

# FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 25A, AC COIL 50/60HZ, 48VAC



Number of poles	Product designation Product type designation			Power contactor BF09
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         25           Operational current Ie         AC-1 (≤40°C)         A         25           AC-1 (≤55°C)         A         20         AC-1 (≤70°C)         A         18           AC-3 (≤440V ≤55°C)         A         9         AC-4 (400V)         A         4.9           Rated operational power AC-1 (T≤40°C)         230V         kW         9.5         400V         kW         16           400V         kW         16         500V         kW         21         690V         kW         21           600V         kW         21         690V         kW         21         690V         kW         21           1EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series         \$24V         A         15         48V         A         13         75V         A         12         110V         A         6         220V         A         -         12         12         12         12         12         12         1				
Rated impulse withstand voltage Uimp	Number of poles		Nr.	4
Operational frequency         min max Hz Mz         Hz 400           IEC Conventional free air thermal current lth         A 25           Operational current le           AC-1 (≤40°C) A 25 AC-1 (≤55°C) A 20 AC-1 (≤70°C) A 18 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) XW 16 A	Rated insulation voltage Ui IEC/EN		V	690
Min	Rated impulse withstand voltage Uimp		kV	6
EC Conventional free air thermal current lth	Operational frequency			
EC Conventional free air thermal current lth		min	Hz	25
Operational current le         AC-1 (\$40°C)       A       25         AC-1 (\$55°C)       A       20         AC-1 (\$70°C)       A       18         AC-3 (\$440V \$55°C)       A       9         AC-4 (400V)       A       4.9         Rated operational power AC-1 (T≤40°C)         230V kW 9.5         400V kW 16       500V kW 27         IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series         \$\frac{24V}{4} \text{ A} \text{ 13} \\ 48V A 13         75V A 12       110V A 6         110V A 12       220V A 1         IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series         \$\frac{24V}{4} \text{ A} \text{ 18} \\ 48V A 18         75V A 20       110V A 15         220V A 10       10         IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series         \$\frac{24V}{4} \text{ A} \text{ 20} \\ 75V A 20         110V A 15       220V A 10         IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		max	Hz	400
AC-1 (≤40°C)	IEC Conventional free air thermal current Ith		Α	25
AC-1 (≤55°C)   A   20     AC-1 (≤70°C)   A   18     AC-3 (≤440V ≤55°C)   A   9     AC-4 (400V)   A   4.9     Rated operational power AC-1 (T≤40°C)     230V   kW   9.5     400V   kW   16     500V   kW   27     690V   kW   27     EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series     524V   A   15     48V   A   13     75V   A   12     110V   A   6     220V   A   -     EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series     524V   A   18     48V   A   18     48V   A   18     75V   A   17     110V   A   12     220V   A   1     EC max current le in DC1 with L/R ≤ 1ms with 3 poles in series     524V   A   20     48V   A   20     75V   A   20     110V   A   15     220V   A   10     EC max current le in DC1 with L/R ≤ 1ms with 4 poles in series     524V   A   20     48V   A   20     75V   75V   75V     75V   75V   75V     75V   75V   75V     7	Operational current le			
AC-1 (≤70°C) A 18 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4.9  Rated operational power AC-1 (T≤40°C)  230V kW 9.5 400V kW 16 500V kW 21 690V kW 27  IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series  ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A -  IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series  ≤24V A 18 48V A 18 75V A 18 48V A 18 75V A 17 110V A 12 220V A 1  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  ≤24V A 18 48V A 18 75V A 17 110V A 12 220V A 1  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  ≤24V A 20 48V A 20 75V A 20 110V A 15 220V A 1  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  ≤24V A 20 48V A 20 75V A 20 110V A 15 220V A 10  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		AC-1 (≤40°C)	Α	25
AC-3 (≤440V ≤55°C)   A   9     AC-4 (400V)   A   4.9     Rated operational power AC-1 (T≤40°C)     230V   kW   9.5     400V   kW   16     500V   kW   21     690V   kW   27     IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series     524V   A   15     48V   A   13     75V   A   12     110V   A   6     220V   A   7     IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series     524V   A   18     48V   A   18     48V   A   18     48V   A   18     75V   A   17     110V   A   12     220V   A   1     IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series     524V   A   20     48V   A   20     75V   A   20     110V   A   15     220V   A   10     IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series     524V   A   20     48V   A		AC-1 (≤55°C)	Α	20
Rated operational power AC-1 (T≤40°C)  230V kW 9.5 400V kW 16 500V kW 21 690V kW 27  IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series  ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A -  IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series  ≤24V A 18 48V A 18 75V A 18 48V A 18 75V A 17 110V A 18 75V A 17 110V A 12 220V A 1  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  ≤24V A 20 48V A 20 75V A 20 110V A 15 220V A 10  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		AC-1 (≤70°C)	Α	18
Rated operational power AC-1 (T≤40°C)  230V kW 9.5 400V kW 16 500V kW 21 690V kW 27  IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series  ≤24V A 15 48V A 13 75V A 12 110V A 6 220V A -  IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series  ≤24V A 18 48V A 18 48V A 18 75V A 17 110V A 18 48V A 18 75V A 17 110V A 12 220V A 1  IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series  ≤24V A 20 48V A 20 75V A 20 110V A 15 220V A 10  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		AC-3 (≤440V ≤55°C)	Α	9
230V   kW   9.5   400V   kW   16   500V   kW   21   690V   kW   27		AC-4 (400V)	Α	4.9
400V   kW   16   500V   kW   21   690V   kW   27	Rated operational power AC-1 (T≤40°C)			
S00V   kW   21   690V   kW   27		230V	kW	9.5
BEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series   S24V   A   15		400V	kW	16
Section   Sec		500V	kW	21
S24V		690V	kW	27
	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
T5V		≤24V	Α	15
110V   A   6   220V   A   −		48V	Α	13
EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series   ≤24V		75V	Α	12
Section   Sec		110V	Α	6
		220V	Α	_
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
T5V   A   17   110V   A   12   220V   A   1   1   1   1   1   1   1   1   1		≤24V	Α	18
110V   A   12   220V   A   1     1   1   1   1   1   1   1		48V	Α	18
EC max current le in DC1 with L/R $\leq$ 1ms with 3 poles in series   $\leq$ 24V   A   20   48V   A   20   75V   A   20   110V   A   15   220V   A   10     EC max current le in DC1 with L/R $\leq$ 1ms with 4 poles in series   $\leq$ 24V   A   20   48V   A   20   48V   A   20   48V   A   20   75V   A   20   75V   A   20   110V   A   16   16   16   16   16   16   16			Α	17
Section   Sec			Α	12
		220V	Α	1
	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
			Α	
110V   A   15   220V   A   10				
220V A 10   IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series   ≤24V A 20   48V A 20   75V A 20   110V A 16				
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  ≤24V A 20 48V A 20 75V A 20 110V A 16				
≤24V A 20 48V A 20 75V A 20 110V A 16		220V	A	10
48V A 20 75V A 20 110V A 16	IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
75V A 20 110V A 16				
110V A 16				
220V A 12				
		220V	Α	12



### FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 25A, AC COIL 50/60HZ,

IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
·	≤24V	Α	10
	48V	Α	9
	75V	Α	8
	110V	Α	2
	220V	Α	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
The max surrent to in 200 200 mar 2/10 Follow mar 2 poles in solids	≤24V	Α	13
	48V	A	11
	75V	A	10
	110V	A	7
	220V	A	2
IEC may current to in DC2 DC5 with L/D < 15mg with 2 notes in series	220 V		
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	<0.4) /	^	4.5
	≤24V	A	15
	48V	A	15
	75V	Α	13
	110V	Α	11
	220V	Α	6
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	Α	15
	48V	Α	15
	75V	Α	15
	110V	Α	12
	220V	Α	7
Short-time allowable current for 10s (IEC/EN60947-1)		Α	150
Protection fuse			
	gG (IEC)	Α	25
	aM (IEC)	Α	10
Making capacity (RMS value)		Α	90
Breaking capacity at voltage			
	440V	Α	72
	500V	Α	72
	690V	A	71
Resistance per pole (average value)	000 V	mΩ	2.5
Power dissipation per pole (average value)		11122	2.0
Tower dissipation per pole (average value)	Ith	W	1.6
		W	
Tightoning torque for terminals	AC-3	VV	0.2
Tightening torque for terminals		N 1	4.5
	min	Nm	1.5
	max	Nm	1.8
	min	Ibin	1.1
	max	Ibin	1.5
Tightening torque for coil terminal			
	min	Nm	0.8
	max	Nm	1
	min	Ibin	0.8
	max	Ibin	0.74
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
AWG/Kcmil			
	max		10
Flexible w/o lug conductor section			
	min	mm²	1
	·		





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		max	mm²	6
	Flexible c/w lug conductor section			
		min	mm²	1
		max	mm²	4
	Flexible with insulated spade lug conduc			
		min	mm²	1
		max	mm²	4
Power terminal protect	ction according to IEC/EN 60529			IP20 when
	stort decording to 120/214 00025			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail
ining				35mm
Weight			g	368
Conductor section				
	AWG/kcmil conductor section			
		max		10
Operations				
Mechanical life			cycles	20000000
Electrical life			cycles	2000000
Safety related data				
·	0d according to EN/ISO 13489-1			
	<b>3</b>	rated load	cycles	2000000
		mechanical load	cycles	20000000
Mirror contats accordi	ing to IEC/EN 609474-4-1		0,0.00	yes
EMC compatibility				yes
AC coil operating				you
Rated AC voltage at 5	50/60Hz		V	48
AC operating voltage			<u> </u>	
to operating voltage	of 50/60Hz coil powered at 50Hz			
	pick-up			
	ρισκ-αρ	min	%Us	80
		max	%Us	110
	dron-out	Παλ	/003	110
	drop-out	min	%Us	20
		min	%Us %Us	
	of EO/GOHz goil powered at GOHz	max	/ <sub>0</sub> US	55
	of 50/60Hz coil powered at 60Hz			
	pick-up	,	0/110	0.5
		min	%Us	85
	-l4	max	%Us	110
	drop-out	•	0/11-	20
		min	%Us	20
	1, 10000	max	%Us	55
AC average coil cons	•			
	of 50/60Hz coil powered at 50Hz			
		in-rush	VA	75
		holding	VA	9
	of 50/60Hz coil powered at 60Hz			
		in-rush	VA	70
		holding	VA	6.5
	of 60Hz coil powered at 60Hz			
		in-rush	VA	75



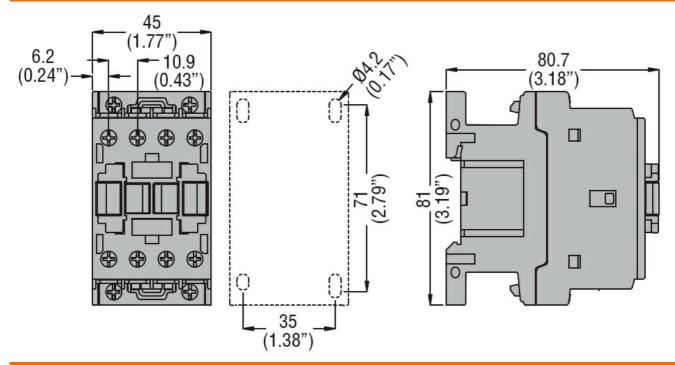
## FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 25A, AC COIL 50/60HZ, 48VAC

	holding	VA	9
Dissipation at holding ≤20°C 50Hz	<u></u>	W	2.5
Max cycles frequency			
Mechanical operation		cycles/h	3600
Operating times			
Average time for Us control			
in AC Closing NO			
Closing NO	min	ms	8
	max	ms	24
Opening NO	· · · · · ·		
opaninge	min	ms	10
	max	ms	20
Closing NC			
•	min	ms	14
	max	ms	28
Opening NC			
	min	ms	7
	max	ms	18
UL technical data			
Full-load current (FLA) for three-phase AC motor			
	at 480V	Α	7.6
	at 600V	Α	0.375
Yielded mechanical performance			
for single-phase AC motor	440/400/		0.75
	110/120V	HP	0.75
for three whose AC mater	230V	HP	2
for three-phase AC motor	200/2001	LID	0
	200/208V 220/230V	HP HP	3
	460/480V	HP	5
	575/600V	HP	7.5
General USE	37 07000 V		7.0
Contactor			
Comación	AC current	Α	25
Short-circuit protection fuse, 600V			
High fault			
<b>3</b>	Short circuit current	kA	100
	Fuse rating	Α	30
	Fuse class		J
Standard fault			
	Short circuit current	kA	5
	Fuse rating	Α	60
Ambient conditions			
Temperature			
Operating temperature		^ <del>-</del>	
	min	°C	-50 50
01	max	°C	70
Storage temperature		00	00
	min	°C	-60
Max altitude	max	°C	80
Resistance & Protection		m	3000
Pollution degree			3
1 Ollulion degree			J

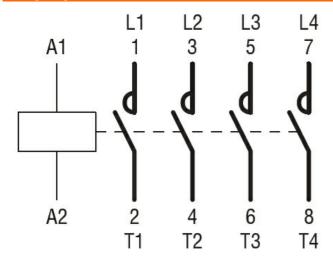
**ENERGY AND AUTOMATION** 

FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 25A, AC COIL 50/60HZ,

#### **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

ETIM 8.0

EC000066 -Power contactor, AC switching