



Product designation

Power contactor

Product type designation

BF80

Contact characteristics

| | | |
|--|--|--------|
| Number of poles | Nr. | 3 |
| 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 | 115 |
| Operational current I_e | AC-1 ($\leq 40^\circ\text{C}$) | A 115 |
| | AC-1 ($\leq 55^\circ\text{C}$) | A 95 |
| | AC-1 ($\leq 70^\circ\text{C}$) | A 80 |
| | AC-3 ($\leq 440\text{V } \leq 55^\circ\text{C}$) | A 80 |
| | AC-4 (400V) | A 38 |
| Rated operational power AC-3 ($T \leq 55^\circ\text{C}$) | 230V | kW 22 |
| | 400V | kW 45 |
| | 415V | kW 45 |
| | 440V | kW 45 |
| | 500V | kW 55 |
| | 690V | kW 55 |
| | 1000V | kW 37 |
| Rated operational current AC-3 ($T \leq 55^\circ\text{C}$) | 230V | A 80 |
| | 400V | A 80 |
| | 415V | A 80 |
| | 440V | A 80 |
| | 500V | A 78 |
| | 690V | A 57 |
| | 1000V | A 28 |
| Rated operational power AC-1 ($T \leq 40^\circ\text{C}$) | 230V | kW 43 |
| | 400V | kW 76 |
| | 500V | kW 95 |
| | 690V | kW 120 |
| IEC max current I_e in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$ | A 70 |
| | 48V | A 60 |
| | 75V | A 60 |
| | 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 100 |

| | | | |
|--|----------|----|-----|
| | 48V | A | 100 |
| | 75V | A | 100 |
| | 110V | A | 80 |
| | 220V | A | 9 |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series | | | |
| | ≤24V | A | 100 |
| | 48V | A | 100 |
| | 75V | A | 100 |
| | 110V | A | 85 |
| | 220V | A | 95 |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series | | | |
| | ≤24V | A | 100 |
| | 48V | A | 100 |
| | 75V | A | 100 |
| | 110V | A | 100 |
| | 220V | A | 115 |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series | | | |
| | ≤24V | A | 40 |
| | 48V | A | 30 |
| | 75V | A | 30 |
| | 110V | A | 3 |
| | 220V | A | – |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series | | | |
| | ≤24V | A | 60 |
| | 48V | A | 50 |
| | 75V | A | 50 |
| | 110V | A | 40 |
| | 220V | A | 5 |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series | | | |
| | ≤24V | A | 80 |
| | 48V | A | 70 |
| | 75V | A | 70 |
| | 110V | A | 60 |
| | 220V | A | 64 |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series | | | |
| | ≤24V | A | 90 |
| | 48V | A | 90 |
| | 75V | A | 90 |
| | 110V | A | 75 |
| | 220V | A | 80 |
| Short-time allowable current for 10s (IEC/EN60947-1) | | A | 640 |
| Protection fuse | | | |
| | gG (IEC) | A | 125 |
| | aM (IEC) | A | 80 |
| Making capacity (RMS value) | | A | 800 |
| Breaking capacity at voltage | | | |
| | 440V | A | 640 |
| | 500V | A | 625 |
| | 690V | A | 456 |
| Resistance per pole (average value) | | mΩ | 0.6 |
| Power dissipation per pole (average value) | | | |
| | Ith | W | 7.9 |
| | AC-3 | W | 3.8 |
| Tightening torque for terminals | | | |

| | | | |
|---|------------------|-----------------|-----------------------|
| | min | Nm | 4 |
| | max | Nm | 5 |
| | min | Ibin | 2.95 |
| | max | Ibin | 3.69 |
| Tightening torque for coil terminal | | | |
| | min | Nm | 0.8 |
| | max | Nm | 1 |
| | min | Ibin | 0.8 |
| | max | Ibin | 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 |
| | max | mm ² | 35 |
| Flexible c/w lug conductor section | | | |
| | min | mm ² | 1.5 |
| | max | mm ² | 35 |
| Power terminal protection according to IEC/EN 60529 | | | IP20 front |
| Mechanical features | | | |
| Operating position | | | |
| | normal allowable | | Vertical plan ±30° |
| Fixing | | | Screw / DIN rail 35mm |
| Weight | | g | 1020 |
| Operations | | | |
| Mechanical life | | cycles | 15000000 |
| Electrical life | | cycles | 1300000 |
| Safety related data | | | |
| Performance level B10d according to EN/ISO 13489-1 | | | |
| | rated load | cycles | 1300000 |
| | mechanical load | cycles | 15000000 |
| 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

| | | |
|-----------------------------------|---|-----|
| Rated operational voltage AC (UL) | V | 600 |
|-----------------------------------|---|-----|

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

| | | |
|---------|---|----|
| at 480V | A | 77 |
| at 600V | A | 77 |

Yielded mechanical performance

for three-phase AC motor

| | | |
|----------|----|----|
| 200/208V | HP | 25 |
| 220/230V | HP | 30 |
| 460/480V | HP | 60 |
| 575/600V | HP | 75 |

General USE

Contactor

| | | |
|------------|---|-----|
| AC current | A | 115 |
|------------|---|-----|

Short-circuit protection fuse, 600V

High fault

| | | |
|-----------------------|----|-----|
| Short circuit current | kA | 100 |
| Fuse rating | A | 200 |
| Fuse class | | J |

Standard fault

| | | |
|-----------------------|----|-----|
| Short circuit current | kA | 10 |
| Fuse rating | A | 200 |
| Fuse class | | RK5 |

Ambient conditions

Temperature

Operating temperature

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

Storage temperature

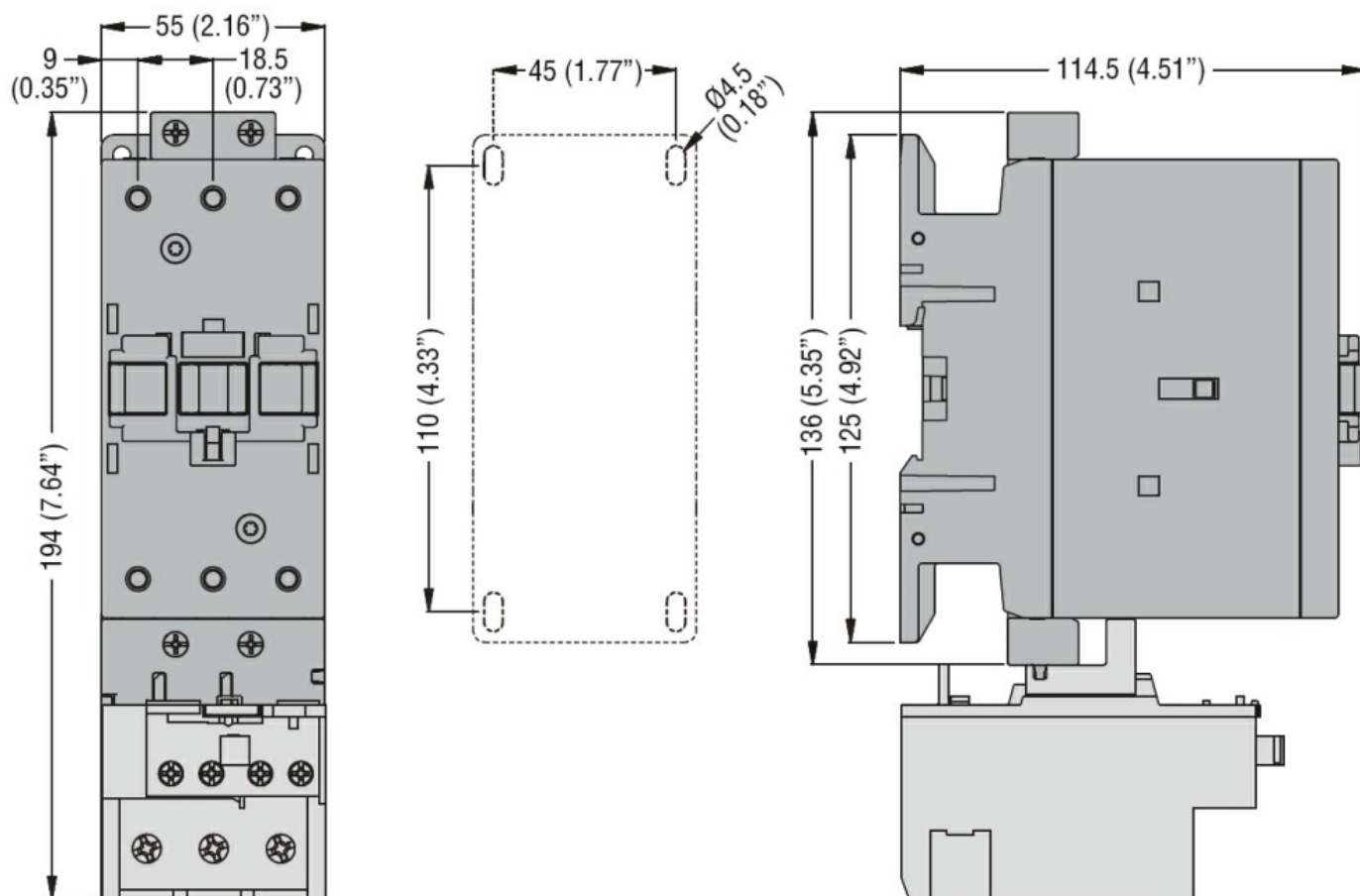
| | | |
|-----|----|-----|
| min | °C | -60 |
| max | °C | 80 |

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

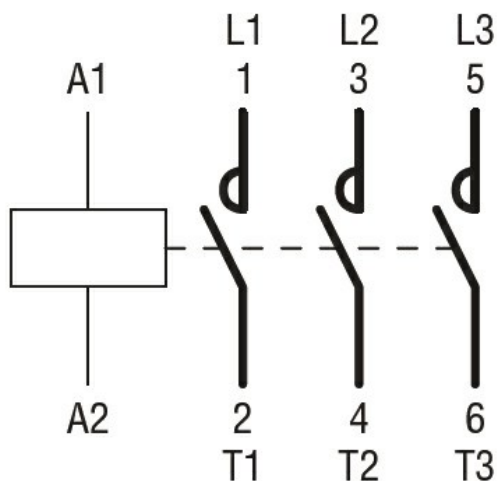
Resistance & Protection

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

Dimensions



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

ETIM classification

ETIM 8.0

EC000066 -
Power contactor,
AC switching