

SIRIUS soft starter 200-480 V 143 A, 110-250 V AC Screw terminals
Analog output



Figure similar

Product brand name	SIRIUS
Product category	Hybrid switching devices
Product designation	Soft starter
Product type designation	3RW50
Manufacturer's article number	• of HMI module usable • of HMI-Modul high-feature usable • of communication module PROFINET standard usable • of communication module PROFIBUS usable • of communication module Modbus TCP usable • of communication module Modbus RTU usable • of communication module Ethernet/IP • of circuit breaker usable at 400 V • of circuit breaker usable at 500 V • of the gG fuse usable up to 690 V • of full range R fuse link for semiconductor protection usable up to 690 V

- of back-up R fuse link for semiconductor protection usable up to 690 V
- of line contactor usable up to 480 V
- of line contactor usable up to 690 V

[3NE3 334 -0B; Type of coordination 2, I_q = 65 kA](#)

3RT1055

3RT1055

General technical data

Starting voltage [%]	30 ... 100 %
Stopping voltage [%]	50 ... 50 %
Start-up ramp time of soft starter	0 ... 20 s
Stopping time of soft starter	0 ... 20 s
Current limiting value [%] adjustable	130 ... 700 %
Accuracy class acc. to IEC 61557-12	5 %
Certificate of suitability	
• CE marking	Yes
• UL approval	Yes
• CSA-approval	Yes
Product component	
• is supported HMI-Standard	Yes
• is supported HMI-High Feature	Yes
Product feature integrated bypass contact system	Yes
Number of controlled phases	2
Trip class	CLASS 10A / 10E (preset) / 20E; acc. to IEC 60947-4-2
Recovery time	300 s
Insulation voltage	
• rated value	600 V
Degree of pollution	3, acc. to IEC 60947-4-2
Impulse voltage rated value	6 V
Blocking voltage of the thyristor maximum	1 400 V
Service factor	1
Protection class IP	IP00; IP20 with additional terminal covers for vertical touching from the front
Reference code acc. to DIN EN 81346-2	Q
Product function	
• ramp-up (soft starting)	Yes
• ramp-down (soft stop)	Yes
• Soft Torque	Yes
• Adjustable current limitation	Yes
• pump ramp down	Yes
• Intrinsic device protection	Yes
• motor overload protection	Yes; Electronic motor overload protection
• Evaluation of thermistor motor protection	No
• Auto-reset	Yes
• Manual RESET	Yes

- remote reset
- communication function
- operating measured value display
- error logbook
- via software parameterizable
- via software configurable
- PROFinenergy
- voltage ramp
- torque control
- analog output

Yes; By turning off the control supply voltage

Yes

Yes; Only in conjunction with special accessories

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No

Yes

Yes; in connection with the PROFINET Standard communication module

Yes

No

Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)

Power Electronics

Operating current	
• at 40 °C rated value	143 A
• at 50 °C rated value	128 A
• at 60 °C rated value	118 A
Operating voltage	
• rated value	200 ... 480 V
Relative negative tolerance of the operating voltage	-15 %
Relative positive tolerance of the operating voltage	10 %
Operating power for three-phase motors	
• at 230 V at 40 °C rated value	37 kW
• at 400 V at 40 °C rated value	75 kW
• at 500 V at 40 °C rated value	90 kW
Operating frequency 1 rated value	50 Hz
Operating frequency 2 rated value	60 Hz
Relative negative tolerance of the operating frequency	-10 %
Relative positive tolerance of the operating frequency	10 %
Adjustable motor current	
• at rotary encoding switch on switch position 1	68 A
• at rotary encoding switch on switch position 2	73 A
• at rotary encoding switch on switch position 3	78 A
• at rotary encoding switch on switch position 4	83 A
• at rotary encoding switch on switch position 5	88 A
• at rotary encoding switch on switch position 6	93 A
• at rotary encoding switch on switch position 7	98 A
• at rotary encoding switch on switch position 8	103 A
• at rotary encoding switch on switch position 9	108 A
• at rotary encoding switch on switch position 10	113 A
• at rotary encoding switch on switch position 11	118 A

• at rotary encoding switch on switch position 12 • at rotary encoding switch on switch position 13 • at rotary encoding switch on switch position 14 • at rotary encoding switch on switch position 15 • at rotary encoding switch on switch position 16 • minimum	123 A 128 A 133 A 138 A 143 A 68 A
Minimum load [%]	15 %; Relative to smallest settable I _e
Power loss [W] for rated value of the current at AC • at 40 °C to power-up • at 50 °C to power-up • at 60 °C to power-up	23 W 19 W 16 W
Power loss [W] at AC at AC • at 40 °C during startup • at 50 °C during startup • at 60 °C during startup	1 336 W 1 134 W 1 007 W
Type of the motor protection	Electronic, tripping in the event of thermal overload of the motor

Control circuit/ Control	
Type of voltage of the control supply voltage	AC
Control supply voltage at AC • at 50 Hz • at 60 Hz	110 ... 250 V 110 ... 250 V
Relative negative tolerance of the control supply voltage at AC at 50 Hz	-15 %
Relative positive tolerance of the control supply voltage at AC at 50 Hz	10 %
Relative negative tolerance of the control supply voltage at AC at 60 Hz	-15 %
Relative positive tolerance of the control supply voltage at AC at 60 Hz	10 %
Control supply voltage frequency	50 ... 60 Hz
Relative negative tolerance of the control supply voltage frequency	-10 %
Relative positive tolerance of the control supply voltage frequency	10 %
Control supply current in standby mode rated value	30 mA
Holding current in the by-pass mode operating rated value	80 mA
Starting current at close of by-pass contact maximum	2.5 A
Inrush current peak at connect of control supply voltage maximum	12.2 A
Duration of inrush current peak at connect of control supply voltage	2.2 ms
Design of the overvoltage protection	Varistor

Design of short-circuit protection for control circuit	4 A gG fuse (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply
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Inputs/ Outputs	
Number of digital inputs	1
Number of inputs for thermistor connection	0
Number of digital outputs	3
• not parameterizable	2
Digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
Number of analog outputs	1

Installation/ mounting/ dimensions	
Mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
Mounting type	screw fixing
Height	198 mm
Width	120 mm
Depth	249 mm
Required spacing with side-by-side mounting	
• forwards	10 mm
• Backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
Installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see manual
Weight without packaging	3.2 kg

Connections/ Terminals	
Type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
Width of connection bar maximum	25 mm
Type of connectable conductor cross-sections	
• for main contacts for box terminal using the front clamping point solid	16 ... 120 mm²
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	16 ... 120 mm²
• for main contacts for box terminal using the front clamping point finely stranded without core end processing	10 ... 120 mm²
• for main contacts for box terminal using the front clamping point stranded	16 ... 70 mm²

• at AWG conductors for main contacts for box terminal using the front clamping point • for main contacts for box terminal using the back clamping point solid • at AWG conductors for main contacts for box terminal using the back clamping point • for main contacts for box terminal using both clamping points solid • for main contacts for box terminal using both clamping points finely stranded with core end processing • for main contacts for box terminal using both clamping points finely stranded without core end processing • for main contacts for box terminal using both clamping points stranded • for main contacts for box terminal using the back clamping point finely stranded with core end processing • for main contacts for box terminal using the back clamping point finely stranded without core end processing • for main contacts for box terminal using the back clamping point stranded	6 ... 250 kcmil 16 ... 120 mm ² 6 ... 250 kcmil max. 1x 95 mm ² , 1x 120 mm ² max. 1x 95 mm ² , 1x 120 mm ² max. 1x 95 mm ² , 1x 120 mm ² max. 2x 120 mm ² 16 ... 120 mm ² 10 ... 120 mm ² 16 ... 120 mm ²
Type of connectable conductor cross-sections • at AWG conductors for main current circuit solid • for DIN cable lug for main contacts stranded • for DIN cable lug for main contacts finely stranded	4 ... 250 kcmil 16 ... 95 mm ² 25 ... 120 mm ²
Type of connectable conductor cross-sections • for control circuit solid • for control circuit finely stranded with core end processing • at AWG conductors for control circuit solid	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) 1x (20 ... 12), 2x (20 ... 14)
Wire length • between soft starter and motor maximum • at the digital inputs at AC maximum	800 m 1 000 m
Tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals	10 ... 14 N·m 0.8 ... 1.2 N·m
Tightening torque [lbf·in] • for main contacts with screw-type terminals	89 ... 124 lbf·in

- for auxiliary and control contacts with screw-type terminals

7 ... 10.3 lbf·in

Ambient conditions

Ambient temperature

- during operation

-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above

- during storage and transport

-40 ... +80 °C

Environmental category

- during operation acc. to IEC 60721

3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6

- during storage acc. to IEC 60721

1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4

- during transport acc. to IEC 60721

2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)

EMC emitted interference

acc. to IEC 60947-4-2: Class A

Communication/ Protocol

Communication module is supported

- PROFINET standard
- EtherNet/IP
- Modbus RTU
- Modbus TCP
- PROFIBUS

Yes

Yes

Yes

Yes

Yes

UL/CSA ratings

Manufacturer's article number

- of the fuse

— usable for Standard Faults up to 575/600 V according to UL

Type: Class RK5 / K5, max. 350 A; Iq = 10 kA

— usable for High Faults up to 575/600 V according to UL

Type: Class J, max. 350 A; Iq = 100 kA

Operating power [hp] for three-phase motors

- at 200/208 V at 50 °C rated value
- at 220/230 V at 50 °C rated value
- at 460/480 V at 50 °C rated value
- at 575/600 V at 50 °C rated value

30 hp

30 hp

75 hp

75 hp

ATEX

Certificate of suitability

- ATEX
- IECEx

Yes

Yes

Hardware fault tolerance acc. to IEC 61508 relating to ATEX

0

PFDavg with low demand rate acc. to IEC 61508 relating to ATEX

0.09

PFHD with high demand rate acc. to EN 62061 relating to ATEX	0.000009 1/h
Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX	SIL1
T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX	3 y

Certificates/ approvals

General Product Approval	For use in hazardous locations
 CCC  CSA  UL	 EAC  IECEX  ATEX

Declaration of Conformity	Test Certificates	other
 EG-Konf.	Miscellaneous Type Test Certificates/Test Report	Confirmation

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=3RW5055-6AB14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5055-6AB14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5055-6AB14>

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

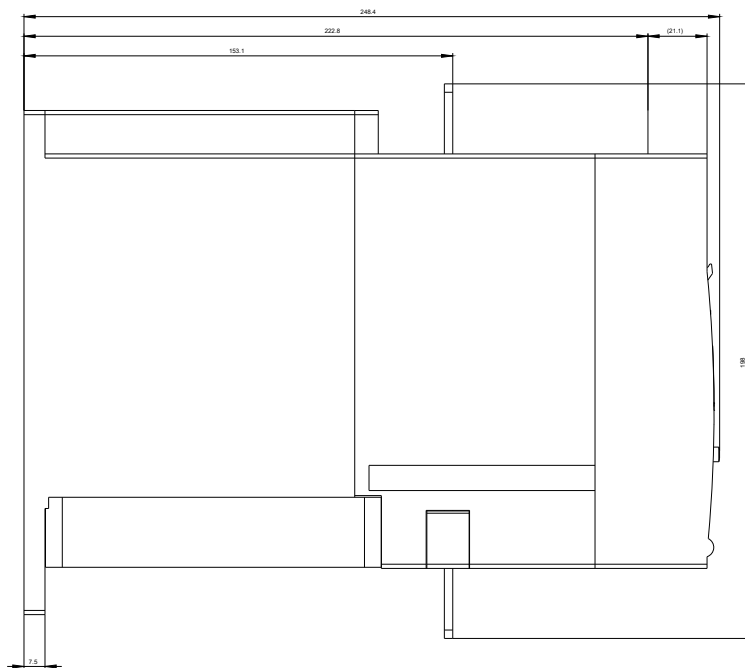
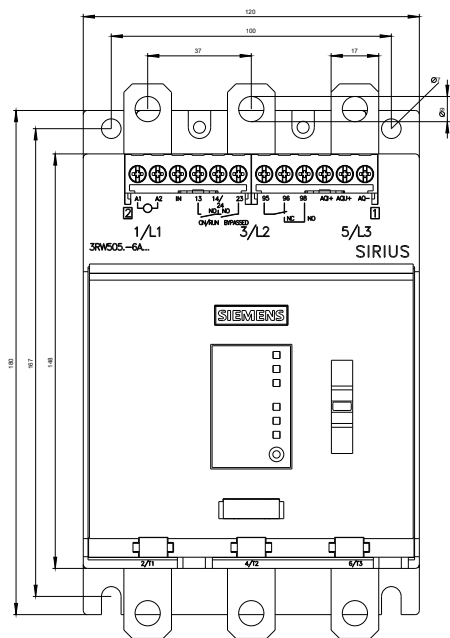
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5055-6AB14&lang=en

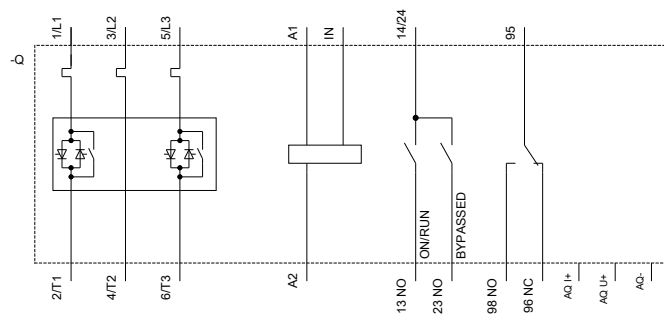
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5055-6AB14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5055-6AB14&objecttype=14&gridview=view1>





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3RW50...A...IEC.DXF

Format / Size: Hybrid quer

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