



Product designation
Product type designation

Power contactor
BF65

Contact characteristics

| | | |
|---|--------------------|---------|
| Number of poles | Nr. | 3 |
| Rated insulation voltage U _i IEC/EN | V | 1000 |
| 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 | 100 |
| Operational current I _e | 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 current AC-3 (T≤55°C) | 230V | A 65 |
| | 400V | A 65 |
| | 415V | A 65 |
| | 440V | A 65 |
| | 500V | A 53 |
| | 690V | A 47 |
| | 1000V | A 25 |
| Rated operational power AC-1 (T≤40°C) | 230V | kW 38 |
| | 400V | kW 65 |
| | 500V | kW 82 |
| | 690V | kW 114 |
| IEC max current I _e 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 _e 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 |
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| IEC max current I _e 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 |
| <hr/> | | | |
| IEC max current I _e 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 |
| <hr/> | | | |
| IEC max current I _e 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 | – |
| <hr/> | | | |
| IEC max current I _e 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 |
| <hr/> | | | |
| IEC max current I _e 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 |
| <hr/> | | | |
| IEC max current I _e 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 |
| <hr/> | | | |
| Short-time allowable current for 10s (IEC/EN60947-1) | | A | 640 |
| <hr/> | | | |
| Protection fuse | | | |
| | gG (IEC) | A | 125 |
| | aM (IEC) | A | 80 |
| <hr/> | | | |
| Making capacity (RMS value) | | A | 650 |
| <hr/> | | | |
| Breaking capacity at voltage | | | |
| | 440V | A | 520 |
| | 500V | A | 425 |
| | 690V | A | 376 |
| <hr/> | | | |
| Resistance per pole (average value) | | mΩ | 0.8 |
| <hr/> | | | |
| Power dissipation per pole (average value) | | | |
| | I _{th} | W | 8 |
| | AC-3 | W | 3.4 |
| <hr/> | | | |
| Tightening torque for terminals | | | |

| | | | |
|--|------------------|-----------------|-----------------------|
| | min | Nm | 4 |
| | max | Nm | 5 |
| | min | Ibin | 2.95 |
| | max | Ibin | 3.69 |
| Tightening torque for coil terminal | | | |
| | min | Nm | 0.8 |
| | max | Nm | 1 |
| | min | Ibin | 0.8 |
| | max | Ibin | 0.74 |
| Max number of wires simultaneously connectable | | | Nr. 2 |
| Conductor section | | | |
| AWG/Kcmil | max | | 2 |
| Flexible w/o lug conductor section | | | |
| | min | mm ² | 1.5 |
| | max | mm ² | 35 |
| Flexible c/w lug conductor section | | | |
| | min | mm ² | 1.5 |
| | max | mm ² | 35 |
| Power terminal protection according to IEC/EN 60529 | | | IP20 front |
| Mechanical features | | | |
| Operating position | | | |
| | normal allowable | | Vertical plan ±30° |
| Fixing | | | Screw / DIN rail 35mm |
| Weight | | | g 1060 |
| Conductor section | | | |
| AWG/kcmil conductor section | max | | 2 |
| Operations | | | |
| Mechanical life | | cycles | 15000000 |
| Electrical life | | cycles | 1400000 |
| Safety related data | | | |
| Performance level B10d according to EN/ISO 13489-1 | | | |
| | rated load | cycles | 1400000 |
| | mechanical load | cycles | 15000000 |
| Mirror contacts according to IEC/EN 60947-4-1 | | | yes |
| EMC compatibility | | | yes |
| AC coil operating | | | |
| Rated AC voltage at 50/60Hz, 60Hz | | | |
| | min | V | 60 |
| | max | V | 110 |
| AC operating voltage | | | |
| of 50/60Hz coil powered at 50Hz drop-out | | max %Us | ≤70 Us min |
| of 50/60Hz coil powered at 60Hz pick-up | | min %Us | 80 Us min |
| | max %Us | | 110 Us max |
| drop-out | | max %Us | ≤70 Us min |

| | | | |
|--|------------|----------|------------|
| AC average coil consumption at 20°C | | | |
| of 50/60Hz coil powered at 50Hz | | | |
| | in-rush | VA | 35...120 |
| | holding | VA | 1.5...3.7 |
| of 50/60Hz coil powered at 60Hz | | | |
| | in-rush | VA | 35...120 |
| | holding | VA | 1.5...3.7 |
| Dissipation at holding ≤20°C 50Hz | | W | 1...2.5 |
| DC coil operating | | | |
| DC rated control voltage | | | |
| | min | V | 60 |
| | max | V | 110 |
| DC operating voltage | | | |
| pick-up | | | |
| | min | %Us | 80 Us min |
| | max | %Us | 110 Us max |
| drop-out | | | |
| | max | %Us | ≤70 Us min |
| Average coil consumption ≤20°C | | | |
| | in-rush | W | 23...68 |
| | holding | W | 1.2...1,9 |
| Max cycles frequency | | | |
| Mechanical operation | | cycles/h | 1500 |
| 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 | | | |
| 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 | -40 |
| max | °C | 70 |

Storage temperature

| | | |
|-----|----|-----|
| min | °C | -50 |
| max | °C | 80 |

Max altitude

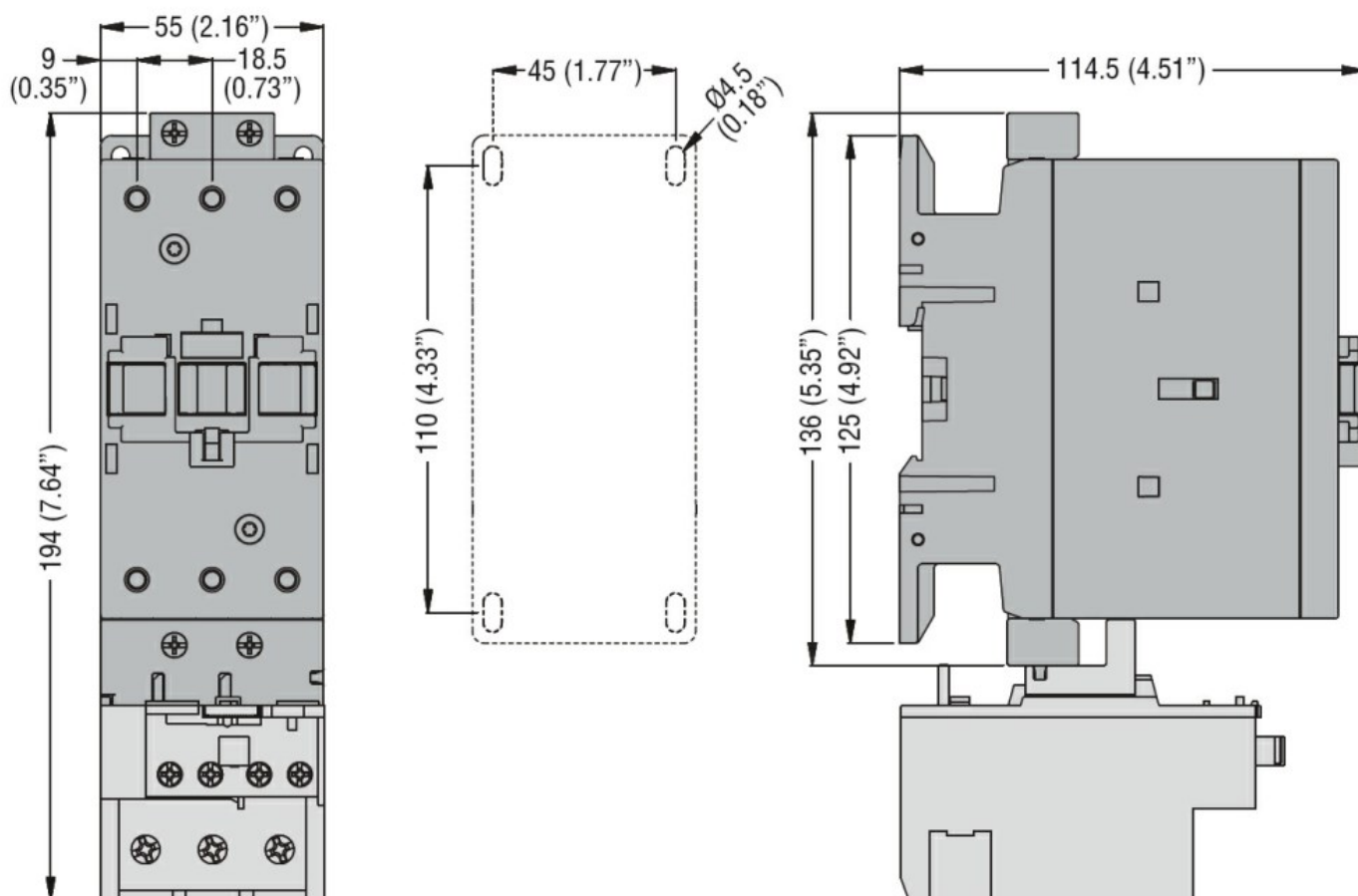
m 3000

Resistance & Protection

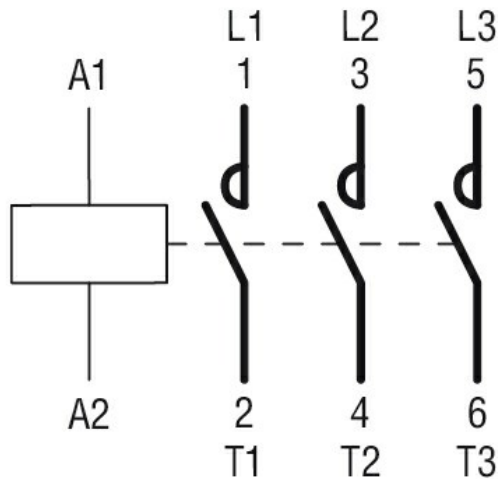
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

cULus

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching