



Product designation

Power contactor

Product type designation

BF32

**Contact characteristics**

|                                                                                |                                                    |        |
|--------------------------------------------------------------------------------|----------------------------------------------------|--------|
| Number of poles                                                                | Nr.                                                | 3      |
| Rated insulation voltage $U_i$ IEC/EN                                          | V                                                  | 690    |
| Rated impulse withstand voltage $U_{imp}$                                      | kV                                                 | 6      |
| Operational frequency                                                          | min                                                | Hz 25  |
|                                                                                | max                                                | Hz 400 |
| IEC Conventional free air thermal current $I_{th}$                             | A                                                  | 56     |
| Operational current $I_e$                                                      | AC-1 ( $\leq 40^\circ\text{C}$ )                   | A 56   |
|                                                                                | AC-1 ( $\leq 55^\circ\text{C}$ )                   | A 45   |
|                                                                                | AC-1 ( $\leq 70^\circ\text{C}$ )                   | A 40   |
|                                                                                | AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ ) | A 32   |
|                                                                                | AC-4 (400V)                                        | A 13.5 |
| Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )                     | 230V                                               | kW 8.8 |
|                                                                                | 400V                                               | kW 16  |
|                                                                                | 415V                                               | kW 17  |
|                                                                                | 440V                                               | kW 17  |
|                                                                                | 500V                                               | kW 20  |
|                                                                                | 690V                                               | kW 22  |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )                     | 230V                                               | kW 21  |
|                                                                                | 400V                                               | kW 36  |
|                                                                                | 500V                                               | kW 45  |
|                                                                                | 690V                                               | kW 62  |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$                                  | A 30   |
|                                                                                | 48V                                                | A 26   |
|                                                                                | 75V                                                | A 22   |
|                                                                                | 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 32   |
|                                                                                | 48V                                                | A 32   |
|                                                                                | 75V                                                | A 28   |
|                                                                                | 110V                                               | A 25   |
|                                                                                | 220V                                               | A 3    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series | $\leq 24\text{V}$                                  | A 32   |
|                                                                                | 48V                                                | A 32   |
|                                                                                | 75V                                                | A 32   |
|                                                                                | 110V                                               | A 27   |

|                                                                      |          |      |     |
|----------------------------------------------------------------------|----------|------|-----|
|                                                                      | 220V     | A    | 23  |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series      |          |      |     |
|                                                                      | ≤24V     | A    | –   |
|                                                                      | 48V      | A    | –   |
|                                                                      | 75V      | A    | –   |
|                                                                      | 110V     | A    | –   |
|                                                                      | 220V     | A    | –   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | 20  |
|                                                                      | 48V      | A    | 17  |
|                                                                      | 75V      | A    | 15  |
|                                                                      | 110V     | A    | 2,5 |
|                                                                      | 220V     | A    | –   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | 25  |
|                                                                      | 48V      | A    | 22  |
|                                                                      | 75V      | A    | 20  |
|                                                                      | 110V     | A    | 15  |
|                                                                      | 220V     | A    | 3   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | 30  |
|                                                                      | 48V      | A    | 28  |
|                                                                      | 75V      | A    | 28  |
|                                                                      | 110V     | A    | 20  |
|                                                                      | 220V     | A    | 23  |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | –   |
|                                                                      | 48V      | A    | –   |
|                                                                      | 75V      | A    | –   |
|                                                                      | 110V     | A    | –   |
|                                                                      | 220V     | A    | –   |
| Short-time allowable current for 10s (IEC/EN60947-1)                 |          | A    | 320 |
| Protection fuse                                                      |          |      |     |
|                                                                      | gG (IEC) | A    | 63  |
|                                                                      | aM (IEC) | A    | 32  |
| Making capacity (RMS value)                                          |          | A    | 320 |
| Breaking capacity at voltage                                         |          |      |     |
|                                                                      | 440V     | A    | 256 |
|                                                                      | 500V     | A    | 240 |
|                                                                      | 690V     | A    | 192 |
| Resistance per pole (average value)                                  |          | mΩ   | 2   |
| Power dissipation per pole (average value)                           |          |      |     |
|                                                                      | Ith      | W    | 6   |
|                                                                      | AC-3     | W    | 2   |
| Tightening torque for terminals                                      |          |      |     |
|                                                                      | min      | Nm   | 2.5 |
|                                                                      | max      | Nm   | 3   |
|                                                                      | min      | Ibin | 1.8 |
|                                                                      | max      | Ibin | 2.2 |
| Tightening torque for coil terminal                                  |          |      |     |
|                                                                      | min      | Nm   | 0.8 |
|                                                                      | max      | Nm   | 1   |
|                                                                      | min      | Ibin | 0.8 |

|                                                     |            |                  |                  |                          |
|-----------------------------------------------------|------------|------------------|------------------|--------------------------|
|                                                     |            | max              | I <sub>bin</sub> | 0.74                     |
| Max number of wires simultaneously connectable      |            |                  | Nr.              | 2                        |
| Conductor section                                   | AWG/Kcmil  |                  |                  |                          |
|                                                     |            | max              |                  | 6                        |
| Flexible w/o lug conductor section                  |            | min              | mm <sup>2</sup>  | 2.5                      |
|                                                     |            | max              | mm <sup>2</sup>  | 16                       |
| Flexible c/w lug conductor section                  |            | min              | mm <sup>2</sup>  | 1                        |
|                                                     |            | max              | mm <sup>2</sup>  | 10                       |
| Flexible with insulated spade lug conductor section |            | min              | mm <sup>2</sup>  | 1                        |
|                                                     |            | max              | mm <sup>2</sup>  | 10                       |
| Power terminal protection according to IEC/EN 60529 |            |                  |                  | IP20 when properly wired |
| <b>Mechanical features</b>                          |            |                  |                  |                          |
| Operating position                                  |            | normal allowable |                  | Vertical plan ±30°       |
| Fixing                                              |            |                  |                  | Screw / DIN rail 35mm    |
| Weight                                              |            |                  | g                | 564                      |
| <b>Operations</b>                                   |            |                  |                  |                          |
| Mechanical life                                     |            |                  | cycles           | 20000000                 |
| Electrical life                                     |            |                  | cycles           | 1600000                  |
| <b>Safety related data</b>                          |            |                  |                  |                          |
| Performance level B10d according to EN/ISO 13489-1  |            | rated load       | cycles           | 1600000                  |
|                                                     |            | mechanical load  | cycles           | 20000000                 |
| EMC compatibility                                   |            |                  |                  | yes                      |
| <b>DC coil operating</b>                            |            |                  |                  |                          |
| DC rated control voltage                            |            |                  | V                | 220                      |
| DC operating voltage                                |            |                  |                  |                          |
| pick-up                                             |            | min              | %U <sub>s</sub>  | 70                       |
|                                                     |            | max              | %U <sub>s</sub>  | 125                      |
| drop-out                                            |            | min              | %U <sub>s</sub>  | 10                       |
|                                                     |            | max              | %U <sub>s</sub>  | 40                       |
| Average coil consumption ≤20°C                      |            | in-rush          | W                | 5.4                      |
|                                                     |            | holding          | W                | 5.4                      |
| <b>Max cycles frequency</b>                         |            |                  |                  |                          |
| Mechanical operation                                |            |                  | cycles/h         | 3600                     |
| <b>Operating times</b>                              |            |                  |                  |                          |
| Average time for U <sub>s</sub> control             |            |                  |                  |                          |
| in AC                                               |            |                  |                  |                          |
|                                                     | Closing NO | min              | ms               | 8                        |
|                                                     |            | max              | ms               | 24                       |
|                                                     | Opening NO | min              | ms               | 5                        |
|                                                     |            | max              | ms               | 15                       |

|       |            |     |    |    |
|-------|------------|-----|----|----|
| in DC | Closing NC | min | ms | 9  |
|       |            | max | ms | 20 |
|       | Opening NC | min | ms | 9  |
|       |            | max | ms | 17 |
|       | Closing NO | min | ms | 54 |
|       |            | max | ms | 66 |
|       | Opening NO | min | ms | 14 |
|       |            | max | ms | 17 |

#### UL technical data

|                                                  |          |        |
|--------------------------------------------------|----------|--------|
| Rated operational voltage AC (UL)                | V        | 600    |
| Full-load current (FLA) for three-phase AC motor | at 480V  | A 27   |
|                                                  | at 600V  | A 27   |
| Yielded mechanical performance                   |          |        |
| for single-phase AC motor                        | 110/120V | HP 3   |
|                                                  | 230V     | HP 7.5 |
| for three-phase AC motor                         | 200/208V | HP 10  |
|                                                  | 220/230V | HP 10  |
|                                                  | 460/480V | HP 20  |
|                                                  | 575/600V | HP 25  |

#### General USE

|                                     |            |                       |    |     |
|-------------------------------------|------------|-----------------------|----|-----|
| Short-circuit protection fuse, 600V | High fault | Short circuit current | kA | 100 |
|                                     |            |                       |    |     |
| Standard fault                      |            | Fuse rating           | A  | 100 |
|                                     |            |                       |    |     |
|                                     |            | Fuse class            |    | J   |
|                                     |            |                       |    |     |
|                                     |            | Short circuit current | kA | 5   |
|                                     |            |                       |    |     |
|                                     |            | Fuse rating           | A  | 125 |
|                                     |            |                       |    |     |

#### Ambient conditions

##### Temperature

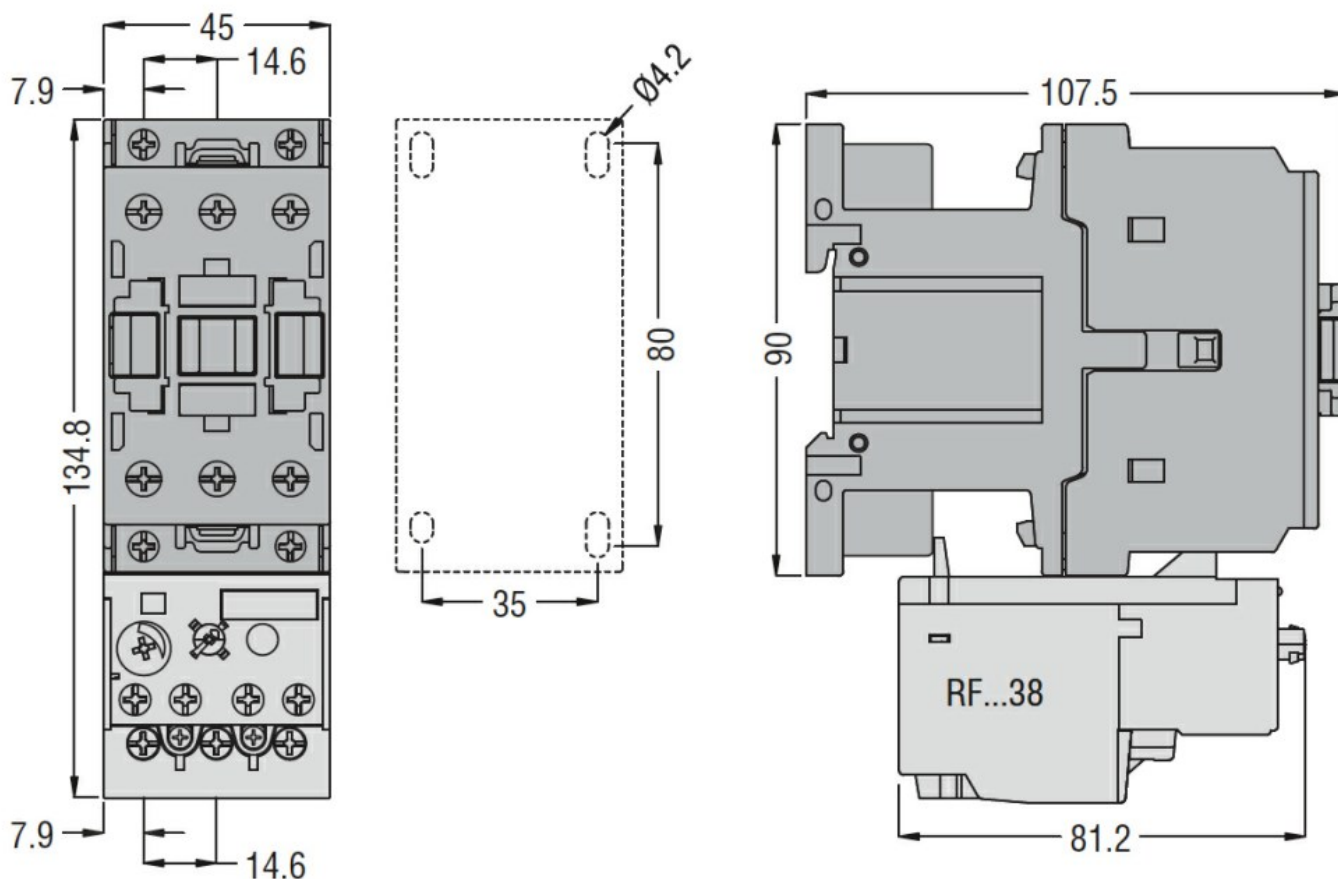
|                       |     |    |     |
|-----------------------|-----|----|-----|
| Operating temperature | min | °C | -50 |
|                       | max | °C | 70  |
| Storage temperature   | min | °C | -60 |
|                       | max | °C | 80  |

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

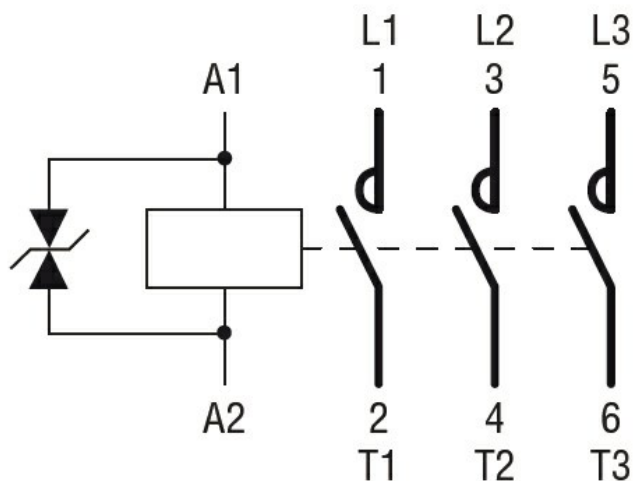
#### Resistance & Protection

|                  |   |
|------------------|---|
| 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

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cULus

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EAC

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching