



### 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 $I_{th} \leq 40^\circ\text{C}$       | A                                                 | 32     |
| Operational current $I_e$                                                      | AC-1 ( $\leq 40^\circ\text{C}$ )                  | A 32   |
|                                                                                | AC-1 ( $\leq 55^\circ\text{C}$ )                  | A 26   |
|                                                                                | AC-1 ( $\leq 70^\circ\text{C}$ )                  | A 23   |
|                                                                                | AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ ) | A 18   |
|                                                                                | AC-4 (400V)                                       | A 8.5  |
| Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )                     | 230V                                              | kW 4   |
|                                                                                | 400V                                              | kW 7.5 |
|                                                                                | 415V                                              | kW 9   |
|                                                                                | 440V                                              | kW 9   |
|                                                                                | 500V                                              | kW 10  |
|                                                                                | 690V                                              | kW 10  |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )                     | 230V                                              | kW 12  |
|                                                                                | 400V                                              | kW 21  |
|                                                                                | 500V                                              | kW 26  |
|                                                                                | 690V                                              | kW 36  |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$                                 | A 17   |
|                                                                                | 48V                                               | A 15   |
|                                                                                | 75V                                               | A 15   |
|                                                                                | 110V                                              | A 6    |
|                                                                                | 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 20   |
|                                                                                | 48V                                               | A 20   |
|                                                                                | 75V                                               | A 20   |
|                                                                                | 110V                                              | A 13   |
|                                                                                | 220V                                              | A 1    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series | $\leq 24\text{V}$                                 | A 22   |
|                                                                                | 48V                                               | A 22   |
|                                                                                | 75V                                               | A 20   |
|                                                                                | 110V                                              | A 16   |
|                                                                                | 220V                                              | A 11   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series |                                                   |        |

|                                                                                  |                 |                  |      |
|----------------------------------------------------------------------------------|-----------------|------------------|------|
|                                                                                  | ≤24V            | A                | 22   |
|                                                                                  | 48V             | A                | 22   |
|                                                                                  | 75V             | A                | 20   |
|                                                                                  | 110V            | A                | 18   |
|                                                                                  | 220V            | A                | 13   |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |                 |                  |      |
|                                                                                  | ≤24V            | A                | 12   |
|                                                                                  | 48V             | A                | 11   |
|                                                                                  | 75V             | A                | 11   |
|                                                                                  | 110V            | A                | 2    |
|                                                                                  | 220V            | A                | –    |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |                 |                  |      |
|                                                                                  | ≤24V            | A                | 15   |
|                                                                                  | 48V             | A                | 13   |
|                                                                                  | 75V             | A                | 13   |
|                                                                                  | 110V            | A                | 8    |
|                                                                                  | 220V            | A                | 2    |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |                 |                  |      |
|                                                                                  | ≤24V            | A                | 18   |
|                                                                                  | 48V             | A                | 18   |
|                                                                                  | 75V             | A                | 16   |
|                                                                                  | 110V            | A                | 12   |
|                                                                                  | 220V            | A                | 6    |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |                 |                  |      |
|                                                                                  | ≤24V            | A                | 18   |
|                                                                                  | 48V             | A                | 18   |
|                                                                                  | 75V             | A                | 16   |
|                                                                                  | 110V            | A                | 13   |
|                                                                                  | 220V            | A                | 8    |
| Short-time allowable current for 10s (IEC/EN60947-1)                             |                 | A                | 200  |
| Protection fuse                                                                  |                 |                  |      |
|                                                                                  | gG (IEC)        | A                | 32   |
|                                                                                  | aM (IEC)        | A                | 20   |
| Making capacity (RMS value)                                                      |                 | A                | 180  |
| Breaking capacity at voltage                                                     |                 |                  |      |
|                                                                                  | 440V            | A                | 144  |
|                                                                                  | 500V            | A                | 120  |
|                                                                                  | 690V            | A                | 94   |
| Resistance per pole (average value)                                              |                 | mΩ               | 2.5  |
| Power dissipation per pole (average value)                                       |                 |                  |      |
|                                                                                  | I <sub>th</sub> | W                | 2.6  |
|                                                                                  | AC-3            | W                | 0.8  |
| 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  |
| 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              |                 | 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> | 4                        |
| Power terminal protection according to IEC/EN 60529  |           |                  |                 | IP20 when properly wired |
| Cable stripping lenght                               |           | 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               | 364                      |
| <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          | 1600000                  |
| <b>Safety related data</b>                           |           |                  |                 |                          |
| Performance level B10d according to EN/ISO 13489-1   |           | rated load       | cycles          | 1600000                  |
|                                                      |           | mechanical load  | cycles          | 20000000                 |
| Mirror contats 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               | 48                       |
| AC operating voltage                                 |           |                  |                 |                          |

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 18A, AC COIL 50/60HZ, 48VAC, 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 | 14 |
| at 600V | A | 17 |

Yielded mechanical performance

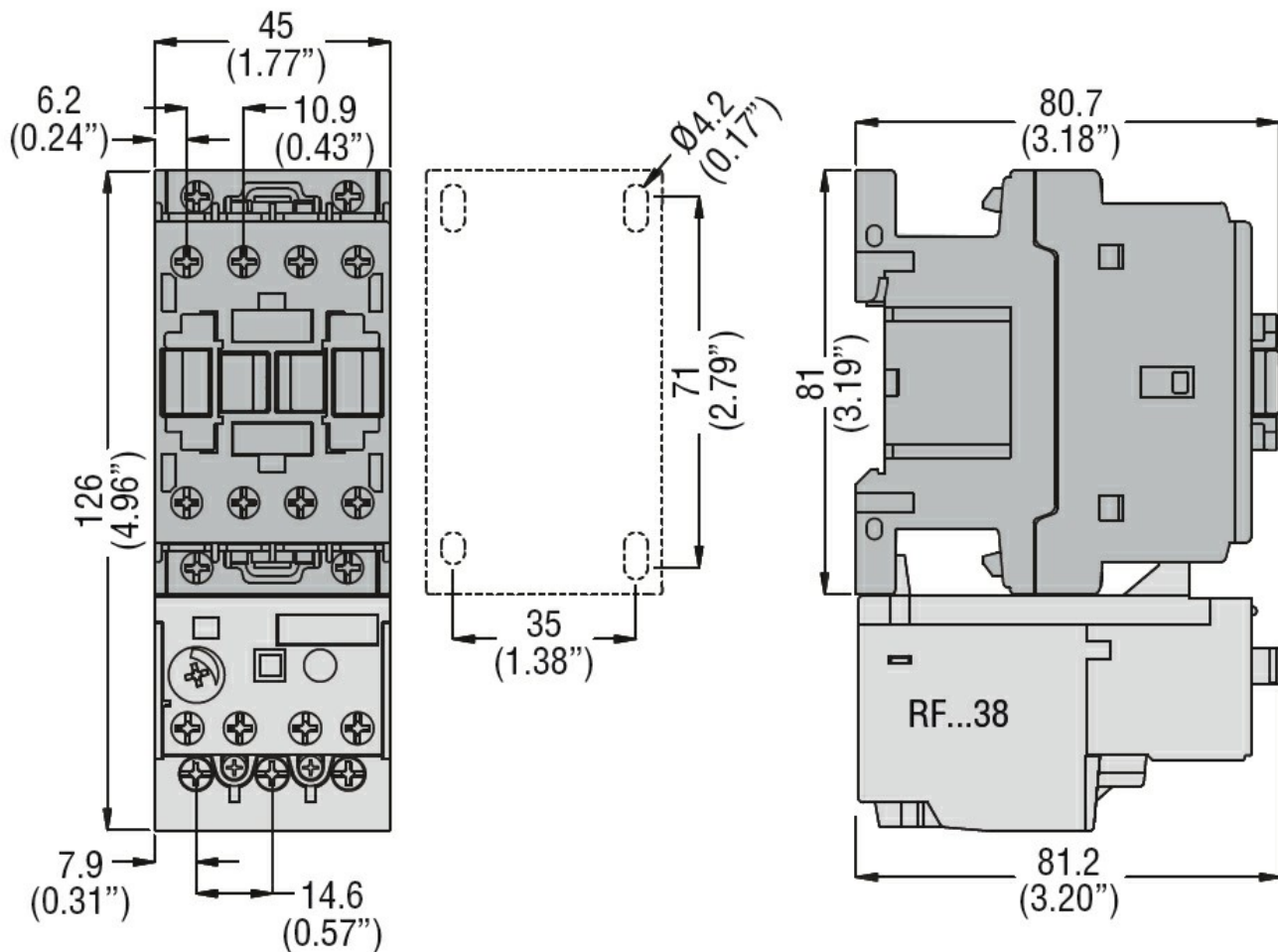
for single-phase AC motor

|          |    |   |
|----------|----|---|
| 110/120V | HP | 1 |
| 230V     | HP | 3 |

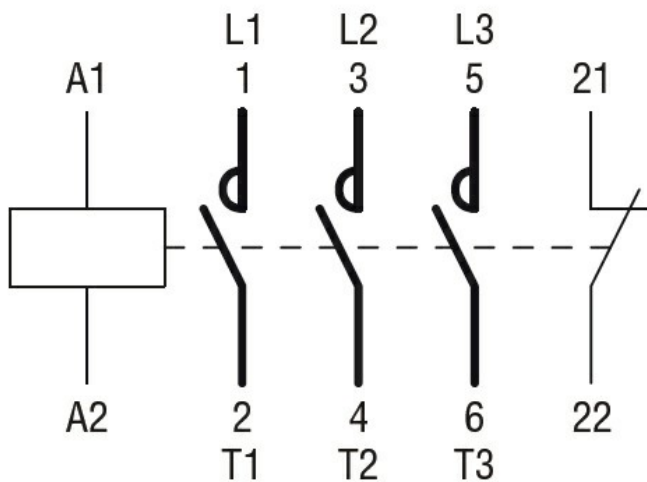
for three-phase AC motor

|          |    |   |
|----------|----|---|
| 200/208V | HP | 5 |
| 220/240V | HP | 5 |

|                                                      |  |                       |    |             |
|------------------------------------------------------|--|-----------------------|----|-------------|
|                                                      |  | 460/480V              | HP | 10          |
|                                                      |  | 575/600V              | HP | 15          |
| General USE                                          |  |                       |    |             |
| Contactor                                            |  | AC current            | A  | 32          |
| Auxiliary contacts                                   |  | AC voltage            | V  | 600         |
|                                                      |  | AC current            | A  | 10          |
|                                                      |  | DC voltage            | V  | 250         |
|                                                      |  | DC current            | A  | 1           |
| Short-circuit protection fuse, 600V                  |  |                       |    |             |
| High fault                                           |  | Short circuit current | kA | 100         |
|                                                      |  | Fuse rating           | A  | 60          |
|                                                      |  | Fuse class            |    | J           |
| Standard fault                                       |  | Short circuit current | kA | 5           |
|                                                      |  | Fuse rating           | A  | 80          |
| Contact rating of auxiliary contacts according to UL |  |                       |    | A600 - P600 |
| 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 60335-2-89

IEC/EN/BS 60947-1

IEC/EN/BS 60947-4-1

UL 60947-1

UL 60947-4-1

Certificates

CCC

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

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

cULus

EAC

UL 60335-2-40 LZGH A2L

UL 60335-2-89 LZGH A2L

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching