

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



Product designation         Power contactor           Product type designation         BF38           Contact characteristics           Number of poles         Nr.         4           Rated insulation voltage Ui IEC/EN         V         690           Rated insulation voltage Uimp         kV         6           Operational frequency         min         Hz         25           IEC Conventional free air thermal current Ith         AC-1 (≤40°C)         A         56           Operational current le         AC-1 (≤40°C) with 16mm² wire and fork end lugA         46         60           AC-1 (≤40°C) with 16mm² wire and fork end lugA         46				
Contact characteristics           Number of poles         Nr. 4           Rated insulation voltage Ui IEC/EN         V 690           Rated impulse withstand voltage Uimp         kV 6           Operational frequency         min Hz 255 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 (≤55°C) A 45 AC-1 (≤55°C) A 45 AC-1 (≤55°C) M AC-1 (≤55°C) A 45 AC-1 (≤55°C) M AC-1 (≤55°C) A 45 AC-1 (≤70°C) with 16mm² wire and fork end lugA 42 AC-1 (≤50°C) with 16mm² wire and fork end lugA 42 AC-1 (≤50°C) with 16mm² wire and fork end lugA 42 AC-1 (≤50°C) with 16mm² wire and fork end lugA 42 AC-1 (≤50°C) with 16mm² wire and fork end lugA 42 AC-1 (≤50°C) with 16mm² wire and fork end lugA 42 AC-1 (≤50°C) with 16mm² wire and fork end	•			Power contactor
Number of poles	, , , , , , , , , , , , , , , , , , ,			BF38
Rated insulation voltage Ui IEC/EN   Rated impulse withstand voltage Uimp   kV   690				
Rated impulse withstand voltage Uimp				
Operational frequency				
Min			kV	6
EC Conventional free air thermal current lth	Operational frequency			
ECC Conventional free air thermal current lith		min	Hz	
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) 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-4 (400V) A 15.5           Rated operational power AC-1 (T≤40°C)         230V kW 21 400V kW 36 500V kW 45 690V kW 45 690V kW 62           Short-time allowable current for 10s (IEC/EN60947-1)         A 320           Protection fuse         gG (IEC) A 63 aM (IEC) A 40 MileC) A 380           Breaking 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 1bin 1.8 max 1bin 2.2           Tightening torque for coil terminal         min Nm 0.8		max		
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-3 (≤4400 ≤55°C) A 38 AC-4 (400V) A 15.5      Rated operational power AC-1 (T≤40°C)	-		Α	56
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)   A   40     AC-1 (≤70°C) with 16mm² wire and fork end lugA   AC-1 (≤70°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     400V   kW   36     500V   kW   45     690V   kW   62     Short-time allowable current for 10s (IEC/EN60947-1)   A   320     Protection fuse   G (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)   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     Tightening torque for coil terminal   min   Nm   0.8	Operational current le			
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-1 (≤70°C) with 16mm² wire and fork end lugA AC-3 (≤4400 ≤55°C) A 38 AC-4 (4000 A 15.5      Rated operational power AC-1 (T≤40°C)				
AC-1 (≤55°C) with 16mm² wire and fork end lugA AC-1 (≤70°C)				
AC-1 (≤70°C) with 16mm² wire and fork end lugA A2 AC-3 (≤440V ≤55°C) A 38 AC-4 (400V) A 15.5				
AC-1 (≤70°C) with 16mm² wire and fork end lugA   AC-3 (≤440V ≤55°C)   A   38   AC-4 (400V)   A   15.5		,	lugA	
AC-3 (≤440V ≤55°C)   A 38   AC-4 (400V)   A 15.5		` ,		40
AC-4 (400V)		, ,	lugA	
Rated operational power AC-1 (T≤40°C)       230V kW 21 400V kW 36 500V kW 45 690V kW 45 690V kW 62         Short-time allowable current for 10s (IEC/EN60947-1)       A 320         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 mΩ 2         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 lbin 1.8 max lbin 2.2         Tightening torque for coil terminal       min Nm 0.8		,	Α	38
230V   kW   21   400V   kW   36   500V   kW   45   690V   kW   62		AC-4 (400V)	Α	15.5
A 00V 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	
Protection fuse   gG (IEC)			kW	62
Making capacity (RMS value)	Short-time allowable current for 10s (IEC/EN	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)       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		gG (IEC)	Α	
Breaking capacity at voltage		aM (IEC)	Α	
A40V   A   304   500V   A   240   690V   A   192	Making capacity (RMS value)		Α	380
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Breaking capacity at voltage			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		440V	Α	304
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		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		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			W	6
min Nm 2.5   max Nm 3   min   lbin 1.8   max   lbin 2.2		AC-3	W	2.9
max min lbin lbin max         Nm lbin lbin max         1.8 lbin lbin lbin lbin lbin lbin lbin lbin	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



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

		مال ما	:	0.0
	m ma		in in	0.8 0.74
Max number of wires	simultaneously connectable	N		2
Conductor section	·			
	AWG/Kcmil			
	ma	ıX		6
	Flexible w/o lug conductor section	n m	m <sup>2</sup>	2.5
	m ma			16
	Flexible c/w lug conductor section	<u> </u>	<u>''                                   </u>	10
	m	n mi	n²	1
	ma	ıx mı	n²	10
	Flexible with insulated spade lug conductor section			
	m			1
	ma	ıx mı	m²	10 IP20 when
Power terminal protect	tion according to IEC/EN 60529			properly wired
Mechanical features				F. 5 F 5 H, 17 H 5 G
Operating position				
	norm			Vertical plan
	allowab	е		±30°
Fixing				Screw / DIN rail 35mm
 Weight			1	516
Operations			1	010
Mechanical life		сус	les	20000000
Electrical life		сус	les	1400000
Safety related data				
Performance level B1	0d according to EN/ISO 13489-1			4.400000
	rated loa	a cvc	les	1400000
	machanical los	,	loc	20000000
FMC compatibility	mechanical loa	,	les	20000000 ves
EMC compatibility  AC coil operating	mechanical loa	,	les	20000000 yes
EMC compatibility AC coil operating Rated AC voltage at 5		,		
AC coil operating		d cyc		yes
AC coil operating Rated AC voltage at 5	0/60Hz of 50/60Hz coil powered at 50Hz	d cyc		yes
AC coil operating Rated AC voltage at 5	0/60Hz  of 50/60Hz coil powered at 50Hz pick-up	d cyc	/	yes 24
AC coil operating Rated AC voltage at 5	0/60Hz of 50/60Hz coil powered at 50Hz pick-up	d cyc	/ Js	yes 24 80
AC coil operating Rated AC voltage at 5	0/60Hz  of 50/60Hz coil powered at 50Hz  pick-up  m	d cyc	/ Js	yes 24
AC coil operating Rated AC voltage at 5	0/60Hz of 50/60Hz coil powered at 50Hz pick-up	d cyc	/ Js Js	yes 24 80
AC coil operating Rated AC voltage at 5	0/60Hz  of 50/60Hz coil powered at 50Hz pick-up m ma	d cyc	/ Js Js	yes 24 80 110
AC coil operating Rated AC voltage at 5	0/60Hz  of 50/60Hz coil powered at 50Hz pick-up  mand drop-out	d cyc	/ Js Js	yes 24 80 110 20
AC coil operating Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up m drop-out m of 50/60Hz coil powered at 60Hz pick-up	in %I	/ Js Js Js	yes 24 80 110 20 55
AC coil operating Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up  m drop-out  m of 50/60Hz coil powered at 60Hz pick-up  m of 50/60Hz coil powered at 60Hz pick-up	in %I	Js Js Js Js	yes 24 80 110 20 55
AC coil operating Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up  material drop-out  mode of 50/60Hz coil powered at 60Hz pick-up  material mater	in %l	Js Js Js Js	yes 24 80 110 20 55
AC coil operating Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up  max drop-out  mode of 50/60Hz coil powered at 60Hz pick-up  mode of 50/60Hz coil powered at 60Hz pick-up  mode of 50/60Hz coil powered at 60Hz	in %I  in %I  ix %I  ix %I	Js Js Js Js Js	yes 24 80 110 20 55
AC coil operating Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up  max drop-out  mox of 50/60Hz coil powered at 60Hz pick-up  mox drop-out  mox max max max max max max max max max ma	in %I in %I in %I ix %I in %I	Js Js Js Js Js	yes 24 80 110 20 55 85 110 20
AC coil operating Rated AC voltage at 5 AC operating voltage	of 50/60Hz coil powered at 50Hz pick-up  max drop-out  of 50/60Hz coil powered at 60Hz pick-up  max drop-out  max max max max max max max max max ma	in %I in %I in %I in %I in %I in %I	Js Js Js Js Js	yes 24 80 110 20 55
AC coil operating Rated AC voltage at 5 AC operating voltage	of 50/60Hz coil powered at 50Hz pick-up  max drop-out  of 50/60Hz coil powered at 60Hz pick-up  max drop-out  max max max max max max max max max ma	in %I in %I in %I ix %I in %I	Js Js Js Js Js	yes 24 80 110 20 55 85 110 20
AC coil operating Rated AC voltage at 5	of 50/60Hz coil powered at 50Hz pick-up  max drop-out  mode of 50/60Hz coil powered at 60Hz pick-up  mode drop-out  mode drop-out  mode drop-out  mode drop-out	in %I  in %I  in %I  ix %I  ix %I  ix %I	Js Js Js Js Js Js	yes 24 80 110 20 55 85 110 20
AC coil operating Rated AC voltage at 5 AC operating voltage	of 50/60Hz coil powered at 50Hz pick-up  max drop-out  mode of 50/60Hz coil powered at 60Hz pick-up  mode drop-out  mode of 50/60Hz coil powered at 60Hz pick-up  mode drop-out  mode drop	in %I	Js Js Js Js Js Js	yes 24 80 110 20 55 85 110 20 55

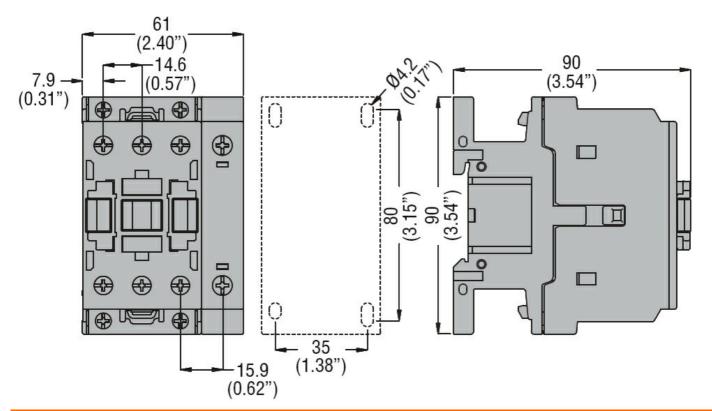


## FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 56A, AC COIL 50/60HZ, 24VAC, 2NO AND 2NC

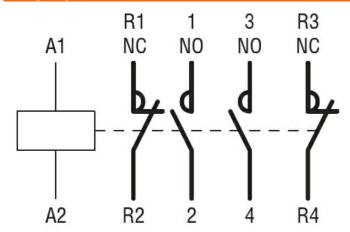
		in-rush	VA	70
		holding	VA	6.5
	of 60Hz coil powered at 60Hz	2 1	١./٨	75
		in-rush	VA	75
Disabisation of baldings	<00°0 F01  -	holding	VA	9
Dissipation at holding:	\$20°C 50HZ		W	2.5
Max cycles frequency Mechanical operation			cycles/h	2600
Operating times			cycles/fi	3000
Average time for Us co	ontrol			
Average time for 03 cc	in AC			
	Closing NO			
	Glosling IVO	min	ms	8
		max	ms	24
	Opening NO	max	1110	
	opening	min	ms	5
		max	ms	15
	Closing NC			
	<b>G</b>	min	ms	11
		max	ms	29
	Opening NC			
		min	ms	6
		max	ms	14
UL technical data				
Rated operational volta			V	600
Full-load current (FLA)	for three-phase AC motor			
		at 480V	Α	40
	_	at 600V	Α	32
Yielded mechanical pe				
	for single-phase AC motor	44044004		
		110/120V	HP	3
	for the same above AC most on	230V	HP	7.5
	for three-phase AC motor	200/2001	LID	40
		200/208V 220/230V	HP HP	10 15
		460/480V	HP	30
		575/600V	HP	30
General USE		373/0001	LIF	
Contra COL	Contactor			
	Contactor	AC current	Α	55
Ambient conditions		, to ourion	, ,	
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 50/60HZ, 24VAC, 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