

|   |                    |    |      |                 |
|---|--------------------|----|------|-----------------|
| Product designation   |                    |    |      | Power contactor |
| Product type designation  |                    |    |      | BF65            |
| <b>Contact characteristics</b>  |                    |    |      |                 |
| Number of poles   | Nr.                |    |      | 3               |
| Rated insulation voltage U <sub>i</sub> IEC/EN                              | V                  |    |      | 1000            |
| Rated impulse withstand voltage U <sub>imp</sub>                            | kV                 |    |      | 8               |
| Operational frequency   | min                | Hz | 25   |                 |
|   | max                | Hz | 400  |                 |
| IEC Conventional free air thermal current I <sub>th</sub>                   | A                  |    |      | 100             |
| Operational current I <sub>e</sub>  | AC-1 (≤40°C)       | A  | 100  |                 |
|   | AC-1 (≤55°C)       | A  | 80   |                 |
|   | AC-1 (≤70°C)       | A  | 70   |                 |
|   | AC-3 (≤440V ≤55°C) | A  | 65   |                 |
|   | AC-4 (400V)        | A  | 31   |                 |
| Rated operational power AC-3 (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   |                 |
| Rated operational power AC-1 (T≤40°C)                                       | 230V               | kW | 38   |                 |
|   | 400V               | kW | 65   |                 |
|   | 500V               | kW | 82   |                 |
|   | 690V               | kW | 114  |                 |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 1 poles in series | ≤24V               | A  | 50   |                 |
|   | 48V                | A  | 50   |                 |
|   | 75V                | A  | 50   |                 |
|   | 110V               | A  | 8    |                 |
|   | 220V               | A  | –    |                 |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 2 poles in series | ≤24V               | A  | 70   |                 |
|   | 48V                | A  | 70   |                 |
|   | 75V                | A  | 70   |                 |
|   | 110V               | A  | 60   |                 |
|   | 220V               | A  | 9    |                 |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 3 poles in series | ≤24V               | A  | 70   |                 |
|   | 48V                | A  | 70   |                 |
|   | 75V                | A  | 70   |                 |
|   | 110V               | A  | 60   |                 |
|   | 220V               | A  | 90   |                 |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series | ≤24V               | A  | 70   |                 |
|   | 48V                | A  | 70   |                 |
|   | 75V                | A  | 70   |                 |
|   | 110V               | A  | 70   |                 |
|   | 220V               | A  | 110  |                 |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | 35 |
| 48V  | A | 25 |
| 75V  | A | 25 |
| 110V | A | 3  |
| 220V | A | –  |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | 45 |
| 48V  | A | 40 |
| 75V  | A | 40 |
| 110V | A | 30 |
| 220V | A | 5  |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | 55 |
| 48V  | A | 50 |
| 75V  | A | 50 |
| 110V | A | 35 |
| 220V | A | 52 |

IEC max current I<sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series

|      |   |    |
|------|---|----|
| ≤24V | A | 60 |
| 48V  | A | 60 |
| 75V  | A | 60 |
| 110V | A | 50 |
| 220V | A | 65 |

Short-time allowable current for 10s (IEC/EN60947-1)

|   |     |
|---|-----|
| A | 640 |
|---|-----|

Protection fuse

|          |   |     |
|----------|---|-----|
| gG (IEC) | A | 125 |
| aM (IEC) | A | 80  |

Making capacity (RMS value)

|   |     |
|---|-----|
| A | 650 |
|---|-----|

Breaking capacity at voltage

|      |   |     |
|------|---|-----|
| 440V | A | 520 |
| 500V | A | 425 |
| 690V | A | 376 |

Resistance per pole (average value)

|    |     |
|----|-----|
| mΩ | 0.8 |
|----|-----|

Power dissipation per pole (average value)

|                 |   |     |
|-----------------|---|-----|
| I <sub>th</sub> | W | 8   |
| AC3             | W | 3.4 |

Tightening torque for terminals

|     |                  |      |
|-----|------------------|------|
| min | Nm               | 4    |
| max | Nm               | 5    |
| min | I <sub>bin</sub> | 2.95 |
| max | I <sub>bin</sub> | 3.69 |

Tightening torque for coil terminal

|     |                  |                 |
|-----|------------------|-----------------|
| min | Nm               | 0.8             |
| max | Nm               | 1               |
| min | I <sub>bin</sub> | Prodotti finiti |
| max | I <sub>bin</sub> | 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 allowable                     |                 | Vertical plan ±30°    |
| Fixing  |                                      |                 | Screw / DIN rail 35mm |
| Weight  |                                      | g               | 1020                  |
| <b>Operations</b>                                   |                                      |                 |                       |
| Mechanical life                                     |                                      | cycles          | 15000000              |
| Electrical life                                     |                                      | cycles          | 1400000               |
| <b>Safety related data</b>                          |                                      |                 |                       |
| Performance level B10d according to EN/ISO 13489-1  | rated load mechanical load           | cycles          | 1400000               |
|   |                                      | cycles          | 15000000              |
| Mirror contacts according to IEC/EN 60947-4-1       |                                      |                 | Yes                   |
| EMC compatibility                                   |                                      |                 | Yes                   |
| Rated AC voltage at 60Hz                            |                                      | V               | 24                    |
| <b>AC coil operating</b>                            |                                      |                 |                       |
| 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 holding | VA 210 VA 15          |
|   | of 50/60Hz coil powered at 60Hz      | in-rush holding | VA 195 VA 13          |
|   | of 60Hz coil powered at 60Hz         | in-rush holding | VA 210 VA 15          |
| Dissipation at holding ≤20°C 50Hz                   |                                      | W               | 5                     |
| <b>Max cycles frequency</b>                         |                                      |                 |                       |
| Mechanical operation                                |                                      | cycles/h        | 3600                  |
| <b>Operating times</b>                              |                                      |                 |                       |
| 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                 |

|            |     |    |    |
|------------|-----|----|----|
| Opening NO | max | ms | 85 |
|            | min | ms | 20 |
|            | max | ms | 55 |

**UL technical data**

Full-load current (FLA) for three-phase AC motor

|         |   |    |
|---------|---|----|
| at 480V | A | 65 |
| at 600V | A | 62 |

Yielded mechanical performance

for three-phase AC motor

|          |    |    |
|----------|----|----|
| 200/208V | HP | 20 |
| 220/230V | HP | 25 |
| 460/480V | HP | 50 |
| 575/600V | HP | 60 |

General USE

Contactor

|            |   |     |
|------------|---|-----|
| AC current | A | 100 |
|------------|---|-----|

Short-circuit protection fuse, 600V

High fault

|                       |    |     |
|-----------------------|----|-----|
| Short circuit current | kA | 100 |
| Fuse rating           | A  | 200 |
| Fuse class            |    | J   |

Standard fault

|                       |    |     |
|-----------------------|----|-----|
| Short circuit current | kA | 10  |
| Fuse rating           | A  | 200 |
| Fuse class            |    | RK5 |

**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

**ETIM classification**

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching