

SIRIUS soft starter 200-600 V 143 A, 24 V AC/DC Screw terminals
Analog output



| | |
|--|--------------------------|
| product brand name | SIRIUS |
| product category | Hybrid switching devices |
| product designation | Soft starter |
| product type designation | 3RW52 |
| manufacturer's article number | |
| <ul style="list-style-type: none"> • of HMI module usable 3RW5980-0HS00 • of HMI-Modul high-feature usable 3RW5980-0HF00 • of communication module PROFINET standard usable 3RW5980-0CS00 • of communication module PROFIBUS usable 3RW5980-0CP00 • of communication module Modbus TCP usable 3RW5980-0CT00 • of communication module Modbus RTU usable 3RW5980-0CR00 • of communication module Ethernet/IP 3RW5980-0CE00 • of circuit breaker usable at 400 V 3VA2220-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 • of circuit breaker usable at 400 V at inside-delta circuit 3VA2325-7MN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10 • of the gG fuse usable up to 690 V 3NA3244-6; Type of coordination 1, Iq = 65 kA • of the gG fuse usable at inside-delta circuit up to 500 V 3NA3244-6; Type of coordination 1, Iq = 65 kA | |

- of full range R fuse link for semiconductor protection usable up to 690 V
- of back-up R fuse link for semiconductor protection usable up to 690 V

[3NE1227-0; Type of coordination 2, Iq = 65 kA](#)

[3NE3334-0B; Type of coordination 2, Iq = 65 kA](#)

General technical data

| | |
|---|--|
| starting voltage [%] | 30 ... 100 % |
| stopping voltage [%] | 50 ... 50 % |
| start-up ramp time of soft starter | 0 ... 20 s |
| current limiting value [%] adjustable | 130 ... 700 % |
| certificate of suitability | |
| • CE marking | Yes |
| • UL approval | Yes |
| • CSA-approval | Yes |
| product component | |
| • is supported HMI-Standard | Yes |
| • is supported HMI-High Feature | Yes |
| product feature integrated bypass contact system | Yes |
| number of controlled phases | 3 |
| trip class | CLASS 10A (default) / 10E / 20E; acc. to IEC 60947-4-2 |
| buffering time in the event of power failure | |
| • for main current circuit | 100 ms |
| • for control circuit | 100 ms |
| insulation voltage | |
| • rated value | 600 V |
| degree of pollution | 3, acc. to IEC 60947-4-2 |
| impulse voltage rated value | 6 kV |
| blocking voltage of the thyristor maximum | 1 800 V |
| service factor | 1 |
| surge voltage resistance rated value | 6 kV |
| maximum permissible voltage for safe isolation | |
| • between main and auxiliary circuit | 600 V |
| protection class IP | IP00 |
| usage category acc. to IEC 60947-4-2 | AC 53a |
| shock resistance | 15 g / 11 ms, from 12 g / 11 ms with potential contact lifting |
| vibration resistance | 15 mm to 6 Hz; 2g to 500 Hz |
| reference code acc. to DIN EN 81346-2 | Q |
| product function | |
| • 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 |
| • PROFINET | Yes; in connection with the PROFINET Standard communication module |
| • firmware update | Yes |
| • removable terminal for control circuit | Yes |
| • torque control | No |
| • analog output | Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI) |

Power Electronics

| | |
|---|---------------|
| operating current | |
| • at 40 °C rated value | 143 A |
| • at 50 °C rated value | 128 A |
| • at 60 °C rated value | 118 A |
| operating current at inside-delta circuit | |
| • at 40 °C rated value | 248 A |
| • at 50 °C rated value | 222 A |
| • at 60 °C rated value | 204 A |
| operating voltage | |
| • rated value | 200 ... 600 V |
| • at inside-delta circuit rated value | 200 ... 600 V |
| relative negative tolerance of the operating voltage | -15 % |
| relative positive tolerance of the operating voltage | 10 % |
| relative negative tolerance of the operating voltage at inside-delta circuit | -15 % |
| relative positive tolerance of the operating voltage at inside-delta circuit | 10 % |
| operating power for three-phase motors | |
| • 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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| <ul style="list-style-type: none"> • at 400 V at inside-delta circuit at 40 °C rated value | 132 kW |
| <ul style="list-style-type: none"> • at 500 V at 40 °C rated value | 90 kW |
| <ul style="list-style-type: none"> • at 500 V at inside-delta circuit at 40 °C rated value | 160 kW |
| Operating frequency 1 rated value | 50 Hz |
| Operating frequency 2 rated value | 60 Hz |
| relative negative tolerance of the operating frequency | -10 % |
| relative positive tolerance of the operating frequency | 10 % |
| adjustable motor current | |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 1 | 68 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 2 | 73 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 3 | 78 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 4 | 83 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 5 | 88 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 6 | 93 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 7 | 98 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 8 | 103 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 9 | 108 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 10 | 113 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 11 | 118 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 12 | 123 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 13 | 128 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 14 | 133 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 15 | 138 A |
| <ul style="list-style-type: none"> • at rotary encoding switch on switch position 16 | 143 A |
| <ul style="list-style-type: none"> • minimum | 68 A |
| adjustable motor current | |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 1 | 118 A |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 2 | 126 A |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 3 | 135 A |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 4 | 144 A |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 5 | 152 A |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 6 | 161 A |
| <ul style="list-style-type: none"> • for inside-delta circuit at rotary encoding switch on switch position 7 | 170 A |

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| • for inside-delta circuit at rotary encoding switch on switch position 8 | 178 A |
| • for inside-delta circuit at rotary encoding switch on switch position 9 | 187 A |
| • for inside-delta circuit at rotary encoding switch on switch position 10 | 196 A |
| • for inside-delta circuit at rotary encoding switch on switch position 11 | 204 A |
| • for inside-delta circuit at rotary encoding switch on switch position 12 | 213 A |
| • for inside-delta circuit at rotary encoding switch on switch position 13 | 222 A |
| • for inside-delta circuit at rotary encoding switch on switch position 14 | 230 A |
| • for inside-delta circuit at rotary encoding switch on switch position 15 | 239 A |
| • for inside-delta circuit at rotary encoding switch on switch position 16 | 248 A |
| • at inside-delta circuit minimum | 118 A |
| minimum load [%] | 15 %; Relative to smallest settable le |
| power loss [W] for rated value of the current at AC | |
| • at 40 °C after startup | 55 W |
| • at 50 °C after startup | 50 W |
| • at 60 °C after startup | 47 W |
| power loss [W] at AC at AC | |
| • at 40 °C during startup | 2 127 W |
| • at 50 °C during startup | 1 807 W |
| • at 60 °C during startup | 1 605 W |

| Control circuit/ Control | |
|---|--------------|
| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 24 V |
| • at 60 Hz rated value | 24 V |
| relative negative tolerance of the control supply voltage at AC at 50 Hz | -20 % |
| relative positive tolerance of the control supply voltage at AC at 50 Hz | 20 % |
| relative negative tolerance of the control supply voltage at AC at 60 Hz | -20 % |
| relative positive tolerance of the control supply voltage at AC at 60 Hz | 20 % |
| control supply voltage frequency | 50 ... 60 Hz |
| relative negative tolerance of the control supply voltage frequency | -10 % |

| | |
|--|--|
| relative positive tolerance of the control supply voltage frequency | 10 % |
| control supply voltage | |
| • at DC rated value | 24 V |
| relative negative tolerance of the control supply voltage at DC | -20 % |
| relative positive tolerance of the control supply voltage at DC | 20 % |
| control supply current in standby mode rated value | 160 mA |
| holding current in the by-pass mode operating rated value | 380 mA |
| starting current at close of by-pass contact maximum | 7.6 A |
| inrush current peak at connect of control supply voltage maximum | 3.3 A |
| duration of inrush current peak at connect of control supply voltage | 12.1 ms |
| design of the overvoltage protection | Varistor |
| design of short-circuit protection for control circuit | 4 A gG fuse (I _{cu} =1 kA), 6 A quick-acting fuse (I _{cu} =1 kA), C1 miniature circuit breaker (I _{cu} = 600 A), C6 miniature circuit breaker (I _{cu} = 300 A); Is not part of scope of supply |

Inputs/ Outputs

| | |
|---|---|
| number of digital inputs | 1 |
| number of inputs for thermistor connection | 0 |
| • number of digital outputs | 3 |
| • number of digital outputs not parameterizable | 2 |
| digital output version | 2 normally-open contacts (NO) / 1 changeover contact (CO) |
| number of analog outputs | 1 |
| switching capacity current of the relay outputs | |
| • at AC-15 at 250 V rated value | 3 A |
| • at DC-13 at 24 V rated value | 1 A |

Installation/ mounting/ dimensions

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|---|--|
| mounting position | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| mounting type | screw fixing |
| height | 306 mm |
| width | 185 mm |
| depth | 203 mm |
| required spacing with side-by-side mounting | |
| • forwards | 10 mm |
| • backwards | 0 mm |
| • upwards | 100 mm |
| • downwards | 75 mm |
| • at the side | 5 mm |

| | |
|---------------------------------|--------|
| weight without packaging | 6.6 kg |
|---------------------------------|--------|

Connections/ Terminals

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|--|--|
| type of electrical connection | busbar connection screw-type terminals |
| <ul style="list-style-type: none"> • for main current circuit • for control circuit | |
| width of connection bar maximum | 25 mm |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for DIN cable lug for main contacts stranded • for DIN cable lug for main contacts finely stranded | 2x (16 ... 95 mm ²) 2x (25 ... 120 mm ²) |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for control circuit solid • for control circuit finely stranded with core end processing • at AWG conductors for control circuit solid | 1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) 1x (20 ... 12), 2x (20 ... 14) |
| wire length | |
| <ul style="list-style-type: none"> • between soft starter and motor maximum • at the digital inputs at AC maximum • at the digital inputs at DC maximum | 800 m 100 m 1 000 m |
| tightening torque | |
| <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals | 10 ... 14 N·m 0.8 ... 1.2 N·m |
| tightening torque [lbf-in] | |
| <ul style="list-style-type: none"> • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals | 89 ... 124 lbf-in 7 ... 10.3 lbf-in |

Ambient conditions

| | |
|--|---|
| installation altitude at height above sea level | |
| <ul style="list-style-type: none"> • maximum | 5 000 m; Derating as of 1000 m, see catalog |
| ambient temperature | |
| <ul style="list-style-type: none"> • during operation • during storage and transport | -25 ... +60 °C; Please observe derating at temperatures of 40 °C or above -40 ... +80 °C |
| environmental category | |
| <ul style="list-style-type: none"> • during operation acc. to IEC 60721 • during storage acc. to IEC 60721 • during transport acc. to IEC 60721 | 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m) |
| EMC emitted interference | acc. to IEC 60947-4-2: Class A |

Communication/ Protocol

| | |
|--|---|
| communication module is supported <ul style="list-style-type: none"> • PROFINET standard • EtherNet/IP • Modbus RTU • Modbus TCP • PROFIBUS | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| UL/CSA ratings | |
| manufacturer's article number <ul style="list-style-type: none"> • of circuit breaker <ul style="list-style-type: none"> — usable for Standard Faults at 460/480 V according to UL — usable for High Faults at 460/480 V according to UL — 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 <ul style="list-style-type: none"> — 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 | <p>Siemens type: 3VA52, max. 250 A; Iq = 10 kA</p> <p>Siemens type: 3VA52, max. 250 A; Iq max = 65 kA</p> <p>Siemens type: 3VA52, max. 250 A; Iq = 10 kA</p> <p>Siemens type: 3VA52, max. 250 A; Iq max = 65 kA</p> <p>Siemens type: 3VA52, max. 250 A; Iq = 10 kA</p> <p>Siemens type: 3VA52, max. 250 A; Iq = 10 kA</p> <p>Type: Class RK5 / K5, max. 350 A; Iq = 10 kA</p> <p>Type: Class J / L, max. 350 A; Iq = 100 kA</p> <p>Type: Class RK5 / K5, max. 350 A; Iq = 10 kA</p> <p>Type: Class J / L, max. 350 A; Iq = 100 kA</p> |
| operating power [hp] for three-phase motors <ul style="list-style-type: none"> • 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 | <p>40 hp</p> <p>40 hp</p> <p>100 hp</p> <p>125 hp</p> <p>75 hp</p> <p>75 hp</p> <p>150 hp</p> <p>200 hp</p> |
| contact rating of auxiliary contacts according to UL | R300-B300 |

Safety related data

electromagnetic compatibility

in accordance with IEC 60947-4-2

Certificates/ approvals

| General Product Approval | EMC | Declaration of Conformity |
|--|--|---|
|  CCC |  EAC |  EG-Konf. |
|  CSA |  UL |  RCM |

| Declaration of Conformity | Test Certificates | Marine / Shipping |
|-------------------------------|--|---|
| Miscellaneous | Type Test Certificates/Test Report |  ABS |
| | |  LRS |
| | |  PRS |
| | |  DNV-GL DNVGL.COM/AF |

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=3RW5235-6AC05>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5235-6AC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-6AC05>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5235-6AC05&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

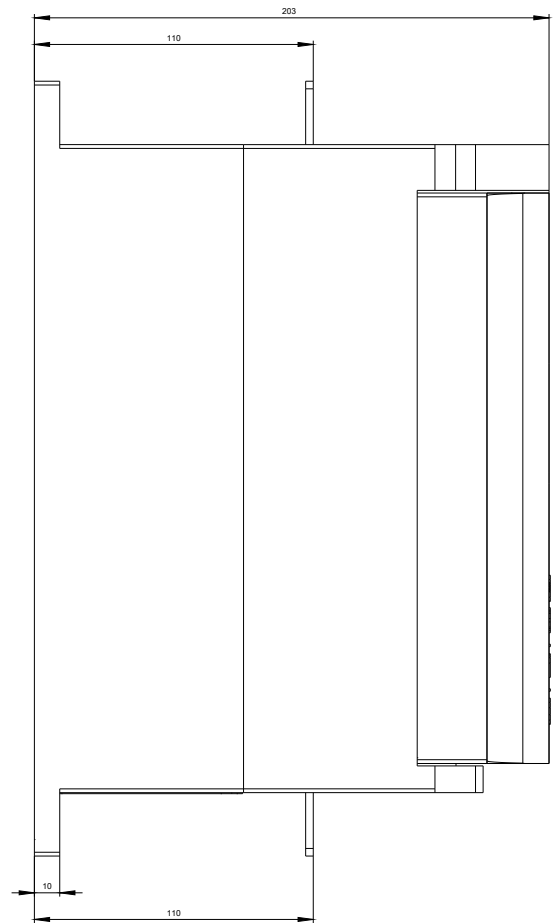
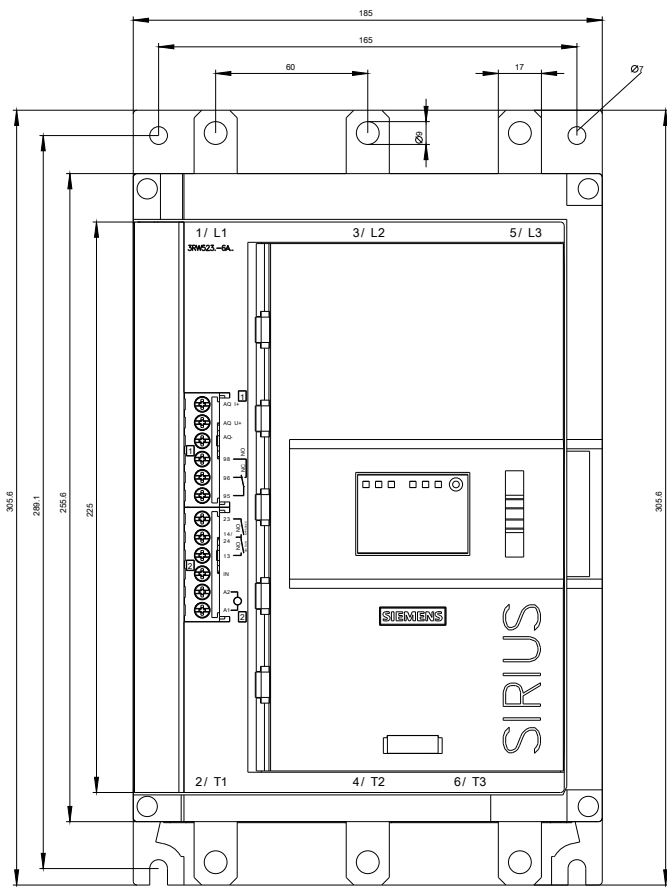
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5235-6AC05/char>

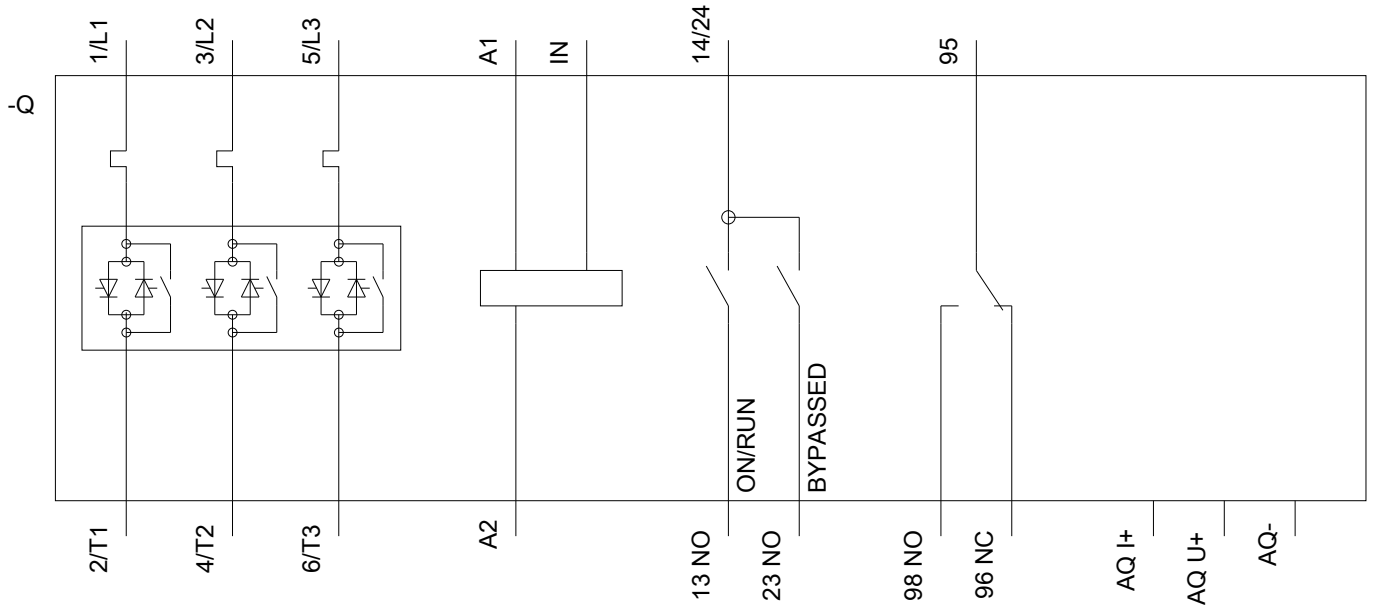
Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5235-6AC05&objecttype=14&gridview=view1>

Simulation Tool for Soft Starters (STS)

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





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