



Motor protection  
circuit breaker  
SM1R

Product designation

Product type designation

### Electrical features

|   |     |            |
|---|-----|------------|
| Number of poles                           | Nr. | 3          |
| Magnetic protection                       |     | yes        |
| Thermal protection                        |     | yes        |
| Phase failure detection                   |     | yes        |
| Rated insulation voltage $U_i$ IEC/EN     | V   | 690        |
| Rated impulse withstand voltage $U_{imp}$ | kV  | 6          |
| Rated frequency                           | Hz  | 50/60      |
| Thermal trip adjustment range             |     | 6.3...10   |
| Rated current ( $I_n$ )                   | A   | 10         |
| Magnetic tripping                         |     | 13 x $I_n$ |
| Power dissipation per pole                |     |            |

|     |   |      |
|-----|---|------|
| min | W | 1.03 |
| max | W | 2.61 |

Operational short-circuit current breaking capacity ( $I_{cs}$ ) at AC

|      |    |     |
|------|----|-----|
| 230V | kA | 100 |
| 400V | kA | 100 |
| 440V | kA | 42  |
| 500V | kA | 42  |
| 690V | kA | 2   |

Maximum short-circuit current breaking capacity ( $I_{cu}$ ) at AC

|      |    |     |
|------|----|-----|
| 230V | kA | 100 |
| 400V | kA | 100 |
| 440V | kA | 100 |
| 500V | kA | 42  |
| 690V | kA | 4   |

Tripping class 10A

IEC Utilization category A

### Operations

|                 |        |        |
|-----------------|--------|--------|
| Mechanical life | cycles | 100000 |
| Electrical life | cycles | 100000 |

### Mechanical features

Tightening torque for terminals

|     |      |      |
|-----|------|------|
| min | Nm   | 2.5  |
| max | Nm   | 3    |
| min | lbin | 22   |
| max | lbin | 26.5 |

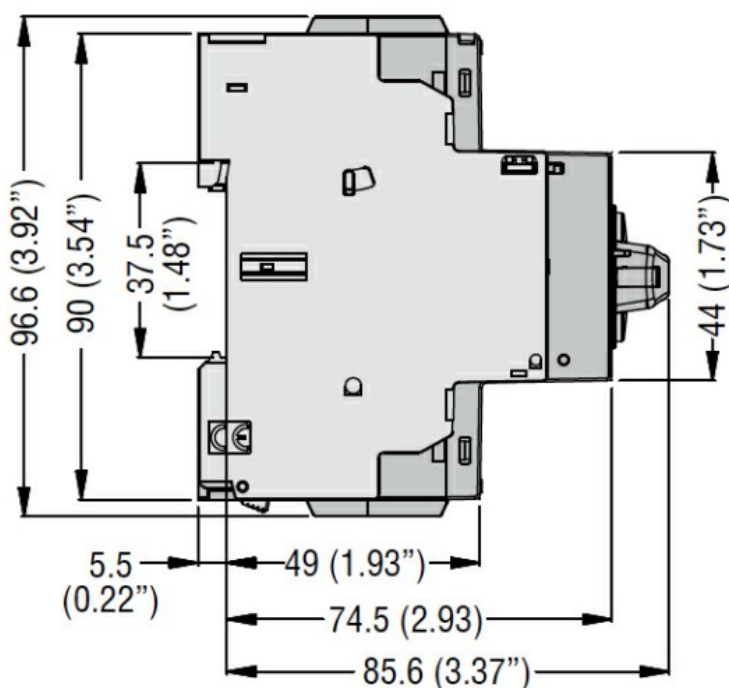
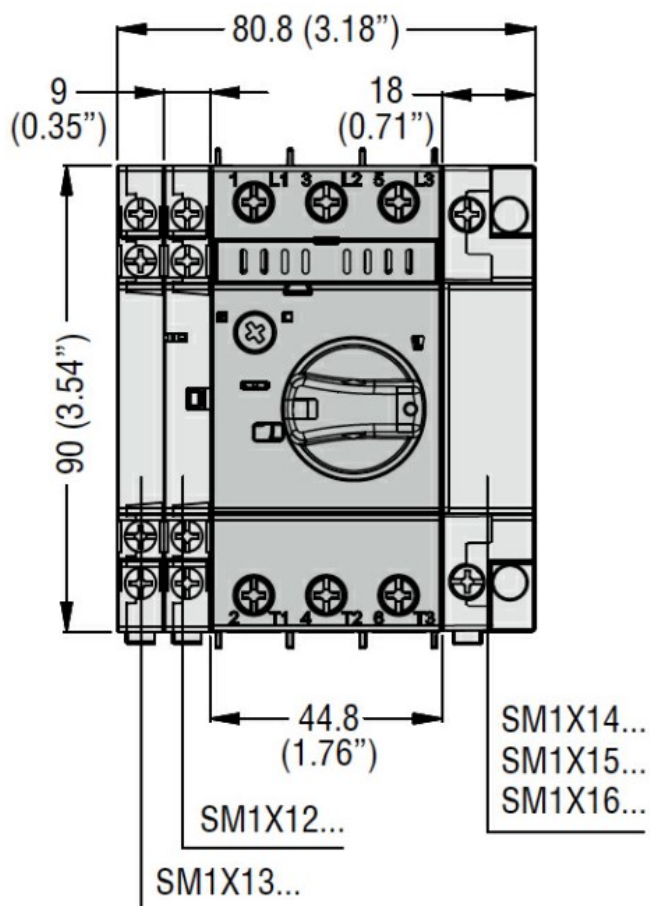
Max number of wires simultaneously connectable Nr. 2

Conductor section

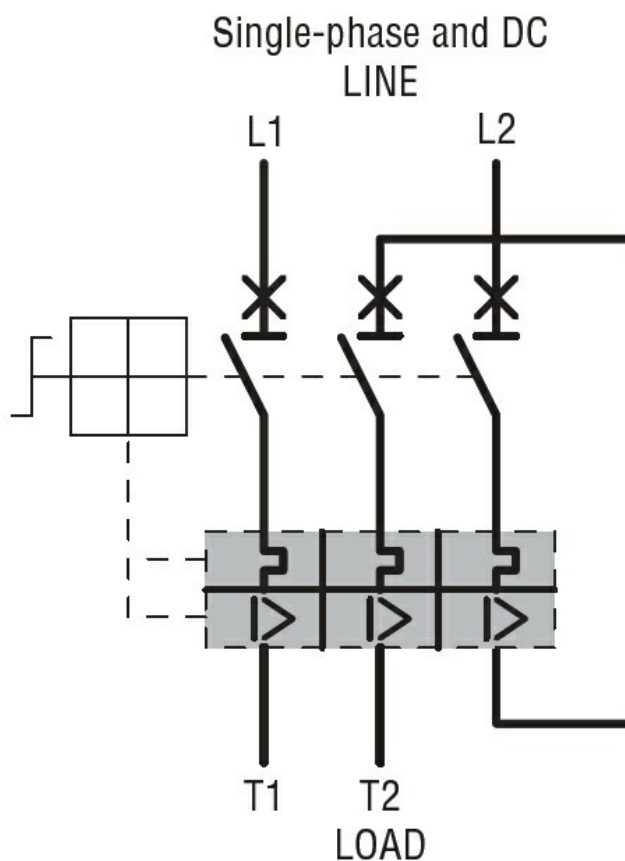
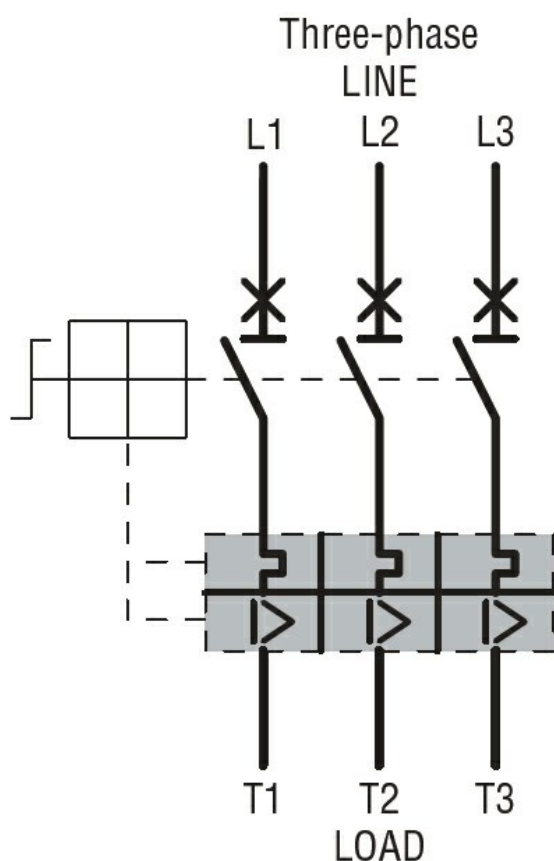
AWG/Kcmil

|     |    |
|-----|----|
| min | 16 |
| max | 8  |

|   |              |                 |                  |
|---|--------------|-----------------|------------------|
| Flexible w/o lug conductor section                    |              |                 |                  |
|   | min          | mm <sup>2</sup> | 1                |
|   | max          | mm <sup>2</sup> | 10               |
| 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               |
| Screwdriver   |              |                 | PH2              |
| Power terminal protection according to IEC/EN 60529   |              |                 | IP20 on front    |
| Cable stripping length                                |              |                 |                  |
|   | main circuit | mm              | 12               |
| Ambient conditions                                    |              |                 |                  |
| Temperature   |              |                 |                  |
| Operating temperature                                 |              |                 |                  |
|   | min          | °C              | -20              |
|   | max          | °C              | +60              |
| Storage temperature                                   |              |                 |                  |
|   | min          | °C              | -50              |
|   | max          | °C              | +80              |
| Compensation temperature                              |              |                 |                  |
|   | min          | °C              | -20              |
|   | max          | °C              | +50              |
| Max altitude  |              | m               | 3000             |
| Operating position                                    |              |                 |                  |
|   | normal       |                 | Vertical plan    |
|   | allowable    |                 | Any              |
| Fixing  |              |                 | Screw / DIN rail |
|   |              |                 | 35mm             |
| Weight  |              | g               | 390              |
| UL technical data                                     |              |                 |                  |
| Motor Disconnect                                      |              |                 |                  |
|   | at 480V      | kA              | 30               |
|   | at 600V      | kA              | 30               |
|   | protection   |                 | 100A class J     |
| Group Motor Installation                              |              |                 |                  |
|   | at 480V      | kA              | 30               |
|   | at 600V      | kA              | 30               |
|   | protection   |                 | 100A class J     |
| Maximum UL/CSA horsepower ratings single-phase        |              |                 |                  |
|   | 110V-120V    | HP              | 1/2              |
|   | 220V-240V    | HP              | 1.5              |
| Maximum UL/CSA horsepower ratings three-phase, 3-pole |              |                 |                  |
|   | 200V-208V    | HP              | 2                |
|   | 220V-240V    | HP              | 3                |
|   | 440V-480V    | HP              | 5                |
|   | 550V-600V    | HP              | 7.5              |
| Dimensions  |              |                 |                  |



## Wiring diagrams



## Certifications and compliance

Certifications

CSA C22.2 n° 14

IEC/EN 60947-1

IEC/EN 60947-2

IEC/EN 60947-4-1

UL508

Compliance

cULus

EAC

ETIM classification

ETIM 8.0

EC000074 -  
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circuit-breaker