



|  |   |     |     |
|--|---|-----|-----|
| Product designation  | Power contactor                                   |     |     |
| Product type designation   | BG09  |     |     |
| <b>Contact characteristics</b>   |   |     |     |
| 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 | lbin            | 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 | 180                   |
| 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 50/60Hz         | V          | 48   |
| 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 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 |
| <b>Max cycles frequency</b>         |            |      |
| Mechanical operation                | cycles/h   | 3600 |
| <b>Operating times</b>              |            |      |
| 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

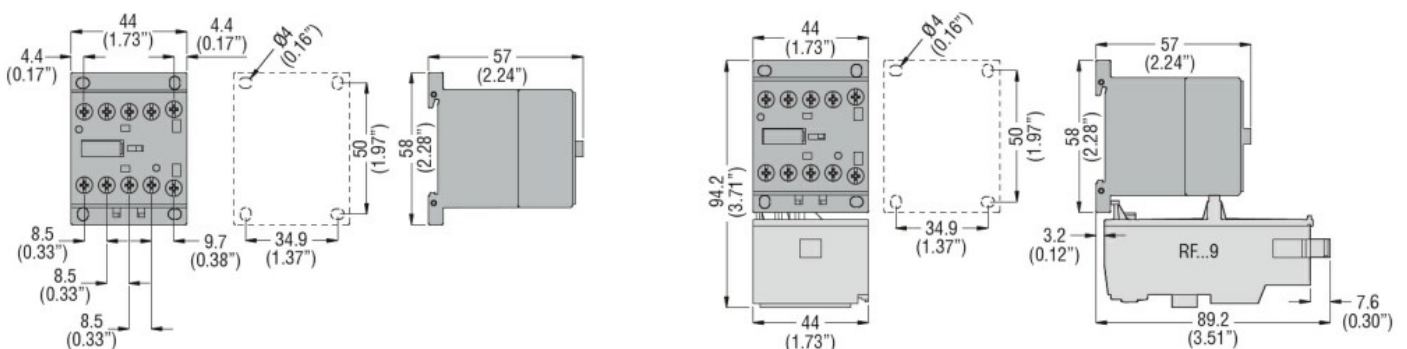
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Resistance & Protection

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