



Product type designation         BGF09           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         25           max         Hz         400         400           IEC Conventional free air thermal current Ith         A         20           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-1 (T≤40°C)         230V         kW         8         400V         kW         14           500V         kW         16         690V         kW         22         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         -         -  <				
Product type designation   SGF09	Product designation			Power contactor
No.   A   Rated insulation voltage Ui IEC/EN   V   690	<u> </u>			BGF09
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         20           Operational current le         AC-1 (≤40°C)         A         20           AC-1 (≤55°C)         A         18         AC-1 (≤70°C)         A         15           AC-3 (≤4400 ≤55°C)         A         9         AC-4 (400V)         A         4           Rated operational power AC-1 (T≤40°C)         230V         kW         16         690V         kW         16           AC-3 (≤4400 ≤55°C)         A         9         AC-4 (400V)         A         4				
Rated impulse withstand voltage Uimp	Number of poles		Nr.	4
Operational frequency         min max Hz max         Hz hz Hz Hz 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 15 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4           Rated operational power AC-1 (T≤40°C)           230V kW 8 400V kW 14 500V kW 14 500V kW 16 690V kW 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 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 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 75V A 10 110V A 10           110V A 16 48V A 16 75V A 10 110V A 10           110V A 16 48V A 16 75V A 16 48V A 16 75V			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 lith		min	Hz	25
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-1 (T≤40°C)       230V kW 8 400V kW 14 500V kW 16 690V kW 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 3 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 75V A 10 110V A 10 220V A 2         IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series       ≤24V A 16 48V A 16 75V A 10 110V A 16 48V A 16 48V A 16 75V A 10 110V A 10 10 10V A 10 10 10V A 10 10 10V A 10 10V A 10 10V A 10 1		max	Hz	400
AC-1 (≤40°C)	IEC Conventional free air thermal current Ith		Α	20
AC-1 (≤55°C)	Operational current le			
AC-1 (≤70°C) A 15 AC-3 (≤440V ≤55°C) A 9 AC-4 (400V) A 4  Rated operational power AC-1 (T≤40°C)  230V kW 8 400V kW 14 500V kW 16 690V kW 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 3 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 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 75V A 10 110V A 10 220V A 2  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		AC-1 (≤40°C)	Α	20
AC-3 (≤440V ≤55°C)   A   9     AC-4 (400V)   A   4     Rated operational power AC-1 (T≤40°C)     230V   kW   8     400V   kW   14     500V   kW   16     690V   kW   22     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   8     220V   A   -     IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series     524V   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     524V   A   16     48V   A   16     75V   A   10     110V   A   10     220V   A   2     IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series     524V   A   16     48V   A   16     75V   A   10     110V   A   16     48V   A   16     75V   A   10		AC-1 (≤55°C)	Α	18
Rated operational power AC-1 (T≤40°C)   230V   kW   8   400V   kW   14   500V   kW   16   690V   kW   22		AC-1 (≤70°C)	Α	15
Rated operational power AC-1 (T≤40°C)  230V kW 8 400V kW 14 500V kW 16 690V kW 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 10 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 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 75V A 10 110V A 10 220V A 2  IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		AC-3 (≤440V ≤55°C)	Α	9
230V   kW   8   400V   kW   14   500V   kW   16   690V   kW   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   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   16   48V   A   16   75V   A   10   110V   A   10   220V   A   2      IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series   ≤24V   A   16   48V   A   16   75V   A   2   10   110V   A		AC-4 (400V)	Α	4
A00V   kW   14   500V   kW   16   690V   kW   22	Rated operational power AC-1 (T≤40°C)			
S00V   kW   16   690V   kW   22		230V	kW	8
EC max current le in DC1 with L/R ≤ 1ms with 1 poles in series   ≤24V		400V	kW	14
Section   Sec		500V	kW	16
		690V	kW	22
	IEC max current le in DC1 with L/R ≤ 1ms with 1 poles in series			
T5V		≤24V	Α	12
110V   A   3   220V   A   -		48V	Α	10
EC max current le in DC1 with L/R ≤ 1ms with 2 poles in series   ≤24V		75V	Α	4
IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series   ≤24V			Α	3
		220V	Α	_
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IEC max current le in DC1 with L/R ≤ 1ms with 2 poles in series			
T5V   A   9   110V   A   8   220V   A   -			Α	
110V   A   8   220V   A   -			Α	14
EC max current le in DC1 with L/R $\leq$ 1ms with 3 poles in series   $\leq$ 24V   A   16   48V   A   16   75V   A   10   110V   A   10   220V   A   2     EC max current le in DC1 with L/R $\leq$ 1ms with 4 poles in series   $\leq$ 24V   A   16   48V   A   16   48V   A   16   48V   A   16   75V   A   10   110V   A   10   110V				
Section   Sec			Α	8
≤24V   A   16   48V   A   16   75V   A   10   110V   A   10   220V   A   2   2   2   2   2   2   2   2   2		220V	A	_
	IEC max current le in DC1 with L/R ≤ 1ms with 3 poles in series			
110V   A   10   220V   A   2				
220V A 2				
IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series  ≤24V A 16 48V A 16 75V A 10 110V A 10				
≤24V A 16 48V A 16 75V A 10 110V A 10		220V	A	2
48V A 16 75V A 10 110V A 10	IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
75V A 10 110V A 10				
110V A 10				
220V A 2				
		220V	Α	2



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IEC max current le in E	DC3-DC5 with L/R ≤ 15ms with 1 poles in series			
		≤24V	Α	7
		48V	Α	6
		75V	Α	2
		110V	Α	_ 1
		220V	A	- -
IFO	200 DOE with 1/D < 45 with 0 1 in ni	220 V		
IEC max current le in L	DC3-DC5 with L/R ≤ 15ms with 2 poles in series			
		≤24V	Α	8
		48V	Α	8
		75V	Α	5
		110V	Α	4
		220V	Α	_
IFC may current le in F	DC3-DC5 with L/R ≤ 15ms with 3 poles in series		- , ,	
ILO IIIAX CUITEIILIE III L	DC3-DC3 with L/IX = 13ms with 3 poles in series	<b>2041</b> /	^	40
		≤24V	Α	10
		48V	Α	10
		75V	Α	6
		110V	Α	5
		220V	Α	0,8
IEC max current le in Γ	DC3-DC5 with L/R ≤ 15ms with 4 poles in series			,
ILO MAX GAMONI IO III L	700 Boo with E/TC = Tome with 4 poles in somes	≤24V	۸	10
			A	10
		48V	Α	10
		75V	Α	6
		110V	Α	5
		220V	Α	0,8
Short-time allowable co	urrent for 10s (IEC/EN60947-1)		Α	96
Protection fuse				
1 TOLCOHOLI TUSC		aC (IEC)	۸	20
		gG (IEC)	A	
		aM (IEC)	Α	10
Making capacity (RMS	value)		Α	92
Breaking capacity at vo	oltage			
		440V	Α	72
		500V	Α	72
		690V	Α	72
Posistanos per pela (o	verage value)	030 V		
Resistance per pole (a			mΩ	10
Power dissipation per p	pole (average value)			
		Ith	W	4
		AC-3	W	0.81
Tightening torque for te	erminals			
5 5 12 22 22		min	Nm	0.8
			Nm	
		max		1
		min	lbin	9
		max	lbin	9
Tightening torque for co	oil terminal			
		min	Nm	0.8
		max	Nm	1
		min	lbin	9
			lbin	9
Max must an af 1111	institute a constitute a consti	max		
	imultaneously connectable		Nr.	2
Conductor section				
	AWG/Kcmil			
		max		12
	Flexible w/o lug conductor section	111000		
	I IOAIDIC W/O ING COMMUNICION SECTION	min	mm²	0.75
		min	mm²	0.75







	max	mm²	2.5
	Flexible c/w lug conductor section		
	min	mm²	1.5
	max	mm²	2.5
	Flexible with insulated spade lug conductor section		
	min	mm²	1.5
	max	mm²	2.5 IP20 when
Power terminal protect	tion according to IEC/EN 60529		properly wired
Mechanical features			propony who
Operating position			
	normal		Vertical plan
	allowable		±30°
Fixing			Screw / DIN rail 35mm
Weight		g	210
Auxiliary contact chara	cteristics		
Thermal current Ith	- · · ·	Α	10
IEC/EN 60947-5-1 des	signation		Q600
Operations Mechanical life		cycles	20000000
Electrical life		cycles	500000
Safety related data		Cycles	300000
	Od according to EN/ISO 13489-1		
	rated load	cycles	500000
	mechanical load	cycles	20000000
EMC compatibility			yes
DC coil operating			
DC rated control voltage	је	V	48
DC operating voltage	atal		
	pick-up min	%Us	75
	max	%Us	115
	drop-out	7000	
	min	0/11	
		%Us	10
	max	%Us %Us	10 25
Average coil consump	max	%Us	25
Average coil consump	max tion ≤20°C in-rush	%Us W	3.2
	tion ≤20°C	%Us	25
Max cycles frequency	max tion ≤20°C in-rush	%Us W W	3.2 3.2
Max cycles frequency Mechanical operation	max tion ≤20°C in-rush	%Us W	3.2 3.2
Max cycles frequency Mechanical operation Operating times	max tion ≤20°C in-rush holding	%Us W W	3.2 3.2
Max cycles frequency Mechanical operation	max tion ≤20°C in-rush holding ontrol	%Us W W	3.2 3.2
Max cycles frequency Mechanical operation Operating times	max tion ≤20°C in-rush holding	%Us W W	3.2 3.2
Max cycles frequency Mechanical operation Operating times	max tion ≤20°C in-rush holding  ontrol in AC	%Us W W	3.2 3.2
Max cycles frequency Mechanical operation Operating times	tion ≤20°C  in-rush holding  ontrol in AC  Closing NO  min max	%Us W W cycles/h	3.2 3.2 3600
Max cycles frequency Mechanical operation Operating times	tion ≤20°C  in-rush holding  ontrol in AC  Closing NO  min max  Opening NO	%Us W W cycles/h ms ms	3.2 3.2 3600
Max cycles frequency Mechanical operation Operating times	tion ≤20°C  in-rush holding  ontrol in AC  Closing NO  min max  Opening NO  min	%Us W W cycles/h ms ms	3.2 3.2 3600 12 21
Max cycles frequency Mechanical operation Operating times	tion ≤20°C  in-rush holding  ontrol in AC  Closing NO  min  max  Opening NO  min  max	%Us W W cycles/h ms ms	3.2 3.2 3600
Max cycles frequency Mechanical operation Operating times	tion ≤20°C  in-rush holding  ontrol in AC  Closing NO  min max  Opening NO  min max  Closing NC	%Us W W cycles/h ms ms ms	3.2 3.2 3600 12 21 9 18
Max cycles frequency Mechanical operation Operating times	tion ≤20°C  in-rush holding  ontrol in AC  Closing NO  min max  Opening NO  min max  Closing NC  min	%Us  W W  cycles/h  ms ms ms ms	3.2 3.2 3600 12 21 9 18
Max cycles frequency Mechanical operation Operating times	tion ≤20°C  in-rush holding  ontrol in AC  Closing NO  min max  Opening NO  min max  Closing NC	%Us W W cycles/h ms ms ms	3.2 3.2 3600 12 21 9 18



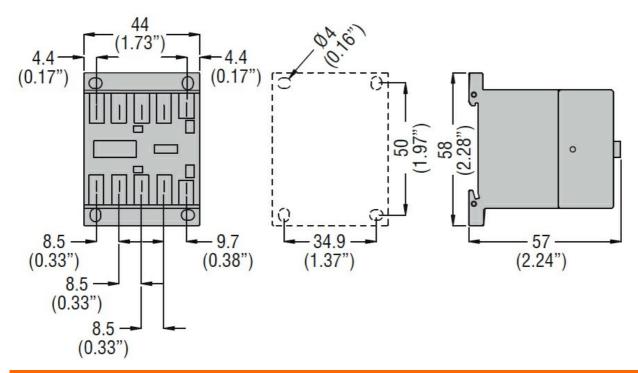


## FOUR-POLE CONTACTOR, DC COIL, 48VDC, FASTON TERMINALS

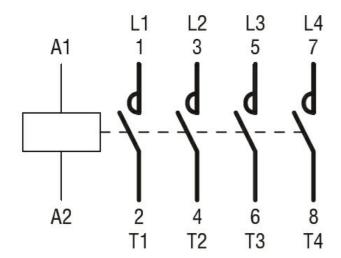
				7
		min	ms	7
	. 50	max	ms	17
	in DC			
	Closing NO			4.0
		min	ms	18
	0 1 10	max	ms	25
	Opening NO			•
		min	ms	2
	Olasia NO	max	ms	3
	Closing NC			•
		min	ms	3
	On anima NO	max	ms	5
	Opening NC			44
		min	ms	11
III. ta abada al alata		max	ms	17
UL technical data	ana AC (III)		\/	000
Rated operational volta			V	600
Full-load current (FLA)	for three-phase AC motor			7.0
		at 480V	Α	7.6
		at 600V	Α	6.1
Yielded mechanical pe				
	for single-phase AC motor			
		110/120V	HP	0.5
		230V	HP	1.5
	for three-phase AC motor			
		200/208V	HP	2
		220/230V	HP	3
		460/480V	HP	5
		575/600V	HP	5
General USE				
	Contactor			
		AC current	A	20
Short-circuit protection				
	High fault			
		Short circuit current	kA	100
		Fuse rating	Α	30
		Fuse class		J
	Standard fault			_
		Short circuit current	kA	5
A 11 / 12		Fuse rating	Α	30
Ambient conditions				
Temperature				
	Operating temperature	_	2.5	
		min	°C	-50
		max	°C	+70
	Storage temperature	_	2.5	
		min	°C	-60
		max	°C	+80
Max altitude			m	3000
Resistance & Protection	on			
Pollution degree				3
Dimensions				



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## Wiring diagrams



## Certifications and 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

## ETIM classification

**ETIM 8.0** 

EC000066 -Power contactor, AC switching