



Product designation Power contactor type designation BF38 Contact characteristics Nr. 4 Number of poles Nr. 4 Rated insulation voltage Ui IEC/EN V 6 Operational frequency min Hz 25 IEC Conventional free air thermal current lith 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 56 AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 48 AC-1 (≤55°C) with 16mm² wire and fork end lugA 48 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 48 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 42 AC-3 (≤40°C) with 16mm² wire and fork end lugA 48 42 AC-3 (≤40°C) with 16mm² wire and fork end lugA 48 42 AC-1 (≤70°C) with 16mm² wire and fork end lugA 48 42 42 AC-3 (≤40°C) with 16mm² wire and fork end lugA 48 <				
Product type designation	Product designation			Power contactor
Number of poles Nr. 4	<u> </u>			BF38
Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 IEC Conventional free air thermal current Ith A 56 56 Operational current Ie 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) A 45 AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) A 40 AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) A 40 AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) A 40 AC-3 (≤4400 ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 42 400V kW 36 500V kW 45 AC-3 (5400 ≤55°C) A 35 48 48 42 AC-3 (5400 ≤55°C) A 36 48 42 42 AC-3 (5400 ≤55°C) A 36 48 42 42 AC-3 (5400 ≤55°C) A 36 48 42				
Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Operational frequency min Hz 25 IEC Conventional free air thermal current Ith A 56 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 (≤70°C) A 45 AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) A 40 AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) A 42 AC-1 (≤70°C) with 16mm² wire and fork end lugA AC-1 (≤70°C) A 42 AC-1 (≤400°V ≤55°C) A 38 AC-1 (4000°V) A 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 21 4000 kW 36 36 36 48W A 30 36 35 38 48W A 30 36 36 36 48W A 30 36 36 36 48W A 36 36 36 36 <t< td=""><td>Number of poles</td><td></td><td>Nr.</td><td>4</td></t<>	Number of poles		Nr.	4
Rated impulse withstand voltage Uimp			V	690
Operational frequency min max hz man Hz man hz hz hz hz 400 IEC Conventional free air thermal current lth A 56 Operational current le AC-1 (≤40°C) with 16mm² wire and fork end lugA A 45 AC-1 (≤55°C) with 16mm² wire and fork end lugA A 45 AC-1 (≤55°C) with 16mm² wire and fork end lugA A 40 AC-1 (≤70°C) with 16mm² wire and fork end lugA A 40 AC-3 (≤440V ≤55°C) A 40 AC-3 (≤440V ≤55°C) A 40 AC-3 (≤440V ≤55°C) A 45 AC-4 (4000V) A 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 600V kW 36 500V kW 45 600V kW 45 600			kV	6
EC Conventional free air thermal current lth				
EC Conventional free air thermal current lth	, , ,	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 (≤70°C) A 40 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 42 AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 35 48V A 36 48V A 34 75V A 29 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 36 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series ≤24V A 36 A8V A 34 75V A 36 A8V A 34 75V A 33 110V A 34 220V A 30 IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		max	Hz	
AC-1 (≤40°C) A 56 AC-1 (≤40°C) with 16mm² wire and fork end lugA 60 AC-1 (≤55°C) A 45 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) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 35 48V A 30 75V A 23 1110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series	IEC Conventional free air thermal current Ith		Α	56
AC-1 (≤40°C) with 16mm² wire and fork end lugA	Operational current le			
AC-1 (≤40°C) with 16mm² wire and fork end lugA	·	AC-1 (≤40°C)	Α	56
AC-1 (≤55°C) A 45 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-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 35 48V A 30 75V A 23 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			lugA	60
AC-1 (≤55°C) with 16mm² wire and fork end lugA				
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) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 35 48V A 30 75V A 23 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 36 48V A 30 75V A 23 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 36 36 48V A 34 75V A 36 48V A 36 75V A 30 75V A 36 75V A 30 75V A 3		· · · · · · · · · · · · · · · · · · ·	lugA	48
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) Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 35 48V A 30 75V A 23 110V A 8 220V A − IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 110V A 32 220V A 4 110V A 32 220V A 4 110V A 32 220V A 30 110V A 32 220V A 4 110V A 32 220V A 30 110V A 33 31 31 30 A 34 75V A 33 30 IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		· · · · · · · · · · · · · · · · · · ·	-	40
AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5 Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 35 48V A 30 75V A 23 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 36 48V A 34 75V A 36 48V A 34 75V A 36 48V A 36 48V A 34 75V A 36 48V A		· · · · · · · · · · · · · · · · · · ·	lugA	42
Rated operational power AC-1 (T≤40°C) 230V kW 21 400V kW 36 500V kW 45 690V kW 62 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 35 48V A 30 75V A 23 110V A 8 220V A − IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A − IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 29 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 39 110V A 32 220V A 4 IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 36 48V A 34 75V A 33 110V A 34 220V A 30 IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		AC-3 (≤440V ≤55°C)	Α	38
230V kW 21 400V kW 36 500V 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
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V		400V	kW	36
Section Sec		500V	kW	45
		690V	kW	62
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms wi	th 1 poles in series		
T5V A 23 110V A 8 220V A −		≤24V	Α	35
110V		48V	Α	30
EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V		75V	Α	23
Section Sec			Α	8
		220V	Α	_
48V	IEC max current le in DC1 with L/R ≤ 1ms wi	th 2 poles in series		
T5V A 29 110V A 32 220V A 4		≤24V	Α	36
110V A 32 220V A 4		48V	Α	34
EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series		75V	Α	29
Section Sec		110V	Α	32
			Α	4
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms wi			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			Α	
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series ≤24V A 36				
≤24V A 36			Α	30
	IEC max current le in DC1 with L/R ≤ 1ms wi	•		
48V A 34				
		48V	Α	34



	75V	Α	33
	110V	Α	34
	220V	Α	38
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
· ·	≤24V	Α	24
	48V	Α	20
	75V	Α	17
	110V	Α	2,5
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
120 max carrent to in 200 200 mar 2/10 Tomo mar 2 poise in control	≤24V	Α	28
	48V	A	25
	75V	A	22
	110V	A	18
IFO	220V	Α	3
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	-0.07	Α.	20
	≤24V	A	32
	48V	Α	28
	75V	Α	28
	110V	Α	23
	220V	Α	25
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	Α	32
	48V	Α	28
	75V	Α	28
	110V	Α	23
	220V	Α	15
Short-time allowable current for 10s (IEC/EN60947-1)		Α	320
Protection fuse			
	gG (IEC)	Α	63
	aM (IEC)	Α	40
Making capacity (RMS value)	a (120)	A	380
Breaking capacity at voltage		- , ,	
Dicalling capacity at voltage	440V	Α	304
	500V	A	240
	690V	A	192
Pacietanea par pala (avaraga valua)	090 V	mΩ	2
Resistance per pole (average value)		11122	
Power dissipation per pole (average value)	141	147	•
	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			
	min	Nm	0.8
	max	Nm	1
	min	lbin	0.8
	max	Ibin	0.74
Max number of wires simultaneously connectable	11107	Nr.	2
Conductor section			

Conductor section

AWG/Kcmil





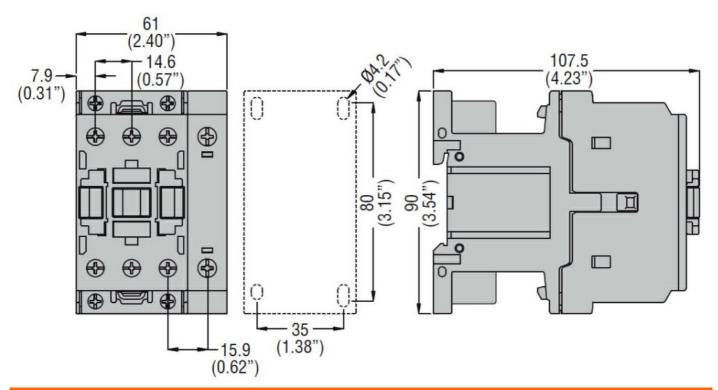
	max		6
	Flexible w/o lug conductor section		
	min	mm²	2.5
	max	mm²	16
	Flexible c/w lug conductor section		
	min	mm²	1
	max	mm²	10
	Flexible with insulated spade lug conductor section		
	min	mm²	1
	max	mm²	10
Power terminal protect	tion according to IEC/EN 60529		IP20 when
Mechanical features	<u>.</u>		properly wired
Operating position			
Operating position	normal		Vertical plan
	allowable		±30°
Fixing			Screw / DIN rail 35mm
Weight		g	665
Operations		9	
Mechanical life		cycles	20000000
Electrical life		cycles	1400000
Safety related data		. ,	
	Od according to EN/ISO 13489-1		
	rated load	cycles	1400000
	mechanical load	cycles	20000000
EMC compatibility			yes
AC coil operating			
AC operating voltage			
	of 50/60Hz coil powered at 50Hz		
	drop-out		
	max	%Us	55
DC coil operating			
DC roted control voltage			
DC rated control voltage	ge	V	48
DC operating voltage		V	48
	pick-up		
	pick-up min	%Us	80
	pick-up min max		
	pick-up min max drop-out	%Us %Us	80 110
	pick-up min max drop-out min	%Us %Us %Us	80 110
DC operating voltage	pick-up min max drop-out min max	%Us %Us	80 110
	pick-up min max drop-out min max tion ≤20°C	%Us %Us %Us %Us	80 110 10 40
DC operating voltage	pick-up min max drop-out min max tion ≤20°C	%Us %Us %Us %Us W	80 110 10 40 2.4
DC operating voltage Average coil consump	pick-up min max drop-out min max tion ≤20°C	%Us %Us %Us %Us	80 110 10 40
DC operating voltage Average coil consump Max cycles frequency	pick-up min max drop-out min max tion ≤20°C	%Us %Us %Us %Us W W	80 110 10 40 2.4 2.4
DC operating voltage Average coil consump Max cycles frequency Mechanical operation	pick-up min max drop-out min max tion ≤20°C	%Us %Us %Us %Us W	80 110 10 40 2.4 2.4
DC operating voltage Average coil consump Max cycles frequency	pick-up min max drop-out min max tion ≤20°C in-rush holding	%Us %Us %Us %Us W W	80 110 10 40 2.4 2.4
DC operating voltage Average coil consump Max cycles frequency Mechanical operation Operating times	pick-up min max drop-out min max tion ≤20°C in-rush holding	%Us %Us %Us %Us W W	80 110 10 40 2.4 2.4
DC operating voltage Average coil consump Max cycles frequency Mechanical operation Operating times	pick-up min max drop-out min max tion ≤20°C in-rush holding	%Us %Us %Us %Us W W	80 110 10 40 2.4 2.4
DC operating voltage Average coil consump Max cycles frequency Mechanical operation Operating times	pick-up	%Us %Us %Us %Us W W	80 110 10 40 2.4 2.4
DC operating voltage Average coil consump Max cycles frequency Mechanical operation Operating times	pick-up min max drop-out min max tion ≤20°C in-rush holding ontrol in AC Closing NO min max	%Us %Us %Us %Us W W	80 110 10 40 2.4 2.4 3600
DC operating voltage Average coil consump Max cycles frequency Mechanical operation Operating times	pick-up min max drop-out min max tion ≤20°C in-rush holding ontrol in AC Closing NO min max Opening NO	%Us %Us %Us %Us W W cycles/h	80 110 10 40 2.4 2.4 3600
DC operating voltage Average coil consump Max cycles frequency Mechanical operation Operating times	pick-up min max drop-out min max tion ≤20°C in-rush holding ontrol in AC Closing NO min max	%Us %Us %Us %Us W W cycles/h	80 110 10 40 2.4 2.4 3600



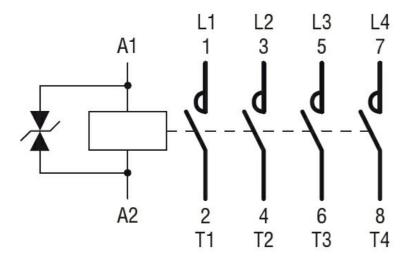
			max	ms	15
	Clos	ing NC			
			min	ms	9
			max	ms	20
	Oper	ning NC			
	·	3	min	ms	9
			max	ms	17
	in DC				
		ing NO			
	0.00	9	min	ms	76
			max	ms	92
	Onei	ning NO	max	1110	02
	Орог	illing i to	min	ms	16
			max	ms	20
UL technical data			Παλ	1113	20
Rated operational vo	oltage AC (LIL)			V	600
	A) for three-phase AC motor			v	000
i uli-loau cullelli (FL	LA, TOT TITLES-PHASE ACTITION		at 480V	٨	40
				A	32
Vialdad sa abasical			at 600V	A	32
Yielded mechanical					
	for single-phase AC motor		440/400		•
			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				
			AC current	Α	55
Short-circuit protect	ion fuse, 600V				_
	High fault				
			Short circuit current	kA	100
			Fuse rating	Α	100
			Fuse class		J
	Standard fault				
			Short circuit current	kA	5
			Fuse rating	Α	150
Ambient conditions					
Temperature					
- 1	Operating temperature				
	Specialis temperature		min	°C	-50
			max	°C	70
	Storage temperature		max		. •
	Clorago tomporaturo		min	°C	-60
			max	°C	80
Max altitude			IIIaX	m	3000
Resistance & Protect	ction			111	3000
	SHOTT				3
Pollution degree					3
Dimensions					

ENERGY AND AUTOMATION

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, DC COIL LOW CONSUMPTION, 48VDC



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



BF38T4L048

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, DC COIL LOW CONSUMPTION, 48VDC

ETIM 8.0

EC000066 -Power contactor, AC switching