## **BFK5000A048**



CONTACTOR FOR POWER FACTOR CORRECTION WITH AC CONTROL CIRCUIT, INCLUDING LIMITING RESISTORS, MAXIMUM IEC OPERATIONAL POWER 400V = 40KVAR, COIL 48VAC 50/60HZ



| Product designation      |                                    |          |       | Power contactor |
|--------------------------|------------------------------------|----------|-------|-----------------|
| Product type designat    | ion                                |          |       | BFK50           |
| Contact characteristics  | 3                                  |          |       |                 |
| Number of poles          |                                    |          | Nr.   | 3               |
| Rated insulation voltage | ge Ui IEC/EN                       |          | V     | 690             |
| Rated impulse withsta    | nd voltage Uimp                    |          | kV    | 8               |
| Operational frequency    |                                    |          |       |                 |
|                          |                                    | min      | Hz    | 25              |
|                          |                                    | max      | Hz    | 400             |
| IEC Conventional free    | air thermal current Ith            |          | А     | 90              |
| Rated operational pov    | ver AC-6b (T≤40°C)                 |          |       |                 |
|                          |                                    | 230V     | kvar  | 22              |
|                          |                                    | 400V     | kvar  | 40              |
|                          |                                    | 440480V  | kvar  | 41              |
|                          |                                    | 690V     | kvar  | 46              |
| Short-time allowable of  | urrent for 10s (IEC/EN60947-1)     |          | А     | 400             |
| Protection fuse          |                                    |          |       |                 |
|                          |                                    | gG (IEC) | А     | 80              |
| Making capacity (RMS     | value)                             | <u> </u> | А     | 500             |
| Breaking capacity at v   |                                    |          |       |                 |
|                          |                                    | 440V     | А     | 400             |
|                          |                                    | 500V     | A     | 352             |
|                          |                                    | 690V     | A     | 312             |
| Resistance per pole (a   | average value)                     |          | mΩ    | 0.8             |
| Power dissipation per    |                                    |          |       |                 |
| r ener dieelpaden per    |                                    | lth      | W     | 6.5             |
| Tightening torque for t  | erminals                           |          |       | 0.0             |
| rightening torque for t  |                                    | min      | Nm    | 4               |
|                          |                                    | max      | Nm    | 5               |
|                          |                                    | min      | Ibin  | 2.95            |
|                          |                                    | max      | Ibin  | 3.69            |
| Tightening torque for c  | coil terminal                      | Пах      | 10111 | 0.00            |
| rightening torque for e  |                                    | min      | Nm    | 0.8             |
|                          |                                    | max      | Nm    | 1               |
|                          |                                    | min      | Ibin  | 0.8             |
|                          |                                    | max      | Ibin  | 0.74            |
| Max number of wires      | simultaneously connectable         | Пах      | Nr.   | 2               |
| Conductor section        |                                    |          | 111.  | ۷               |
|                          | AWG/Kcmil                          |          |       |                 |
|                          | AWG/Remin                          | max      |       | 2               |
|                          | Flexible w/o lug conductor section | Παλ      |       | 2               |
|                          | I ICADIE WO ING CONDUCTOR SECTION  | min      | mm²   | 1.5             |
|                          |                                    |          | mm²   | 35              |
|                          | Flexible c/w lug conductor section | max      | 11111 | 50              |
|                          |                                    |          | mm2   | 1 5             |
|                          |                                    | min      | mm²   | 1.5             |

The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



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|  |                                 | max                | mm²        | 35                       |
|--|---------------------------------|--------------------|------------|--------------------------|
|  | ion according to IEC/EN 60529   |                    |            | IP20 front               |
| Mechanical features                          |                                 |                    |            |                          |
| Operating position                           |                                 |                    |            |                          |
|  |                                 | normal             |            | Vertical plan            |
|  |                                 | allowable          |            | ±30°                     |
| Fixing                                       |                                 |                    |            | Screw / DIN rail<br>35mm |
| Weight                                       |                                 |                    | g          | 1090                     |
| Conductor section                            |                                 |                    |            |                          |
|  | AWG/kcmil conductor section     |                    |            |                          |
|  |                                 | max                |            | 2                        |
| Operations                                   |                                 |                    |            |                          |
| Mechanical life                              |                                 |                    | cycles     | 15000000                 |
| Electrical life                              |                                 |                    | cycles     | 400000                   |
| Safety related data                          |                                 |                    |            |                          |
| Performance level B10                        | 0d according to EN/ISO 13489-1  |                    |            |                          |
|  |                                 | rated load         | cycles     | 400000                   |
|  |                                 | mechanical load    | cycles     | 15000000                 |
| EMC compatibility                            |                                 |                    |            | yes                      |
| AC coil operating                            |                                 |                    | . <i>.</i> |                          |
| Rated AC voltage at 50                       | )/60Hz                          |                    | V          | 48                       |
| AC operating voltage                         |                                 |                    |            |                          |
|  | of 50/60Hz coil powered at 50Hz |                    |            |                          |
|  | pick-up                         | min                | 0/110      | 80                       |
|  |                                 | min                | %Us<br>%Us | 110                      |
|  | drop-out                        | max                | %05        | 110                      |
|  | drop-out                        | min                | %Us        | 20                       |
|  |                                 | max                | %Us        | 55                       |
|  | of 50/60Hz coil powered at 60Hz | Пах                | /000       | 00                       |
|  | pick-up                         |                    |            |                          |
|  |                                 | min                | %Us        | 85                       |
|  |                                 | max                | %Us        | 110                      |
|  | drop-out                        |                    |            |                          |
|  |                                 | min                | %Us        | 20                       |
|  |                                 | max                | %Us        | 55                       |
| AC average coil consu                        |                                 |                    |            |                          |
|  | of 50/60Hz coil powered at 50Hz |                    |            |                          |
|  |                                 | in-rush            | VA         | 210                      |
|  |                                 | holding            | VA         | 15                       |
|  | of 50/60Hz coil powered at 60Hz |                    |            | 405                      |
|  |                                 | in-rush            | VA         | 195                      |
|  |                                 | holding            | VA         | 13                       |
|  | of 60Hz coil powered at 60Hz    | in much            | ١/٨        | 210                      |
|  |                                 | in-rush<br>holding | VA<br>VA   | 15                       |
| Dissipation at holding                       | <20°C 50Hz                      | noiulity           | <br>W      | 5                        |
| Max cycles frequency                         |                                 |                    | vv         | 5                        |
| Max cycles frequency<br>Mechanical operation |                                 |                    | cycles/h   | 3600                     |
| Operating times                              |                                 |                    | 590103/11  |                          |
| Average time for Us co                       | ontrol                          |                    |            |                          |
|  | in AC                           |                    |            |                          |
|  |                                 |                    |            |                          |

**Closing NO** 

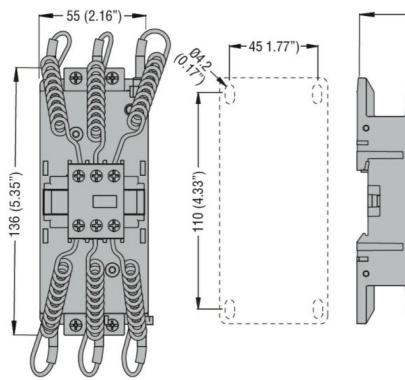
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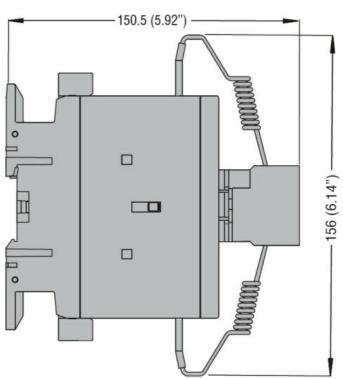


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|                      |                       |            | min        | ms | 12   |
|----------------------|-----------------------|------------|------------|----|------|
|                      |                       |            | max        | ms | 28   |
|                      |                       | Opening NO |            |    |      |
|                      |                       | -1- 5 -    | min        | ms | 8    |
|                      |                       |            | max        | ms | 22   |
|                      | in DC                 |            |            |    |      |
|                      |                       | Closing NO |            |    |      |
|                      |                       | 0          | min        | ms | 40   |
|                      |                       |            | max        | ms | 85   |
|                      |                       | Opening NO |            |    |      |
|                      |                       |            | min        | ms | 20   |
|                      |                       |            | max        | ms | 55   |
| UL technical data    |                       |            |            |    |      |
| General USE          |                       |            |            |    |      |
|                      | Contactor             |            |            |    |      |
|                      |                       |            | AC current | А  | 90   |
| Ambient conditions   |                       |            |            |    |      |
| Temperature          |                       |            |            |    |      |
|                      | Operating temperature | 9          |            |    |      |
|                      |                       |            | min        | °C | -50  |
|                      |                       |            | max        | °C | 70   |
|                      | Storage temperature   |            |            |    |      |
|                      |                       |            | min        | °C | -60  |
|                      |                       |            | max        | °C | 80   |
| Max altitude         |                       |            |            | m  | 3000 |
| Resistance & Protect | tion                  |            |            |    |      |
| Pollution degree     |                       |            |            |    | 3    |
| Dimensions           |                       |            |            |    |      |

Dimensions





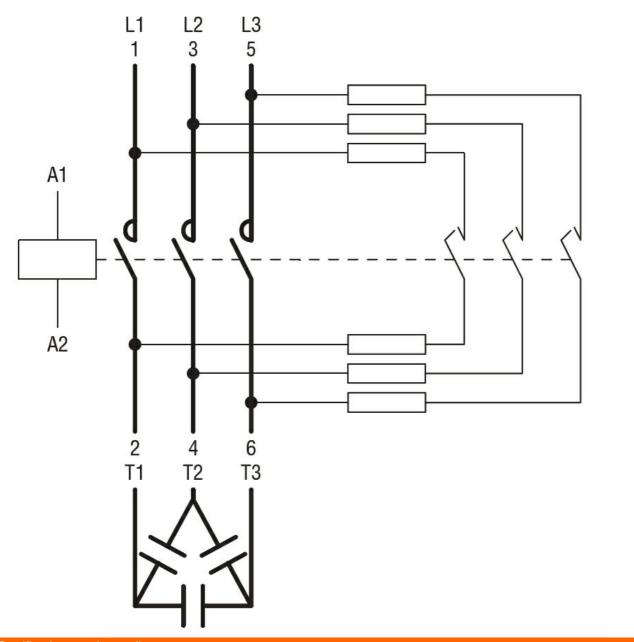
Wiring diagrams

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## Certifications and compliance

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|-------------|--------|
| Comp        | nance  |
| • • • • • • |        |

| 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 -<br>Capacitor<br>contactor |

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