

# FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 100A, AC COIL 50/60HZ, 230VAC



|  |      | The same of the sa |
|--|------|--|
| Product designation                                  |      | Power contactor  |
| Product type designation                             |      | BF65   |
| Contact characteristics                              |      |  |
| Number of poles                                      | nr.  | 4  |
| Rated insulation voltage Ui                          | V    | 1000   |
| Rated impulse withstand voltage Uimp                 | kV   | 8  |
| Operating frequency                                  | IX V | 0  |
|  | U    | 25   |
| Operational frequency min                            | Hz   | 25   |
| Operational frequency max                            | Hz   | 400  |
| Conventional free air thermal current Ith            | Α    | 100  |
| Operating current                                    | _    |  |
| Operational current AC1 (≤40°C)                      | Α    | 100  |
| Operational current AC3 (≤440V ≤55°C)                | Α    | 65   |
| Operational current AC4 (400V)                       | A    | 31   |
| Rated operational power AC1 (T≤40°C)                 |      |  |
| 230V   | kW   | 38   |
| 400V   | kW   | 65   |
| 500V   | kW   | 82   |
| 690V   | kW   | 114  |
| Rated operational power AC3 (T≤55°C)                 |      |  |
| 230V   | kW   | 18.5   |
| 400V   | kW   | 30   |
| 415V   | kW   | 37   |
| 440V   | kW   | 37   |
| 500V   | kW   | 37   |
| 690V   | kW   | 45   |
| 1000V  | kW   | 30   |
| Short-time allowable current for 10s (IEC/EN60947-1) | Α    | 640  |
| Protection fuse                                      |      |  |
| gG (IEC)   | Α    | 125  |
| aM (IEC)   | A    | 80   |
| Making capacity (RMS value)                          | A    | 650  |
| Breaking capacity at voltage                         |      |  |
| Breaking capacity 440V                               | Α    | 520  |
| Breaking capacity 440V  Breaking capacity 500V       | A    | 425  |
| Breaking capacity 500V  Breaking capacity 690V       | A    | 425<br>376   |
|  |      |  |
| Resistance per pole (average value)                  | mΩ   | 0.8  |
| Power dissipation per pole (average value)           | 147  | 0  |
| Power dissipation pole (average value) Ith           | W    | 8  |
| AC3  | W    | 3.4  |
| Tightening torque for terminals                      |      |  |
| min  | Nm   | 4  |
| may  | Nm   | 5  |
| max  |      |  |
| min max  | lbft | 2.95   |



**ENERGY AND AUTOMATION** 

## FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 100A, AC COIL 50/60HZ, 230VAC

| Tightening torque for o | coil terminal                      |                 |        |                          |
|-------------------------|------------------------------------|-----------------|--------|--------------------------|
|                         |                                    | min             | Nm     | 0.8                      |
|                         |                                    | max             | Nm     | 1                        |
|                         |                                    | min             | lbft   | 0.8                      |
|                         |                                    | max             | lbft   | 0.74                     |
| max number of wires s   | simultaneously connectable         |                 | nr.    | 2                        |
| Conductor section       | ·                                  |                 |        |                          |
|                         | AWG                                |                 |        |                          |
|                         |                                    | min             |        | 14                       |
|                         |                                    | max             |        | 2                        |
|                         | Flexible w/o lug conductor section |                 |        |                          |
|                         | •                                  | min             | mm²    | 1.5                      |
|                         |                                    | max             | mm²    | 35                       |
|                         | Flexible c/w lug conductor section |                 |        |                          |
|                         |                                    | min             | mm²    | 1.5                      |
|                         |                                    | max             | mm²    | 35                       |
| Power terminal protect  | tion according to IEC/EN 60529     |                 |        | IP20 front               |
| Auxiliary contact chara | <u> </u>                           |                 |        |                          |
| Operational current AC  |                                    |                 | А      | 100                      |
| Operating current DC1   | ,                                  |                 | - , ,  |                          |
| oporating carroin bo    |                                    |                 |        | Screw / DIN rail         |
|                         |                                    | 110V            | Α      | 35mm                     |
| Ambient conditions      |                                    |                 |        | 0011111                  |
| Temperature             |                                    |                 |        |                          |
| Tomporataro             | Operating temperature              |                 |        |                          |
|                         | Operating temperature              | min             | °C     | -50                      |
|                         |                                    | max             | °C     | 70                       |
|                         | Storage temperature                | Παλ             |        | 10                       |
|                         | Storage temperature                | min             | °C     | -60                      |
|                         |                                    | max             | °C     | 80                       |
| Max altitude            |                                    | IIIdA           |        | 3000                     |
|                         |                                    |                 | m      | 3000                     |
| Operating position      |                                    | normal          |        | Vertical plan            |
|                         |                                    | normal          |        | Vertical plan            |
|                         |                                    | allowable       |        | ±30°                     |
| Mounting                |                                    |                 |        | Screw / DIN rail<br>35mm |
| Weight                  |                                    |                 | ~      | 1.24                     |
| Operations              |                                    |                 | g      | 1.24                     |
| •                       |                                    |                 | Cualas | 1500000                  |
| Mechanical life         |                                    |                 | Cycles | 15000000                 |
| Electrical life         |                                    |                 | Cycles | 1400000                  |
| Safety related data     | 0d according to FN//00 40400 4     |                 |        |                          |
| Performance level B1    | 0d according to EN/ISO 13489-1     |                 | O      |                          |
|                         |                                    | rated load      | Cicli  | 1400000                  |
|                         | . IEO/EN 000 :=: : :               | mechanical load | Cicli  | 15000000                 |
|                         | ng to IEC/EN 609474-4-1            |                 |        | yes                      |
| EMC compatibility       |                                    |                 |        | yes                      |
| AC coil operating       |                                    |                 |        |                          |
| AC operating voltage    |                                    |                 |        |                          |
|                         | of 50/60Hz coil powered at 50Hz    |                 |        |                          |
|                         | pick-up                            |                 |        |                          |
|                         |                                    | min             | %Us    | 8.0                      |
|                         |                                    | max             | %Us    | 1.1                      |
|                         | drop-out                           |                 |        |                          |
|                         | ·                                  |                 |        |                          |



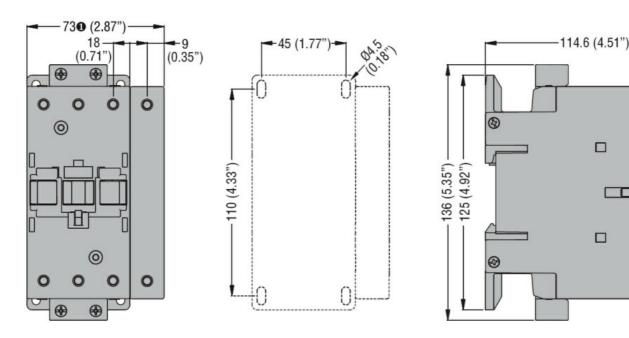
## FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 100A, AC COIL 50/60HZ, 230VAC

|   |   | min   | %Us                      | 0.2   |
|---|---|---|--------------------------|---|
|   |   | max   | %Us                      | 0.55  |
|   | of 50/60Hz coil powered at 60Hz   |   |                          |   |
|   | pick-up   |   |                          |   |
|   |   | min   | %Us                      | 0.85  |
|   |   | max   | %Us                      | 1.1   |
|   | drop-out  |   |                          |   |
|   |   | min   | %Us                      | 0.4   |
|   |   | max   | %Us                      | 0.55  |
|   | of 60Hz coil powered at 60Hz  |   |                          |   |
|   | pick-up   |   | 0/11                     |   |
|   |   | min   | %Us                      | 0.8   |
|   |   | max   | %Us                      | 1.1   |
|   | drop-out  |   | 0/11-                    | 0.0   |
|   |   | min   | %Us                      | 0.2   |
| A O   |   | max   | %Us                      | 0.55  |
| AC operating voltage  | of FO/GOLLT gold newared at FOLLT   |   |                          |   |
|   | of 50/60Hz coil powered at 50Hz   | in-rush   | VA                       | 210   |
|   |   |   | VA<br>VA                 |   |
|   | of FO/GOLLT and powered at GOLLT  | holding   | VA                       | 15  |
|   | of 50/60Hz coil powered at 60Hz   | in-rush   | VA                       | 195   |
|   |   | holding   | VA                       | 13  |
|   | of 60Hz coil powered at 60Hz  | Holding   | ν <u>Λ</u>               | 13  |
|   | or our iz con powered at our iz   | in-rush   | VA                       | 210   |
|   |   | holding   | VA                       | 15  |
| Dissipation at holding  | <20°C 50Hz  | Holding   | W                        | 5.0   |
|   |   |   | • • •                    | 0.0   |
| Max cycles frequency  |   |   |                          |   |
| Max cycles frequency Mechanical operations  |   |   | Cycles/h                 | 3600  |
| Mechanical operations   |   |   | Cycles/h                 | 3600  |
|   |   |   | Cycles/h                 | 3600  |
| Mechanical operations Operating times   |   |   | Cycles/h                 | 3600  |
| Mechanical operations Operating times   | ontrol<br>in AC   |   | Cycles/h                 | 3600  |
| Mechanical operations Operating times   | ontrol  | min   | Cycles/h                 | 12  |
| Mechanical operations Operating times   | ontrol<br>in AC   |   |                          |   |
| Mechanical operations Operating times   | ontrol<br>in AC   | min   | ms                       | 12  |
| Mechanical operations Operating times   | ontrol<br>in AC<br>Closing NO   | min   | ms                       | 12<br>28<br>8   |
| Mechanical operations Operating times Average time for Us co  | ontrol<br>in AC<br>Closing NO   | min<br>max  | ms<br>ms                 | 12<br>28  |
| Mechanical operations Operating times Average time for Us co  | ontrol<br>in AC<br>Closing NO<br>Opening NO   | min<br>max<br>min   | ms<br>ms                 | 12<br>28<br>8   |
| Mechanical operations Operating times Average time for Us co  | ontrol<br>in AC<br>Closing NO   | min<br>max<br>min<br>max  | ms<br>ms<br>ms           | 12<br>28<br>8<br>22                                     |
| Mechanical operations Operating times Average time for Us co  | ontrol<br>in AC<br>Closing NO<br>Opening NO   | min<br>max<br>min<br>max<br>at 480V   | ms<br>ms<br>ms<br>ms     | 12<br>28<br>8<br>22                                     |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)   | ontrol in AC Closing NO Opening NO ofor three-phase AC motor  | min<br>max<br>min<br>max  | ms<br>ms<br>ms           | 12<br>28<br>8<br>22                                     |
| Mechanical operations Operating times Average time for Us co  | ontrol in AC Closing NO Opening NO of for three-phase AC motor                                      | min<br>max<br>min<br>max<br>at 480V   | ms<br>ms<br>ms<br>ms     | 12<br>28<br>8<br>22                                     |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)   | ontrol in AC Closing NO Opening NO ofor three-phase AC motor  | min<br>max<br>min<br>max<br>at 480V<br>at 600V  | ms<br>ms<br>ms<br>ms     | 12<br>28<br>8<br>22<br>65<br>62                         |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)   | ontrol in AC Closing NO Opening NO of for three-phase AC motor                                      | min<br>max<br>min<br>max<br>at 480V<br>at 600V  | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62                         |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)   | ontrol in AC Closing NO Opening NO of for three-phase AC motor                                      | min<br>max<br>min<br>max<br>at 480V<br>at 600V<br>at 200/208V<br>at 220/230V                | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25             |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)   | ontrol in AC Closing NO Opening NO of for three-phase AC motor                                      | min<br>max<br>min<br>max<br>at 480V<br>at 600V<br>at 220/230V<br>at 220/230V<br>at 460/480V | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25<br>50       |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)  Yielded mechanical pe                              | ontrol in AC Closing NO Opening NO of for three-phase AC motor                                      | min<br>max<br>min<br>max<br>at 480V<br>at 600V<br>at 200/208V<br>at 220/230V                | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25             |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)   | ontrol in AC  Closing NO  Opening NO  for three-phase AC motor  erformance for three-phase AC motor | min<br>max<br>min<br>max<br>at 480V<br>at 600V<br>at 220/230V<br>at 220/230V<br>at 460/480V | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25<br>50       |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)  Yielded mechanical pe                              | ontrol in AC Closing NO Opening NO of for three-phase AC motor                                      | min max min max  at 480V at 600V  at 200/208V at 220/230V at 460/480V at 575/600V           | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25<br>50<br>60 |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)  Yielded mechanical per General USE                 | ontrol in AC  Closing NO  Opening NO  for three-phase AC motor  erformance for three-phase AC motor | min<br>max<br>min<br>max<br>at 480V<br>at 600V<br>at 220/230V<br>at 220/230V<br>at 460/480V | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25<br>50       |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)  Yielded mechanical per General USE  Other features | ontrol in AC  Closing NO  Opening NO  for three-phase AC motor  erformance for three-phase AC motor | min max min max  at 480V at 600V  at 200/208V at 220/230V at 460/480V at 575/600V           | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25<br>50<br>60 |
| Mechanical operations Operating times Average time for Us of  UL technical data Full-load current (FLA)  Yielded mechanical per General USE                 | ontrol in AC  Closing NO  Opening NO  for three-phase AC motor  erformance for three-phase AC motor | min max min max  at 480V at 600V  at 200/208V at 220/230V at 460/480V at 575/600V           | ms<br>ms<br>ms<br>A<br>A | 12<br>28<br>8<br>22<br>65<br>62<br>20<br>25<br>50<br>60 |

**ENERGY AND AUTOMATION** 

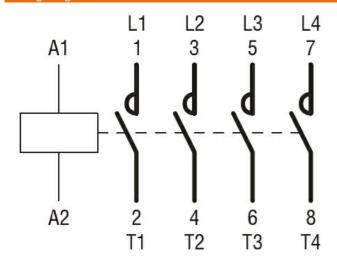
### FOUR-POLE CONTACTOR, IEC OPERATING CURRENT ITH (AC1) = 100A, AC COIL 50/60HZ,

230VAC



### BF80T2 82mm/3.23"

#### Wiring diagrams



#### Certifications and compliance

Certifications

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

Compliance

cULus

### ETIM 6 classification

EC000066 - Power contactor, AC switching