

|   |                                    |                 |                 |                          |
|---|------------------------------------|-----------------|-----------------|--------------------------|
| Product designation                                   |                                    |                 |                 | Power contactor          |
| Product type designation                              |                                    |                 |                 | BFK50                    |
| <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                                 |                 |                 | 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              |                          |
|   |                                    | A               | 500             |                          |
| Making capacity (RMS value)                           |                                    |                 |                 | 500                      |
| Breaking capacity at voltage                          | 440V                               | A               | 400             |                          |
|   | 500V                               | A               | 352             |                          |
|   | 690V                               | A               | 312             |                          |
| Resistance per pole (average value)                   | m $\Omega$                         |                 |                 | 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            | Prodotti finiti |                          |
|   | max                                | lbin            | Prodotti finiti |                          |
| Max number of wires simultaneously connectable        | Nr.                                |                 |                 | 2                        |
| Conductor section                                     | 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                             |                 | Vertical plan   |                          |
|   | allowable                          |                 | $\pm 30^\circ$  |                          |
| Fixing  |                                    |                 |                 | Screw / DIN rail<br>35mm |
| Weight  |                                    |                 |                 | g 1090                   |
| <b>Operations</b>                                     |                                    |                 |                 |                          |

|                 |  |        |          |
|-----------------|--|--------|----------|
| Mechanical life |  | cycles | 15000000 |
| Electrical life |  | cycles | 400000   |

**Safety related data**

Performance level B10d according to EN/ISO 13489-1

|  |                 |        |          |
|--|-----------------|--------|----------|
|  | rated load      | cycles | 400000   |
|  | mechanical load | cycles | 15000000 |

|                   |  |     |
|-------------------|--|-----|
| EMC compatibility |  | Yes |
|-------------------|--|-----|

|                          |   |     |
|--------------------------|---|-----|
| Rated AC voltage at 60Hz | V | 230 |
|--------------------------|---|-----|

**AC coil operating**

|                      |                              |     |     |     |
|----------------------|------------------------------|-----|-----|-----|
| 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 50/60Hz coil powered at 50Hz |         |    |     |
|                                     |                                 | in-rush | VA | 210 |
|                                     |                                 | holding | VA | 15  |

|  |                                 |         |    |     |
|--|---------------------------------|---------|----|-----|
|  | of 50/60Hz coil powered at 60Hz |         |    |     |
|  |                                 | in-rush | VA | 195 |
|  |                                 | holding | VA | 13  |

|  |                              |         |    |     |
|--|------------------------------|---------|----|-----|
|  | of 60Hz coil powered at 60Hz |         |    |     |
|  |                              | in-rush | VA | 210 |
|  |                              | holding | VA | 15  |

|                                   |  |   |   |
|-----------------------------------|--|---|---|
| Dissipation at holding ≤20°C 50Hz |  | W | 5 |
|-----------------------------------|--|---|---|

**Max cycles frequency**

|                      |  |          |      |
|----------------------|--|----------|------|
| Mechanical operation |  | cycles/h | 3600 |
|----------------------|--|----------|------|

**Operating times**

|                             |       |            |     |    |    |
|-----------------------------|-------|------------|-----|----|----|
| 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**

|             |           |            |   |    |
|-------------|-----------|------------|---|----|
| 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                                 |
| <b>Resistance &amp; Protection</b>   |                        |     |    |                                      |
| Pollution degree                     |                        |     |    | 3                                    |
| <b>Dimensions</b>                    |                        |     |    |                                      |
| <b>Wiring diagrams</b>               |                        |     |    |                                      |
| <b>Certifications and compliance</b> |                        |     |    |                                      |
| 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                  |     |    |                                      |
| <b>ETIM classification</b>           |                        |     |    |                                      |
| ETIM 8.0                             |                        |     |    | EC001079 -<br>Capacitor<br>contactor |