



|   |                                      |    |     |                 |
|---|--------------------------------------|----|-----|-----------------|
| Product designation   |                                      |    |     | Power contactor |
| Product type designation  |                                      |    |     | BF400           |
| <b>Contact characteristics</b>  |                                      |    |     |                 |
| 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 $I_{th} \leq 40^\circ C$      | A                                    |    |     | 600             |
| Operational current $I_e$   | AC-1 ( $\leq 40^\circ C$ )           | A  | 600 |                 |
|   | AC-1 ( $\leq 55^\circ C$ )           | A  | 500 |                 |
|   | AC-1 ( $\leq 70^\circ C$ )           | A  | 435 |                 |
|   | AC-3 ( $\leq 440V \leq 55^\circ C$ ) | A  | 400 |                 |
|   | AC-4 (400V)                          | A  | 190 |                 |
| Rated operational power AC-3 ( $T \leq 55^\circ C$ )                    | 230V                                 | kW | 110 |                 |
|   | 400V                                 | kW | 200 |                 |
|   | 415V                                 | kW | 200 |                 |
|   | 440V                                 | kW | 200 |                 |
|   | 500V                                 | kW | 250 |                 |
|   | 690V                                 | kW | 315 |                 |
|   | 1000V                                | kW | 200 |                 |
| Rated operational current AC-3 ( $T \leq 55^\circ C$ )                  | 230V                                 | A  | 400 |                 |
|   | 400V                                 | A  | 400 |                 |
|   | 415V                                 | A  | 400 |                 |
|   | 440V                                 | A  | 400 |                 |
|   | 500V                                 | A  | 350 |                 |
|   | 690V                                 | A  | 350 |                 |
|   | 1000V                                | A  | 155 |                 |
| Rated operational power AC-1 ( $T \leq 40^\circ C$ )                    | 230V                                 | kW | 227 |                 |
|   | 400V                                 | kW | 395 |                 |
|   | 500V                                 | kW | 434 |                 |
|   | 690V                                 | kW | 681 |                 |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 1 poles in series | 75V                                  | A  | 400 |                 |
|   | 110V                                 | A  | 250 |                 |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 2 poles in series | 75V                                  | A  | 400 |                 |
|   | 110V                                 | A  | 400 |                 |
|   | 220V                                 | A  | 350 |                 |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 3 poles in series |                                      |    |     |                 |

|  |                 |                     |                       |
|--|-----------------|---------------------|-----------------------|
|  | 75V             | A                   | 400                   |
|  | 110V            | A                   | 400                   |
|  | 220V            | A                   | 400                   |
|  | 330V            | A                   | 350                   |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series      |                 |                     |                       |
|  | 75V             | A                   | 400                   |
|  | 110V            | A                   | 400                   |
|  | 220V            | A                   | 400                   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |                 |                     |                       |
|  | 75V             | A                   | 350                   |
|  | 110V            | A                   | 200                   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |                 |                     |                       |
|  | 75V             | A                   | 350                   |
|  | 110V            | A                   | 350                   |
|  | 220V            | A                   | 280                   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |                 |                     |                       |
|  | 75V             | A                   | 350                   |
|  | 110V            | A                   | 350                   |
|  | 220V            | A                   | 350                   |
|  | 330V            | A                   | 280                   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |                 |                     |                       |
|  | 75V             | A                   | 350                   |
|  | 110V            | A                   | 350                   |
|  | 220V            | A                   | 350                   |
|  | 330V            | A                   | 350                   |
|  | 460V            | A                   | 280                   |
| Short-time allowable current for 10s (IEC/EN60947-1)                 |                 | A                   | 3200                  |
| Protection fuse  |                 |                     |                       |
|  | gG (IEC)        | A                   | 800                   |
|  | aM (IEC)        | A                   | 500                   |
| Making capacity (RMS value)  |                 | A                   | 4000                  |
| Breaking capacity at voltage   |                 |                     |                       |
|  | 440V            | A                   | 3200                  |
|  | 500V            | A                   | 2752                  |
|  | 690V            | A                   | 2504                  |
| Resistance per pole (average value)                                  |                 | mΩ                  | 0.12                  |
| Power dissipation per pole (average value)                           |                 |                     |                       |
|  | I <sub>th</sub> | W                   | 43.2                  |
|  | AC-3            | W                   | 19                    |
| Tightening torque for terminals                                      |                 |                     |                       |
|  | min             | Nm                  | 35                    |
|  | max             | Nm                  | 35                    |
|  | min             | lbin                | 310                   |
|  | max             | lbin                | 310                   |
| Tightening torque for coil terminal                                  |                 |                     |                       |
|  | min             | Nm                  | 0.8                   |
|  | max             | Nm                  | 1                     |
| Power terminal protection according to IEC/EN 60529                  |                 |                     | IP00                  |
| <b>Mechanical features</b>   |                 |                     |                       |
| Operating position   |                 | normal<br>allowable | Vertical plan<br>±30° |
| Fixing   |                 |                     | Screw                 |

**Operations**

|                 |        |         |
|-----------------|--------|---------|
| Mechanical life | cycles | 5000000 |
| Electrical life | cycles | 600000  |

**Safety related data**

Performance level B10d according to EN/ISO 13489-1

|                   |                 |        |         |
|-------------------|-----------------|--------|---------|
|                   | rated load      | cycles | 600000  |
|                   | mechanical load | cycles | 5000000 |
| EMC compatibility |                 |        | yes     |

**AC coil operating**

Rated AC voltage at 50/60Hz, 60Hz

|  |     |   |     |
|--|-----|---|-----|
|  | min | V | 60  |
|  | max | V | 130 |

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 | 160...320 |
| holding | VA | 3.5...8.0 |

of 50/60Hz coil powered at 60Hz

|         |    |           |
|---------|----|-----------|
| in-rush | VA | 160...320 |
| holding | VA | 3.5...8.0 |

of 60Hz coil powered at 60Hz

|         |    |           |
|---------|----|-----------|
| in-rush | VA | 160...320 |
| holding | VA | 3.5...8.0 |

Dissipation at holding ≤20°C 50Hz

|   |           |
|---|-----------|
| W | 3.5...8.0 |
|---|-----------|

**DC coil operating**

DC rated control voltage

|     |   |     |
|-----|---|-----|
| min | V | 60  |
| max | V | 130 |

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 | 160...230 |
| holding | W | 3.5...8.0 |

**Max cycles frequency**

Mechanical operation cycles/h 1000

**Operating times**

Average time for Us control

in AC

Closing NO

|     |    |     |
|-----|----|-----|
| min | ms | 80  |
| max | ms | 120 |

Opening NO

|     |    |    |
|-----|----|----|
| min | ms | 30 |
| max | ms | 75 |

**UL technical data**

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

Yielded mechanical performance

for three-phase AC motor

|          |    |     |
|----------|----|-----|
| 200/208V | HP | 125 |
| 220/240V | HP | 150 |
| 460/480V | HP | 350 |
| 575/600V | HP | 400 |

**General USE**

Contactor

|            |   |     |
|------------|---|-----|
| AC current | A | 600 |
|------------|---|-----|

Short-circuit protection fuse, 600V

High fault

|                       |    |     |
|-----------------------|----|-----|
| Short circuit current | kA | 100 |
| Fuse rating           | A  | 600 |
| Fuse class            |    | J   |

Standard fault

|                       |    |     |
|-----------------------|----|-----|
| Short circuit current | kA | 18  |
| Fuse rating           | A  | 600 |
| Fuse class            |    | RK5 |

**Ambient conditions**

Temperature

Operating temperature

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

Storage temperature

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

Max altitude

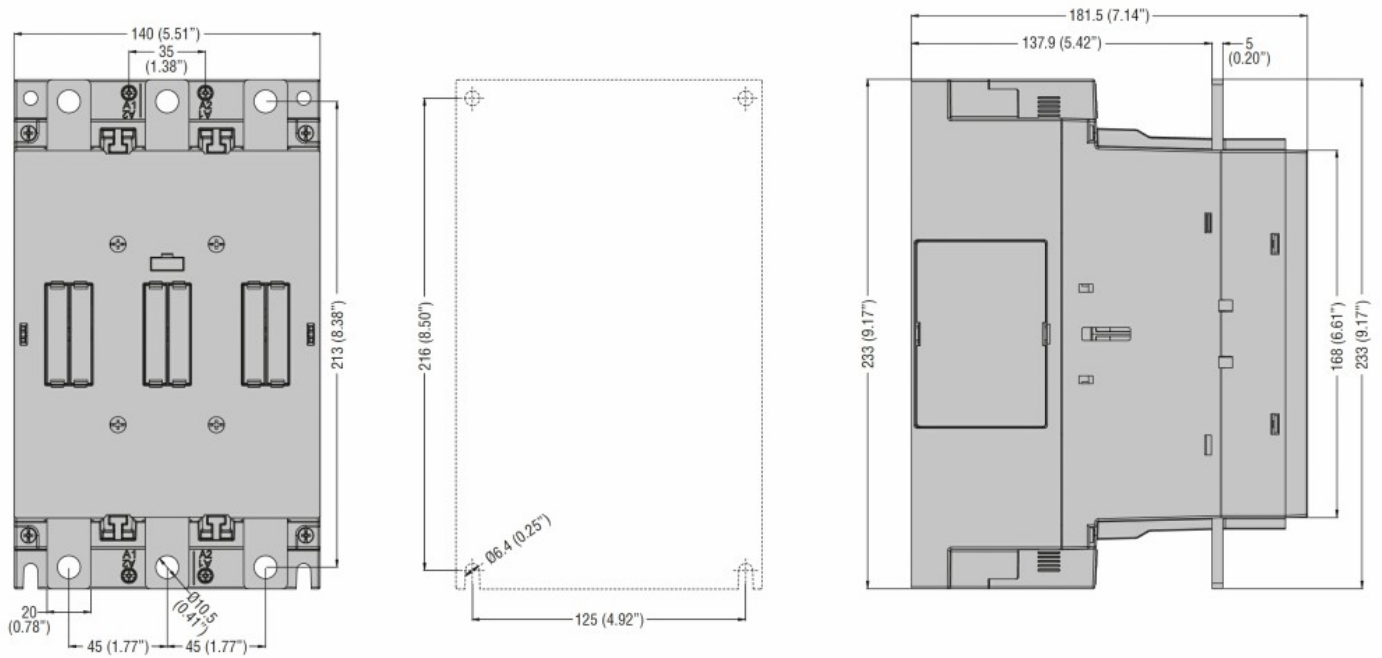
|   |      |
|---|------|
| m | 3000 |
|---|------|

**Resistance & Protection**

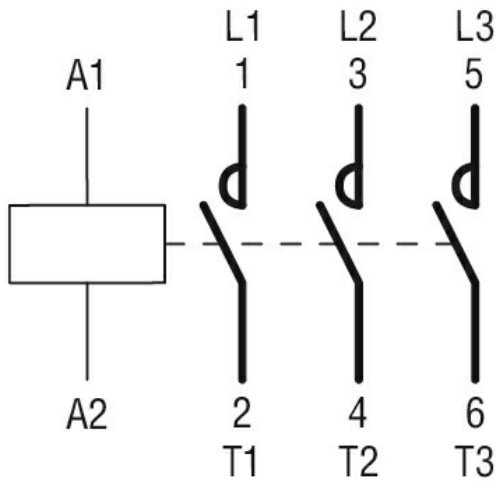
Pollution degree

3

**Dimensions**



### 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

cULus

### ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching