Lovato electric
ENERGY AND AUTOMATION

# BF0040L048

CONTROL RELAY WITH DC COIL LOW CONSUMPTION, 48VDC, 4NO

| | | | |
|---|---|---|---|
| Product designation | | | Auxiliary contactor |
| Product type designation | | | BF00 |
| **Contact characteristics** | | | |
| Number of poles | | Nr. | 4 |
| Rated insulation voltage Ui IEC/EN | | V | 690 |
| Rated impulse withstand voltage Uimp | | kV | 6 |
| Operational frequency | | | |
| | min | Hz | 25 |
| | max | Hz | 400 |
| IEC Conventional free air thermal current Ith | | A | 10 |
| Operational current Ie | | | |
| | AC-1 (≤55°C) | A | 0 |
| Protection fuse | | | |
| | gG (IEC) | A | 25 |
| 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 | mm² | 1 |
| | max | mm² | 6 |
| Flexible c/w lug conductor section | | | |
| | min | mm² | 1 |
| | max | mm² | 4 |
| Flexible with insulated spade lug conductor section | | | |
| | min | mm² | 1 |
| | max | mm² | 4 |
| Power terminal protection according to IEC/EN 60529 | | | IP20 when properly wired |
| **Mechanical features** | | | |
| Operating position | | | |
| | normal | | Vertical plan |
| | allowable | | ±30° |

| | | | | |
|---|---|---|---|---|
| Fixing | | | | Screw / DIN rail 35mm |
| Weight | | | g | 496 |
| Conductor section | | | | |
| | AWG/kcmil conductor section | | | |
| | | max | | 10 |
| **Auxiliary contact characteristics** | | | | |
| Thermal current Ith | | | A | 10 |
| IEC/EN 60947-5-1 designation | | | | A600 - P600 |
| Operating current AC15 | | | | |
| | | 230V | A | 3 |
| | | 400V | A | 1.9 |
| | | 500V | A | 1.4 |
| Operating current DC12 | | | | |
| | | 110V | A | 5.7 |
| Operating current DC13 | | | | |
| | | 24V | A | 5.7 |
| | | 48V | A | 2.9 |
| | | 60V | A | 2.3 |
| | | 110V | A | 1.25 |
| | | 125V | A | 1.1 |
| | | 220V | A | 0.55 |
| | | 600V | A | 0.2 |
| **Operations** | | | | |
| Mechanical life | | | cycles | 20000000 |
| **Safety related data** | | | | |
| Performance level B10d according to EN/ISO 13489-1 | | | | |
| | | mechanical load | cycles | 20000000 |
| Mirror contats according to IEC/EN 609474-4-1 | | | | YES |
| EMC compatibility | | | | yes |
| **AC coil operating** | | | | |
| AC operating voltage | | | | |
| | of 50/60Hz coil powered at 50Hz | | | |
| | drop-out | | | |
| | | max | %Us | 55 |
| **DC coil operating** | | | | |
| DC rated control voltage | | | V | 48 |
| DC operating voltage | | | | |
| | pick-up | | | |
| | | min | %Us | 80 |
| | | max | %Us | 110 |
| | drop-out | | | |
| | | min | %Us | 10 |
| | | max | %Us | 40 |
| Average coil consumption ≤20°C | | | | |
| | | in-rush | W | 2.4 |
| | | holding | W | 2.4 |
| **Max cycles frequency** | | | | |
| Mechanical operation | | | cycles/h | 3600 |
| **Operating times** | | | | |
| Average time for Us control | | | | |
| | in DC | | | |
| | Closing NO | | | |

| | | | | |
|---|---|---|---|---|
| | | min | ms | 54 |
| | | max | ms | 66 |
| | Opening NO | | | |
| | | min | ms | 14 |
| | | max | ms | 17 |
| | Closing NC | | | |
| | | min | ms | 24 |
| | | max | ms | 30 |
| | Opening NC | | | |
| | | min | ms | 67 |
| | | max | ms | 81 |

## UL technical data

| | | | | |
|---|---|---|---|---|
| General USE | | | | |
| | Auxiliary contacts | | | |
| | | AC current | A | 10 |
| Contact rating of auxiliary contacts according to UL | | | | A600 - P600 |

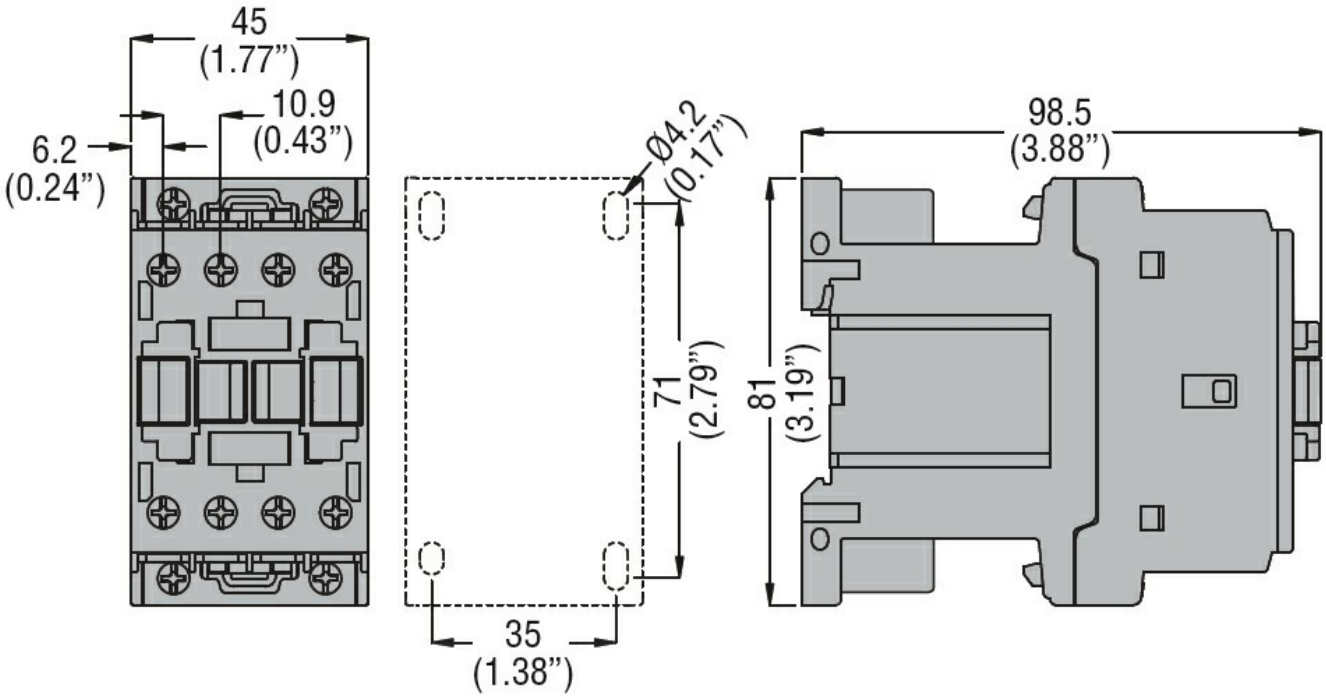
## Ambient conditions

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

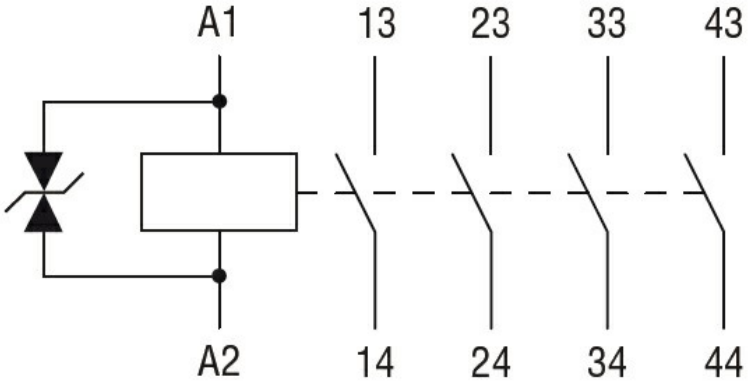
## Resistance & Protection

| | | | | |
|---|---|---|---|---|
| Pollution degree | | | | 3 |

## Dimensions




## Wiring diagrams




## Certifications and compliance

Compliance

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|---|
| CSA C22.2 n° 60947-1 |
| CSA C22.2 n° 60947-5-1 |
| IEC/EN 60947-1 |
| IEC/EN 60947-5-1 |
| UL 60947-1 |
| UL 60947-5-1 |

Certificates

| |
|---|
| CCC |
| cULus |
| EAC |

## ETIM classification

| | |
|---|---|
| ETIM 8.0 | EC000196 - Contactor relay |