

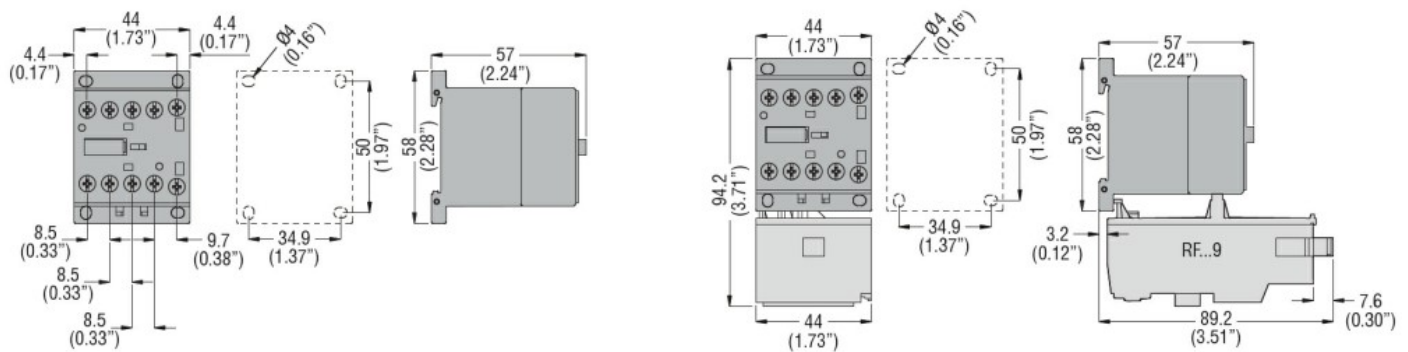


### Contact characteristics

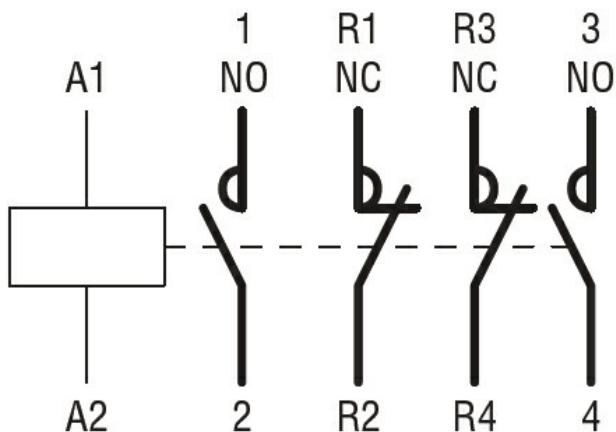
|                                                            |                                                    |        |
|------------------------------------------------------------|----------------------------------------------------|--------|
| Number of poles                                            | Nr.                                                | 4      |
| 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 |
| Operational current $I_e$                                  | AC-1 ( $\leq 40^\circ\text{C}$ )                   | A 20   |
|                                                            | AC-1 ( $\leq 55^\circ\text{C}$ )                   | A 18   |
|                                                            | AC-1 ( $\leq 70^\circ\text{C}$ )                   | A 15   |
|                                                            | AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ ) | A 9    |
|                                                            | AC-4 (400V)                                        | A 4    |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ ) | 230V                                               | kW 8   |
|                                                            | 400V                                               | kW 14  |
|                                                            | 500V                                               | kW 16  |
|                                                            | 690V                                               | kW 22  |
| Short-time allowable current for 10s (IEC/EN60947-1)       | A                                                  | 96     |
| Protection fuse                                            | gG (IEC)                                           | A 20   |
|                                                            | aM (IEC)                                           | A 10   |
| Making capacity (RMS value)                                | A                                                  | 92     |
| Breaking capacity at voltage                               | 440V                                               | A 72   |
|                                                            | 500V                                               | A 72   |
|                                                            | 690V                                               | A 72   |
| Resistance per pole (average value)                        | m $\Omega$                                         | 10     |
| Power dissipation per pole (average value)                 | $I_{th}$                                           | W 4    |
|                                                            | AC-3                                               | W 0.81 |
| Tightening torque for terminals                            | min                                                | Nm 0.8 |
|                                                            | max                                                | Nm 1   |
|                                                            | min                                                | lbin 9 |
|                                                            | max                                                | lbin 9 |
| Tightening torque for coil terminal                        | min                                                | Nm 0.8 |
|                                                            | max                                                | Nm 1   |
|                                                            | min                                                | lbin 9 |
|                                                            | max                                                | lbin 9 |
| Max number of wires simultaneously connectable             | Nr.                                                | 2      |
| Conductor section                                          | AWG/Kcmil                                          |        |
|                                                            | max                                                | 12     |

|                                                     |                  |                 |                          |
|-----------------------------------------------------|------------------|-----------------|--------------------------|
| Flexible w/o lug conductor section                  |                  |                 |                          |
|                                                     | min              | mm <sup>2</sup> | 0.75                     |
|                                                     | max              | mm <sup>2</sup> | 2.5                      |
| Flexible c/w lug conductor section                  |                  |                 |                          |
|                                                     | min              | mm <sup>2</sup> | 1.5                      |
|                                                     | max              | mm <sup>2</sup> | 2.5                      |
| Flexible with insulated spade lug conductor section |                  |                 |                          |
|                                                     | min              | mm <sup>2</sup> | 1.5                      |
|                                                     | max              | mm <sup>2</sup> | 2.5                      |
| 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               | 222                      |
| <b>Auxiliary contact characteristics</b>            |                  |                 |                          |
| Thermal current I <sub>th</sub>                     |                  | A               | 10                       |
| <b>Operations</b>                                   |                  |                 |                          |
| Mechanical life                                     |                  | cycles          | 20000000                 |
| Electrical life                                     |                  | cycles          | 500000                   |
| <b>Safety related data</b>                          |                  |                 |                          |
| Performance level B10d according to EN/ISO 13489-1  |                  |                 |                          |
|                                                     | rated load       | cycles          | 500000                   |
|                                                     | mechanical load  | cycles          | 20000000                 |
| EMC compatibility                                   |                  |                 | yes                      |
| <b>DC coil operating</b>                            |                  |                 |                          |
| DC rated control voltage                            |                  | V               | 110                      |
| DC operating voltage                                |                  |                 |                          |
| pick-up                                             | min              | %Us             | 75                       |
|                                                     | max              | %Us             | 115                      |
| drop-out                                            | min              | %Us             | 10                       |
|                                                     | max              | %Us             | 25                       |
| Average coil consumption ≤20°C                      |                  |                 |                          |
|                                                     | in-rush          | W               | 3.2                      |
|                                                     | holding          | W               | 3.2                      |
| <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              | 12                       |
|                                                     | max              | ms              | 21                       |
| Opening NO                                          |                  |                 |                          |
|                                                     | min              | ms              | 9                        |
|                                                     | max              | ms              | 18                       |
| Closing NC                                          |                  |                 |                          |
|                                                     | min              | ms              | 17                       |
|                                                     | max              | ms              | 26                       |

|                                                  |  |            |     |    |      |
|--------------------------------------------------|--|------------|-----|----|------|
|                                                  |  | Opening NC | min | ms | 7    |
|                                                  |  |            | max | ms | 17   |
| in DC                                            |  |            |     |    |      |
|                                                  |  | Closing NO | min | ms | 18   |
|                                                  |  |            | max | ms | 25   |
|                                                  |  | Opening NO | min | ms | 2    |
|                                                  |  |            | max | ms | 3    |
|                                                  |  | Closing NC | min | ms | 3    |
|                                                  |  |            | max | ms | 5    |
|                                                  |  | Opening NC | min | ms | 11   |
|                                                  |  |            | 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   |    | 7.6  |
|                                                  |  | at 600V    | A   |    | 6.1  |
| Yielded mechanical performance                   |  |            |     |    |      |
| for single-phase AC motor                        |  |            |     |    |      |
|                                                  |  | 110/120V   | HP  |    | 0.5  |
|                                                  |  | 230V       | HP  |    | 1.5  |
| for three-phase AC motor                         |  |            |     |    |      |
|                                                  |  | 200/208V   | HP  |    | 2    |
|                                                  |  | 220/240V   | HP  |    | 3    |
|                                                  |  | 460/480V   | HP  |    | 5    |
|                                                  |  | 575/600V   | HP  |    | 5    |
| General USE                                      |  |            |     |    |      |
| Contactor                                        |  |            |     |    |      |
|                                                  |  | AC current | A   |    | 20   |
| 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 60947-1

IEC/EN 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