

SIRIUS soft starter 200-480 V 32 A, 24 V AC/DC 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 3RV2032-4VA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V 3RV2032-4VA10; Type of coordination 1, Iq = 10 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3RV2032-4JA10; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 500 V at inside-delta circuit 3RV2032-4JA10; Type of coordination 1, Iq = 10 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3824-6; Type of coordination 1, Iq = 65 kA • of the gG fuse usable at inside-delta circuit up to 500 V 3NA3824-6; Type of coordination 1, Iq = 65 kA

- 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

[3NE1818-0; Type of coordination 2, Iq = 65 kA](#)

[3NE8022-1; 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	1 600 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
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

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

Yes; in connection with the PROFINET Standard communication module
 Yes
 Yes
 No

Power Electronics

Operating current	
• at 40 °C rated value	32 A
• at 50 °C rated value	28.4 A
• at 60 °C rated value	26 A
Operating current at inside-delta circuit	
• at 40 °C rated value	55.4 A
• at 50 °C rated value	49 A
• at 60 °C rated value	45 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	7.5 kW
• at 230 V at inside-delta circuit at 40 °C rated value	15 kW
• at 400 V at 40 °C rated value	15 kW
• at 400 V at inside-delta circuit at 40 °C rated value	22 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	14 A
• at inside-delta circuit minimum	24.2 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	22 W
• at 50 °C to power-up	21 W
• at 60 °C to power-up	20 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 _{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
• 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

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	275 mm
Width	170 mm
Depth	152 mm
Required spacing with side-by-side mounting	
<ul style="list-style-type: none"> • forwards 	10 mm
<ul style="list-style-type: none"> • Backwards 	0 mm
<ul style="list-style-type: none"> • upwards 	100 mm
<ul style="list-style-type: none"> • downwards 	75 mm
<ul style="list-style-type: none"> • 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	2.3 kg

Connections/Terminals

Type of electrical connection	
<ul style="list-style-type: none"> • for main current circuit 	screw-type terminals
<ul style="list-style-type: none"> • for control circuit 	screw-type terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts 	
<ul style="list-style-type: none"> — solid 	2x (1.0 ... 2.5 mm ²), 2x (2.5 ... 10 mm ²)
<ul style="list-style-type: none"> — finely stranded with core end processing 	2x (1.0 ... 2.5 mm ²), 2x (2.5 ... 6.0 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
<ul style="list-style-type: none"> • at the digital inputs at DC maximum 	1 000 m

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	

- 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. 125 A; Iq = 5 kA |
| — at High Faults usable up to 575/600 V according to UL | Type: Class J / L, max. 125 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. 125 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. 125 A; Iq = 100 kA |

Operating power [hp] for three-phase motors

- | | |
|---|--------|
| • at 200/208 V at 50 °C rated value | 7.5 hp |
| • at 220/230 V at 50 °C rated value | 10 hp |
| • at 460/480 V at 50 °C rated value | 20 hp |
| • at 200/208 V at inside-delta circuit at 50 °C rated value | 15 hp |
| • at 220/230 V at inside-delta circuit at 50 °C rated value | 15 hp |
| • at 460/480 V at inside-delta circuit at 50 °C rated value | 30 hp |

Contact rating of auxiliary contacts according to UL

R300-B300

General Product Approval	Declaration of Conformity
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CCC



CSA



UL



EG-Konf.

[Miscellaneous](#)

Test Certificates	Marine / Shipping	other
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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=3RW5216-1TC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5216-1TC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1TC04>

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

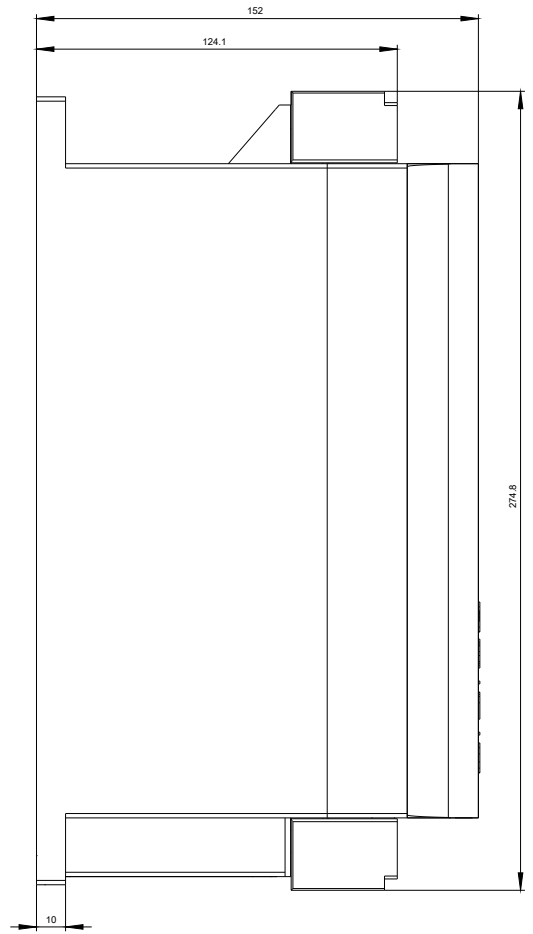
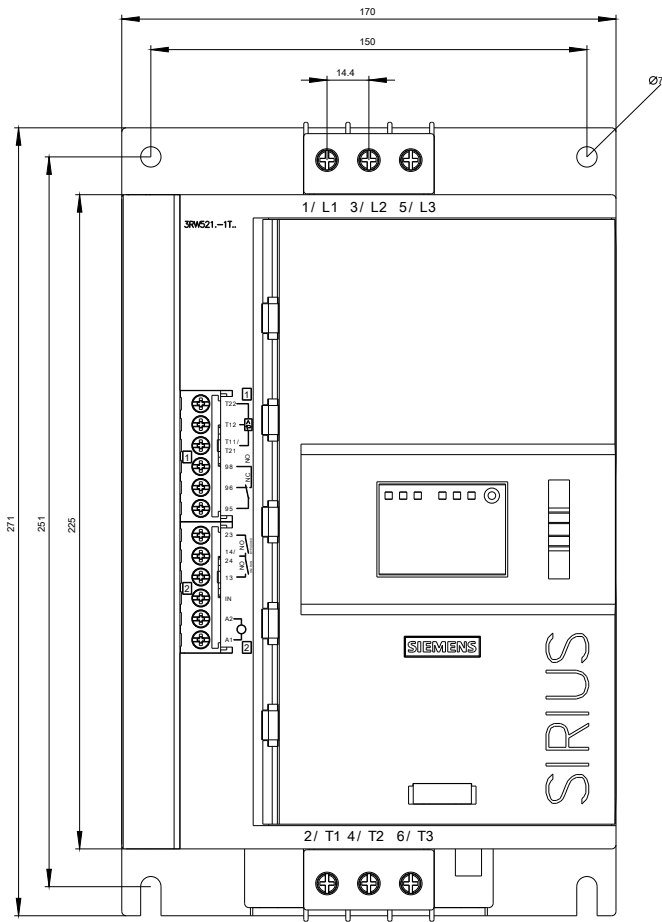
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5216-1TC04&lang=en

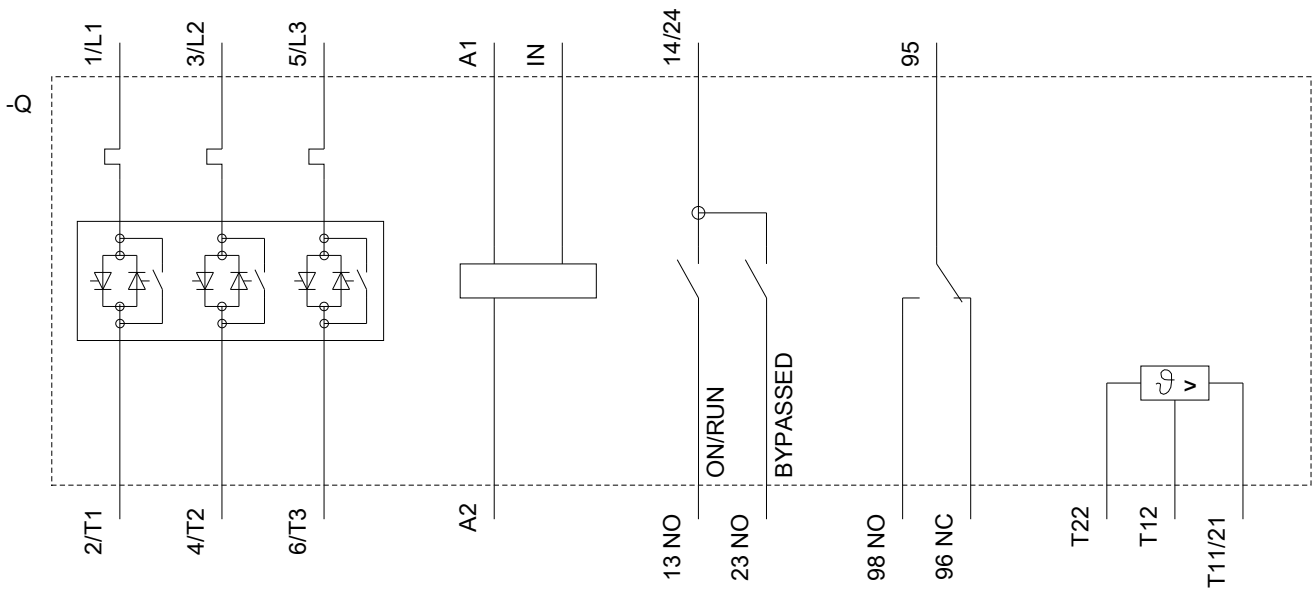
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-1TC04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5216-1TC04&objecttype=14&gridview=view1>





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