



Product designation

Power contactor

Product type designation

BF09

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 | 25 |
| Operational current I_e | AC-1 ($\leq 40^\circ\text{C}$) | A 25 |
| | AC-1 ($\leq 55^\circ\text{C}$) | A 20 |
| | AC-1 ($\leq 70^\circ\text{C}$) | A 18 |
| | AC-3 ($\leq 440\text{V } \leq 55^\circ\text{C}$) | A 9 |
| | AC-4 (400V) | A 4.9 |
| Rated operational power AC-1 ($T \leq 40^\circ\text{C}$) | 230V | kW 9.5 |
| | 400V | kW 16 |
| | 500V | kW 21 |
| | 690V | kW 27 |
| IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$ | A 15 |
| | 48V | A 13 |
| | 75V | A 12 |
| | 110V | A 6 |
| | 220V | A – |
| IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series | $\leq 24\text{V}$ | A 18 |
| | 48V | A 18 |
| | 75V | A 17 |
| | 110V | A 12 |
| | 220V | A 1 |
| IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series | $\leq 24\text{V}$ | A 20 |
| | 48V | A 20 |
| | 75V | A 20 |
| | 110V | A 15 |
| | 220V | A 10 |
| IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series | $\leq 24\text{V}$ | A 20 |
| | 48V | A 20 |
| | 75V | A 20 |
| | 110V | A 16 |
| | 220V | A 12 |

| | | | |
|--|-----------------|-----------------|------|
| IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 1 poles in series | | | |
| ≤24V | A | 10 | |
| 48V | A | 9 | |
| 75V | A | 8 | |
| 110V | A | 2 | |
| 220V | A | – | |
| IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 2 poles in series | | | |
| ≤24V | A | 13 | |
| 48V | A | 11 | |
| 75V | A | 10 | |
| 110V | A | 7 | |
| 220V | A | 2 | |
| IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 3 poles in series | | | |
| ≤24V | A | 15 | |
| 48V | A | 15 | |
| 75V | A | 13 | |
| 110V | A | 11 | |
| 220V | A | 6 | |
| IEC max current I _e in DC3-DC5 with L/R ≤ 15ms with 4 poles in series | | | |
| ≤24V | A | 15 | |
| 48V | A | 15 | |
| 75V | A | 15 | |
| 110V | A | 12 | |
| 220V | A | 7 | |
| Short-time allowable current for 10s (IEC/EN60947-1) | | A | 150 |
| Protection fuse | | | |
| | gG (IEC) | A | 25 |
| | aM (IEC) | A | 10 |
| Making capacity (RMS value) | | A | 90 |
| Breaking capacity at voltage | | | |
| | 440V | A | 72 |
| | 500V | A | 72 |
| | 690V | A | 71 |
| Resistance per pole (average value) | | mΩ | 2.5 |
| Power dissipation per pole (average value) | | | |
| | I _{th} | W | 1.6 |
| | AC3 | W | 0.2 |
| Tightening torque for terminals | | | |
| | min | Nm | 1.5 |
| | max | Nm | 1.8 |
| | min | lbin | 1.1 |
| | max | lbin | 1.5 |
| Tightening torque for coil terminal | | | |
| | min | Nm | 0.8 |
| | max | Nm | 1 |
| | min | lbin | 0.8 |
| | max | lbin | 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 wired |
| Mechanical features | | | |
| Operating position | normal allowable | | Vertical plan ±30° |
| Fixing | | | Screw / DIN rail 35mm |
| Weight | | g | 492 |
| Conductor section | | | |
| AWG/kcmil conductor section | max | | 10 |
| Operations | | | |
| Mechanical life | | cycles | 20000000 |
| Electrical life | | cycles | 2000000 |
| Safety related data | | | |
| Performance level B10d according to EN/ISO 13489-1 | rated load mechanical load | cycles | 2000000 |
| | | cycles | 20000000 |
| Mirror contacts according to IEC/EN 60947-4-1 | | | yes |
| EMC compatibility | | | yes |
| DC coil operating | | | |
| DC rated control voltage | | V | 12 |
| 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 |
| <hr/> | | | | |
| 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 | 7.6 |
| at 600V | A | 0.375 |

Yielded mechanical performance

for single-phase AC motor

| | | |
|----------|----|------|
| 110/120V | HP | 0.75 |
| 230V | HP | 2 |

for three-phase AC motor

| | | |
|----------|----|-----|
| 200/208V | HP | 3 |
| 220/230V | HP | 3 |
| 460/480V | HP | 5 |
| 575/600V | HP | 7.5 |

General USE

Contactor

| | | |
|------------|---|----|
| AC current | A | 25 |
|------------|---|----|

Short-circuit protection fuse, 600V

High fault

| | | |
|-----------------------|----|-----|
| Short circuit current | kA | 100 |
| Fuse rating | A | 30 |
| Fuse class | | J |

Standard fault

| | | |
|-----------------------|----|----|
| Short circuit current | kA | 5 |
| Fuse rating | A | 60 |

Ambient conditions

Temperature

Operating temperature

| | | |
|-----|----|-----|
| min | °C | -50 |
| max | °C | 70 |

Storage temperature

| | | |
|-----|----|-----|
| min | °C | -60 |
| max | °C | 80 |

Max altitude

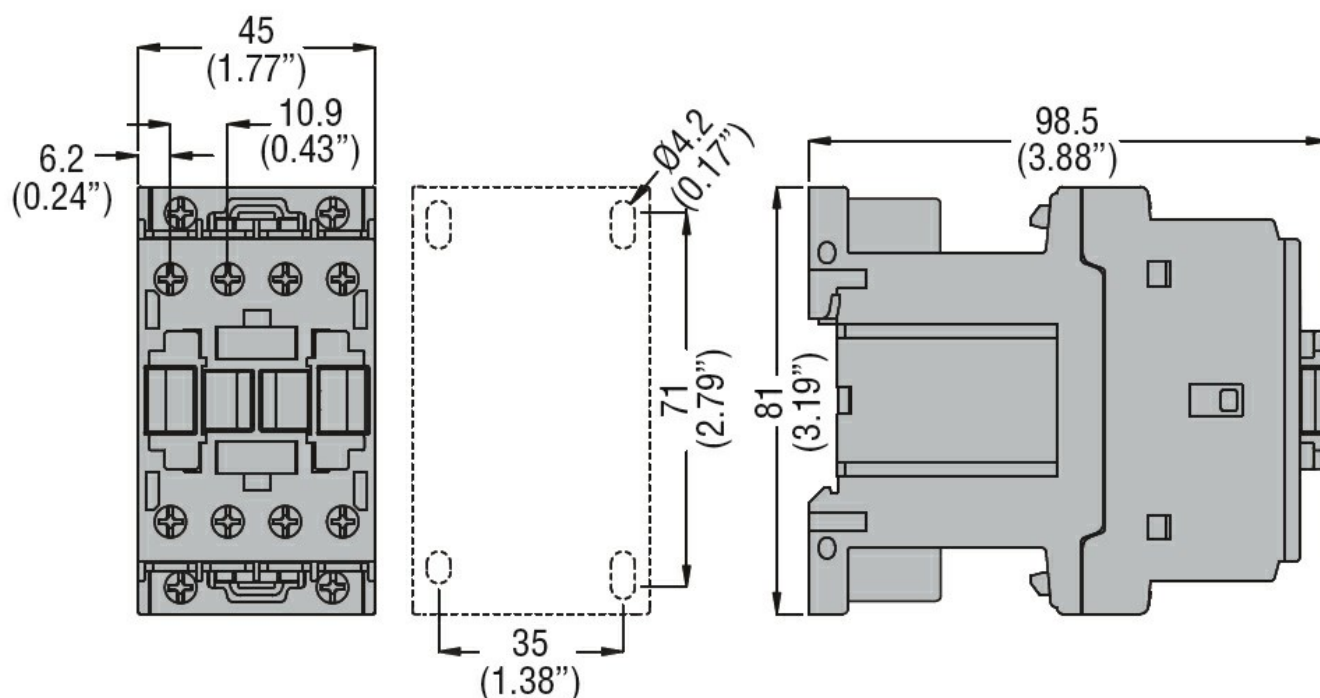
| | |
|---|------|
| m | 3000 |
|---|------|

Resistance & Protection

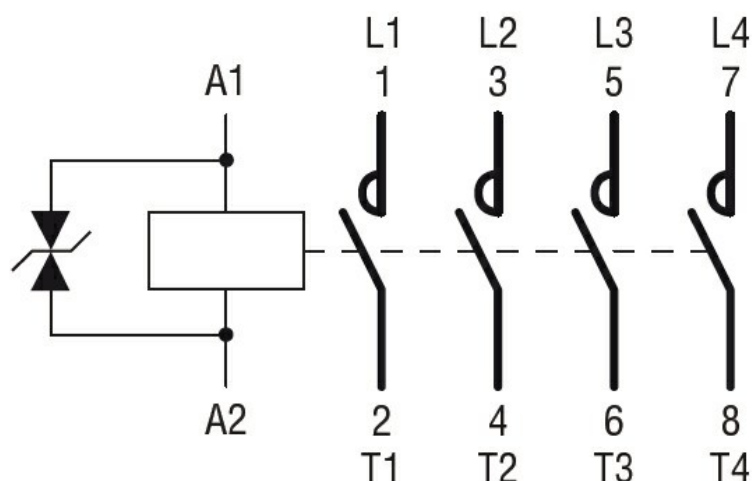
Pollution degree

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
EAC

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching