



| | | | | |
|---|--------------------|----|-----|-----------------|
| Product designation | | | | Power contactor |
| Product type designation | | | | BF18 |
| Contact characteristics | | | | |
| Number of poles | Nr. | | | 4 |
| Rated insulation voltage U _i IEC/EN | V | | | 690 |
| Rated impulse withstand voltage U _{imp} | kV | | | 6 |
| Operational frequency | min | Hz | 25 | |
| | max | Hz | 400 | |
| IEC Conventional free air thermal current I _{th} | A | | | 32 |
| Operational current I _e | AC-1 (≤40°C) | A | 32 | |
| | AC-1 (≤55°C) | A | 26 | |
| | AC-1 (≤70°C) | A | 23 | |
| | AC-3 (≤440V ≤55°C) | A | 18 | |
| | AC-4 (400V) | A | 8.5 | |
| Rated operational power AC-1 (T≤40°C) | 230V | kW | 12 | |
| | 400V | kW | 21 | |
| | 500V | kW | 26 | |
| | 690V | kW | 36 | |
| IEC max current I _e in DC1 with L/R ≤ 1ms with 1 poles in series | ≤24V | A | 17 | |
| | 48V | A | 15 | |
| | 75V | A | 15 | |
| | 110V | A | 6 | |
| | 220V | A | – | |
| IEC max current I _e in DC1 with L/R ≤ 1ms with 2 poles in series | ≤24V | A | 20 | |
| | 48V | A | 20 | |
| | 75V | A | 20 | |
| | 110V | A | 13 | |
| | 220V | A | 1 | |
| IEC max current I _e in DC1 with L/R ≤ 1ms with 3 poles in series | ≤24V | A | 22 | |
| | 48V | A | 22 | |
| | 75V | A | 20 | |
| | 110V | A | 16 | |
| | 220V | A | 11 | |
| IEC max current I _e in DC1 with L/R ≤ 1ms with 4 poles in series | ≤24V | A | 22 | |
| | 48V | A | 22 | |
| | 75V | A | 20 | |
| | 110V | A | 18 | |
| | 220V | A | 13 | |

IEC max current I_e in DC3-DC5 with L/R ≤ 15ms with 1 poles in series

| | | |
|------|---|----|
| ≤24V | A | 12 |
| 48V | A | 11 |
| 75V | A | 11 |
| 110V | A | 2 |
| 220V | A | – |

IEC max current I_e in DC3-DC5 with L/R ≤ 15ms with 2 poles in series

| | | |
|------|---|----|
| ≤24V | A | 15 |
| 48V | A | 13 |
| 75V | A | 13 |
| 110V | A | 8 |
| 220V | A | 2 |

IEC max current I_e in DC3-DC5 with L/R ≤ 15ms with 3 poles in series

| | | |
|------|---|----|
| ≤24V | A | 18 |
| 48V | A | 18 |
| 75V | A | 16 |
| 110V | A | 12 |
| 220V | A | 6 |

IEC max current I_e in DC3-DC5 with L/R ≤ 15ms with 4 poles in series

| | | |
|------|---|----|
| ≤24V | A | 18 |
| 48V | A | 18 |
| 75V | A | 16 |
| 110V | A | 13 |
| 220V | A | 8 |

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

| | |
|---|-----|
| A | 200 |
|---|-----|

Protection fuse

| | | |
|----------|---|----|
| gG (IEC) | A | 32 |
| aM (IEC) | A | 20 |

Making capacity (RMS value)

| | |
|---|-----|
| A | 180 |
|---|-----|

Breaking capacity at voltage

| | | |
|------|---|-----|
| 440V | A | 144 |
| 500V | A | 120 |
| 690V | A | 94 |

Resistance per pole (average value)

| | |
|----|-----|
| mΩ | 2.5 |
|----|-----|

Power dissipation per pole (average value)

| | | |
|-----------------|---|-----|
| I _{th} | W | 2.6 |
| AC-3 | W | 0.8 |

Tightening torque for terminals

| | | |
|-----|------------------|-----|
| min | Nm | 1.5 |
| max | Nm | 1.8 |
| min | I _{bin} | 1.1 |
| max | I _{bin} | 1.5 |

Tightening torque for coil terminal

| | | |
|-----|------------------|------|
| min | Nm | 0.8 |
| max | Nm | 1 |
| min | I _{bin} | 0.8 |
| max | I _{bin} | 0.74 |

Max number of wires simultaneously connectable

| | |
|-----|---|
| Nr. | 2 |
|-----|---|

Conductor section

AWG/Kcmil

| | |
|-----|----|
| max | 10 |
|-----|----|

Flexible w/o lug conductor section

| | | |
|-----|-----------------|---|
| min | mm ² | 1 |
|-----|-----------------|---|

| | | | | |
|---|-----------------------------|----------------------------|-----------------|--------------------------|
| | | max | mm ² | 6 |
| Flexible c/w lug conductor section | | min | mm ² | 1 |
| | | max | mm ² | 4 |
| Flexible with insulated spade lug conductor section | | min | mm ² | 1 |
| | | max | mm ² | 4 |
| Power terminal protection according to IEC/EN 60529 | | | | IP20 when properly wired |
| Mechanical features | | | | |
| Operating position | | normal allowable | | Vertical plan ±30° |
| Fixing | | | | Screw / DIN rail 35mm |
| Weight | | | g | 495 |
| Conductor section | AWG/kcmil conductor section | max | | 10 |
| Operations | | | | |
| Mechanical life | | | cycles | 20000000 |
| Electrical life | | | cycles | 1600000 |
| Safety related data | | | | |
| Performance level B10d according to EN/ISO 13489-1 | | rated load mechanical load | cycles | 1600000 |
| | | | cycles | 20000000 |
| Mirror contacts according to IEC/EN 60947-4-1 | | | | yes |
| EMC compatibility | | | | yes |
| DC coil operating | | | | |
| DC rated control voltage | | | V | 48 |
| DC operating voltage | pick-up | min | %Us | 70 |
| | | max | %Us | 125 |
| | drop-out | min | %Us | 10 |
| | | max | %Us | 40 |
| Average coil consumption ≤20°C | | in-rush holding | W | 5.4 |
| | | | W | 5.4 |
| Max cycles frequency | | | | |
| Mechanical operation | | | cycles/h | 3600 |
| Operating times | | | | |
| Average time for Us control in AC | Closing NO | min | ms | 8 |
| | | max | ms | 24 |
| | Opening NO | min | ms | 10 |
| | | max | ms | 20 |
| | Closing NC | min | ms | 14 |
| | | max | ms | 28 |

| | | | | |
|-------|------------|-----|----|----|
| | Opening NC | min | ms | 7 |
| | | max | ms | 18 |
| in DC | | | | |
| | Closing NO | min | ms | 54 |
| | | max | ms | 66 |
| | Opening NO | min | ms | 14 |
| | | max | ms | 17 |

UL technical data

| | | | |
|--|---------|---|----|
| Full-load current (FLA) for three-phase AC motor | at 480V | A | 14 |
| | at 600V | A | 17 |

| | | | |
|--------------------------------|----------|----|----|
| Yielded mechanical performance | | | |
| for single-phase AC motor | | | |
| | 110/120V | HP | 1 |
| | 230V | HP | 3 |
| for three-phase AC motor | | | |
| | 200/208V | HP | 5 |
| | 220/230V | HP | 5 |
| | 460/480V | HP | 10 |
| | 575/600V | HP | 15 |

| | | | |
|-------------------------------------|-----------------------|----|-----|
| General USE | | | |
| Contactor | | | |
| | AC current | A | 32 |
| Short-circuit protection fuse, 600V | | | |
| High fault | | | |
| | Short circuit current | kA | 100 |
| | Fuse rating | A | 60 |
| | Fuse class | | J |
| Standard fault | | | |
| | Short circuit current | kA | 5 |
| | Fuse rating | A | 80 |

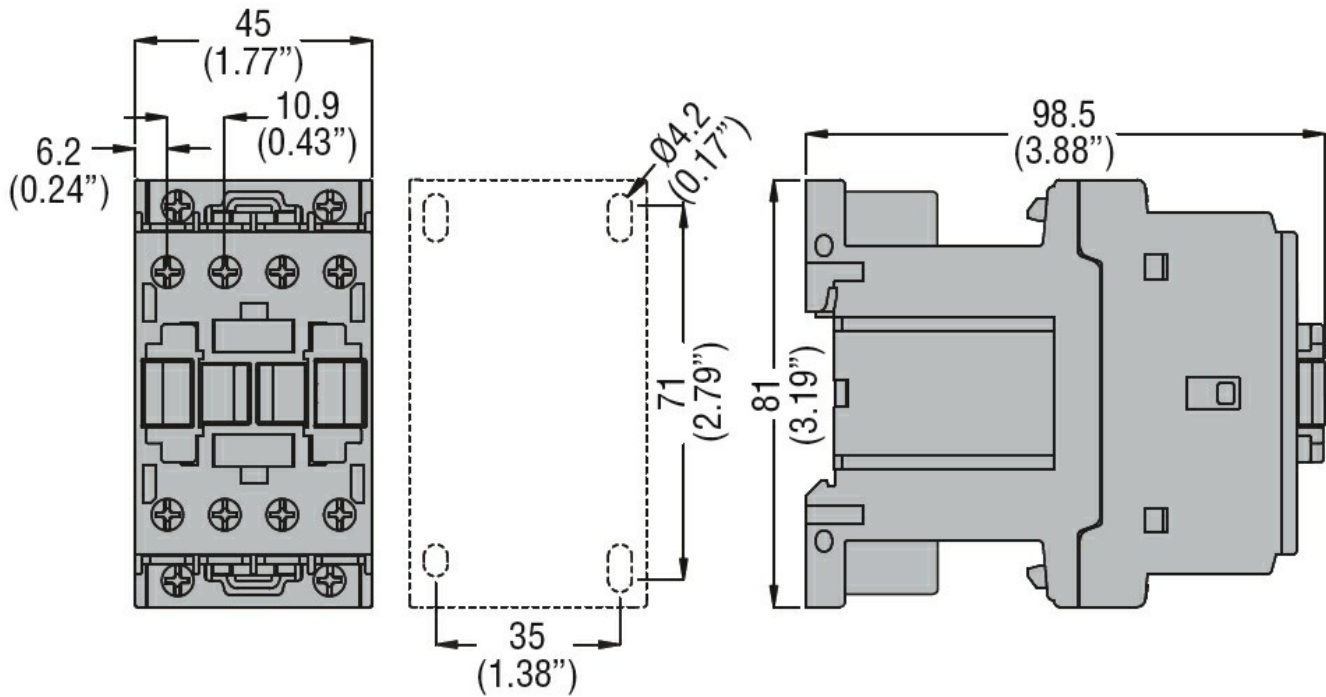
Ambient conditions

| | | | |
|-----------------------|-----|----|------|
| Temperature | | | |
| Operating temperature | | | |
| | min | °C | -50 |
| | max | °C | 70 |
| Storage temperature | | | |
| | min | °C | -60 |
| | max | °C | 80 |
| Max altitude | | m | 3000 |

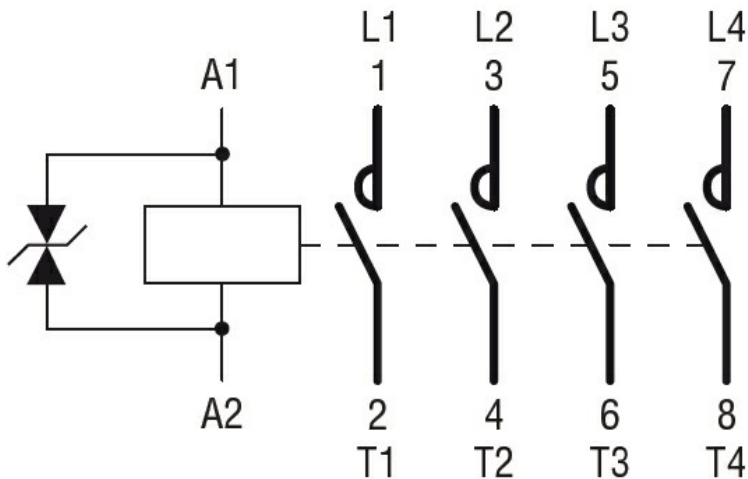
Resistance & Protection

| | | | |
|------------------|--|--|---|
| 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/BS 60947-1
- IEC/EN/BS 60947-4-1
- UL 60947-1
- UL 60947-4-1

Certificates

- CCC
- cULus
- EAC

ETIM classification

ETIM 8.0

EC000066 -
 Power contactor,
 AC switching