

Siemens  
EcoTech



SIRIUS soft starter 200-600 V 143 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</li> <li>• of high feature HMI module usable</li> <li>• of communication module PROFINET standard usable</li> <li>• of communication module PROFIBUS usable</li> <li>• of communication module Modbus TCP usable</li> <li>• of communication module Modbus RTU usable</li> <li>• of communication module Ethernet/IP</li> <li>• of circuit breaker usable at 400 V</li> <li>• of circuit breaker usable at 400 V at inside-delta circuit</li> <li>• of the gG fuse usable up to 690 V</li> <li>• of the gG fuse usable at inside-delta circuit up to 500 V</li> <li>• of full range R fuse link for semiconductor protection usable up to 690 V</li> <li>• of back-up R fuse link for semiconductor protection usable up to 690 V</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">3RW5980-0HS00</a></li> <li><a href="#">3RW5980-0HF00</a></li> <li><a href="#">3RW5980-0CS00</a></li> <li><a href="#">3RW5980-0CP00</a></li> <li><a href="#">3RW5980-0CT00</a></li> <li><a href="#">3RW5980-0CR00</a></li> <li><a href="#">3RW5980-0CE00</a></li> <li><a href="#">3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li><a href="#">3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li><a href="#">3NA3244-6; Type of coordination 1, Iq = 65 kA</a></li> <li><a href="#">3NA3244-6; Type of coordination 1, Iq = 65 kA</a></li> <li><a href="#">3NE1227-0; Type of coordination 2, Iq = 65 kA</a></li> <li><a href="#">3NE3334-0B; 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</li> <li>• UL approval</li> <li>• CSA approval</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>
<b>product component</b>	
<ul style="list-style-type: none"> <li>• HMI-High Feature</li> <li>• is supported HMI-Standard</li> <li>• is supported HMI-High Feature</li> </ul>	<ul style="list-style-type: none"> <li>No</li> <li>Yes</li> <li>Yes</li> </ul>
<b>product feature integrated bypass contact system</b>	Yes
<b>number of controlled phases</b>	3
<b>buffering time in the event of power failure</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for control circuit</li> </ul>	<ul style="list-style-type: none"> <li>100 ms</li> <li>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>	1 800 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
<b>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4
<b>Weight</b>	7.553 kg
<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
• 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>PROFenergy</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
<b>Power Electronics</b>	
<b>operational current</b>	
• at 40 °C rated value	143 A
• at 50 °C rated value	128 A
• at 60 °C rated value	118 A
<b>operational current at inside-delta circuit</b>	
• at 40 °C rated value	248 A
• at 50 °C rated value	222 A
• at 60 °C rated value	204 A
<b>operating voltage</b>	
• rated value	200 ... 600 V
• at inside-delta circuit rated value	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	37 kW
• at 230 V at inside-delta circuit at 40 °C rated value	75 kW
• at 400 V at 40 °C rated value	75 kW
• at 400 V at inside-delta circuit at 40 °C rated value	132 kW
• at 500 V at 40 °C rated value	90 kW
• at 500 V at inside-delta circuit at 40 °C rated value	160 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	68 A
• at rotary coding switch on switch position 2	73 A
• at rotary coding switch on switch position 3	78 A
• at rotary coding switch on switch position 4	83 A
• at rotary coding switch on switch position 5	88 A
• at rotary coding switch on switch position 6	93 A
• at rotary coding switch on switch position 7	98 A
• at rotary coding switch on switch position 8	103 A
• at rotary coding switch on switch position 9	108 A
• at rotary coding switch on switch position 10	113 A
• at rotary coding switch on switch position 11	118 A
• at rotary coding switch on switch position 12	123 A
• at rotary coding switch on switch position 13	128 A
• at rotary coding switch on switch position 14	133 A
• at rotary coding switch on switch position 15	138 A
• at rotary coding switch on switch position 16	143 A
• minimum	68 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	118 A
• for inside-delta circuit at rotary coding switch on switch position 2	126 A
• for inside-delta circuit at rotary coding switch on switch position 3	135 A
• for inside-delta circuit at rotary coding switch on switch position 4	144 A
• for inside-delta circuit at rotary coding switch on switch position 5	152 A
• for inside-delta circuit at rotary coding switch on switch position 6	161 A
• for inside-delta circuit at rotary coding switch on switch position 7	170 A
• for inside-delta circuit at rotary coding switch on switch position 8	178 A
• for inside-delta circuit at rotary coding switch on switch position 9	187 A
• for inside-delta circuit at rotary coding switch on switch position 10	196 A
• for inside-delta circuit at rotary coding switch on switch position 11	204 A
• for inside-delta circuit at rotary coding switch on switch position 12	213 A
• for inside-delta circuit at rotary coding switch on switch position 13	222 A
• for inside-delta circuit at rotary coding switch on switch position 14	230 A
• for inside-delta circuit at rotary coding switch on switch position 15	239 A
• for inside-delta circuit at rotary coding switch on switch position 16	248 A
• at inside-delta circuit minimum	118 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	55 W
• at 50 °C after startup	50 W

<ul style="list-style-type: none"> <li>at 60 °C after startup</li> </ul>	47 W
<b>power loss [W] at AC at current limitation 350 %</b>	
<ul style="list-style-type: none"> <li>at 40 °C during startup</li> </ul>	2 127 W
<ul style="list-style-type: none"> <li>at 50 °C during startup</li> </ul>	1 807 W
<ul style="list-style-type: none"> <li>at 60 °C during startup</li> </ul>	1 605 W
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC
<b>control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>at 50 Hz</li> </ul>	110 ... 250 V
<ul style="list-style-type: none"> <li>at 60 Hz</li> </ul>	110 ... 250 V
<b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>	-15 %
<b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b>	10 %
<b>relative negative tolerance of the control supply voltage at AC at 60 Hz</b>	-15 %
<b>relative positive tolerance of the control supply voltage at AC at 60 Hz</b>	10 %
<b>control supply voltage frequency</b>	50 ... 60 Hz
<b>relative negative tolerance of the control supply voltage frequency</b>	-10 %
<b>relative positive tolerance of the control supply voltage frequency</b>	10 %
<b>control supply current in standby mode rated value</b>	30 mA
<b>holding current in bypass operation rated value</b>	75 mA
<b>inrush current by closing the bypass contacts maximum</b>	2.5 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
<b>design of the overvoltage protection</b>	Varistor
<b>design of short-circuit protection for control circuit</b>	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
<b>Inputs/ Outputs</b>	
<b>number of digital inputs</b>	1
<b>number of digital outputs</b>	3
<ul style="list-style-type: none"> <li>not parameterizable</li> </ul>	2
<b>digital output version</b>	2 normally-open contacts (NO) / 1 changeover contact (CO)
<b>number of analog outputs</b>	0
<b>switching capacity current of the relay outputs</b>	
<ul style="list-style-type: none"> <li>at AC-15 at 250 V rated value</li> </ul>	3 A
<ul style="list-style-type: none"> <li>at DC-13 at 24 V rated value</li> </ul>	1 A
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
<b>fastening method</b>	screw fixing
<b>height</b>	306 mm
<b>width</b>	185 mm
<b>depth</b>	203 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> <li>forwards</li> </ul>	10 mm
<ul style="list-style-type: none"> <li>backwards</li> </ul>	0 mm
<ul style="list-style-type: none"> <li>upwards</li> </ul>	100 mm
<ul style="list-style-type: none"> <li>downwards</li> </ul>	75 mm
<ul style="list-style-type: none"> <li>at the side</li> </ul>	5 mm
<b>weight without packaging</b>	6.6 kg
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>for main current circuit</li> </ul>	busbar connection
<ul style="list-style-type: none"> <li>for control circuit</li> </ul>	spring-loaded terminals
<b>width of connection bar maximum</b>	25 mm
<b>wire length for thermistor connection</b>	
<ul style="list-style-type: none"> <li>with conductor cross-section = 0.5 mm<sup>2</sup> maximum</li> </ul>	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 DIN cable lug for main contacts stranded</li> <li>for DIN cable lug for main contacts finely stranded</li> </ul>	2x (16 ... 95 mm <sup>2</sup> ) 2x (25 ... 120 mm <sup>2</sup> )
<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>	10 ... 14 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>	89 ... 124 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>Environmental footprint</b>	
global warming potential [CO <sub>2</sub> eq] total	296 kg
global warming potential [CO <sub>2</sub> eq] during manufacturing	67.7 kg
global warming potential [CO <sub>2</sub> eq] during sales	1.84 kg
global warming potential [CO <sub>2</sub> eq] during operation	242 kg
global warming potential [CO <sub>2</sub> eq] after end of life	-15.7 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
<b>Electromagnetic compatibility</b>	
<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><b>of circuit breaker usable for Standard Faults</b> <ul style="list-style-type: none"> <li>at 460/480 V according to UL</li> <li>60/480 V according to UL</li> <li>at 460/480 V at inside-delta circuit according to UL</li> <li>60/480 V at inside-delta circuit according to UL</li> <li>at 575/600 V according to UL</li> <li>at 575/600 V at inside-delta circuit according to UL</li> </ul> </li> <li><b>of the fuse</b> <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</li> </ul> </li> </ul>	Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA Siemens type: 3VA52, max. 250 A; I <sub>q</sub> max = 65 kA Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA Siemens type: 3VA52, max. 250 A; I <sub>q</sub> max = 65 kA Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA Type: Class RK5 / K5, max. 350 A; I <sub>q</sub> = 10 kA Type: Class J / L, max. 350 A; I <sub>q</sub> = 100 kA

UL	Type: Class RK5 / K5, max. 350 A; Iq = 10 kA
— usable for Standard Faults at inside-delta circuit up 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. 350 A; Iq = 100 kA
<b>operating power [hp] for 3-phase motors</b>	
• at 200/208 V at 50 °C rated value	40 hp
• at 220/230 V at 50 °C rated value	40 hp
• at 460/480 V at 50 °C rated value	100 hp
• at 575/600 V at 50 °C rated value	125 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	75 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	75 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	150 hp
• at 575/600 V at inside-delta circuit at 50 °C rated value	200 hp
<b>contact rating of auxiliary contacts according to UL</b>	R300-B300
Electrical Safety	
<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

**Approvals Certificates**

General Product Approval	EMV
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EMV	Test Certificates	Maritime application
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[KC](#)

[Type Test Certificates/Test Report](#)



other	Environment
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[Confirmation](#)



[Environmental Confirmations](#)

**Further information**

Information on the packaging

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

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RW5235-2TC15>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5235-2TC15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-2TC15>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5235-2TC15&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5235-2TC15&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-2TC15/char>

Characteristic: Installation altitude

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5235-2TC15&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





