



SIRIUS soft starter 200-600 V 32 A, 24 V AC/DC 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="#">3RV2032-4VA10: Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 500 V <a href="#">3RV2032-4VA10: Type of coordination 1, Iq = 10 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 400 V at inside-delta circuit <a href="#">3RV2032-4JA10: 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="#">3RV2032-4JA10: Type of coordination 1, Iq = 10 kA, CLASS 10</a></li> <li>• of the gG fuse usable up to 690 V <a href="#">3NA3824-6: Type of coordination 1, Iq = 65 kA</a></li> <li>• of the gG fuse usable at inside-delta circuit up to 500 V <a href="#">3NA3824-6: Type of coordination 1, Iq = 65 kA</a></li> <li>• of full range R fuse link for semiconductor protection usable up to 690 V <a href="#">3NE1818-0: 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="#">3NE8022-1: 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>                                 |   |
| • 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; 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  | 32 A  |
| • at 50 °C rated value  | 28 A  |
| • at 60 °C rated value  | 26 A  |
| <b>operational current at inside-delta circuit</b>                                  |   |
| • at 40 °C rated value  | 55.4 A  |
| • at 50 °C rated value  | 49 A  |
| • at 60 °C rated value  | 45 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>   |   |

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|--|--|
| • at 230 V at 40 °C rated value  | 7.5 kW                                 |
| • at 230 V at inside-delta circuit at 40 °C rated value                  | 15 kW                                  |
| • at 400 V at 40 °C rated value  | 15 kW                                  |
| • at 400 V at inside-delta circuit at 40 °C rated value                  | 22 kW                                  |
| • at 500 V at 40 °C rated value  | 18.5 kW                                |
| • at 500 V at inside-delta circuit at 40 °C rated value                  | 30 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                           | 14 A                                   |
| • at rotary coding switch on switch position 2                           | 15.2 A                                 |
| • at rotary coding switch on switch position 3                           | 16.4 A                                 |
| • at rotary coding switch on switch position 4                           | 17.6 A                                 |
| • at rotary coding switch on switch position 5                           | 18.8 A                                 |
| • at rotary coding switch on switch position 6                           | 20 A                                   |
| • at rotary coding switch on switch position 7                           | 21.2 A                                 |
| • at rotary coding switch on switch position 8                           | 22.4 A                                 |
| • at rotary coding switch on switch position 9                           | 23.6 A                                 |
| • at rotary coding switch on switch position 10                          | 24.8 A                                 |
| • at rotary coding switch on switch position 11                          | 26 A                                   |
| • at rotary coding switch on switch position 12                          | 27.2 A                                 |
| • at rotary coding switch on switch position 13                          | 28.4 A                                 |
| • at rotary coding switch on switch position 14                          | 29.6 A                                 |
| • at rotary coding switch on switch position 15                          | 30.8 A                                 |
| • at rotary coding switch on switch position 16                          | 32 A                                   |
| • minimum  | 14 A                                   |
| <b>adjustable motor current</b>  |  |
| • for inside-delta circuit at rotary coding switch on switch position 1  | 24.2 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 2  | 26.3 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 3  | 28.4 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 4  | 30.5 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 5  | 32.6 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 6  | 34.6 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 7  | 36.7 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 8  | 38.8 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 9  | 40.9 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 10 | 43 A                                   |
| • for inside-delta circuit at rotary coding switch on switch position 11 | 45 A                                   |
| • for inside-delta circuit at rotary coding switch on switch position 12 | 47.1 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 13 | 49.2 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 14 | 51.3 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 15 | 53.3 A                                 |
| • for inside-delta circuit at rotary coding switch on switch position 16 | 55.4 A                                 |
| • at inside-delta circuit minimum  | 24.2 A                                 |
| <b>minimum load [%]</b>  | 15 %; Relative to smallest settable le |
| <b>power loss [W] for rated value of the current at AC</b>               |  |

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| <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>    | 22 W<br>21 W<br>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> | 531 W<br>449 W<br>395 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>   |  |
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>  | 24 V<br>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>   |  |
| <ul style="list-style-type: none"> <li>• at DC rated value</li> </ul>   | 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>  | 360 mA   |
| <b>locked-rotor current at close of bypass contact maximum</b>  | 0.75 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 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> <li>• at DC-13 at 24 V rated value</li> </ul>                         | 3 A<br>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>   | 275 mm   |
| <b>width</b>  | 170 mm   |
| <b>depth</b>  | 152 mm   |
| <b>required spacing with side-by-side mounting</b>  |  |
| <ul style="list-style-type: none"> <li>• forwards</li> <li>• backwards</li> <li>• upwards</li> </ul>  | 10 mm<br>0 mm<br>100 mm  |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• downwards</li> <li>• at the side</li> </ul>   | 75 mm<br>5 mm   |
| <b>weight without packaging</b>  | 2.3 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>   | screw-type terminals<br>spring-loaded terminals   |
| <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> <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>   | 50 m<br>150 m<br>250 m  |
| <b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for main current circuit solid</li> </ul>   | 2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )<br>2x (1.0 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6.0 mm <sup>2</sup> )<br>2x (16 ... 12), 2x (14 ... 8)  |
| <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> <li>• at the digital inputs at DC maximum</li> </ul>  | 800 m<br>100 m<br>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>   | 2 ... 2.5 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>  | 18 ... 22 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> </ul> </li> </ul>  | Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; I <sub>q</sub> = 5 kA<br>Siemens type: 3RV2742, max.40 A or 3VA51, max. 60 A; I <sub>q</sub> max = 65 kA   |

- usable for Standard Faults at 460/480 V at inside-delta circuit according to UL
- usable for High Faults at 460/480 V at inside-delta circuit according to UL
- usable for Standard Faults at 575/600 V according to UL
- usable for Standard Faults at 575/600 V at inside-delta circuit according to UL

● **of the fuse**

- usable for Standard Faults up to 575/600 V according to UL
- usable for High Faults up to 575/600 V according to UL
- 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

Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA

Siemens type: 3VA51, max. 60 A; Iq max = 65 kA

Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA

Siemens type: 3RV2742, max. 70 A or 3VA51, max. 100 A; Iq = 5 kA

Type: Class RK5 / K5, max. 125 A; Iq = 5 kA

Type: Class J / L, max. 125 A; Iq = 100 kA

Type: Class RK5 / K5, max. 125 A; Iq = 5 kA

Type: Class J / L, max. 125 A; Iq = 100 kA

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

- at 200/208 V at 50 °C rated value
- at 220/230 V at 50 °C rated value
- at 460/480 V at 50 °C rated value
- at 575/600 V at 50 °C rated value
- at 200/208 V at inside-delta circuit at 50 °C rated value
- at 220/230 V at inside-delta circuit at 50 °C rated value
- at 460/480 V at inside-delta circuit at 50 °C rated value
- at 575/600 V at inside-delta circuit at 50 °C rated value

7.5 hp  
10 hp  
20 hp  
25 hp  
15 hp  
15 hp  
30 hp  
40 hp

**contact rating of auxiliary contacts according to UL**

R300-B300

**Safety related data**

**protection class IP on the front according to IEC 60529**

IP20

**touch protection on the front according to IEC 60529**

finger-safe, for vertical contact from the front

**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=3RW5216-3TC05>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5216-3TC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-3TC05>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5216-3TC05&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5216-3TC05&lang=en)

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

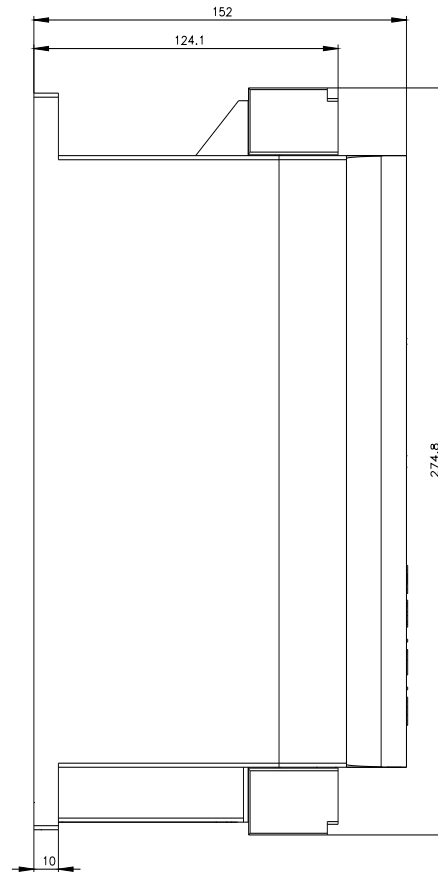
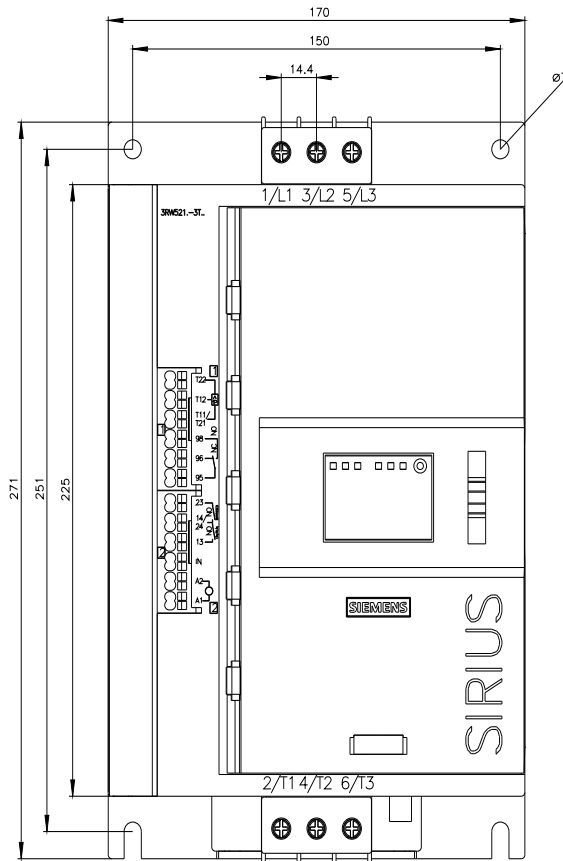
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5216-3TC05/char>

**Characteristic: Installation altitude**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5216-3TC05&objecttype=14&gridview=view1>

**Simulation Tool for Soft Starters (STS)**

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



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