



SIRIUS soft starter 200-600 V 315 A, 110-250 V AC spring-type terminals  
Thermistor input

<b>product brand name</b>	SIRIUS
<b>product category</b>	Hybrid switching devices
<b>product designation</b>	Soft starter
<b>product type designation</b>	3RW52
<b>manufacturer's article number</b>	<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="#">3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>of circuit breaker usable at 500 V <a href="#">3VA2440-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>of circuit breaker usable at 400 V at inside-delta circuit <a href="#">3VA2580-6HN32-0AA0; 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="#">3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>of the gG fuse usable up to 690 V 2x3NA3365-6; Type of coordination 1, Iq = 65 kA</li> <li>of the gG fuse usable at inside-delta circuit up to 500 V 2x3NA3365-6; Type of coordination 1, Iq = 65 kA</li> <li>of full range R fuse link for semiconductor protection usable up to 690 V <a href="#">3NE1334-2; 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="#">3NE3336; Type of coordination 2, Iq = 65 kA</a></li> </ul>
<b>General technical data</b>	
<b>starting voltage [%]</b>	30 ... 100 %
<b>stopping voltage [%]</b>	50 %; non-adjustable
<b>start-up ramp time of soft starter</b>	0 ... 20 s
<b>current limiting value [%] adjustable</b>	130 ... 700 %
<b>certificate of suitability</b>	<ul style="list-style-type: none"> <li>CE marking Yes</li> <li>UL approval Yes</li> <li>CSA approval Yes</li> </ul>
<b>product component</b>	<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>
<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>buffering time in the event of power failure</b>	<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	315 A 279 A 255 A
<b>operational current at inside-delta circuit</b> • at 40 °C rated value • at 50 °C rated value • at 60 °C rated value	546 A 483 A 442 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	90 kW 160 kW 160 kW 315 kW 200 kW 355 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	135 A
• at rotary coding switch on switch position 2	147 A
• at rotary coding switch on switch position 3	159 A
• at rotary coding switch on switch position 4	171 A
• at rotary coding switch on switch position 5	183 A
• at rotary coding switch on switch position 6	195 A
• at rotary coding switch on switch position 7	207 A
• at rotary coding switch on switch position 8	219 A
• at rotary coding switch on switch position 9	231 A
• at rotary coding switch on switch position 10	243 A
• at rotary coding switch on switch position 11	255 A
• at rotary coding switch on switch position 12	267 A
• at rotary coding switch on switch position 13	279 A
• at rotary coding switch on switch position 14	291 A
• at rotary coding switch on switch position 15	303 A
• at rotary coding switch on switch position 16	315 A
• minimum	135 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	234 A
• for inside-delta circuit at rotary coding switch on switch position 2	255 A
• for inside-delta circuit at rotary coding switch on switch position 3	275 A
• for inside-delta circuit at rotary coding switch on switch position 4	296 A
• for inside-delta circuit at rotary coding switch on switch position 5	317 A
• for inside-delta circuit at rotary coding switch on switch position 6	338 A
• for inside-delta circuit at rotary coding switch on switch position 7	359 A
• for inside-delta circuit at rotary coding switch on switch position 8	379 A
• for inside-delta circuit at rotary coding switch on switch position 9	400 A
• for inside-delta circuit at rotary coding switch on switch position 10	421 A
• for inside-delta circuit at rotary coding switch on switch position 11	442 A
• for inside-delta circuit at rotary coding switch on switch position 12	462 A
• for inside-delta circuit at rotary coding switch on switch position 13	483 A
• for inside-delta circuit at rotary coding switch on switch position 14	504 A
• for inside-delta circuit at rotary coding switch on switch position 15	525 A
• for inside-delta circuit at rotary coding switch on switch position 16	546 A
• at inside-delta circuit minimum	234 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	107 W
• at 50 °C after startup	96 W
• at 60 °C after startup	89 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	5 350 W
• at 50 °C during startup	4 471 W
• at 60 °C during startup	3 934 W

Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz	110 ... 250 V
• 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 bypass operation rated value	100 mA
inrush current by closing the bypass contacts maximum	2.2 A
inrush current peak at application of control supply voltage maximum	12.2 A
duration of inrush current peak at application 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 (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	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	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
weight without packaging	9.9 kg
Connections/ Terminals	
type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	spring-loaded terminals
width of connection bar maximum	45 mm
wire length for thermistor connection	
• with conductor cross-section = 0.5 mm² maximum	50 m
• with conductor cross-section = 1.5 mm² maximum	150 m
• with conductor cross-section = 2.5 mm² maximum	250 m
type of connectable conductor cross-sections	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm²)
• for DIN cable lug for main contacts finely stranded	2x (70 ... 240 mm²)

<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> </ul>	800 m 100 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>	14 ... 24 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>	124 ... 210 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 to 575/600 V according to UL</li> <li>— usable for High Faults at inside-delta circuit up to 575/600 V according to UL</li> </ul> </li> </ul>	Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq max = 65 kA Siemens type: 3VA54, max. 600 A; Iq = 18 kA Siemens type: 3VA54, max. 600 A; Iq max = 65 kA Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; Iq = 18 kA Siemens type: 3VA54, max. 600 A; Iq = 18 kA Type: Class J / L, max. 1000 A; Iq = 18 kA Type: Class J / L, max. 1000 A; Iq = 100 kA Type: Class J / L, max. 1000 A; Iq = 18 kA Type: Class J / L, max. 1000 A; Iq = 100 kA
<b>operating power [hp] for 3-phase motors</b> <ul style="list-style-type: none"> <li>• at 200/208 V at 50 °C rated value</li> <li>• at 220/230 V at 50 °C rated value</li> <li>• at 460/480 V at 50 °C rated value</li> <li>• at 575/600 V at 50 °C rated value</li> <li>• at 200/208 V at inside-delta circuit at 50 °C rated value</li> </ul>	75 hp 100 hp 200 hp 250 hp 150 hp

<ul style="list-style-type: none"> <li>• at 220/230 V at inside-delta circuit at 50 °C rated value</li> <li>• at 460/480 V at inside-delta circuit at 50 °C rated value</li> <li>• at 575/600 V at inside-delta circuit at 50 °C rated value</li> </ul>	200 hp 400 hp 500 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>	IP00; IP20 with cover
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front with cover
<b>electromagnetic compatibility</b>	in accordance with IEC 60947-4-2

#### Certificates/ approvals

<b>General Product Approval</b>	<b>EMC</b>
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[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=3RW5245-2TC15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5245-2TC15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5245-2TC15>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5245-2TC15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5245-2TC15&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5245-2TC15/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5245-2TC15&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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







