



Direct starter, 3RM1, 500 V, 0 - 0.12 kW, 0.1 - 0.5 A, 24 V DC, spring-type terminals

product brand name	SIRIUS
product category	Motor starter
product designation	Direct-on-line starter
design of the product	with electronic overload protection
product type designation	3RM1
General technical data	
trip class	CLASS 10A
product function	
• intrinsic device protection	Yes
suitability for operation device connector 3ZY12	Yes
power loss [W] for rated value of the current at AC in hot operating state per pole	0.01 W
insulation voltage rated value	500 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between main and auxiliary circuit	500 V
• between control and auxiliary circuit	250 V
shock resistance	6g / 11 ms
vibration resistance	1 ... 6 Hz, 15 mm; 20 m/s ² , 500 Hz
operating frequency maximum	1 1/s
mechanical service life (switching cycles) typical	30 000 000
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.03.2017 00:00:00
product function	
• direct start	Yes
• reverse starting	No
product function short circuit protection	No
Electromagnetic compatibility	
conducted interference	
• due to burst acc. to IEC 61000-4-4	3 kV / 5 kHz
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
• due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV
• due to high-frequency radiation acc. to IEC 61000-4-6	10 V
electrostatic discharge acc. to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge
conducted HF interference emissions acc. to CISPR11	Class B for the domestic, business and commercial environments
field-bound HF interference emission acc. to CISPR11	Class B for the domestic, business and commercial environments

Main circuit	
number of poles for main current circuit	3
design of the switching contact as NO contact for signaling function	OUT, electronic, 24 V DC, 15 mA
adjustable current response value current of the current-dependent overload release	0.1 ... 0.5 A
minimum load [%]	20 %
type of the motor protection	solid-state
<ul style="list-style-type: none"> operating voltage rated value 	48 ... 500 V
relative symmetrical tolerance of the operating voltage	10 %
operating frequency 1 rated value	50 Hz
operating frequency 2 rated value	60 Hz
relative symmetrical tolerance of the operating frequency	10 %
operational current	
<ul style="list-style-type: none"> at AC at 400 V rated value 	0.5 A
<ul style="list-style-type: none"> at AC-53a at 400 V at ambient temperature 40 °C rated value 	0.5 A
ampacity when starting maximum	4 A
operating power for 3-phase motors at 400 V at 50 Hz	0 ... 0.12 kW
Inputs/ Outputs	
input voltage at digital input	
<ul style="list-style-type: none"> at DC rated value 	24 V
<ul style="list-style-type: none"> with signal <0> at DC 	0 ... 5 V
<ul style="list-style-type: none"> for signal <1> at DC 	15 ... 30
input current at digital input	
<ul style="list-style-type: none"> for signal <1> at DC 	11 mA
<ul style="list-style-type: none"> with signal <0> at DC 	1 mA
number of CO contacts for auxiliary contacts	1
operational current of auxiliary contacts at AC-15 at 230 V maximum	3 A
operational current of auxiliary contacts at DC-13 at 24 V maximum	1 A
Control circuit/ Control	
type of voltage of the control supply voltage	DC
<ul style="list-style-type: none"> control supply voltage 1 at DC rated value 	24 V
operating range factor control supply voltage rated value at DC	
<ul style="list-style-type: none"> initial value 	0.8
<ul style="list-style-type: none"> full-scale value 	1.25
control current at DC	
<ul style="list-style-type: none"> in standby mode of operation 	25 mA
<ul style="list-style-type: none"> when switching on 	150 mA
<ul style="list-style-type: none"> during operation 	70 mA
Response times	
switch ON delay time	60 ... 90 ms
OFF delay time	60 ... 90 ms
Installation/ mounting/ dimensions	
mounting position	vertical, horizontal, standing (observe derating)
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
height	100 mm
width	22.5 mm
depth	141.6 mm
required spacing	
<ul style="list-style-type: none"> with side-by-side mounting 	
<ul style="list-style-type: none"> — forwards 	0 mm
<ul style="list-style-type: none"> — backwards 	0 mm
<ul style="list-style-type: none"> — upwards 	50 mm

— downwards	50 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— backwards	0 mm
— upwards	50 mm
— at the side	3.5 mm
— downwards	50 mm

Ambient conditions

installation altitude at height above sea level maximum	4 000 m
relative humidity during operation	10 ... 95 %
• air pressure acc. to SN 31205	900 ... 1 060 hPa

Communication/ Protocol

product function bus communication	No
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Connections/ Terminals

type of electrical connection	spring-loaded terminals (push-in) for main circuit, spring-loaded terminals (push-in) for control circuit
• for main current circuit	spring-loaded terminals (push-in)
• for auxiliary and control circuit	spring-loaded terminals (push-in)

type of electrical wiring	
• for main current circuit	1 or 2 conductors
• for auxiliary and control circuit	1 or 2 conductors

type of connectable conductor cross-sections	
• for main contacts	
— solid	1x (0.5 ... 4 mm ²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm ²)
— finely stranded without core end processing	1x (0.5 ... 4 mm ²)
• at AWG cables for main contacts	1x (20 ... 12)

connectable conductor cross-section for main contacts	
• solid or stranded	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²
• finely stranded without core end processing	0.5 ... 4 mm ²

connectable conductor cross-section for auxiliary contacts	
• solid or stranded	0.5 ... 1.5 mm ²
• finely stranded with core end processing	0.5 ... 1 mm ²
• finely stranded without core end processing	0.5 ... 1.5 mm ²

type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	1x (0.5 ... 1.5 mm ²), 2x (0.5 ... 1.5 mm ²)
— finely stranded with core end processing	1x (0.5 ... 1.0 mm ²), 2x (0.5 ... 1.0 mm ²)
— finely stranded without core end processing	1x (0.5 ... 1.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• at AWG cables for auxiliary contacts	1x (20 ... 16), 2x (20 ... 16)

• AWG number as coded connectable conductor cross section for main contacts	20 ... 12
• AWG number as coded connectable conductor cross section for auxiliary contacts	20 ... 16

Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
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[Miscellaneous](#)

Declaration of	Test Certificates	other	Railway
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[Type Test Certificates/Test Report](#)

[Confirmation](#)

[Special Test Certificate](#)

Further information

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

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RM1001-2AA04>

Cax online generator

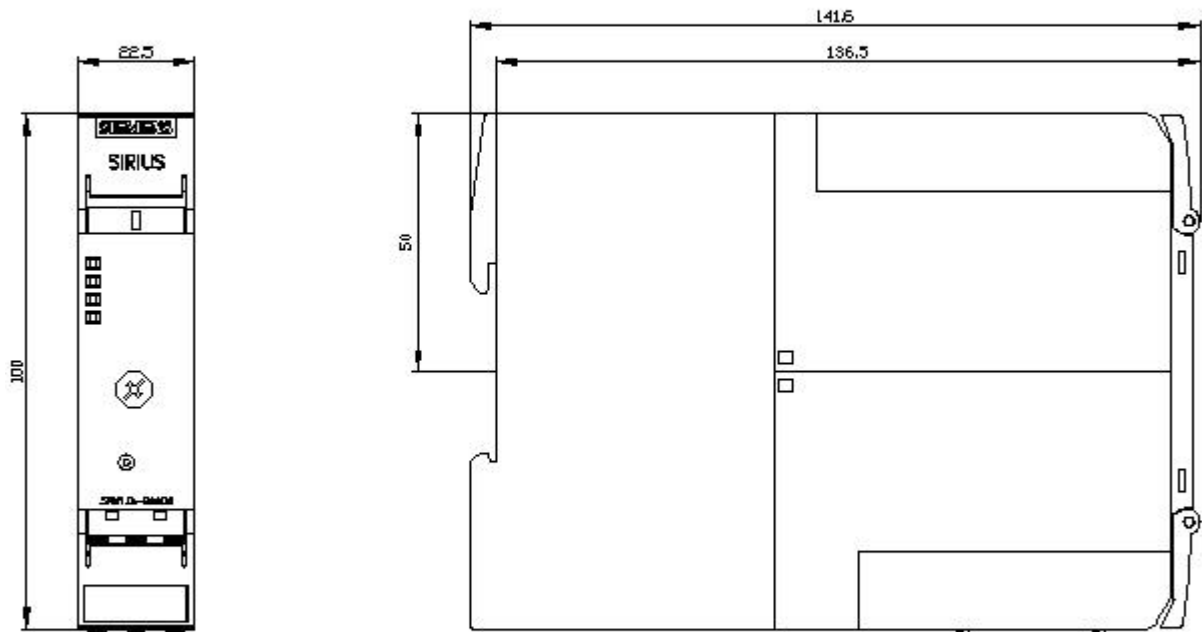
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RM1001-2AA04>

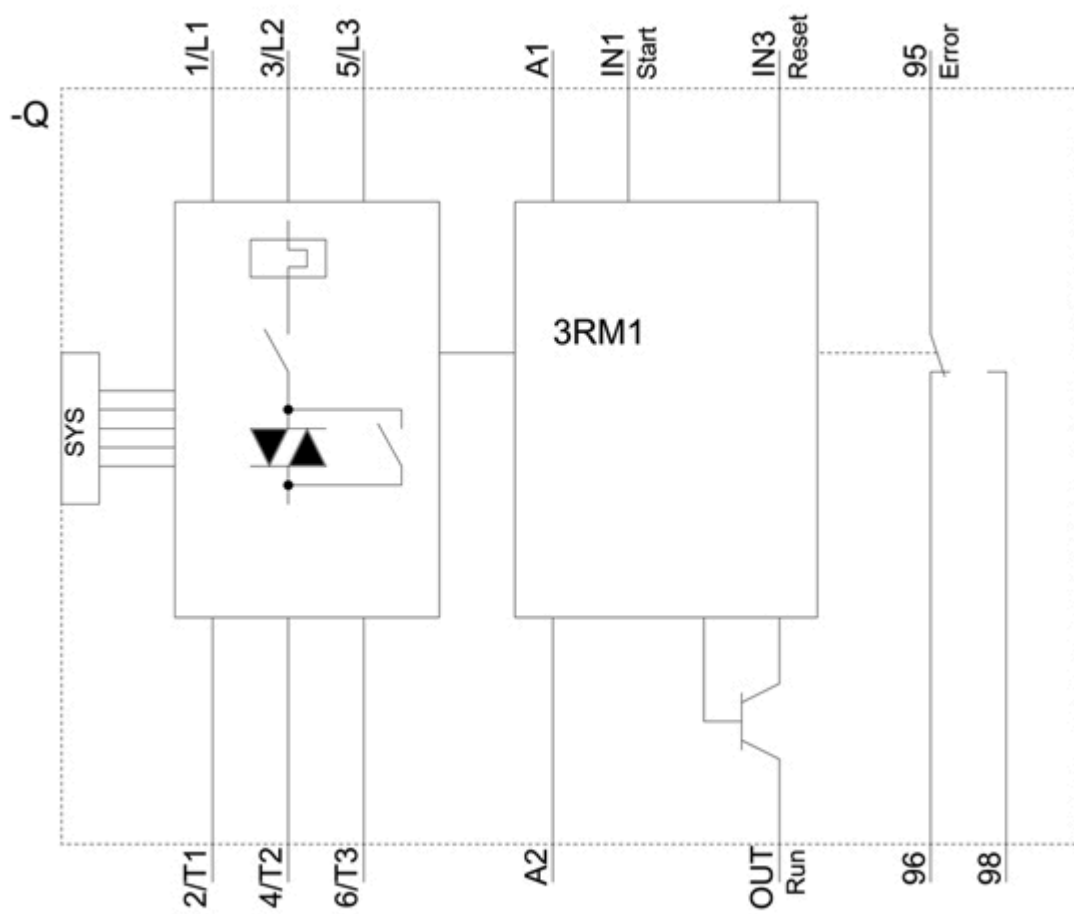
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

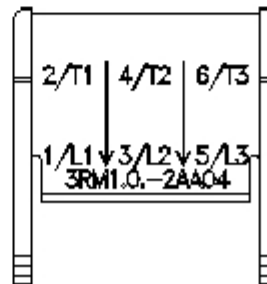
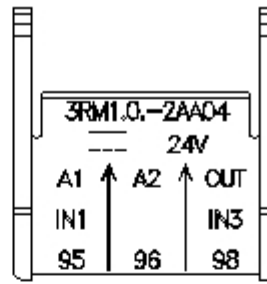
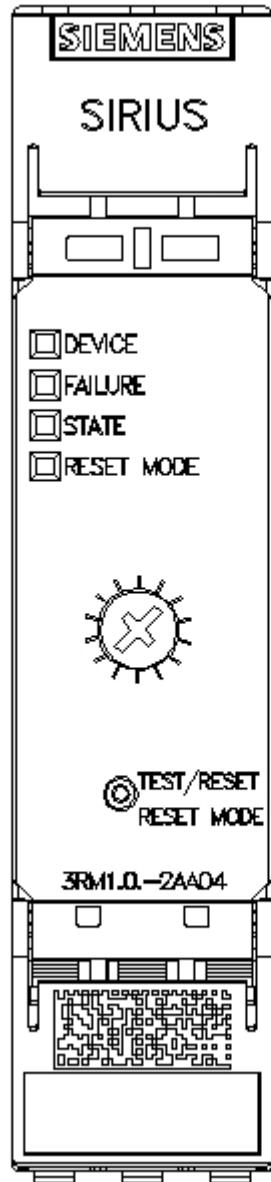
<https://support.industry.siemens.com/cs/ww/en/ps/3RM1001-2AA04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RM1001-2AA04&lang=en







last modified:

12/23/2020