



|                                                       |                                     |                   |                   |
|-------------------------------------------------------|-------------------------------------|-------------------|-------------------|
| Product designation                                   | Power contactor                     |                   |                   |
| Product type designation                              | BFK12                               |                   |                   |
| <b>Contact characteristics</b>                        |                                     |                   |                   |
| Number of poles                                       | Nr.                                 | 3                 |                   |
| Rated insulation voltage $U_i$ IEC/EN                 | V                                   | 690               |                   |
| Rated impulse withstand voltage $U_{imp}$             | kV                                  | 6                 |                   |
| Operational frequency                                 | min                                 | Hz                | 25                |
|                                                       | max                                 | Hz                | 400               |
| IEC Conventional free air thermal current $I_{th}$    | A                                   | 28                |                   |
| Rated operational power AC-6b ( $T \leq 40^\circ C$ ) | 230V                                | kvar              | 7                 |
|                                                       | 400V                                | kvar              | 12.5              |
|                                                       | 440...480V                          | kvar              | 14                |
|                                                       | 690V                                | kvar              | 16                |
| Short-time allowable current for 10s (IEC/EN60947-1)  | A                                   | 150               |                   |
| Protection fuse                                       | gG (IEC)                            | A                 | 25                |
|                                                       | Making capacity (RMS value)         | A                 | 120               |
| Breaking capacity at voltage                          | 440V                                | A                 | 96                |
|                                                       | 500V                                | A                 | 96                |
|                                                       | 690V                                | A                 | 94                |
|                                                       | Resistance per pole (average value) | m $\Omega$        | 2.5               |
| Power dissipation per pole (average value)            | $I_{th}$                            | W                 | 2                 |
|                                                       | Tightening torque for terminals     | min               | Nm                |
| 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 |
| <b>Mechanical features</b>                          |                              |                  |                 |                          |
| Operating position                                  |                              | normal allowable |                 | Vertical plan ±30°       |
| Fixing                                              |                              |                  |                 | Screw / DIN rail 35mm    |
| Weight                                              |                              |                  | g               | 406                      |
| Conductor section                                   | AWG/kcmil conductor section  |                  |                 |                          |
|                                                     |                              | max              |                 | 10                       |
| <b>Auxiliary contact characteristics</b>            |                              |                  |                 |                          |
| Thermal current I <sub>th</sub>                     |                              |                  | A               | 10                       |
| IEC/EN 60947-5-1 designation                        |                              |                  |                 | A600 - P600              |
| Operating current AC15                              |                              | 230V             | A               | 3                        |
|                                                     |                              | 400V             | A               | 1.9                      |
|                                                     |                              | 500V             | A               | 1.4                      |
| Operating current DC12                              |                              | 110V             | A               | 5.7                      |
| Operating current DC13                              |                              | 24V              | A               | 5.7                      |
|                                                     |                              | 48V              | A               | 2.9                      |
|                                                     |                              | 60V              | A               | 2.3                      |
|                                                     |                              | 110V             | A               | 1.25                     |
|                                                     |                              | 125V             | A               | 1.1                      |
|                                                     |                              | 220V             | A               | 0.6                      |
|                                                     |                              | 600V             | A               | 0.1                      |
| <b>Operations</b>                                   |                              |                  |                 |                          |
| Mechanical life                                     |                              |                  | cycles          | 20000000                 |
| Electrical life                                     |                              |                  | cycles          | 400000                   |
| <b>Safety related data</b>                          |                              |                  |                 |                          |
| Performance level B10d according to EN/ISO 13489-1  |                              | rated load       | cycles          | 400000                   |
|                                                     |                              | mechanical load  | cycles          | 20000000                 |
| Mirror contacts according to IEC/EN 60947-4-1       |                              |                  |                 | YES                      |
| 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 | 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  |
| max | ms | 24 |

Opening NO

|     |    |    |
|-----|----|----|
| min | ms | 10 |
| max | ms | 20 |

Closing NC

|     |    |    |
|-----|----|----|
| min | ms | 14 |
| max | ms | 28 |

**UL technical data**

General USE

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 28 |
|------------|---|----|

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

A600 - P600

**Ambient conditions**

Temperature

Operating temperature

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

Storage temperature

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

Max altitude

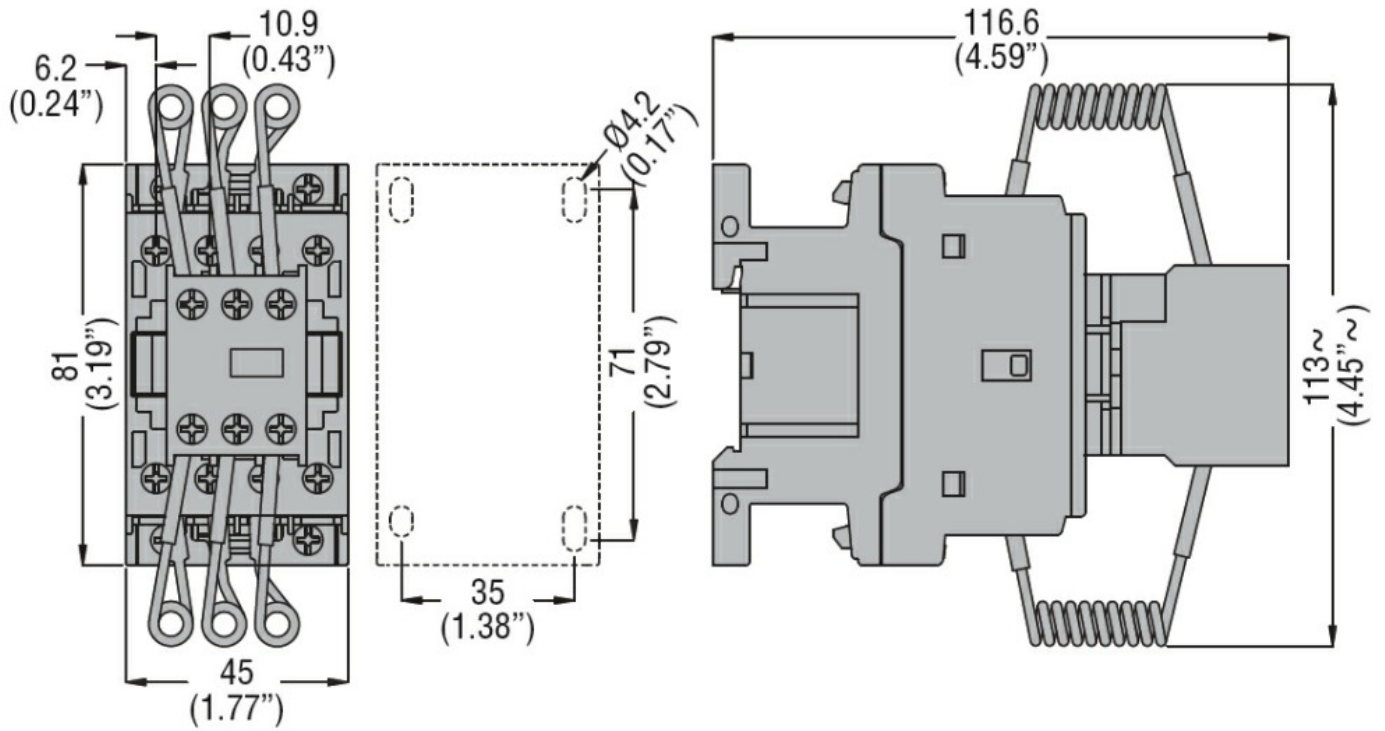
m 3000

**Resistance & Protection**

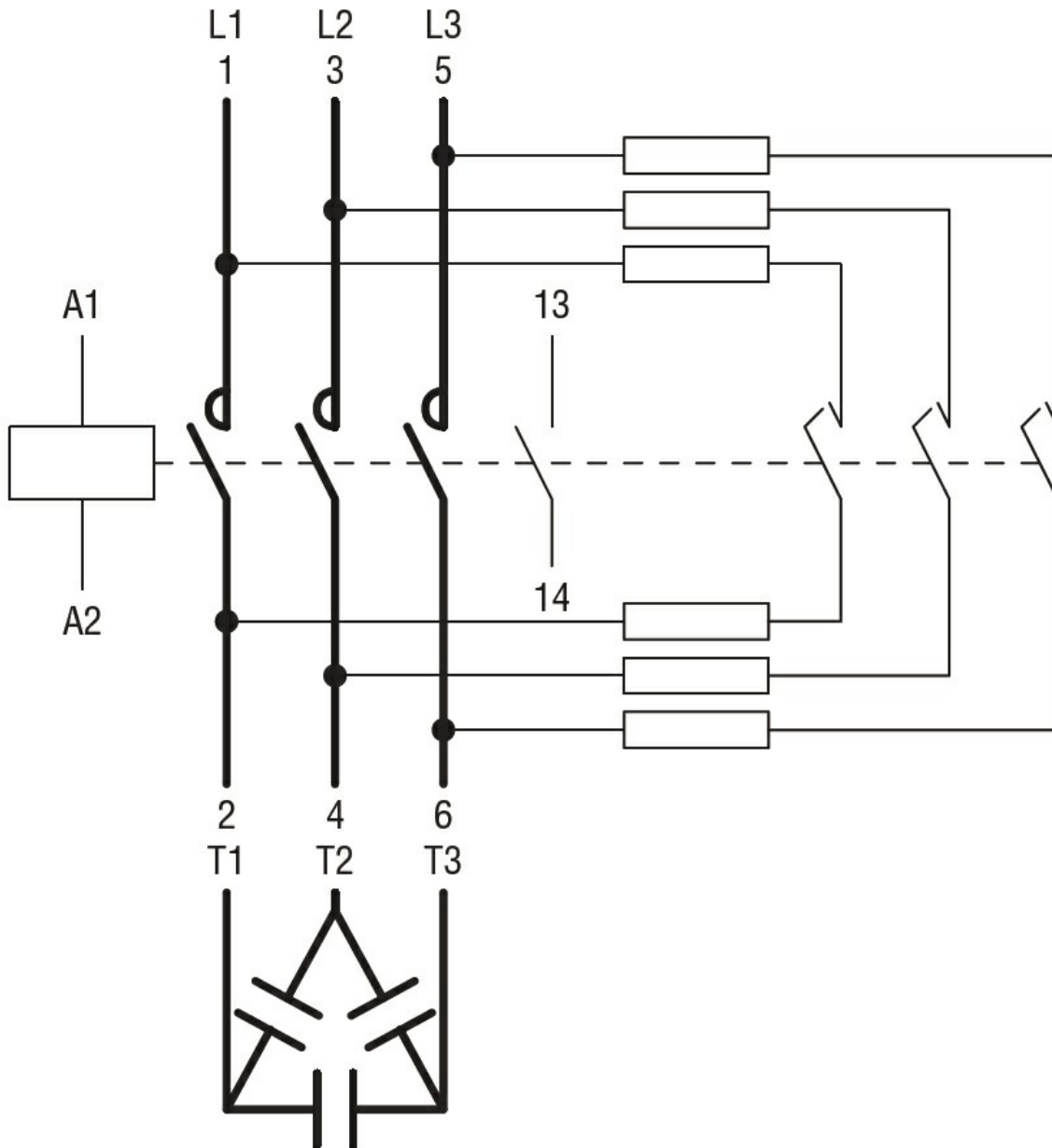
Pollution degree

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

EC001079 -  
Capacitor  
contactor