



Product designation

Power contactor

Product type designation

BF115

**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                                                  | 160    |
| Operational current $I_e$                                                      | AC-1 ( $\leq 40^\circ\text{C}$ )                   | A 160  |
|                                                                                | AC-1 ( $\leq 55^\circ\text{C}$ )                   | A 130  |
|                                                                                | AC-1 ( $\leq 70^\circ\text{C}$ )                   | A 115  |
|                                                                                | AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ ) | A 115  |
|                                                                                | AC-4 (400V)                                        | A 54   |
| Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )                     | 230V                                               | kW 37  |
|                                                                                | 400V                                               | kW 55  |
|                                                                                | 415V                                               | kW 55  |
|                                                                                | 440V                                               | kW 55  |
|                                                                                | 500V                                               | kW 75  |
|                                                                                | 690V                                               | kW 110 |
|                                                                                | 1000V                                              | kW 55  |
| Rated operational current AC-3 ( $T \leq 55^\circ\text{C}$ )                   | 230V                                               | A 115  |
|                                                                                | 400V                                               | A 115  |
|                                                                                | 415V                                               | A 115  |
|                                                                                | 440V                                               | A 115  |
|                                                                                | 500V                                               | A 106  |
|                                                                                | 690V                                               | A 106  |
|                                                                                | 1000V                                              | A 39   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$                                  | A 160  |
|                                                                                | 48V                                                | A 160  |
|                                                                                | 75V                                                | A 120  |
|                                                                                | 110V                                               | A 10   |
|                                                                                | 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 160  |
|                                                                                | 48V                                                | A 160  |
|                                                                                | 75V                                                | A 160  |
|                                                                                | 110V                                               | A 130  |
|                                                                                | 220V                                               | A 14   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series |                                                    |        |

|                                                                      |          |      |      |
|----------------------------------------------------------------------|----------|------|------|
|                                                                      | ≤24V     | A    | 160  |
|                                                                      | 48V      | A    | 160  |
|                                                                      | 75V      | A    | 160  |
|                                                                      | 110V     | A    | 140  |
|                                                                      | 220V     | A    | 145  |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series      |          |      |      |
|                                                                      | ≤24V     | A    | 160  |
|                                                                      | 48V      | A    | 160  |
|                                                                      | 75V      | A    | 160  |
|                                                                      | 110V     | A    | 160  |
|                                                                      | 220V     | A    | 160  |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 160  |
|                                                                      | 48V      | A    | 50   |
|                                                                      | 75V      | A    | 40   |
|                                                                      | 110V     | A    | 6    |
|                                                                      | 220V     | A    | –    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 160  |
|                                                                      | 48V      | A    | 72   |
|                                                                      | 75V      | A    | 65   |
|                                                                      | 110V     | A    | 65   |
|                                                                      | 220V     | A    | 7    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 160  |
|                                                                      | 48V      | A    | 150  |
|                                                                      | 75V      | A    | 100  |
|                                                                      | 110V     | A    | 100  |
|                                                                      | 220V     | A    | 92   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 160  |
|                                                                      | 48V      | A    | 120  |
|                                                                      | 75V      | A    | 120  |
|                                                                      | 110V     | A    | 125  |
|                                                                      | 220V     | A    | 115  |
| Short-time allowable current for 10s (IEC/EN60947-1)                 |          | A    | 920  |
| Protection fuse                                                      |          |      |      |
|                                                                      | gG (IEC) | A    | 200  |
|                                                                      | aM (IEC) | A    | 125  |
| Making capacity (RMS value)                                          |          | A    | 1500 |
| Breaking capacity at voltage                                         |          |      |      |
|                                                                      | 440V     | A    | 1200 |
|                                                                      | 500V     | A    | 850  |
|                                                                      | 690V     | A    | 905  |
| Resistance per pole (average value)                                  |          | mΩ   | 0.45 |
| Power dissipation per pole (average value)                           |          |      |      |
|                                                                      | Ith      | W    | 11.5 |
|                                                                      | AC-3     | W    | 6.0  |
| Tightening torque for terminals                                      |          |      |      |
|                                                                      | min      | Nm   | 6    |
|                                                                      | max      | Nm   | 7    |
|                                                                      | min      | Ibin | 4.4  |
|                                                                      | max      | Ibin | 5.2  |

#### Tightening torque for coil terminal

|     |      |      |
|-----|------|------|
| min | Nm   | 0.8  |
| max | Nm   | 1    |
| min | Ibin | 0.59 |
| max | Ibin | 0.74 |

#### Conductor section

AWG/Kcmil

|     |     |
|-----|-----|
| max | 2/0 |
|-----|-----|

Flexible w/o lug conductor section

|     |                 |     |
|-----|-----------------|-----|
| min | mm <sup>2</sup> | 1.5 |
| max | mm <sup>2</sup> | 70  |

Flexible c/w lug conductor section

|     |                 |     |
|-----|-----------------|-----|
| min | mm <sup>2</sup> | 1.5 |
| max | mm <sup>2</sup> | 70  |

#### Power terminal protection according to IEC/EN 60529

IP20 front

#### Mechanical features

#### Operating position

|                     |                       |
|---------------------|-----------------------|
| normal<br>allowable | Vertical plan<br>±30° |
|---------------------|-----------------------|

#### Fixing

Screw / DIN rail  
35mm

#### Weight

g 2020

#### Operations

#### Mechanical life

cycles 15000000

#### Electrical life

cycles 1200000

#### Safety related data

#### Performance level B10d according to EN/ISO 13489-1

|                 |        |          |
|-----------------|--------|----------|
| rated load      | cycles | 1200000  |
| mechanical load | cycles | 15000000 |

#### AC coil operating

#### Rated AC voltage at 50/60Hz

V 230

#### AC operating voltage

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

|     |     |     |
|-----|-----|-----|
| min | %Us | 80  |
| max | %Us | 110 |

drop-out

|     |     |    |
|-----|-----|----|
| min | %Us | 20 |
| max | %Us | 55 |

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

|     |     |     |
|-----|-----|-----|
| min | %Us | 85  |
| max | %Us | 110 |

drop-out

|     |     |    |
|-----|-----|----|
| min | %Us | 40 |
| max | %Us | 55 |

#### AC average coil consumption at 20°C

of 50/60Hz coil powered at 50Hz

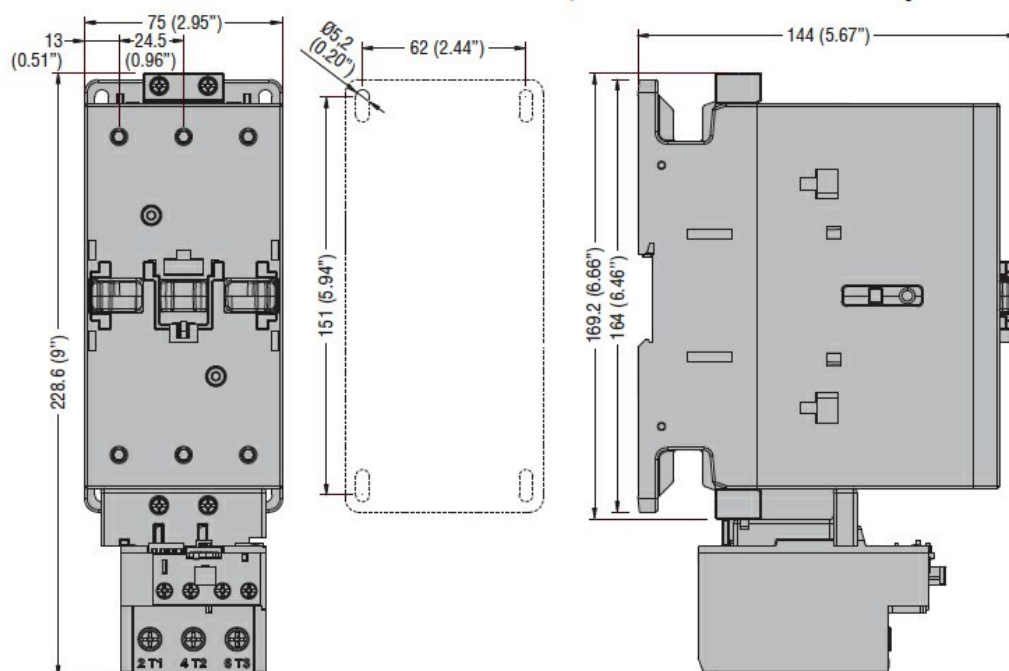
|         |    |     |
|---------|----|-----|
| in-rush | VA | 300 |
| holding | VA | 20  |

of 50/60Hz coil powered at 60Hz

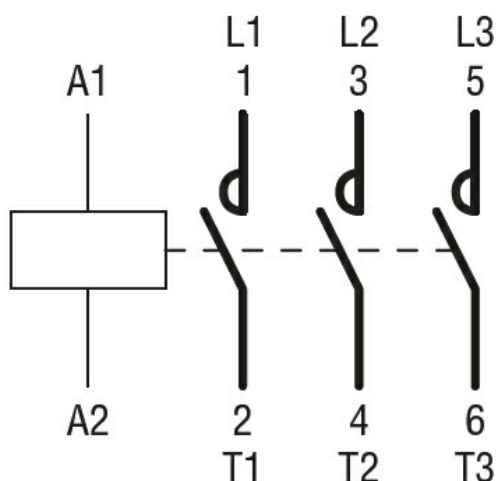
|         |    |     |
|---------|----|-----|
| in-rush | VA | 275 |
| holding | VA | 17  |

of 60Hz coil powered at 60Hz

|                                     |                          |                       |          |      |
|-------------------------------------|--------------------------|-----------------------|----------|------|
|                                     |                          | in-rush               | VA       | 300  |
|                                     |                          | holding               | VA       | 20   |
| Max cycles frequency                |                          |                       |          |      |
| Mechanical operation                |                          |                       | cycles/h | 1500 |
| Operating times                     |                          |                       |          |      |
| Average time for Us control         |                          |                       |          |      |
|                                     | in AC                    |                       |          |      |
|                                     | Closing NO               | min                   | ms       | 16   |
|                                     |                          | max                   | ms       | 32   |
|                                     | Opening NO               | min                   | ms       | 9    |
|                                     |                          | max                   | ms       | 24   |
| UL technical data                   |                          |                       |          |      |
| Rated operational voltage AC (UL)   |                          |                       | V        | 600  |
| Yielded mechanical performance      |                          |                       |          |      |
|                                     | for three-phase AC motor |                       |          |      |
|                                     |                          | 200/208V              | HP       | 40   |
|                                     |                          | 220/230V              | HP       | 40   |
|                                     |                          | 460/480V              | HP       | 75   |
|                                     |                          | 575/600V              | HP       | 100  |
| General USE                         |                          |                       |          |      |
|                                     | Contactor                |                       |          |      |
|                                     |                          | AC current            | A        | 165  |
| 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        | 250  |
|                                     |                          | 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 |
| 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