

SIRIUS soft starter 200-480 V 113 A, 110-250 V AC Screw terminals
Thermistor input



Product brand name	SIRIUS
Product category	Hybrid switching devices
Product designation	Soft starter
Manufacturer's article number	<ul style="list-style-type: none"> • of HMI module usable 3RW5980-0HS00 • of HMI-Modul high-feature usable 3RW5980-0HF00 • of communication module PROFINET standard usable 3RW5980-0CS00 • of communication module PROFIBUS usable 3RW5980-0CP00 • of communication module Modbus TCP usable 3RW5980-0CT00 • of circuit breaker usable at 400 V 3VA2216-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3244-6; Type of coordination 1, Iq = 65 kA • of the gG fuse usable at inside-delta circuit up to 500 V 3NA3244-6; Type of coordination 1, Iq = 65 kA • of full range R fuse link for semiconductor protection usable up to 690 V 3NE1225-0; Type of coordination 2, Iq = 65 kA • of back-up R fuse link for semiconductor protection usable up to 690 V 3NE3332-0B; Type of coordination 2, Iq = 65 kA

General technical data	
Starting voltage [%]	30 ... 100 %
Start-up ramp time of soft starter	0 ... 20 s
Current limiting value [%] adjustable	130 ... 700 %
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
Insulation voltage	
• rated value	600 V
Impulse voltage rated value	6 kV
Blocking voltage of the thyristor maximum	1 400 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
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; Full motor protection (thermistor motor protection and electronic motor overload protection)
• Evaluation of thermistor motor protection	Yes; Type A PTC or Klixon / Thermoclick
• inside-delta circuit	Yes
• Auto-reset	Yes
• Manual RESET	Yes
• remote reset	Yes; By turning off the control supply voltage
• communication function	Yes
• via software configurable	Yes
• PROFINergy	Yes; in connection with the PROFINET Standard communication module
• firmware update	Yes
• removable terminal for control circuit	Yes

- analog output

No

Power Electronics

Operating current	
• at 40 °C rated value	113 A
• at 50 °C rated value	101 A
• at 60 °C rated value	89 A
Operating current at inside-delta circuit	
• at 40 °C rated value	196 A
• at 50 °C rated value	175 A
• at 60 °C rated value	154 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	30 kW
• at 230 V at inside-delta circuit at 40 °C rated value	55 kW
• at 400 V at 40 °C rated value	55 kW
• at 400 V at inside-delta circuit at 40 °C rated value	110 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	
• minimum	53 A
• at inside-delta circuit minimum	91.8 A
Minimum load [%]	15 %; Relative to smallest settable le
Power loss [W] for rated value of the current at AC	
• at 40 °C to power-up	46 W
• at 50 °C to power-up	42 W
• at 60 °C to power-up	39 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 • 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	75 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 (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	1; Type A PTC or Klixon / Thermoclick
Number of digital outputs	3
<ul style="list-style-type: none"> • not parameterizable 	2
Digital output version	2 normally-open contacts (NO) / 1 changeover contact (CO)
Number of analog outputs	0
Switching capacity current of the relay outputs	
<ul style="list-style-type: none"> • at AC-15 at 250 V rated value • at DC-13 at 24 V rated value 	3 A
	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	306 mm
Width	185 mm
Depth	203 mm

Required spacing with side-by-side mounting	
<ul style="list-style-type: none"> • forwards • Backwards • upwards • downwards • at the side 	<p>10 mm</p> <p>0 mm</p> <p>100 mm</p> <p>75 mm</p> <p>5 mm</p>
Installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
Weight without packaging	6.6 kg

Connections/Terminals

Type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit • for control circuit 	<p>screw-type terminals</p> <p>screw-type terminals</p>
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for DIN cable lug for main contacts stranded • for DIN cable lug for main contacts finely stranded 	<p>2x (16 ... 95 mm²)</p> <p>2x (25 ... 120 mm²)</p>
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for control circuit solid • for control circuit finely stranded with core end processing • at AWG conductors for control circuit solid 	<p>1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)</p> <p>1x (20 ... 12), 2x (20 ... 14)</p>
Wire length	
<ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum 	<p>800 m</p> <p>100 m</p>

Ambient conditions

Ambient temperature	
<ul style="list-style-type: none"> • during operation • during storage and transport 	<p>-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above</p> <p>-40 ... +80 °C</p>
Environmental category	
<ul style="list-style-type: none"> • during operation acc. to IEC 60721 • during storage acc. to IEC 60721 • during transport acc. to IEC 60721 	<p>3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)</p>

Communication/ Protocol

Communication module is supported	
<ul style="list-style-type: none"> • PROFINET standard • Modbus TCP • PROFIBUS 	<p>Yes</p> <p>Yes</p> <p>Yes</p>

UL/CSA ratings

Manufacturer's article number	
<ul style="list-style-type: none"> • of fuse <ul style="list-style-type: none"> — at Standard Faults usable up to 575/600 V according to UL — at High Faults usable up to 575/600 V according to UL — at Standard Faults usable at inside-delta circuit up to 575/600 V according to UL — at High Faults usable at inside-delta circuit up to 575/600 V according to UL 	<p>Type: Class RK5 / K5, max. 350 A; Iq = 10 kA</p> <p>Type: Class J / L, max. 350 A; Iq = 100 kA</p> <p>Type: Class RK5 / K5, max. 350 A; Iq = 10 kA</p> <p>Type: Class J / L, max. 350 A; Iq = 100 kA</p>
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 	<p>30 hp</p> <p>30 hp</p> <p>75 hp</p> <p>50 hp</p> <p>60 hp</p> <p>125 hp</p>
Contact rating of auxiliary contacts according to UL	
R300-B300	

General Product Approval

Declaration of Conformity



[Miscellaneous](#)

Test Certificates	Marine / Shipping	other
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[Type Test Certificates/Test Report](#)



[Confirmation](#)

Further information

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

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RW5234-6TC14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5234-6TC14>

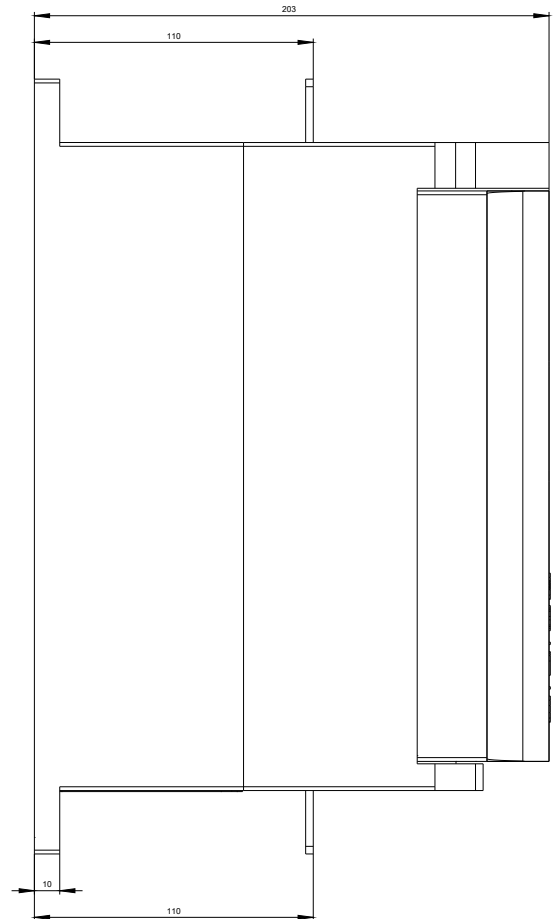
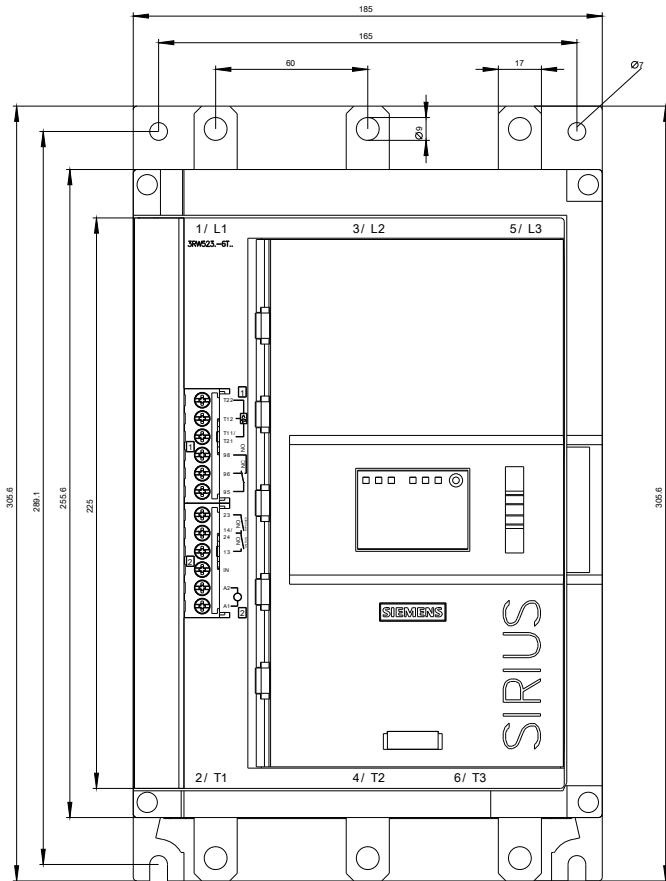
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

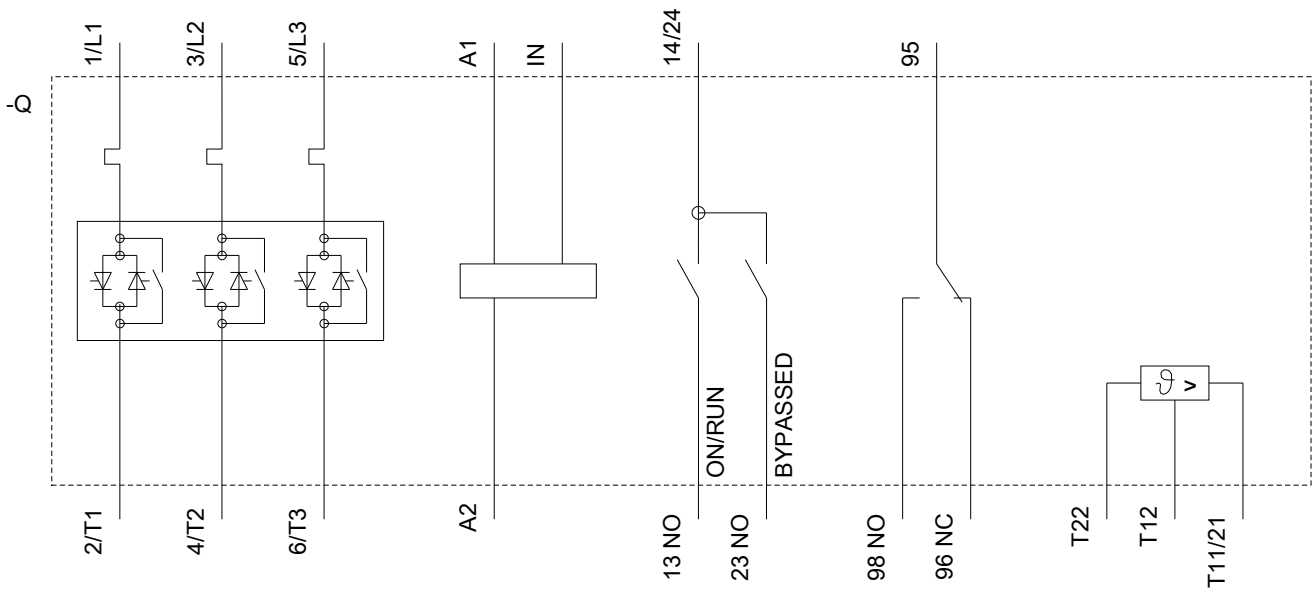
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-6TC14>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5234-6TC14&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5234-6TC14/char>

Characteristic: Installation altitude
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5234-6TC14&objecttype=14&gridview=view1>





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