



| | | | | |
|---|--|------|------|-----------------|
| Product designation | | | | Power contactor |
| Product type designation | | | | BF50 |
| Contact characteristics | | | | |
| Number of poles | nr. | | | 3 |
| Rated insulation voltage U_i | V | | | 1000 |
| Rated impulse withstand voltage U_{imp} | kV | | | 8 |
| Operating frequency | Operational frequency min | Hz | 25 | |
| | Operational frequency max | Hz | 400 | |
| | Conventional free air thermal current I_{th} | A | 90 | |
| Operating current | Operational current AC1 ($\leq 40^\circ\text{C}$) | A | 90 | |
| | Operational current AC3 ($\leq 440\text{V} \leq 55^\circ\text{C}$) | A | 50 | |
| | Operational current AC4 (400V) | A | 28 | |
| Rated operational power AC1 ($T \leq 40^\circ\text{C}$) | 230V | kW | 34 | |
| | 400V | kW | 59 | |
| | 500V | kW | 74 | |
| | 690V | kW | 102 | |
| Rated operational power AC3 ($T \leq 55^\circ\text{C}$) | 230V | kW | 15 | |
| | 400V | kW | 22 | |
| | 415V | kW | 30 | |
| | 440V | kW | 30 | |
| | 500V | kW | 30 | |
| | 690V | kW | 37 | |
| | 1000V | kW | 22 | |
| 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 | 500 | | |
| Breaking capacity at voltage | Breaking capacity 440V | A | 400 | |
| | Breaking capacity 500V | A | 352 | |
| | Breaking capacity 690V | A | 312 | |
| Resistance per pole (average value) | m Ω | 0.8 | | |
| Power dissipation per pole (average value) | Power dissipation pole (average value) I_{th} | W | 6.5 | |
| | AC3 | W | 2 | |
| Tightening torque for terminals | min | Nm | 4 | |
| | max | Nm | 5 | |
| | min | lbft | 2.95 | |
| | max | lbft | 3.69 | |

Tightening torque for coil terminal

| | | |
|-----|------|------|
| min | Nm | 0.8 |
| max | Nm | 1 |
| min | lbft | 0.8 |
| max | lbft | 0.74 |

max number of wires simultaneously connectable

| | |
|-----|---|
| nr. | 2 |
|-----|---|

Conductor section

AWG

| | |
|-----|----|
| min | 14 |
| 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

Auxiliary contact characteristics

Operational current AC1 (≤40°C)

| | |
|---|----|
| A | 90 |
|---|----|

Operating current DC13

| | | |
|------|---|--------------------------|
| 110V | A | Screw / DIN rail 35mm |
|------|---|--------------------------|

Ambient conditions

Temperature

Operating temperature

| | | |
|-----|----|-----|
| min | °C | -40 |
| max | °C | 70 |

Storage temperature

| | | |
|-----|----|-----|
| min | °C | -50 |
| max | °C | 80 |

Max altitude

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

Operating position

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

Mounting

Screw / DIN rail
35mm

Weight

| | |
|---|------|
| g | 1.06 |
|---|------|

Operations

Mechanical life

| | |
|--------|---------|
| Cycles | 1500000 |
|--------|---------|

Electrical life

| | |
|--------|---------|
| Cycles | 1400000 |
|--------|---------|

Safety related data

Performance level B10d according to EN/ISO 13489-1

| | | |
|-----------------|-------|----------|
| rated load | Cicli | 1400000 |
| mechanical load | Cicli | 15000000 |

Mirror contacts according to IEC/EN 60947-4-1

yes

EMC compatibility

yes

AC coil operating

AC operating voltage

of 50/60Hz coil powered at 50Hz
pick-up

| | | |
|-----|-----|-----|
| min | %Us | 0.8 |
| max | %Us | 1.1 |

drop-out

| | | | | |
|--|------------|-------------|----------|--------------|
| | | max | %Us | ≤0.75 Us min |
| of 50/60Hz coil powered at 60Hz | pick-up | | | |
| | | min | %Us | 0.8 |
| | | max | %Us | 1.1 |
| | drop-out | | | |
| | | max | %Us | 0.75 |
| AC operating voltage | | | | |
| of 50/60Hz coil powered at 50Hz | | in-rush | VA | 40...130 |
| | | holding | VA | 1.3...4.4 |
| of 50/60Hz coil powered at 60Hz | | in-rush | VA | 40...130 |
| | | holding | VA | 1.3...4.4 |
| Dissipation at holding ≤20°C 50Hz | | | W | 1...2.5 |
| DC coil operating | | | | |
| DC rated control voltage | | min | V | 20 |
| DC operating voltage | | | | |
| pick-up | | min | %Us | 0.8 |
| | | max | %Us | 1.10 |
| drop-out | | min | %Us | 0.2 |
| | | max | %Us | 0.55 |
| Average coil consumption ≤20°C | | in-rush | W | 60...125 |
| | | holding | W | 1.7...2.3 |
| Max cycles frequency | | | | |
| Mechanical operations | | | Cycles/h | 1500 |
| 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 | 52 |
| | | at 600V | A | 41 |
| Yielded mechanical performance | | | | |
| for single-phase AC motor | | at 110/120V | hp | 5 |
| | | at 230V | hp | 10 |

for three-phase AC motor

| | | |
|-------------|----|----|
| at 200/208V | hp | 15 |
| at 220/230V | hp | 20 |
| at 460/480V | hp | 40 |
| at 575/600V | hp | 40 |

General USE

Contactor

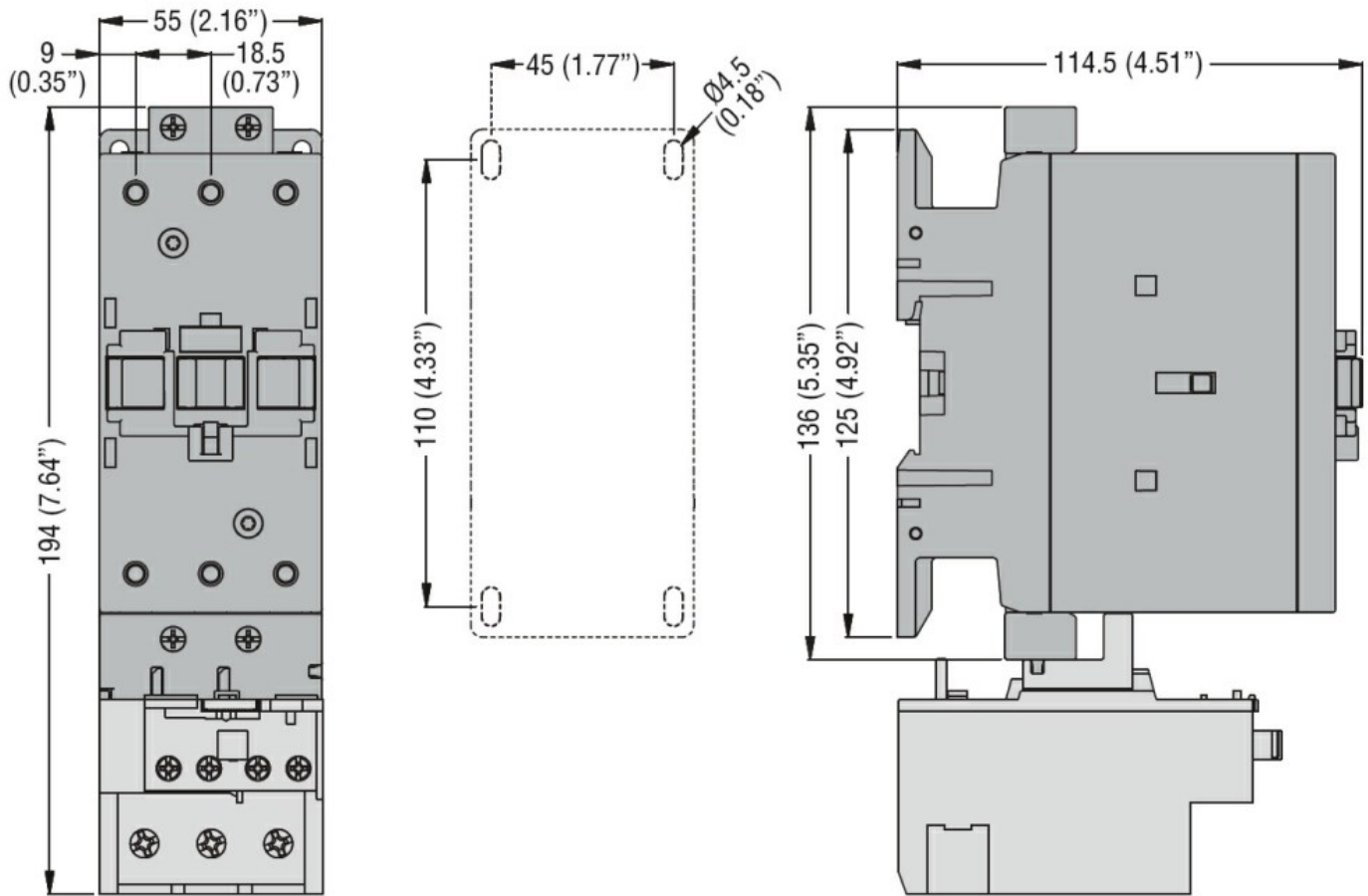
| | | |
|------------|---|----|
| AC current | A | 32 |
|------------|---|----|

Other features

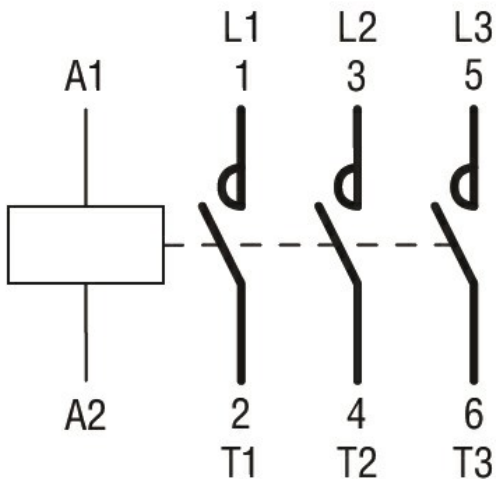
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Certifications

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

Compliance

cULus

ETIM 6 classification

EC000066 - Power contactor, AC switching