



### Contact characteristics

|                                                                         |                                      |        |
|-------------------------------------------------------------------------|--------------------------------------|--------|
| Number of poles                                                         | Nr.                                  | 3      |
| 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 $I_{th} \leq 40^\circ C$      | A                                    | 20     |
| Operational current $I_e$                                               | AC-1 ( $\leq 40^\circ C$ )           | A 20   |
|                                                                         | AC-1 ( $\leq 55^\circ C$ )           | A 18   |
|                                                                         | AC-1 ( $\leq 70^\circ C$ )           | A 15   |
|                                                                         | AC-3 ( $\leq 440V \leq 55^\circ C$ ) | A 9    |
|                                                                         | AC-4 (400V)                          | A 4    |
| Rated operational power AC-3 ( $T \leq 55^\circ C$ )                    | 230V                                 | kW 2.2 |
|                                                                         | 400V                                 | kW 4   |
|                                                                         | 415V                                 | kW 4.3 |
|                                                                         | 440V                                 | kW 4.5 |
|                                                                         | 500V                                 | kW 5   |
|                                                                         | 690V                                 | kW 5   |
| Rated operational power AC-1 ( $T \leq 40^\circ C$ )                    | 230V                                 | kW 8   |
|                                                                         | 400V                                 | kW 14  |
|                                                                         | 500V                                 | kW 16  |
|                                                                         | 690V                                 | kW 22  |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 1 poles in series | $\leq 24V$                           | A 12   |
|                                                                         | 48V                                  | A 10   |
|                                                                         | 75V                                  | A 4    |
|                                                                         | 110V                                 | A 3    |
|                                                                         | 220V                                 | A —    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 2 poles in series | $\leq 24V$                           | A 15   |
|                                                                         | 48V                                  | A 14   |
|                                                                         | 75V                                  | A 9    |
|                                                                         | 110V                                 | A 8    |
|                                                                         | 220V                                 | A —    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 3 poles in series | $\leq 24V$                           | A 16   |
|                                                                         | 48V                                  | A 16   |
|                                                                         | 75V                                  | A 10   |
|                                                                         | 110V                                 | A 10   |
|                                                                         | 220V                                 | A 2    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1ms$ with 4 poles in series |                                      |        |

|                                                                      |          |      |      |
|----------------------------------------------------------------------|----------|------|------|
|                                                                      | ≤24V     | A    | 16   |
|                                                                      | 48V      | A    | 16   |
|                                                                      | 75V      | A    | 10   |
|                                                                      | 110V     | A    | 10   |
|                                                                      | 220V     | A    | 2    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 7    |
|                                                                      | 48V      | A    | 6    |
|                                                                      | 75V      | A    | 2    |
|                                                                      | 110V     | A    | 1    |
|                                                                      | 220V     | A    | –    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 8    |
|                                                                      | 48V      | A    | 8    |
|                                                                      | 75V      | A    | 5    |
|                                                                      | 110V     | A    | 4    |
|                                                                      | 220V     | A    | –    |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 10   |
|                                                                      | 48V      | A    | 10   |
|                                                                      | 75V      | A    | 6    |
|                                                                      | 110V     | A    | 5    |
|                                                                      | 220V     | A    | 0,8  |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |          |      |      |
|                                                                      | ≤24V     | A    | 10   |
|                                                                      | 48V      | A    | 10   |
|                                                                      | 75V      | A    | 6    |
|                                                                      | 110V     | A    | 5    |
|                                                                      | 220V     | A    | 0,8  |
| 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)                                  |          | mΩ   | 10   |
| Power dissipation per pole (average value)                           |          |      |      |
|                                                                      | Ith      | W    | 4    |
|                                                                      | AC-3     | W    | 0.81 |
| Tightening torque for terminals                                      |          |      |      |
|                                                                      | min      | Nm   | 0.8  |
|                                                                      | max      | Nm   | 1    |
|                                                                      | min      | Ibin | 9    |
|                                                                      | max      | Ibin | 9    |
| Tightening torque for coil terminal                                  |          |      |      |
|                                                                      | min      | Nm   | 0.8  |
|                                                                      | max      | Nm   | 1    |
|                                                                      | min      | Ibin | 9    |
|                                                                      | max      | Ibin | 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             |                    |          |
| Mechanical features                                  |                                      |                    |          |
| Operating position                                   | normal allowable                     | Vertical plan ±30° |          |
| Fixing                                               | Screw / DIN rail 35mm                |                    |          |
| Weight                                               |                                      | g                  | 180      |
| Auxiliary contact characteristics                    |                                      |                    |          |
| Thermal current I <sub>th</sub>                      |                                      | A                  | 10       |
| IEC/EN 60947-5-1 designation                         | A600 - Q600                          |                    |          |
| Operating current AC15                               | 230V                                 | A                  | 3        |
|                                                      | 400V                                 | A                  | 1.9      |
|                                                      | 500V                                 | A                  | 1.4      |
| Operating current DC12                               | 110V                                 | A                  | 2.9      |
| Operating current DC13                               | 24V                                  | A                  | 2.9      |
|                                                      | 48V                                  | A                  | 1.4      |
|                                                      | 60V                                  | A                  | 1.2      |
|                                                      | 110V                                 | A                  | 0.6      |
|                                                      | 125V                                 | A                  | 0.55     |
|                                                      | 220V                                 | A                  | 0.3      |
|                                                      | 600V                                 | A                  | 0.1      |
| Operations                                           |                                      |                    |          |
| Mechanical life                                      |                                      | cycles             | 20000000 |
| Electrical life                                      |                                      | cycles             | 500000   |
| Safety related data                                  |                                      |                    |          |
| Performance level B10d according to EN/ISO 13489-1   | rated load                           | cycles             | 500000   |
|                                                      | mechanical load                      | cycles             | 20000000 |
| Mirror contats according to IEC/EN 60947-4-1 annex F | Yes                                  |                    |          |
| EMC compatibility                                    | yes                                  |                    |          |
| AC coil operating                                    |                                      |                    |          |
| Rated AC voltage at 60Hz                             |                                      | V                  | 120      |
| AC operating voltage                                 | of 60Hz coil powered at 60Hz pick-up |                    |          |
|                                                      | min                                  | %U <sub>s</sub>    | 75       |

|                                                  |          |          |      |
|--------------------------------------------------|----------|----------|------|
| drop-out                                         | max      | %Us      | 115  |
|                                                  | min      | %Us      | 20   |
|                                                  | max      | %Us      | 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 |
| Max cycles frequency                             |          |          |      |
| Mechanical operation                             |          | cycles/h | 3600 |
| Operating times                                  |          |          |      |
| Average time for Us control                      |          |          |      |
| in AC                                            |          |          |      |
| 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   |
| in DC                                            |          |          |      |
| 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 |
|------------|---|----|

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  | 30  |
| Fuse class            |    | RK5 |

Contact rating of auxiliary contacts according to UL

A600 - Q600

## Ambient conditions

Temperature

Operating temperature

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

Storage temperature

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

Max altitude

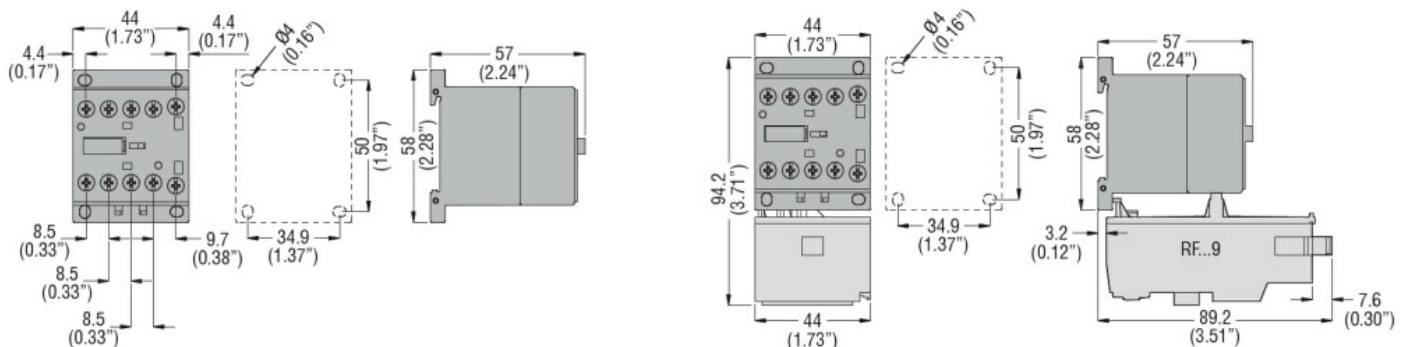
m 3000

## Resistance & Protection

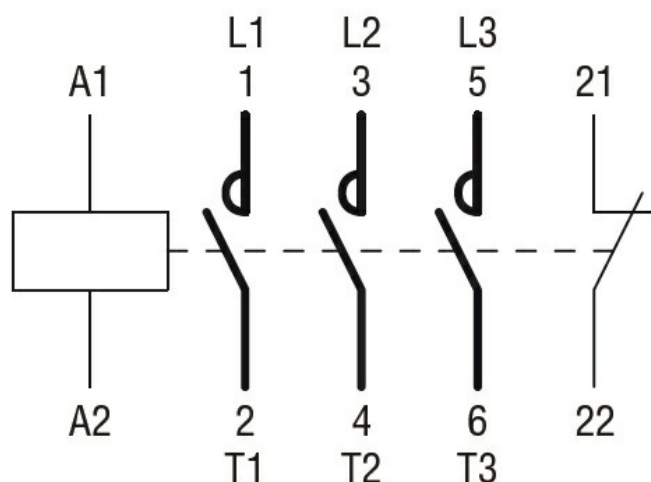
Pollution degree

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