



|  |   |    |      |                 |
|--|---|----|------|-----------------|
| Product designation  |   |    |      | Power contactor |
| Product type designation   |   |    |      | BF32            |
| <b>Contact characteristics</b>   |   |    |      |                 |
| 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  |
| <hr/>  |                 |                  |     |
| 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                | –   |
| <hr/>  |                 |                  |     |
| 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                | –   |
| <hr/>  |                 |                  |     |
| 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   |
| <hr/>  |                 |                  |     |
| 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  |
| <hr/>  |                 |                  |     |
| 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                | –   |
| <hr/>  |                 |                  |     |
| Short-time allowable current for 10s (IEC/EN60947-1)                             |                 | A                | 320 |
| <hr/>  |                 |                  |     |
| Protection fuse  | gG (IEC)        | A                | 63  |
|  | aM (IEC)        | A                | 32  |
| <hr/>  |                 |                  |     |
| Making capacity (RMS value)  |                 | A                | 320 |
| <hr/>  |                 |                  |     |
| Breaking capacity at voltage   | 440V            | A                | 256 |
|  | 500V            | A                | 240 |
|  | 690V            | A                | 192 |
| <hr/>  |                 |                  |     |
| Resistance per pole (average value)  |                 | mΩ               | 2   |
| <hr/>  |                 |                  |     |
| Power dissipation per pole (average value)                                       | I <sub>th</sub> | W                | 6   |
|  | AC-3            | W                | 2   |
| <hr/>  |                 |                  |     |
| Tightening torque for terminals  | min             | Nm               | 2.5 |
|  | max             | Nm               | 3   |
|  | min             | I <sub>bin</sub> | 1.8 |
|  | max             | I <sub>bin</sub> | 2.2 |
| <hr/>  |                 |                  |     |
| Tightening torque for coil terminal  | min             | Nm               | 0.8 |
|  | max             | Nm               | 1   |
|  | min             | I <sub>bin</sub> | 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 |

**Mechanical features**

|                    |                             |                  |   |                       |
|--------------------|-----------------------------|------------------|---|-----------------------|
| Operating position |                             | normal allowable |   | Vertical plan ±30°    |
| Fixing             |                             |                  |   | Screw / DIN rail 35mm |
| Weight             |                             |                  | g | 554                   |
| Conductor section  | AWG/kcmil conductor section | max              |   | 6                     |

**Operations**

|                 |  |        |  |          |
|-----------------|--|--------|--|----------|
| Mechanical life |  | cycles |  | 20000000 |
| Electrical life |  | cycles |  | 1600000  |

**Safety related data**

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

**DC coil operating**

|                          |          |     |     |     |
|--------------------------|----------|-----|-----|-----|
| DC rated control voltage |          |     | V   | 24  |
| DC operating voltage     | pick-up  | min | %Us | 70  |
|                          |          | max | %Us | 125 |
|                          | drop-out | min | %Us | 10  |
|                          |          | max | %Us | 40  |

|                                |  |                 |   |     |
|--------------------------------|--|-----------------|---|-----|
| Average coil consumption ≤20°C |  | in-rush holding | W | 5.4 |
|                                |  |                 | W | 5.4 |

**Max cycles frequency**

|                      |  |          |  |      |
|----------------------|--|----------|--|------|
| Mechanical operation |  | cycles/h |  | 3600 |
|----------------------|--|----------|--|------|

**Operating times**

|   |       |            |  |  |
|---|-------|------------|--|--|
| 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 |
| <hr/> |            |     |    |    |
|       | in DC      |     |    |    |
|       |            |     |    |    |
|       | Closing NO |     |    |    |
|       |            | min | ms | 54 |
|       |            | max | ms | 66 |
|       | Opening NO |     |    |    |
|       |            | min | ms | 14 |
|       |            | 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

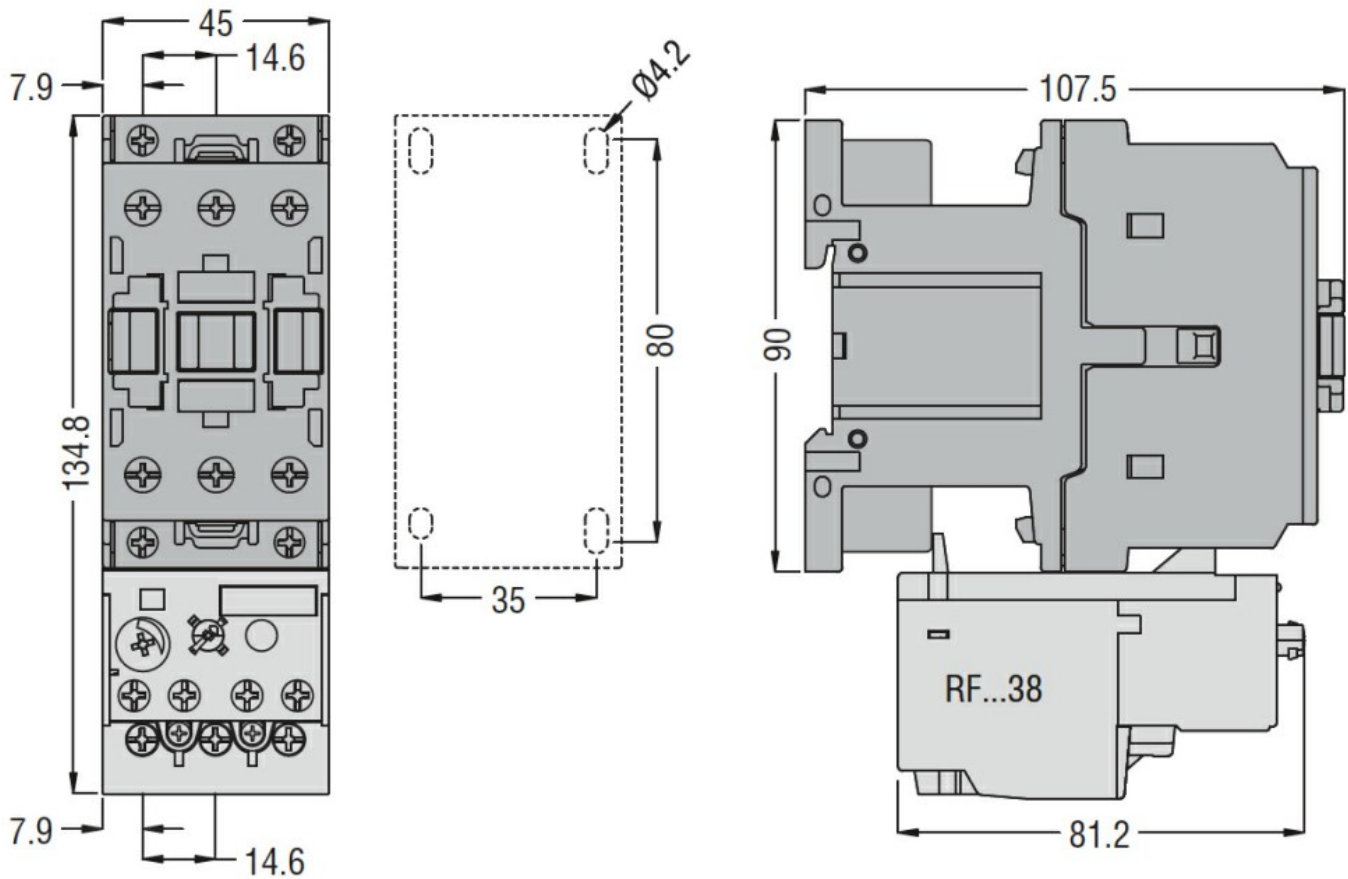
|   |      |
|---|------|
| m | 3000 |
|---|------|

**Resistance & Protection**

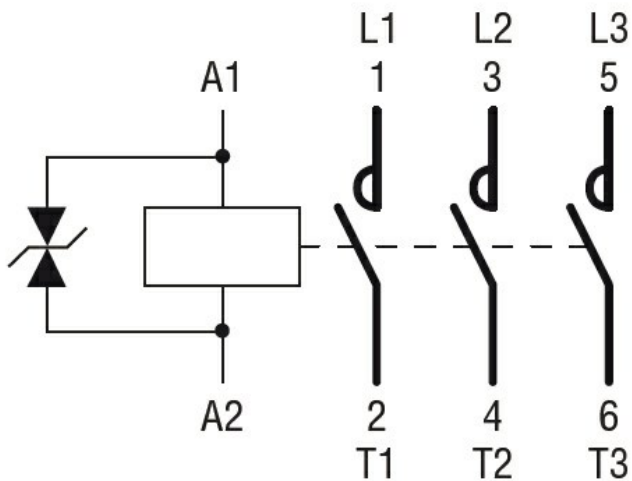
Pollution degree

3

**Dimensions**



**Wiring diagrams**



**Certifications and compliance**

**Compliance**

- CSA C22.2 n° 60947-1
- CSA C22.2 n° 60947-4-1
- IEC/EN/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