



|   |                    |     |     |
|---|--------------------|-----|-----|
| Product designation   | Power contactor    |     |     |
| Product type designation  | BG09               |     |     |
| <b>Contact characteristics</b>  |                    |     |     |
| Number of poles   | Nr.                | 3   |     |
| Rated insulation voltage U <sub>i</sub> IEC/EN                              | V                  | 690 |     |
| Rated impulse withstand voltage U <sub>imp</sub>                            | kV                 | 6   |     |
| Operational frequency   | min                | Hz  | 25  |
|   | max                | Hz  | 400 |
| IEC Conventional free air thermal current I <sub>th</sub>                   | A                  | 20  |     |
| Operational current I <sub>e</sub>  | 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   |
|   | 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  | 16  |
|   | 690V               | kW  | 22  |
| IEC max current I <sub>e</sub> 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 I <sub>e</sub> 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 I <sub>e</sub> 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 I <sub>e</sub> 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 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 |

### Mechanical features

|                    |                             |                  |   |                       |
|--------------------|-----------------------------|------------------|---|-----------------------|
| Operating position |                             | normal allowable |   | Vertical plan ±30°    |
| Fixing             |                             |                  |   | Screw / DIN rail 35mm |
| Weight             |                             |                  | g | 214                   |
| Conductor section  | AWG/kcmil conductor section | max              |   | 12                    |

### Auxiliary contact characteristics

|                                 |  |      |   |             |
|---------------------------------|--|------|---|-------------|
| 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 | 1.2         |
|                                 |  | 110V | A | 0.6         |
|                                 |  | 125V | A | 0.55        |
|                                 |  | 220V | A | 0.3         |
|                                 |  | 600V | A | 0.1         |

### Operations

|                 |  |        |  |          |
|-----------------|--|--------|--|----------|
| Mechanical life |  | cycles |  | 20000000 |
| Electrical life |  | cycles |  | 500000   |

### Safety related data

|  |  |                 |        |          |
|--|--|-----------------|--------|----------|
| 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      |

### DC coil operating

|                                |          |     |         |
|--------------------------------|----------|-----|---------|
| DC rated control voltage       |          | V   | 110     |
| DC operating voltage           |          |     |         |
|                                | pick-up  | 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 |

**UL technical data**

|  |         |   |     |
|--|---------|---|-----|
| 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

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

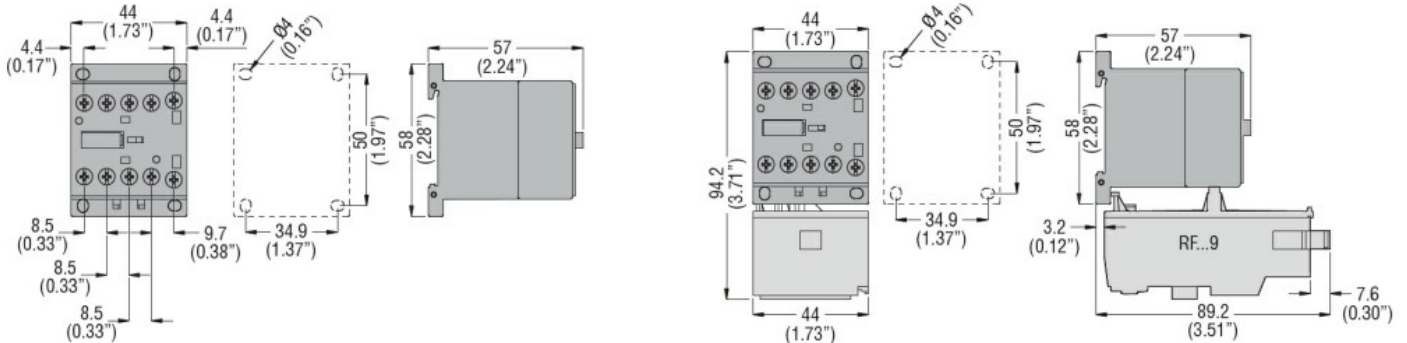
m 3000

Resistance & Protection

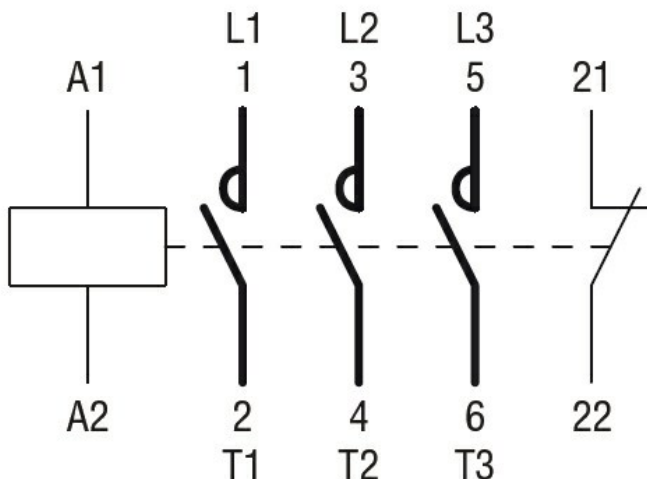
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

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CSA C22.2 n° 60947-4-1

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IEC/EN 60947-1

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IEC/EN 60947-4-1

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UL 60947-1

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UL 60947-4-1

Certificates

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CCC

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cULus

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EAC

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching