SIEMENS

Data sheet 3RM1207-1AA14

Reversing starter, 3RM1, 500 V, 0.55 - 3 kW, 1.6 - 7 A, 110-230 V AC, screw terminals

product brand name	SIRIUS
product category	Motor starter
product designation	Reversing 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	No
power loss [W] for rated value of the current at AC in hot operating state per pole	1.13 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/s², 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	No
● reverse starting	Yes
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 domestic, business and commercial environments; Class A for industrial environments at 110 V DC
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
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	1.6 ... 7 A
minimum load [%]	20 %
type of the motor protection	solid-state
● 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	
● at AC at 400 V rated value	7 A
● at AC-53a at 400 V at ambient temperature 40 °C rated value	7 A
ampacity when starting maximum	56 A
operating power for 3-phase motors at 400 V at 50 Hz	0.55 ... 3 kW
derating temperature	40 °C
Inputs/ Outputs	
input voltage at digital input	
● at DC rated value	110 V
● with signal <0> at DC	0 ... 40 V
● for signal <1> at DC	79 ... 121
input voltage at digital input	
● at AC rated value	110 V
● with signal <0> at AC	0 ... 40 V
● for signal <1> at AC	93 ... 253 V
input current at digital input	
● for signal <1> at DC	1.5 mA
● with signal <0> at DC	0.25 mA
input current at digital input with signal <0> at AC	
● at 110 V	0.2 mA
● at 230 V	0.4 mA
input current at digital input for signal <1> at AC	
● at 110 V	1.1 mA
● at 230 V	2.3 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	AC/DC
control supply voltage 1 at AC	
● at 50 Hz	110 ... 230 V
● at 60 Hz	110 ... 230 V
control supply voltage frequency	
● 1 rated value	50 Hz
● 2 rated value	60 Hz
● control supply voltage 1 at DC rated value	110 V
operating range factor control supply voltage rated value at DC	
● initial value	0.85
● full-scale value	1.1

operating range factor control supply voltage rated value at AC at 50 Hz	
● initial value	0.85
● full-scale value	1.1
operating range factor control supply voltage rated value at AC at 60 Hz	
● initial value	1.1
● full-scale value	0.85
control current at AC	
● at 110 V in standby mode of operation	16 mA
● at 230 V in standby mode of operation	9 mA
● at 110 V when switching on	55 mA
● at 230 V when switching on	33 mA
● at 110 V during operation	36 mA
● at 230 V during operation	22 mA
control current at DC	
● in standby mode of operation	6 mA
● when switching on	15 mA
● during operation	30 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	
● with side-by-side mounting	
— forwards	0 mm
— backwards	0 mm
— 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
Connections/ Terminals	
type of electrical connection	screw-type terminals for main circuit, screw-type terminals for control circuit
● for main current circuit	screw-type terminals
● for auxiliary and control circuit	screw-type terminals
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 mm²), 2x (0,5 ... 2,5 mm²)

— finely stranded with core end processing	1x (0,5 … 4 mm²), 2x (0,5 … 1,5 mm²)
● at AWG cables for main contacts	1x (20 ... 12), 2x (20 ... 14)
connectable conductor cross-section for main contacts	
● solid or stranded	0.5 ... 4 mm²
● finely stranded with core end processing	0.5 ... 4 mm²
connectable conductor cross-section for auxiliary contacts	
● solid or stranded	0.5 ... 2.5 mm²
● finely stranded with core end processing	0.5 ... 2.5 mm²
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid	1x (0,5 ... 2,5 mm²), 2x (1,0 ... 1,5 mm²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)
● at AWG cables for auxiliary contacts	1x (20 ... 14), 2x (18 ... 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 ... 14

UL/CSA ratings

yielded mechanical performance [hp]	
● for single-phase AC motor	
— at 110/120 V rated value	0.25 hp
— at 230 V rated value	0.5 hp
● for 3-phase AC motor	
— at 200/208 V rated value	1 hp
— at 220/230 V rated value	1.5 hp
— at 460/480 V rated value	3 hp

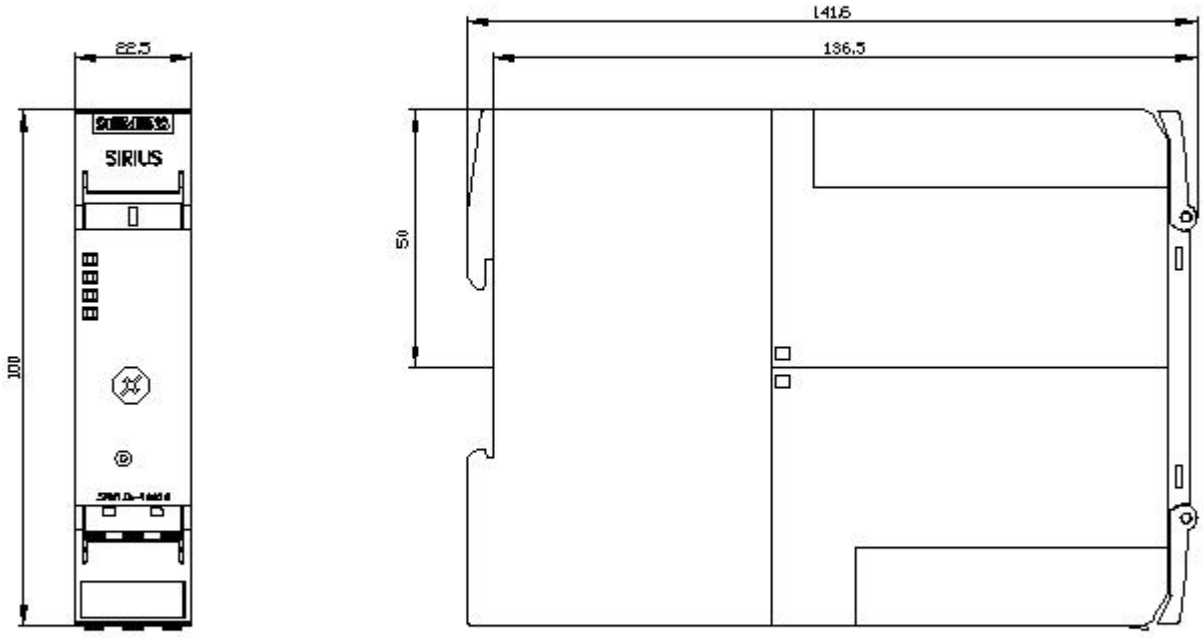
Certificates/ approvals

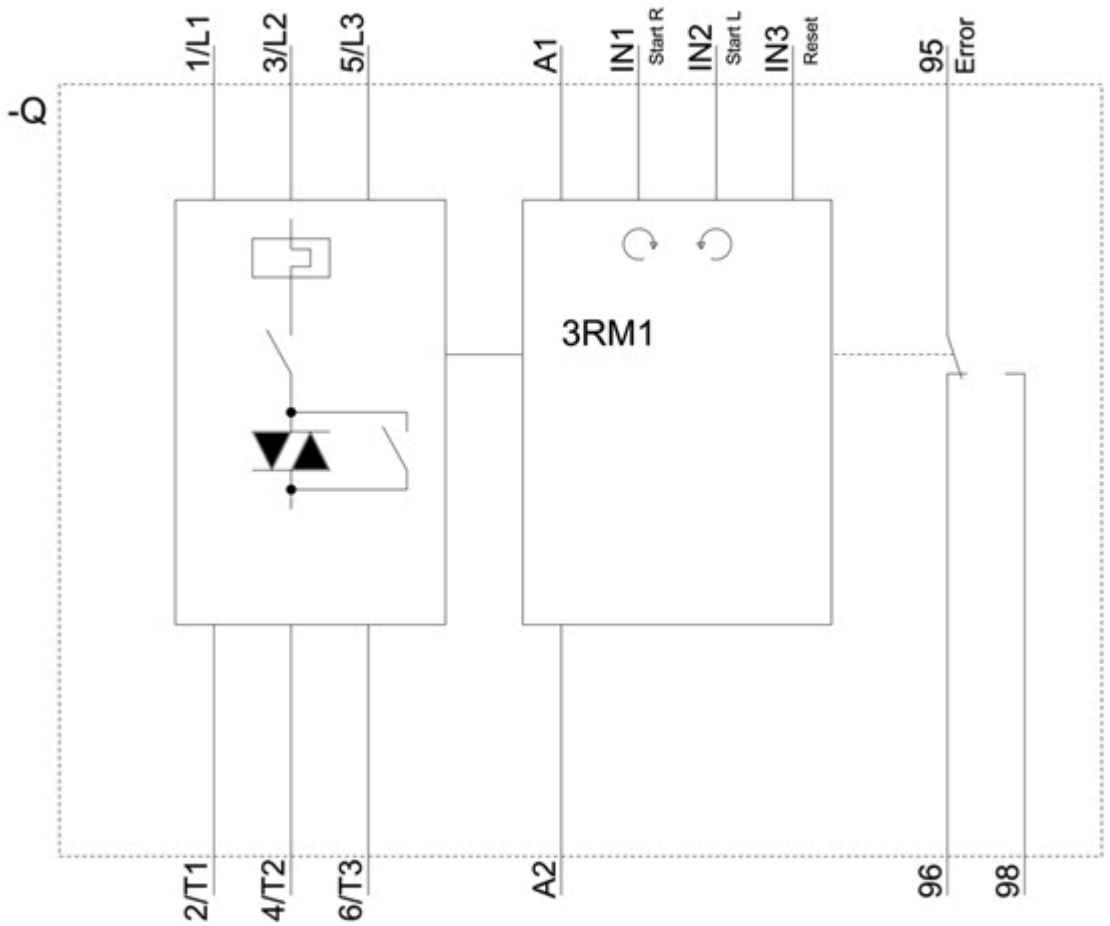
General Product Approval				EMC	Declaration of Conformity
CSA	CCC	UL	EAC	RCM	Miscellaneous

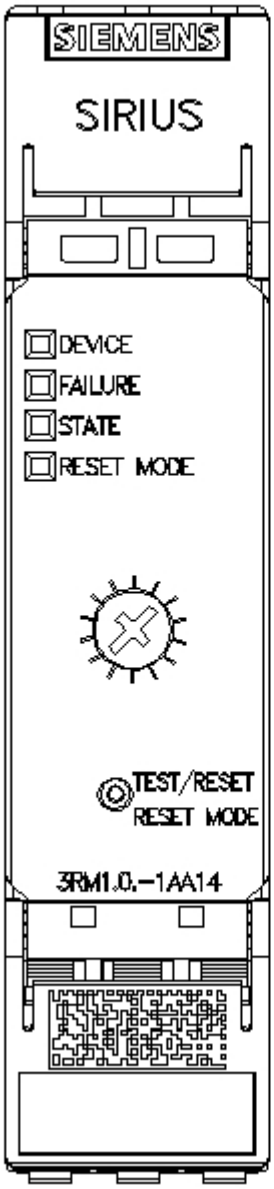
Declaration of Conformity	Test Certificates	other	Railway
EG-Konf.	Type Test Certificates/Test Report	Confirmation	Special Test Certificate

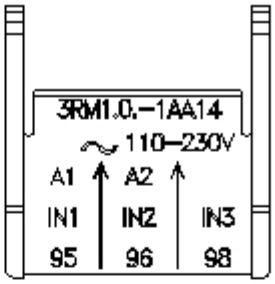
Further information

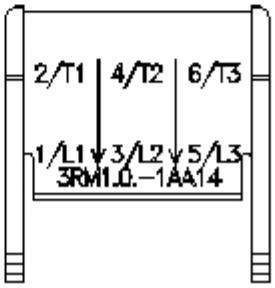
Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RM1207-1AA14
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RM1207-1AA14
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RM1207-1AA14
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RM1207-1AA14&lang=en











last modified: 12/21/2020