



### Contact characteristics

|   |                    |     |      |
|---|--------------------|-----|------|
| Number of poles   |                    | Nr. | 4    |
| Rated insulation voltage U <sub>i</sub> IEC/EN                              |                    | V   | 1000 |
| Rated impulse withstand voltage U <sub>imp</sub>                            |                    | kV  | 8    |
| Operational frequency   | min                | Hz  | 25   |
|   | max                | Hz  | 400  |
| IEC Conventional free air thermal current I <sub>th</sub> ≤ 40°C            |                    | A   | 70   |
| Operational current I <sub>e</sub>  | AC-1 (≤40°C)       | A   | 70   |
|   | AC-1 (≤55°C)       | A   | 60   |
|   | AC-1 (≤70°C)       | A   | 50   |
|   | AC-3 (≤440V ≤55°C) | A   | 40   |
|   | AC-4 (400V)        | A   | 24   |
| Rated operational current AC-3 (T≤55°C)                                     | 230V               | A   | 40   |
|   | 400V               | A   | 40   |
|   | 415V               | A   | 40   |
|   | 440V               | A   | 40   |
|   | 500V               | A   | 33   |
|   | 690V               | A   | 32   |
|   | 1000V              | A   | 21   |
| Rated operational power AC-1 (T≤40°C)                                       | 230V               | kW  | 26   |
|   | 400V               | kW  | 46   |
|   | 500V               | kW  | 58   |
|   | 690V               | kW  | 79   |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 1 poles in series | ≤24V               | A   | 40   |
|   | 48V                | A   | 35   |
|   | 75V                | A   | 30   |
|   | 110V               | A   | 8    |
|   | 220V               | A   | –    |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 2 poles in series | ≤24V               | A   | 48   |
|   | 48V                | A   | 48   |
|   | 75V                | A   | 45   |
|   | 110V               | A   | 42   |
|   | 220V               | A   | 5    |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 3 poles in series | ≤24V               | A   | 48   |
|   | 48V                | A   | 48   |
|   | 75V                | A   | 48   |
|   | 110V               | A   | 44   |
|   | 220V               | A   | 56   |

IEC max current I<sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | –  |
| 48V  | A | –  |
| 75V  | A | –  |
| 110V | A | –  |
| 220V | A | 70 |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | 27 |
| 48V  | A | 23 |
| 75V  | A | 19 |
| 110V | A | 3  |
| 220V | A | –  |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | 32 |
| 48V  | A | 30 |
| 75V  | A | 27 |
| 110V | A | 22 |
| 220V | A | 5  |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | 40 |
| 48V  | A | 40 |
| 75V  | A | 38 |
| 110V | A | 27 |
| 220V | A | 32 |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | –  |
| 48V  | A | –  |
| 75V  | A | –  |
| 110V | A | –  |
| 220V | A | 40 |

Short-time allowable current for 10s (IEC/EN60947-1)

A 400

Protection fuse

|          |   |     |
|----------|---|-----|
| gG (IEC) | A | 100 |
| aM (IEC) | A | 50  |

Making capacity (RMS value)

A 400

Breaking capacity at voltage

|      |   |     |
|------|---|-----|
| 440V | A | 320 |
| 500V | A | 265 |
| 690V | A | 256 |

Resistance per pole (average value)

mΩ 0.8

Power dissipation per pole (average value)

|                 |   |     |
|-----------------|---|-----|
| I <sub>th</sub> | W | 3.9 |
| AC-3            | W | 1.3 |

Tightening torque for terminals

|     |                  |      |
|-----|------------------|------|
| min | Nm               | 4    |
| max | Nm               | 5    |
| min | I <sub>bin</sub> | 2.95 |
| max | I <sub>bin</sub> | 3.69 |

Tightening torque for coil terminal

|     |                  |      |
|-----|------------------|------|
| min | Nm               | 0.8  |
| max | Nm               | 1    |
| min | I <sub>bin</sub> | 0.8  |
| max | I <sub>bin</sub> | 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                   |                    |          |
| <b>Mechanical features</b>                          |                              |                    |          |
| Operating position                                  | normal allowable             | Vertical plan ±30° |          |
| Fixing  | Screw / DIN rail 35mm        |                    |          |
| Weight  | g                            | 1240               |          |
| <b>Operations</b>                                   |                              |                    |          |
| Mechanical life                                     | cycles                       | 15000000           |          |
| Electrical life                                     | cycles                       | 1500000            |          |
| <b>Safety related data</b>                          |                              |                    |          |
| Performance level B10d according to EN/ISO 13489-1  | rated load mechanical load   | cycles             | 1500000  |
|   |                              | cycles             | 15000000 |
| EMC compatibility                                   | yes                          |                    |          |
| <b>AC coil operating</b>                            |                              |                    |          |
| Rated AC voltage at 60Hz                            | V                            | 220                |          |
| 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 holding              | VA                 | 210      |
|   |                              | 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 |

**UL technical data**

Rated operational voltage AC (UL) V 600

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  |
|                           | 220/240V | HP | 15  |
|                           | 460/480V | HP | 30  |
|                           | 575/600V | HP | 30  |

**General USE**

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 70 |
|------------|---|----|

Short-circuit protection fuse, 600V

|                |                       |    |     |
|----------------|-----------------------|----|-----|
| High fault     | Short circuit current | kA | 100 |
|                | Fuse rating           | A  | 150 |
|                | Fuse class            |    | J   |
| Standard fault | Short circuit current | kA | 5   |
|                | Fuse rating           | A  | 150 |
|                | Fuse class            |    | RK5 |

**Ambient conditions**

**Temperature**

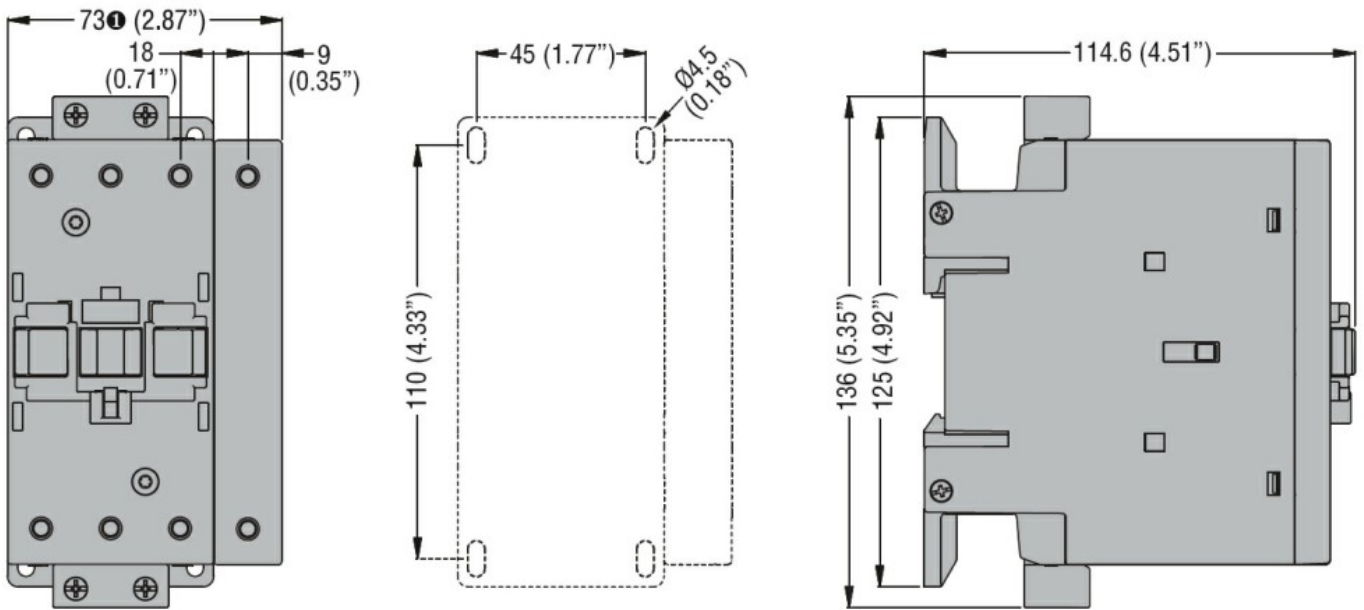
|                       |     |    |     |
|-----------------------|-----|----|-----|
| Operating temperature | min | °C | -50 |
|                       | max | °C | 70  |
| Storage temperature   | min | °C | -60 |
|                       | max | °C | 80  |

Max altitude m 3000

**Resistance & Protection**

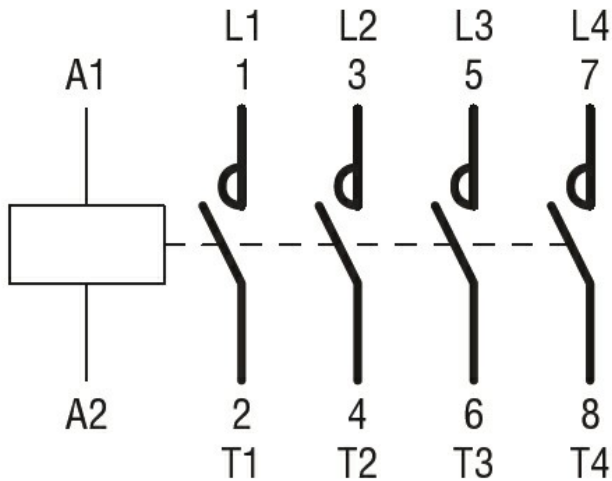
Pollution degree 3

**Dimensions**



① BF80T2 82mm/3.23"

### Wiring diagrams



### Certifications and compliance

#### Compliance

CSA C22.2 n° 60947-1  
CSA C22.2 n° 60947-4-1  
IEC/EN 60335-2-89  
IEC/EN/BS 60947-1  
IEC/EN/BS 60947-4-1  
UL 60947-1  
UL 60947-4-1

#### Certificates

CCC  
CSA C22.2 n. 60335-2-40:22 LZGH A2L  
CSA C22.2 No. 60335-2-89:21 LZGH A2L  
cULus  
UL 60335-2-40 LZGH A2L  
UL 60335-2-89 LZGH A2L

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching