



Product designation

Power contactor

Product type designation

BF38

**Contact characteristics**

|                                                           |                                                           |        |
|-----------------------------------------------------------|-----------------------------------------------------------|--------|
| Number of poles                                           | Nr.                                                       | 4      |
| 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                                                         | 56     |
| Operational current I <sub>e</sub>                        |                                                           |        |
|                                                           | AC-1 (≤40°C)                                              | A 56   |
|                                                           | AC-1 (≤40°C) with 16mm <sup>2</sup> wire and fork end lug | A 60   |
|                                                           | AC-1 (≤55°C)                                              | A 45   |
|                                                           | AC-1 (≤55°C) with 16mm <sup>2</sup> wire and fork end lug | A 48   |
|                                                           | AC-1 (≤70°C)                                              | A 40   |
|                                                           | AC-1 (≤70°C) with 16mm <sup>2</sup> wire and fork end lug | A 42   |
|                                                           | AC-3 (≤440V ≤55°C)                                        | A 38   |
|                                                           | AC-4 (400V)                                               | A 15.5 |
| Rated operational power AC-1 (T≤40°C)                     |                                                           |        |
|                                                           | 230V kW                                                   | 21     |
|                                                           | 400V kW                                                   | 36     |
|                                                           | 500V kW                                                   | 45     |
|                                                           | 690V kW                                                   | 62     |
| Short-time allowable current for 10s (IEC/EN60947-1)      | A                                                         | 320    |
| Protection fuse                                           |                                                           |        |
|                                                           | gG (IEC)                                                  | A 63   |
|                                                           | aM (IEC)                                                  | A 40   |
| Making capacity (RMS value)                               | A                                                         | 380    |
| Breaking capacity at voltage                              |                                                           |        |
|                                                           | 440V A                                                    | 304    |
|                                                           | 500V A                                                    | 240    |
|                                                           | 690V A                                                    | 192    |
| Resistance per pole (average value)                       | mΩ                                                        | 2      |
| Power dissipation per pole (average value)                |                                                           |        |
|                                                           | I <sub>th</sub> W                                         | 6      |
|                                                           | AC3 W                                                     | 2.9    |
| Tightening torque for terminals                           |                                                           |        |
|                                                           | min Nm                                                    | 2.5    |
|                                                           | max Nm                                                    | 3      |
|                                                           | min lbin                                                  | 1.8    |
|                                                           | max lbin                                                  | 2.2    |
| Tightening torque for coil terminal                       |                                                           |        |
|                                                           | min Nm                                                    | 0.8    |
|                                                           | max Nm                                                    | 1      |

|                                                     |                             |                            |                 |                       |
|-----------------------------------------------------|-----------------------------|----------------------------|-----------------|-----------------------|
|                                                     |                             | min                        | lbin            | 0.8                   |
|                                                     |                             | max                        | lbin            | 0.74                  |
| Max number of wires simultaneously connectable      |                             |                            | Nr.             | 2                     |
| Conductor section                                   |                             |                            |                 |                       |
|                                                     | AWG/Kcmil                   |                            |                 |                       |
|                                                     |                             | max                        |                 | 6                     |
| Flexible w/o lug conductor section                  |                             | min                        | mm <sup>2</sup> | 2.5                   |
|                                                     |                             | max                        | mm <sup>2</sup> | 16                    |
| Flexible c/w lug conductor section                  |                             | min                        | mm <sup>2</sup> | 1                     |
|                                                     |                             | max                        | mm <sup>2</sup> | 10                    |
| Flexible with insulated spade lug conductor section |                             | min                        | mm <sup>2</sup> | 1                     |
|                                                     |                             | max                        | mm <sup>2</sup> | 10                    |
| 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               | 665                   |
| Conductor section                                   |                             |                            |                 |                       |
|                                                     | AWG/kcmil conductor section |                            |                 |                       |
|                                                     |                             | max                        |                 | 6                     |
| <b>Operations</b>                                   |                             |                            |                 |                       |
| Mechanical life                                     |                             |                            | cycles          | 20000000              |
| Electrical life                                     |                             |                            | cycles          | 1400000               |
| <b>Safety related data</b>                          |                             |                            |                 |                       |
| Performance level B10d according to EN/ISO 13489-1  |                             | rated load mechanical load | cycles          | 1400000               |
|                                                     |                             |                            | cycles          | 20000000              |
| Mirror contacts according to IEC/EN 60947-4-1       |                             |                            |                 | YES                   |
| EMC compatibility                                   |                             |                            |                 | yes                   |
| <b>DC coil operating</b>                            |                             |                            |                 |                       |
| DC rated control voltage                            |                             |                            | V               | 125                   |
| DC operating voltage                                |                             |                            |                 |                       |
|                                                     | pick-up                     | min                        | %Us             | 80                    |
|                                                     |                             | max                        | %Us             | 125                   |
|                                                     | drop-out                    | min                        | %Us             | 10                    |
|                                                     |                             | max                        | %Us             | 40                    |
| Average coil consumption ≤20°C                      |                             | in-rush holding            | W               | 5.4                   |
|                                                     |                             |                            | W               | 5.4                   |
| <b>Max cycles frequency</b>                         |                             |                            |                 |                       |
| Mechanical operation                                |                             |                            | cycles/h        | 3600                  |
| <b>Operating times</b>                              |                             |                            |                 |                       |
| Average time for Us control                         |                             |                            |                 |                       |
|                                                     | in AC                       |                            |                 |                       |
|                                                     | Closing NO                  |                            |                 |                       |

|       |            |     |    |    |
|-------|------------|-----|----|----|
| in DC | Opening NO | min | ms | 8  |
|       |            | max | ms | 24 |
|       | Closing NC | min | ms | 5  |
|       |            | max | ms | 15 |
|       | Opening NC | min | ms | 9  |
|       |            | max | ms | 20 |
|       |            | min | ms | 9  |
|       |            | max | ms | 17 |
|       | Closing NO | min | ms | 54 |
|       |            | max | ms | 66 |
|       | Opening NO | min | ms | 14 |
|       |            | max | ms | 17 |
|       | Closing NC | min | ms | 23 |
|       |            | max | ms | 28 |
|       | Opening NC | min | ms | 46 |
|       |            | max | ms | 56 |

#### UL technical data

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

|         |   |    |
|---------|---|----|
| at 480V | A | 40 |
| at 600V | A | 32 |

Yielded mechanical performance

for single-phase AC motor

|          |    |     |
|----------|----|-----|
| 110/120V | HP | 3   |
| 230V     | HP | 7.5 |

for three-phase AC motor

|          |    |    |
|----------|----|----|
| 200/208V | HP | 10 |
| 220/230V | HP | 15 |
| 460/480V | HP | 30 |
| 575/600V | HP | 30 |

General USE

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 55 |
|------------|---|----|

#### Ambient conditions

Temperature

Operating temperature

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

Storage temperature

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

Max altitude

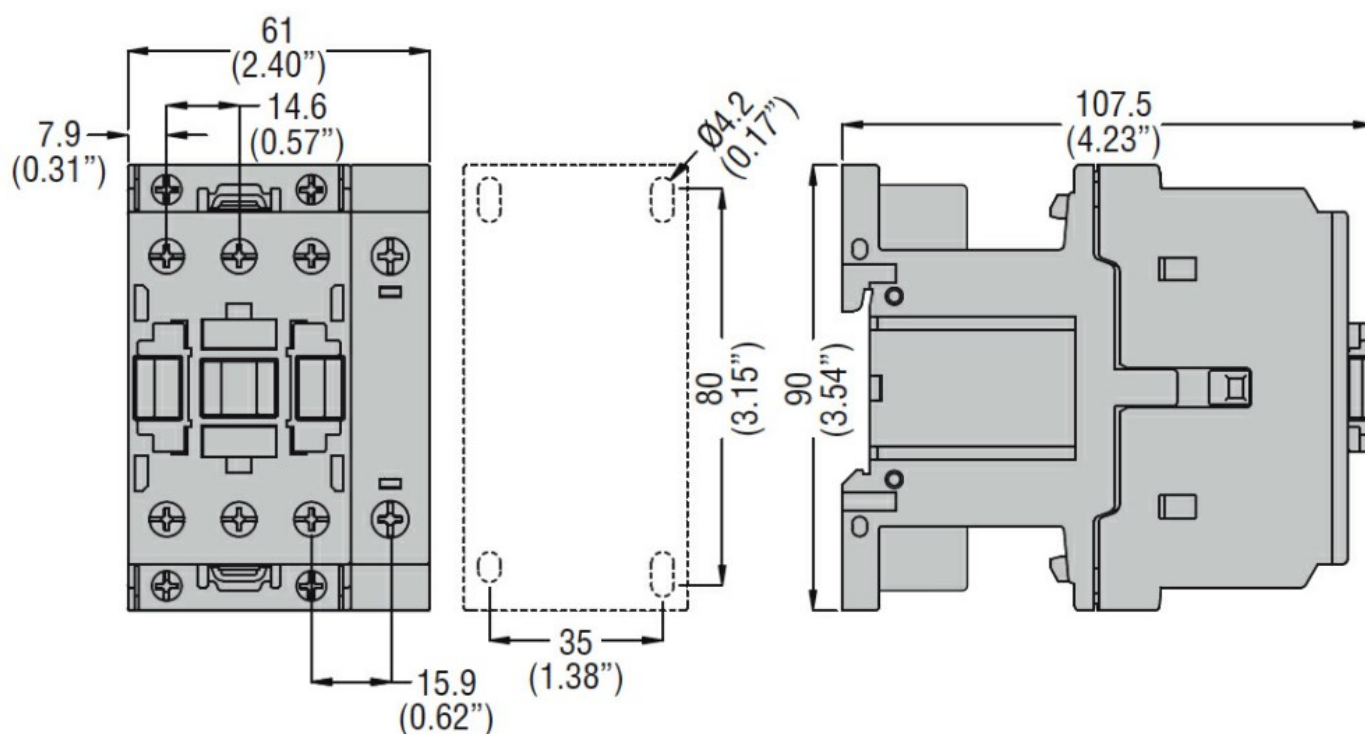
|   |      |
|---|------|
| m | 3000 |
|---|------|

#### Resistance & Protection

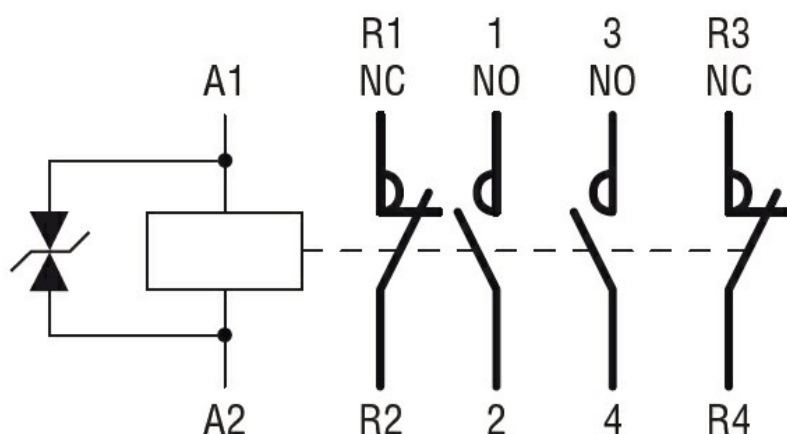
Pollution degree

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