



Figure similar

SIRIUS soft starter 200-600 V 171 A, 110-250 V AC Spring-loaded terminals Analog output

<b>product brand name</b>	SIRIUS
<b>product category</b>	Hybrid switching devices
<b>product designation</b>	Soft starter
<b>product type designation</b>	3RW50
<b>manufacturer's article number</b>	
<ul style="list-style-type: none"> <li>• of standard HMI module usable</li> </ul>	3RW5980-OHS01
<ul style="list-style-type: none"> <li>• of high feature HMI module usable</li> </ul>	3RW5980-OHF00
<ul style="list-style-type: none"> <li>• of communication module PROFINET standard usable</li> </ul>	3RW5980-OCS00
<ul style="list-style-type: none"> <li>• of communication module PROFIBUS usable</li> </ul>	3RW5980-OCP00
<ul style="list-style-type: none"> <li>• of communication module Modbus TCP usable</li> </ul>	3RW5980-OCT00
<ul style="list-style-type: none"> <li>• of communication module Modbus RTU usable</li> </ul>	3RW5980-OCR00
<ul style="list-style-type: none"> <li>• of communication module Ethernet/IP</li> </ul>	3RW5980-OCE00
<ul style="list-style-type: none"> <li>• of circuit breaker usable at 400 V</li> </ul>	3VA2220-7MN32-0AA0; Type of assignment 1, I <sub>q</sub> = 20 kA
<ul style="list-style-type: none"> <li>• of circuit breaker usable at 500 V</li> </ul>	3VA2220-7MN32-0AA0; Type of assignment 1, I <sub>q</sub> = 20 kA
<ul style="list-style-type: none"> <li>• of the gG fuse usable up to 690 V</li> </ul>	3NA3244-6; Type of coordination 1, I <sub>q</sub> = 65 kA
<ul style="list-style-type: none"> <li>• of full range R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE1 230-0; Type of coordination 2, I <sub>q</sub> = 65 kA
<ul style="list-style-type: none"> <li>• of back-up R fuse link for semiconductor protection usable up to 690 V</li> </ul>	3NE3 335; Type of coordination 2, I <sub>q</sub> = 65 kA
<ul style="list-style-type: none"> <li>• of line contactor usable up to 480 V</li> </ul>	3RT1056
<ul style="list-style-type: none"> <li>• of line contactor usable up to 690 V</li> </ul>	3RT1064
<b>General technical data</b>	
<b>starting voltage [%]</b>	30 ... 100 %
<b>stopping voltage [%]</b>	50 ... 50 %
<b>start-up ramp time of soft starter</b>	0 ... 20 s
<b>ramp-down time of soft starter</b>	0 ... 20 s
<b>current limiting value [%] adjustable</b>	130 ... 700 %
<b>accuracy class acc. to IEC 61557-12</b>	5 %
<b>certificate of suitability</b>	
<ul style="list-style-type: none"> <li>• CE marking</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• UL approval</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• CSA approval</li> </ul>	Yes
<b>product component is supported</b>	
<ul style="list-style-type: none"> <li>• HMI-Standard</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• HMI-High Feature</li> </ul>	Yes
<b>product feature integrated bypass contact system</b>	Yes
<b>number of controlled phases</b>	2

<b>trip class</b>	CLASS 10A / 10E (preset) / 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>	1 800 V
<b>service factor</b>	1
<b>reference code acc. to IEC 81346-2</b>	Q
<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; Electronic motor overload protection
• evaluation of thermistor motor protection	No
• 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
• voltage ramp	Yes
• torque control	No
• analog output	Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)
<b>Power Electronics</b>	
<b>operational current</b>	
• at 40 °C rated value	171 A
• at 50 °C rated value	153 A
• at 60 °C rated value	141 A
<b>operating voltage</b>	
• 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>operating power for 3-phase motors</b>	
• at 230 V at 40 °C rated value	45 kW
• at 400 V at 40 °C rated value	90 kW
• at 500 V at 40 °C rated value	110 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	81 A
• at rotary coding switch on switch position 2	87 A
• at rotary coding switch on switch position 3	93 A
• at rotary coding switch on switch position 4	99 A
• at rotary coding switch on switch position 5	105 A
• at rotary coding switch on switch position 6	111 A
• at rotary coding switch on switch position 7	117 A
• at rotary coding switch on switch position 8	123 A

<ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 9</li> <li>• at rotary coding switch on switch position 10</li> <li>• at rotary coding switch on switch position 11</li> <li>• at rotary coding switch on switch position 12</li> <li>• at rotary coding switch on switch position 13</li> <li>• at rotary coding switch on switch position 14</li> <li>• at rotary coding switch on switch position 15</li> <li>• at rotary coding switch on switch position 16</li> <li>• minimum</li> </ul>	129 A
	135 A
	141 A
	147 A
	153 A
	159 A
	165 A
	171 A
	81 A
<b>minimum load [%]</b>	15 %; Relative to smallest settable le
<b>power loss [W] for rated value of the current at AC</b>	
<ul style="list-style-type: none"> <li>• at 40 °C after startup</li> <li>• at 50 °C after startup</li> <li>• at 60 °C after startup</li> </ul>	29 W
	23 W
	20 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> <li>• at 50 °C during startup</li> <li>• at 60 °C during startup</li> </ul>	1 751 W
	1 478 W
	1 308 W
<b>type of the motor protection</b>	Electronic, tripping in the event of thermal overload of the motor
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	AC
<ul style="list-style-type: none"> <li>• control supply voltage at AC at 50 Hz</li> <li>• control supply voltage at AC at 60 Hz</li> </ul>	110 ... 250 V
	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>	80 mA
<b>locked-rotor current at close of bypass contact 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 inputs for thermistor connection</b>	0
<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>	1
<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>	198 mm
<b>width</b>	120 mm

<b>depth</b>	249 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> <li>• forwards</li> <li>• backwards</li> <li>• upwards</li> <li>• downwards</li> <li>• at the side</li> </ul>	10 mm 0 mm 100 mm 75 mm 5 mm
<b>weight without packaging</b>	5.2 kg
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for control circuit</li> </ul>	busbar connection spring-loaded terminals
<b>width of connection bar maximum</b>	25 mm
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the front clamping point solid</li> </ul>	16 ... 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the front clamping point finely stranded with core end processing</li> </ul>	16 ... 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the front clamping point finely stranded without core end processing</li> </ul>	10 ... 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the front clamping point stranded</li> </ul>	16 ... 70 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• at AWG cables for main contacts for box terminal using the front clamping point</li> </ul>	6 ... 250 kcmil
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the back clamping point solid</li> </ul>	16 ... 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• at AWG cables for main contacts for box terminal using the back clamping point</li> </ul>	6 ... 250 kcmil
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using both clamping points solid</li> </ul>	max. 1x 95 mm <sup>2</sup> , 1x 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using both clamping points finely stranded with core end processing</li> </ul>	max. 1x 95 mm <sup>2</sup> , 1x 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using both clamping points finely stranded without core end processing</li> </ul>	max. 1x 95 mm <sup>2</sup> , 1x 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using both clamping points stranded</li> </ul>	max. 2x 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the back clamping point finely stranded with core end processing</li> </ul>	16 ... 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the back clamping point finely stranded without core end processing</li> </ul>	10 ... 120 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for main contacts for box terminal using the back clamping point stranded</li> </ul>	16 ... 120 mm <sup>2</sup>
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• at AWG cables for main current circuit solid</li> </ul>	4 ... 250 kcmil
<ul style="list-style-type: none"> <li>• for DIN cable lug for main contacts stranded</li> </ul>	16 ... 95 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for DIN cable lug for main contacts finely stranded</li> </ul>	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> </ul>	2x (0.25 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• for control circuit finely stranded with core end processing</li> </ul>	2x (0.25 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• at AWG cables for control circuit solid</li> </ul>	2x (24 ... 16)
<ul style="list-style-type: none"> <li>• at AWG cables for control circuit finely stranded with core end processing</li> </ul>	2x (24 ... 16)
<b>wire length</b>	
<ul style="list-style-type: none"> <li>• between soft starter and motor maximum</li> </ul>	800 m
<ul style="list-style-type: none"> <li>• at the digital inputs at AC maximum</li> </ul>	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>	<p>10 ... 14 N·m</p> <p>0.8 ... 1.2 N·m</p>
<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>	<p>89 ... 124 lbf·in</p> <p>7 ... 10.3 lbf·in</p>
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	5 000 m; Derating as of 1000 m, see manual
<ul style="list-style-type: none"> <li>• ambient temperature during operation</li> </ul>	-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above
<ul style="list-style-type: none"> <li>• ambient temperature during storage and transport</li> </ul>	-40 ... +80 °C
<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>	<p>3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6</p> <p>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4</p> <p>2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)</p>
<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>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<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> </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> </ul> </li> </ul>	<p>Siemens type: 3VA5225, max. 250 A; Iq = 10 kA</p> <p>Siemens type: 3VA52, max. 250 A; Iq max = 65 kA</p> <p>Type: Class RK5 / K5, max. 400 A; Iq = 10 kA</p> <p>Type: Class J, max. 350 A; Iq = 100 kA</p>
<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> </ul>	<p>50 hp</p> <p>50 hp</p> <p>100 hp</p> <p>150 hp</p>
<b>Safety related data</b>	
<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>ATEX</b>	
<b>certificate of suitability</b> <ul style="list-style-type: none"> <li>• ATEX</li> <li>• IECEx</li> </ul>	<p>Yes</p> <p>Yes</p>
<b>hardware fault tolerance acc. to IEC 61508 relating to ATEX</b>	0
<b>PFDAvg with low demand rate acc. to IEC 61508 relating to ATEX</b>	0.09
<b>PFHD with high demand rate acc. to EN 62061 relating to ATEX</b>	0.000009 1/h
<b>Safety Integrity Level (SIL) acc. to IEC 61508 relating to ATEX</b>	SIL1
<b>T1 value for proof test interval or service life acc. to IEC 61508 relating to ATEX</b>	3 y
<b>Certificates/ approvals</b>	

General Product Approval

For use in hazardous locations



Declaration of Conformity

Test Certificates

other

[Miscellaneous](#)



[Type Test Certificates/Test Report](#)

[Type Test Certificates/Test Report](#)

[Confirmation](#)

[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=3RW5056-2AB15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5056-2AB15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5056-2AB15>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5056-2AB15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5056-2AB15&lang=en)

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

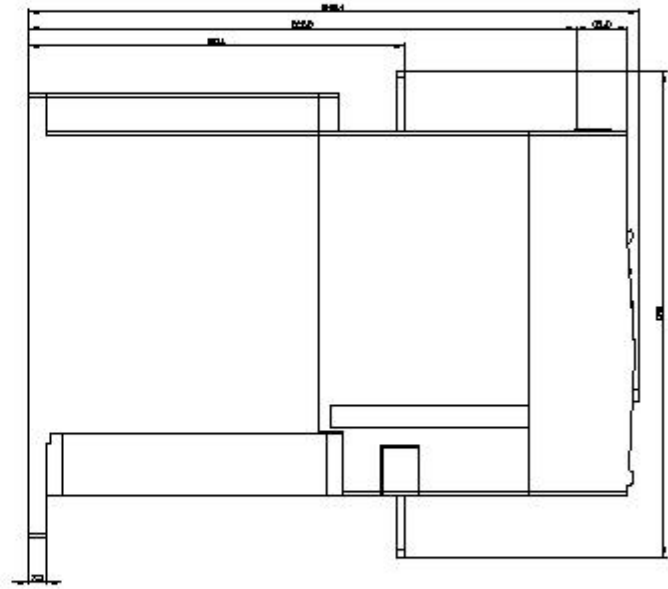
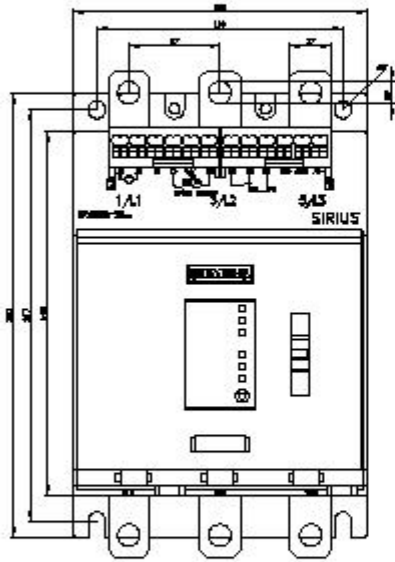
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5056-2AB15/char>

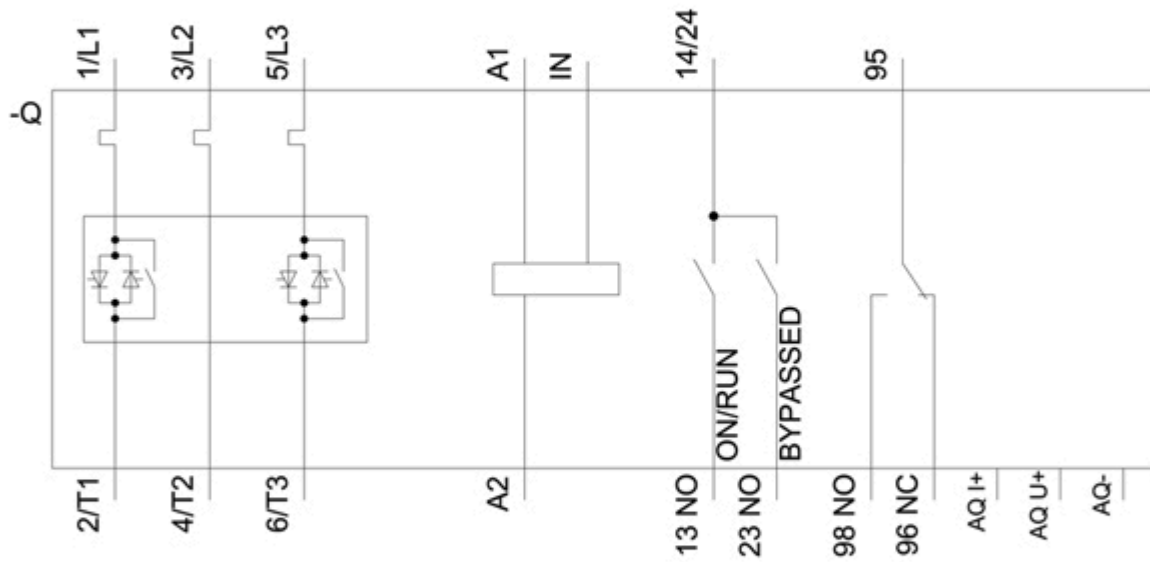
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5056-2AB15&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





last modified:

12/15/2020 