



Product designation

Power contactor

Product type designation

BF400

**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                                                  | 600   |
| Operational current $I_e$                                                      | AC-1 ( $\leq 40^\circ\text{C}$ )                   | A 600 |
|                                                                                | AC-1 ( $\leq 55^\circ\text{C}$ )                   | A 500 |
|                                                                                | AC-1 ( $\leq 70^\circ\text{C}$ )                   | A 435 |
|                                                                                | AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ ) | A 400 |
|                                                                                | AC-4 (400V)                                        | A 190 |
| Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )                     | 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 ( $T \leq 55^\circ\text{C}$ )                   | 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 ( $T \leq 40^\circ\text{C}$ )                     | 230V kW                                            | 227   |
|                                                                                | 400V kW                                            | 395   |
|                                                                                | 500V kW                                            | 434   |
|                                                                                | 690V kW                                            | 681   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | 75V A                                              | 400   |
|                                                                                | 110V A                                             | 250   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series | 75V A                                              | 400   |
|                                                                                | 110V A                                             | 400   |
|                                                                                | 220V A                                             | 350   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ 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)                           |           |      |               |
|                                                                      | Ith       | W    | 43.2          |
|                                                                      | AC-3      | W    | 19            |
| Tightening torque for terminals                                      |           |      |               |
|                                                                      | min       | Nm   | 35            |
|                                                                      | max       | Nm   | 35            |
|                                                                      | min       | Ibin | 310           |
|                                                                      | max       | Ibin | 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    |      | Vertical plan |
|                                                                      | allowable |      | ±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 |
| 220/230V | 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

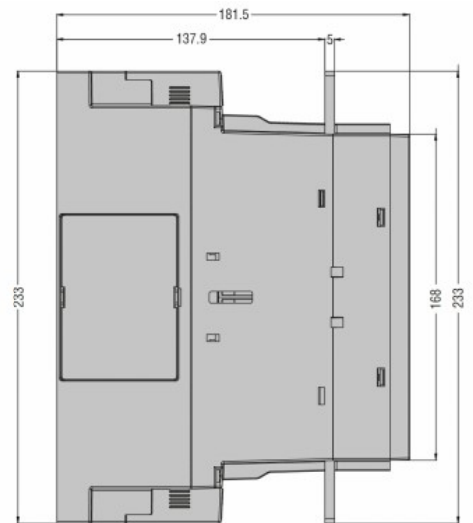
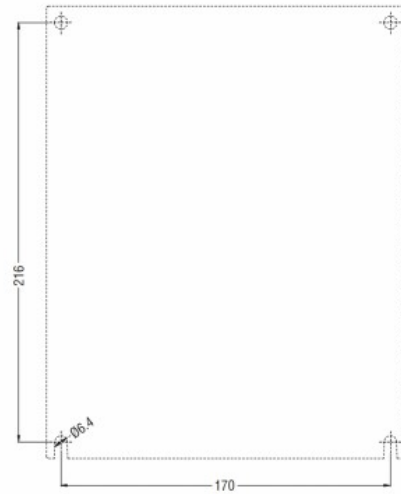
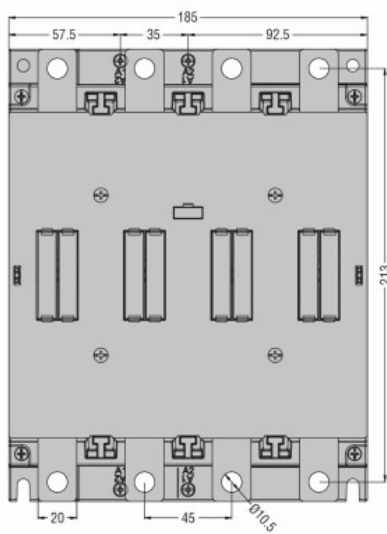
|     |    |     |
|-----|----|-----|
| min | °C | -50 |
| max | °C | 80  |

Max altitude m 3000

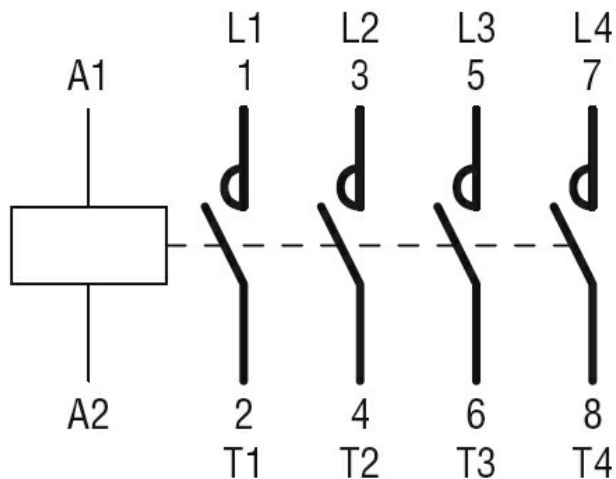
#### Resistance & Protection

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