



SIRIUS soft starter 200-480 V 77 A, 24 V AC/DC Screw terminals  
Thermistor input

product brand name	SIRIUS
product category	Hybrid switching devices
product designation	Soft starter
product type designation	3RW52
manufacturer's article number	<div><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 500 V</li><li>• of circuit breaker usable at 400 V at inside-delta circuit</li><li>• of circuit breaker usable at 500 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></div> <div><a href="#">3RW5980-0HS00</a> <a href="#">3RW5980-0HF00</a> <a href="#">3RW5980-0CS00</a>  <a href="#">3RW5980-0CP00</a> <a href="#">3RW5980-0CT00</a> <a href="#">3RW5980-0CR00</a> <a href="#">3RW5980-0CE00</a> <a href="#">3VA2110-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10</a> <a href="#">3VA2110-7MN32-0AA0: Type of coordination 1, Iq = 20 kA, CLASS 10</a> <a href="#">3VA2216-7MN32-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10</a>  <a href="#">3VA2216-7MN32-0AA0: Type of coordination 1, Iq = 20 kA, CLASS 10</a>  <a href="#">3NA3132-6: Type of coordination 1, Iq = 65 kA</a> <a href="#">3NA3132-6: Type of coordination 1, Iq = 65 kA</a>  <a href="#">3NE1224-0: Type of coordination 2, Iq = 65 kA</a>  <a href="#">3NE8024-1: Type of coordination 2, Iq = 65 kA</a></div>
General technical data	
starting voltage [%]	30 ... 100 %
stopping voltage [%]	50 ... 50 %
start-up ramp time of soft starter	0 ... 20 s
current limiting value [%] adjustable	130 ... 700 %
certificate of suitability	<div><ul style="list-style-type: none"><li>• CE marking</li><li>• UL approval</li><li>• CSA approval</li></ul></div> <div>Yes Yes Yes</div>
product component is supported	<div><ul style="list-style-type: none"><li>• HMI-Standard</li><li>• HMI-High Feature</li></ul></div> <div>Yes Yes</div>
product feature integrated bypass contact system	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>	
• for main current circuit	100 ms
• for control circuit	100 ms
insulation voltage rated value	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>	1 400 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>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 acc. to IEC 60947-4-2	AC 53a
<b>reference code acc. to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	15.02.2018 00:00:00
<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 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>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	77 A
• at 50 °C rated value	68 A
• at 60 °C rated value	62 A
<b>operational current at inside-delta circuit</b>	
• at 40 °C rated value	133 A
• at 50 °C rated value	118 A
• at 60 °C rated value	107 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 3-phase motors</b>	
• at 230 V at 40 °C rated value	22 kW
• at 230 V at inside-delta circuit at 40 °C rated value	37 kW
• at 400 V at 40 °C rated value	37 kW
• at 400 V at inside-delta circuit at 40 °C rated value	75 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	32 A
• at rotary coding switch on switch position 2	35 A
• at rotary coding switch on switch position 3	38 A
• at rotary coding switch on switch position 4	41 A
• at rotary coding switch on switch position 5	44 A
• at rotary coding switch on switch position 6	47 A
• at rotary coding switch on switch position 7	50 A
• at rotary coding switch on switch position 8	53 A
• at rotary coding switch on switch position 9	56 A
• at rotary coding switch on switch position 10	59 A
• at rotary coding switch on switch position 11	62 A
• at rotary coding switch on switch position 12	65 A
• at rotary coding switch on switch position 13	68 A
• at rotary coding switch on switch position 14	71 A
• at rotary coding switch on switch position 15	74 A
• at rotary coding switch on switch position 16	77 A
• minimum	32 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	55.4 A
• for inside-delta circuit at rotary coding switch on switch position 2	60.6 A
• for inside-delta circuit at rotary coding switch on switch position 3	65.8 A
• for inside-delta circuit at rotary coding switch on switch position 4	71 A
• for inside-delta circuit at rotary coding switch on switch position 5	76.2 A
• for inside-delta circuit at rotary coding switch on switch position 6	81.4 A
• for inside-delta circuit at rotary coding switch on switch position 7	86.6 A
• for inside-delta circuit at rotary coding switch on switch position 8	91.8 A
• for inside-delta circuit at rotary coding switch on switch position 9	97 A
• for inside-delta circuit at rotary coding switch on switch position 10	102 A
• for inside-delta circuit at rotary coding switch on switch position 11	107 A
• for inside-delta circuit at rotary coding switch on switch position 12	113 A
• for inside-delta circuit at rotary coding switch on switch position 13	118 A
• for inside-delta circuit at rotary coding switch on switch position 14	123 A
• for inside-delta circuit at rotary coding switch on switch position 15	128 A
• for inside-delta circuit at rotary coding switch on switch position 16	133 A

• at inside-delta circuit minimum	55.4 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	35 W
• at 50 °C after startup	32 W
• at 60 °C after startup	31 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	1 107 W
• at 50 °C during startup	933 W
• at 60 °C during startup	826 W
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage at AC</b>	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
<b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>	-20 %
<b>relative positive tolerance of the control supply voltage at AC at 50 Hz</b>	20 %
<b>relative negative tolerance of the control supply voltage at AC at 60 Hz</b>	-20 %
<b>relative positive tolerance of the control supply voltage at AC at 60 Hz</b>	20 %
<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 voltage</b>	
• at DC rated value	24 V
<b>relative negative tolerance of the control supply voltage at DC</b>	-20 %
<b>relative positive tolerance of the control supply voltage at DC</b>	20 %
<b>control supply current in standby mode rated value</b>	160 mA
<b>holding current in bypass operation rated value</b>	380 mA
<b>locked-rotor current at close of bypass contact maximum</b>	7.6 A
<b>inrush current peak at application of control supply voltage maximum</b>	3.3 A
<b>duration of inrush current peak at application of control supply voltage</b>	12.1 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 inputs for thermistor connection</b>	1; Type A PTC or Klaxon / Thermoclick
<b>number of digital outputs</b>	3
• not parameterizable	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>	
• at AC-15 at 250 V rated value	3 A
• at DC-13 at 24 V rated value	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	
• forwards	10 mm
• backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
<b>weight without packaging</b>	5.6 kg
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
• for main current circuit	box terminal
• for control circuit	screw-type terminals
<b>width of connection bar maximum</b>	25 mm
<b>wire length for thermistor connection</b>	
• with conductor cross-section = 0.5 mm <sup>2</sup> maximum	50 m
• with conductor cross-section = 1.5 mm <sup>2</sup> maximum	150 m
• with conductor cross-section = 2.5 mm <sup>2</sup> maximum	250 m
<b>type of connectable conductor cross-sections</b>	
• for main contacts for box terminal using the front clamping point solid	1x (2.5 ... 16 mm <sup>2</sup> )
• for main contacts for box terminal using the front clamping point finely stranded with core end processing	1x (2.5 ... 50 mm <sup>2</sup> )
• for main contacts for box terminal using the front clamping point stranded	1x (10 ... 70 mm <sup>2</sup> )
• at AWG cables for main contacts for box terminal using the front clamping point	1x (10 ... 2/0)
• for main contacts for box terminal using the back clamping point solid	1x (2.5 ... 16 mm <sup>2</sup> )
• at AWG cables for main contacts for box terminal using the back clamping point	1x (10 ... 2/0)
• for main contacts for box terminal using both clamping points solid	2x (2.5 ... 16 mm <sup>2</sup> )
• for main contacts for box terminal using both clamping points finely stranded with core end processing	2x (2.5 ... 35 mm <sup>2</sup> )
• for main contacts for box terminal using both clamping points stranded	2x (6 ... 16 mm <sup>2</sup> ), 2x (10 ... 50 mm <sup>2</sup> )
• for main contacts for box terminal using the back clamping point finely stranded with core end processing	1x (2.5 ... 50 mm <sup>2</sup> )
• for main contacts for box terminal using the back clamping point stranded	1x (10 ... 70 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 cables 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
<b>tightening torque</b>	
• for main contacts with screw-type terminals	4.5 ... 6 N·m
• for auxiliary and control contacts with screw-type terminals	0.8 ... 1.2 N·m
<b>tightening torque [lbf·in]</b>	
• for main contacts with screw-type terminals	40 ... 53 lbf·in
• for auxiliary and control contacts with screw-type terminals	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>	<div>-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above</div> <div>-40 ... +80 °C</div>	
<b>environmental category</b> <ul style="list-style-type: none"><li>during operation acc. to IEC 60721</li><li>during storage acc. to IEC 60721</li><li>during transport acc. 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	
Communication/ Protocol		
<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>	<div>Yes</div> <div>Yes</div> <div>Yes</div> <div>Yes</div> <div>Yes</div>	
UL/CSA ratings		
<b>manufacturer's article number</b> <ul style="list-style-type: none"><li><b>of circuit breaker</b><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><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 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>	<div>Siemens type: 3VA51, max. 125 A; Iq = 10 kA</div> <div>Siemens type: 3VA51, max. 125 A; Iq max = 65 kA</div> <div>Siemens type: 3VA51, max. 125 A; Iq = 10 kA</div> <div>Siemens type: 3VA51, max. 125 A; Iq max = 65 kA</div> <div>Siemens type: 3VA51, max. 125 A; Iq = 10 kA</div> <div>Siemens type: 3VA51, max. 125 A; Iq = 10 kA</div> <div>Type: Class RK5 / K5, max. 250 A; Iq = 10 kA</div> <div>Type: Class J / L, max. 250 A; Iq = 100 kA</div> <div>Type: Class RK5 / K5, max. 250 A; Iq = 10 kA</div> <div>Type: Class J / L, max. 250 A; Iq = 100 kA</div>	
<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 200/208 V at inside-delta circuit at 50 °C rated value</li><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></ul>	<div>20 hp</div> <div>25 hp</div> <div>50 hp</div> <div>30 hp</div> <div>40 hp</div> <div>75 hp</div>	
<b>contact rating of auxiliary contacts according to UL</b>	R300-B300	
Safety related data		
<b>protection class IP on the front acc. to IEC 60529</b>	IP00; IP20 with cover	
<b>touch protection on the front acc. 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		
General Product Approval	EMC	Declaration of Conformity



## Test Certificates

## Marine / Shipping

[Type Test Certificates/Test Report](#)



## other

[Confirmation](#)

## Further information

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=3RW5226-1TC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5226-1TC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-1TC04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5226-1TC04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5226-1TC04&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-1TC04/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5226-1TC04&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





