



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		1.6...2.5
Rated current (I_n)	A	2.5
Magnetic tripping		13 x I_n
Power dissipation per pole		

min	W	0.67
max	W	1.63

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

230V	kA	100
400V	kA	100
440V	kA	100
500V	kA	100
690V	kA	10

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

230V	kA	100
400V	kA	100
440V	kA	100
500V	kA	100
690V	kA	10

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 lenght			
	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	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	65
	at 480Y/277V	kA	65
	at 600Y/347V	kA	30
Maximum UL/CSA horsepower ratings single-phase			
	110V-120V	HP	-
	220V-240V	HP	1/6
Maximum UL/CSA horsepower ratings three-phase, 3-pole			
	200V-208V	HP	1/2
	220V-240V	HP	1/2

440V-480V	HP	1
550V-600V	HP	1.5

80.8 (3.18")

9 (0.35")

18 (0.71")

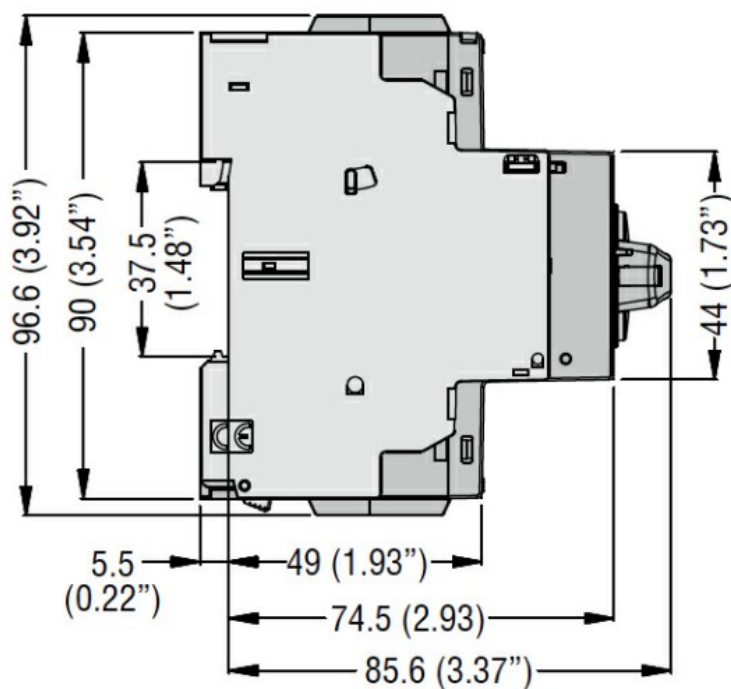
90 (3.54")

44.8 (1.76")

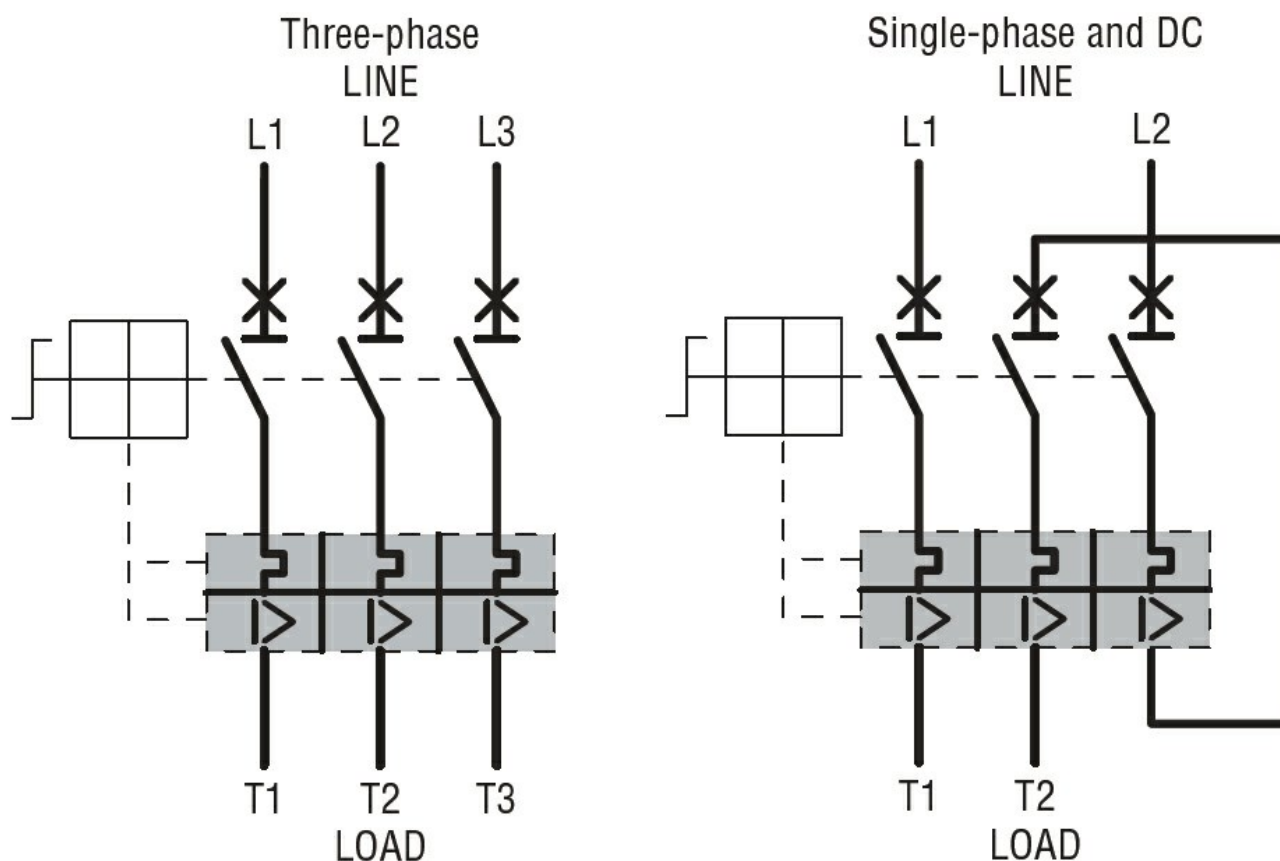
SM1X12...

SM1X13...

SM1X14...
SM1X15...
SM1X16...



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