



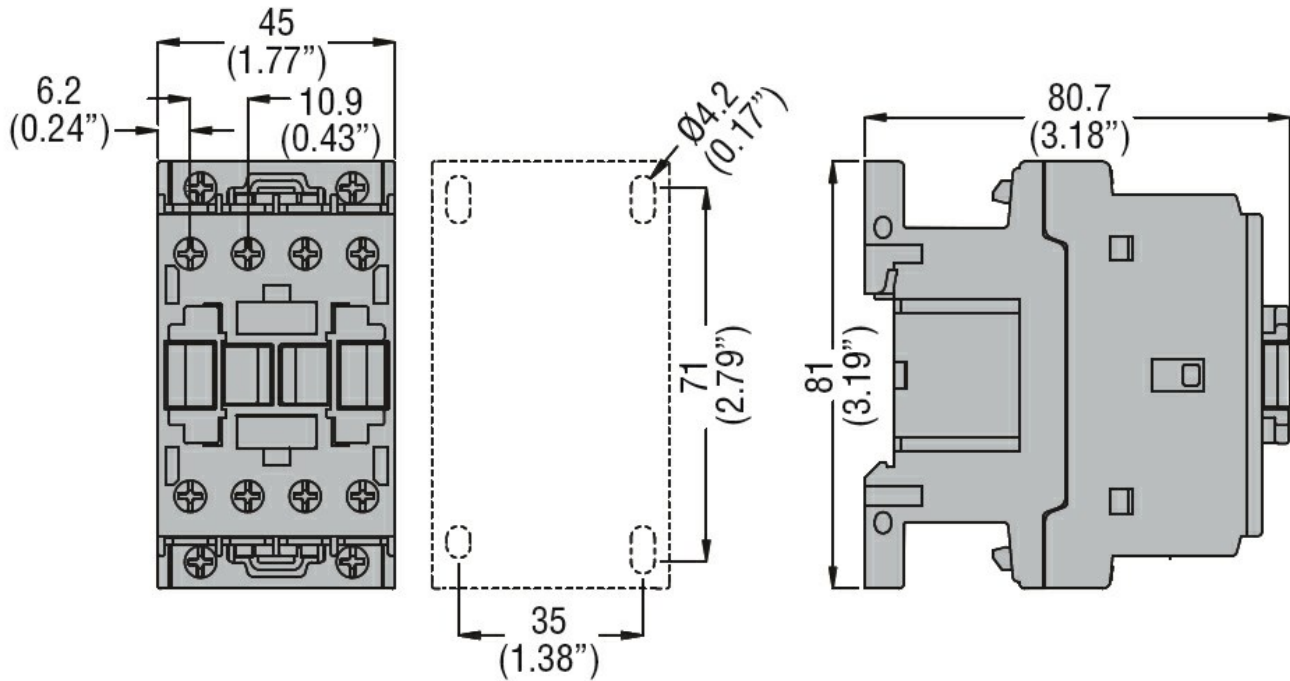
| | | | | |
|--|---|----|-----|-----------------|
| Product designation | | | | Power contactor |
| Product type designation | | | | BF09 |
| Contact characteristics | | | | |
| Number of poles | Nr. | | | 4 |
| Rated insulation voltage U_i IEC/EN | V | | | 690 |
| Rated impulse withstand voltage U_{imp} | 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 |
| 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 |
| | 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 |
| 48V | | A | 15 |
| 75V | | A | 15 |
| 110V | | A | 12 |
| 220V | | A | 7 |
| Short-time allowable current for 10s (IEC/EN60947-1) | | | A |
| 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 |
| | | | mΩ |
| Resistance per pole (average value) | | | |
| Power dissipation per pole (average value) | I _{th} | W | 1.6 |
| | AC-3 | W | 0.2 |
| 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 |

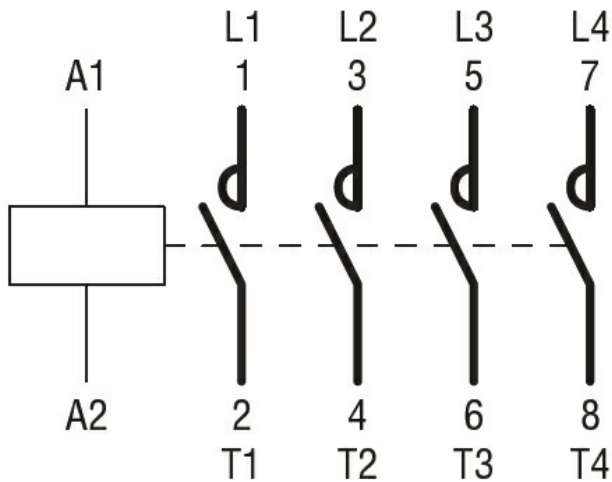
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|---|---------------------------------|----------------------------|-----------------|--------------------------|
| | | max | mm ² | 6 |
| Flexible c/w lug conductor section | | min | mm ² | 1 |
| | | max | mm ² | 4 |
| Flexible with insulated spade 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 | 368 |
| 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 |
| AC coil operating | | | | |
| Rated AC voltage at 50/60Hz | | | V | 48 |
| AC operating voltage | of 50/60Hz coil powered at 50Hz | | | |
| | pick-up | min | %Us | 80 |
| | | max | %Us | 110 |
| | drop-out | min | %Us | 20 |
| | | max | %Us | 55 |
| | of 50/60Hz coil powered at 60Hz | | | |
| | pick-up | min | %Us | 85 |
| | | 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 | VA | 75 |
| | | holding | VA | 9 |
| | of 50/60Hz coil powered at 60Hz | in-rush | VA | 70 |
| | | holding | VA | 6.5 |
| | of 60Hz coil powered at 60Hz | in-rush | VA | 75 |

| | | | |
|---|-----------------------|--------------------|-------|
| | holding | VA | 9 |
| Dissipation at holding $\leq 20^{\circ}\text{C}$ 50Hz | | W | 2.5 |
| Max cycles frequency | | | |
| Mechanical operation | | cycles/h | 3600 |
| Operating times | | | |
| Average time for U_s 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 |
| 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 | $^{\circ}\text{C}$ | -50 |
| | max | $^{\circ}\text{C}$ | 70 |
| Storage temperature | | | |
| | min | $^{\circ}\text{C}$ | -60 |
| | max | $^{\circ}\text{C}$ | 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