

SIRIUS soft starter 200-480 V 570 A, 110-250 V AC Screw terminals
Analog output



Product brand name	SIRIUS
Product category	Hybrid switching devices
Product designation	Soft starter
Product type designation	3RW52
Manufacturer's article number	
<ul style="list-style-type: none"> • 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 circuit breaker usable at 400 V at inside-delta circuit • of circuit breaker usable at 500 V at inside-delta circuit 	<ul style="list-style-type: none"> 3RW5980-0HS00 3RW5980-0HF00 3RW5980-0CS00 3RW5980-0CP00 3RW5980-0CT00 3RW5980-0CR00 3RW5980-0CE00 3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2510-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 3VA2510-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10

- of the gG fuse usable up to 690 V
- of the gG fuse usable at inside-delta circuit up to 500 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

2x3NA3365-6; Type of coordination 1, I_q = 65 kA

2x3NA3365-6; Type of coordination 1, I_q = 65 kA

[3NE1437-2; Type of coordination 2, I_q = 65 kA](#)

[3NE3340-8; Type of coordination 2, I_q = 65 kA](#)

General technical data

Starting voltage [%]	30 ... 100 %
Stopping voltage [%]	50 ... 50 %
Start-up ramp time of soft starter	0 ... 20 s
Current limiting value [%] adjustable	130 ... 700 %
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	3
Trip class	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
Buffering time in the event of power failure	
• for main current circuit	100 ms
• for control circuit	100 ms
Insulation voltage	
• rated value	600 V
Degree of pollution	3, acc. to IEC 60947-4-2
Impulse voltage rated value	6 kV
Blocking voltage of the thyristor maximum	1 600 V
Service factor	1
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
• between main and auxiliary circuit	600 V
Protection class IP	IP00
Usage category acc. to IEC 60947-4-2	AC 53a
Shock resistance	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
Vibration resistance	15 mm to 6 Hz; 2g to 500 Hz
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
• inside-delta circuit	Yes
• Auto-reset	Yes
• Manual RESET	Yes
• remote reset	Yes; By turning off the control supply voltage
• communication function	Yes
• operating measured value display	Yes; Only in conjunction with special accessories
• error logbook	Yes; Only in conjunction with special accessories
• via software parameterizable	No
• via software configurable	Yes
• PROFINergy	Yes; in connection with the PROFINET Standard communication module
• firmware update	Yes
• removable terminal for control circuit	Yes
• torque control	No
• analog output	Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)

Power Electronics

Operating current	
• at 40 °C rated value	570 A
• at 50 °C rated value	504 A
• at 60 °C rated value	460 A
Operating current at inside-delta circuit	
• at 40 °C rated value	987 A
• at 50 °C rated value	873 A
• at 60 °C rated value	796 A
Operating voltage	
• rated value	200 ... 480 V
• at inside-delta circuit rated value	200 ... 480 V
Relative negative tolerance of the operating voltage	-15 %
Relative positive tolerance of the operating voltage	10 %
Relative negative tolerance of the operating voltage at inside-delta circuit	-15 %
Relative positive tolerance of the operating voltage at inside-delta circuit	10 %
Operating power for three-phase motors	
• at 230 V at 40 °C rated value	160 kW

<ul style="list-style-type: none"> • at 230 V at inside-delta circuit at 40 °C rated value 	315 kW
<ul style="list-style-type: none"> • at 400 V at 40 °C rated value 	315 kW
<ul style="list-style-type: none"> • at 400 V at inside-delta circuit at 40 °C rated value 	560 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	
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 1 	240 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 2 	262 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 3 	284 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 4 	306 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 5 	328 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 6 	350 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 7 	372 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 8 	394 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 9 	416 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 10 	438 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 11 	460 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 12 	482 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 13 	504 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 14 	526 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 15 	548 A
<ul style="list-style-type: none"> • at rotary encoding switch on switch position 16 	570 A
<ul style="list-style-type: none"> • minimum 	240 A
Adjustable motor current	
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 1 	416 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 2 	454 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 3 	492 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 4 	530 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 5 	568 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 6 	606 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 7 	644 A

<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 8 	682 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 9 	721 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 10 	759 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 11 	797 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 12 	835 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 13 	873 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 14 	911 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 15 	949 A
<ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 16 	987 A
<ul style="list-style-type: none"> • at inside-delta circuit minimum 	416 A
Minimum load [%]	15 %; Relative to smallest settable le
Power loss [W] for rated value of the current at AC	
<ul style="list-style-type: none"> • at 40 °C to power-up 	183 W
<ul style="list-style-type: none"> • at 50 °C to power-up 	163 W
<ul style="list-style-type: none"> • at 60 °C to power-up 	153 W
Power loss [W] at AC at AC	
<ul style="list-style-type: none"> • at 40 °C during startup 	10 241 W
<ul style="list-style-type: none"> • at 50 °C during startup 	8 500 W
<ul style="list-style-type: none"> • at 60 °C during startup 	7 663 W

Control circuit/ Control

Type of voltage of the control supply voltage	AC
Control supply voltage at AC	
<ul style="list-style-type: none"> • at 50 Hz 	110 ... 250 V
<ul style="list-style-type: none"> • at 60 Hz 	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	100 mA
Starting current at close of by-pass contact maximum	2.2 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 (I _{cu} =1 kA), 6 A quick-acting fuse (I _{cu} =1 kA), C1 miniature circuit breaker (I _{cu} = 600 A), C6 miniature circuit breaker (I _{cu} = 300 A); Is not part of scope of supply

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
Switching capacity current of the relay outputs	
• at AC-15 at 250 V rated value	3 A
• at DC-13 at 24 V rated value	1 A

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	393 mm
Width	210 mm
Depth	203 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 catalog
Weight without packaging	10.6 kg

Connections/ Terminals

Type of electrical connection	
• for main current circuit	busbar connection

<ul style="list-style-type: none"> for control circuit 	screw-type terminals
Width of connection bar maximum	45 mm
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for DIN cable lug for main contacts stranded 	2x (50 ... 240 mm ²)
<ul style="list-style-type: none"> for DIN cable lug for main contacts finely stranded 	2x (70 ... 240 mm ²)
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for control circuit solid 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
<ul style="list-style-type: none"> for control circuit finely stranded with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
<ul style="list-style-type: none"> at AWG conductors for control circuit solid 	1x (20 ... 12), 2x (20 ... 14)
Wire length	
<ul style="list-style-type: none"> between soft starter and motor maximum 	800 m
<ul style="list-style-type: none"> at the digital inputs at AC maximum 	100 m
Tightening torque	
<ul style="list-style-type: none"> for main contacts with screw-type terminals 	14 ... 24 N·m
<ul style="list-style-type: none"> for auxiliary and control contacts with screw-type terminals 	0.8 ... 1.2 N·m
Tightening torque [lbf·in]	
<ul style="list-style-type: none"> for main contacts with screw-type terminals 	124 ... 210 lbf·in
<ul style="list-style-type: none"> for auxiliary and control contacts with screw-type terminals 	7 ... 10.3 lbf·in

Ambient conditions

Ambient temperature	
<ul style="list-style-type: none"> during operation 	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
<ul style="list-style-type: none"> during storage and transport 	-40 ... +80 °C
Environmental category	
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> during storage acc. to IEC 60721 	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> PROFINET standard 	Yes
<ul style="list-style-type: none"> EtherNet/IP 	Yes
<ul style="list-style-type: none"> Modbus RTU 	Yes
<ul style="list-style-type: none"> Modbus TCP 	Yes
<ul style="list-style-type: none"> PROFIBUS 	Yes

UL/CSA ratings

Manufacturer's article number <ul style="list-style-type: none"> • of the fuse <ul style="list-style-type: none"> — usable for Standard Faults up to 575/600 V according to UL — usable for High Faults up to 575/600 V according to UL — usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL — usable for High Faults at inside-delta circuit up to 575/600 V according to UL 	Type: Class J / L, max. 1600 A; Iq = 30 kA Type: Class J / L, max. 1200 A; Iq = 100 kA Type: Class J / L, max. 1600 A; Iq = 30 kA Type: Class J / L, max. 1200 A; Iq = 100 kA
Operating power [hp] for three-phase motors <ul style="list-style-type: none"> • 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 200/208 V at inside-delta circuit at 50 °C rated value • at 220/230 V at inside-delta circuit at 50 °C rated value • at 460/480 V at inside-delta circuit at 50 °C rated value 	150 hp 200 hp 400 hp 300 hp 350 hp 750 hp
Contact rating of auxiliary contacts according to UL	R300-B300
Safety related data	
Electromagnetic compatibility	in accordance with IEC 60947-4-2
Certificates/ approvals	

General Product Approval	EMC	Declaration of Conformity
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CCC



CSA



UL



RCM



EG-Konf.

Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



ABS



LRS



PRS



DNVGL.COM/AF

other

[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=3RW5248-6AC14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5248-6AC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5248-6AC14>

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

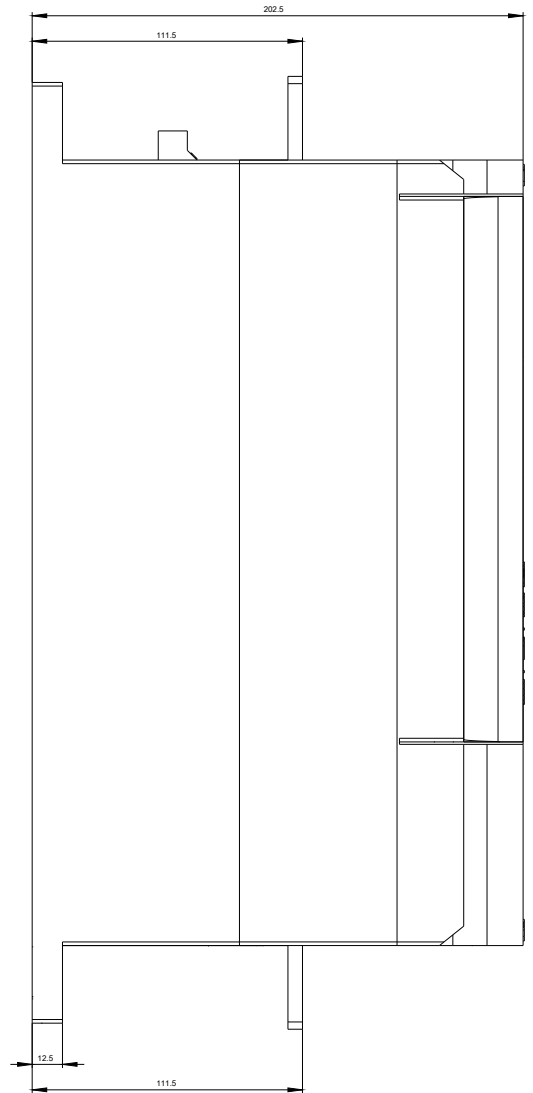
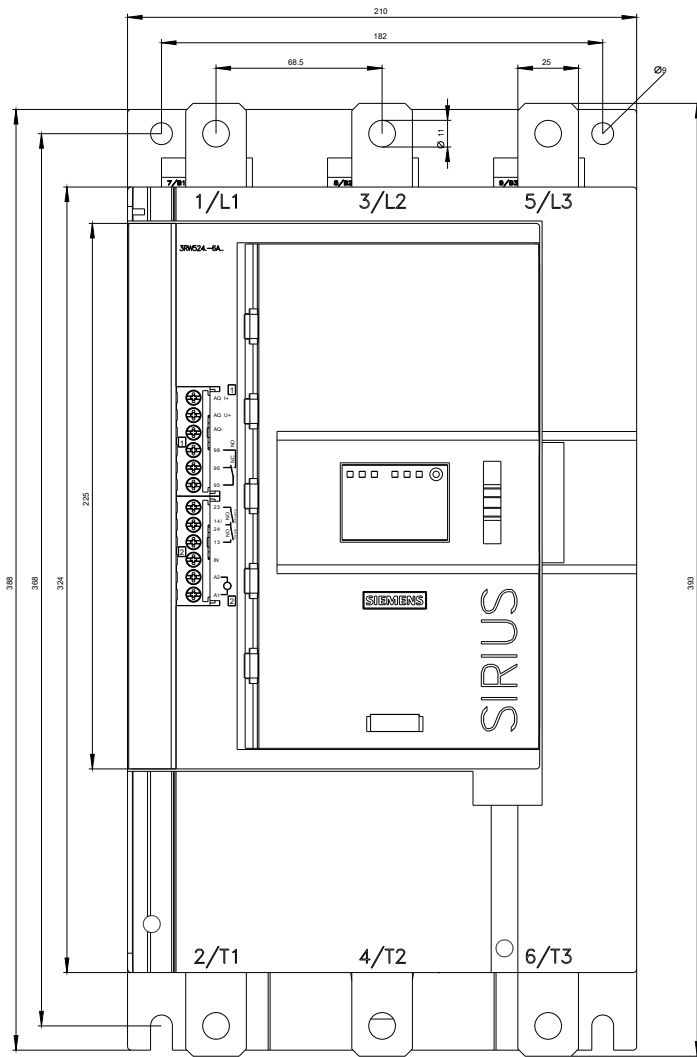
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5248-6AC14&lang=en

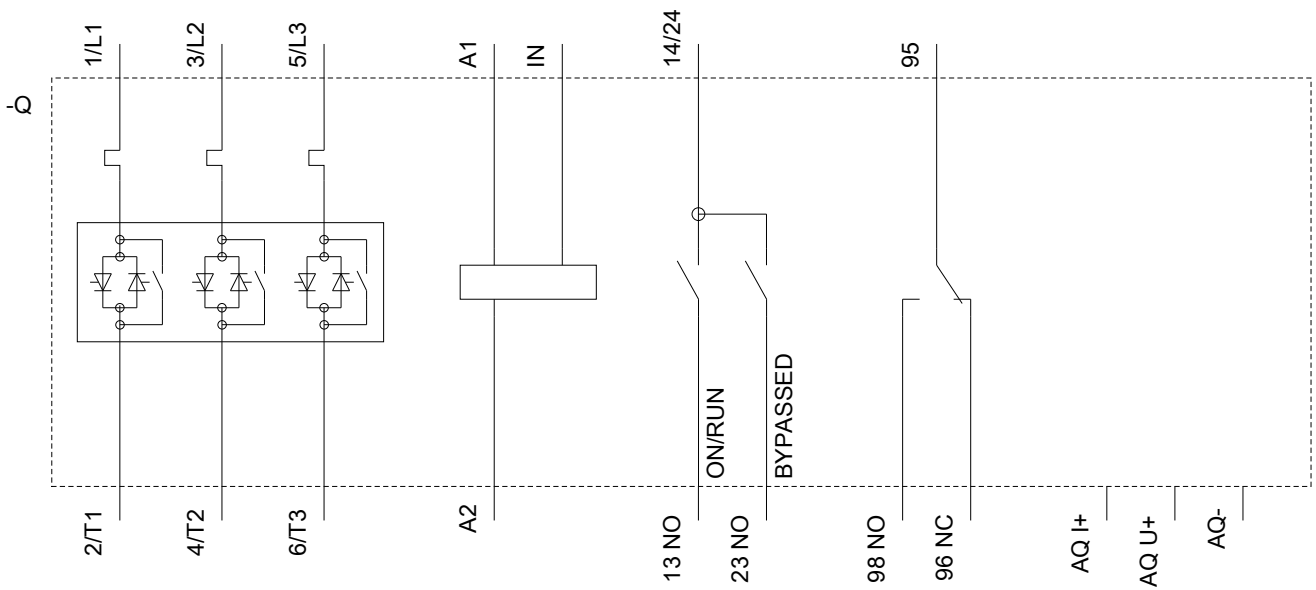
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5248-6AC14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5248-6AC14&objecttype=14&gridview=view1>





last modified:

05/04/2020