



| | | | |
|---|---|------|-----|
| Product designation | Power contactor | | |
| Product type designation | BF40 | | |
| Contact characteristics | | | |
| Number of poles | Nr. | 4 | |
| Rated insulation voltage U _i IEC/EN | V | 1000 | |
| Rated impulse withstand voltage U _{imp} | kV | 8 | |
| Operational frequency | min | Hz | 25 |
| | max | Hz | 400 |
| IEC Conventional free air thermal current I _{th} | | A | 70 |
| Operational current I _e | | | |
| | AC-1 ($\leq 40^{\circ}\text{C}$) | A | 70 |
| | AC-1 ($\leq 55^{\circ}\text{C}$) | A | 60 |
| | AC-1 ($\leq 70^{\circ}\text{C}$) | A | 50 |
| | AC-3 ($\leq 440\text{V} \leq 55^{\circ}\text{C}$) | A | 40 |
| | AC-4 (400V) | A | 24 |
| Rated operational power AC-1 ($T \leq 40^{\circ}\text{C}$) | | | |
| | 230V | kW | 26 |
| | 400V | kW | 46 |
| | 500V | kW | 58 |
| | 690V | kW | 79 |
| IEC max current I _e in DC1 with L/R $\leq 1\text{ms}$ with 1 poles in series | | | |
| | $\leq 24\text{V}$ | A | 40 |
| | 48V | A | 35 |
| | 75V | A | 30 |
| | 110V | A | 8 |
| | 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 | 48 |
| | 48V | A | 48 |
| | 75V | A | 45 |
| | 110V | A | 42 |
| | 220V | A | 5 |
| IEC max current I _e in DC1 with L/R $\leq 1\text{ms}$ with 3 poles in series | | | |
| | $\leq 24\text{V}$ | A | 48 |
| | 48V | A | 48 |
| | 75V | A | 48 |
| | 110V | A | 44 |
| | 220V | A | 56 |
| IEC max current I _e in DC1 with L/R $\leq 1\text{ms}$ with 4 poles in series | | | |
| | $\leq 24\text{V}$ | A | — |
| | 48V | A | — |
| | 75V | A | — |
| | 110V | A | — |
| | 220V | A | 70 |

IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series

| | | |
|-------------------|---|----|
| $\leq 24\text{V}$ | A | 27 |
| 48V | A | 23 |
| 75V | A | 19 |
| 110V | A | 3 |
| 220V | A | — |

IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 2 poles in series

| | | |
|-------------------|---|----|
| $\leq 24\text{V}$ | A | 32 |
| 48V | A | 30 |
| 75V | A | 27 |
| 110V | A | 22 |
| 220V | A | 5 |

IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 3 poles in series

| | | |
|-------------------|---|----|
| $\leq 24\text{V}$ | A | 40 |
| 48V | A | 40 |
| 75V | A | 38 |
| 110V | A | 27 |
| 220V | A | 32 |

IEC max current I_e in DC3-DC5 with $L/R \leq 15\text{ms}$ with 4 poles in series

| | | |
|-------------------|---|----|
| $\leq 24\text{V}$ | A | — |
| 48V | A | — |
| 75V | A | — |
| 110V | A | — |
| 220V | A | 40 |

Short-time allowable current for 10s (IEC/EN60947-1) A 400

Protection fuse

| | | |
|----------|---|-----|
| gG (IEC) | A | 100 |
| aM (IEC) | A | 50 |

Making capacity (RMS value) A 400

Breaking capacity at voltage

| | | |
|------|---|-----|
| 440V | A | 320 |
| 500V | A | 265 |
| 690V | A | 256 |

Resistance per pole (average value) m? 0.8

Power dissipation per pole (average value)

| | | |
|-----------------|---|-----|
| I _{th} | W | 3.9 |
| AC3 | W | 1.3 |

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 | 0.8 |
| 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 | mm ² 1.5 |

| | | | | | |
|---|-----------------------|--------------------|----------|----|--|
| Flexible c/w lug conductor section | max | mm ² | 35 | | |
| | min | mm ² | 1.5 | | |
| | max | mm ² | 35 | | |
| Power terminal protection according to IEC/EN 60529 | IP20 front | | | | |
| Mechanical features | | | | | |
| Operating position | normal | Vertical plan ±30° | | | |
| | allowable | | | | |
| Fixing | Screw / DIN rail 35mm | | | | |
| Weight | g | 1240 | | | |
| Conductor section | | | | | |
| AWG/kcmil conductor section | max | 2 | | | |
| Operations | | | | | |
| Mechanical life | cycles | 15000000 | | | |
| Electrical life | cycles | 1500000 | | | |
| Safety related data | | | | | |
| Performance level B10d according to EN/ISO 13489-1 | rated load | cycles | 1500000 | | |
| | mechanical load | cycles | 15000000 | | |
| Mirror contacts according to IEC/EN 609474-4-1 | yes | | | | |
| EMC compatibility | yes | | | | |
| AC coil operating | | | | | |
| Rated AC voltage at 60Hz | V | 220 | | | |
| AC operating voltage | | | | | |
| of 60Hz coil powered at 60Hz | | | | | |
| pick-up | min | %Us | 80 | | |
| | max | %Us | 110 | | |
| drop-out | min | %Us | 20 | | |
| | max | %Us | 55 | | |
| AC average coil consumption at 20°C | | | | | |
| of 60Hz coil powered at 60Hz | in-rush | VA | 210 | | |
| | holding | VA | 15 | | |
| Dissipation at holding ≤20°C 50Hz | W | 5 | | | |
| Max cycles frequency | | | | | |
| Mechanical operation | cycles/h | 3600 | | | |
| Operating times | | | | | |
| Average time for Us control | | | | | |
| in AC | Closing NO | min | ms | 12 | |
| | | max | ms | 28 | |
| | Opening NO | min | ms | 8 | |
| | | max | ms | 22 | |
| in DC | Closing NO | min | ms | 40 | |
| | | max | ms | 85 | |

Opening NO

| | | |
|-----|----|----|
| min | ms | 20 |
| max | ms | 55 |

UL technical data

Full-load current (FLA) for three-phase AC motor

| | | |
|---------|---|----|
| at 480V | A | 40 |
| at 600V | A | 32 |

Yielded mechanical performance

for single-phase AC motor

| | | |
|----------|----|-----|
| 110/120V | HP | 3 |
| 230V | HP | 7.5 |

for three-phase AC motor

| | | |
|----------|----|----|
| 200/208V | HP | 10 |
| 220/230V | HP | 15 |
| 460/480V | HP | 30 |
| 575/600V | HP | 30 |

General USE

Contactor

| | | |
|------------|---|----|
| AC current | A | 70 |
|------------|---|----|

Short-circuit protection fuse, 600V

High fault

| | | |
|-----------------------|----|-----|
| Short circuit current | kA | 100 |
| Fuse rating | A | 150 |
| Fuse class | | J |

Standard fault

| | | |
|-----------------------|----|-----|
| Short circuit current | kA | 5 |
| Fuse rating | A | 150 |
| Fuse class | | RK5 |

Ambient conditions

Temperature

Operating temperature

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

Storage temperature

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

Max altitude

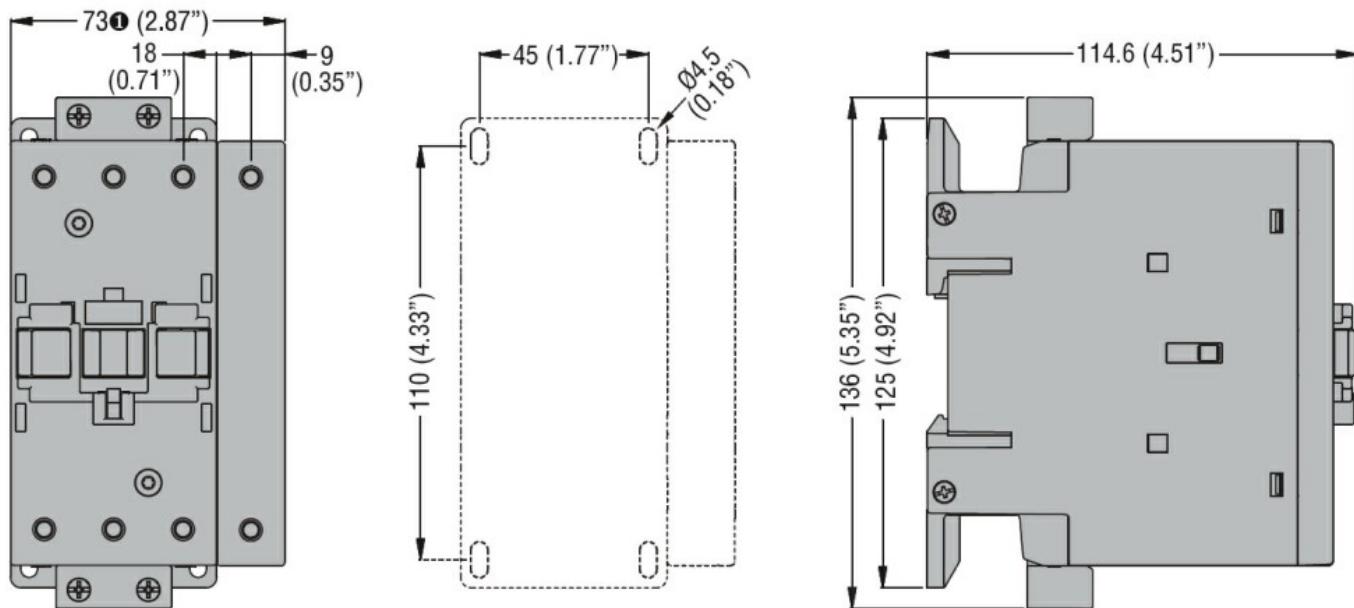
| | |
|---|------|
| m | 3000 |
|---|------|

Resistance & Protection

Pollution degree

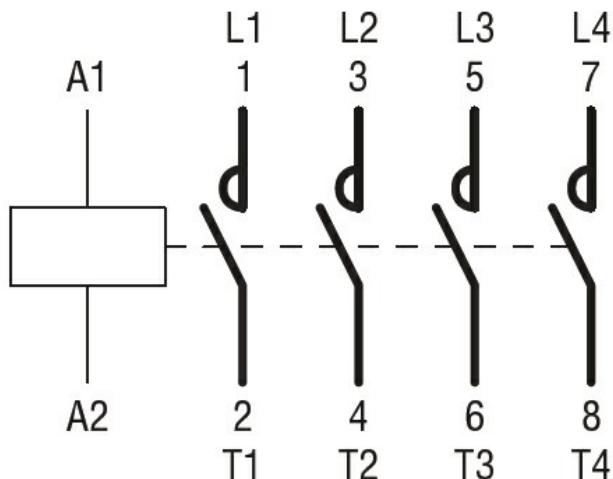
| |
|---|
| 3 |
|---|

Dimensions



① BF80T2 82mm/3.23"

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

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching