



### 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 $I_{th} \leq 40^{\circ}\text{C}$     | A                                                                               | 56  |      |
| Operational current $I_e$                                                      |                                                                                 |     |      |
|                                                                                | AC-1 ( $\leq 40^{\circ}\text{C}$ )                                              | A   | 56   |
|                                                                                | AC-1 ( $\leq 40^{\circ}\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug | A   | 0    |
|                                                                                | AC-1 ( $\leq 55^{\circ}\text{C}$ )                                              | A   | 45   |
|                                                                                | AC-1 ( $\leq 55^{\circ}\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug | A   | 0    |
|                                                                                | AC-1 ( $\leq 70^{\circ}\text{C}$ )                                              | A   | 40   |
|                                                                                | AC-1 ( $\leq 70^{\circ}\text{C}$ ) with 16mm <sup>2</sup> wire and fork end lug | A   | 0    |
|                                                                                | AC-3 ( $\leq 440\text{V} \leq 55^{\circ}\text{C}$ )                             | A   | 32   |
|                                                                                | AC-4 (400V)                                                                     | A   | 13.5 |
| Rated operational power AC-3 ( $T \leq 55^{\circ}\text{C}$ )                   |                                                                                 |     |      |
|                                                                                | 230V                                                                            | kW  | 8.8  |
|                                                                                | 400V                                                                            | kW  | 16   |
|                                                                                | 415V                                                                            | kW  | 17   |
|                                                                                | 440V                                                                            | kW  | 17   |
|                                                                                | 500V                                                                            | kW  | 20   |
|                                                                                | 690V                                                                            | kW  | 22   |
| Rated operational power AC-1 ( $T \leq 40^{\circ}\text{C}$ )                   |                                                                                 |     |      |
|                                                                                | 230V                                                                            | kW  | 21   |
|                                                                                | 400V                                                                            | kW  | 36   |
|                                                                                | 500V                                                                            | kW  | 45   |
|                                                                                | 690V                                                                            | kW  | 62   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series |                                                                                 |     |      |
|                                                                                | $\leq 24\text{V}$                                                               | A   | 30   |
|                                                                                | 48V                                                                             | A   | 26   |
|                                                                                | 75V                                                                             | A   | 22   |
|                                                                                | 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   | 32   |
|                                                                                | 48V                                                                             | A   | 32   |
|                                                                                | 75V                                                                             | A   | 28   |
|                                                                                | 110V                                                                            | A   | 25   |
|                                                                                | 220V                                                                            | A   | 3    |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series |                                                                                 |     |      |
|                                                                                | $\leq 24\text{V}$                                                               | A   | 32   |
|                                                                                | 48V                                                                             | A   | 32   |
|                                                                                | 75V                                                                             | A   | 32   |

|                                                                      |          |      |     |
|----------------------------------------------------------------------|----------|------|-----|
|                                                                      | 110V     | A    | 27  |
|                                                                      | 220V     | A    | 23  |
| IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series      |          |      |     |
|                                                                      | ≤24V     | A    | –   |
|                                                                      | 48V      | A    | –   |
|                                                                      | 75V      | A    | –   |
|                                                                      | 110V     | A    | –   |
|                                                                      | 220V     | A    | –   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | 20  |
|                                                                      | 48V      | A    | 17  |
|                                                                      | 75V      | A    | 15  |
|                                                                      | 110V     | A    | 2,5 |
|                                                                      | 220V     | A    | –   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | 25  |
|                                                                      | 48V      | A    | 22  |
|                                                                      | 75V      | A    | 20  |
|                                                                      | 110V     | A    | 15  |
|                                                                      | 220V     | A    | 3   |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | 30  |
|                                                                      | 48V      | A    | 28  |
|                                                                      | 75V      | A    | 28  |
|                                                                      | 110V     | A    | 20  |
|                                                                      | 220V     | A    | 23  |
| IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |          |      |     |
|                                                                      | ≤24V     | A    | –   |
|                                                                      | 48V      | A    | –   |
|                                                                      | 75V      | A    | –   |
|                                                                      | 110V     | A    | –   |
|                                                                      | 220V     | A    | –   |
| Short-time allowable current for 10s (IEC/EN60947-1)                 |          | A    | 320 |
| Protection fuse                                                      |          |      |     |
|                                                                      | gG (IEC) | A    | 63  |
|                                                                      | aM (IEC) | A    | 32  |
| Making capacity (RMS value)                                          |          | A    | 320 |
| Breaking capacity at voltage                                         |          |      |     |
|                                                                      | 440V     | A    | 256 |
|                                                                      | 500V     | A    | 240 |
|                                                                      | 690V     | A    | 192 |
| Resistance per pole (average value)                                  |          | mΩ   | 2   |
| Power dissipation per pole (average value)                           |          |      |     |
|                                                                      | Ith      | W    | 6   |
|                                                                      | AC-3     | W    | 2   |
| Tightening torque for terminals                                      |          |      |     |
|                                                                      | min      | Nm   | 2.5 |
|                                                                      | max      | Nm   | 3   |
|                                                                      | min      | Ibin | 1.8 |
|                                                                      | max      | Ibin | 2.2 |
| Tightening torque for coil terminal                                  |          |      |     |
|                                                                      | min      | Nm   | 0.8 |
|                                                                      | max      | Nm   | 1   |

|                                                     |                                 |                  |                          |
|-----------------------------------------------------|---------------------------------|------------------|--------------------------|
|                                                     | min                             | I <sub>bin</sub> | 0.8                      |
|                                                     | max                             | I <sub>bin</sub> | 0.74                     |
| Max number of wires simultaneously connectable      |                                 | Nr.              | 2                        |
| Conductor section                                   |                                 |                  |                          |
| AWG/Kcmil                                           |                                 |                  |                          |
|                                                     | max                             |                  | 6                        |
| Flexible w/o lug conductor section                  |                                 |                  |                          |
|                                                     | min                             | mm <sup>2</sup>  | 2.5                      |
|                                                     | max                             | mm <sup>2</sup>  | 16                       |
| Flexible c/w lug conductor section                  |                                 |                  |                          |
|                                                     | min                             | mm <sup>2</sup>  | 1                        |
|                                                     | max                             | mm <sup>2</sup>  | 10                       |
| Flexible with insulated spade lug conductor section |                                 |                  |                          |
|                                                     | min                             | mm <sup>2</sup>  | 1                        |
|                                                     | max                             | mm <sup>2</sup>  | 10                       |
| Power terminal protection according to IEC/EN 60529 |                                 |                  | IP20 when properly wired |
| Cable stripping length                              |                                 |                  |                          |
|                                                     | main circuit                    | mm               | 0                        |
|                                                     | command circuit                 | mm               | 0                        |
|                                                     | auxiliary circuit               | mm               | 0                        |
| <b>Mechanical features</b>                          |                                 |                  |                          |
| Operating position                                  |                                 |                  |                          |
|                                                     | normal allowable                |                  | Vertical plan ±30°       |
| Fixing                                              |                                 |                  | Screw / DIN rail 35mm    |
| Weight                                              |                                 | g                | 432                      |
| <b>Auxiliary contact characteristics</b>            |                                 |                  |                          |
| Type of contact                                     |                                 |                  | 0                        |
| Thermal current I <sub>th</sub>                     |                                 | A                | 0                        |
| IEC/EN 60947-5-1 designation                        |                                 |                  | A600 - Q600              |
| Operating current AC15                              |                                 |                  |                          |
|                                                     | 230V                            | A                | 3                        |
|                                                     | 400V                            | A                | 1.9                      |
|                                                     | 500V                            | A                | 1.4                      |
| Operating current DC13                              |                                 |                  |                          |
|                                                     | 110V                            | A                | 0.55                     |
|                                                     | 125V                            | A                | 0.55                     |
|                                                     | 220V                            | A                | 0.27                     |
|                                                     | 600V                            | A                | 0.1                      |
| <b>Operations</b>                                   |                                 |                  |                          |
| Mechanical life                                     |                                 | cycles           | 20000000                 |
| Electrical life                                     |                                 | cycles           | 1600000                  |
| <b>Safety related data</b>                          |                                 |                  |                          |
| Performance level B10d according to EN/ISO 13489-1  |                                 |                  |                          |
|                                                     | rated load                      | cycles           | 1600000                  |
|                                                     | mechanical load                 | cycles           | 20000000                 |
| EMC compatibility                                   |                                 |                  | yes                      |
| <b>AC coil operating</b>                            |                                 |                  |                          |
| 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      | 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  |
| DC coil operating                   |  |         |          |      |
| DC operating voltage                |  |         |          |      |
| pick-up                             |  | min     | %Us      | 0    |
|                                     |  | max     | %Us      | 0    |
| drop-out                            |  | min     | %Us      | 0    |
|                                     |  | max     | %Us      | 0    |
| Average coil consumption ≤20°C      |  |         |          |      |
|                                     |  | in-rush | W        | 0    |
|                                     |  | holding | W        | 0    |
| Max cycles frequency                |  |         |          |      |
| 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       | 5    |
|                                     |  | max     | ms       | 15   |
| Closing NC                          |  | min     | ms       | 9    |
|                                     |  | max     | ms       | 20   |
| Opening NC                          |  | min     | ms       | 9    |
|                                     |  | max     | ms       | 17   |
| in DC                               |  |         |          |      |
| Closing NO                          |  |         |          |      |

|            |     |    |   |
|------------|-----|----|---|
| Opening NO | min | ms | 0 |
|            | max | ms | 0 |
| Closing NC | min | ms | 0 |
|            | max | ms | 0 |
| Opening NC | min | ms | 0 |
|            | max | ms | 0 |

#### UL technical data

Rated operational voltage AC (UL) V 600

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

|         |   |    |
|---------|---|----|
| at 480V | A | 27 |
| at 600V | A | 27 |

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 | 10 |
| 460/480V | HP | 20 |
| 575/600V | HP | 25 |

General USE

Contactor

|            |   |    |
|------------|---|----|
| AC current | A | 55 |
|------------|---|----|

Short-circuit protection fuse, 600V

High fault

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

Standard fault

|                       |    |     |
|-----------------------|----|-----|
| Short circuit current | kA | 5   |
| Fuse rating           | A  | 125 |

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

Impact resistance 0

Vibration resistance 0

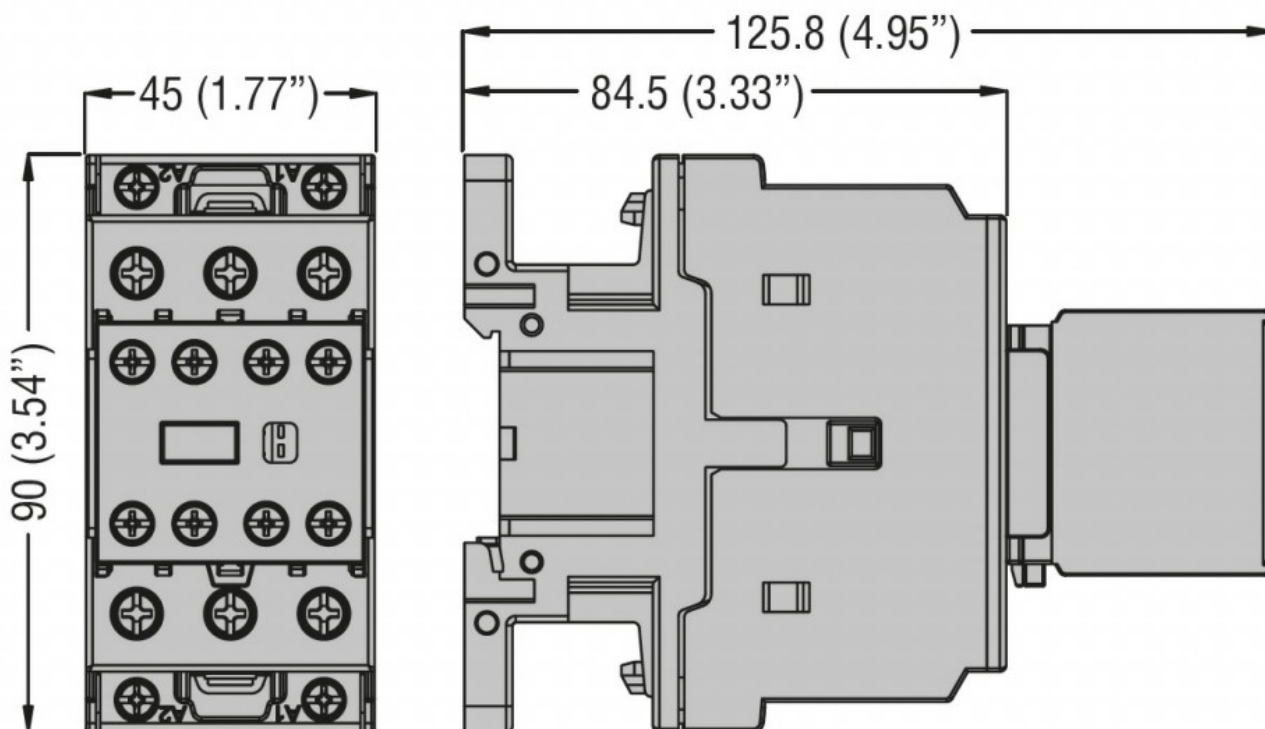
Special thermic treatments 0

Pollution degree 3

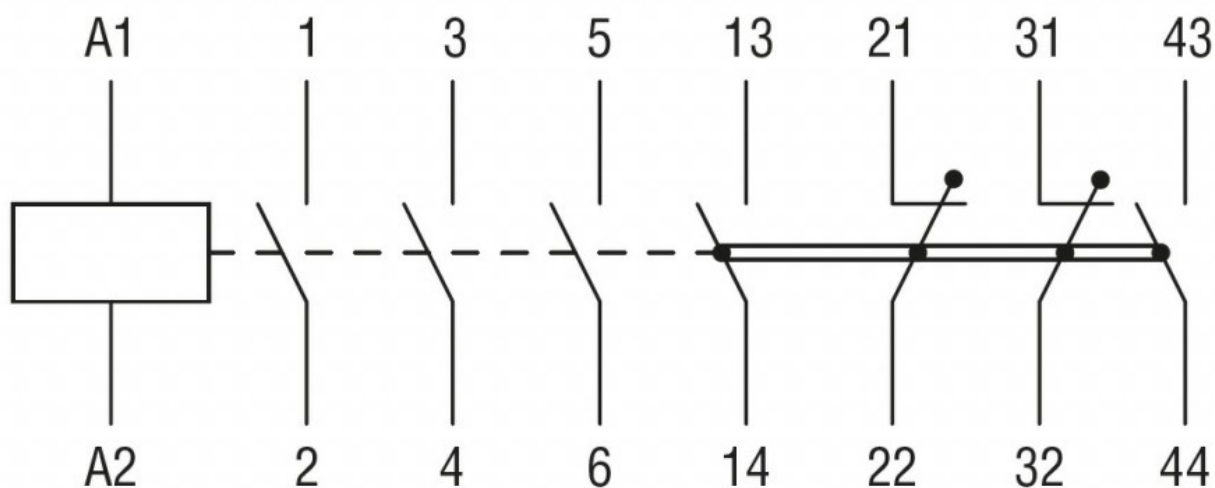
Resistance to flame (GWT) 0

Flame retardant according to UL94 0

#### Dimensions



## Wiring diagrams



## Certifications and compliance

### Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1

IEC/EN/BS 60947-1

IEC/EN/BS 60947-4-1

IEC/EN/BS 60947-5-1

UL 60947-1

UL 60947-4-1

### Certificates

cULus

UL listed for USA and Canada

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching