



### 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 |
| IEC Conventional free air thermal current $I_{th} \leq 40^\circ\text{C}$            | A                                                 | 28     |
| Operational current $I_e$                                                           | AC-1 ( $\leq 40^\circ\text{C}$ )                  | A 28   |
|                                                                                     | AC-1 ( $\leq 55^\circ\text{C}$ )                  | A 23   |
|                                                                                     | AC-1 ( $\leq 70^\circ\text{C}$ )                  | A 20   |
|                                                                                     | AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ ) | A 12   |
|                                                                                     | AC-4 (400V)                                       | A 7.9  |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )                          | 230V                                              | kW 10  |
|                                                                                     | 400V                                              | kW 18  |
|                                                                                     | 500V                                              | kW 23  |
|                                                                                     | 690V                                              | kW 32  |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series      | $\leq 24\text{V}$                                 | A 17   |
|                                                                                     | 48V                                               | A 15   |
|                                                                                     | 75V                                               | A 13   |
|                                                                                     | 110V                                              | A 6    |
|                                                                                     | 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 20   |
|                                                                                     | 48V                                               | A 20   |
|                                                                                     | 75V                                               | A 18   |
|                                                                                     | 110V                                              | A 13   |
|                                                                                     | 220V                                              | A 1    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series      | $\leq 24\text{V}$                                 | A 22   |
|                                                                                     | 48V                                               | A 22   |
|                                                                                     | 75V                                               | A 20   |
|                                                                                     | 110V                                              | A 16   |
|                                                                                     | 220V                                              | A 11   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series      | $\leq 24\text{V}$                                 | A 20   |
|                                                                                     | 48V                                               | A 20   |
|                                                                                     | 75V                                               | A 20   |
|                                                                                     | 110V                                              | A 16   |
|                                                                                     | 220V                                              | A 12   |
| IEC max current $I_e$ in DC3-DC5 with $L/R \leq 15\text{ms}$ with 1 poles in series | $\leq 24\text{V}$                                 | A 12   |

|                                                                      |          |                 |      |
|----------------------------------------------------------------------|----------|-----------------|------|
|                                                                      | 48V      | A               | 11   |
|                                                                      | 75V      | A               | 10   |
|                                                                      | 110V     | A               | 2    |
|                                                                      | 220V     | A               | –    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |          |                 |      |
|                                                                      | ≤24V     | A               | 15   |
|                                                                      | 48V      | A               | 13   |
|                                                                      | 75V      | A               | 12   |
|                                                                      | 110V     | A               | 8    |
|                                                                      | 220V     | A               | 2    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |          |                 |      |
|                                                                      | ≤24V     | A               | 18   |
|                                                                      | 48V      | A               | 18   |
|                                                                      | 75V      | A               | 15   |
|                                                                      | 110V     | A               | 12   |
|                                                                      | 220V     | A               | 6    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |          |                 |      |
|                                                                      | ≤24V     | A               | 15   |
|                                                                      | 48V      | A               | 15   |
|                                                                      | 75V      | A               | 15   |
|                                                                      | 110V     | A               | 16   |
|                                                                      | 220V     | A               | 7    |
| Short-time allowable current for 10s (IEC/EN60947-1)                 |          | A               | 150  |
| Protection fuse                                                      |          |                 |      |
|                                                                      | gG (IEC) | A               | 32   |
|                                                                      | aM (IEC) | A               | 12   |
| Making capacity (RMS value)                                          |          | A               | 120  |
| Breaking capacity at voltage                                         |          |                 |      |
|                                                                      | 440V     | A               | 96   |
|                                                                      | 500V     | A               | 96   |
|                                                                      | 690V     | A               | 94   |
| Resistance per pole (average value)                                  |          | mΩ              | 2.5  |
| Power dissipation per pole (average value)                           |          |                 |      |
|                                                                      | Ith      | W               | 2    |
|                                                                      | AC-3     | W               | 0.4  |
| Tightening torque for terminals                                      |          |                 |      |
|                                                                      | min      | Nm              | 1.5  |
|                                                                      | max      | Nm              | 1.8  |
|                                                                      | min      | lbin            | 1.1  |
|                                                                      | max      | lbin            | 1.5  |
| Tightening torque for coil terminal                                  |          |                 |      |
|                                                                      | min      | Nm              | 0.8  |
|                                                                      | max      | Nm              | 1    |
|                                                                      | min      | lbin            | 0.8  |
|                                                                      | max      | lbin            | 0.74 |
| Max number of wires simultaneously connectable                       |          | Nr.             | 2    |
| Conductor section                                                    |          |                 |      |
| AWG/Kcmil                                                            |          |                 |      |
|                                                                      | max      |                 | 10   |
| Flexible w/o lug conductor section                                   |          |                 |      |
|                                                                      | min      | mm <sup>2</sup> | 1    |
|                                                                      | max      | mm <sup>2</sup> | 6    |
| Flexible c/w lug conductor section                                   |          |                 |      |

|                                                     |                                 |                 |                          |
|-----------------------------------------------------|---------------------------------|-----------------|--------------------------|
|                                                     | min                             | mm <sup>2</sup> | 1                        |
|                                                     | max                             | mm <sup>2</sup> | 4                        |
| Flexible with insulated spade lug conductor section |                                 |                 |                          |
|                                                     | min                             | mm <sup>2</sup> | 1                        |
|                                                     | max                             | mm <sup>2</sup> | 6                        |
| Power terminal protection according to IEC/EN 60529 |                                 |                 | IP20 when properly wired |
| Cable stripping length                              |                                 |                 |                          |
|                                                     | main circuit                    | mm              | 10                       |
|                                                     | command circuit                 | mm              | 8                        |
| <b>Mechanical features</b>                          |                                 |                 |                          |
| Operating position                                  |                                 |                 |                          |
|                                                     | normal allowable                |                 | Vertical plan ±30°       |
| Fixing                                              |                                 |                 | Screw / DIN rail 35mm    |
| Weight                                              |                                 | g               | 366                      |
| <b>Operations</b>                                   |                                 |                 |                          |
| Mechanical life                                     |                                 | cycles          | 20000000                 |
| Electrical life                                     |                                 | cycles          | 2000000                  |
| <b>Safety related data</b>                          |                                 |                 |                          |
| Performance level B10d according to EN/ISO 13489-1  |                                 |                 |                          |
|                                                     | rated load                      | cycles          | 2000000                  |
|                                                     | mechanical load                 | cycles          | 20000000                 |
| EMC compatibility                                   |                                 |                 | yes                      |
| <b>AC coil operating</b>                            |                                 |                 |                          |
| Rated AC voltage at 50/60Hz                         |                                 | V               | 400                      |
| 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             | 20                       |
|                                                     | max                             | %Us             | 55                       |
| AC average coil consumption at 20°C                 |                                 |                 |                          |
|                                                     | of 50/60Hz coil powered at 50Hz |                 |                          |
|                                                     | in-rush                         | VA              | 75                       |
|                                                     | holding                         | VA              | 9                        |
|                                                     | of 50/60Hz coil powered at 60Hz |                 |                          |
|                                                     | in-rush                         | VA              | 70                       |
|                                                     | holding                         | VA              | 6.5                      |
|                                                     | of 60Hz coil powered at 60Hz    |                 |                          |
|                                                     | in-rush                         | VA              | 75                       |
|                                                     | holding                         | VA              | 9                        |
| Dissipation at holding ≤20°C 50Hz                   |                                 | W               | 2.5                      |
| <b>Max cycles frequency</b>                         |                                 |                 |                          |

Mechanical operation cycles/h 3600

### Operating times

Average time for Us control

in AC

Closing NO

|     |    |    |
|-----|----|----|
| min | ms | 8  |
| max | ms | 24 |

Opening NO

|     |    |    |
|-----|----|----|
| min | ms | 10 |
| max | ms | 20 |

Closing NC

|     |    |    |
|-----|----|----|
| min | ms | 14 |
| max | ms | 28 |

Opening NC

|     |    |    |
|-----|----|----|
| min | ms | 7  |
| max | ms | 18 |

### UL technical data

|                                   |   |     |
|-----------------------------------|---|-----|
| Rated operational voltage AC (UL) | V | 600 |
|-----------------------------------|---|-----|

Full-load current (FLA) for three-phase AC motor

|         |   |    |
|---------|---|----|
| at 480V | A | 11 |
| at 600V | A | 11 |

Yielded mechanical performance

for single-phase AC motor

|          |    |   |
|----------|----|---|
| 110/120V | HP | 1 |
| 230V     | HP | 2 |

for three-phase AC motor

|          |    |     |
|----------|----|-----|
| 200/208V | HP | 5   |
| 220/240V | HP | 5   |
| 460/480V | HP | 7.5 |
| 575/600V | HP | 10  |

General USE

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 28 |
|------------|---|----|

Short-circuit protection fuse, 600V

High fault

|                       |    |     |
|-----------------------|----|-----|
| Short circuit current | kA | 100 |
| Fuse rating           | A  | 30  |
| Fuse class            | J  |     |

Standard fault

|                       |    |    |
|-----------------------|----|----|
| Short circuit current | kA | 5  |
| Fuse rating           | A  | 70 |

### Ambient conditions

Temperature

Operating temperature

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

Storage temperature

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

Max altitude

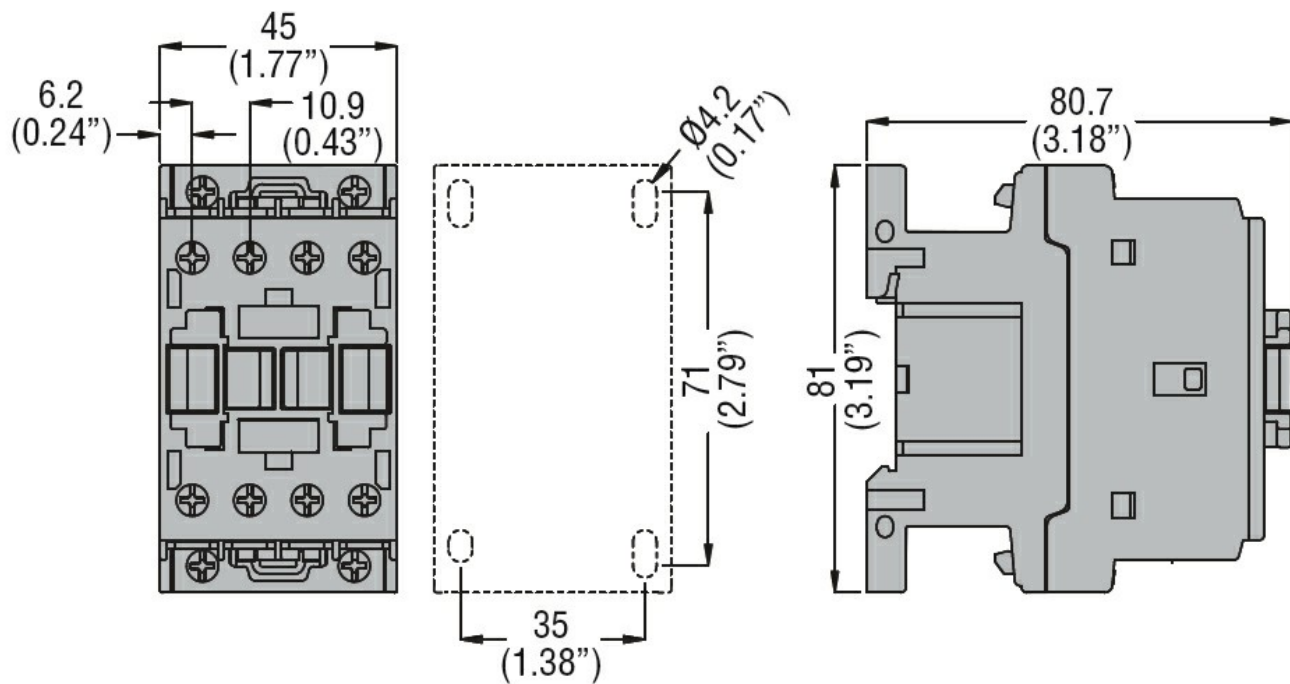
|   |      |
|---|------|
| m | 3000 |
|---|------|

### Resistance & Protection

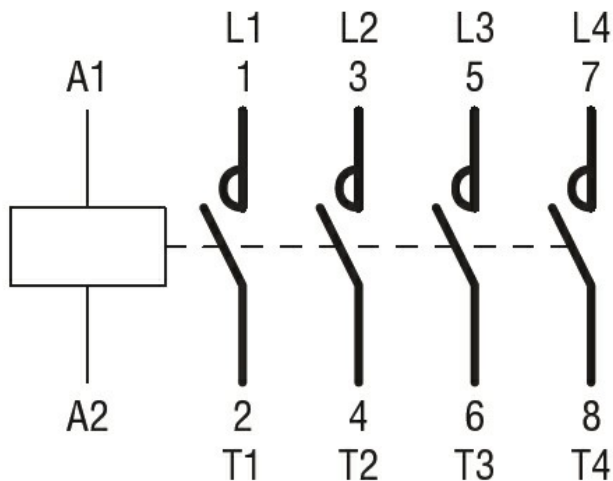
Pollution degree

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  
EAC  
UL 60335-2-40 LZGH A2L  
UL 60335-2-89 LZGH A2L

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching