



### 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   | 70      |
| Operational current $I_e$  | AC-1 ( $\leq 40^\circ\text{C}$ )                  | A 70    |
|  | AC-1 ( $\leq 55^\circ\text{C}$ )                  | A 60    |
|  | AC-1 ( $\leq 70^\circ\text{C}$ )                  | A 50    |
|  | AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ ) | A 40    |
|  | AC-4 (400V)                                       | A 24    |
| Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )                     | 230V  | kW 11   |
|  | 400V  | kW 18.5 |
|  | 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 40    |
|  | 400V  | A 40    |
|  | 415V  | A 40    |
|  | 440V  | A 40    |
|  | 500V  | A 33    |
|  | 690V  | A 32    |
|  | 1000V   | A 21    |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )                     | 230V  | kW 26   |
|  | 400V  | kW 46   |
|  | 500V  | kW 58   |
|  | 690V  | kW 79   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | $\leq 24\text{V}$                                 | A 40    |
|  | 48V   | A 35    |
|  | 75V   | A 30    |
|  | 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 48    |
|  | 48V   | A 48    |
|  | 75V   | A 45    |

|  |                 |    |     |
|--|-----------------|----|-----|
|  | 110V            | A  | 42  |
|  | 220V            | A  | 5   |
| <hr/>  |                 |    |     |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 3 poles in series      |                 |    |     |
|  | ≤24V            | A  | 48  |
|  | 48V             | A  | 48  |
|  | 75V             | A  | 48  |
|  | 110V            | A  | 44  |
|  | 220V            | A  | 56  |
| <hr/>  |                 |    |     |
| IEC max current I <sub>e</sub> in DC1 with L/R ≤ 1ms with 4 poles in series      |                 |    |     |
|  | ≤24V            | A  | –   |
|  | 48V             | A  | –   |
|  | 75V             | A  | –   |
|  | 110V            | A  | –   |
|  | 220V            | A  | 70  |
| <hr/>  |                 |    |     |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |                 |    |     |
|  | ≤24V            | A  | 27  |
|  | 48V             | A  | 23  |
|  | 75V             | A  | 19  |
|  | 110V            | A  | 3   |
|  | 220V            | A  | –   |
| <hr/>  |                 |    |     |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |                 |    |     |
|  | ≤24V            | A  | 32  |
|  | 48V             | A  | 30  |
|  | 75V             | A  | 27  |
|  | 110V            | A  | 22  |
|  | 220V            | A  | 5   |
| <hr/>  |                 |    |     |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |                 |    |     |
|  | ≤24V            | A  | 40  |
|  | 48V             | A  | 40  |
|  | 75V             | A  | 38  |
|  | 110V            | A  | 27  |
|  | 220V            | A  | 32  |
| <hr/>  |                 |    |     |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |                 |    |     |
|  | ≤24V            | A  | –   |
|  | 48V             | A  | –   |
|  | 75V             | A  | –   |
|  | 110V            | A  | –   |
|  | 220V            | A  | 40  |
| <hr/>  |                 |    |     |
| Short-time allowable current for 10s (IEC/EN60947-1)                             |                 | A  | 400 |
| <hr/>  |                 |    |     |
| Protection fuse  |                 |    |     |
|  | gG (IEC)        | A  | 100 |
|  | aM (IEC)        | A  | 50  |
| <hr/>  |                 |    |     |
| Making capacity (RMS value)  |                 | A  | 400 |
| <hr/>  |                 |    |     |
| Breaking capacity at voltage   |                 |    |     |
|  | 440V            | A  | 320 |
|  | 500V            | A  | 265 |
|  | 690V            | A  | 256 |
| <hr/>  |                 |    |     |
| Resistance per pole (average value)  |                 | mΩ | 0.8 |
| <hr/>  |                 |    |     |
| Power dissipation per pole (average value)                                       |                 |    |     |
|  | I <sub>th</sub> | W  | 3.9 |
|  | AC-3            | W  | 1.3 |
| <hr/>  |                 |    |     |
| Tightening torque for terminals  |                 |    |     |
|  | min             | Nm | 4   |

|   |                              |                     |                 |                          |
|---|------------------------------|---------------------|-----------------|--------------------------|
|   |                              | max                 | Nm              | 5                        |
|   |                              | min                 | Ibin            | 2.95                     |
|   |                              | max                 | Ibin            | 3.69                     |
| <hr/>   |                              |                     |                 |                          |
| Tightening torque for coil terminal                 |                              |                     |                 |                          |
|   |                              | min                 | Nm              | 0.8                      |
|   |                              | max                 | Nm              | 1                        |
|   |                              | min                 | Ibin            | 0.8                      |
|   |                              | max                 | Ibin            | 0.74                     |
| <hr/>   |                              |                     |                 |                          |
| Max number of wires simultaneously connectable      |                              |                     |                 |                          |
|   |                              |                     | Nr.             | 2                        |
| <hr/>   |                              |                     |                 |                          |
| Conductor section                                   |                              |                     |                 |                          |
|   | AWG/Kcmil                    |                     |                 |                          |
|   |                              | max                 |                 | 2                        |
| <hr/>   |                              |                     |                 |                          |
| Flexible w/o lug conductor section                  |                              |                     |                 |                          |
|   |                              | min                 | mm <sup>2</sup> | 1.5                      |
|   |                              | max                 | mm <sup>2</sup> | 35                       |
| <hr/>   |                              |                     |                 |                          |
| Flexible c/w lug conductor section                  |                              |                     |                 |                          |
|   |                              | min                 | mm <sup>2</sup> | 1.5                      |
|   |                              | max                 | mm <sup>2</sup> | 35                       |
| <hr/>   |                              |                     |                 |                          |
| Power terminal protection according to IEC/EN 60529 |                              |                     |                 |                          |
|   |                              |                     |                 | IP20 front               |
| <hr/>   |                              |                     |                 |                          |
| <b>Mechanical features</b>                          |                              |                     |                 |                          |
| Operating position                                  |                              |                     |                 |                          |
|   |                              | normal<br>allowable |                 | Vertical plan<br>±30°    |
| <hr/>   |                              |                     |                 |                          |
| Fixing  |                              |                     |                 |                          |
|   |                              |                     |                 | Screw / DIN rail<br>35mm |
| <hr/>   |                              |                     |                 |                          |
| Weight  |                              |                     |                 |                          |
|   |                              |                     | g               | 1020                     |
| <hr/>   |                              |                     |                 |                          |
| <b>Operations</b>                                   |                              |                     |                 |                          |
| Mechanical life                                     |                              |                     |                 |                          |
|   |                              |                     | cycles          | 15000000                 |
| Electrical life                                     |                              |                     |                 |                          |
|   |                              |                     | cycles          | 1500000                  |
| <hr/>   |                              |                     |                 |                          |
| <b>Safety related data</b>                          |                              |                     |                 |                          |
| Performance level B10d according to EN/ISO 13489-1  |                              |                     |                 |                          |
|   |                              | rated load          | cycles          | 1500000                  |
|   |                              | mechanical load     | cycles          | 15000000                 |
| <hr/>   |                              |                     |                 |                          |
| EMC compatibility                                   |                              |                     |                 |                          |
|   |                              |                     |                 | yes                      |
| <hr/>   |                              |                     |                 |                          |
| <b>AC coil operating</b>                            |                              |                     |                 |                          |
| Rated AC voltage at 60Hz                            |                              |                     |                 |                          |
|   |                              |                     | V               | 460                      |
| <hr/>   |                              |                     |                 |                          |
| AC operating voltage                                |                              |                     |                 |                          |
|   | of 60Hz coil powered at 60Hz |                     |                 |                          |
|   | pick-up                      |                     |                 |                          |
|   |                              | min                 | %Us             | 80                       |
|   |                              | max                 | %Us             | 110                      |
|   | drop-out                     |                     |                 |                          |
|   |                              | min                 | %Us             | 20                       |
|   |                              | max                 | %Us             | 55                       |
| <hr/>   |                              |                     |                 |                          |
| AC average coil consumption at 20°C                 |                              |                     |                 |                          |
|   | of 60Hz coil powered at 60Hz |                     |                 |                          |
|   |                              | in-rush             | VA              | 210                      |
|   |                              | holding             | VA              | 15                       |
| <hr/>   |                              |                     |                 |                          |
| Dissipation at holding ≤20°C 50Hz                   |                              |                     |                 |                          |
|   |                              |                     | W               | 5                        |
| <hr/>   |                              |                     |                 |                          |
| <b>Max cycles frequency</b>                         |                              |                     |                 |                          |
| Mechanical operation                                |                              |                     |                 |                          |
|   |                              |                     | cycles/h        | 3600                     |
| <hr/>   |                              |                     |                 |                          |
| <b>Operating times</b>                              |                              |                     |                 |                          |
| 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 40   |
|  | at 600V  | A 32   |
| Yielded mechanical performance                   |          |        |
| for single-phase AC motor                        | 110/120V | HP 3   |
|  | 230V     | HP 7.5 |
| for three-phase AC motor                         | 200/208V | HP 10  |
|  | 220/240V | HP 15  |
|  | 460/480V | HP 30  |
|  | 575/600V | HP 30  |

**General USE**

|                                     |                       |    |     |
|-------------------------------------|-----------------------|----|-----|
| Contactor                           | AC current            | A  | 70  |
| 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 |

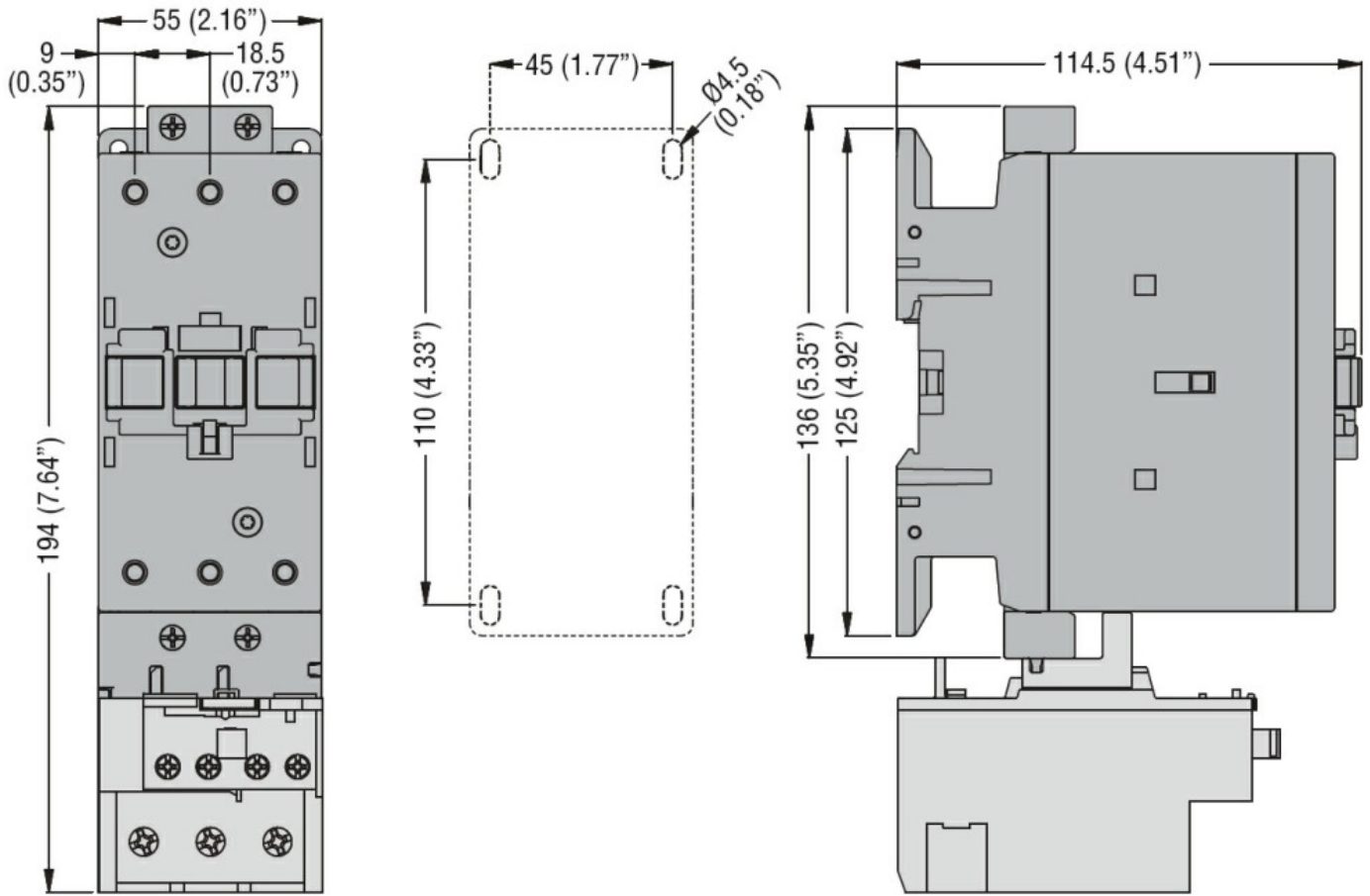
**Ambient conditions**

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