



### 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               | 180                      |
| <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>AC coil operating</b>                            |                  |                 |                          |
| Rated AC voltage at 60Hz                            |                  | V               | 48                       |
| AC operating voltage                                |                  |                 |                          |
| of 60Hz coil powered at 60Hz                        |                  |                 |                          |
| pick-up                                             |                  |                 |                          |
|                                                     | min              | %U <sub>s</sub> | 75                       |
|                                                     | max              | %U <sub>s</sub> | 115                      |
| drop-out                                            |                  |                 |                          |
|                                                     | min              | %U <sub>s</sub> | 20                       |
|                                                     | max              | %U <sub>s</sub> | 55                       |
| AC average coil consumption at 20°C                 |                  |                 |                          |
| of 50/60Hz coil powered at 50Hz                     |                  |                 |                          |
|                                                     | in-rush          | VA              | 30                       |
|                                                     | holding          | VA              | 4                        |
| of 50/60Hz coil powered at 60Hz                     |                  |                 |                          |
|                                                     | in-rush          | VA              | 25                       |
|                                                     | holding          | VA              | 3                        |
| of 60Hz coil powered at 60Hz                        |                  |                 |                          |
|                                                     | in-rush          | VA              | 30                       |
|                                                     | holding          | VA              | 4                        |
| Dissipation at holding ≤20°C 50Hz                   |                  | W               | 0.95                     |
| <b>Max cycles frequency</b>                         |                  |                 |                          |
| Mechanical operation                                |                  | cycles/h        | 3600                     |
| <b>Operating times</b>                              |                  |                 |                          |
| Average time for U <sub>s</sub> control             |                  |                 |                          |
| in AC                                               |                  |                 |                          |

|       |            |     |    |    |
|-------|------------|-----|----|----|
| in DC | 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 |
|       | 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

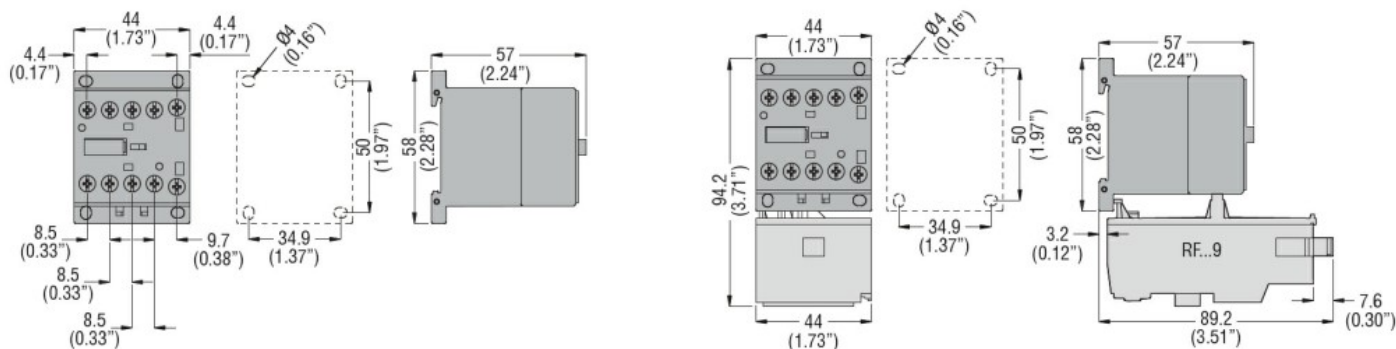
|     |    |     |
|-----|----|-----|
| min | °C | -60 |
| max | °C | +80 |

|              |   |      |
|--------------|---|------|
| Max altitude | m | 3000 |
|--------------|---|------|

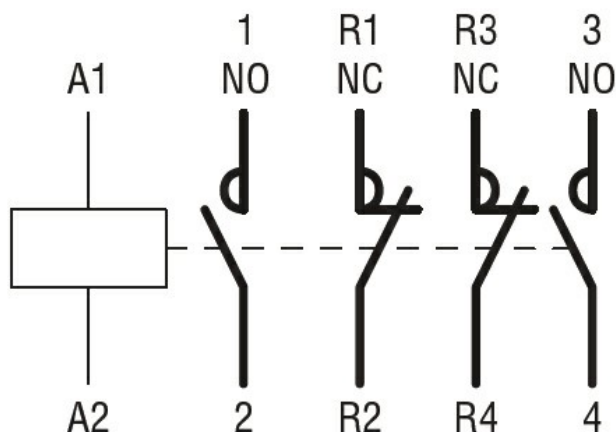
#### Resistance & Protection

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