MOTOR PROTECTION CIRCUIT BREAKER TYPE E, IEC BREAKING CAPACITY ICU 100KA AT 400V, 0.16...0.25A **ENERGY AND AUTOMATION**



Product type designation SM1R	Product designation				Motor protection circuit breaker
Number of poles	7: 0	on			SM1R
Magnetic protection					
Thermal protection yes Phase failure detection yes Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Rated frequency ½ 50/60 Thermal trip adjustment range 0.160.25 Rated current (In) A 0.25 Magnetic tripping ½ 10 x In Total power dissipation W 1.97 Operational short-circuit current breaking capacity (Ics) at AC 230V kA 100 440V kA 100 440V kA 100 440V kA 100 500V kA 100 440V kA 100 440V kA 100 440V kA 100 100 440V kA 100 100 440V kA 100 100 440V kA 100 100 40V kA 100 100 50V kA 100 100 50V kA 100 100 69V kA 100 100 50V kA 100 100 69V kA 100 100 10C Utilization category A Mechanical life cycles 100000 Electrical life min 50 <td></td> <td></td> <td></td> <td>Nr.</td> <td>3</td>				Nr.	3
Phase failure detection yes Rated insulation voltage Ui IEC/EN V 690 Rated impulse withstand voltage Uimp kV 6 Rated frequency H≥ 50/60 Thermal trip adjustment range 0.160.25 Rated current (in) A 0.25 Magnetic tripping 10 x In Total power dissipation W 1.97 Operational short-circuit current breaking capacity (Ics) at AC 230V kA 100 440V kA 100 440V kA 100 450V kA 100 460V kA 100 460V kA 100 400V kA 100 440V kA 100 400V kA 100 440V kA 100 400V kA 100 440V kA 100 500V kA 100 440V kA 100 400V kA 100 440V kA 100 500V kA 100 <td></td> <td></td> <td></td> <td></td> <td>yes</td>					yes
Rated insulation voltage Ui IEC/EN V 690 Rated dimpulse withstand voltage Uimp kV 6 Rated frequency Hz 50/60 Thermal trip adjustment range 0.160.25 Rated current (In) A 0.25 Magnetic tripping 10 x ln Total power dissipation W 1.97 Operational short-circuit current breaking capacity (Ics) at AC 230V kA 100 440V kA 100 440V kA 100 500V kA 100 690V kA 100 690V kA 100 690V kA 100 100A 150A 100A 100A 100A 100A 100A 1	Thermal protection				yes
Rated impulse withstand voltage Uimp kV 6 Rated frequency Hz 50/60 Thermal trip adjustment range 0.160.25 Rated current (In) A 0.25 Magnetic tripping 10 x ln Total power dissipation W 1.97 Operational short-circuit current breaking capacity (Ics) at AC 230V kA 100 400V kA 100 400V kA 100 400V kA 100 690V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Waximum short-circuit current breaking	Phase failure detection	١			yes
Rated frequency Hz 50/60 Thermal trip adjustment range 0.160.25 Rated current (In) A 0.25 Magnetic tripping 10 x In Total power dissipation W 1.97 Operational short-circuit current breaking capacity (Ics) at AC 230V kA 100 440V kA 100 440V kA 100 690V kA 100 460V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100	Rated insulation voltag	je Ui IEC/EN		V	690
Thermal trip adjustment range 0.160.25	Rated impulse withstar	nd voltage Uimp		kV	6
Rated current (In)	Rated frequency			Hz	50/60
Magnetic tripping	Thermal trip adjustmer	nt range			0.160.25
Total power dissipation W 1.97	Rated current (In)			А	0.25
Command Short-circuit current breaking capacity (Ics) at AC	Magnetic tripping				10 x In
230V	Total power dissipation	1		W	1.97
A00V	Operational short-circu	it current breaking capacity (Ics) at AC			
A40V KA 100 500V KA 100 690V KA	·		230V	kA	100
S00V KA 100 690V KA			400V	kA	100
Maximum short-circuit current breaking capacity (Icu) at AC			440V	kA	100
Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 400V kA 100 440V kA 100 500V kA 100 690V 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 1bin 22 max Nm 3 min 1bin 22 max 1bin 26.5 Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil			500V	kA	
Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 400V kA 100 440V kA 100 500V kA 100 690V 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 1bin 22 max Nm 3 min 1bin 22 max 1bin 26.5 Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil			690V	kA	100
230V	Maximum short-circuit	current breaking capacity (Icu) at AC			,
A00V KA 100 440V KA 100 500V KA 100 690V KA			230V	kA	100
A440V KA 100 500V KA 100 690V KA					
S00V KA 100 690V kA 100					
Tripping class 10A IEC Utilization category A Operations Mechanical life cycles 100000 Electrical life cycles 100000 Mechanical features In min Nm 2.5 max Nm 3 min 1bin 22 max 1bin 26.5 Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil					
EC Utilization category			690V	kA	100
EC Utilization category	Tripping class				10A
Operations Mechanical life cycles 100000 Electrical life cycles 100000 Mechanical features Tightening torque for terminals min Nm 2.5 max Nm 3 min Ibin 22 max Ibin 26.5 Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil		V			
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					
Electrical life	•			cycles	100000
Mechanical features Tightening torque for terminals min Nm 2.5 max Nm 3 min Ibin 22 max Ibin 26.5 Max number of wires simultaneously connectable Conductor section AWG/Kcmil min 16					
Tightening torque for terminals min Nm 2.5 max Nm 3 min Ibin 22 max Ibin 26.5				.,	
min Nm 2.5 max Nm 3 min lbin 22 max lbin 26.5		erminals			
Max number of wires simultaneously connectableMr.2Conductor sectionNr.2AWG/Kcmilmin16	9 9 4		min	Nm	2.5
Max number of wires simultaneously connectableMr.2Conductor sectionNr.2AWG/Kcmilmin16					
Max number of wires simultaneously connectable Conductor section AWG/Kcmil min 16					
Max number of wires simultaneously connectable Conductor section AWG/Kcmil min 16					
Conductor section AWG/Kcmil min 16	Max number of wires simultaneously connectable				
AWG/Kcmil min 16		,			
min 16		AWG/Kcmil			
			min		16
			max		8
Flexible w/o lug conductor section		Flexible w/o lug conductor section	3/		
min mm ² 1			min	mm²	1

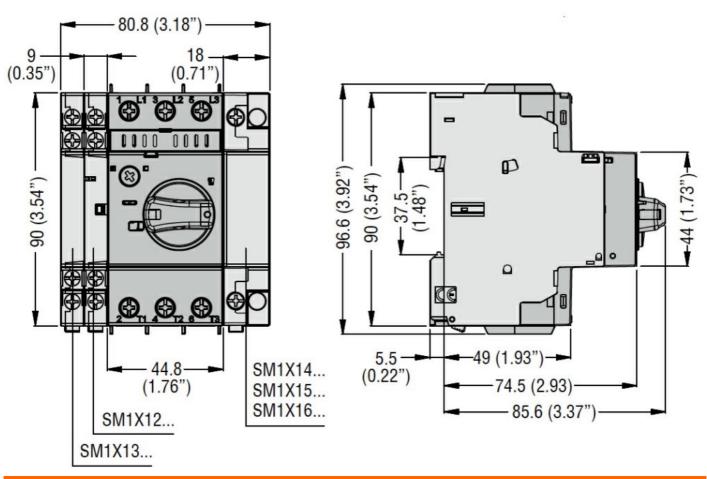


electric MOTOR PROTECTION CIRCUIT BREAKER TYPE E, IEC BREAKING CAPACITY ICU 100KA AT 400V, 0.16...0.25A

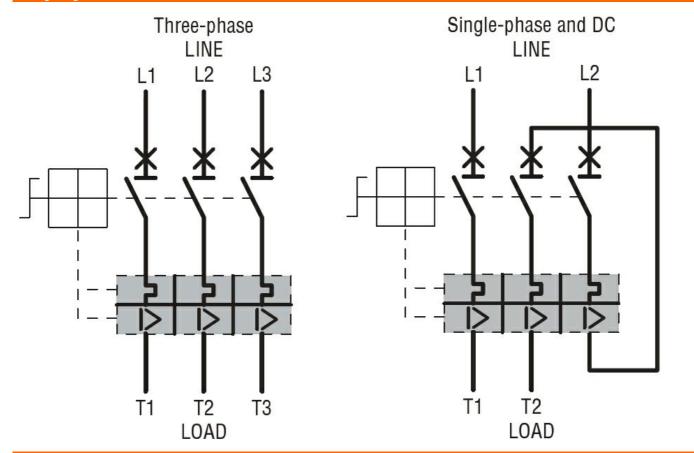
ENERGY AND AUTOMATION

	Flexible c/w lug conductor section		
	min	mm²	1
	Flexible with insulated spade lug conductor section		
	min	mm²	1
Screwdriver			PH2
	tion according to IEC/EN 60529		IP20
Cable stripping lenght	ponio nivovit	m m	4
Ambient conditions	main circuit	mm	1
Temperature			
remperature	Operating temperature		
	operating temperature min	°C	-20
	max	°C	+60
	Storage temperature		100
	min	°C	-50
	max	°C	+80
	Compensation temperature		
	min	°C	-20
	max	°C	+50
Max altitude	mex	m	3000
Operating position			
operaning peemen	normal		Vertical plan
	allowable		Any
Fig.	anomable		Screw / DIN rail
Fixing			35mm
Weight		g	320
UL technical data			
Motor Disconnect			
Motor Disconnect	at 480V	kA	50
Motor Disconnect	at 480V at 600V	kA kA	50 50
Motor Disconnect			
Motor Disconnect Group Motor Installation	at 600V protection		50
	at 600V protection		50
	at 600V protection	kA	50 Fuse or CB
Group Motor Installatio	at 600V protection on at 480V at 600V protection	kA kA	50 Fuse or CB 50
	at 600V protection on at 480V at 600V protection tion	kA kA	50 Fuse or CB 50 50 Fuse or CB
Group Motor Installatio	at 600V protection on at 480V at 600V protection tion at 480Y/277V	kA kA kA	50 Fuse or CB 50 50 Fuse or CB
Group Motor Installation	at 600V protection on at 480V at 600V protection on at 480V at 600V protection on at 480Y/277V at 600Y/347V	kA kA kA	50 Fuse or CB 50 50 Fuse or CB 50 50
Group Motor Installation	at 600V protection on at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short	kA kA kA kA circuit cu	50 Fuse or CB 50 50 Fuse or CB 50 fuse or CB
Group Motor Installation	at 600V protection on at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V	kA kA kA kA circuit cu	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50
Group Motor Installation	at 600V protection at 480V at 600V protection at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V	kA kA kA kA circuit cu kA kA	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1	at 600V protection at 480V at 600V protection at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V	kA kA kA kA circuit cu	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1	at 600V protection at 480V at 600V protection at 480V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase	kA kA kA circuit cu kA kA	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1	at 600V protection at 480V at 600V protection at 480V/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase 110V-120V	kA kA kA circuit cu kA kA kA	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1 Maximum UL/CSA hor	at 600V protection at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase 110V-120V 220V-240V	kA kA kA circuit cu kA kA	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1 Maximum UL/CSA hor	at 600V protection at 480V at 600V protection at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase 110V-120V 220V-240V sepower ratings three-phase, 3-pole	kA kA kA circuit cu kA kA HP HP	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50 50 -
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1 Maximum UL/CSA hor	at 600V protection at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase 110V-120V 220V-240V sepower ratings three-phase, 3-pole	kA kA kA circuit cu kA kA HP HP	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50 50 -
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1 Maximum UL/CSA hor	at 600V protection at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase 110V-120V 220V-240V sepower ratings three-phase, 3-pole 200V-208V 220V-240V	kA kA kA circuit cu kA kA HP HP	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50 50 -
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1 Maximum UL/CSA hor	at 600V protection at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase 110V-120V 220V-240V sepower ratings three-phase, 3-pole 200V-208V 220V-240V 440V-480V	kA kA kA circuit cu kA kA HP HP	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50 50 -
Group Motor Installation Tap Conductor Protect UL508 / UL 60947-4-1 Maximum UL/CSA hor	at 600V protection at 480V at 600V protection tion at 480Y/277V at 600Y/347V Manual Self Protected Combination Motor Controller (Type E) Short at 240V at 480Y/277V at 600Y/347V sepower ratings single-phase 110V-120V 220V-240V sepower ratings three-phase, 3-pole 200V-208V 220V-240V	kA kA kA circuit cu kA kA HP HP	50 Fuse or CB 50 50 Fuse or CB 50 50 rrent 50 50 50 -





Wiring diagrams



Certifications and compliance



SM1R0025

MOTOR PROTECTION CIRCUIT BREAKER TYPE E, IEC BREAKING CAPACITY ICU 100KA AT 400V, 0.16...0.25A

ENERGY AND AUTOMATION

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