



Product designation

Power contactor

Product type designation

BF18

**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                  | 32        |
| Operational current I <sub>e</sub>                        | AC-1 (≤40°C)       | A 32      |
|                                                           | AC-1 (≤55°C)       | A 26      |
|                                                           | AC-1 (≤70°C)       | A 23      |
|                                                           | AC-3 (≤440V ≤55°C) | A 18      |
|                                                           | AC-4 (400V)        | A 8.5     |
| Rated operational power AC-1 (T≤40°C)                     | 230V               | kW 12     |
|                                                           | 400V               | kW 21     |
|                                                           | 500V               | kW 26     |
|                                                           | 690V               | kW 36     |
| Short-time allowable current for 10s (IEC/EN60947-1)      | A                  | 200       |
| Protection fuse                                           | gG (IEC)           | A 32      |
|                                                           | aM (IEC)           | A 20      |
| Making capacity (RMS value)                               | A                  | 180       |
| Breaking capacity at voltage                              | 440V               | A 144     |
|                                                           | 500V               | A 120     |
|                                                           | 690V               | A 94      |
| Resistance per pole (average value)                       | mΩ                 | 2.5       |
| Power dissipation per pole (average value)                | I <sub>th</sub>    | W 2.6     |
|                                                           | AC-3               | W 0.8     |
| Tightening torque for terminals                           | min                | Nm 1.5    |
|                                                           | max                | Nm 1.8    |
|                                                           | min                | lbin 1.1  |
|                                                           | max                | lbin 1.5  |
| 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                          |                 | 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       |
| Mechanical features                                 |  |                              |                 |                                |
| Operating position                                  |  | normal allowable             |                 | Vertical plan ±30°             |
| Fixing                                              |  | Screw / DIN rail 35mm        |                 |                                |
| Weight                                              |  | g                            |                 | 362                            |
| Auxiliary contact characteristics                   |  |                              |                 |                                |
| Thermal current Ith                                 |  | A                            |                 | 32                             |
| IEC/EN 60947-5-1 designation                        |  | A600 - P600                  |                 |                                |
| Operations                                          |  |                              |                 |                                |
| Mechanical life                                     |  | cycles                       |                 | 20000000                       |
| Electrical life                                     |  | cycles                       |                 | 1600000                        |
| Safety related data                                 |  |                              |                 |                                |
| Performance level B10d according to EN/ISO 13489-1  |  | rated load mechanical load   |                 | cycles 1600000 cycles 20000000 |
| EMC compatibility                                   |  | yes                          |                 |                                |
| AC coil operating                                   |  |                              |                 |                                |
| Rated AC voltage at 60Hz                            |  | V                            |                 | 24                             |
| 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                            |
| Max cycles frequency                                |  |                              |                 |                                |
| Mechanical operation                                |  | cycles/h                     |                 | 3600                           |
| Operating times                                     |  |                              |                 |                                |
| Average time for Us control in AC                   |  | Closing NO                   |                 |                                |
|                                                     |  | min                          | ms              | 8                              |

|            |     |    |    |
|------------|-----|----|----|
| Opening NO | max | ms | 24 |
|            | min | ms | 10 |
| Closing NC | max | ms | 20 |
|            | min | ms | 14 |
| Opening NC | max | ms | 28 |
|            | min | ms | 7  |
|            | max | ms | 18 |

#### UL technical data

Rated operational voltage AC (UL) V 600

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

|         |   |    |
|---------|---|----|
| at 480V | A | 14 |
| at 600V | A | 17 |

Yielded mechanical performance

for single-phase AC motor

|          |    |   |
|----------|----|---|
| 110/120V | HP | 1 |
| 230V     | HP | 3 |

for three-phase AC motor

|          |    |    |
|----------|----|----|
| 200/208V | HP | 5  |
| 220/230V | HP | 5  |
| 460/480V | HP | 10 |
| 575/600V | HP | 15 |

General USE

Contactor

AC current A 32

Auxiliary contacts

|            |   |     |
|------------|---|-----|
| AC voltage | V | 600 |
| AC current | A | 10  |
| DC voltage | V | 250 |
| DC current | A | 1   |

Contact rating of auxiliary contacts according to UL SI - A600

#### Ambient conditions

Temperature

Operating temperature

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

Storage temperature

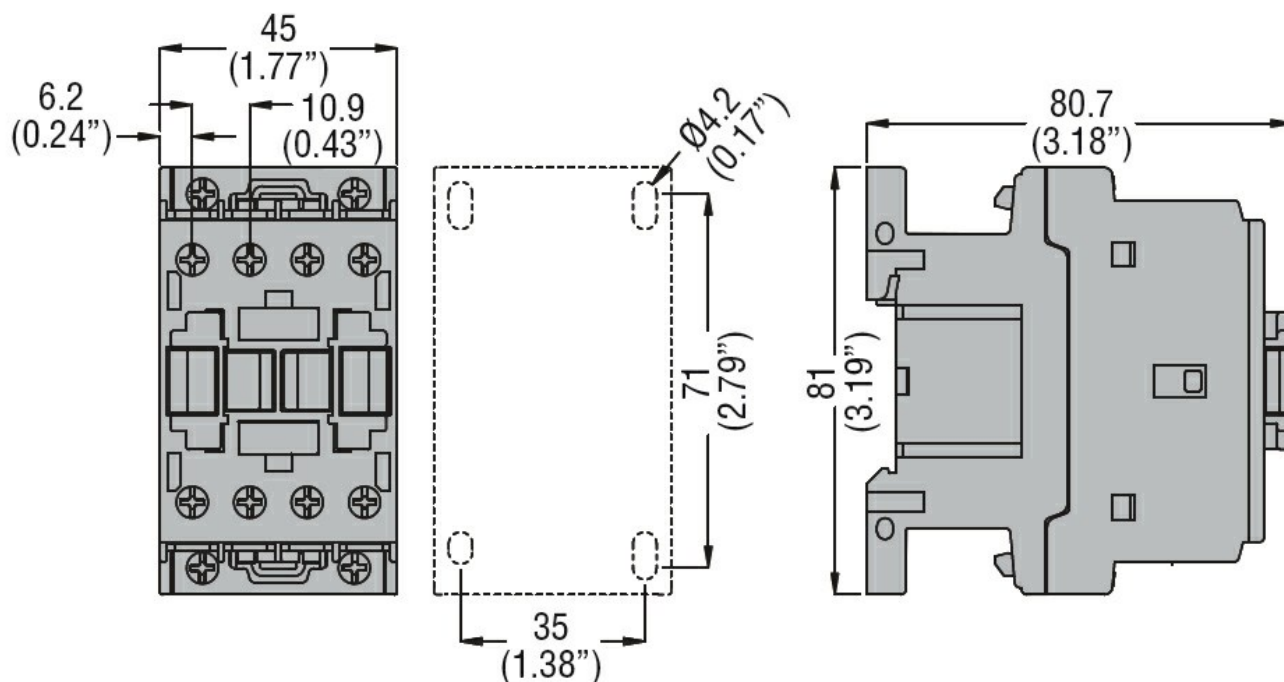
|     |    |     |
|-----|----|-----|
| min | °C | -60 |
| max | °C | 80  |

Max altitude m 3000

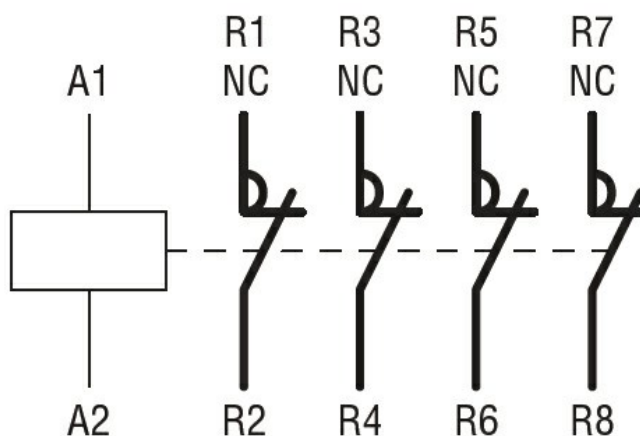
#### Resistance & Protection

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