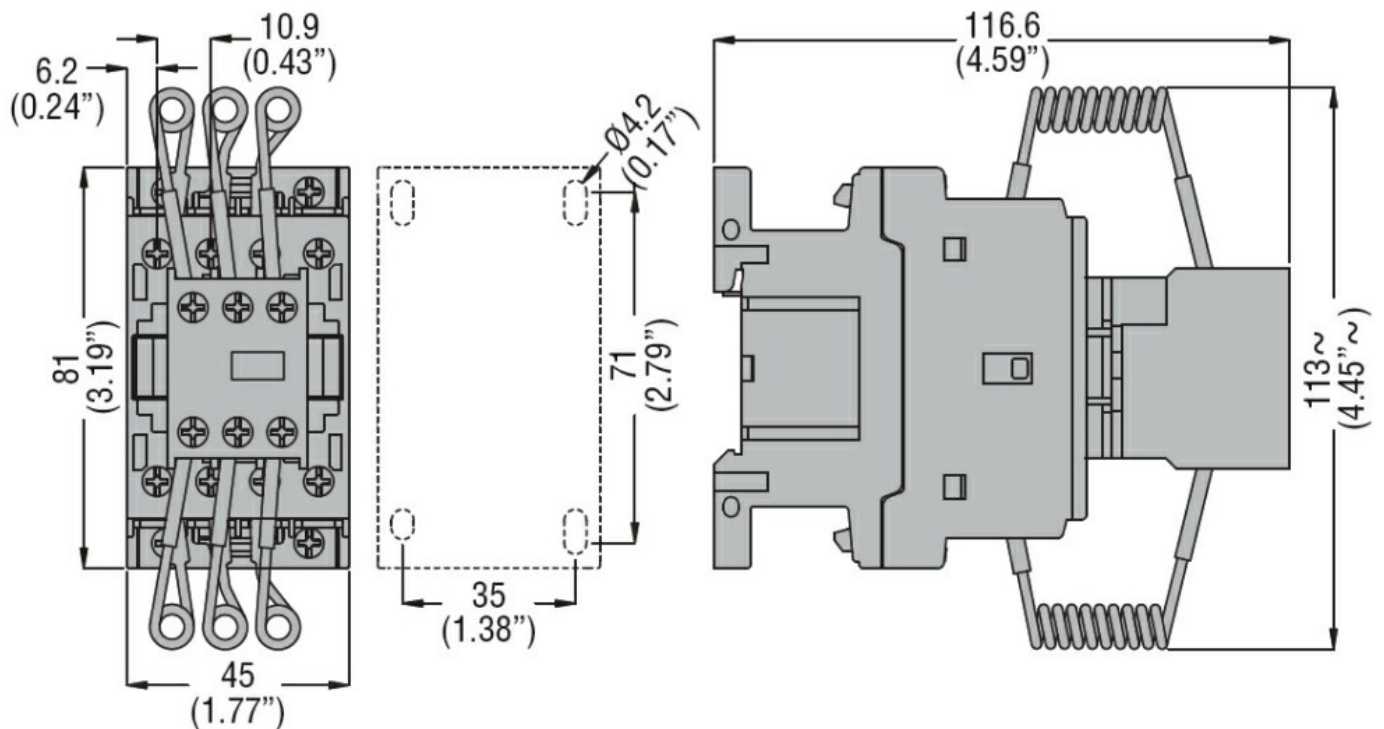




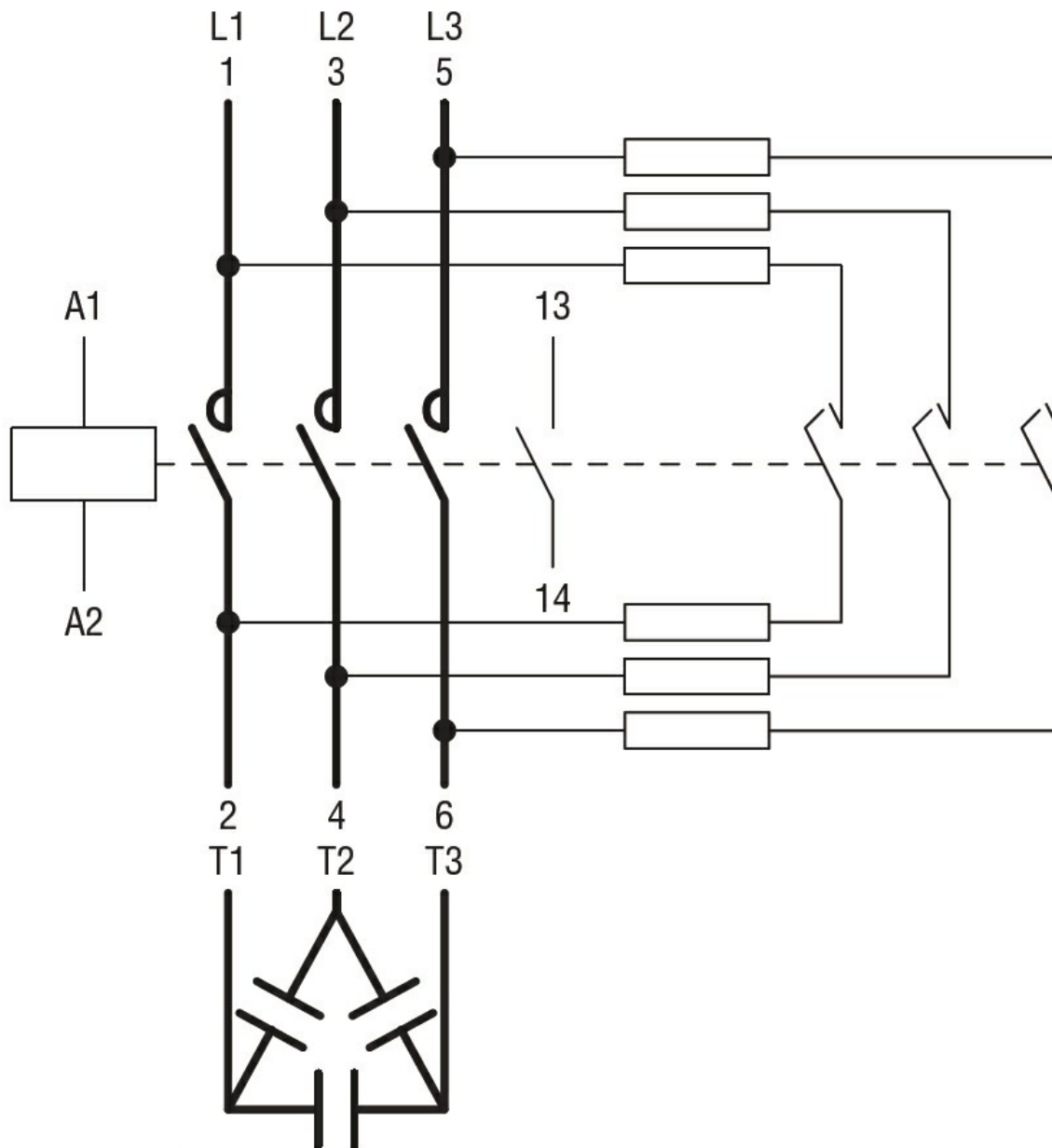
|                                                      |                                    |      |                 |
|------------------------------------------------------|------------------------------------|------|-----------------|
| Product designation                                  |                                    |      | Power contactor |
| Product type designation                             |                                    |      | BFK09           |
| Contact characteristics                              |                                    |      |                 |
| Number of poles                                      | Nr.                                | 3    |                 |
| Rated insulation voltage Ui IEC/EN                   | V                                  | 690  |                 |
| Rated impulse withstand voltage Uimp                 | kV                                 | 6    |                 |
| Operational frequency                                | min                                | Hz   | 25              |
|                                                      | max                                | Hz   | 400             |
| IEC Conventional free air thermal current Ith        | A                                  | 25   |                 |
| Rated operational power AC-6b (T=40°C)               | 230V                               | kvar | 4.5             |
|                                                      | 400V                               | kvar | 7.5             |
|                                                      | 440...480V                         | kvar | 9               |
|                                                      | 690V                               | kvar | 10              |
| Short-time allowable current for 10s (IEC/EN60947-1) | A                                  | 150  |                 |
| Protection fuse                                      | gG (IEC)                           | A    | 16              |
|                                                      |                                    | A    | 90              |
| Making capacity (RMS value)                          |                                    | A    | 90              |
| Breaking capacity at voltage                         | 440V                               | A    | 72              |
|                                                      | 500V                               | A    | 72              |
|                                                      | 690V                               | A    | 71              |
| Resistance per pole (average value)                  | m?                                 | 2.5  |                 |
| Power dissipation per pole (average value)           | Ith                                | W    | 1.6             |
|                                                      |                                    |      |                 |
| 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                                | mm²  | 1               |
|                                                      | max                                | mm²  | 6               |
| Flexible c/w lug conductor section                   |                                    |      |                 |
|                                                      | min                                | mm²  | 1               |

|                                                     |                  |        |                       |
|-----------------------------------------------------|------------------|--------|-----------------------|
|                                                     | max              | mm²    | 4                     |
| Flexible with insulated spade lug conductor section |                  |        |                       |
|                                                     | min              | mm²    | 1                     |
|                                                     | max              | mm²    | 4                     |
| Power terminal protection according to IEC/EN 60529 |                  |        | IP20 when wired       |
| Mechanical features                                 |                  |        |                       |
| Operating position                                  | normal allowable |        | Vertical plan ±30°    |
| Fixing                                              |                  |        | Screw / DIN rail 35mm |
| Weight                                              |                  | g      | 416                   |
| Conductor section                                   |                  |        |                       |
| AWG/kcmil conductor section                         |                  |        |                       |
|                                                     | max              |        | 10                    |
| Auxiliary contact characteristics                   |                  |        |                       |
| Thermal current Ith                                 |                  | 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                   |
| Operations                                          |                  |        |                       |
| Mechanical life                                     |                  | cycles | 20000000              |
| Electrical life                                     |                  | cycles | 400000                |
| Safety related data                                 |                  |        |                       |
| Performance level B10d according to EN/ISO 13489-1  |                  |        |                       |
|                                                     | rated load       | cycles | 400000                |
|                                                     | mechanical load  | cycles | 20000000              |
| Mirror contats according to IEC/EN 609474-4-1       |                  |        | YES                   |
| EMC compatibility                                   |                  |        | yes                   |
| AC coil operating                                   |                  |        |                       |
| Rated AC voltage at 50/60Hz                         |                  | V      | 230                   |
| AC operating voltage                                |                  |        |                       |
| of 50/60Hz coil powered at 50Hz                     |                  |        |                       |
| pick-up                                             | min              | %Us    | 80                    |
|                                                     | max              | %Us    | 110                   |
| drop-out                                            |                  |        |                       |
|                                                     | min              | %Us    | 20                    |
|                                                     | max              | %Us    | 55                    |
| of 50/60Hz coil powered at 60Hz                     |                  |        |                       |
| pick-up                                             |                  |        |                       |

|                                     |                                                      |          |             |
|-------------------------------------|------------------------------------------------------|----------|-------------|
| drop-out                            | min                                                  | %Us      | 85          |
|                                     | max                                                  | %Us      | 110         |
|                                     | min                                                  | %Us      | 20          |
|                                     | max                                                  | %Us      | 55          |
| AC average coil consumption at 20°C |                                                      |          |             |
| of 50/60Hz coil powered at 50Hz     |                                                      |          |             |
|                                     | in-rush                                              | VA       | 75          |
|                                     | holding                                              | VA       | 9           |
| of 50/60Hz coil powered at 60Hz     |                                                      |          |             |
|                                     | in-rush                                              | VA       | 70          |
|                                     | holding                                              | VA       | 6.5         |
| 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                           |                                                      |          |             |
| Auxiliary contacts                  | AC current                                           | A        | 25          |
|                                     | 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 60947-1  
IEC/EN 60947-4-1  
UL 60947-1  
UL 60947-4-1

### Certificates

CCC  
cULus  
EAC

## ETIM classification

ETIM 8.0

EC001079 -  
Capacitor  
contactor