



MOTOR STARTER SIRIUS 3RM1 DIRECT STARTER
SAFETY 500 V;
1,6-7,0 A;
110-230 V AC SCREW-TYPE CONNECTION SYSTEM

General technical data:

product brand name		SIRIUS
Product designation		Motor starter
Design of the product		with electronic overload protection and safety-related shutdown
Trip class		CLASS 10A
Protection class IP		IP20
Suitability for use / Device connector 3ZY12		No
Product function / Intrinsic device protection		Yes
Type of the motor protection		solid-state
Product function / Adjustable current limitation		Yes
Installation altitude / at height above sea level / maximum	m	2,000
Ambient temperature		
• during operation	°C	-25 ... +60
• during transport	°C	-40 ... +70
• during storage	°C	-40 ... +70
Shock resistance		6g / 11 ms
Vibration resistance		1 ... 6 Hz, 15 mm; 20 m/s², 500 Hz
Surge voltage resistance / Rated value	kV	6
Insulation voltage / Rated value	V	500

Mechanical service life (switching cycles) / typical		30,000,000
Conducted interference conductor-conductor SURGE / acc. to IEC 61000-4-5		2 kV
Conducted interference BURST / acc. to IEC 61000-4-4		3 kV / 5 kHz
Conducted interference as high-frequency radiation acc. to IEC 61000-4-6		10 V
Electrostatic discharge / acc. to IEC 61000-4-2		6 kV contact discharge / 8 kV air discharge
Field-bound HF-interference emission / acc. to CISPR11		Class B for domestic, business and commercial environments; Class A for industrial environments at 110 V DC
Conducted HF-interference emissions / acc. to CISPR11		Class B for domestic, business and commercial environments; Class A for industrial environments at 110 V DC
maximum permissible voltage for safe isolation		
• between main and auxiliary circuit	V	500
• between control and auxiliary circuit	V	250
Reference code		
• acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750		Q
• acc. to DIN EN 61346-2		Q

Safety related data:

Safety Integrity Level (SIL) / acc. to IEC 61508		SIL3
Performance level (PL) / acc. to EN ISO 13849-1		e
Category / acc. to EN ISO 13849-1		4
T1 value / for proof test interval or service life / acc. to IEC 61508	a	20
PFHD / with high demand rate / acc. to EN 62061	1/h	0.00000002
Protection against electrical shock		finger-safe
Safety device type / acc. to IEC 61508-2		Type B
OFF-delay time / with safety-related request / when switched off via control inputs / maximum	ms	65
OFF-delay time / with safety-related request / when switched off via supply voltage / maximum	ms	120

Main circuit:

Number of poles / for main current circuit		3
Operating voltage / Rated value / maximum	V	500
Operating frequency		
• 1	Hz	50
• 2	Hz	60
Operating current / with AC / at 400 V / Rated value	A	7
Derating temperature	°C	40
Minimum load in % of I_M	%	20

Active power loss / typical	W	3.4
Adjustable response value current • of the current-dependent overload release	A	1.6 ... 7
Operating power / for three-phase motors / at 400 V • at 50 Hz	kW	0.55 ... 3
Operating frequency / maximum	1/s	1

Control circuit/ Control:

Type of voltage / of the control supply voltage		AC/DC
Control supply voltage / 1 • for DC / Rated value • with AC • at 50 Hz • with AC • at 60 Hz	V V V	110 110 ... 230 110 ... 230
Operating range factor control supply voltage rated value • for DC • with AC • at 50 Hz • with AC • at 60 Hz		0.85 ... 1.1 0.85 ... 1.1 1.1 ... 0.85
Control current • with AC • at 230 V • in standby mode • during operation • when switching on • at 110 V • in standby mode • during operation • when switching on • for DC • in standby mode • during operation • when switching on	 mA mA mA mA mA mA mA mA mA	 6 14 25 8 25 40 4 30 13
Input voltage / at digital input • for signal <1> • for DC • with AC • with signal <0>	 V V	 79 ... 121 93 ... 253

• with AC	V	0 ... 40
• for DC	V	0 ... 40
Input current / at digital input		
• for signal <1>		
• with AC		
• at 230 V	mA	2.3
• at 110 V	mA	1.1
• for DC	mA	1.5
• with signal <0>		
• with AC		
• at 230 V	mA	0.4
• at 110 V	mA	0.2
• for DC	mA	0.25
Switch-on delay time	ms	90 ... 120
OFF-delay time	ms	60 ... 90

Auxiliary circuit:

Number of CO contacts / for auxiliary contacts		1
Design of the switching contact / as NO contact / for signaling function		Electronic
Operating current / of the auxiliary contacts		
• at AC-15	A	3
• at DC-13	A	1

Installation/ mounting/ dimensions:





mounting position		vertical, horizontal, standing
Mounting type		screw and snap-on mounting onto 35 mm standard mounting rail
Width	mm	22.5
Height	mm	100
Depth	mm	141.6

Connections/ terminals:

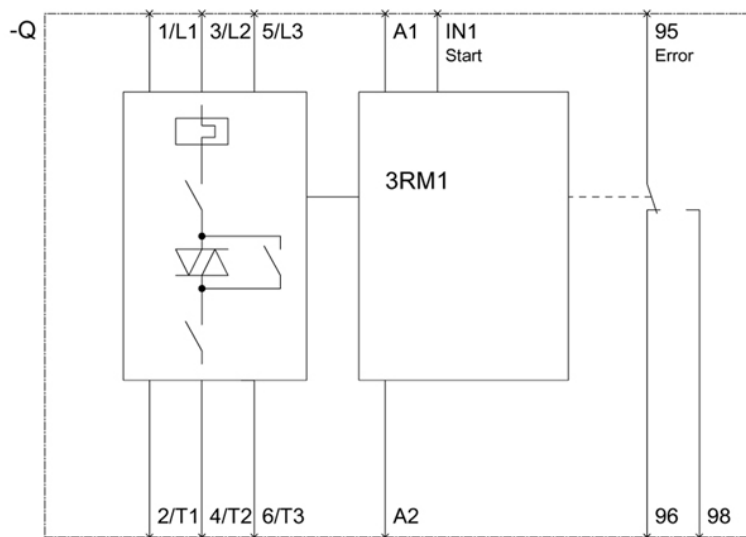
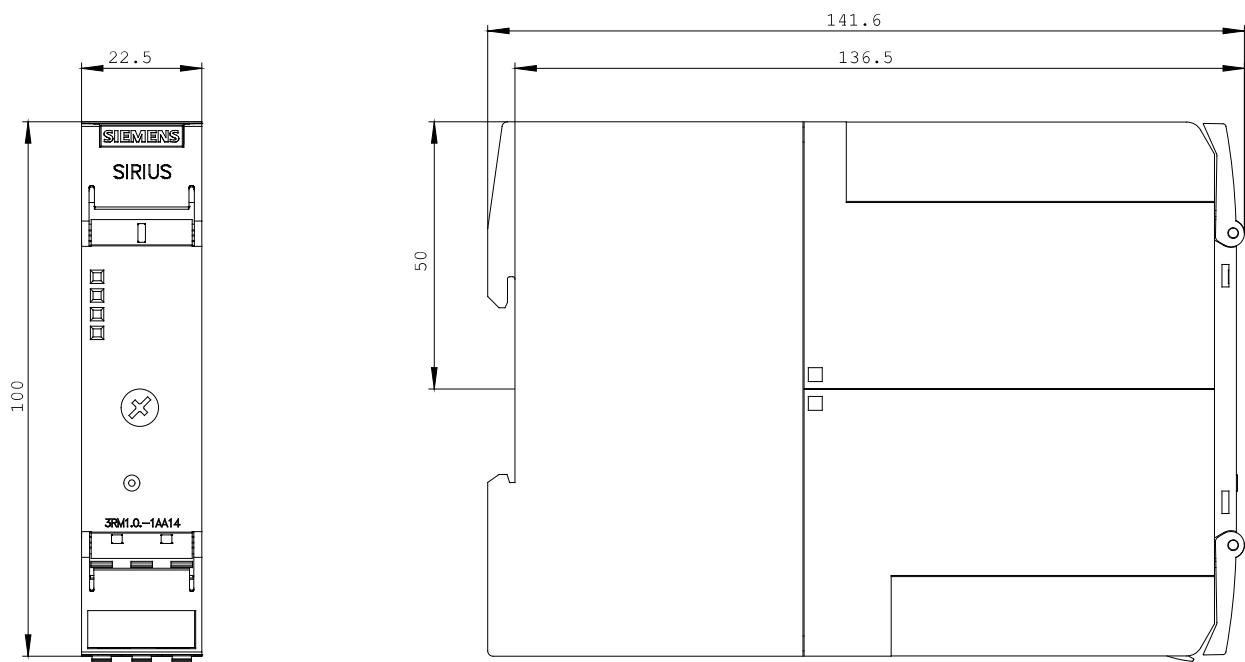
Design of the electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control current circuit		screw-type terminals
Type of connectable conductor cross-section		
• for main contacts		
• solid		1x (0,5 ... 4 mm²), 2x (0,5 ... 2,5 mm²)
• finely stranded		
• with core end processing		1x (0,5 ... 2,5 mm²), 2x (0,5 ... 1,5 mm²)
• for AWG conductors		1x (20 ... 12), 2x (20 ... 14)

Type of connectable conductor cross-section <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> • solid • finely stranded <ul style="list-style-type: none"> • with core end processing • for AWG conductors 		1x (0,5 ... 2,5 mm ²), 2x (1,0 ... 1,5 mm ²)
		1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1 mm ²)
		1x (20 ... 14), 2x (18 ... 16)

UL ratings:		
Full-load current (FLA) / for three-phase AC motor / at 480 V / Rated value	A	6.1
yielded mechanical performance [hp] <ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> • at 110/120 V / Rated value • at 230 V / Rated value • for three-phase AC motor <ul style="list-style-type: none"> • at 200/208 V / Rated value • at 220/230 V / Rated value • at 460/480 V / Rated value 	hp	0.25
	hp	0.5
	hp	1
	hp	1.5
	hp	3

Certificates/ approvals:				
General Product Approval	For use in hazardous locations	Declaration of Conformity	Test Certificates	other
 CCC	 UL	 ATEX	 EG-Konf.	Type Test Certificates/Test Report Confirmation

Further information:
Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs
Industry Mall (Online ordering system) http://www.siemens.com/industrial-controls/mall
Cax online generator http://www.siemens.com/cax
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/VW/view/en/3RM1107-1AA14/all
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RM1107-1AA14



last change:

Nov 17, 2014