



Product designation

Power contactor

Product type designation

BGF09

**Contact characteristics**

Number of poles	Nr.	3
Rated insulation voltage $U_i$ IEC/EN	V	690
Rated impulse withstand voltage $U_{imp}$	kV	6
Operational frequency	min Hz	25
	max Hz	400
IEC Conventional free air thermal current $I_{th}$	A	20
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A 20
	AC-1 ( $\leq 55^\circ\text{C}$ )	A 18
	AC-1 ( $\leq 70^\circ\text{C}$ )	A 15
	AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ )	A 9
	AC-4 (400V)	A 4
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	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 ( $T \leq 40^\circ\text{C}$ )	230V kW	8
	400V kW	14
	500V kW	16
	690V kW	22
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$ A	12
	48V A	10
	75V A	4
	110V A	3
	220V A	—
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series	$\leq 24\text{V}$ A	15
	48V A	14
	75V A	9
	110V A	8
	220V A	—
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$ A	16
	48V A	16
	75V A	10
	110V A	10

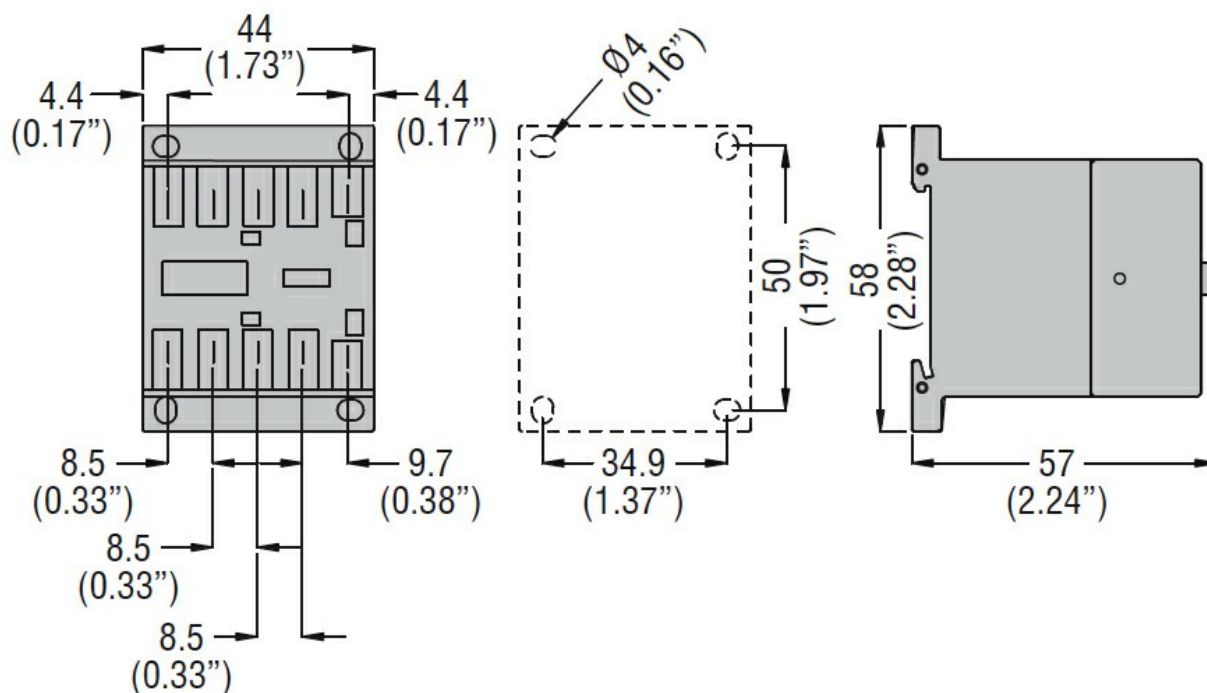
	220V	A	2
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series	≤24V	A	16
	48V	A	16
	75V	A	10
	110V	A	10
	220V	A	2
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series	≤24V	A	7
	48V	A	6
	75V	A	2
	110V	A	1
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	≤24V	A	8
	48V	A	8
	75V	A	5
	110V	A	4
	220V	A	–
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	≤24V	A	10
	48V	A	10
	75V	A	6
	110V	A	5
	220V	A	0,8
IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	≤24V	A	10
	48V	A	10
	75V	A	6
	110V	A	5
	220V	A	0,8
Short-time allowable current for 10s (IEC/EN60947-1)		A	96
Protection fuse	gG (IEC)	A	20
	aM (IEC)	A	10
Making capacity (RMS value)		A	92
Breaking capacity at voltage	440V	A	72
	500V	A	72
	690V	A	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	Ibin	9
	max	Ibin	9
Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	Ibin	9

	max	I <sub>bin</sub>	9
Max number of wires simultaneously connectable		Nr.	2
Conductor section			
AWG/Kcmil	max		12
Flexible w/o lug conductor section	min	mm <sup>2</sup>	0.75
	max	mm <sup>2</sup>	2.5
Flexible c/w lug conductor section	min	mm <sup>2</sup>	1.5
	max	mm <sup>2</sup>	2.5
Flexible with insulated spade lug conductor section	min	mm <sup>2</sup>	1.5
	max	mm <sup>2</sup>	2.5
Power terminal protection according to IEC/EN 60529			IP20 when properly wired
<b>Mechanical features</b>			
Operating position	normal allowable		Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	179
<b>Auxiliary contact characteristics</b>			
Thermal current I <sub>th</sub>		A	10
IEC/EN 60947-5-1 designation			A600 - Q600
Operating current AC15	230V	A	3
	400V	A	1.9
	500V	A	1.4
Operating current DC12	110V	A	2.9
Operating current DC13	24V	A	2.9
	48V	A	1.4
	60V	A	1.1
	125V	A	0.3
	220V	A	0.1
	600V	A	0.6
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	500000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1	rated load	cycles	500000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1			Yes
EMC compatibility			yes
<b>AC coil operating</b>			
Rated AC voltage at 50/60Hz		V	48
AC operating voltage			
	of 50/60Hz coil powered at 50Hz pick-up		

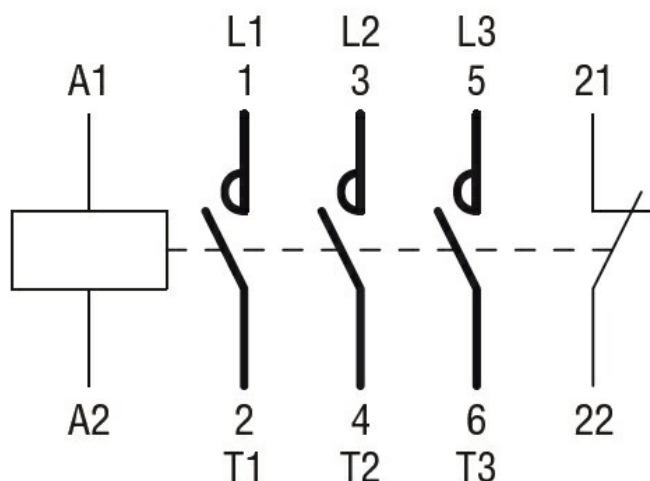
	drop-out	min	%Us	75	
		max	%Us	115	
		min	%Us	20	
		max	%Us	55	
of 50/60Hz coil powered at 60Hz					
	pick-up	min	%Us	80	
		max	%Us	115	
	drop-out	min	%Us	20	
		max	%Us	55	
AC average coil consumption at 20°C					
of 50/60Hz coil powered at 50Hz					
	in-rush	VA		30	
		holding	VA	4	
	of 50/60Hz coil powered at 60Hz				
	in-rush	VA		25	
holding		VA		3	
of 60Hz coil powered at 60Hz					
	in-rush	VA		30	
		holding	VA	4	
	Dissipation at holding ≤20°C 50Hz			W	0.95
	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		

#### UL technical data

Rated operational voltage AC (UL)		V	600
Full-load current (FLA) for three-phase AC motor			
	at 480V	A	7.6
	at 600V	A	6.1
Yielded mechanical performance			
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 fuse, 600V			
High fault			
	Short circuit current	kA	100
	Fuse rating	A	30
	Fuse class		J
Standard fault			
	Short circuit current	kA	5
	Fuse rating	A	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



#### 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