



#### Contact characteristics

|                                                                                |                                                   |        |
|--------------------------------------------------------------------------------|---------------------------------------------------|--------|
| Number of poles                                                                | Nr.                                               | 3      |
| Rated insulation voltage $U_i$ IEC/EN                                          | V                                                 | 1000   |
| Rated impulse withstand voltage $U_{imp}$                                      | kV                                                | 8      |
| Operational frequency                                                          | min                                               | Hz 25  |
|                                                                                | max                                               | Hz 400 |
| IEC Conventional free air thermal current $I_{th} \leq 40^\circ\text{C}$       | A                                                 | 90     |
| Operational current $I_e$                                                      | AC-1 ( $\leq 40^\circ\text{C}$ )                  | A 90   |
|                                                                                | AC-1 ( $\leq 55^\circ\text{C}$ )                  | A 75   |
|                                                                                | AC-1 ( $\leq 70^\circ\text{C}$ )                  | A 65   |
|                                                                                | AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ ) | A 50   |
|                                                                                | AC-4 (400V)                                       | A 28   |
| Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )                     | 230V                                              | kW 11  |
|                                                                                | 400V                                              | kW 22  |
|                                                                                | 415V                                              | kW 22  |
|                                                                                | 440V                                              | kW 22  |
|                                                                                | 500V                                              | kW 22  |
|                                                                                | 690V                                              | kW 30  |
|                                                                                | 1000V                                             | kW 22  |
| Rated operational current AC-3 ( $T \leq 55^\circ\text{C}$ )                   | 230V                                              | A 50   |
|                                                                                | 400V                                              | A 50   |
|                                                                                | 415V                                              | A 50   |
|                                                                                | 440V                                              | A 50   |
|                                                                                | 500V                                              | A 44   |
|                                                                                | 690V                                              | A 39   |
|                                                                                | 1000V                                             | A 23   |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )                     | 230V                                              | kW 34  |
|                                                                                | 400V                                              | kW 59  |
|                                                                                | 500V                                              | kW 74  |
|                                                                                | 690V                                              | kW 102 |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$                                 | A 45   |
|                                                                                | 48V                                               | A 40   |
|                                                                                | 75V                                               | A 40   |
|                                                                                | 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 60   |
|                                                                                | 48V                                               | A 60   |
|                                                                                | 75V                                               | A 60   |

|                                                                      |          |    |     |
|----------------------------------------------------------------------|----------|----|-----|
|                                                                      | 110V     | A  | 50  |
|                                                                      | 220V     | A  | 7   |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series      |          |    |     |
|                                                                      | ≤24V     | A  | 60  |
|                                                                      | 48V      | A  | 60  |
|                                                                      | 75V      | A  | 60  |
|                                                                      | 110V     | A  | 55  |
|                                                                      | 220V     | A  | 75  |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series      |          |    |     |
|                                                                      | ≤24V     | A  | 60  |
|                                                                      | 48V      | A  | 60  |
|                                                                      | 75V      | A  | 60  |
|                                                                      | 110V     | A  | 60  |
|                                                                      | 220V     | A  | 90  |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |          |    |     |
|                                                                      | ≤24V     | A  | 30  |
|                                                                      | 48V      | A  | 25  |
|                                                                      | 75V      | A  | 22  |
|                                                                      | 110V     | A  | 3   |
|                                                                      | 220V     | A  | –   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |          |    |     |
|                                                                      | ≤24V     | A  | 35  |
|                                                                      | 48V      | A  | 35  |
|                                                                      | 75V      | A  | 30  |
|                                                                      | 110V     | A  | 25  |
|                                                                      | 220V     | A  | 5   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |          |    |     |
|                                                                      | ≤24V     | A  | 50  |
|                                                                      | 48V      | A  | 50  |
|                                                                      | 75V      | A  | 45  |
|                                                                      | 110V     | A  | 30  |
|                                                                      | 220V     | A  | 40  |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |          |    |     |
|                                                                      | ≤24V     | A  | 55  |
|                                                                      | 48V      | A  | 55  |
|                                                                      | 75V      | A  | 55  |
|                                                                      | 110V     | A  | 45  |
|                                                                      | 220V     | A  | 50  |
| Short-time allowable current for 10s (IEC/EN60947-1)                 |          | A  | 400 |
| Protection fuse                                                      |          |    |     |
|                                                                      | gG (IEC) | A  | 100 |
|                                                                      | aM (IEC) | A  | 50  |
| Making capacity (RMS value)                                          |          | A  | 500 |
| Breaking capacity at voltage                                         |          |    |     |
|                                                                      | 440V     | A  | 400 |
|                                                                      | 500V     | A  | 352 |
|                                                                      | 690V     | A  | 312 |
| Resistance per pole (average value)                                  |          | mΩ | 0.8 |
| Power dissipation per pole (average value)                           |          |    |     |
|                                                                      | Ith      | W  | 6.5 |
|                                                                      | AC-3     | W  | 2   |
| Tightening torque for terminals                                      |          |    |     |
|                                                                      | min      | Nm | 4   |

|                                                     |                                 |                  |                 |                       |
|-----------------------------------------------------|---------------------------------|------------------|-----------------|-----------------------|
|                                                     |                                 | max              | Nm              | 5                     |
|                                                     |                                 | min              | Ibin            | 2.95                  |
|                                                     |                                 | max              | Ibin            | 3.69                  |
| Tightening torque for coil terminal                 |                                 |                  |                 |                       |
|                                                     |                                 | min              | Nm              | 0.8                   |
|                                                     |                                 | max              | Nm              | 1                     |
|                                                     |                                 | min              | Ibin            | 0.8                   |
|                                                     |                                 | max              | Ibin            | 0.74                  |
| Max number of wires simultaneously connectable      |                                 |                  | Nr.             | 2                     |
| Conductor section                                   |                                 |                  |                 |                       |
|                                                     | AWG/Kcmil                       |                  |                 |                       |
|                                                     |                                 | max              |                 | 2                     |
| Flexible w/o lug conductor section                  |                                 |                  |                 |                       |
|                                                     |                                 | min              | mm <sup>2</sup> | 1.5                   |
|                                                     |                                 | max              | mm <sup>2</sup> | 35                    |
| Flexible c/w lug conductor section                  |                                 |                  |                 |                       |
|                                                     |                                 | min              | mm <sup>2</sup> | 1.5                   |
|                                                     |                                 | max              | mm <sup>2</sup> | 35                    |
| Power terminal protection according to IEC/EN 60529 |                                 |                  |                 | IP20 front            |
| Mechanical features                                 |                                 |                  |                 |                       |
| Operating position                                  |                                 |                  |                 |                       |
|                                                     |                                 | normal allowable |                 | Vertical plan ±30°    |
| Fixing                                              |                                 |                  |                 | Screw / DIN rail 35mm |
| Weight                                              |                                 |                  | g               | 1020                  |
| Operations                                          |                                 |                  |                 |                       |
| Mechanical life                                     |                                 |                  | cycles          | 15000000              |
| Electrical life                                     |                                 |                  | cycles          | 1400000               |
| Safety related data                                 |                                 |                  |                 |                       |
| Performance level B10d according to EN/ISO 13489-1  |                                 |                  |                 |                       |
|                                                     |                                 | rated load       | cycles          | 1400000               |
|                                                     |                                 | mechanical load  | cycles          | 15000000              |
| EMC compatibility                                   |                                 |                  |                 | yes                   |
| AC coil operating                                   |                                 |                  |                 |                       |
| Rated AC voltage at 50/60Hz                         |                                 |                  | V               | 24                    |
| AC operating voltage                                |                                 |                  |                 |                       |
|                                                     | 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             | 40                    |
|                                                     |                                 | max              | %Us             | 55                    |
| AC average coil consumption at 20°C                 |                                 |                  |                 |                       |
|                                                     | of 50/60Hz coil powered at 50Hz |                  |                 |                       |
|                                                     |                                 | in-rush          | VA              | 210                   |

|                                                       |  |                       |          |      |
|-------------------------------------------------------|--|-----------------------|----------|------|
|                                                       |  | holding               | VA       | 15   |
| of 50/60Hz coil powered at 60Hz                       |  |                       |          |      |
|                                                       |  | in-rush               | VA       | 195  |
|                                                       |  | holding               | VA       | 13   |
| of 60Hz coil powered at 60Hz                          |  |                       |          |      |
|                                                       |  | in-rush               | VA       | 210  |
|                                                       |  | holding               | VA       | 15   |
| Dissipation at holding $\leq 20^{\circ}\text{C}$ 50Hz |  |                       | W        | 5    |
| Max cycles frequency                                  |  |                       |          |      |
| Mechanical operation                                  |  |                       | cycles/h | 3600 |
| Operating times                                       |  |                       |          |      |
| Average time for Us control                           |  |                       |          |      |
| in AC                                                 |  |                       |          |      |
| Closing NO                                            |  |                       |          |      |
|                                                       |  | min                   | ms       | 12   |
|                                                       |  | max                   | ms       | 28   |
| Opening NO                                            |  |                       |          |      |
|                                                       |  | min                   | ms       | 8    |
|                                                       |  | max                   | ms       | 22   |
| in DC                                                 |  |                       |          |      |
| Closing NO                                            |  |                       |          |      |
|                                                       |  | min                   | ms       | 40   |
|                                                       |  | max                   | ms       | 85   |
| Opening NO                                            |  |                       |          |      |
|                                                       |  | min                   | ms       | 20   |
|                                                       |  | max                   | ms       | 55   |
| UL technical data                                     |  |                       |          |      |
| Rated operational voltage AC (UL)                     |  |                       | V        | 600  |
| Full-load current (FLA) for three-phase AC motor      |  |                       |          |      |
|                                                       |  | at 480V               | A        | 52   |
|                                                       |  | at 600V               | A        | 41   |
| Yielded mechanical performance                        |  |                       |          |      |
| for single-phase AC motor                             |  |                       |          |      |
|                                                       |  | 110/120V              | HP       | 5    |
|                                                       |  | 230V                  | HP       | 10   |
| for three-phase AC motor                              |  |                       |          |      |
|                                                       |  | 200/208V              | HP       | 15   |
|                                                       |  | 220/240V              | HP       | 20   |
|                                                       |  | 460/480V              | HP       | 40   |
|                                                       |  | 575/600V              | HP       | 40   |
| General USE                                           |  |                       |          |      |
| Contactor                                             |  |                       |          |      |
|                                                       |  | AC current            | A        | 90   |
| Short-circuit protection fuse, 600V                   |  |                       |          |      |
| High fault                                            |  |                       |          |      |
|                                                       |  | Short circuit current | kA       | 100  |
|                                                       |  | Fuse rating           | A        | 150  |
|                                                       |  | Fuse class            |          | J    |
| Standard fault                                        |  |                       |          |      |
|                                                       |  | Short circuit current | kA       | 5    |
|                                                       |  | Fuse rating           | A        | 150  |
|                                                       |  | Fuse class            |          | RK5  |

### Ambient conditions

#### Temperature

Operating temperature

|     |    |     |
|-----|----|-----|
| min | °C | -50 |
| max | °C | 70  |

Storage temperature

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

Max altitude

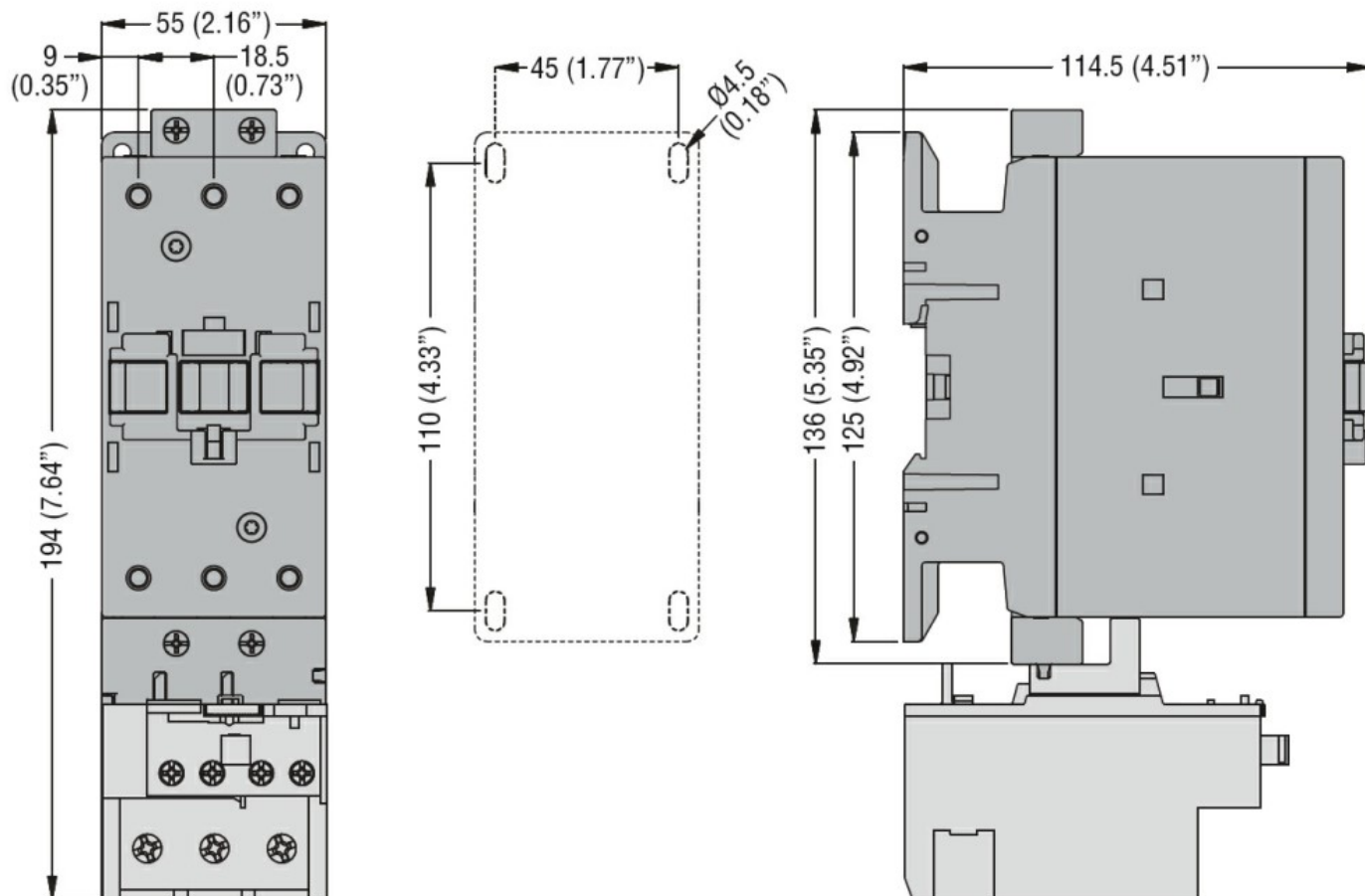
m 3000

## Resistance & Protection

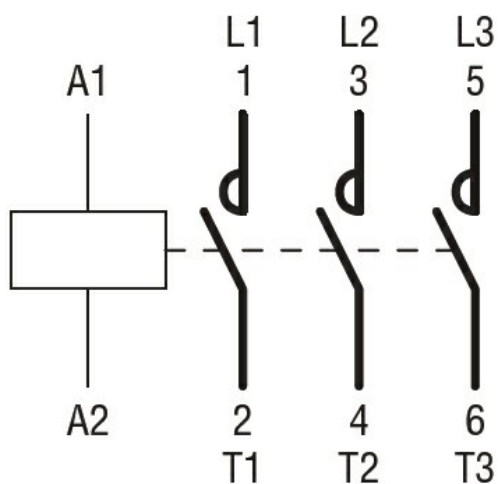
Pollution degree

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

UL 60335-2-40 LZGH A2L

UL 60335-2-89 LZGH A2L

## ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching