



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 | | 0.25...0.4 | |
| Rated current (I_n) | A | 0.4 | |
| Magnetic tripping | | 13 x I_n | |
| Power dissipation per pole | min | W | 0.78 |
| | max | W | 1.99 |

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

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

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

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

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

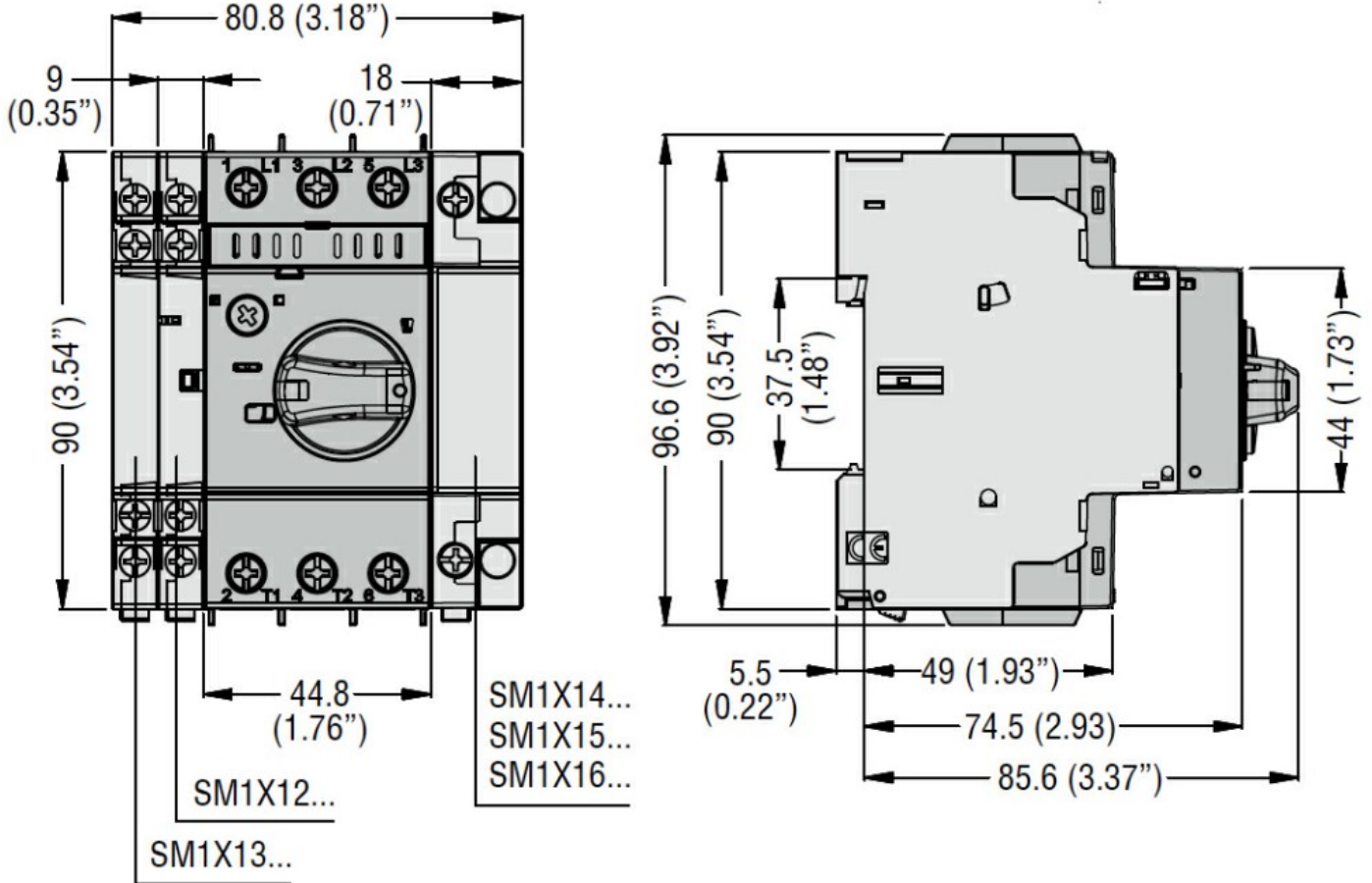
AWG/Kcmil

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

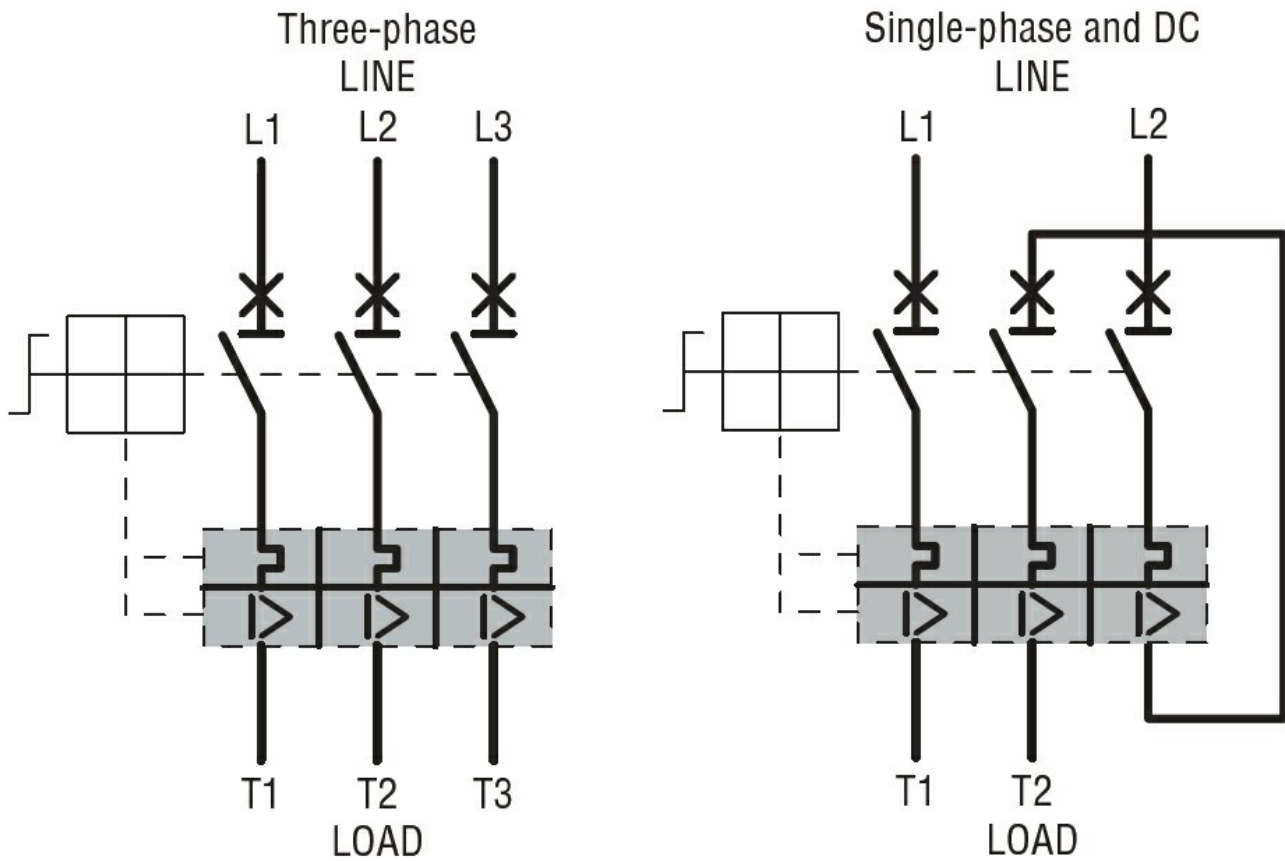
| | | | |
|--|--------------------------|-----------------|--------------------------|
| Flexible w/o lug conductor section | min | mm ² | 1 |
| | max | mm ² | 10 |
| Flexible c/w lug conductor section | min | mm ² | 1 |
| | max | mm ² | 10 |
| Flexible with insulated spade lug conductor section | min | mm ² | 1 |
| | max | mm ² | 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 allowable | | Vertical plan Any |
| Fixing | | | Screw / DIN rail 35mm |
| Weight | | g | 320 |
| UL technical data | | | |
| Motor Disconnect | at 480V | kA | 50 |
| | at 600V | kA | 50 |
| | protection | | Fuse or CB |
| Group Motor Installation | at 480V | kA | 50 |
| | at 600V | kA | 50 |
| | protection | | Fuse or CB |
| Tap Conductor Protection | at 480Y/277V | kA | 50 |
| | at 600Y/347V | kA | 50 |
| UL508 / UL 60947-4-1 Manual Self Protected Combination Motor Controller (Type E) Short circuit current | at 240V | kA | 65 |
| | at 480Y/277V | kA | 65 |
| | at 600Y/347V | kA | 50 |
| Maximum UL/CSA horsepower ratings single-phase | 110V-120V | HP | - |
| | 220V-240V | HP | - |
| Maximum UL/CSA horsepower ratings three-phase, 3-pole | 200V-208V | HP | - |
| | 220V-240V | HP | - |

| | | |
|-----------|----|---|
| 440V-480V | HP | - |
| 550V-600V | HP | - |

Dimensions [mm (in)]



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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