



MOTOR STARTER SIRIUS 3RM1 REVERSING STARTER  
SAFETY 500 V;  
1,6 - 7,0 A;  
24 V DC SCREW-TYPE CONNECTION SYSTEM

### General technical data:

product brand name		SIRIUS
Product designation		Motor starter
Design of the product		with reversing functionality and electronic overload protection and safety-related shutdown
Trip class		CLASS 10A
Protection class IP		IP20
Suitability for use / Device connector 3ZY12		Yes
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

<b>Mechanical service life (switching cycles) / typical</b>		30,000,000
<b>Conducted interference conductor-conductor SURGE / acc. to IEC 61000-4-5</b>		2 kV
<b>Conducted interference BURST / acc. to IEC 61000-4-4</b>		3 kV / 5 kHz
<b>Conducted interference as high-frequency radiation acc. to IEC 61000-4-6</b>		10 V
<b>Electrostatic discharge / acc. to IEC 61000-4-2</b>		6 kV contact discharge / 8 kV air discharge
<b>Field-bound HF-interference emission / acc. to CISPR11</b>		Class B for the domestic, business and commercial environments
<b>Conducted HF-interference emissions / acc. to CISPR11</b>		Class B for the domestic, business and commercial environments
<b>maximum permissible voltage for safe isolation</b>		
• between main and auxiliary circuit	V	500
• between control and auxiliary circuit	V	250
<b>Reference code</b>		
• 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:

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

#### Main circuit:

<b>Number of poles / for main current circuit</b>		3
<b>Operating voltage / Rated value / maximum</b>	V	500
<b>Operating frequency</b>		
• 1	Hz	50
• 2	Hz	60
<b>Operating current / with AC / at 400 V / Rated value</b>	A	7
<b>Derating temperature</b>	°C	40
<b>Minimum load in % of I<sub>M</sub></b>	%	20
<b>Active power loss / typical</b>	W	3.4

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

Control circuit/ Control:		
<b>Type of voltage / of the control supply voltage</b>		DC
<b>Control supply voltage / 1</b> • for DC / Rated value	V	24
<b>Operating range factor control supply voltage rated value</b> • for DC		0.8 ... 1.25
<b>Control current</b> • for DC • in standby mode • during operation • when switching on	mA mA mA	13 57 150
<b>Input voltage / at digital input</b> • for signal <1> • for DC • with signal <0> • for DC	V V	15 ... 30 0 ... 5
<b>Input current / at digital input</b> • for signal <1> • for DC • with signal <0> • for DC	mA mA	8 1
<b>Switch-on delay time</b>	ms	90 ... 120
<b>OFF-delay time</b>	ms	40 ... 55

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

Installation/ mounting/ dimensions:		
<b>mounting position</b>		vertical, horizontal, standing
<b>Mounting type</b>		screw and snap-on mounting onto 35 mm standard mounting rail

<b>Width</b>	mm	22.5
<b>Height</b>	mm	100
<b>Depth</b>	mm	141.6

#### Connections/ terminals:

##### Design of the electrical connection

- for main current circuit
- for auxiliary and control current circuit

screw-type terminals

screw-type terminals

##### Type of connectable conductor cross-section

###### • for main contacts

- solid
- finely stranded
  - with core end processing
- for AWG conductors

1x (0,5 ... 4 mm<sup>2</sup>), 2x (0,5 ... 2,5 mm<sup>2</sup>)

1x (0,5 ... 2,5 mm<sup>2</sup>), 2x (0,5 ... 1,5 mm<sup>2</sup>)

1x (20 ... 12), 2x (20 ... 14)

##### Type of connectable conductor cross-section

###### • for auxiliary contacts

- solid
- finely stranded
  - with core end processing
- for AWG conductors

1x (0,5 ... 2,5 mm<sup>2</sup>), 2x (1,0 ... 1,5 mm<sup>2</sup>)

1x (0,5 ... 2,5 mm<sup>2</sup>), 2x (0,5 ... 1 mm<sup>2</sup>)

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]

- for single-phase AC motor
  - at 110/120 V / Rated value
  - at 230 V / Rated value
- for three-phase AC motor
  - 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:

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**Information- and Downloadcenter (Catalogs, Brochures,...)**

<http://www.siemens.com/industrial-controls/catalogs>

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**Industry Mall (Online ordering system)**

<http://www.siemens.com/industrial-controls/mall>

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**Cax online generator**

<http://www.siemens.com/cax>

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**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

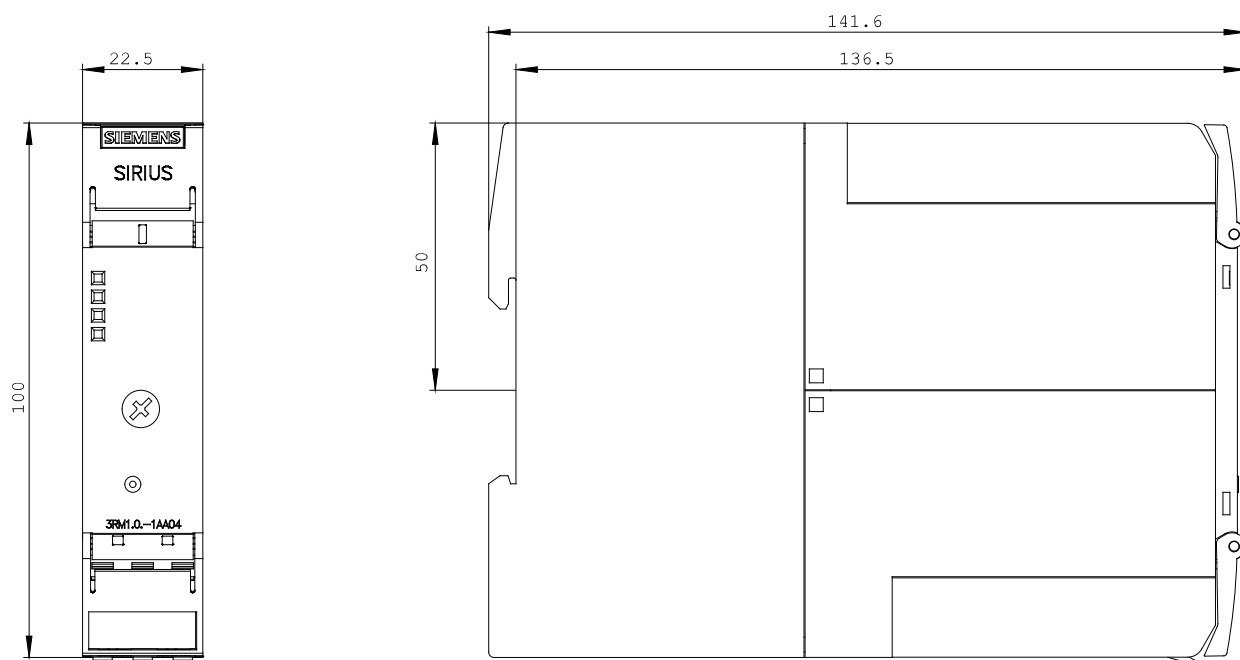
<http://support.automation.siemens.com/WW/view/en/3RM1307-1AA04/all>

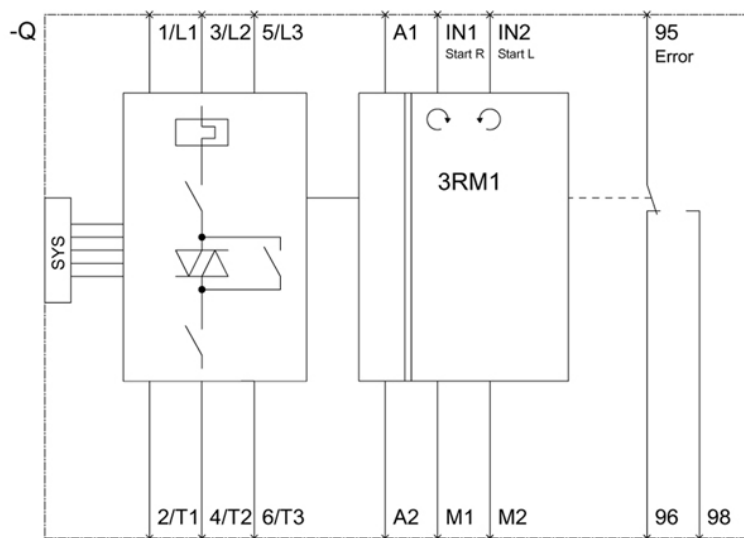
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**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RM1307-1AA04](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RM1307-1AA04)

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last change:

Nov 17, 2014