

SIRIUS soft starter 200-480 V 13 A, 24 V AC/DC Screw terminals  
Thermistor input



<b>Product brand name</b>	SIRIUS
<b>Product category</b>	Hybrid switching devices
<b>Product designation</b>	Soft starter
<b>Manufacturer's article number</b>	<ul style="list-style-type: none"> <li>• of HMI module usable <a href="#">3RW5980-0HS00</a></li> <li>• of HMI-Modul high-feature usable <a href="#">3RW5980-0HF00</a></li> <li>• of communication module PROFINET standard usable <a href="#">3RW5980-0CS00</a></li> <li>• of communication module PROFIBUS usable <a href="#">3RW5980-0CP00</a></li> <li>• of communication module Modbus TCP usable <a href="#">3RW5980-0CT00</a></li> <li>• of circuit breaker usable at 400 V <a href="#">3RV2032-4TA10; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 500 V <a href="#">3RV2032-4TA10; Type of coordination 1, Iq = 18 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 400 V at inside-delta circuit <a href="#">3RV2032-4DA10; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 500 V at inside-delta circuit <a href="#">3RV2032-4DA10; Type of coordination 1, Iq = 18 kA, CLASS 10</a></li> <li>• of the gG fuse usable up to 690 V <a href="#">3NA3820-6; Type of coordination 1, Iq = 65 kA</a></li> <li>• of the gG fuse usable at inside-delta circuit up to 500 V <a href="#">3NA3820-6; Type of coordination 1, Iq = 65 kA</a></li> </ul>

- 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

[3NE1815-0; Type of coordination 2, Iq = 65 kA](#)

[3NE8017-1; Type of coordination 2, Iq = 65 kA](#)

General technical data	
<b>Starting voltage [%]</b>	30 ... 100 %
<b>Start-up ramp time of soft starter</b>	0 ... 20 s
<b>Current limiting value [%] adjustable</b>	130 ... 700 %
<b>Product component</b>	
• is supported HMI-Standard	Yes
• is supported HMI-High Feature	Yes
<b>Product feature integrated bypass contact system</b>	Yes
<b>Number of controlled phases</b>	3
<b>Trip class</b>	CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2
<b>Insulation voltage</b>	
• rated value	600 V
<b>Impulse voltage rated value</b>	6 kV
<b>Blocking voltage of the thyristor maximum</b>	1 600 V
<b>Service factor</b>	1
<b>Surge voltage resistance rated value</b>	6 kV
<b>maximum permissible voltage for safe isolation</b>	
• between main and auxiliary circuit	600 V
<b>Protection class IP</b>	IP20
<b>Usage category acc. to IEC 60947-4-2</b>	AC 53a
<b>Shock resistance</b>	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
<b>Reference code acc. to DIN EN 81346-2</b>	Q
<b>Product function</b>	
• 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

- PROFINET
- firmware update
- removable terminal for control circuit
- analog output

Yes; in connection with the PROFINET Standard communication module

Yes

Yes

No

## Power Electronics

<b>Operating current</b>	
• at 40 °C rated value	13 A
• at 50 °C rated value	11.5 A
• at 60 °C rated value	10.5 A
<b>Operating current at inside-delta circuit</b>	
• at 40 °C rated value	22.5 A
• at 50 °C rated value	19.9 A
• at 60 °C rated value	18.2 A
<b>Operating voltage</b>	
• rated value	200 ... 480 V
• at inside-delta circuit rated value	200 ... 480 V
<b>Relative negative tolerance of the operating voltage</b>	-15 %
<b>Relative positive tolerance of the operating voltage</b>	10 %
<b>Relative negative tolerance of the operating voltage at inside-delta circuit</b>	-15 %
<b>Relative positive tolerance of the operating voltage at inside-delta circuit</b>	10 %
<b>Operating power for three-phase motors</b>	
• at 230 V at 40 °C rated value	3 kW
• at 230 V at inside-delta circuit at 40 °C rated value	5.5 kW
• at 400 V at 40 °C rated value	5.5 kW
• at 400 V at inside-delta circuit at 40 °C rated value	11 kW
<b>Operating frequency 1 rated value</b>	50 Hz
<b>Operating frequency 2 rated value</b>	60 Hz
<b>Relative negative tolerance of the operating frequency</b>	-10 %
<b>Relative positive tolerance of the operating frequency</b>	10 %
<b>Adjustable motor current</b>	
• minimum	5.5 A
• at inside-delta circuit minimum	9.5 A
<b>Minimum load [%]</b>	15 %; Relative to smallest settable I <sub>e</sub>
<b>Power loss [W] for rated value of the current at AC</b>	
• at 40 °C to power-up	16 W
• at 50 °C to power-up	15 W
• at 60 °C to power-up	15 W

Control circuit/ Control	
Type of voltage of the control supply voltage	AC/DC
Control supply voltage at AC	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
Relative negative tolerance of the control supply voltage at AC at 50 Hz	-20 %
Relative positive tolerance of the control supply voltage at AC at 50 Hz	20 %
Relative negative tolerance of the control supply voltage at AC at 60 Hz	-20 %
Relative positive tolerance of the control supply voltage at AC at 60 Hz	20 %
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 voltage	
• at DC rated value	24 V
Relative negative tolerance of the control supply voltage at DC	-20 %
Relative positive tolerance of the control supply voltage at DC	20 %
Control supply current in standby mode rated value	160 mA
Holding current in the by-pass mode operating rated value	360 mA
Starting current at close of by-pass contact maximum	0.75 A
Inrush current peak at connect of control supply voltage maximum	3.3 A
Duration of inrush current peak at connect of control supply voltage	12.1 ms
Design of the overvoltage protection	Varistor
Design of short-circuit protection for control circuit	4 A gG fuse (I <sub>cu</sub> =1 kA), 6 A quick-acting fuse (I <sub>cu</sub> =1 kA), C1 miniature circuit breaker (I <sub>cu</sub> = 600 A), C6 miniature circuit breaker (I <sub>cu</sub> = 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 Klaxon / Thermoclick
Number of digital outputs	3
• 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	

- at AC-15 at 250 V rated value
- at DC-13 at 24 V rated value

3 A

1 A

### Installation/ mounting/ dimensions

<b>Mounting position</b>	+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface
<b>(mounting type)</b>	screw fixing
<b>Height</b>	275 mm
<b>Width</b>	170 mm
<b>Depth</b>	152 mm
<b>Required spacing with side-by-side mounting</b>	
• forwards	10 mm
• Backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
<b>Installation altitude at height above sea level maximum</b>	5 000 m; Derating as of 1000 m, see catalog
<b>Weight without packaging</b>	2.1 kg

### Connections/Terminals

<b>Type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for control circuit	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— solid	2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6.0 mm <sup>2</sup> )
<b>Type of connectable conductor cross-sections</b>	
• for control circuit solid	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• for control circuit finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
• at AWG conductors for control circuit solid	1x (20 ... 12), 2x (20 ... 14)
<b>Wire length</b>	
• between soft starter and motor maximum	800 m
• at the digital inputs at AC maximum	100 m
• at the digital inputs at DC maximum	1 000 m

### Ambient conditions

<b>Ambient temperature</b>	
• during operation	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
• during storage and transport	-40 ... +80 °C
<b>Environmental category</b>	

- during operation acc. to IEC 60721
- during storage acc. to IEC 60721
- during transport acc. to IEC 60721

3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6  
 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4  
 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)

### Communication/ Protocol

#### Communication module is supported

- |                     |     |
|---------------------|-----|
| • PROFINET standard | Yes |
| • Modbus TCP        | Yes |
| • PROFIBUS          | Yes |

### UL/CSA ratings

#### Manufacturer's article number

##### • of fuse

- |   |  |
|---|--|
| — at Standard Faults usable up to 575/600 V according to UL                         | Type: Class RK5 / K5, max. 50 A; Iq = 5 kA |
| — at High Faults usable up to 575/600 V according to UL                             | Type: Class J / L, max. 50 A; Iq = 100 kA  |
| — at Standard Faults usable at inside-delta circuit up to 575/600 V according to UL | Type: Class RK5 / K5, max. 50 A; Iq = 5 kA |
| — at High Faults usable at inside-delta circuit up to 575/600 V according to UL     | Type: Class J / L, max. 50 A; Iq = 100 kA  |

#### Operating power [hp] for three-phase motors

- |   |        |
|---|--------|
| • at 200/208 V at 50 °C rated value                         | 2 hp   |
| • at 220/230 V at 50 °C rated value                         | 3 hp   |
| • at 460/480 V at 50 °C rated value                         | 7.5 hp |
| • at 200/208 V at inside-delta circuit at 50 °C rated value | 5 hp   |
| • at 220/230 V at inside-delta circuit at 50 °C rated value | 5 hp   |
| • at 460/480 V at inside-delta circuit at 50 °C rated value | 10 hp  |

#### Contact rating of auxiliary contacts according to UL

R300-B300

<b>General Product Approval</b>	<b>Declaration of Conformity</b>
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CCC



CSA



UL



EG-Konf.

[Miscellaneous](#)

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



LRS



PRS

[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=3RW5213-1TC04>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5213-1TC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-1TC04>

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

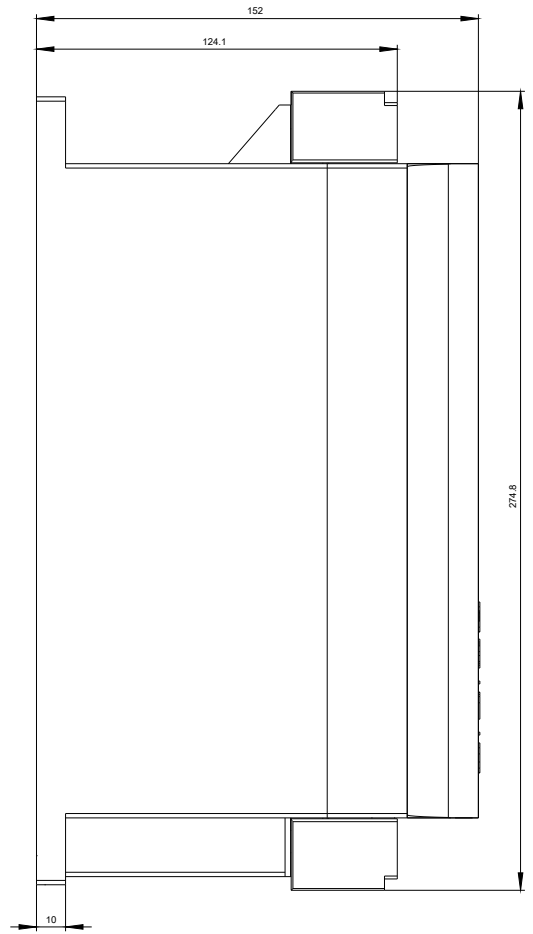
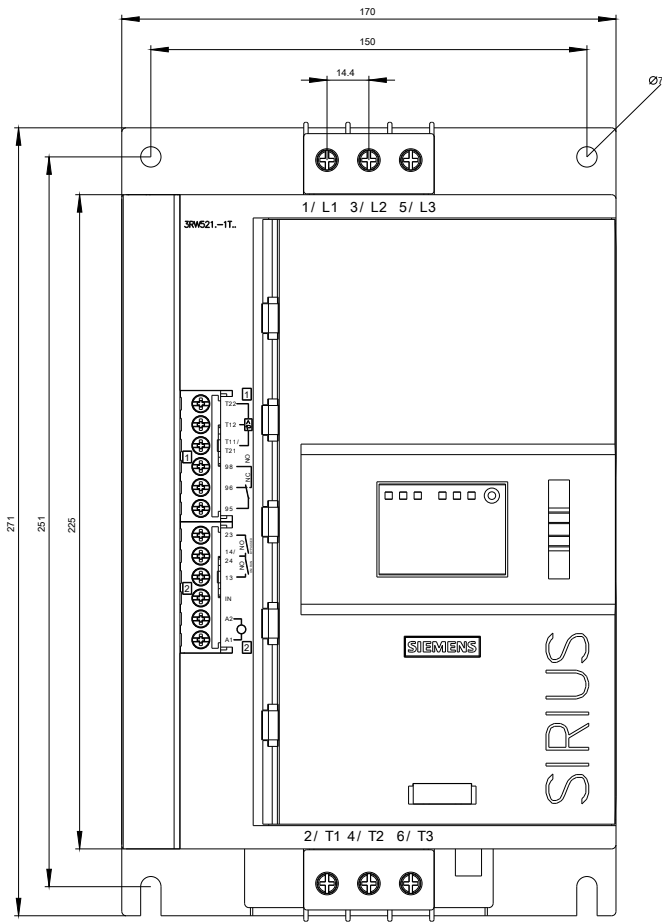
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5213-1TC04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5213-1TC04&lang=en)

**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

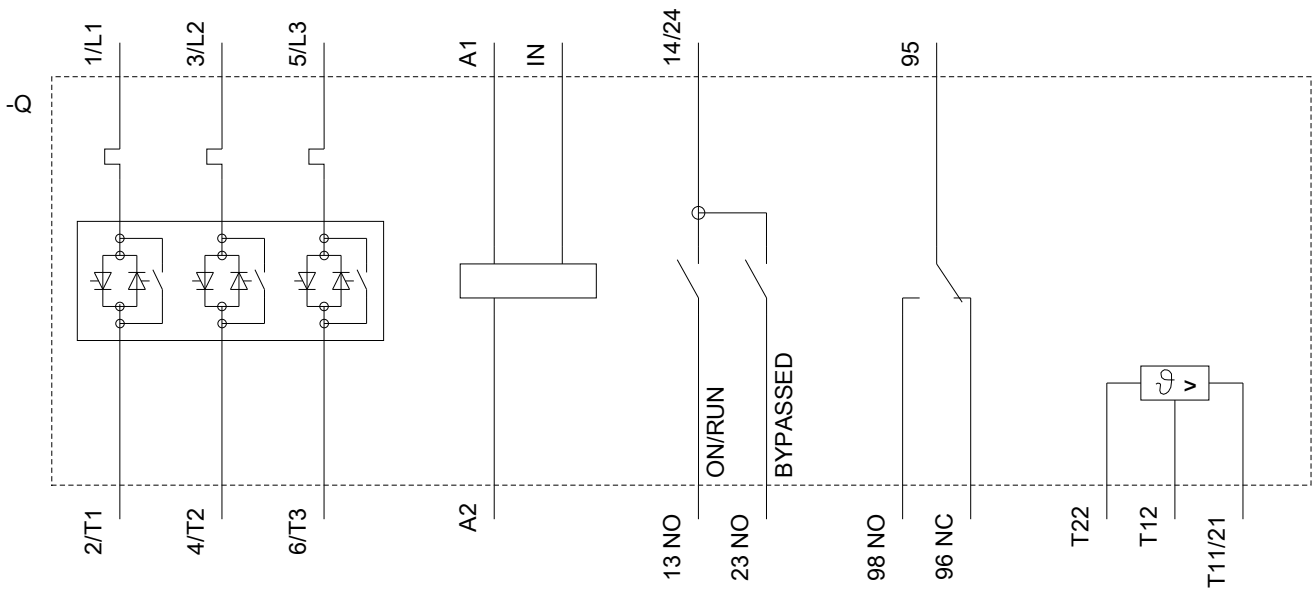
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-1TC04/char>

**Characteristic: Installation altitude**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5213-1TC04&objecttype=14&gridview=view1>







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