ENERGY AND AUTOMATION



Product type designation BGF09 Contact characteristics			_	
Contact characteristicsNumber of polesNr.3Rated insulation voltage Ui IEC/ENV690Rated insulation voltage UimpkV6Operational frequencyminHz25maxHz4004IEC Conventional free air thermal current lthA20Operational current leAC-1 (≤40°C)A20AC-1 (≤55°C)A18AC-1 (≤55°C)A9AC-3 (≤440V ≤55°C)A9AC-4 (400V)A4Rated operational power AC-3 (T≤55°C)230VkW2.2400VkW4.34400VkW4.5500VkW4.5500VkW5Rated operational power AC-1 (T≤40°C)230VkW8400VkW4.5500VkW5690VkW2.2400V41EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series524VA1248VA1075VA1248VA1075VA41075VA1475VA1475VA1475VA1475VA1475VA1648VA1675VA1648VA1675VA1648VA1675VA1610VA1010VA1010VA1010VA1010V1010V <t< th=""><th>•</th><th></th><th></th><th>Power contactor</th></t<>	•			Power contactor
Number of poles Nr. 3 Rated insulation voltage Ui IEC/EN V 690 Rated insulation voltage Uimp KV 6 Operational frequency min Hz 25 max Hz 400 1 IEC Conventional free air thermal current lth A 20 Operational current le AC-1 (≤40°C) A 20 AC-1 (≤55°C) A 18 AC-1 (≤55°C) A 9 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 4.2 400V kW 4.4 Rated operational power AC-1 (T≤40°C) 230V kW 4.5 500V kW 4.5 S00V kW 4.5 500V kW 5 6.6 4.6 4.1 5.0 4.6 4.1 6.0 4.6 4.1 5.0 4.6 4.1 6.0 4.1 4.1 5.0 4.1 4.1 6.0 4.1 <td>Product type designation</td> <td></td> <td></td> <td>BGF09</td>	Product type designation			BGF09
Rated insulation voltage Ui IEC/ENV690Rated inpulse withstand voltage UimpkV6Operational frequencyminHz25iEC Conventional frequencymaxHz400IEC conventional current leAC-1 (\$40°C)A20Operational current leAC-1 (\$55°C)A18AC-1 (\$55°C)A15AC-3 (\$55°C)A9AC-3 (\$400 > 55°C)230VkW2.2Acted operational power AC-3 (T≤55°C)230VkW4Atted operational power AC-3 (T≤55°C)230VkW4.5Stopp kW5500VkW5Rated operational power AC-1 (T≤40°C)230VkW8400VkW4.5500VkW14500VkW14500VkW14500VkW16690VkW22IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series≤24VA1248VA1075VA4110VA3220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series≤24VA1548VA1475VA9110VA8220VA-12C max current le in DC1 with L/R ≤ 1ms with 3 poles in series≤24VA1648VA1675VA1648VA1675VA10110VA1	Contact characteristics			
Rated impulse withstand voltage UimpkV6Operational frequencyminHz25maxHz400IEC Conventional free air thermal current lthA20Operational current leAC-1 (\$40°C)A20AC-1 (\$570°C)A18AC-1 (\$70°C)A15AC-3 (\$440V \$55°C)A9AC-4 (400V)A4Rated operational power AC-3 (T≤55°C)230VkW2.2400VkW4.3440VkW4.5500VkW4.5500VkW5Rated operational power AC-1 (T≤40°C)230VkW8400VkW4.5500VkW16690VkW16690VkW16690VkW16690VkW3220VA1248VA1075VA4110VA3220VA1548VA1475VA9110VA8220VA1648VA1675VA1648VA1675VA1675VA1675VA1675VA1675VA1675VA1675VA1675VA16 <td< td=""><td>Number of poles</td><td></td><td>Nr.</td><td>3</td></td<>	Number of poles		Nr.	3
Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 20 Operational current le AC-1 (≤40°C) A 20 AC-1 (≤55°C) A 18 AC-1 (≤55°C) A 18 AC-1 (≤70°C) A 9 AC-4 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.3 440V kW 4.3 440V kW 4.5 500V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 14 500V kW 16 690V kW 16 690V kW 10 75V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 15 48V	Rated insulation voltage Ui IEC/EN		V	690
Operational frequency min Hz 25 max Hz 400 IEC Conventional free air thermal current lth A 20 Operational current le AC-1 (≤40°C) A 20 AC-1 (≤55°C) A 18 AC-1 (≤55°C) A 18 AC-1 (≤70°C) A 9 AC-4 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.3 440V kW 4.3 440V kW 4.5 500V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 14 500V kW 16 690V kW 16 690V kW 10 75V A 1 IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 15 48V			kV	6
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				
max Hz 400 IEC Conventional free air thermal current lth A 20 Operational current le AC-1 (≤40°C) A 20 AC-1 (≤55°C) A 18 AC-1 (≤40°C) A 9 AC-1 (≤40V AC-1 (≤40VC) A 9 AC-3 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4 Rated operational power AC-3 (T≤55°C) 230V kW 4.3 440V kW 4.5 S00V kW 4.5 500V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 16 690V kW 16 690V kW 16 690V kW 12 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series 524V A 12 48V A 10 75V A 4 110V A 3 220V A -		min	Hz	25
IEC Conventional free air thermal current lth A 20 Operational current le AC-1 (s40°C) A 20 AC-1 (s55°C) A 18 AC-1 (s70°C) A 15 AC-3 (s440v s55°C) A 9 AC-4 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4 415V kW 4.3 440V 500V kW 4.5 500V kW 4.5 500V kW 4.5 500V kW 5 690V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 14 500V kW 14 500V kW 14 500V kW 14 690V kW 22 1EC 10 75V A 10 75V A 110V A 3 220V A - 15 48V A 10 15 48V A 14 75V A 110V A 14				
Operational current le AC-1 (\$40°C) A 20 AC-1 (\$55°C) A 18 AC-1 (\$70°C) A 15 AC-3 (\$440V \$55°C) A 9 AC-4 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4.3 440V kW 4.3 440V kW 4.5 500V kW 5 690V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 4.5 500V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 14 500V kW 22	IEC Conventional free air thermal current Ith			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		AC-1 (<40°C)	Δ	20
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4 415V kW 4.3 440V kW 4.5 500V kW 5 690V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 14 500V kW 14 500V kW 14 500V kW 14 690V kW 14 500V kW 12 48V A 10 75V A 4 110V A 3 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series 524V A 15 48V A 10 75V A 4 110V A 3 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series 524V A 15 48V				
AC-4 (400V) A 4 Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4 415V kW 4.3 440V kW 4.5 500V kW 5 690V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 8 400V kW 8 400V kW 8 400V kW 8 400V kW 8 400V kW 8 400V kW 8 10 690V kW 12 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 12 48V A 10 75V A 4 110V A 3 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 15 48V A 14 75V A 9 110V A 8 220V A				
Rated operational power AC-3 (T≤55°C) 230V kW 2.2 400V kW 4 415V kW 4.3 440V kW 4.5 500V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 230V kW 8 400V kW 14 500V kW 14 500V kW 16 690V kW 12 48V A 10 75V A 4 110V A 3 220V A - 15 48V A 14 75V A 4 110V A 3 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 15 48V A 14 75V A 9 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 15 48V A 14 75V A </td <td></td> <td>. , ,</td> <td></td> <td></td>		. , ,		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Rated operational power ΛC_3 (T<55°C)		Λ	4
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		2201/	L\\/	2.2
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				
$ \begin{array}{c} 440 \vee & k \Psi & 4.5 \\ 500 \vee & k \Psi & 5 \\ 690 \vee & k \Psi & 5 \\ \hline \\ 8400 \vee & k \Psi & 8 \\ 400 \vee & k \Psi & 14 \\ 500 \vee & k \Psi & 16 \\ 690 \vee & k \Psi & 22 \\ \hline \\ IEC max current le in DC1 with L/R \leq 1ms with 1 poles in series \\ \end{array} $				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
690V kW 5 Rated operational power AC-1 (T≤40°C) 230V kW 8 400V kW 14 500V kW 14 500V kW 16 690V 690V 22 IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series ≤24V A 12 48V A 10 75V A 4 110V A 3 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 15 48V A 14 75V A 9 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series ≤24V A 15 48V A 14 75V A 9 110V A 8 220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 16 48V A 16 48V A 16 75V A 10 10 10				
Rated operational power AC-1 (T≤40°C)230VkW8400VkW14500VkW16690VkW22IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $\leq 24V$ A1248VA1075VA4110VA3220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $\leq 24V$ A1548VA1475VA9110VA8220VA-IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A1648VA1675VA1648VA1675VA10110VA10110VA10				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		690V	KVV	5
$ \begin{array}{c cccc} & 400 \\ & 400 \\ & 500 \\ & kW \\ & 16 \\ & 690 \\ & kW \\ & 22 \\ \end{array} \\ \hline \begin{tabular}{lllllllllllllllllllllllllllllllllll$	Rated operational power AC-1 (1≤40°C)	0001/		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				
IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series $\leq 24V$ A1248VA1075VA4110VA3220VA-IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series $\leq 24V$ A1548VA1475VA9110VA8220VA-IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series $\leq 24V$ A16 $48V$ A10 $110V$ A10				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		690V	kW	22
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with $L/R \le 1$ ms with 1 poles in series			
$\begin{array}{cccc} 75 & A & 4 \\ 110 & A & 3 \\ 220 & A & - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 2 poles in series $\begin{array}{cccc} \leq 24 & A & 15 \\ 48 & A & 14 \\ 75 & A & 9 \\ 110 & A & 8 \\ 220 & A & - \end{array}$ IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\begin{array}{cccccccccccccccccccccccccccccccccccc$				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			А	
$\begin{array}{c c c c c c c } \hline 220 & A & - \\ \hline \mbox{IEC max current le in DC1 with L/R \le 1ms with 2 poles in series} \\ \hline \mbox{$\leq 24V$ & A & 15$} \\ \hline \mbox{$48V$ & A & 14$} \\ \hline \mbox{$75V$ & A & 9$} \\ \hline \mbox{$110V$ & A & 8$} \\ \hline \mbox{$220V$ & A & -$} \\ \hline \mbox{IEC max current le in DC1 with L/R \le 1ms with 3 poles in series} \\ \hline \mbox{$\leq 24V$ & A & 16$} \\ \hline \mbox{$\leq 24V$ & A & 16$} \\ \hline \mbox{$48V$ & A & 16$} \\ \hline \mbox{$75V$ & A & 10$} \\ \hline \mbox{$110V$ & A & 10$} \\ \hline \end{array}$				
IEC max current le in DC1 with L/R < 1ms with 2 poles in series				3
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		220V	A	-
$ \begin{array}{ccccccc} 48 V & A & 14 \\ 75 V & A & 9 \\ 110 V & A & 8 \\ 220 V & A & - \\ \hline \\ \hline \\ IEC \mbox{ max current le in DC1 with L/R \leq 1ms with 3 poles in series} \\ \end{array} \\ \begin{array}{ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with $L/R \le 1$ ms with 2 poles in series			
$\begin{array}{cccccccc} 75 & A & 9 \\ 110 & A & 8 \\ 220 & A & - \end{array}$ IEC max current le in DC1 with L/R \leq 1ms with 3 poles in series $\begin{array}{cccccccccccccccccccccccccccccccccccc$		≤24V	А	15
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		48V	А	14
220V A - IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series ≤24V A 16 48V A 16 75V A 10 110V A 10 10 10				9
IEC max current le in DC1 with L/R < 1ms with 3 poles in series $\leq 24V$ A1648VA1675VA10110VA10			А	8
≤24V A 16 48V A 16 75V A 10 110V A 10		220V	Α	
48V A 16 75V A 10 110V A 10	IEC max current le in DC1 with $L/R \le 1$ ms with 3 poles in series			
48V A 16 75V A 10 110V A 10		≤24V	А	16
75V A 10 110V A 10		48V		16
		75V		
		110V	А	10
220V A 2		220V	А	2



IEC max current le in DC1 with $L/R \le 1$ ms with 4 poles in series			
	≤24V	А	16
	48V	A	16
	75V	A	10
	110V	A	10
	220V	A	2
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
	≤24V	А	7
	48V	А	6
	75V	А	2
	110V	А	1
	220V	А	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
	≤24V	А	8
	48V	А	8
	75V	А	5
	110V	А	4
	220V	A	_
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 3 poles in series			
	≤24V	А	10
	48V	А	10
	75V	А	6
	110V	А	5
	220V	А	0,8
IEC max current le in DC3-DC5 with L/R ≤ 15ms with 4 poles in series			
	≤24V	А	10
	48V	А	10
	75V	А	6
	110V	А	5
	220V	А	0,8
Short-time allowable current for 10s (IEC/EN60947-1)		А	96
Protection fuse			
	gG (IEC)	А	20
	aM (IEC)	А	10
Making capacity (RMS value)		А	92
Breaking capacity at voltage			
	440V	А	72
	500V	А	72
	690V	А	72
Resistance per pole (average value)		mΩ	10
Power dissipation per pole (average value)			
	Ith	W	4
	AC-3	W	0.81
Tightening torque for terminals			
	min	Nm	0.8
	max	Nm	1
	min	lbin	9
	max	lbin	9
Tightening torque for coil terminal			<u>.</u>
	min	Nm	0.8
	max	Nm	1
	min	lbin	9
	max	lbin	9



ENERGY AND AUTOMATION

11BGF0901D048 electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC

AUXILIARY CONTACT, FASTON TERMINALS

Max number of wires	simultaneously connectable		Nr.	2
Conductor section			-	
	AWG/Kcmil			
		max		12
	Flexible w/o lug conductor section			
		min	mm²	0.75
		max	mm²	2.5
	Flexible c/w lug conductor section			
		min	mm²	1.5
	Flavible with inculated anode lug conductor conting	max	mm²	2.5
	Flexible with insulated spade lug conductor section	min	mm²	1.5
		max	mm²	2.5
		Παλ		IP20 when
Power terminal protect	ction according to IEC/EN 60529			properly wired
Mechanical features				
Operating position				
		normal		Vertical plan
		allowable		±30°
Fixing				Screw / DIN rail 35mm
Weight			g	224
Conductor section				
	AWG/kcmil conductor section			
		max		12
Auxiliary contact chara	acteristics			10
Thermal current Ith			A	10
IEC/EN 60947-5-1 de	-			A600 - Q600
Operating current AC	15	230V	۸	3
		230V 400V	A A	3 1.9
		400V 500V	A	1.4
Operating current DC	12	0001	73	1.7
oporating current 20		110V	А	2.9
Operating current DC	13			
		24V	А	2.9
		48V	А	1.4
		60V	А	1.1
		125V	А	0.3
		220V	А	0.1
		600V	А	0.6
Operations				
Mechanical life			cycles	2000000
			cycles	500000
Safety related data				
Electrical life Safety related data Performance level B1	0d according to EN/ISO 13489-1			500000
Safety related data		rated load	cycles	500000
Safety related data Performance level B1	mec	rated load hanical load	cycles cycles	2000000
Safety related data Performance level B1 Mirror contats accord			-	20000000 yes
Safety related data Performance level B1 Mirror contats accord EMC compatibility	mec		-	2000000
Safety related data Performance level B1	mec ing to IEC/EN 609474-4-1		-	20000000 yes

11BGF0901D048 electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC AUXILIARY CONTACT, FASTON TERMINALS

ENERGY AND AUTOMATION

pick-up				
F 4F		min	%Us	75
		max	%Us	115
drop-out				
		min	%Us	10
		max	%Us	25
Average coil consumption ≤20°C				
		in-rush	W	3.2
		holding	W	3.2
Max cycles frequency				
Mechanical operation			cycles/h	3600
Operating times				
Average time for Us control				
in AC				
	Closing NO			
		min	ms	12
		max	ms	21
	Opening NO			
		min	ms	9
		max	ms	18
	Closing NC			
		min	ms	17
		max	ms	26
	Opening NC			
		min	ms	7
		max	ms	17
in DC				
	Closing NO			
		min	ms	18
		max	ms	25
	Opening NO			
		min	ms	2
		max	ms	3
	Closing NC			
		min	ms	3
		max	ms	5
	Opening NC			
		min	ms	11
		max	ms	17
JL technical data				
Full-load current (FLA) for three-pha	ase AC motor			
		at 480V	А	7.6
		at 600V	А	6.1
Yielded mechanical performance				
for single-pl	hase AC motor			
		110/120V	HP	0.5
		230V	HP	1.5
for three-ph	ase AC motor			
		200/208V	HP	2
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	5

Contactor

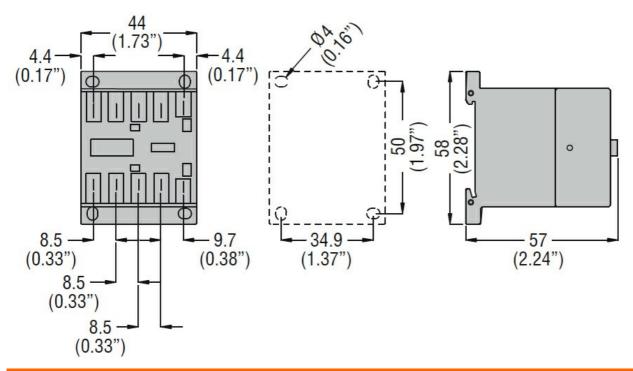
ENERGY AND AUTOMATION

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electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC AUXILIARY CONTACT, FASTON TERMINALS

11BGF0901D048

	AC current	Α	20
Short-circuit protection fuse, 600V			
High fault			
u u u u u u u u u u u u u u u u u u u	Short circuit current	kA	100
	Fuse rating	А	30
	Fuse class		J
Standard fault			
	Short circuit current	kA	5
	Fuse rating	А	30
Contact rating of auxiliary contacts according to UL			A600 - Q600
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-50
	max	°C	+70
Storage temperature			
	min	°C	-60
	max	°C	+80
Max altitude		m	3000
Resistance & Protection			
Pollution degree			3
Dimensions			

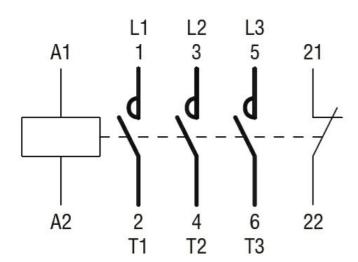


Wiring diagrams

11BGF0901D048



electric THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL, 48VDC, 1NC AUXILIARY CONTACT, FASTON TERMINALS



Certifications and compliance

Compliance

Compliance	
	CSA C22.2 n° 60947-1
	CSA C22.2 n° 60947-4-1
	IEC/EN 60947-1
	IEC/EN 60947-4-1
	UL 60947-1
	UL 60947-4-1
Certificates	
	CCC
	cULus
	EAC
FTIM classification	

ETIM 8.0

ETIM

EC000066 -Power contactor, AC switching