Lovato electric
ENERGY AND AUTOMATION

# BFD80T4E024

FOUR-POLE CONTACTOR, 80A/1000V DC1, AC/DC COIL, 20-48VAC/DC

| | | | |
|---|---|---|---|
| **Contact characteristics** | | | |
| Number of poles | | Nr. | 4 |
| Rated insulation voltage Ui IEC/EN | | V | 1000 |
| Rated impulse withstand voltage Uimp | | kV | 8 |
| Operational frequency | | | |
| | min | Hz | 25 |
| | max | Hz | 400 |
| IEC Conventional free air thermal current Ith ≤ 40°C | | A | 115 |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series | | | |
| | 400V | A | 115 |
| | 600V | A | 100 |
| | 800V | A | 90 |
| | 1000V | A | 80 |
| Short-time allowable current for 10s (IEC/EN60947-1) | | A | 640 |
| Protection fuse | | | |
| | gG (IEC) | A | 125 |
| | aM (IEC) | A | 80 |
| Resistance per pole (average value) | | mΩ | 0.6 |
| Power dissipation per pole (average value) | | | |
| | Ith | W | 7.9 |
| Tightening torque for terminals | | | |
| | min | Nm | 4 |
| | max | Nm | 5 |
| | min | lbin | 2.95 |
| | max | lbin | 3.69 |
| Tightening torque for coil terminal | | | |
| | min | Nm | 0.8 |
| | max | Nm | 1 |
| | min | lbin | 0.59 |
| | max | lbin | 0.74 |
| Max number of wires simultaneously connectable | | Nr. | 2 |
| Conductor section | | | |
| AWG/Kcmil | | | |
| | max | | 2 |
| Flexible w/o lug conductor section | | | |
| | min | mm² | 1.5 |
| | max | mm² | 35 |
| Flexible c/w lug conductor section | | | |
| | min | mm² | 1.5 |
| | max | mm² | 35 |
| Power terminal protection according to IEC/EN 60529 | | | IP20 front |
| **Mechanical features** | | | |
| Operating position | | | |
| | normal | | Vertical plan |
| | allowable | | ±30° |

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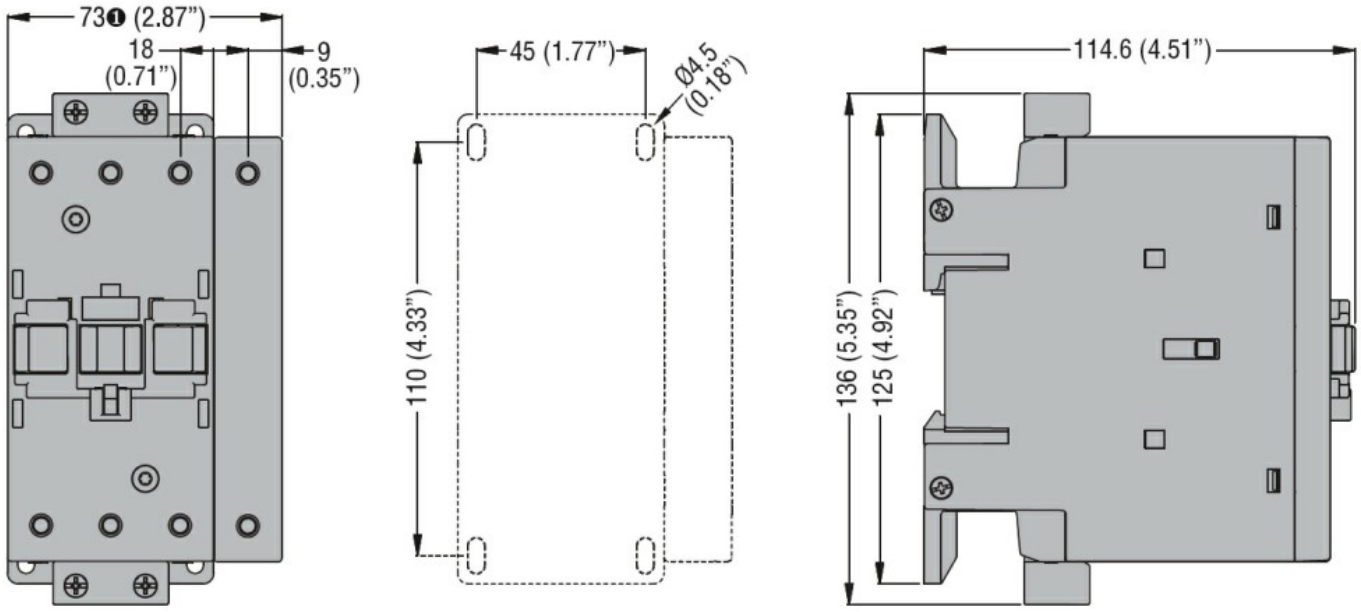
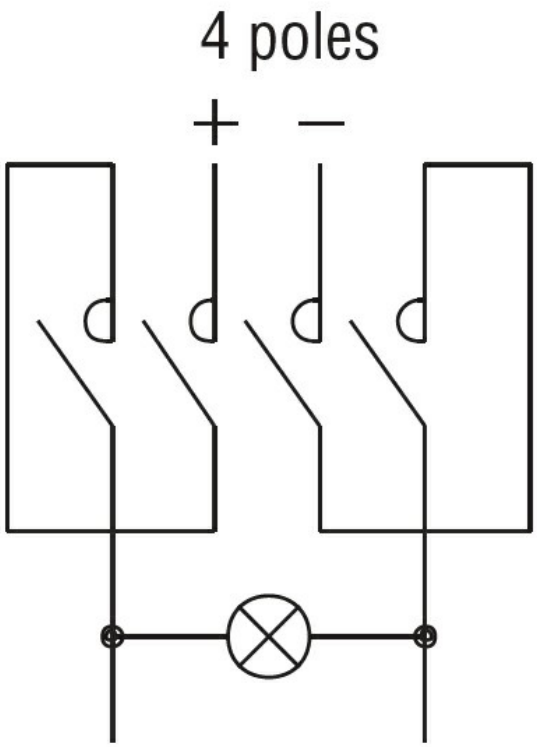
|---|---|---|---|---|
| Fixing | | | | Screw / DIN rail 35mm |
| Weight | | | g | 1280 |
| **Operations** | | | | |
| Mechanical life | | | cycles | 15000000 |
| **Safety related data** | | | | |
| Performance level B10d according to EN/ISO 13489-1 | | | | |
| | | mechanical load | cycles | 15000000 |
| EMC compatibility | | | | yes |
| **AC coil operating** | | | | |
| Rated AC voltage at 50/60Hz, 60Hz | | | | |
| | | min | V | 20 |
| | | max | V | 48 |
| AC operating voltage | | | | |
| | of 50/60Hz coil powered at 50Hz | | | |
| | pick-up | | | |
| | | min | %Us | 80 Us min |
| | | max | %Us | 110 Us max |
| | drop-out | | | |
| | | max | %Us | ≤70 Us min |
| | of 50/60Hz coil powered at 60Hz | | | |
| | pick-up | | | |
| | | min | %Us | 80 Us min |
| | | max | %Us | 110 Us max |
| | drop-out | | | |
| | | max | %Us | ≤70 Us min |
| AC average coil consumption at 20°C | | | | |
| | of 50/60Hz coil powered at 50Hz | | | |
| | | in-rush | VA | 35…120 |
| | | holding | VA | 1.5…3.7 |
| | of 50/60Hz coil powered at 60Hz | | | |
| | | in-rush | VA | 35…120 |
| | | holding | VA | 1.5…3.7 |
| | of 60Hz coil powered at 60Hz | | | |
| | | in-rush | VA | 210 |
| | | holding | VA | 15 |
| Dissipation at holding ≤20°C 50Hz | | | W | 1…2.5 |
| **DC coil operating** | | | | |
| DC rated control voltage | | | | |
| | | min | V | 20 |
| | | max | V | 48 |
| max | | | V | 48 |
| DC operating voltage | | | | |
| | pick-up | | | |
| | | min | %Us | 85 Us min |
| | | max | %Us | 110 Us max |
| | drop-out | | | |
| | | max | %Us | ≤70 Us min |
| Average coil consumption ≤20°C | | | | |
| | | in-rush | W | 23…68 |
| | | holding | W | 1.2…1.9 |
| **Max cycles frequency** | | | | |
| Mechanical operation | | | cycles/h | 1500 |
| **Operating times** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Average time for Us control | | | | | |
| | in AC | | | | |
| | | Closing NO | | | |
| | | | min | ms | 40 |
| | | | max | ms | 85 |
| | | Opening NO | | | |
| | | | min | ms | 20 |
| | | | max | ms | 55 |
| | in DC | | | | |
| | | Closing NO | | | |
| | | | min | ms | 40 |
| | | | max | ms | 85 |
| | | Opening NO | | | |
| | | | min | ms | 20 |
| | | | max | ms | 55 |
| **UL technical data** | | | | | |
| Rated operational voltage AC (UL) | | | | V | 600 |
| General USE | | | | | |
| | Contactor | | | | |
| | | | AC current | A | 115 |
| | 4 poles in series DC1 | | | | |
| | | | 600V | A | 100 |
| **Ambient conditions** | | | | | |
| Temperature | | | | | |
| | Operating temperature | | | | |
| | | | min | °C | -40 |
| | | | max | °C | 70 |
| | Storage temperature | | | | |
| | | | min | °C | -50 |
| | | | max | °C | 80 |
| Max altitude | | | | m | 3000 |
| **Resistance & Protection** | | | | | |
| Pollution degree | | | | | 3 |
| **Dimensions** | | | | | |




❶ BF80T2 82mm/3.23"

## Wiring diagrams




## Certifications and compliance

Compliance

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|---|
| 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

cULus

ETIM classification

| | |
|---|---|
| ETIM 8.0 | EC002552 - Power contactor, DC switching |