



SIRIUS soft starter 200-480 V 143 A, 24 V AC/DC spring-type terminals  
Thermistor input

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| <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> | <a href="#">3RW5980-0HS00</a><br><a href="#">3RW5980-0HF00</a><br><a href="#">3RW5980-0CS00</a><br><br><a href="#">3RW5980-0CP00</a><br><a href="#">3RW5980-0CT00</a><br><a href="#">3RW5980-0CR00</a><br><a href="#">3RW5980-0CE00</a><br><a href="#">3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a><br><a href="#">3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a><br><br><a href="#">3NA3244-6; Type of coordination 1, Iq = 65 kA</a><br><a href="#">3NA3244-6; Type of coordination 1, Iq = 65 kA</a><br><br><a href="#">3NE1227-0; Type of coordination 2, Iq = 65 kA</a><br><br><a href="#">3NE3334-0B; Type of coordination 2, Iq = 65 kA</a> |
| <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>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>   | Yes<br>Yes<br>Yes  |
| <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>  | No<br>Yes<br>Yes   |
| <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>   |  |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> </ul>  | 100 ms   |

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| • 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  |
| <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>PROFInergy</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 ... 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   | 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   |

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| • at 400 V at inside-delta circuit at 40 °C rated value                  | 132 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 le |
| <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                                   |
| • at 60 °C after startup   | 47 W                                   |
| <b>power loss [W] at AC at current limitation 350 %</b>                  |  |
| • at 40 °C during startup  | 2 127 W                                |

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| <ul style="list-style-type: none"> <li>at 50 °C during startup</li> <li>at 60 °C during startup</li> </ul>                             | 1 807 W  |
|  | 1 605 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   |
|  | 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>   | 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 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  |
|  | 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   |
| <b>required spacing with side-by-side mounting</b>   |  |
| <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>  | 6.6 kg   |
| <b>Connections/ Terminals</b>  |  |
| <b>type of electrical connection</b>   |  |

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| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for control circuit</li> </ul>   | busbar connection<br>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> <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 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> )<br>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>• 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>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>   | 10 ... 14 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>   | 89 ... 124 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 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<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</li> </ul> </li> </ul> | Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA<br>Siemens type: 3VA52, max. 250 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA<br>Siemens type: 3VA52, max. 250 A; I <sub>q</sub> max = 65 kA<br>Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA<br>Siemens type: 3VA52, max. 250 A; I <sub>q</sub> = 10 kA |

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| inside-delta circuit according to UL  |  |
| <ul style="list-style-type: none"> <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 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>     | Type: Class RK5 / K5, max. 350 A; Iq = 10 kA<br>Type: Class J / L, max. 350 A; Iq = 100 kA<br>Type: Class RK5 / K5, max. 350 A; Iq = 10 kA<br>Type: Class J / L, max. 350 A; Iq = 100 kA |
| <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> | 40 hp<br>40 hp<br>100 hp<br>75 hp<br>75 hp<br>150 hp   |
| <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         |     |
|---------------------------------|-----|
| <b>General Product Approval</b> | EMC |



[Confirmation](#)



| Declaration of Conformity   | Test Certificates   | Marine / Shipping  |   |  |
|---|---|--|---|--|
| <a href="#">UK Declaration of Conformity</a><br><br>EG-Konf. | <a href="#">Type Test Certificates/Test Report</a>  | <br>ABS | <br>BUREAU VERITAS | <br>LRS |
| Marine / Shipping   | other   |  |   |  |
| <br>PRS  | <br>DNV-GL<br>DNVGL.COM/EN | <a href="#">Confirmation</a>   |   |  |

### 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=3RW5235-2TC04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5235-2TC04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-2TC04>

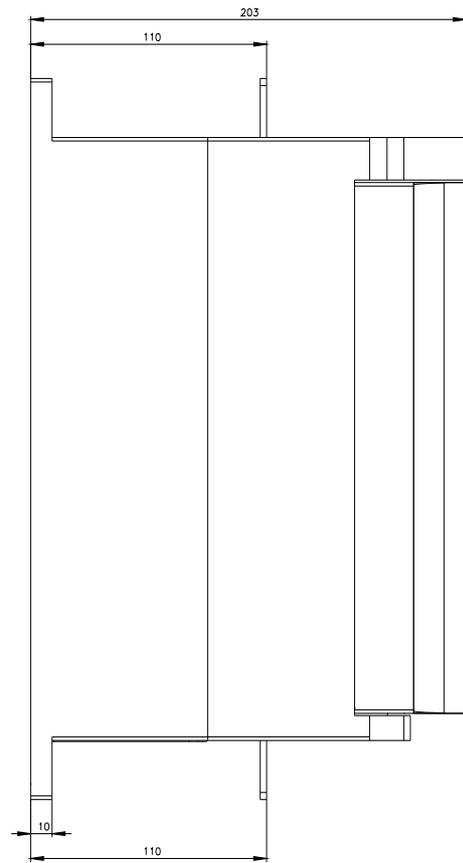
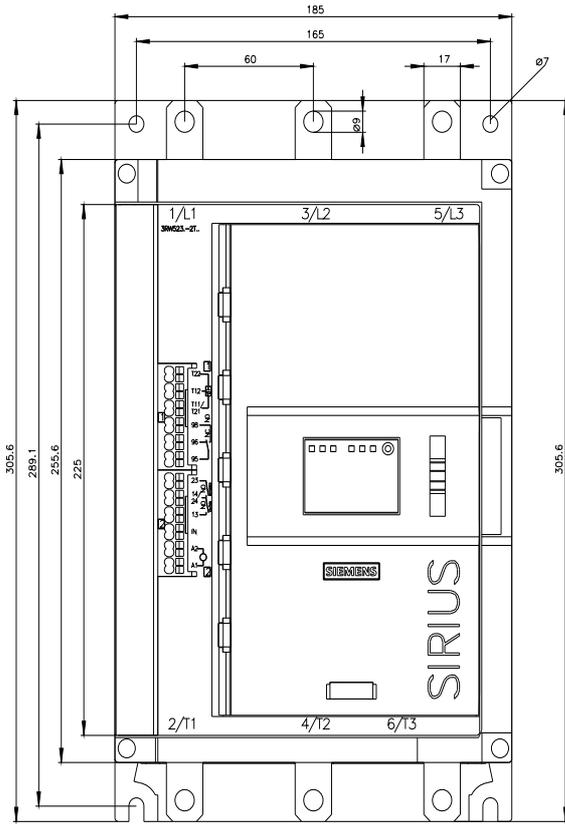
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

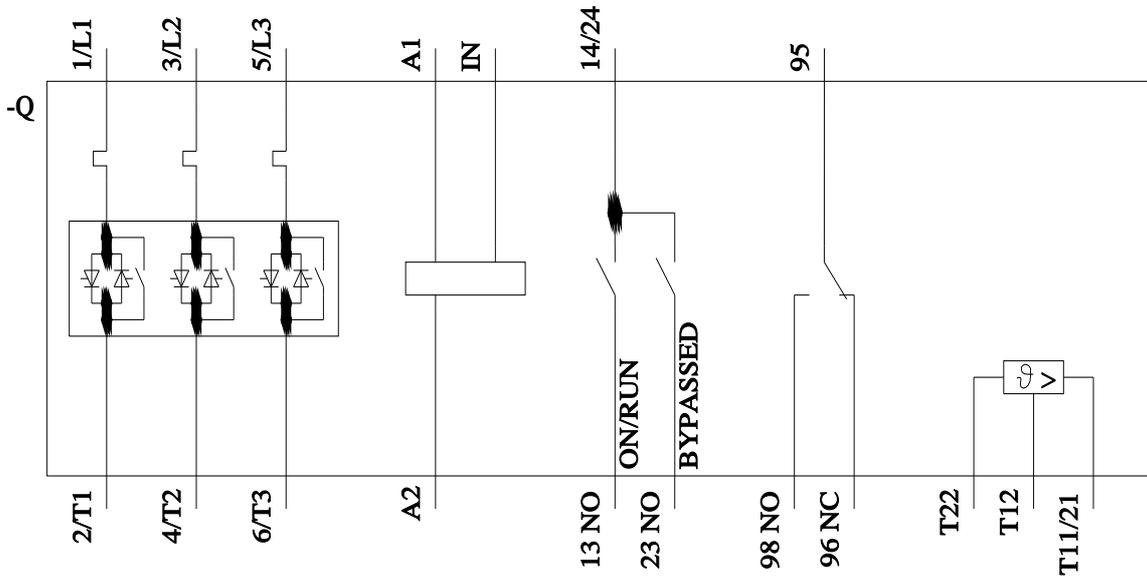
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5235-2TC04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5235-2TC04&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-2TC04/char>

Characteristic: Installation altitude





last modified:

9/21/2021 

