



Product designation

Power contactor

Product type designation

BFD80

**Contact characteristics**

|                                                                         |                     |            |
|-------------------------------------------------------------------------|---------------------|------------|
| Number of poles                                                         | Nr.                 | 3          |
| Rated insulation voltage $U_i$ IEC/EN                                   | V                   | 1000       |
| Rated impulse withstand voltage $U_{imp}$                               | kV                  | 8          |
| Operational frequency                                                   | min Hz              | 25         |
|                                                                         | max Hz              | 400        |
| IEC Conventional free air thermal current $I_{th}$                      | A                   | 115        |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 3 poles in series | 400V A              | 100        |
|                                                                         | 600V A              | 80         |
|                                                                         | 800V A              | 65         |
|                                                                         | 1000V A             | 60         |
| Short-time allowable current for 10s (IEC/EN60947-1)                    | A                   | 640        |
| Protection fuse                                                         | gG (IEC) A          | 125        |
|                                                                         | aM (IEC) A          | 80         |
| Resistance per pole (average value)                                     | mΩ                  | 0.6        |
| Power dissipation per pole (average value)                              | $I_{th}$ W          | 7.9        |
| Tightening torque for terminals                                         | min Nm              | 4          |
|                                                                         | max Nm              | 5          |
|                                                                         | min $I_{bin}$       | 2.95       |
|                                                                         | max $I_{bin}$       | 3.69       |
| Tightening torque for coil terminal                                     | min Nm              | 0.8        |
|                                                                         | max Nm              | 1          |
|                                                                         | min $I_{bin}$       | 0.8        |
|                                                                         | max $I_{bin}$       | 0.74       |
| Max number of wires simultaneously connectable                          | Nr.                 | 2          |
| Conductor section                                                       | AWG/Kcmil           |            |
|                                                                         | max                 | 2          |
| Flexible w/o lug conductor section                                      | min mm <sup>2</sup> | 1.5        |
|                                                                         | max mm <sup>2</sup> | 35         |
| Flexible c/w lug conductor section                                      | min mm <sup>2</sup> | 1.5        |
|                                                                         | max mm <sup>2</sup> | 35         |
| Power terminal protection according to IEC/EN 60529                     |                     | IP20 front |

**Mechanical features**

Operating position

|                                                    |                     |          |                          |
|----------------------------------------------------|---------------------|----------|--------------------------|
|                                                    | normal<br>allowable |          | Vertical plan<br>±30°    |
| Fixing                                             |                     |          | Screw / DIN rail<br>35mm |
| Weight                                             | g                   |          | 1240                     |
| <b>Operations</b>                                  |                     |          |                          |
| Mechanical life                                    |                     | cycles   | 15000000                 |
| <b>Safety related data</b>                         |                     |          |                          |
| Performance level B10d according to EN/ISO 13489-1 |                     |          |                          |
|                                                    | mechanical load     | cycles   | 15000000                 |
| EMC compatibility                                  |                     |          | yes                      |
| <b>AC coil operating</b>                           |                     |          |                          |
| Rated AC voltage at 60Hz                           | V                   |          | 48                       |
| 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       | 210                      |
|                                                    | holding             | VA       | 15                       |
| Dissipation at holding ≤20°C 50Hz                  | W                   |          | 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       | 12                       |
|                                                    | max                 | ms       | 28                       |
| Opening NO                                         |                     |          |                          |
|                                                    | min                 | ms       | 8                        |
|                                                    | max                 | ms       | 22                       |
| in DC                                              |                     |          |                          |
| Closing NO                                         |                     |          |                          |
|                                                    | min                 | ms       | 40                       |
|                                                    | max                 | ms       | 85                       |
| Opening NO                                         |                     |          |                          |
|                                                    | min                 | ms       | 20                       |
|                                                    | max                 | ms       | 55                       |
| <b>UL technical data</b>                           |                     |          |                          |
| Rated operational voltage AC (UL)                  | V                   |          | 600                      |
| General USE                                        |                     |          |                          |
| Contactor                                          |                     |          |                          |
|                                                    | AC current          | A        | 115                      |
| 4 poles in series DC1                              |                     |          |                          |
|                                                    | 600V                | A        | 100                      |
| <b>Ambient conditions</b>                          |                     |          |                          |
| Temperature                                        |                     |          |                          |
| Operating temperature                              |                     |          |                          |

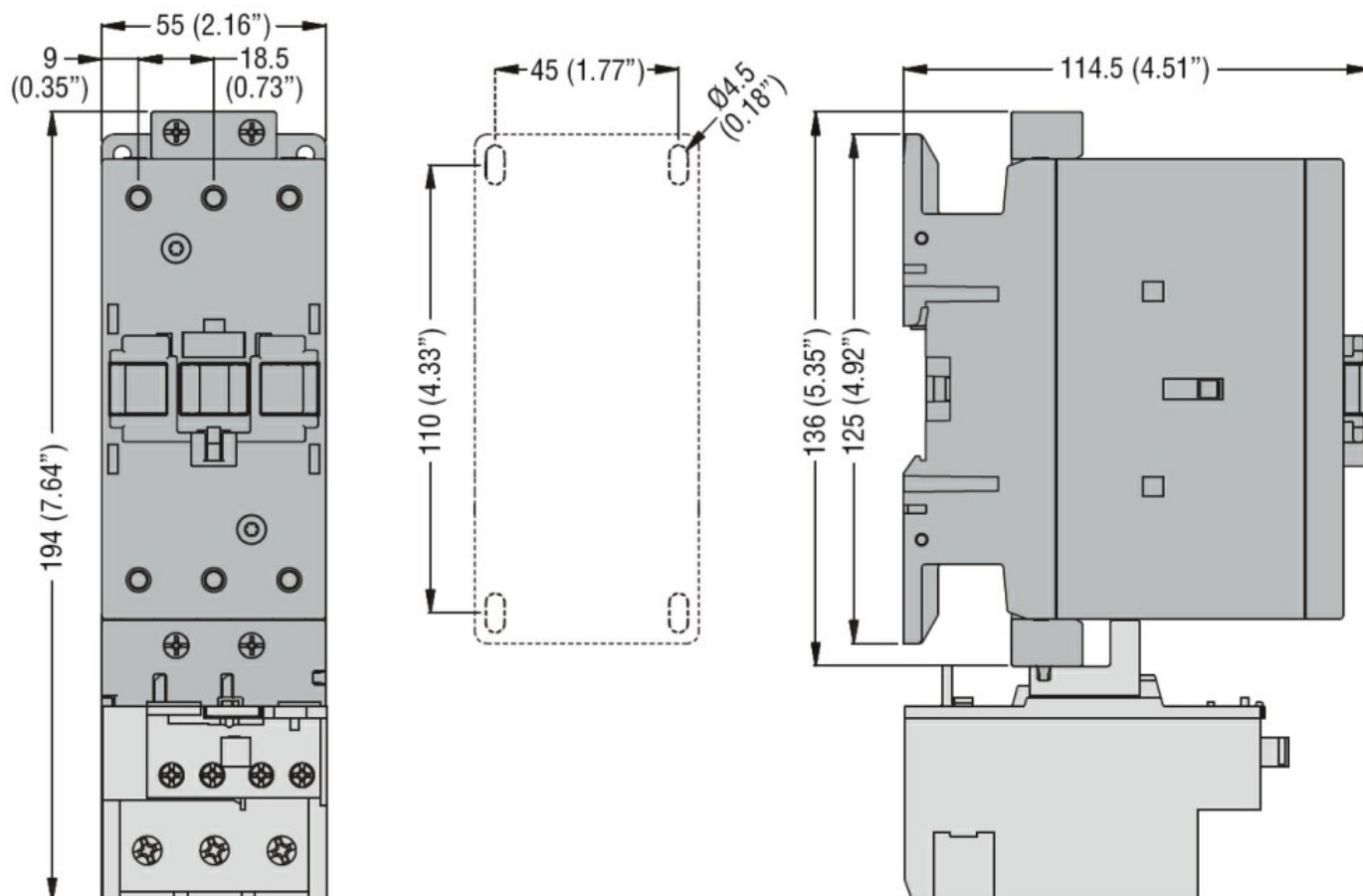
|                     |     |    |      |
|---------------------|-----|----|------|
| Storage temperature | min | °C | -50  |
|                     | max | °C | 70   |
| Max altitude        | min | °C | -60  |
|                     | max | °C | 80   |
|                     |     | m  | 3000 |

## Resistance & Protection

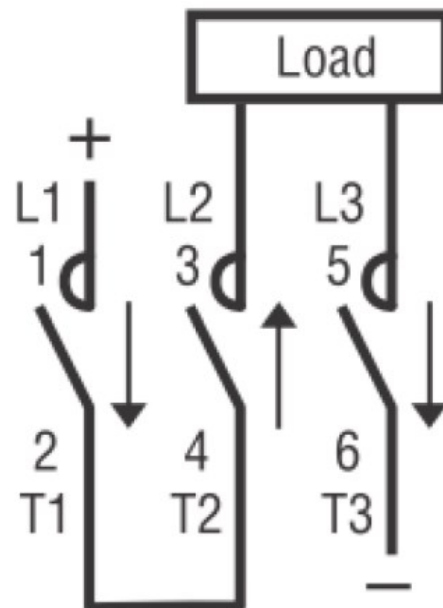
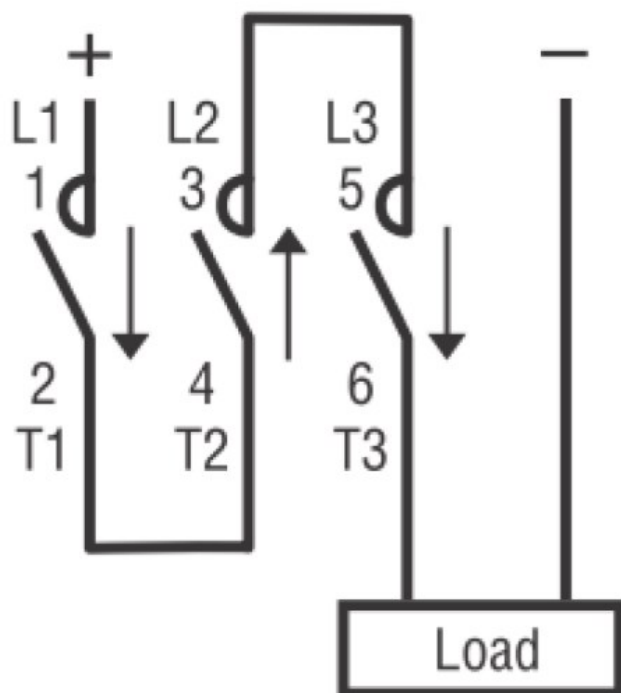
Pollution degree

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

#### ETIM classification

ETIM 8.0

EC002552 -  
Power contactor,  
DC switching