



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		17...23
Rated current ( $I_n$ )	A	23
Magnetic tripping		13 x $I_n$
Power dissipation per pole	min	W 1.86
	max	W 3.41

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

230V	kA	100
400V	kA	25
440V	kA	5
500V	kA	5
690V	kA	2

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

230V	kA	100
400V	kA	50
440V	kA	10
500V	kA	10
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

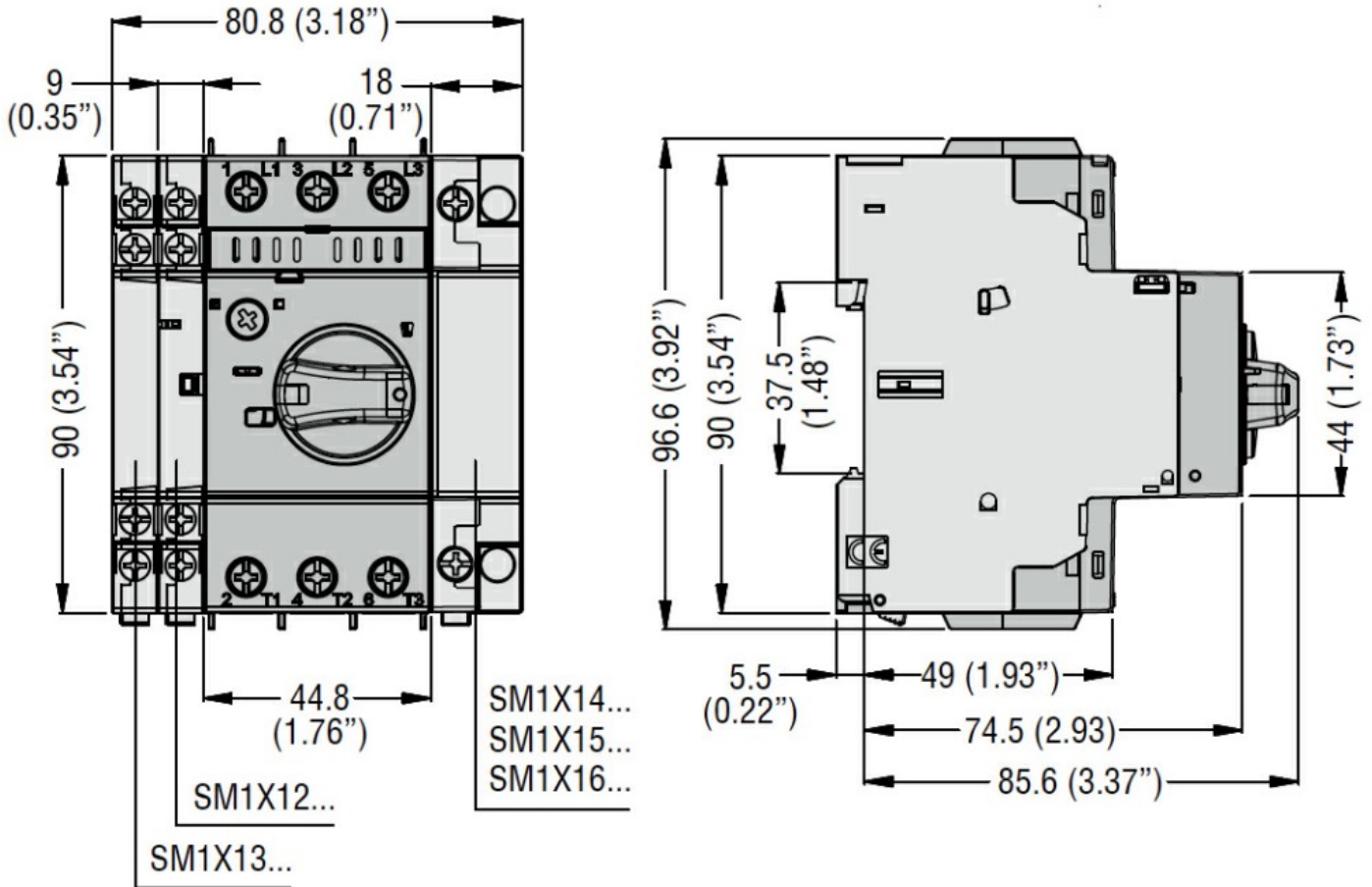
AWG/Kcmil

min	16
max	8

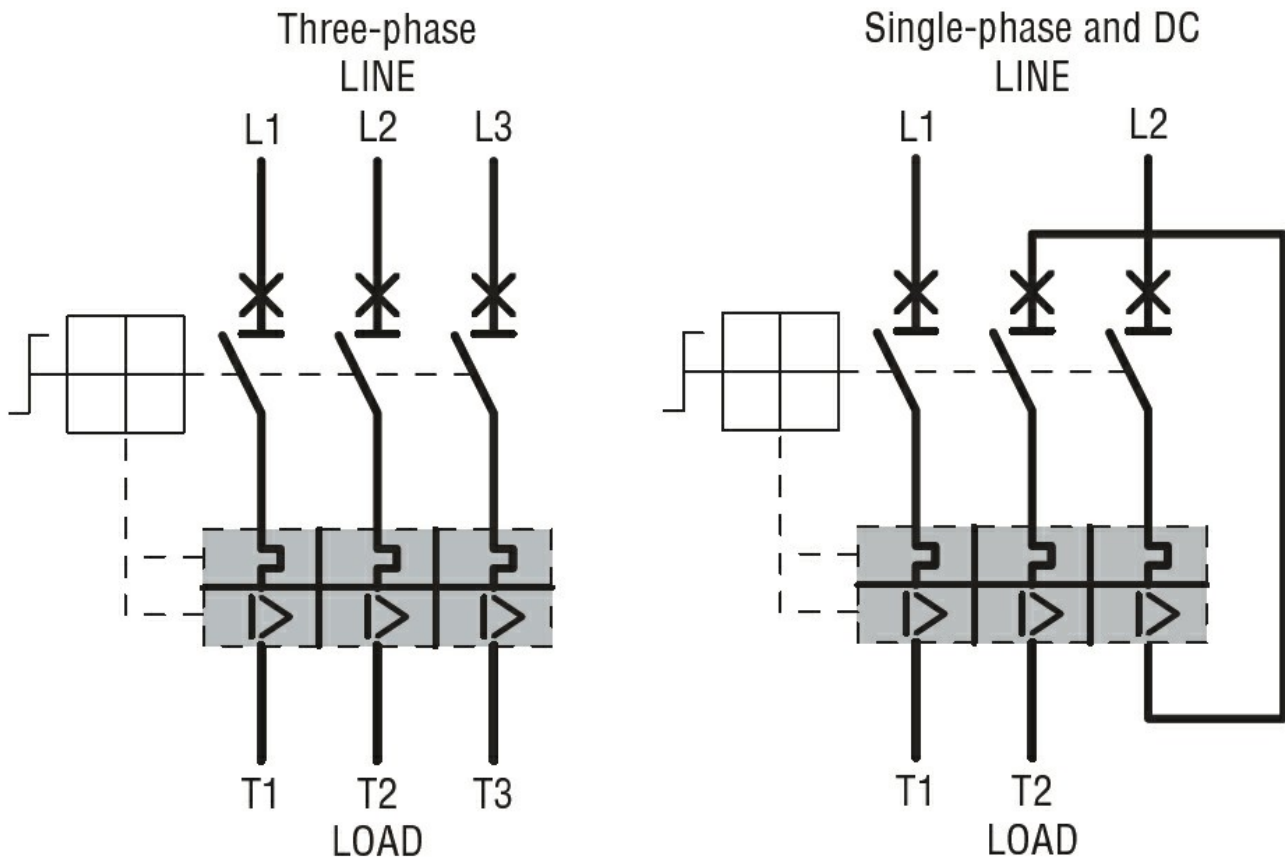
Flexible w/o lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	10
Flexible c/w lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	10
Flexible with insulated spade lug conductor section	min	mm <sup>2</sup>	1
	max	mm <sup>2</sup>	10
Screwdriver			PH2
Power terminal protection according to IEC/EN 60529			IP20 on front
Cable stripping length	main circuit	mm	12
<b>Ambient conditions</b>			
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	390
<b>UL technical data</b>			
Motor Disconnect	at 240V	kA	30
	at 480V	kA	30
	at 600V	kA	30
	protection		200A class J
Group Motor Installation	at 240V	kA	30
	at 480V	kA	30
	at 600V	kA	30
	protection		200A class J
Tap Conductor Protection	at 480Y/277V	kA	30
UL508 / UL 60947-4-1 Manual Self Protected Combination Motor Controller (Type E) Short circuit current	at 240V	kA	30
	at 480Y/277V	kA	30
Maximum UL/CSA horsepower ratings single-phase	110V-120V	HP	1.5
	220V-240V	HP	3
Maximum UL/CSA horsepower ratings three-phase, 3-pole	200V-208V	HP	5
	220V-240V	HP	7.5

440V-480V	HP	15
550V-600V	HP	20

**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 -  
Motor protection  
circuit-breaker