



SIRIUS soft starter 200-480 V 315 A, 110-250 V AC spring-type 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>                         | 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   |

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|---|---|
| <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>                                    | 1 600 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 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>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  |
| • 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   | 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  | 315 A   |
| • at 50 °C rated value  | 279 A   |
| • at 60 °C rated value  | 255 A   |
| <b>operational current at inside-delta circuit</b>                                  |   |
| • at 40 °C rated value  | 546 A   |
| • at 50 °C rated value  | 483 A   |
| • at 60 °C rated value  | 442 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>   |   |

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|--|--|
| <ul style="list-style-type: none"> <li>• at 230 V at 40 °C rated value</li> </ul>  | 90 kW                                  |
| <ul style="list-style-type: none"> <li>• at 230 V at inside-delta circuit at 40 °C rated value</li> </ul>                  | 160 kW                                 |
| <ul style="list-style-type: none"> <li>• at 400 V at 40 °C rated value</li> </ul>  | 160 kW                                 |
| <ul style="list-style-type: none"> <li>• at 400 V at inside-delta circuit at 40 °C rated value</li> </ul>                  | 315 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>  |  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 1</li> </ul>                           | 135 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 2</li> </ul>                           | 147 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 3</li> </ul>                           | 159 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 4</li> </ul>                           | 171 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 5</li> </ul>                           | 183 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 6</li> </ul>                           | 195 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 7</li> </ul>                           | 207 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 8</li> </ul>                           | 219 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 9</li> </ul>                           | 231 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 10</li> </ul>                          | 243 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 11</li> </ul>                          | 255 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 12</li> </ul>                          | 267 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 13</li> </ul>                          | 279 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 14</li> </ul>                          | 291 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 15</li> </ul>                          | 303 A                                  |
| <ul style="list-style-type: none"> <li>• at rotary coding switch on switch position 16</li> </ul>                          | 315 A                                  |
| <ul style="list-style-type: none"> <li>• minimum</li> </ul>  | 135 A                                  |
| <b>adjustable motor current</b>  |  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 1</li> </ul>  | 234 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 2</li> </ul>  | 255 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 3</li> </ul>  | 275 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 4</li> </ul>  | 296 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 5</li> </ul>  | 317 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 6</li> </ul>  | 338 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 7</li> </ul>  | 359 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 8</li> </ul>  | 379 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 9</li> </ul>  | 400 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 10</li> </ul> | 421 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 11</li> </ul> | 442 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 12</li> </ul> | 462 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 13</li> </ul> | 483 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 14</li> </ul> | 504 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 15</li> </ul> | 525 A                                  |
| <ul style="list-style-type: none"> <li>• for inside-delta circuit at rotary coding switch on switch position 16</li> </ul> | 546 A                                  |
| <ul style="list-style-type: none"> <li>• at inside-delta circuit minimum</li> </ul>  | 234 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> </ul>   | 107 W                                  |
| <ul style="list-style-type: none"> <li>• at 50 °C after startup</li> </ul>   | 96 W                                   |

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| <ul style="list-style-type: none"> <li>at 60 °C after startup</li> </ul>        | 89 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>       | 5 350 W  |
| <ul style="list-style-type: none"> <li>at 50 °C during startup</li> </ul>       | 4 471 W  |
| <ul style="list-style-type: none"> <li>at 60 °C during startup</li> </ul>       | 3 934 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>                          | 100 mA   |
| <b>locked-rotor current at close of bypass contact maximum</b>                  | 2.2 A  |
| <b>inrush current peak at application of control supply voltage maximum</b>     | 12.2 A   |
| <b>duration of inrush current peak at application of control supply voltage</b> | 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>   | 1  |
| <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>   | 393 mm   |
| <b>width</b>  | 210 mm   |
| <b>depth</b>  | 203 mm   |
| <b>required spacing with side-by-side mounting</b>                              |  |
| <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>   | 9.9 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  |

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| <b>width of connection bar maximum</b>  | 45 mm  |
| <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 (50 ... 240 mm <sup>2</sup> )<br>2x (70 ... 240 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>• at AWG cables for control circuit solid</li> <li>• at AWG cables for control circuit finely stranded with core end processing</li> </ul>  | 2x (0.25 ... 1.5 mm <sup>2</sup> )<br>2x (0.25 ... 1.5 mm <sup>2</sup> )<br><br>2x (24 ... 16)<br>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<br>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<br>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<br>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<br>-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<br>1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4<br>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<br>Yes<br>Yes<br>Yes<br>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</li> </ul> </li> </ul> | Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I <sub>q</sub> = 18 kA<br><br>Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3VA54, max. 600 A; I <sub>q</sub> = 18 kA<br><br>Siemens type: 3VA54, max. 600 A; I <sub>q</sub> max = 65 kA<br><br>Siemens type: 3VA53, max. 400 A or 3VA54, max. 600 A; I <sub>q</sub> = 18 kA<br><br>Siemens type: 3VA54, max. 600 A; I <sub>q</sub> = 18 kA<br><br>Type: Class J / L, max. 1000 A; I <sub>q</sub> = 18 kA<br><br>Type: Class J / L, max. 1000 A; I <sub>q</sub> = 100 kA<br><br>Type: Class J / L, max. 1000 A; I <sub>q</sub> = 18 kA |

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. 1000 A; Iq = 100 kA

**operating power [hp] for 3-phase motors**

- at 200/208 V at 50 °C rated value 75 hp
- at 220/230 V at 50 °C rated value 100 hp
- at 460/480 V at 50 °C rated value 200 hp
- at 200/208 V at inside-delta circuit at 50 °C rated value 150 hp
- at 220/230 V at inside-delta circuit at 50 °C rated value 200 hp
- at 460/480 V at inside-delta circuit at 50 °C rated value 400 hp

**contact rating of auxiliary contacts according to UL** R300-B300

**Safety related data**

**protection class IP on the front according to IEC 60529** IP00; IP20 with cover

**touch protection on the front according to IEC 60529** finger-safe, for vertical contact from the front with cover

**electromagnetic compatibility** in accordance with IEC 60947-4-2

**Certificates/ approvals**

General Product Approval

EMC



[Confirmation](#)



Declaration of Conformity

Test Certificates

Marine / Shipping



[Type Test Certificates/Test Report](#)



Marine / Shipping

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=3RW5245-2AC14>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5245-2AC14>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5245-2AC14>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5245-2AC14&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5245-2AC14&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5245-2AC14/char>

Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5245-2AC14&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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

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