**Lovato electric**
ENERGY AND AUTOMATION

MOTOR PROTECTION RELAY, PHASE FAILURE/SINGLE-PHASE SENSITIVE. THREE-POLE (THREE-PHASE), MANUAL OR AUTOMATIC RESETTING. DIRECT MOUNTING ON BF09 - BF38 CONTACTORS, 0.25...0.40A

| | | | |
|---|---|---|---|
| Product designation | | | RF38 |
| Product type designation | | | Motor protection relay |

## General characteristics

| | | | |
|---|---|---|---|
| Number of poles | | Nr. | 3 |
| Overvoltage category | | | III |
| Pollution degree | | | 3 |
| Frontal IP degree | | | IP20 |
| Type of release | | | Thermal |
| Protection fuse | | | |
| | gG (IEC) | A | 1 |
| | aM (IEC) | A | 0.5 |
| | RK5 (UL) | A | 3 |
| Phase failure detection | | | yes |
| Reset mode | | | Manual or automatic |

## Power circuit characteristics

| | | | |
|---|---|---|---|
| Rated insulation voltage Ui IEC/EN | | V | 690 |
| Rated impulse withstand voltage Uimp | | kV | 6 |
| Rated operational voltage | | V | 690 |
| Operational frequency | | | |
| | min | Hz | 0 |
| | max | Hz | 400 |
| Operational current Ie | | | |
| | Operational current min | A | 0.25 |
| | Operational current max | A | 0.4 |
| Tripping class | | | 10A |
| Test Button | | | Yes |
| Trip indicator | | | yes |
| Terminals | | | |
| | type | | screw and washer |
| | screw | | M4 |
| | width | mm | 12.6 |
| | tool | | Phillips 2 |
| Tightening torque for terminals | | | |
| | min | Nm | 2 |
| | max | Nm | 2.5 |
| | min | Ibin | 1.5 |
| | max | Ibin | 1.8 |
| Conductor section | | | |
| | Flexible w/o lug max | mm² | 10 |
| | Flexible c/w lug max | mm² | 6 |
| | AWG/kcmil max | | 8 |

## Auxiliary circuit characteristics

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## Auxiliary contacts

| | | | |
|---|---|---|---|
| | NO | Nr. | 1 |
| | NC | Nr. | 1 |

| | | |
|---|---|---|
| Auxiliary Rated insulation voltage Ui IEC/EN | V | 690 |
| Auxiliary Rated impulse withstand voltage Uimp | kV | 6 |
| Auxiliary Rated operational voltage | V | 690 |

## Operating current AC15

| | | | |
|---|---|---|---|
| | 24V | A | 3 |
| | 120V | A | 3 |
| | 240V | A | 1.5 |
| | 380V | A | 0.95 |
| | 480V | A | 0.75 |
| | 500V | A | 0.72 |
| | 600V | A | 0.6 |

## Operating current DC13

| | | | |
|---|---|---|---|
| | 125V | A | 0.11 |
| | 600V | A | 0.22 |

| | | |
|---|---|---|
| IEC Conventional free air thermal current Ith | A | 10 |

## Terminals

| | | | |
|---|---|---|---|
| | Auxiliary circuit type | | screw and washer |
| | Auxiliary circuit screw | | M3.5 |
| | Auxiliary circuit width | mm | 8 |
| | Auxiliary circuit tool | | Phillips 2 |

## Conductor section

| | | | |
|---|---|---|---|
| | Auxiliary circuit Flexible w/o lug max | mm² | 2.5 |
| | Auxiliary circut Flexible c/w lug max | mm² | 2.5 |

## Tightening torque for terminals

| | | | |
|---|---|---|---|
| | Auxiliary circuit min | Nm | 0.8 |
| | Auxiliary circuit max | Nm | 1 |
| | Auxiliary circuit min | Ibin | 0.59 |
| | Auxiliary circuit max | Ibin | 0.74 |

| | | |
|---|---|---|
| UL/CSA and IEC/EN 60947-5-1 designation | | B600-R300 |

## Ambient conditions

### Operating temperature

| | | | |
|---|---|---|---|
| | min | °C | -25 |
| | max | °C | 60 |

### Storage temperature

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

### Compensation temperature

| | | | |
|---|---|---|---|
| | min | °C | -20 |
| | max | °C | 60 |

| | | |
|---|---|---|
| Max altitude | m | 3000 |

## Mechanical features

### Operating position

| | | |
|---|---|---|
| | normal | Vertical plan |
| | allowable | ±30° |

| | | |
|---|---|---|
| Fixing | | Direct mounting on BF09… BF38… |
| Weight | g | 160 |

## UL technical data

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Full-load current (FLA) for three-phase AC motor
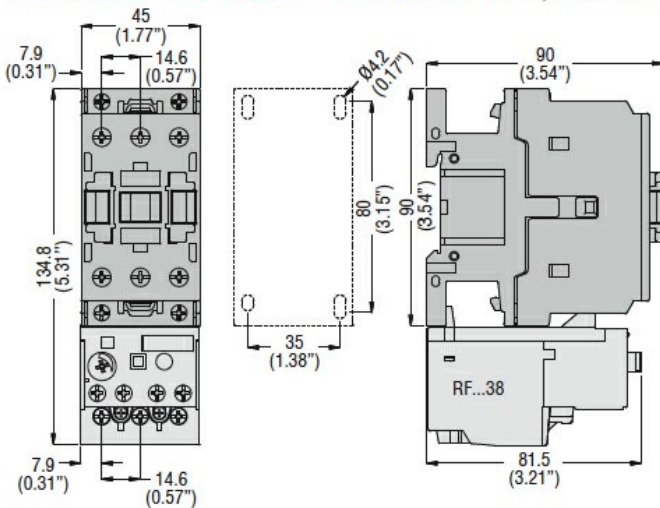
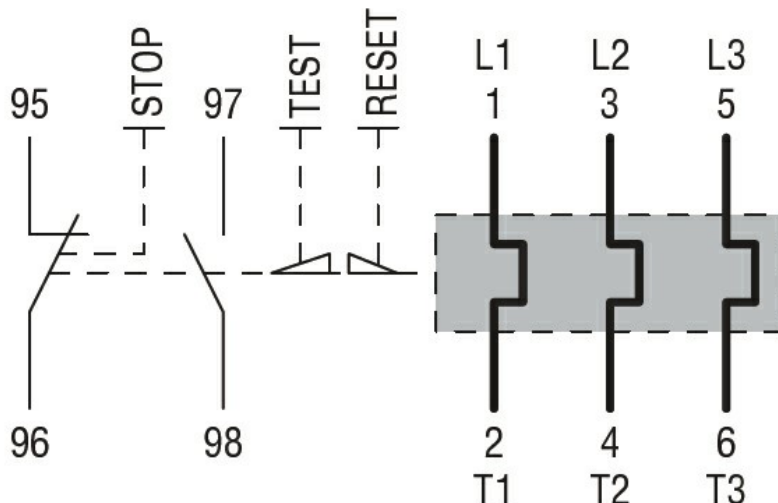| | | |
|---|---|---|
| at 480V | A | 0.4 |
| at 600V | A | 0.4 |

## Dimensions

BF00 A... BF09 A... - BF12 A... - BF18 A... - BF25 A... three poles with
RF...38 thermal overload relay
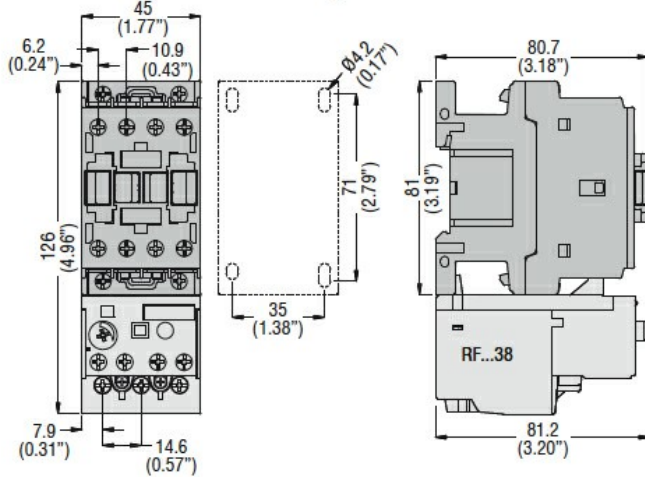


BF26 00A... - BF32 00A... - BF38 00A... three poles with RF...38 thermal overload relay



## Wiring diagrams



## Certifications and compliance

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Compliance

| | |
|---|---|
| CSA C22.2 n° 14 | |
| IEC/EN 60947-1 | |
| IEC/EN 60947-4-1 | |
| UL508 | |

Certifications

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

## ETIM classification

| ETIM 8.0 | EC000106 - Thermal overload relay |
|---|---|