designation</th><th></th><th></th><th>Power contactor BF38</th></t<>	Product designation Product type designation			Power contactor BF38
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 A 56 Operational current Ie AC-1 (≤40°C) with 16mm² wire and fork end lugA 60 AC-1 (≤40°C) with 16mm² wire and fork end lugA 48 AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 AC-1 (≤40°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 AC-1 (≤40°C) with 16mm² wire and fork end lugA 42 AC-3 (≤440°C) with 16mm² wire and fork end lugA 48 AC-1 (≤40°C) with 16mm² wire and fork end lugA 42 AC-3 (400°C) with 16mm²				
Rated impulse withstand voltage Uimp	Number of poles		Nr.	4
Operational frequency	Rated insulation voltage Ui IEC/EN		V	690
Max Hz 25 max Hz 400 EC Conventional free air thermal current Ith A 56 Operational current Ie AC-1 (≤40°C) with 16mm² wire and fork end lugA 60 AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) AC-4 (400V) A 15.5 AC-4 (400V) A 15.5 AC-4 (400V) A 15.5 AC-5 (500V kW 45 690V kW 62 Short-time allowable current for 10s (IEC/EN60947-1) A 320 Protection fuse GC (IEC) A 63 AM (IEC) A 40 AC-3 (3440V ≤55°C) A 38 AC-4 (400V) A 304 AC-5 (500V kW 45 AC-7 (500V A 304 AC-7 (500	Rated impulse withstand voltage Uimp		kV	6
Max Hz 400 IEC Conventional free air thermal current lth	Operational frequency			
ECC Conventional free air thermal current lth Operational current le AC-1 (≤40°C) A 56		min	Hz	25
Operational current le AC-1 (≤40°C) with 16mm² wire and fork end lugA AC-1 (≤55°C) A 45 AC-1 (≤55°C) with 16mm² wire and fork end lugA AC-1 (≤55°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) A 40 AC-1 (≤70°C) A 40 AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-3 (≤440V ≤55°C) A 38 AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 21 A00V kW 36 500V kW 45 690V kW 45 600V		max	Hz	400
AC-1 (≤40°C) with 16mm² wire and fork end lugA AC-1 (≤55°C) with 16mm² wire and fork end lugA AC-1 (≤55°C) with 16mm² wire and fork end lugA AC-1 (≤55°C) with 16mm² wire and fork end lugA AC-1 (≤55°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C)	IEC Conventional free air thermal current Ith		Α	56
AC-1 (≤40°C) with 16mm² wire and fork end lugA AC-1 (≤55°C)	Operational current le			
AC-1 (≤40°C) with 16mm² wire and fork end lugA AC-1 (≤55°C)	•	AC-1 (≤40°C)	Α	56
AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 40 AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C)		, ,	lugA	60
AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 500V kW 62 50			_	45
AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 500V kW 62 50		,	lugA	48
AC-3 (≤440V ≤55°C)		• ,	-	40
AC-3 (≤440V ≤55°C)		AC-1 (≤70°C) with 16mm² wire and fork end	lugA	42
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) Protection fuse gG (IEC) A 63 aM (IEC) A 40 Making capacity (RMS value) Breaking capacity at voltage 440V A 304 500V A 240 690V A 192 Resistance per pole (average value) Resistance per pole (average value) Resistance per pole (average value) Tightening torque for terminals min Nm 2.5 max Nm 3 min Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal				38
230V kW 21 440V kW 36 550V kW 45 690V kW 62		AC-4 (400V)	Α	15.5
A00V kW 36 500V kW 45 690V kW 62	Rated operational power AC-1 (T≤40°C)			
Soov kW 45 690V kW 62		230V	kW	21
Short-time allowable current for 10s (IEC/EN60947-1)		400V	kW	36
Short-time allowable current for 10s (IEC/EN60947-1)		500V	kW	45
Protection fuse gG (IEC) A 63 aM (IEC) A 40 Making capacity (RMS value) A 380 Breaking capacity at voltage 440V A 304 500V A 240 690V A 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 Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal		690V	kW	62
GG (IEC)	Short-time allowable current for 10s (IEC/EN6	60947-1)	Α	320
Making capacity (RMS value)	Protection fuse			
Making capacity (RMS value) A 380 Breaking capacity at voltage 440V A 304 500V A 240 690V A 192 Resistance per pole (average value) mΩ 2 Power dissipation per pole (average value) lth W 6 AC-3 W 2.9 Tightening torque for terminals min Nm 2.5 max Nm 3 min Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal min Nm 0.8		gG (IEC)	Α	63
Breaking capacity at voltage		aM (IEC)	Α	40
440V A 304 500V A 240 690V A 192 7 7 7 7 7 7 7 7 7	Making capacity (RMS value)		Α	380
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Breaking capacity at voltage			
Resistance per pole (average value) mΩ 2		440V	Α	304
Resistance per pole (average value) mΩ 2		500V	Α	240
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 Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal min Nm 0.8		690V	Α	192
Ith W 6 AC-3 W 2.9	Resistance per pole (average value)		mΩ	2
AC-3 W 2.9	Power dissipation per pole (average value)			
Tightening torque for terminals min Nm 2.5 max Nm 3 min Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal min Nm 0.8		Ith	W	6
min Nm 2.5 max Nm 3 min Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal min Nm 0.8		AC-3	W	2.9
max Nm 3 min Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal min Nm 0.8	Tightening torque for terminals			
min Ibin 1.8 max Ibin 2.2 Tightening torque for coil terminal min Nm 0.8		min	Nm	2.5
Tightening torque for coil terminal min Nm 0.8		max	Nm	3
Tightening torque for coil terminal min Nm 0.8		min	lbin	1.8
min Nm 0.8		max	lbin	2.2
	Tightening torque for coil terminal			
max Nm 1		min	Nm	0.8
		max	Nm	1



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	min	lbin	0.8
Max number of wires	simultaneously connectable	lbin Nr.	0.74
Conductor section	Simultaneously connectable	INI.	
Solidación Section	AWG/Kcmil		
	max		6
	Flexible w/o lug conductor section		
	min	mm²	2.5
	max	mm²	16
	Flexible c/w lug conductor section		
	min	mm²	1
	max	mm²	10
	Flexible with insulated spade lug conductor section		
	min	mm²	1
	max	mm²	10
Power terminal proted	ction according to IEC/EN 60529		IP20 when
·	<u> </u>		properly wired
Mechanical features			
Operating position	normal		Vertical plan
	allowable		±30°
	allowable		Screw / DIN rail
Fixing			35mm
Neight		g	668
Conductor section			
	AWG/kcmil conductor section		
	max		6
Operations			
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
Safety related data			
Performance level B1	0d according to EN/ISO 13489-1		
Performance level B1	rated load	cycles	1400000
	rated load mechanical load	cycles cycles	20000000
Mirror contats accord	rated load	•	
Mirror contats accord	rated load mechanical load	•	20000000
Mirror contats accord EMC compatibility DC coil operating	rated load mechanical load ing to IEC/EN 609474-4-1	cycles	20000000 YES yes
Mirror contats accord EMC compatibility DC coil operating DC rated control volta	rated load mechanical load ing to IEC/EN 609474-4-1	•	20000000 YES
Mirror contats accord EMC compatibility DC coil operating DC rated control volta	rated load mechanical load ing to IEC/EN 609474-4-1	cycles	20000000 YES yes
Mirror contats accord EMC compatibility DC coil operating DC rated control volta	rated load mechanical load ing to IEC/EN 609474-4-1	v	20000000 YES yes 24
Mirror contats accord EMC compatibility DC coil operating DC rated control volta	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min	v %Us	20000000 YES yes 24
Mirror contats accord EMC compatibility DC coil operating DC rated control volta	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max	v	20000000 YES yes 24
Mirror contats accord EMC compatibility DC coil operating DC rated control volta	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out	v %Us %Us	20000000 YES yes 24 80 125
Mirror contats accord EMC compatibility DC coil operating DC rated control volta	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out min	v %Us %Us	20000000 YES yes 24 80 125
Mirror contats accord EMC compatibility DC coil operating DC rated control volta DC operating voltage	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out min max	v %Us %Us	20000000 YES yes 24 80 125
Mirror contats accord EMC compatibility DC coil operating DC rated control volta DC operating voltage	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out min max ption ≤20°C	V %Us %Us %Us %Us %Us	20000000 YES yes 24 80 125 10 40
Mirror contats accord EMC compatibility DC coil operating DC rated control volta DC operating voltage	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out min max ption ≤20°C	v %Us %Us %Us %Us	20000000 YES yes 24 80 125 10 40
Mirror contats accord EMC compatibility DC coil operating DC rated control volta DC operating voltage Average coil consump	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out min max ption ≤20°C in-rush holding	V %Us %Us %Us %Us %Us	20000000 YES yes 24 80 125 10 40
Mirror contats accord EMC compatibility DC coil operating DC rated control volta DC operating voltage Average coil consump	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out min max ption ≤20°C in-rush holding	v %Us %Us %Us %Us W W	20000000 YES yes 24 80 125 10 40 5.4 5.4
Mirror contats accord EMC compatibility DC coil operating DC rated control volta DC operating voltage	rated load mechanical load ing to IEC/EN 609474-4-1 age pick-up min max drop-out min max ption ≤20°C in-rush holding	v %Us %Us %Us %Us	20000000 YES yes 24 80 125 10 40 5.4 5.4

in AC

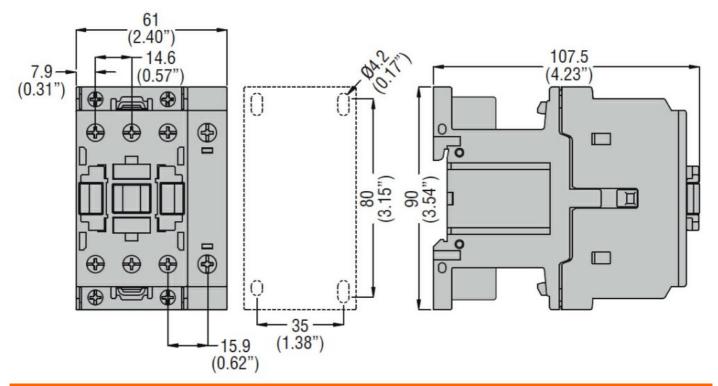


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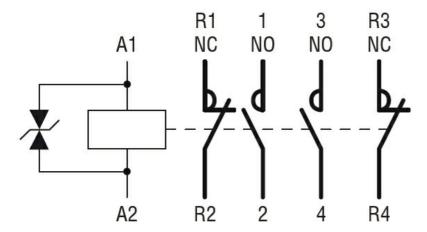
	Closing NO			
		min	ms	8
		max	ms	24
	Opening NO			
	1 3	min	ms	5
		max	ms	15
	Closing NC			
		min	ms	9
		max	ms	20
	Opening NC			
		min	ms	9
		max	ms	17
	in DC			
	Closing NO			
		min	ms	54
	On anima NO	max	ms	66
	Opening NO			4.4
		min	ms	14 17
	Closing NC	max	ms	17
	Closing NC	min	ms	23
		max	ms	28
	Opening NC	max	1113	20
	Opening NO	min	ms	46
		max	ms	56
UL technical data				
) for three-phase AC motor			
,	•	at 480V	Α	40
		at 600V	Α	32
Yielded mechanical pe	erformance			
	for single-phase AC motor			
		110/120V	HP	3
		230V	HP	7.5
	for three-phase AC motor			
		200/208V	HP	10
		220/230V	HP	15
		460/480V	HP	30
		575/600V	HP	30
General USE				
	Contactor		_	
Analis and an all the		AC current	Α	55
Ambient conditions				
Temperature	Operating temperature			
	Operating temperature	min	°C	-50
			°C	-50 70
	Storage temperature	max	<u> </u>	10
	Storage temperature	min	°C	-60
		max	°C	80
Max altitude		max	 	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions				

ENERGY AND AUTOMATION

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, DC COIL, 24VDC, 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