



**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 $I_{th} \leq 40^\circ C$      | A                                    | 25     |
| Operational current $I_e$   | AC-1 ( $\leq 40^\circ C$ )           | A 25   |
|   | AC-1 ( $\leq 55^\circ C$ )           | A 20   |
|   | AC-1 ( $\leq 70^\circ C$ )           | A 18   |
|   | AC-3 ( $\leq 440V \leq 55^\circ C$ ) | A 9    |
|   | AC-4 (400V)                          | A 4.9  |
| Rated operational power AC-3 ( $T \leq 55^\circ C$ )                    | 230V                                 | kW 2.2 |
|   | 400V                                 | kW 4.2 |
|   | 415V                                 | kW 4.5 |
|   | 440V                                 | kW 4.8 |
|   | 500V                                 | kW 5.5 |
|   | 690V                                 | kW 7.5 |
| Rated operational power AC-1 ( $T \leq 40^\circ C$ )                    | 230V                                 | kW 9.5 |
|   | 400V                                 | kW 16  |
|   | 500V                                 | kW 21  |
|   | 690V                                 | kW 27  |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 1 poles in series | $\leq 24V$                           | A 15   |
|   | 48V                                  | A 13   |
|   | 75V                                  | A 12   |
|   | 110V                                 | A 6    |
|   | 220V                                 | A -    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 2 poles in series | $\leq 24V$                           | A 18   |
|   | 48V                                  | A 18   |
|   | 75V                                  | A 17   |
|   | 110V                                 | A 12   |
|   | 220V                                 | A 1    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 3 poles in series | $\leq 24V$                           | A 20   |
|   | 48V                                  | A 20   |
|   | 75V                                  | A 20   |
|   | 110V                                 | A 15   |
|   | 220V                                 | A 10   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 4 poles in series |                                      |        |

|  |                 |                  |      |
|--|-----------------|------------------|------|
|  | ≤24V            | A                | 20   |
|  | 48V             | A                | 20   |
|  | 75V             | A                | 20   |
|  | 110V            | A                | 16   |
|  | 220V            | A                | 12   |
| <hr/>  |                 |                  |      |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series | ≤24V            | A                | 10   |
|  | 48V             | A                | 9    |
|  | 75V             | A                | 8    |
|  | 110V            | A                | 2    |
|  | 220V            | A                | –    |
| <hr/>  |                 |                  |      |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series | ≤24V            | A                | 13   |
|  | 48V             | A                | 11   |
|  | 75V             | A                | 10   |
|  | 110V            | A                | 7    |
|  | 220V            | A                | 2    |
| <hr/>  |                 |                  |      |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series | ≤24V            | A                | 15   |
|  | 48V             | A                | 15   |
|  | 75V             | A                | 13   |
|  | 110V            | A                | 11   |
|  | 220V            | A                | 6    |
| <hr/>  |                 |                  |      |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series | ≤24V            | A                | 15   |
|  | 48V             | A                | 15   |
|  | 75V             | A                | 15   |
|  | 110V            | A                | 12   |
|  | 220V            | A                | 7    |
| <hr/>  |                 |                  |      |
| Short-time allowable current for 10s (IEC/EN60947-1)                             |                 | A                | 150  |
| <hr/>  |                 |                  |      |
| Protection fuse  | gG (IEC)        | A                | 25   |
|  | aM (IEC)        | A                | 10   |
| <hr/>  |                 |                  |      |
| Making capacity (RMS value)  |                 | A                | 90   |
| <hr/>  |                 |                  |      |
| Breaking capacity at voltage   | 440V            | A                | 72   |
|  | 500V            | A                | 72   |
|  | 690V            | A                | 71   |
| <hr/>  |                 |                  |      |
| Resistance per pole (average value)  |                 | mΩ               | 2.5  |
| <hr/>  |                 |                  |      |
| Power dissipation per pole (average value)                                       | I <sub>th</sub> | W                | 1.6  |
|  | AC-3            | W                | 0.2  |
| <hr/>  |                 |                  |      |
| Tightening torque for terminals  | min             | Nm               | 1.5  |
|  | max             | Nm               | 1.8  |
|  | min             | I <sub>bin</sub> | 1.1  |
|  | max             | I <sub>bin</sub> | 1.5  |
| <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 |
| <hr/>  |                 |                  |      |
| Max number of wires simultaneously connectable                                   |                 | Nr.              | 2    |

|   |                  |        |                          |
|---|------------------|--------|--------------------------|
| Conductor section                                     |                  |        |                          |
| AWG/Kcmil   |                  | max    | 10                       |
| Flexible w/o lug conductor section                    |                  |        |                          |
|   |                  | min    | mm <sup>2</sup> 1        |
|   |                  | max    | mm <sup>2</sup> 6        |
| Flexible c/w lug conductor section                    |                  |        |                          |
|   |                  | min    | mm <sup>2</sup> 1        |
|   |                  | max    | mm <sup>2</sup> 4        |
| Flexible with insulated spade lug conductor section   |                  |        |                          |
|   |                  | min    | mm <sup>2</sup> 1        |
|   |                  | max    | mm <sup>2</sup> 6        |
| Power terminal protection according to IEC/EN 60529   |                  |        | IP20 when properly wired |
| Cable stripping length                                |                  |        |                          |
|   | main circuit     | mm     | 10                       |
|   | command circuit  | mm     | 8                        |
| <b>Mechanical features</b>                            |                  |        |                          |
| Operating position                                    |                  |        |                          |
|   | normal allowable |        | Vertical plan ±30°       |
| Fixing  |                  |        | Screw / DIN rail 35mm    |
| Weight  |                  |        | g 356                    |
| <b>Auxiliary contact characteristics</b>              |                  |        |                          |
| Thermal current I <sub>th</sub>                       |                  |        | A 10                     |
| IEC/EN 60947-5-1 designation                          |                  |        | A600 - P600              |
| Operating current AC15                                |                  |        |                          |
|   | 230V             | A      | 3                        |
|   | 400V             | A      | 1.9                      |
|   | 500V             | A      | 1.4                      |
| Operating current DC12                                |                  |        |                          |
|   | 110V             | A      | 5.7                      |
| Operating current DC13                                |                  |        |                          |
|   | 24V              | A      | 5.7                      |
|   | 48V              | A      | 2.9                      |
|   | 60V              | A      | 2.3                      |
|   | 110V             | A      | 1.25                     |
|   | 125V             | A      | 1.1                      |
|   | 220V             | A      | 0.55                     |
|   | 600V             | A      | 0.2                      |
| <b>Operations</b>                                     |                  |        |                          |
| Mechanical life                                       |                  |        | cycles 20000000          |
| Electrical life                                       |                  |        | cycles 2000000           |
| <b>Safety related data</b>                            |                  |        |                          |
| Performance level B10d according to EN/ISO 13489-1    |                  |        |                          |
|   | rated load       | cycles | 2000000                  |
|   | mechanical load  | cycles | 20000000                 |
| Mirror contacts according to IEC/EN 60947-4-1 annex F |                  |        | Yes                      |
| EMC compatibility                                     |                  |        | yes                      |
| <b>AC coil operating</b>                              |                  |        |                          |
| Rated AC voltage at 50/60Hz                           |                  |        | V 230                    |
| AC operating voltage                                  |                  |        |                          |

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, AC COIL 50/60HZ, 230VAC, 1NC AUXILIARY CONTACT WITH MIRROR CONTACT FUNCTION

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 | 20 |
| max | %Us | 55 |

AC average coil consumption at 20°C

of 50/60Hz coil powered at 50Hz

|         |    |    |
|---------|----|----|
| in-rush | VA | 75 |
| holding | VA | 9  |

of 50/60Hz coil powered at 60Hz

|         |    |     |
|---------|----|-----|
| in-rush | VA | 70  |
| holding | VA | 6.5 |

of 60Hz coil powered at 60Hz

|         |    |    |
|---------|----|----|
| in-rush | VA | 75 |
| holding | VA | 9  |

Dissipation at holding ≤20°C 50Hz

|   |     |
|---|-----|
| W | 2.5 |
|---|-----|

Max cycles frequency

Mechanical operation

|          |      |
|----------|------|
| cycles/h | 3600 |
|----------|------|

Operating times

Average time for Us control

in AC

Closing NO

|     |    |    |
|-----|----|----|
| min | ms | 8  |
| max | ms | 24 |

Opening NO

|     |    |    |
|-----|----|----|
| min | ms | 10 |
| max | ms | 20 |

Closing NC

|     |    |    |
|-----|----|----|
| min | ms | 14 |
| max | ms | 28 |

Opening NC

|     |    |    |
|-----|----|----|
| min | ms | 7  |
| max | ms | 18 |

UL technical data

Rated operational voltage AC (UL)

|   |     |
|---|-----|
| V | 600 |
|---|-----|

Full-load current (FLA) for three-phase AC motor

|         |   |     |
|---------|---|-----|
| at 480V | A | 7.6 |
| at 600V | A | 9   |

Yielded mechanical performance

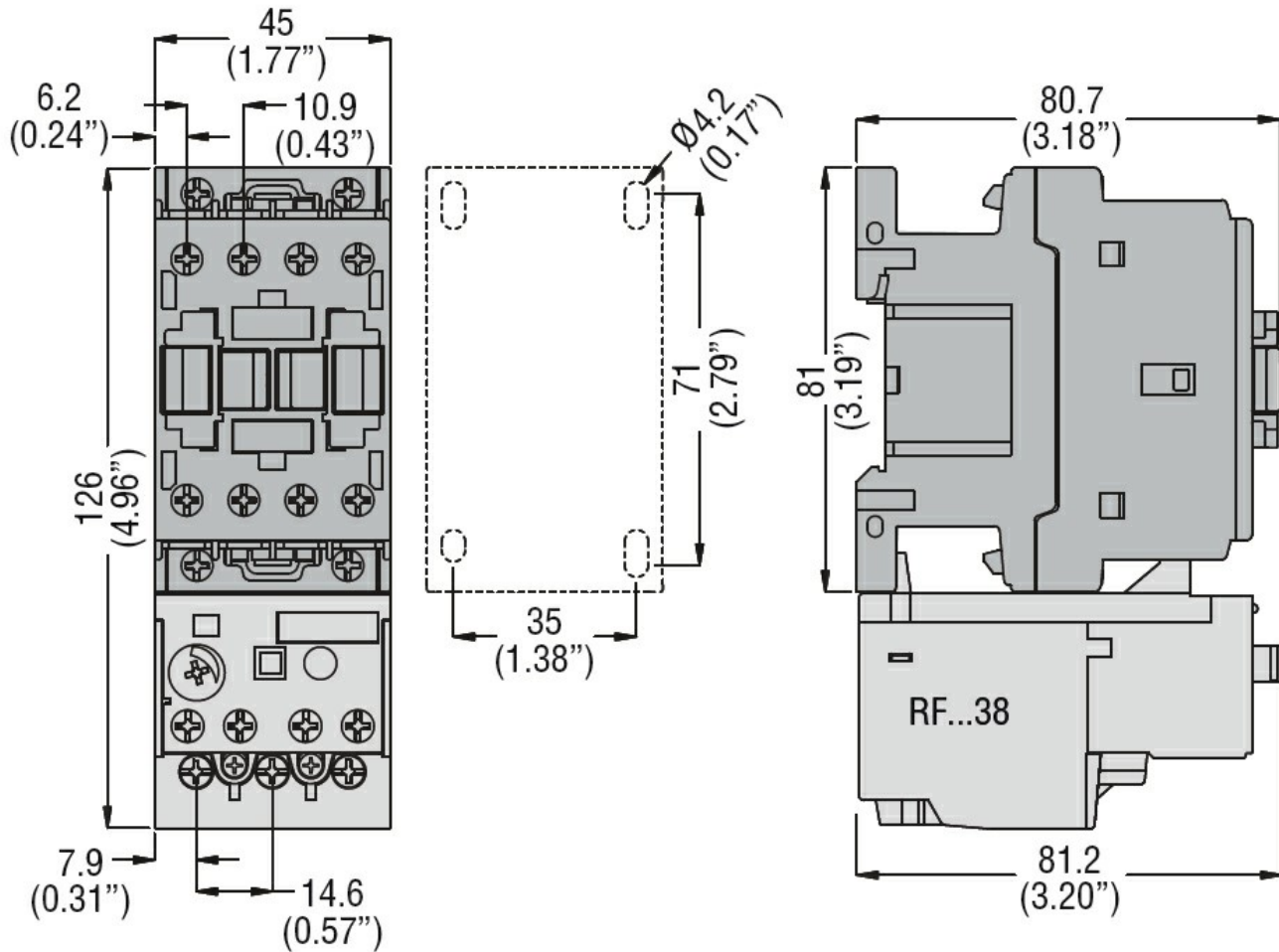
for single-phase AC motor

|          |    |      |
|----------|----|------|
| 110/120V | HP | 0.75 |
| 230V     | HP | 2    |

for three-phase AC motor

|          |    |   |
|----------|----|---|
| 200/208V | HP | 3 |
| 220/240V | HP | 3 |

|  |                       |                       |    |             |
|--|-----------------------|-----------------------|----|-------------|
|  |                       | 460/480V              | HP | 5           |
|  |                       | 575/600V              | HP | 7.5         |
| <b>General USE</b>                                   |                       |                       |    |             |
|  | Contactor             | AC current            | A  | 25          |
|  | Auxiliary contacts    | AC voltage            | V  | 600         |
|  |                       | AC current            | A  | 10          |
|  |                       | DC voltage            | V  | 250         |
|  |                       | DC current            | A  | 1           |
| <b>Short-circuit protection fuse, 600V</b>           |                       |                       |    |             |
|  | High fault            | Short circuit current | kA | 100         |
|  |                       | Fuse rating           | A  | 30          |
|  |                       | Fuse class            |    | J           |
|  | Standard fault        | Short circuit current | kA | 5           |
|  |                       | Fuse rating           | A  | 60          |
| Contact rating of auxiliary contacts according to UL |                       |                       |    | A600 - P600 |
| <b>Ambient conditions</b>                            |                       |                       |    |             |
| <b>Temperature</b>                                   |                       |                       |    |             |
|  | Operating temperature | min                   | °C | -50         |
|  |                       | max                   | °C | 70          |
|  | Storage temperature   | min                   | °C | -60         |
|  |                       | max                   | °C | 80          |
| Max altitude   |                       |                       |    | m 3000      |
| <b>Resistance &amp; Protection</b>                   |                       |                       |    |             |
| Pollution degree                                     |                       |                       |    | 3           |
| <b>Dimensions</b>                                    |                       |                       |    |             |



**Wiring diagrams**



**Certifications and compliance**

Compliance

- CSA C22.2 n° 60947-1
- CSA C22.2 n° 60947-4-1
- IEC/EN 60335-2-89
- IEC/EN/BS 60947-1
- IEC/EN/BS 60947-4-1
- UL 60947-1
- UL 60947-4-1

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Certificates

CCC

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CSA C22.2 n. 60335-2-40:22 LZGH A2L

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CSA C22.2 No. 60335-2-89:21 LZGH A2L

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cULus

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EAC

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UL 60335-2-40 LZGH A2L

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UL 60335-2-89 LZGH A2L

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ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching