



Product designation Power contactor  
Product type designation BG09

**Contact characteristics**

|   |                    |        |
|---|--------------------|--------|
| 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-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    |
| <hr/>  |                 |                  |      |
| 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                | –    |
| <hr/>  |                 |                  |      |
| 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                | –    |
| <hr/>  |                 |                  |      |
| 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  |
| <hr/>  |                 |                  |      |
| 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  |
| <hr/>  |                 |                  |      |
| Short-time allowable current for 10s (IEC/EN60947-1)                             |                 | A                | 96   |
| <hr/>  |                 |                  |      |
| Protection fuse  | gG (IEC)        | A                | 20   |
|  | aM (IEC)        | A                | 10   |
| <hr/>  |                 |                  |      |
| Making capacity (RMS value)  |                 | A                | 92   |
| <hr/>  |                 |                  |      |
| Breaking capacity at voltage   | 440V            | A                | 72   |
|  | 500V            | A                | 72   |
|  | 690V            | A                | 72   |
| <hr/>  |                 |                  |      |
| Resistance per pole (average value)  |                 | m?               | 10   |
| <hr/>  |                 |                  |      |
| Power dissipation per pole (average value)                                       | I <sub>th</sub> | W                | 4    |
|  | AC3             | W                | 0.81 |
| <hr/>  |                 |                  |      |
| Tightening torque for terminals  | min             | Nm               | 0.8  |
|  | max             | Nm               | 1    |
|  | min             | I <sub>bin</sub> | 9    |
|  | max             | I <sub>bin</sub> | 9    |
| <hr/>  |                 |                  |      |
| Tightening torque for coil terminal  | min             | Nm               | 0.8  |
|  | max             | Nm               | 1    |
|  | min             | I <sub>bin</sub> | 9    |
|  | max             | I <sub>bin</sub> | 9    |
| <hr/>  |                 |                  |      |
| 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 wired

**Mechanical features**

Operating position

normal  
allowable

Vertical plan  
±30°

Fixing

Screw / DIN rail  
35mm

Weight

g 178

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

**AC coil operating**

Rated AC voltage at 60Hz V 460

AC operating voltage

of 60Hz coil powered at 60Hz

|          |     |     |     |
|----------|-----|-----|-----|
| pick-up  | min | %Us | 75  |
|          | 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

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

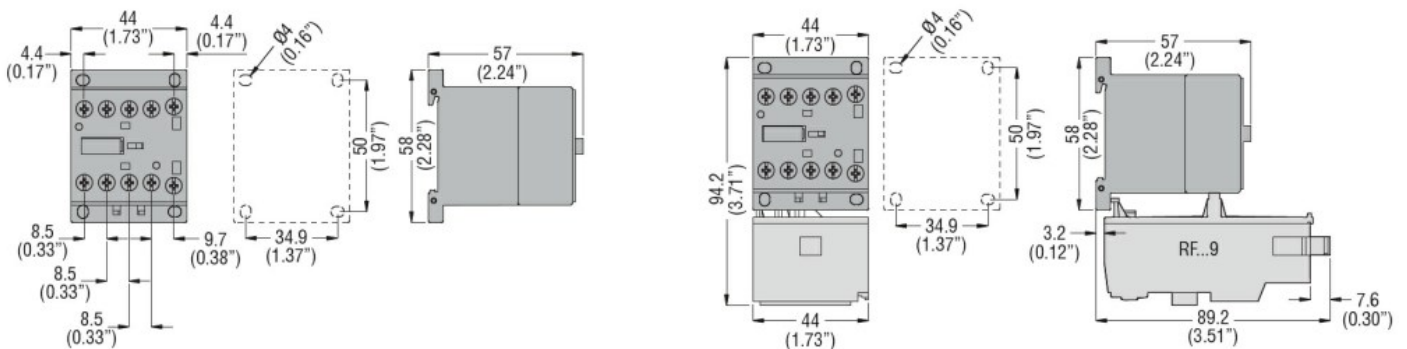
|                       |     |    |     |
|-----------------------|-----|----|-----|
| Operating temperature |     |    |     |
|                       | min | °C | -50 |
|                       | max | °C | +70 |
| Storage temperature   |     |    |     |
|                       | min | °C | -60 |
|                       | max | °C | +80 |

Max altitude m 3000

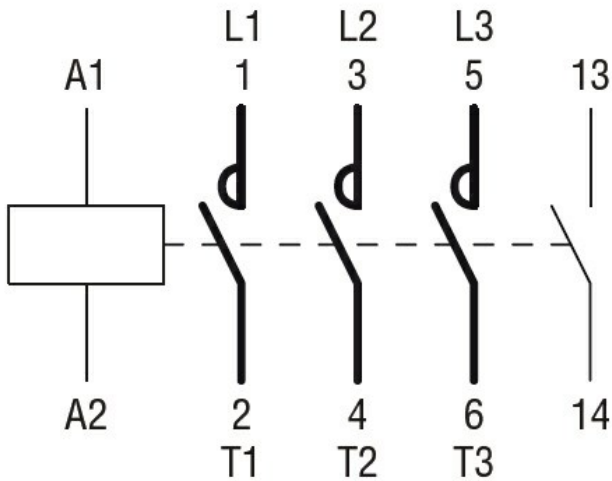
Resistance & Protection

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