



Figure similar

SIRIUS soft starter 200-690 V 1280 A, 24 V AC/DC Screw terminals

|  |   |
|--|---|
| <b>product brand name</b>                    | SIRIUS  |
| <b>product category</b>                      | Hybrid switching devices  |
| <b>product designation</b>                   | Soft starter  |
| <b>product type designation</b>              | 3RW55   |
| <b>manufacturer's article number</b>         | <ul style="list-style-type: none"> <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 PROFINET high-feature usable <a href="#">3RW5950-0CH00</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="#">3VA2716-7AB05-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 500 V <a href="#">3VA2716-7AB05-0AA0: Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of the gG fuse usable up to 690 V 3x3NA3365-6; 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="#">3NB3357-1KK26: Type of coordination 2, Iq = 65 kA</a></li> <li>• of back-up R fuse link for semiconductor protection usable up to 690 V 3x3NE3340-8; Type of coordination 2, Iq = 65 kA</li> </ul> |
| <b>General technical data</b>                |   |
| <b>starting voltage [%]</b>                  | 20 ... 100 %  |
| <b>stopping voltage [%]</b>                  | 50 ... 50 %   |
| <b>start-up ramp time of soft starter</b>    | 0 ... 360 s   |
| <b>ramp-down time of soft starter</b>        | 0 ... 360 s   |
| <b>start torque [%]</b>                      | 10 ... 100 %  |
| <b>stopping torque [%]</b>                   | 10 ... 100 %  |
| <b>torque limitation [%]</b>                 | 20 ... 200 %  |
| <b>current limiting value [%] adjustable</b> | 125 ... 800 %   |
| <b>breakaway voltage [%] adjustable</b>      | 40 ... 100 %  |
| <b>breakaway time adjustable</b>             | 0 ... 2 s   |
| <b>number of parameter sets</b>              | 3   |
| <b>accuracy class acc. to IEC 61557-12</b>   | 5 %   |
| <b>certificate of suitability</b>            |   |
| • CE marking                                 | Yes   |
| • UL approval                                | Yes   |
| • CSA approval                               | Yes   |

|   |   |
|---|---|
| <b>product component</b>                                |   |
| • HMI-High Feature                                      | Yes   |
| • is supported HMI-High Feature                         | Yes   |
| <b>product feature integrated bypass contact system</b> | Yes   |
| <b>number of controlled phases</b>                      | 3   |
| <b>trip class</b>                                       | CLASS 10A / 10E (default) / 20E / 30E; acc. to IEC 60947-4-2                                      |
| <b>current unbalance limiting value [%]</b>             | 10 ... 60 %   |
| <b>ground-fault monitoring limiting value [%]</b>       | 10 ... 95 %   |
| <b>recovery time after overload trip adjustable</b>     | 60 ... 1 800 s  |
| <b>buffering time in the event of power failure</b>     |   |
| • for main current circuit                              | 100 ms  |
| • for control circuit                                   | 100 ms  |
| <b>idle time adjustable</b>                             | 0 ... 255 s   |
| insulation voltage rated value                          | 690 V   |
| <b>degree of pollution</b>                              | 3, acc. to IEC 60947-4-2  |
| <b>impulse voltage rated value</b>                      | 8 kV  |
| <b>blocking voltage of the thyristor maximum</b>        | 1 800 V   |
| <b>service factor</b>                                   | 1.15  |
| <b>surge voltage resistance rated value</b>             | 8 kV  |
| <b>maximum permissible voltage for safe isolation</b>   |   |
| • between main and auxiliary circuit                    | 690 V; does not apply for thermistor connection   |
| <b>utilization category acc. to IEC 60947-4-2</b>       | AC 53a  |
| <b>shock resistance</b>                                 | 15 g / 11 ms, from 6 g / 11 ms with potential contact lifting                                     |
| <b>vibration resistance</b>                             | 15 mm up to 6 Hz; 2 g up to 500 Hz  |
| <b>reference code acc. to IEC 81346-2</b>               | Q   |
| Substance Prohibitance (Date)                           | 11.02.2019 00:00:00   |
| <b>product function</b>                                 |   |
| • ramp-up (soft starting)                               | Yes   |
| • ramp-down (soft stop)                                 | Yes   |
| • breakaway pulse                                       | Yes   |
| • adjustable current limitation                         | Yes   |
| • creep speed in both directions of rotation            | Yes   |
| • pump ramp down  | Yes   |
| • DC braking  | Yes   |
| • motor heating   | Yes   |
| • slave pointer function                                | Yes   |
| • trace function  | 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; Only up to 600 V operating voltage   |
| • auto-RESET  | Yes   |
| • manual RESET  | Yes   |
| • remote reset  | Yes   |
| • communication function                                | Yes   |
| • operating measured value display                      | Yes   |
| • event list  | Yes   |
| • error logbook   | Yes   |
| • via software parameterizable                          | Yes   |
| • via software configurable                             | Yes   |
| • screw terminal  | Yes   |
| • spring-type terminal                                  | No  |
| • <b>PROFInergy</b>                                     | Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules     |
| • <b>firmware update</b>                                | Yes   |
| • <b>removable terminal for control circuit</b>         | Yes   |
| • voltage ramp  | Yes   |
| • torque control  | Yes   |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• combined braking</li> <li>• analog output</li> <li>• programmable control inputs/outputs</li> <li>• condition monitoring</li> <li>• automatic parameterisation</li> <li>• application wizards</li> <li>• alternative run-down</li> <li>• emergency operation mode</li> <li>• reversing operation</li> <li>• soft starting at heavy starting conditions</li> </ul>      | <p>Yes</p> <p>Yes; 4 ... 20 mA (default) / 0 ... 10 V</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| <b>Power Electronics</b>  |  |
| <b>operational current</b>  |  |
| <ul style="list-style-type: none"> <li>• at 40 °C rated value</li> <li>• at 40 °C rated value minimum</li> <li>• at 50 °C rated value</li> <li>• at 60 °C rated value</li> </ul>  | <p>1 280 A</p> <p>256 A</p> <p>1 139 A</p> <p>1 030 A</p>  |
| <b>operational current at inside-delta circuit</b>  |  |
| <ul style="list-style-type: none"> <li>• at 40 °C rated value</li> <li>• at 50 °C rated value</li> <li>• at 60 °C rated value</li> </ul>  | <p>2 217 A</p> <p>1 973 A</p> <p>1 784 A</p>   |
| <b>operating voltage</b>  |  |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• at inside-delta circuit rated value</li> </ul>  | <p>200 ... 690 V</p> <p>200 ... 600 V</p>  |
| <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>   |  |
| <ul style="list-style-type: none"> <li>• at 230 V at 40 °C rated value</li> <li>• at 230 V at inside-delta circuit at 40 °C rated value</li> <li>• at 400 V at 40 °C rated value</li> <li>• at 400 V at inside-delta circuit at 40 °C rated value</li> <li>• at 500 V at 40 °C rated value</li> <li>• at 500 V at inside-delta circuit at 40 °C rated value</li> <li>• at 690 V at 40 °C rated value</li> </ul> | <p>400 kW</p> <p>710 kW</p> <p>710 kW</p> <p>1 200 kW</p> <p>900 kW</p> <p>1 500 kW</p> <p>1 200 kW</p>  |
| <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>minimum load [%]</b>   | 10 %; Relative to set Ie   |
| <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>  | <p>384 W</p> <p>337 W</p> <p>275 W</p>   |
| <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>   | <p>23 279 W</p> <p>19 496 W</p> <p>16 778 W</p>  |
| <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/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>  | <p>24 V</p> <p>24 V</p>  |
| <b>relative negative tolerance of the control supply voltage at AC at 50 Hz</b>   | -20 %  |
| <b>relative positive tolerance of the control supply</b>  | 20 %   |

|   |  |
|---|--|
| <b>voltage at AC at 50 Hz</b>   |  |
| <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>                       | 440 mA   |
| <b>holding current in bypass operation rated value</b>                          | 1 100 mA   |
| <b>locked-rotor current at close of bypass contact maximum</b>                  | 6.7 A  |
| <b>inrush current peak at application of control supply voltage maximum</b>     | 7.5 A  |
| <b>duration of inrush current peak at application of control supply voltage</b> | 20 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 |

#### Inputs/ Outputs

|  |   |
|--|---|
| <b>number of digital inputs</b>                        | 4   |
| • parameterizable                                      | 4   |
| <b>number of inputs for thermistor connection</b>      | 1; Type A PTC or Klixon / Thermoclick                     |
| • <b>number of digital outputs</b>                     | 4   |
| • number of digital outputs parameterizable            | 3   |
| • number of digital outputs not parameterizable        | 1   |
| <b>digital output version</b>                          | 3 normally-open contacts (NO) / 1 changeover contact (CO) |
| <b>number of analog outputs</b>                        | 1   |
| <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   |

#### Installation/ mounting/ dimensions

|  |  |
|--|--|
| <b>mounting position</b>                           | Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°) |
| <b>fastening method</b>                            | screw fixing   |
| <b>height</b>                                      | 764 mm   |
| <b>width</b>                                       | 478 mm   |
| <b>depth</b>                                       | 241 mm   |
| <b>required spacing with side-by-side mounting</b> |  |
| • forwards   | 10 mm  |
| • backwards  | 0 mm   |
| • upwards  | 100 mm   |
| • downwards  | 75 mm  |
| • at the side                                      | 5 mm   |
| <b>weight without packaging</b>                    | 61 kg  |

#### Connections/ Terminals

|  |                      |
|--|----------------------|
| <b>type of electrical connection</b>                         |                      |
| • for main current circuit                                   | busbar connection    |
| • for control circuit  | screw-type terminals |
| <b>width of connection bar maximum</b>                       | 55 mm                |
| <b>wire length for thermistor connection</b>                 |                      |
| • with conductor cross-section = 0.5 mm <sup>2</sup> maximum | 50 m                 |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <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>   | 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 (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> </ul>   | 1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>1x (20 ... 12), 2x (20 ... 14)  |
| <b>wire length</b> <ul style="list-style-type: none"> <li>between soft starter and motor maximum</li> <li>at the digital inputs at DC maximum</li> </ul>   | 800 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>   | 20 ... 35 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>  | 177 ... 310 lbf·in<br>7 ... 10.3 lbf·in   |
| <b>Ambient conditions</b>  |   |
| installation altitude at height above sea level maximum  | 2 000 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>PROFINET high-feature</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<br>Yes  |
| <b>UL/CSA ratings</b>  |   |
| <b>manufacturer's article number</b> <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 J / L, max. 3000 A; Iq = 85 kA<br>Type: Class J / L, max. 3000 A; Iq = 100 kA<br>Type: Class J / L, max. 3000 A; Iq = 85 kA<br>Type: Class J / L, max. 3000 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 575/600 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</li> </ul>  | 400 hp<br>450 hp<br>1 000 hp<br>1 250 hp<br>700 hp<br>850 hp  |

|   |           |
|---|-----------|
| value   |           |
| • at 460/480 V at inside-delta circuit at 50 °C rated value | 1 700 hp  |
| • at 575/600 V at inside-delta circuit at 50 °C rated value | 2 200 hp  |
| <b>contact rating of auxiliary contacts according to UL</b> | R300-B300 |

|   |                       |
|---|-----------------------|
| <b>Safety related data</b>                                |                       |
| <b>protection class IP on the front acc. to IEC 60529</b> | IP00                  |
| <b>electromagnetic compatibility</b>                      | acc. to IEC 60947-4-2 |

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|--|--|
| <b>ATEX</b>  |  |
| <b>certificate of suitability</b>  |  |
| • ATEX   | Yes  |
| • IECEx  | Yes  |
| • according to ATEX directive 2014/34/EU   | BVS 18 ATEX F 003 X  |
| <b>type of protection according to ATEX directive 2014/34/EU</b>                           | II (2)G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb], II (2)D [Ex tb Db] [Ex pxb Db], I (M2) [Ex db Mb] |
| <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>                      | 0.008  |
| <b>PFHD with high demand rate acc. to EN 62061 relating to ATEX</b>                        | 0.0000005 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       | EMC | For use in hazardous locations |



|                                |                           |                   |                   |       |
|--------------------------------|---------------------------|-------------------|-------------------|-------|
| For use in hazardous locations | Declaration of Conformity | Test Certificates | Marine / Shipping | other |
|--------------------------------|---------------------------|-------------------|-------------------|-------|



[Type Test Certificates/Test Report](#)



[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=3RW5558-6HA06>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5558-6HA06>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-6HA06>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5558-6HA06&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5558-6HA06&lang=en)

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

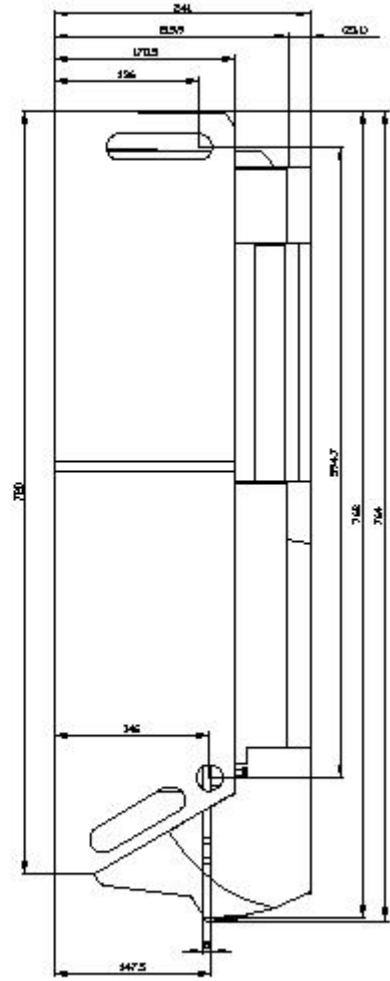
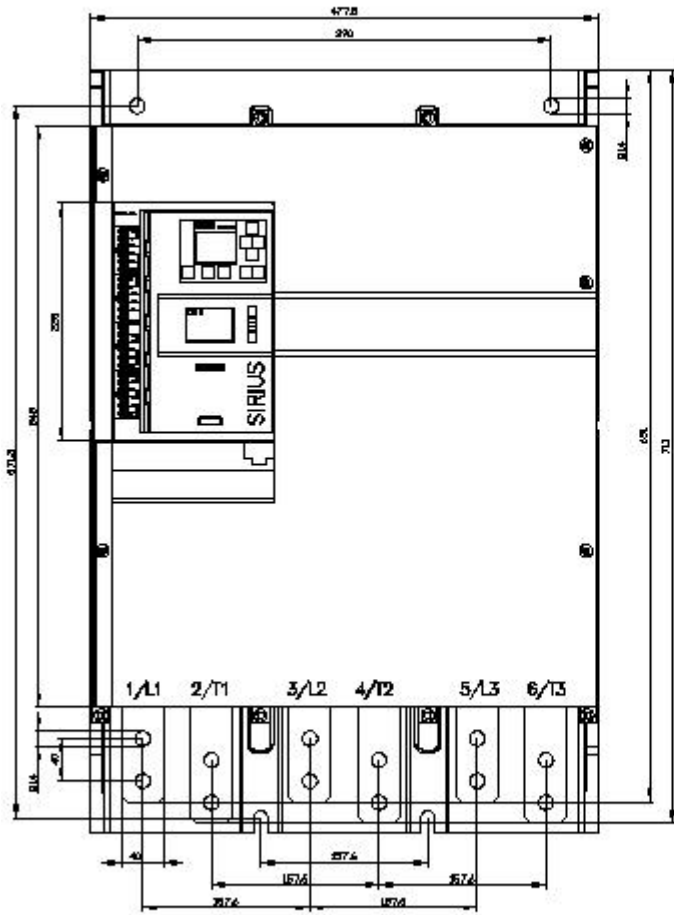
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5558-6HA06/char>

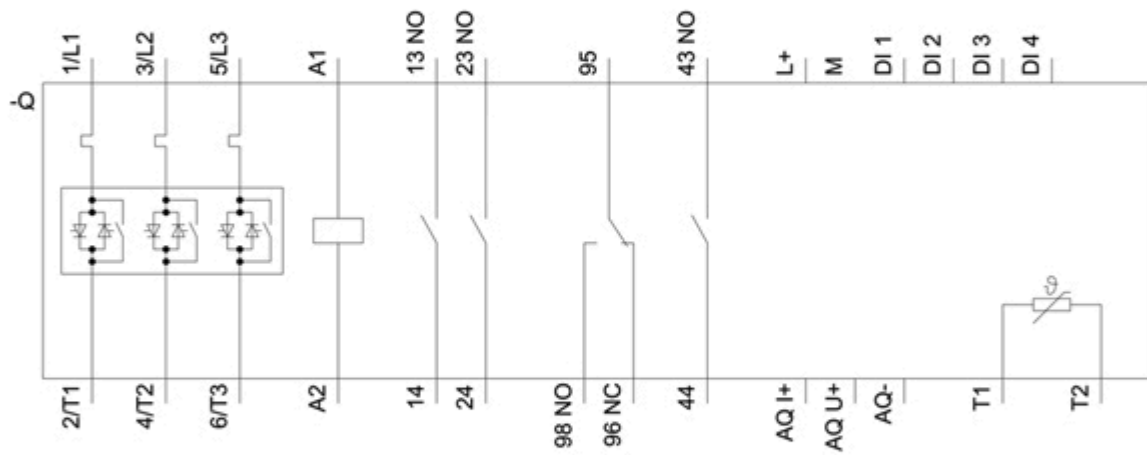
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5558-6HA06&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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3/9/2021 