



ENERGY AND AUTOMATION

MOTOR PROTECTION CIRCUIT BREAKER TYPE E, IEC BREAKING CAPACITY ICU 100KA AT 400V, 4...6.5A

SM1R0650



Motor protective 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		4...6.5
Rated current (I_n)	A	6.5
Magnetic tripping		13 x I_n
Total power dissipation	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	2

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

230V	kA	100
400V	kA	100
440V	kA	100
500V	kA	100
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	1.8
max	lbin	2.2

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
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Flexible c/w lug conductor section	min	mm ²	1
Flexible with insulated spade lug conductor section	min	mm ²	1
Screwdriver			PH2
Power terminal protection according to IEC/EN 60529			IP20
Cable stripping length	main circuit	mm	1

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
allowableVertical plan
Any

Fixing

Screw / DIN rail
35mm

Weight

g 390

UL technical data

Motor Disconnect

at 480V	kA	30
at 600V	kA	30
protection		Fuse or CB

Group Motor Installation

at 480V	kA	30
at 600V	kA	30
protection		Fuse or CB

Tap Conductor Protection

at 480Y/277V	kA	30
at 600Y/347V	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
at 600Y/347V	kA	30

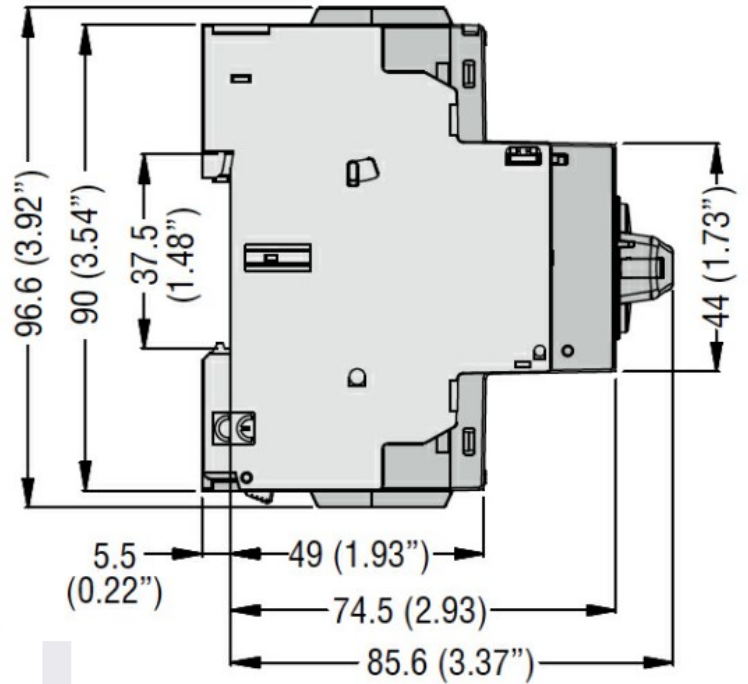
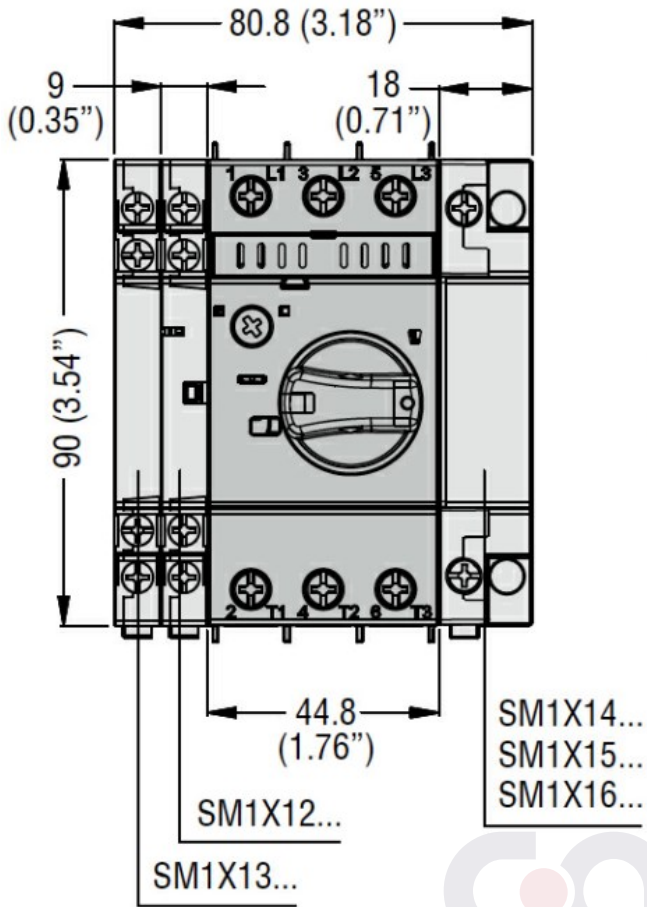
Maximum UL/CSA horsepower ratings single-phase

110V-120V	HP	1/4
220V-240V	HP	1/2

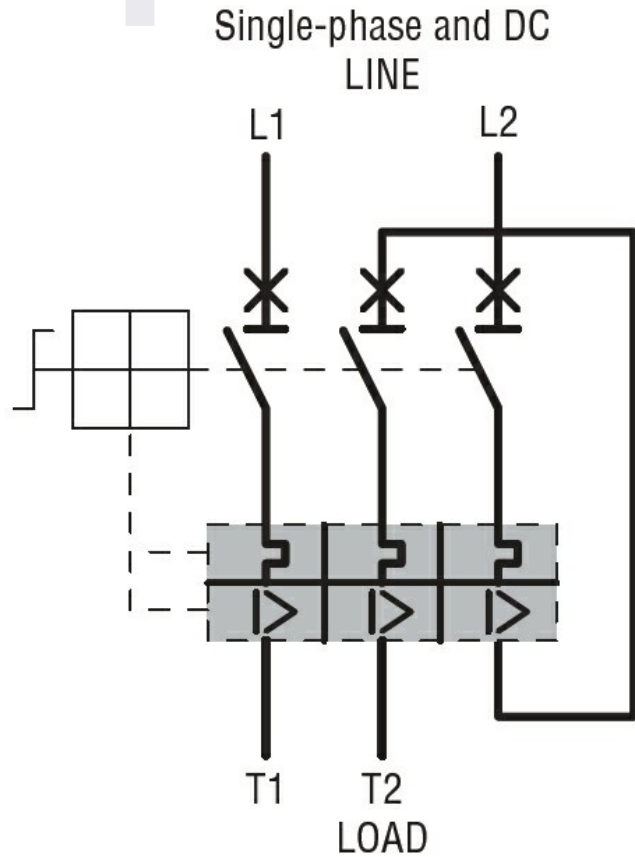
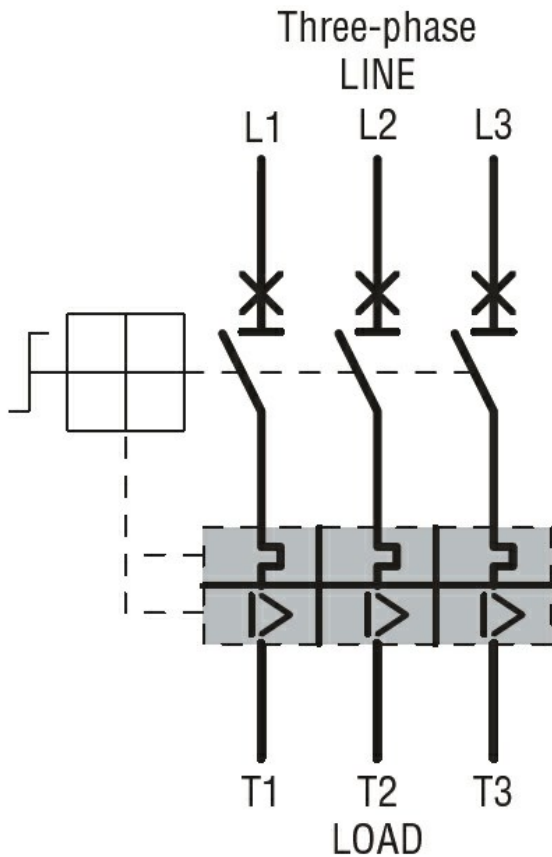
Maximum UL/CSA horsepower ratings three-phase, 3-pole

200V-208V	HP	1.5
220V-240V	HP	1.5
440V-480V	HP	3
550V-600V	HP	5

Dimensions



Wiring diagrams



Certifications and compliance



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SM1R0650

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

