



Product designation

Power contactor

Product type designation

BG09

**Contact characteristics**

|                                                                                |                                                    |        |
|--------------------------------------------------------------------------------|----------------------------------------------------|--------|
| Number of poles                                                                | Nr.                                                | 4      |
| 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-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 $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series | $\leq 24\text{V}$                                  | A 16   |
|                                                                                | 48V                                                | A 16   |
|                                                                                | 75V                                                | A 10   |
|                                                                                | 110V                                               | A 10   |
|                                                                                | 220V                                               | A 2    |

|                                                                                  |                 |                  |      |
|----------------------------------------------------------------------------------|-----------------|------------------|------|
| IEC max current I <sub>e</sub> 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 I <sub>e</sub> 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 I <sub>e</sub> 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 I <sub>e</sub> 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)                                       |                 |                  |      |
|                                                                                  | I <sub>th</sub> | W                | 4    |
|                                                                                  | AC-3            | W                | 0.81 |
| Tightening torque for terminals                                                  |                 |                  |      |
|                                                                                  | min             | Nm               | 0.8  |
|                                                                                  | max             | Nm               | 1    |
|                                                                                  | min             | I <sub>bin</sub> | 9    |
|                                                                                  | max             | I <sub>bin</sub> | 9    |
| Tightening torque for coil terminal                                              |                 |                  |      |
|                                                                                  | min             | Nm               | 0.8  |
|                                                                                  | max             | Nm               | 1    |
|                                                                                  | min             | I <sub>bin</sub> | 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               | 181                      |
| <b>Auxiliary contact characteristics</b>            |                            |                 |                          |
| Thermal current I <sub>th</sub>                     |                            | A               | 10                       |
| IEC/EN 60947-5-1 designation                        |                            |                 | A600                     |
| <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 mechanical load | cycles          | 500000                   |
|                                                     |                            | cycles          | 20000000                 |
| EMC compatibility                                   |                            |                 | yes                      |
| <b>AC coil operating</b>                            |                            |                 |                          |
| Rated AC voltage at 50/60Hz                         |                            | V               | 110                      |
| AC operating voltage                                |                            |                 |                          |
| of 50/60Hz coil powered at 50Hz                     |                            |                 |                          |
| pick-up                                             | min                        | %Us             | 75                       |
|                                                     | max                        | %Us             | 115                      |
| drop-out                                            | 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 holding            | VA              | 30                       |
|                                                     |                            | VA              | 4                        |
| of 50/60Hz coil powered at 60Hz                     | in-rush holding            | VA              | 25                       |
|                                                     |                            | VA              | 3                        |
| of 60Hz coil powered at 60Hz                        | in-rush holding            | VA              | 30                       |
|                                                     |                            | VA              | 4                        |

|                                                       |  |                       |        |
|-------------------------------------------------------|--|-----------------------|--------|
| Dissipation at holding $\leq 20^{\circ}\text{C}$ 50Hz |  | W                     | 0.95   |
| Max cycles frequency                                  |  |                       |        |
| Mechanical operation                                  |  | cycles/h              | 3600   |
| Operating times                                       |  |                       |        |
| Average time for $U_s$ 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  |
| Fuse class            |    | RK5 |

#### Ambient conditions

##### Temperature

##### Operating temperature

|     |    |     |
|-----|----|-----|
| min | °C | -50 |
| max | °C | +70 |

##### Storage temperature

|     |    |     |
|-----|----|-----|
| min | °C | -60 |
| max | °C | +80 |

##### Max altitude

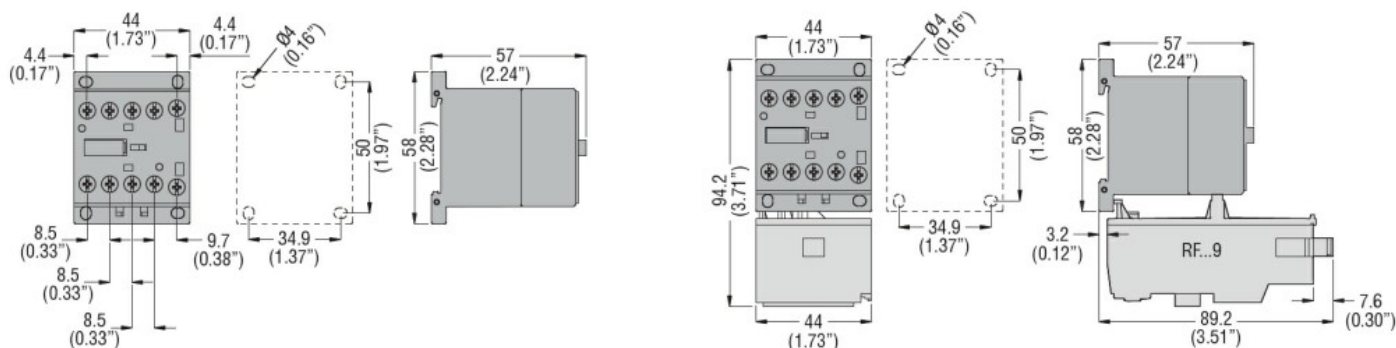
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#### Resistance & Protection

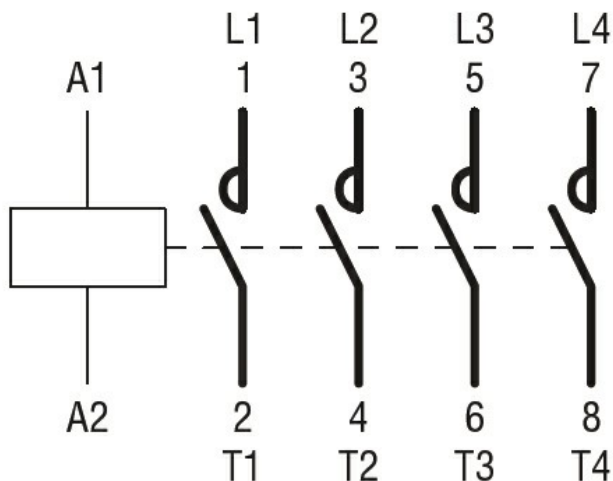
##### Pollution degree

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