

|   |   |    |     |                 |
|---|---|----|-----|-----------------|
| 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 $I_e$ 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 $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series |   |    |     |                 |
|   | $\leq 24\text{V}$                                 | A  | 16  |                 |
|   | 48V   | A  | 16  |                 |
|   | 75V   | A  | 10  |                 |
|   | 110V  | A  | 10  |                 |
|   | 220V  | A  | 2   |                 |

|  |                                    |                  |                 |
|--|------------------------------------|------------------|-----------------|
|  | ≤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)  |                                    | mΩ               | 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> | 0.59            |
|  | max                                | I <sub>bin</sub> | 0.74            |
| <hr/>  |                                    |                  |                 |
| Tightening torque for coil terminal  |                                    |                  |                 |
|  | min                                | Nm               | 0.8             |
|  | max                                | Nm               | 1               |
|  | min                                | I <sub>bin</sub> | Prodotti finiti |
|  | max                                | I <sub>bin</sub> | Prodotti finiti |
| <hr/>  |                                    |                  |                 |
| Max number of wires simultaneously connectable                                   |                                    | Nr.              | 2               |
| <hr/>  |                                    |                  |                 |
| Conductor section  |                                    |                  |                 |
|  | 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       |
| <b>Mechanical features</b>                          |                  |                 |                       |
| Operating position                                  | normal allowable |                 | Vertical plan ±30°    |
| Fixing  |                  |                 | Screw / DIN rail 35mm |
| Weight  |                  | g               | 187                   |
| <b>Auxiliary contact characteristics</b>            |                  |                 |                       |
| Type of contact                                     |                  |                 | 1 NO                  |
| 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                   |
| <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                   |
| Rated AC voltage at 60Hz                            |                  | V               | 575                   |
| <b>AC coil operating</b>                            |                  |                 |                       |
| 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  $\leq 20^{\circ}\text{C}$  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