



SIRIUS soft starter 200-600 V 13 A, 24 V AC/DC spring-type terminals Thermistor input

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"> <li>of standard HMI module usable <a href="#">3RW5980-0HS00</a></li> <li>of high feature HMI module 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 communication module Modbus RTU usable <a href="#">3RW5980-0CR00</a></li> <li>of communication module Ethernet/IP <a href="#">3RW5980-0CE00</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> <li>of full range R fuse link for semiconductor protection usable up to 690 V <a href="#">3NE1815-0; Type of coordination 2, Iq = 65 kA</a></li> <li>of back-up R fuse link for semiconductor protection usable up to 690 V <a href="#">3NE8017-1; Type of coordination 2, Iq = 65 kA</a></li> </ul>
<b>General technical data</b>	
starting voltage [%]	30 ... 100 %
stopping voltage [%]	50 %; non-adjustable
start-up ramp time of soft starter	0 ... 20 s
current limiting value [%] adjustable	130 ... 700 %
certificate of suitability	<ul style="list-style-type: none"> <li>CE marking Yes</li> <li>UL approval Yes</li> <li>CSA approval Yes</li> </ul>
product component	<ul style="list-style-type: none"> <li>HMI-High Feature No</li> <li>is supported HMI-Standard Yes</li> <li>is supported HMI-High Feature Yes</li> </ul>
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	<ul style="list-style-type: none"> <li>for main current circuit 100 ms</li> <li>for control circuit 100 ms</li> </ul>

<b>insulation voltage rated value</b>	600 V
<b>degree of pollution</b>	3, acc. to IEC 60947-4-2
<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 protective separation</b> • between main and auxiliary circuit	600 V
<b>shock resistance</b>	15 g / 11 ms, from 12 g / 11 ms with potential contact lifting
<b>vibration resistance</b>	15 mm to 6 Hz; 2g to 500 Hz
utilization category according to IEC 60947-4-2	AC 53a
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	02/15/2018

#### 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 Klaxon / Thermoclick
• 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
• <b>PROFInergy</b>	Yes; in connection with the PROFINET Standard communication module
• <b>firmware update</b>	Yes
• <b>removable terminal for control circuit</b>	Yes
• torque control	No
• analog output	No

#### Power Electronics

<b>operational current</b> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value	13 A 11.5 A 10.5 A
<b>operational current at inside-delta circuit</b> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value	22.5 A 19.9 A 18.2 A
<b>operating voltage</b> • rated value • at inside-delta circuit rated value	200 ... 600 V 200 ... 600 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 3-phase motors</b> • at 230 V at 40 °C rated value • at 230 V at inside-delta circuit at 40 °C rated value • at 400 V at 40 °C rated value • at 400 V at inside-delta circuit at 40 °C rated value • at 500 V at 40 °C rated value • at 500 V at inside-delta circuit at 40 °C rated value	3 kW 5.5 kW 5.5 kW 11 kW 7.5 kW 15 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>	
• at rotary coding switch on switch position 1	5.5 A
• at rotary coding switch on switch position 2	6 A
• at rotary coding switch on switch position 3	6.5 A
• at rotary coding switch on switch position 4	7 A
• at rotary coding switch on switch position 5	7.5 A
• at rotary coding switch on switch position 6	8 A
• at rotary coding switch on switch position 7	8.5 A
• at rotary coding switch on switch position 8	9 A
• at rotary coding switch on switch position 9	9.5 A
• at rotary coding switch on switch position 10	10 A
• at rotary coding switch on switch position 11	10.5 A
• at rotary coding switch on switch position 12	11 A
• at rotary coding switch on switch position 13	11.5 A
• at rotary coding switch on switch position 14	12 A
• at rotary coding switch on switch position 15	12.5 A
• at rotary coding switch on switch position 16	13 A
• minimum	5.5 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	9.5 A
• for inside-delta circuit at rotary coding switch on switch position 2	10.4 A
• for inside-delta circuit at rotary coding switch on switch position 3	11.3 A
• for inside-delta circuit at rotary coding switch on switch position 4	12.1 A
• for inside-delta circuit at rotary coding switch on switch position 5	13 A
• for inside-delta circuit at rotary coding switch on switch position 6	13.9 A
• for inside-delta circuit at rotary coding switch on switch position 7	14.7 A
• for inside-delta circuit at rotary coding switch on switch position 8	15.6 A
• for inside-delta circuit at rotary coding switch on switch position 9	16.5 A
• for inside-delta circuit at rotary coding switch on switch position 10	17.3 A
• for inside-delta circuit at rotary coding switch on switch position 11	18.2 A
• for inside-delta circuit at rotary coding switch on switch position 12	19.1 A
• for inside-delta circuit at rotary coding switch on switch position 13	19.9 A
• for inside-delta circuit at rotary coding switch on switch position 14	20.8 A
• for inside-delta circuit at rotary coding switch on switch position 15	21.7 A
• for inside-delta circuit at rotary coding switch on switch position 16	22.5 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 after startup	16 W
• at 50 °C after startup	15 W
• at 60 °C after startup	15 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	210 W
• at 50 °C during startup	178 W
• at 60 °C during startup	161 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 bypass operation rated value	360 mA
inrush current by closing the bypass contacts maximum	0.75 A
inrush current peak at application of control supply voltage maximum	3.3 A
duration of inrush current peak at application 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 (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
Inputs/ Outputs	
number of digital inputs	1
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	3 A
• at DC-13 at 24 V rated value	1 A
Installation/ mounting/ dimensions	
mounting position	+/- 10° rotation possible and can be tilted forward or backward on vertical mounting surface
fastening method	screw fixing
height	275 mm
width	170 mm
depth	152 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
weight without packaging	2.1 kg
Connections/ Terminals	
type of electrical connection	
• for main current circuit	screw-type terminals
• for control circuit	spring-loaded terminals
wire length for thermistor connection	
• with conductor cross-section = 0.5 mm² maximum	50 m

<ul style="list-style-type: none"> <li>• with conductor cross-section = 1.5 mm<sup>2</sup> maximum</li> <li>• with conductor cross-section = 2.5 mm<sup>2</sup> maximum</li> </ul>	150 m 250 m
<b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables for main current circuit solid</li> </ul>	2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> ) 2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6.0 mm <sup>2</sup> ) 2x (16 ... 12), 2x (14 ... 8)
<b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for control circuit solid</li> <li>• for control circuit finely stranded with core end processing</li> <li>• for AWG cables for control circuit solid</li> <li>• for AWG cables for control circuit finely stranded with core end processing</li> </ul>	2x (0.25 ... 1.5 mm <sup>2</sup> ) 2x (0.25 ... 1.5 mm <sup>2</sup> ) 2x (24 ... 16) 2x (24 ... 16)
<b>wire length</b> <ul style="list-style-type: none"> <li>• between soft starter and motor maximum</li> <li>• at the digital inputs at AC maximum</li> <li>• at the digital inputs at DC maximum</li> </ul>	800 m 100 m 1 000 m
<b>tightening torque</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>	2 ... 2.5 N·m 0.8 ... 1.2 N·m
<b>tightening torque [lbf·in]</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>	18 ... 22 lbf·in 7 ... 10.3 lbf·in
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see catalog
<b>ambient temperature</b> <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage and transport</li> </ul>	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C
<b>environmental category</b> <ul style="list-style-type: none"> <li>• during operation according to IEC 60721</li> <li>• during storage according to IEC 60721</li> <li>• during transport according to IEC 60721</li> </ul>	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)
<b>EMC emitted interference</b>	acc. to IEC 60947-4-2: Class A
<b>Communication/ Protocol</b>	
<b>communication module is supported</b> <ul style="list-style-type: none"> <li>• PROFINET standard</li> <li>• EtherNet/IP</li> <li>• Modbus RTU</li> <li>• Modbus TCP</li> <li>• PROFIBUS</li> </ul>	Yes Yes Yes Yes Yes
<b>UL/CSA ratings</b>	
<b>manufacturer's article number</b> <ul style="list-style-type: none"> <li>• of circuit breaker <ul style="list-style-type: none"> <li>— usable for Standard Faults at 460/480 V according to UL</li> <li>— usable for High Faults at 460/480 V according to UL</li> <li>— usable for Standard Faults at 460/480 V at inside-delta circuit according to UL</li> <li>— usable for High Faults at 460/480 V at inside-delta circuit according to UL</li> <li>— usable for Standard Faults at 575/600 V according to UL</li> <li>— usable for Standard Faults at 575/600 V at inside-delta circuit according to UL</li> </ul> </li> <li>• of the fuse <ul style="list-style-type: none"> <li>— usable for Standard Faults up to 575/600 V according to UL</li> <li>— usable for High Faults up to 575/600 V according to UL</li> <li>— usable for Standard Faults at inside-delta circuit up</li> </ul> </li> </ul>	Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; Iq max = 65 kA Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA Siemens type: 3RV2742, max. 30 A or 3VA51, max. 35 A; Iq max = 65 kA Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA Siemens type: 3RV2742, max. 40 A or 3VA51, max. 40 A; Iq = 5 kA Type: Class RK5 / K5, max. 50 A; Iq = 5 kA Type: Class J / L, max. 50 A; Iq = 100 kA Type: Class RK5 / K5, max. 50 A; Iq = 5 kA

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. 50 A; Iq = 100 kA
<b>operating power [hp] for 3-phase motors</b>	
• 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 575/600 V at 50 °C rated value	10 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
• at 575/600 V at inside-delta circuit at 50 °C rated value	15 hp
<b>contact rating of auxiliary contacts according to UL</b>	R300-B300

<b>Safety related data</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front
<b>electromagnetic compatibility</b>	in accordance with IEC 60947-4-2

<b>Certificates/ approvals</b>	
<b>General Product Approval</b>	EMC



[Confirmation](#)



<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
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[Type Test Certificates/Test Report](#)



<b>Marine / Shipping</b>	<b>other</b>
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[Confirmation](#)

#### Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

**Information on the packaging**

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

**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=3RW5213-3TC05>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5213-3TC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-3TC05>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5213-3TC05&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5213-3TC05&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5213-3TC05/char>

**Characteristic: Installation altitude**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5213-3TC05&objecttype=14&gridview=view1>

**Simulation Tool for Soft Starters (STS)**

<https://support.industry.siemens.com/cs/ww/en/view/101494917>







