



Product designation  
Product type designation

Power contactor  
BFK50

### Contact characteristics

|                                                       |                     |      |
|-------------------------------------------------------|---------------------|------|
| Number of poles                                       | Nr.                 | 3    |
| Rated insulation voltage $U_i$ IEC/EN                 | V                   | 690  |
| 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                   | 90   |
| Rated operational power AC-6b ( $T \leq 40^\circ C$ ) | 230V kvar           | 22   |
|                                                       | 400V kvar           | 40   |
|                                                       | 440...480V kvar     | 41   |
|                                                       | 690V kvar           | 46   |
| Short-time allowable current for 10s (IEC/EN60947-1)  | A                   | 400  |
| Protection fuse                                       | gG (IEC)            | A 80 |
| Making capacity (RMS value)                           | A                   | 500  |
| Breaking capacity at voltage                          | 440V A              | 400  |
|                                                       | 500V A              | 352  |
|                                                       | 690V A              | 312  |
| Resistance per pole (average value)                   | mΩ                  | 0.8  |
| Power dissipation per pole (average value)            | $I_{th}$ W          | 6.5  |
| Tightening torque for terminals                       | min Nm              | 4    |
|                                                       | max Nm              | 5    |
|                                                       | min lbin            | 2.95 |
|                                                       | max lbin            | 3.69 |
| 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                 | 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                           | mm²                   | 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                     | 1090                     |
| Operations                                          |  |                               |                       |                          |
| Mechanical life                                     |  |                               | cycles                | 15000000                 |
| Electrical life                                     |  |                               | cycles                | 400000                   |
| Safety related data                                 |  |                               |                       |                          |
| Performance level B10d according to EN/ISO 13489-1  |  |                               |                       |                          |
|                                                     |  | rated load<br>mechanical load | cycles<br>cycles      | 400000<br>15000000       |
| EMC compatibility                                   |  |                               |                       |                          |
| yes                                                 |  |                               |                       |                          |
| AC coil operating                                   |  |                               |                       |                          |
| Rated AC voltage at 50/60Hz                         |  |                               | V                     | 400                      |
| AC operating voltage                                |  |                               |                       |                          |
| of 50/60Hz coil powered at 50Hz<br>pick-up          |  | min                           | %Us                   | 80                       |
|                                                     |  | max                           | %Us                   | 110                      |
| drop-out                                            |  | min                           | %Us                   | 20                       |
|                                                     |  | max                           | %Us                   | 55                       |
| of 50/60Hz coil powered at 60Hz<br>pick-up          |  | min                           | %Us                   | 85                       |
|                                                     |  | max                           | %Us                   | 110                      |
| drop-out                                            |  | min                           | %Us                   | 20                       |
|                                                     |  | max                           | %Us                   | 55                       |
| AC average coil consumption at 20°C                 |  |                               |                       |                          |
| of 50/60Hz coil powered at 50Hz                     |  | in-rush<br>holding            | VA<br>VA              | 210<br>15                |
| of 50/60Hz coil powered at 60Hz                     |  | in-rush<br>holding            | VA<br>VA              | 195<br>13                |
| of 60Hz coil powered at 60Hz                        |  | in-rush<br>holding            | VA<br>VA              | 210<br>15                |
| Dissipation at holding ≤20°C 50Hz                   |  |                               | W                     | 5                        |
| Max cycles frequency                                |  |                               |                       |                          |
| Mechanical operation                                |  |                               | cycles/h              | 3600                     |
| Operating times                                     |  |                               |                       |                          |
| Average time for Us control<br>in AC                |  |                               |                       |                          |
| Closing NO                                          |  | min                           | ms                    | 12                       |
|                                                     |  | max                           | ms                    | 28                       |
| Opening NO                                          |  |                               |                       |                          |

|       |            |     |    |    |
|-------|------------|-----|----|----|
| in DC |            | min | ms | 8  |
|       |            | max | ms | 22 |
|       | 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 |
| General USE                       |   |     |

|           |            |   |    |
|-----------|------------|---|----|
| Contactor | AC current | A | 90 |
|-----------|------------|---|----|

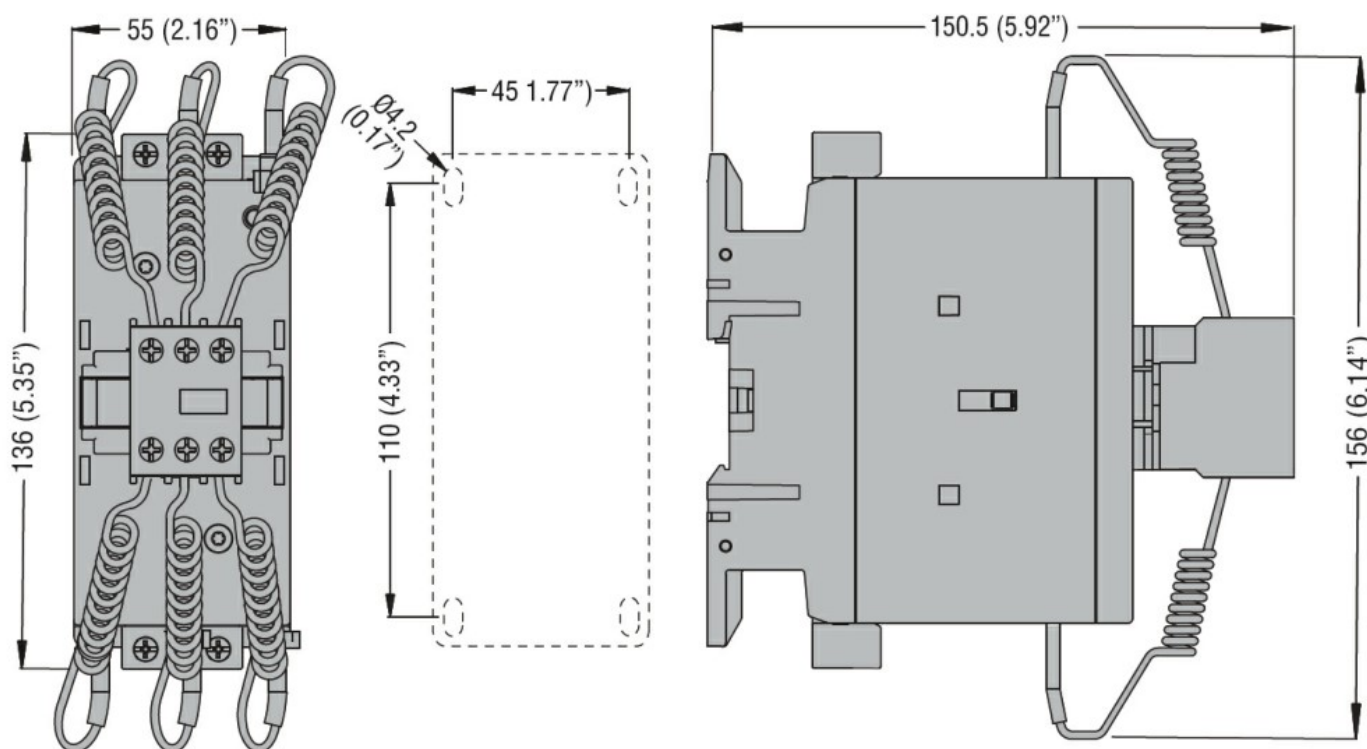
#### Ambient conditions

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

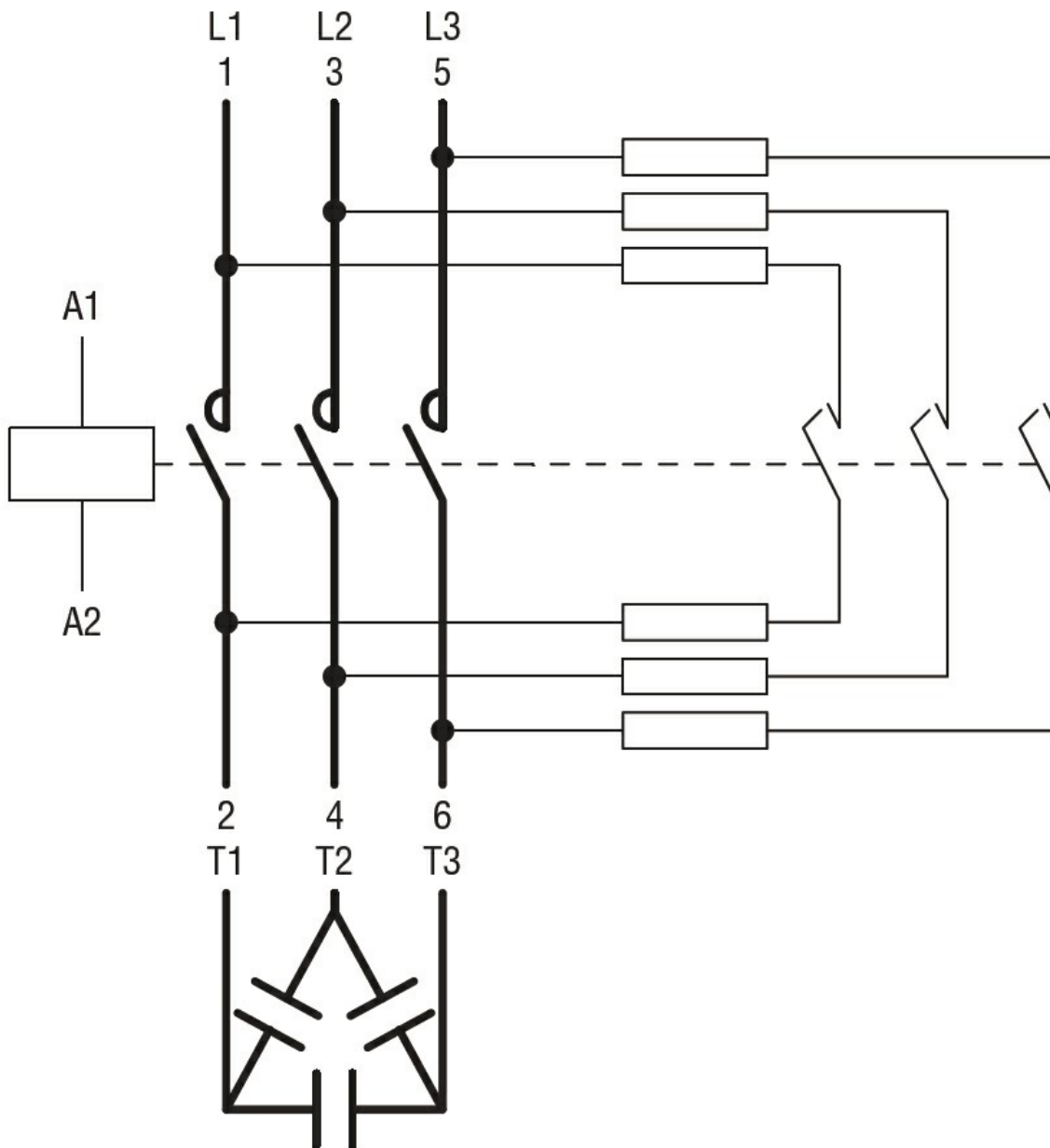
#### Resistance & Protection

|                  |   |
|------------------|---|
| 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

## ETIM classification

ETIM 8.0

EC001079 -  
Capacitor  
contactor