



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 I <sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series      |                 |      |     |
|                                                                                  | ≤24V            | A    | —   |
|                                                                                  | 48V             | A    | —   |
|                                                                                  | 75V             | A    | —   |
|                                                                                  | 110V            | A    | —   |
|                                                                                  | 220V            | A    | —   |
| IEC max current I <sub>e</sub> 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 I <sub>e</sub> 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 I <sub>e</sub> 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 I <sub>e</sub> 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)                                       |                 |      |     |
|                                                                                  | I <sub>th</sub> | W    | 6   |
|                                                                                  | AC3             | W    | 2   |
| Tightening torque for terminals                                                  |                 |      |     |
|                                                                                  | min             | Nm   | 2.5 |
|                                                                                  | max             | Nm   | 3   |
|                                                                                  | min             | lbin | 1.8 |
|                                                                                  | max             | lbin | 2.2 |
| Tightening torque for coil terminal                                              |                 |      |     |
|                                                                                  | min             | Nm   | 0.8 |
|                                                                                  | max             | Nm   | 1   |
|                                                                                  | min             | lbin | 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 wired       |
| <b>Mechanical features</b>                          |                            |                  |                       |
| Operating position                                  | normal allowable           |                  | Vertical plan ±30°    |
| Fixing                                              |                            |                  | Screw / DIN rail 35mm |
| Weight                                              |                            | g                | 422                   |
| Conductor section                                   |                            |                  |                       |
| AWG/kcmil conductor section                         | max                        |                  | 6                     |
| <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 mechanical load | cycles           | 1600000               |
|                                                     |                            | cycles           | 20000000              |
| Mirror contacts according to IEC/EN 60947-4-1       |                            |                  | yes                   |
| EMC compatibility                                   |                            |                  | yes                   |
| <b>AC coil operating</b>                            |                            |                  |                       |
| Rated AC voltage at 60Hz                            |                            | V                | 460                   |
| AC operating voltage                                |                            |                  |                       |
| of 60Hz coil powered at 60Hz                        |                            |                  |                       |
| pick-up                                             | min                        | %U <sub>s</sub>  | 80                    |
|                                                     | max                        | %U <sub>s</sub>  | 110                   |
| drop-out                                            | min                        | %U <sub>s</sub>  | 20                    |
|                                                     | max                        | %U <sub>s</sub>  | 55                    |
| AC average coil consumption at 20°C                 |                            |                  |                       |
| of 60Hz coil powered at 60Hz                        | in-rush holding            | VA               | 75                    |
|                                                     |                            | VA               | 9                     |
| Dissipation at holding ≤20°C 50Hz                   |                            | W                | 2.5                   |
| <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 |

Closing NC

|     |    |    |
|-----|----|----|
| min | ms | 9  |
| max | ms | 20 |

Opening NC

|     |    |    |
|-----|----|----|
| min | ms | 9  |
| max | ms | 17 |

### UL technical data

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

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 55 |
|------------|---|----|

Short-circuit protection fuse, 600V

High fault

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

Standard fault

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

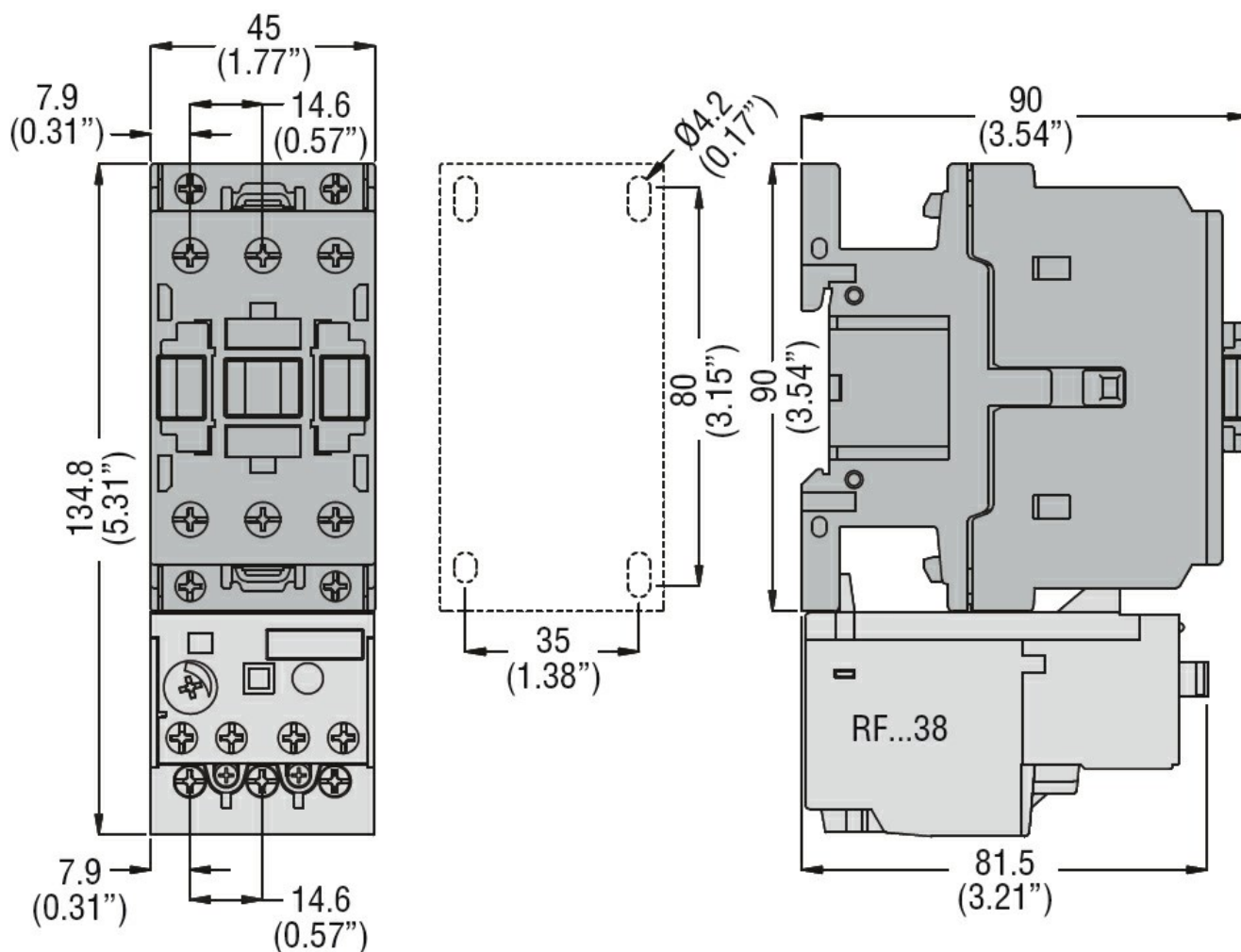
|   |      |
|---|------|
| m | 3000 |
|---|------|

### Resistance & Protection

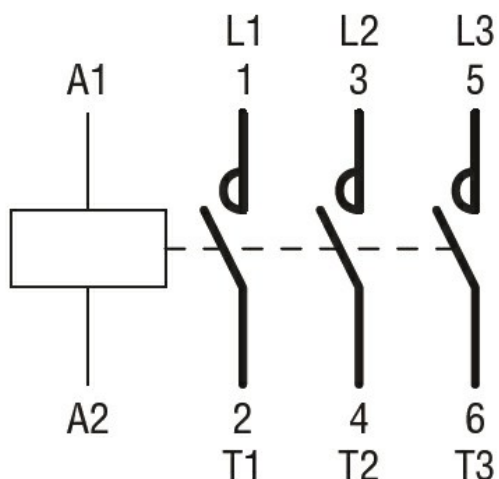
Pollution degree

3

### Dimensions



## Wiring diagrams



## Certifications and compliance

### Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN 60947-1

IEC/EN 60947-4-1

UL 60947-1

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UL 60947-4-1

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Certificates

CCC

cULus

EAC

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching