



Product designation       circuit breaker         Product type designation       SM1R         Electrical features       Nr. 3         Magnetic protection       yes         Thermal protection       yes         Phase failure detection       yes         Rated insulation voltage Ui IEC/EN       V       690         Rated insulation voltage Ui IEC/EN       V       6         Rated frequency       Hz       50/60         Thermal trip adjustment range       1318         Rated current (In)       A       18         Magnetic tripping       133. In       13         Total power dissipation       W       2.57         Operational short-circuit current breaking capacity (Ics) at AC       230V       kA       100         400V       kA       5       500V       kA       5         Maximum short-circuit current breaking capacity (Icu) at AC       230V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       40V					Motor protection
Product type designation         SM1R           Electrical features	Product designation				
Electrical features           Number of poles         Nr. 3           Magnetic protection         yes           Thermal protection         yes           Phase failure detection         yes           Rated insulation voltage UI IEC/EN         V         690           Rated insulation voltage UI IEC/EN         V         690           Rated insulation voltage UI IEC/EN         V         690           Rated insulation voltage UI IEC/EN         V         6           Rated insulation voltage UI IEC/EN         V         8           Magnetic tripping         13 x In         13 x In           Total power dispation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         KA         100           4400V         KA         100         440V         KA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         KA         100           EC Utilitation category         <	Product type designati	ion			
Magnetic protection         yes           Thermal protection         yes           Phase failure detection         yes           Rated insulation voltage Ui IEC/EN         V         690           Rated insulation voltage Uinp         KV         6           Rated frequency         Hz         50/60           Thermal trip adjustment range         1318           Rated frequency         HZ         50/60           Thermal trip adjustment range         1318           Rated trequency         HZ         50/60           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         KA         100           4400V         KA         5         500V         KA         5           Maximum short-circuit current breaking capacity (Icu) at AC         230V         KA         100           440V         KA         100         440V         KA         100           102         Edition category         A         100         690V         KA         100           112         Editization category         A         100A         100A         100A         100A         100A         100         100A	Electrical features				
Thermal protection         yes           Phase failure detection         yes           Phase failure detection         yes           Rated insulation voltage UIEC/EN         V         690           Rated insulation voltage UIIP         KV         6           Rated insulation voltage UIIP         KV         6           Rated frequency         Hz         50/60           Thermal trip adjustment range         1318           Rated current (In)         A         18           Magnetic tripping         13.3 k In           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         kA           440V         KA         100         440V         kA           690V         KA         2         500V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100         440V         kA         100           440V         KA         100         500V         kA         100         500V         kA         100           180         Education category         A         10A         10A         10A         10A         10A <td>Number of poles</td> <td></td> <td></td> <td>Nr.</td> <td>3</td>	Number of poles			Nr.	3
Phase failure detection         yes           Rated insulation voltage UIIEC/EN         V         690           Rated insulation voltage UIIEC/EN         KV         6           Rated frequency         Hz         50/60           Thermal trip adjustment range         1318           Rated trequency         Hz         50/60           Thermal trip adjustment range         1318           Rated current (In)         A         18           Magnetic tripping         13.x In           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         kA         100           440V         kA         5         500V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         690V         kA         4           Tripping class         100A         10A         10A         10A           IEC Utilization category         A </td <td>Magnetic protection</td> <td></td> <td></td> <td></td> <td>yes</td>	Magnetic protection				yes
Rated insulation voltage Ui IEC/EN         V         690           Rated impulse withstand voltage Uimp         kV         6           Rated frequency         Hz         50/60           Thermal trip adjustment range         1318           Rated current (In)         A         18           Magnetic tripping         13 x In           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         kA         100           4400V         kA         5         500V         kA         5           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           440V         kA         5         500V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           440V         kA         100         440V         kA         100           450V         kA         100         500V         kA         4           Tripping class         10A         10         500V         kA         4           Tripping class         10A         10         5         5         5 <tr< td=""><td>Thermal protection</td><td></td><td></td><td></td><td>yes</td></tr<>	Thermal protection				yes
Rated impulse withstand voltage Uimp         kV         6           Rated frequency         Hz         50/60           Thermal trip adjustment range         1318           Rated current (In)         A         18           Magnetic tripping         13 x ln           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         kA         100           440V         kA         5         500V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           440V         kA         5         500V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         440V         kA         100           690V         kA         10         690V         kA         4           Tripping class         10A         10A         10A         10A <td>Phase failure detection</td> <td>า</td> <td></td> <td></td> <td>yes</td>	Phase failure detection	า			yes
Rated frequency       Hz       50/60         Thermal trip adjustment range       1318         Rated current (In)       A       18         Magnetic tripping       13 x In         Total power dissipation       W       2.57         Operational short-circuit current breaking capacity (Ics) at AC       230V       kA       100         440V       kA       5       500V       kA       5         Maximum short-circuit current breaking capacity (Icu) at AC       230V       kA       100         440V       kA       5       500V       kA       2         Maximum short-circuit current breaking capacity (Icu) at AC       230V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       500V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       500V       kA       100         Electrical life       cycles       100000       Electrical life       cycles       100000         Electrical life       c	Rated insulation voltage	je Ui IEC/EN		V	690
Thermal trip adjustment range         1318           Rated current (In)         A         18           Magnetic tripping         13 x ln           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         kA         100           400V         kA         100         400V         kA         5           500V         kA         5         500V         kA         5           690V         kA         100         400V         kA         100           400V         kA         100         400V         kA         5           500V         kA         10         5         500V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100         400V         kA         100           1EC Utilization category         A         100         500V         kA         10         500V         kA         10           Electrical life         cycles         100000         500V         kA         10         50000         500V         kA         10         50000         500V         kA         10         50	Rated impulse withstar	nd voltage Uimp		kV	6
Rated current (in)         A         18           Magnetic tripping         13 x In           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (Ics) at AC         230V         kA         100           4400V         kA         100         440V         kA         5           S00V         kA         5         500V         kA         5           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         500V         kA         4           Tripping class         10A         10A         10A         10A           IEC Utilization category         A         0         0         0         0           Mechanical life         cycles         1000000         100         100	Rated frequency			Hz	50/60
Magnetic tripping         13 x ln           Total power dissipation         W         2.57           Operational short-circuit current breaking capacity (lcs) at AC         230V         kA         100           400V         kA         100         440V         kA         5           500V         kA         5         500V         kA         5           690V         kA         2         Maximum short-circuit current breaking capacity (lcu) at AC         230V         kA         100           Maximum short-circuit current breaking capacity (lcu) at AC         230V         kA         100           440V         kA         100         440V         kA         100           440V         kA         100         440V         kA         100           90V         kA         100         400V         kA         10           690V         kA         10         690V         kA         4           Tripping class         10A         10         690V         kA         4           Deperations         10A         10         690V         kA         10           Mechanical life         cycles         100000         10         10         10         <	Thermal trip adjustmer	nt range			1318
Total power dissipation       W       2.57         Operational short-circuit current breaking capacity (Ics) at AC       230V       kA       100         400V       kA       100       440V       kA       5         500V       kA       5       500V       kA       5         Maximum short-circuit current breaking capacity (Icu) at AC       230V       kA       100         440V       kA       100       400V       kA       100         440V       kA       100       400V       kA       100         440V       kA       100       400V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       690V       kA       4         Tripping class       10A       10A       10A       10A         IEC Utilization category       A       00000       0000       0000       00000       00000         Electrical life       cycles       100000       00000       0000       00000       00000       00000       00000       00000       00000       00000       00000       00000       00000       00000       00000       00000 <t< td=""><td>Rated current (In)</td><td></td><td></td><td>А</td><td>18</td></t<>	Rated current (In)			А	18
Operational short-circuit current breaking capacity (Ics) at AC         230V         kA         100           440V         kA         5         500V         kA         5           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           440V         kA         5         690V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           400V         kA         100         400V         kA         100           400V         kA         100         440V         kA         100           400V         kA         100         440V         kA         100           500V         kA         100         500V         kA         100           500V         kA         100         500V         kA         100           Electricalist         100A         100A         100A         100A         100A           IEC Utilization category         A         0         0         0         0         0           Mechanical life         cycles         100000         10000         0         0         10         10000         0	Magnetic tripping				13 x ln
230V       kA       100         400V       kA       100         40V       kA       100         440V       kA       5         500V       kA       2         Maximum short-circuit current breaking capacity (Icu) at AC       230V       kA       100         400V       kA       100       400V       kA       2         Maximum short-circuit current breaking capacity (Icu) at AC       230V       kA       100         400V       kA       100       400V       kA       100         400V       kA       100       500V       kA       100         400V       kA       100       500V       kA       100         500V       kA       100       500V       kA       4         Tripping class       10A       10A       10A       10A         IEC Utilization category       A       0       00000       10A       10A         Electrical life       cycles       100000       10A       10B       10	Total power dissipation	ו		W	2.57
400V         kA         100           440V         kA         5           500V         kA         5           690V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           400V         kA         100         400V         kA         100           400V         kA         100         400V         kA         100           400V         kA         100         400V         kA         100           500V         kA         100         500V         kA         100           690V         kA         4         100         500V         kA         4           Tripping class         10A         16         10A         16         10A         16         10A         16         10000         16         10000         16         10000         16         10000         16         10000         16         10000         16         10000         16         10000         16         100         16         18         18         18         18         18         18         18         18         18         18         18 <td< td=""><td>Operational short-circu</td><td>it current breaking capacity (Ics) at AC</td><td></td><td></td><td></td></td<>	Operational short-circu	it current breaking capacity (Ics) at AC			
440V         kA         5           500V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           400V         kA         100         400V         kA         100           400V         kA         100         400V         kA         100           400V         kA         100         400V         kA         100           440V         kA         100         500V         kA         100           500V         kA         100         690V         kA         4           Tripping class         10A         162         10A         162         10A         162         10A         162         10000         10A         162         10000         10A         162         10000         10A         162         10000         10A         163         100         10A         10A         10A         10A         10A         10A			230V	kA	100
500V         kA         5           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           400V         kA         100         400V         kA         100           440V         kA         100         500V         kA         100           500V         kA         100         440V         kA         100           500V         kA         100         500V         kA         4           Tripping class         10A         10A         10A         10C           IEC Utilization category         A         Operations         A         Operations         A           Mechanical life         cycles         100000         100000         100000         Mechanical features         Interventional state st			400V	kA	100
690V         kA         2           Maximum short-circuit current breaking capacity (Icu) at AC         230V         kA         100           400V         kA         100         400V         kA         100           400V         kA         100         400V         kA         100           500V         kA         10         690V         kA         4           Tripping class         10A         10A         10A         10C           IEC Utilization category         A         A         Operations         A           Operations         cycles         100000         Electrical life         cycles         100000           Mechanical features         rightening torque for terminals         min         Nm         2.5           Max number of wires simultaneously connectable         Nr.         2         2           Conductor section         AWG/Kcmil         min         16         max         8			440V	kA	5
Maximum short-circuit current breaking capacity (Icu) at AC 230V kA 100 400V kA 100 440V kA 100 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 lbin 1.8 max lbin 2.2 Max number of wires simultaneously connectable Nr. 2 Conductor section A MG/Kcmil min 16 max 8			500V	kA	5
230V       kA       100         400V       kA       100         440V       kA       100         500V       kA       10         690V       kA       4         Tripping class         IDA         IEC Utilization category         A         Operations         Mechanical life       cycles       100000         Cycles       100000         Bectrical life       cycles       100000         Mechanical features         Tightening torque for terminals         min       Nm       2.5         max       Nm       3         min       1bin       1.8         max       Nm       3         min       1bin       1.8         min       1bin       2.2         Max number of wires simultaneously connectable       Nr.       2         Conductor section         Min       16         min       16         min       16 <td< td=""><td></td><td></td><td>690V</td><td>kA</td><td>2</td></td<>			690V	kA	2
400V         kA         100           440V         kA         100           500V         kA         10           500V         kA         10           690V         kA         4           Tripping class         10A           IEC Utilization category         A           Operations         X           Mechanical life         cycles         100000           Electrical life         cycles         100000           Mechanical features         100000         100000           Mechanical features         min         Nm         2.5           max         Nm         3         min         Ibin         2.2           Max number of wires simultaneously connectable         Nr.         2         2           Conductor section         AWG/Kcmil         min         16           max         8         10         8	Maximum short-circuit	current breaking capacity (Icu) at AC			
440V         kA         100           500V         kA         10           690V         kA         4           Tripping class         10A           IEC Utilization category         A           Operations         A           Mechanical life         cycles         100000           Electrical life         cycles         100000           Mechanical leatures         cycles         100000           Tightening torque for terminals         min         Nm         2.5           max         Nm         3         min         1bin         1.8           Max number of wires simultaneously connectable         Nr.         2         2           Conductor section         AWG/Kcmil         min         16           max         8         Flexible w/o lug conductor section         8			230V	kA	100
500V       kA       10         690V       kA       4         Tripping class       10A         IEC Utilization category       A         Operations       A         Mechanical life       cycles       100000         Electrical life       cycles       100000         Mechanical features       100000       100000         Mechanical features       min       Nm       2.5         Tightening torque for terminals       min       1.8         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       min       16         Max       8       Flexible w/o lug conductor section       8			400V	kA	100
690V       kA       4         Tripping class       10A         IEC Utilization category       A         Operations       A         Mechanical life       cycles       100000         Electrical life       cycles       100000         Mechanical features       rightening torque for terminals       min       Nm       2.5         Max number of wires simultaneously connectable       Nr.       2       2         Conductor section       AWG/Kcmil       min       16         Flexible w/o lug conductor section       min       16			440V	kA	100
Tripping class 10A IEC Utilization category A Operations Mechanical life cycles 100000 Electrical life cycles 100000 Mechanical features Tightening torque for terminals Max number of wires simultaneously connectable Nr. 2 Conductor section AWG/Kcmil Max Nor 16 max 8 Flexible w/o lug conductor section			500V	kA	10
IEC Utilization category A Operations Mechanical life cycles 100000 Electrical life cycles 100000 Mechanical features Tightening torque for terminals $ \begin{array}{ccccccccccccccccccccccccccccccccccc$			690V	kA	4
Operations       Cycles       10000         Electrical life       cycles       100000         Mechanical features       rin       Nm       2.5         Tightening torque for terminals       min       Nm       3         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       min       16         Flexible w/o lug conductor section       Flexible w/o lug conductor section       16	Tripping class				10A
Mechanical life       cycles       100000         Electrical life       cycles       100000         Mechanical features       min       Nm       2.5         Tightening torque for terminals       min       Nm       3         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       min       16         Flexible w/o lug conductor section       Flexible w/o lug conductor section       8	IEC Utilization categor	у			А
Electrical life cycles 100000          Mechanical features       min       Nm       2.5         Tightening torque for terminals       min       Nm       3         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       min       16         Flexible w/o lug conductor section       Flexible w/o lug conductor section       8	Operations				
Mechanical features         Tightening torque for terminals         min       Nm       2.5         max       Nm       3         min       Ibin       1.8         max       Ibin       2.2         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       min       16         max       8       Flexible w/o lug conductor section       8	Mechanical life			cycles	100000
Tightening torque for terminals       min       Nm       2.5         max       Nm       3         min       Ibin       1.8         max       Ibin       2.2         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       min       16         max       8       8         Flexible w/o lug conductor section       Flexible w/o lug conductor section	Electrical life			cycles	100000
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 AWG/Kcmil Flexible w/o lug conductor section	Mechanical features				
max       Nm       3         min       lbin       1.8         max       lbin       2.2         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       inin       16         max       8       inin       8         Flexible w/o lug conductor section       inin       16	Tightening torque for te	erminals			
min       lbin       1.8         max       lbin       2.2         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       16         max       8       8         Flexible w/o lug conductor section       Value of the section			min	Nm	2.5
max       lbin       2.2         Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       16			max	Nm	3
Max number of wires simultaneously connectable       Nr.       2         Conductor section       AWG/Kcmil       inin       16         max       8       8         Flexible w/o lug conductor section       Imax       16			min	lbin	1.8
Conductor section          AWG/Kcmil       min       16         max       8         Flexible w/o lug conductor section			max	lbin	2.2
AWG/Kcmil min 16 max 8 Flexible w/o lug conductor section	Max number of wires s	simultaneously connectable		Nr.	2
min 16 max 8 Flexible w/o lug conductor section	Conductor section				
max     8       Flexible w/o lug conductor section		AWG/Kcmil			
Flexible w/o lug conductor section			min		16
•			max		8
min mm² 1		Flexible w/o lug conductor section			
			min	mm²	1

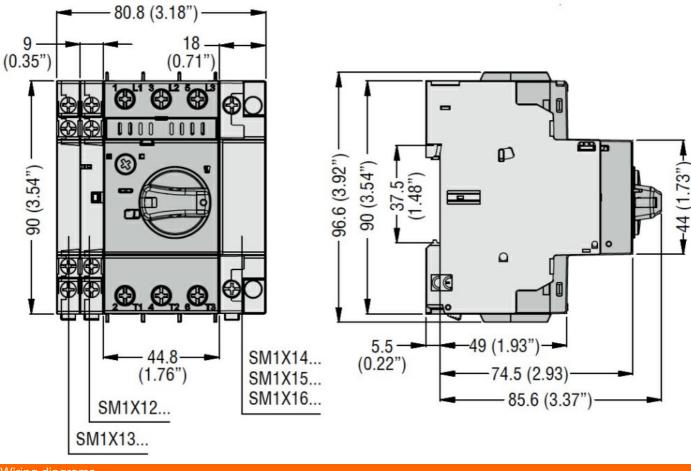


	Flexible c/w lug conductor section			
		min	mm²	1
	Flexible with insulated spade lug conductor section			
		min	mm²	1
Screwdriver				PH2
	tection according to IEC/EN 60529			IP20
Cable stripping leng	ght			
		main circuit	mm	1
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-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		Vertical plan
		allowable		Any
Fixing				Screw / DIN rail 35mm
Weight			g	390
UL technical data			-	
Motor Disconnect				
		at 480V	kA	30
		at 600V	kA	30
		protection		200A class J
Group Motor Installa	ation			
		at 480V	kA	30
		at 600V	kA	30
		protection		200A class J
Maximum UL/CSA ł	horsepower ratings single-phase	-		
		110V-120V	HP	1
		220V-240V	HP	3
Maximum UL/CSA ł	horsepower ratings three-phase, 3-pole			
		200V-208V	HP	5
		220V-240V	HP	5
		220V-240V 440V-480V	HP HP	5 10

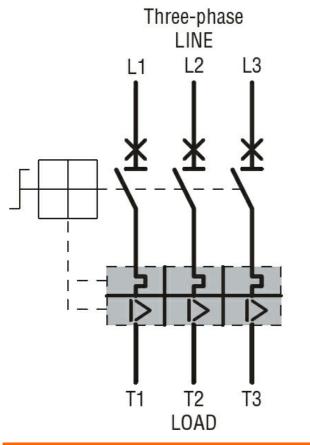
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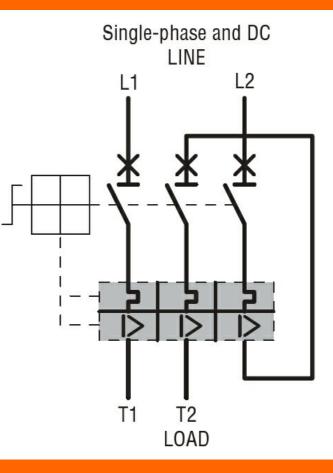
SM1R1800





Wiring diagrams





Certifications and compliance

SM1R1800

The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding



## 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		
		EC000074 -

ETIM 8.0

EC000074 -Motor protection circuit-breaker