



### Contact characteristics

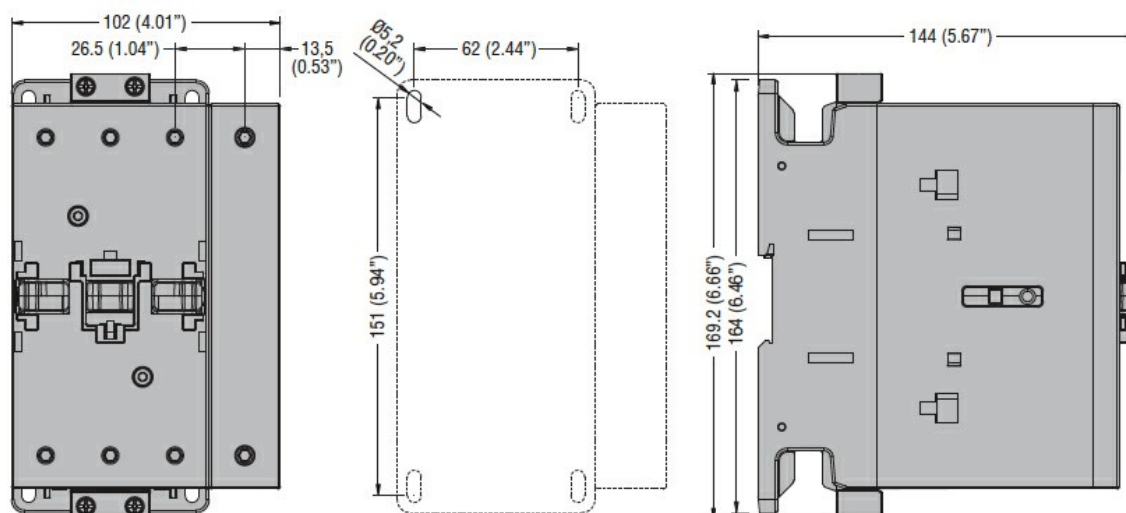
|                                                                                |                                                   |        |
|--------------------------------------------------------------------------------|---------------------------------------------------|--------|
| Number of poles                                                                | Nr.                                               | 4      |
| 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                                                 | 140    |
| Operational current $I_e$                                                      | AC-1 ( $\leq 40^\circ\text{C}$ )                  | A 140  |
|                                                                                | AC-1 ( $\leq 55^\circ\text{C}$ )                  | A 115  |
|                                                                                | AC-1 ( $\leq 70^\circ\text{C}$ )                  | A 100  |
|                                                                                | AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ ) | A 95   |
|                                                                                | AC-4 (400V)                                       | A 45   |
| Rated operational current AC-3 ( $T \leq 55^\circ\text{C}$ )                   | 230V                                              | A 95   |
|                                                                                | 400V                                              | A 95   |
|                                                                                | 415V                                              | A 95   |
|                                                                                | 440V                                              | A 95   |
|                                                                                | 500V                                              | A 95   |
|                                                                                | 690V                                              | A 93   |
|                                                                                | 1000V                                             | A 33   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$                                 | A 140  |
|                                                                                | 48V                                               | A 140  |
|                                                                                | 75V                                               | A 100  |
|                                                                                | 110V                                              | A 10   |
|                                                                                | 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 140  |
|                                                                                | 48V                                               | A 140  |
|                                                                                | 75V                                               | A 140  |
|                                                                                | 110V                                              | A 110  |
|                                                                                | 220V                                              | A 12   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series | $\leq 24\text{V}$                                 | A 140  |
|                                                                                | 48V                                               | A 140  |
|                                                                                | 75V                                               | A 155  |
|                                                                                | 110V                                              | A 120  |
|                                                                                | 220V                                              | A 125  |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series | $\leq 24\text{V}$                                 | A 140  |
|                                                                                | 48V                                               | A 140  |
|                                                                                | 75V                                               | A 155  |
|                                                                                | 110V                                              | A 140  |

|                                                                      |           |                 |      |
|----------------------------------------------------------------------|-----------|-----------------|------|
|                                                                      | 220V      | A               | 140  |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series | ≤24V      | A               | 140  |
|                                                                      | 48V       | A               | 44   |
|                                                                      | 75V       | A               | 36   |
|                                                                      | 110V      | A               | 6    |
|                                                                      | 220V      | A               | –    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series | ≤24V      | A               | 140  |
|                                                                      | 48V       | A               | 63   |
|                                                                      | 75V       | A               | 60   |
|                                                                      | 110V      | A               | 55   |
|                                                                      | 220V      | A               | 7    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series | ≤24V      | A               | 140  |
|                                                                      | 48V       | A               | 115  |
|                                                                      | 75V       | A               | 90   |
|                                                                      | 110V      | A               | 85   |
|                                                                      | 220V      | A               | 76   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series | ≤24V      | A               | 140  |
|                                                                      | 48V       | A               | 110  |
|                                                                      | 75V       | A               | 110  |
|                                                                      | 110V      | A               | 105  |
|                                                                      | 220V      | A               | 95   |
| Short-time allowable current for 10s (IEC/EN60947-1)                 |           | A               | 760  |
| Protection fuse                                                      | gG (IEC)  | A               | 160  |
|                                                                      | aM (IEC)  | A               | 100  |
| Making capacity (RMS value)                                          |           | A               | 1200 |
| Breaking capacity at voltage                                         | 440V      | A               | 1100 |
|                                                                      | 500V      | A               | 775  |
|                                                                      | 690V      | A               | 745  |
| Resistance per pole (average value)                                  |           | mΩ              | 0.45 |
| Power dissipation per pole (average value)                           | Ith       | W               | 8.8  |
|                                                                      | AC-3      | W               | 4.1  |
| Tightening torque for terminals                                      | min       | Nm              | 6    |
|                                                                      | max       | Nm              | 7    |
|                                                                      | min       | Ibin            | 4.4  |
|                                                                      | max       | Ibin            | 5.2  |
| Tightening torque for coil terminal                                  | min       | Nm              | 0.8  |
|                                                                      | max       | Nm              | 1    |
|                                                                      | min       | Ibin            | 0.59 |
|                                                                      | max       | Ibin            | 0.74 |
| Conductor section                                                    | AWG/Kcmil |                 |      |
|                                                                      | max       |                 | 2/0  |
| Flexible w/o lug conductor section                                   | min       | mm <sup>2</sup> | 1.5  |

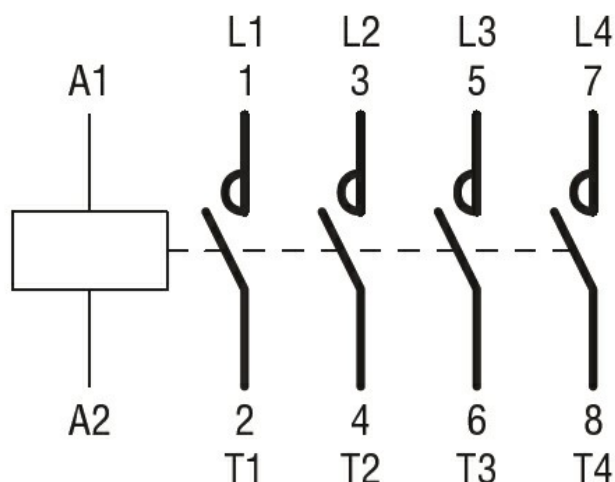
|                                                     |                  |                 |                       |
|-----------------------------------------------------|------------------|-----------------|-----------------------|
| Flexible c/w lug conductor section                  | max              | mm <sup>2</sup> | 70                    |
|                                                     | min              | mm <sup>2</sup> | 1.5                   |
|                                                     | max              | mm <sup>2</sup> | 70                    |
|                                                     |                  |                 |                       |
| Power terminal protection according to IEC/EN 60529 |                  |                 | IP20 front            |
| <b>Mechanical features</b>                          |                  |                 |                       |
| Operating position                                  |                  |                 |                       |
|                                                     | normal allowable |                 | Vertical plan ±30°    |
| Fixing                                              |                  |                 | Screw / DIN rail 35mm |
| Weight                                              |                  | g               | 2420                  |
| <b>Auxiliary contact characteristics</b>            |                  |                 |                       |
| Thermal current Ith                                 |                  | A               | 140                   |
| <b>Operations</b>                                   |                  |                 |                       |
| Mechanical life                                     |                  | cycles          | 15000000              |
| Electrical life                                     |                  | cycles          | 1400000               |
| <b>Safety related data</b>                          |                  |                 |                       |
| Performance level B10d according to EN/ISO 13489-1  |                  |                 |                       |
|                                                     | rated load       | cycles          | 1400000               |
|                                                     | mechanical load  | cycles          | 15000000              |
| <b>AC coil operating</b>                            |                  |                 |                       |
| Rated AC voltage at 60Hz                            |                  | V               | 230                   |
| AC operating voltage                                |                  |                 |                       |
| of 50/60Hz coil powered at 50Hz drop-out            |                  |                 |                       |
|                                                     | max              | %Us             | 55                    |
| of 60Hz coil powered at 60Hz pick-up                |                  |                 |                       |
|                                                     | min              | %Us             | 80                    |
|                                                     | max              | %Us             | 110                   |
| drop-out                                            |                  |                 |                       |
|                                                     | min              | %Us             | 20                    |
|                                                     | max              | %Us             | 55                    |
| AC average coil consumption at 20°C                 |                  |                 |                       |
| of 60Hz coil powered at 60Hz                        |                  |                 |                       |
|                                                     | in-rush          | VA              | 300                   |
|                                                     | holding          | VA              | 20                    |
| Dissipation at holding ≤20°C 50Hz                   |                  | W               | 6.5                   |
| <b>Max cycles frequency</b>                         |                  |                 |                       |
| Mechanical operation                                |                  | cycles/h        | 1500                  |
| <b>Operating times</b>                              |                  |                 |                       |
| Average time for Us control in AC                   |                  |                 |                       |
| Closing NO                                          |                  |                 |                       |
|                                                     | min              | ms              | 16                    |
|                                                     | max              | ms              | 32                    |
| Opening NO                                          |                  |                 |                       |
|                                                     | min              | ms              | 9                     |
|                                                     | max              | ms              | 24                    |
| <b>UL technical data</b>                            |                  |                 |                       |
| Rated operational voltage AC (UL)                   |                  | V               | 600                   |
| General USE                                         |                  |                 |                       |
| Contactor                                           |                  |                 |                       |

|                                     |  |                       |     |      |
|-------------------------------------|--|-----------------------|-----|------|
|                                     |  | AC current            | A   | 150  |
| Short-circuit protection fuse, 600V |  |                       |     |      |
| High fault                          |  | Short circuit current | kA  | 100  |
|                                     |  | Fuse rating           | A   | 200  |
|                                     |  | Fuse class            | J   |      |
| Standard fault                      |  | Short circuit current | kA  | 10   |
|                                     |  | Fuse rating           | A   | 250  |
|                                     |  | 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 |

## 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