



Product designation

Power contactor

Product type designation

BF09

**Contact characteristics**

|  |                    |           |
|--|--------------------|-----------|
| Number of poles                                      | Nr.                | 4         |
| Rated insulation voltage Ui IEC/EN                   | V                  | 690       |
| Rated impulse withstand voltage Uimp                 | kV                 | 6         |
| Operational frequency                                | min                | Hz 25     |
|  | max                | Hz 400    |
| IEC Conventional free air thermal current Ith        | A                  | 25        |
| Operational current Ie                               | AC-1 (≤40°C)       | A 25      |
|  | AC-1 (≤55°C)       | A 20      |
|  | AC-1 (≤70°C)       | A 18      |
|  | AC-3 (≤440V ≤55°C) | A 9       |
|  | AC-4 (400V)        | A 4.9     |
| Rated operational power AC-1 (T≤40°C)                | 230V               | kW 9.5    |
|  | 400V               | kW 16     |
|  | 500V               | kW 21     |
|  | 690V               | kW 27     |
| Short-time allowable current for 10s (IEC/EN60947-1) | A                  | 150       |
| Protection fuse                                      | gG (IEC)           | A 25      |
|  | aM (IEC)           | A 10      |
| Making capacity (RMS value)                          | A                  | 90        |
| Breaking capacity at voltage                         | 440V               | A 72      |
|  | 500V               | A 72      |
|  | 690V               | A 71      |
| Resistance per pole (average value)                  | mΩ                 | 2.5       |
| Power dissipation per pole (average value)           | Ith                | W 1.6     |
|  | AC-3               | W 0.2     |
| Tightening torque for terminals                      | min                | Nm 1.5    |
|  | max                | Nm 1.8    |
|  | min                | Ibin 1.1  |
|  | max                | Ibin 1.5  |
| Tightening torque for coil terminal                  | min                | Nm 0.8    |
|  | max                | Nm 1      |
|  | min                | Ibin 0.8  |
|  | max                | Ibin 0.74 |
| Max number of wires simultaneously connectable       | Nr.                | 2         |

|   |  |                  |                          |
|---|--|------------------|--------------------------|
| Conductor section                                   |  |                  |                          |
| AWG/Kcmil   |  | max              | 10                       |
| Flexible w/o lug conductor section                  |  |                  |                          |
|   |  | min              | mm <sup>2</sup> 1        |
|   |  | max              | mm <sup>2</sup> 6        |
| Flexible c/w lug conductor section                  |  |                  |                          |
|   |  | min              | mm <sup>2</sup> 1        |
|   |  | max              | mm <sup>2</sup> 4        |
| Flexible with insulated spade lug conductor section |  |                  |                          |
|   |  | min              | mm <sup>2</sup> 1        |
|   |  | max              | mm <sup>2</sup> 4        |
| 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 352                    |
| Conductor section                                   |  |                  |                          |
| AWG/kcmil conductor section                         |  | max              | 10                       |
| <b>Operations</b>                                   |  |                  |                          |
| Mechanical life                                     |  | cycles           | 20000000                 |
| Electrical life                                     |  | cycles           | 2000000                  |
| <b>Safety related data</b>                          |  |                  |                          |
| Performance level B10d according to EN/ISO 13489-1  |  |                  |                          |
|   |  | rated load       | cycles 2000000           |
|   |  | mechanical load  | cycles 20000000          |
| Mirror contacts according to IEC/EN 60947-4-1       |  |                  | YES                      |
| EMC compatibility                                   |  |                  | yes                      |
| <b>AC coil operating</b>                            |  |                  |                          |
| Rated AC voltage at 60Hz                            |  | V                | 120                      |
| AC operating voltage                                |  |                  |                          |
| of 60Hz coil powered at 60Hz                        |  |                  |                          |
| pick-up   |  | min              | %Us 80                   |
|   |  | max              | %Us 110                  |
| drop-out  |  | min              | %Us 20                   |
|   |  | max              | %Us 55                   |
| AC average coil consumption at 20°C                 |  |                  |                          |
| of 60Hz coil powered at 60Hz                        |  |                  |                          |
|   |  | in-rush          | VA 75                    |
|   |  | holding          | VA 9                     |
| Dissipation at holding ≤20°C 50Hz                   |  | W                | 2.5                      |
| <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 | 8  |
|            | max | ms | 24 |
| Opening NO | min | ms | 10 |
|            | max | ms | 20 |
| Closing NC | min | ms | 14 |
|            | max | ms | 28 |
| Opening NC | min | ms | 7  |
|            | max | ms | 18 |

#### UL technical data

Full-load current (FLA) for three-phase AC motor

|         |   |     |
|---------|---|-----|
| at 480V | A | 7.6 |
| at 600V | A | 9   |

Yielded mechanical performance

for single-phase AC motor

|          |    |     |
|----------|----|-----|
| 110/120V | HP | 0.8 |
| 230V     | HP | 2   |

for three-phase AC motor

|          |    |     |
|----------|----|-----|
| 200/208V | HP | 3   |
| 220/230V | HP | 3   |
| 460/480V | HP | 5   |
| 575/600V | HP | 7.5 |

General USE

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 25 |
|------------|---|----|

#### Ambient conditions

Temperature

Operating temperature

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

Storage temperature

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

Max altitude

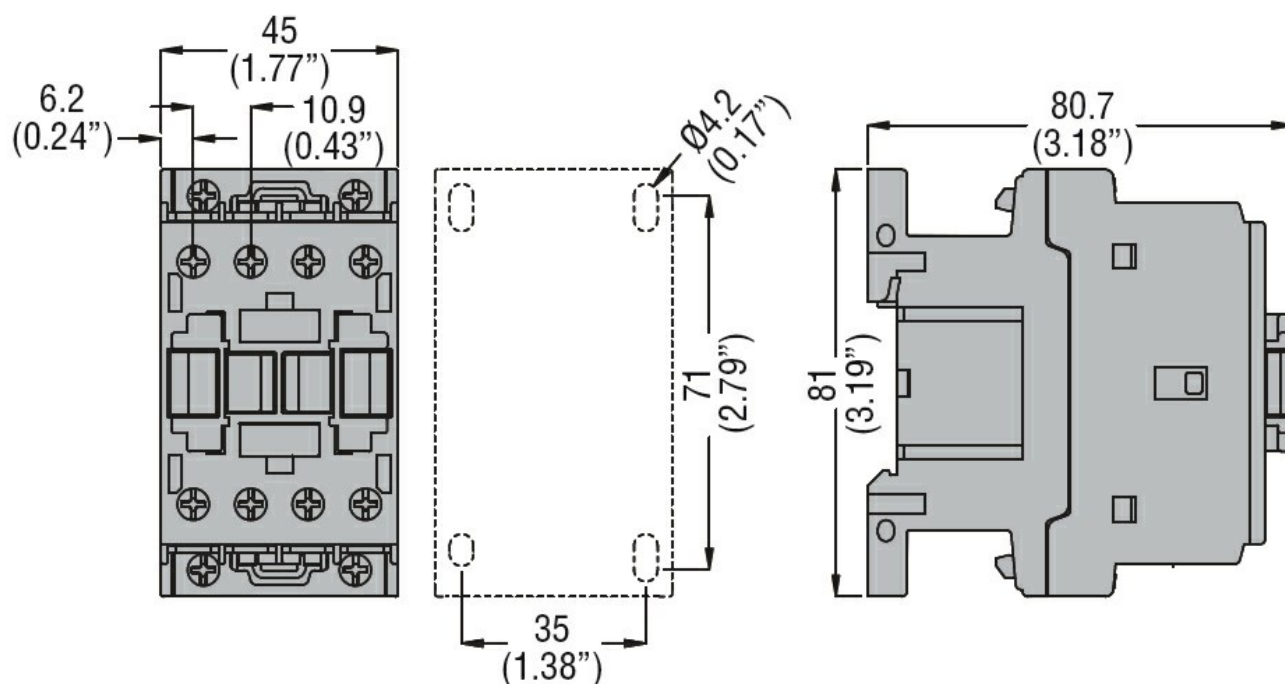
|   |      |
|---|------|
| m | 3000 |
|---|------|

#### Resistance & Protection

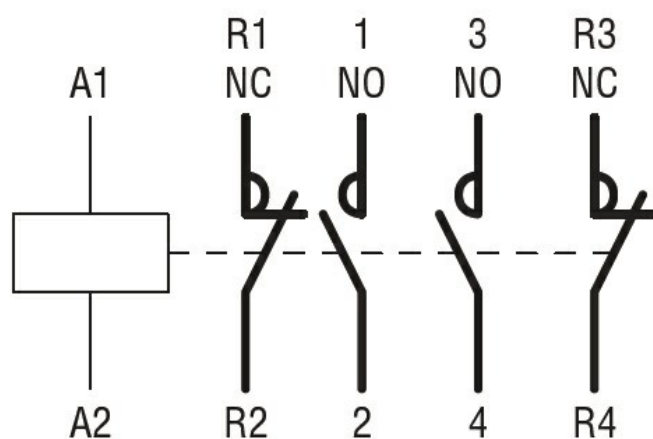
Pollution degree

3

#### Dimensions



#### Wiring diagrams



#### Certifications and compliance

##### Compliance

CSA C22.2 n° 60947-1  
CSA C22.2 n° 60947-4-1  
IEC/EN/BS 60947-1  
IEC/EN/BS 60947-4-1  
UL 60947-1  
UL 60947-4-1

##### Certificates

CCC  
cULus  
EAC

#### ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching