



SIRIUS soft starter 200-600 V 77 A, 24 V AC/DC spring-type terminals  
Analog output

**product brand name**

**product category**

**product designation**

**product type designation**

**manufacturer's article number**

- of standard HMI module usable
- of high feature HMI module usable
- of communication module PROFINET standard usable
- of communication module PROFIBUS usable
- of communication module Modbus TCP usable
- of communication module Modbus RTU usable
- of communication module Ethernet/IP
- of circuit breaker usable at 400 V
- of circuit breaker usable at 500 V
- of circuit breaker usable at 400 V at inside-delta circuit
- of circuit breaker usable at 500 V at inside-delta circuit
- of the gG fuse usable up to 690 V
- of the gG fuse usable at inside-delta circuit up to 500 V
- 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

SIRIUS

Hybrid switching devices

Soft starter

3RW52

[3RW5980-0HS00](#)

[3RW5980-0HF00](#)

[3RW5980-0CS00](#)

[3RW5980-0CP00](#)

[3RW5980-0CT00](#)

[3RW5980-0CR00](#)

[3RW5980-0CE00](#)

[3VA2110-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

[3VA2110-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 20 kA, CLASS 10

[3VA2216-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10

[3VA2216-7MN32-0AA0](#); Type of coordination 1, I<sub>q</sub> = 20 kA, CLASS 10

[3NA3132-6](#); Type of coordination 1, I<sub>q</sub> = 65 kA

[3NA3132-6](#); Type of coordination 1, I<sub>q</sub> = 65 kA

[3NE1224-0](#); Type of coordination 2, I<sub>q</sub> = 65 kA

[3NE8024-1](#); Type of coordination 2, I<sub>q</sub> = 65 kA

## General technical data

**starting voltage [%]**

30 ... 100 %

**stopping voltage [%]**

50 %; non-adjustable

**start-up ramp time of soft starter**

0 ... 20 s

**current limiting value [%] adjustable**

130 ... 700 %

**certificate of suitability**

- CE marking
- UL approval
- CSA approval

Yes

Yes

Yes

**product component**

- HMI-High Feature
- is supported HMI-Standard
- is supported HMI-High Feature

No

Yes

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**

<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for control circuit</li> </ul>	100 ms
<b>insulation voltage rated value</b>	100 ms
<b>degree of pollution</b>	600 V
<b>impulse voltage rated value</b>	3, acc. to IEC 60947-4-2
<b>blocking voltage of the thyristor maximum</b>	6 kV
<b>service factor</b>	1 800 V
<b>surge voltage resistance rated value</b>	1
<b>maximum permissible voltage for safe isolation</b>	6 kV
<ul style="list-style-type: none"> <li>• between main and auxiliary circuit</li> </ul>	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>	
<ul style="list-style-type: none"> <li>• ramp-up (soft starting)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ramp-down (soft stop)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Soft Torque</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• adjustable current limitation</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• pump ramp down</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• intrinsic device protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• motor overload protection</li> </ul>	Yes; Electronic motor overload protection
<ul style="list-style-type: none"> <li>• evaluation of thermistor motor protection</li> </ul>	No
<ul style="list-style-type: none"> <li>• inside-delta circuit</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• auto-RESET</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• manual RESET</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• remote reset</li> </ul>	Yes; By turning off the control supply voltage
<ul style="list-style-type: none"> <li>• communication function</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• operating measured value display</li> </ul>	Yes; Only in conjunction with special accessories
<ul style="list-style-type: none"> <li>• error logbook</li> </ul>	Yes; Only in conjunction with special accessories
<ul style="list-style-type: none"> <li>• via software parameterizable</li> </ul>	No
<ul style="list-style-type: none"> <li>• via software configurable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• <b>PROFenergy</b></li> </ul>	Yes; in connection with the PROFINET Standard communication module
<ul style="list-style-type: none"> <li>• <b>firmware update</b></li> </ul>	Yes
<ul style="list-style-type: none"> <li>• <b>removable terminal for control circuit</b></li> </ul>	Yes
<ul style="list-style-type: none"> <li>• torque control</li> </ul>	No
<ul style="list-style-type: none"> <li>• analog output</li> </ul>	Yes; 4 ... 20 mA (default) / 0 ... 10 V (parameterizable with High Feature HMI)
<b>Power Electronics</b>	
<b>operational current</b>	
<ul style="list-style-type: none"> <li>• at 40 °C rated value</li> </ul>	77 A
<ul style="list-style-type: none"> <li>• at 50 °C rated value</li> </ul>	68 A
<ul style="list-style-type: none"> <li>• at 60 °C rated value</li> </ul>	62 A
<b>operational current at inside-delta circuit</b>	
<ul style="list-style-type: none"> <li>• at 40 °C rated value</li> </ul>	133 A
<ul style="list-style-type: none"> <li>• at 50 °C rated value</li> </ul>	118 A
<ul style="list-style-type: none"> <li>• at 60 °C rated value</li> </ul>	107 A
<b>operating voltage</b>	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	200 ... 600 V
<ul style="list-style-type: none"> <li>• at inside-delta circuit rated value</li> </ul>	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>	
<ul style="list-style-type: none"> <li>• at 230 V at 40 °C rated value</li> </ul>	22 kW
<ul style="list-style-type: none"> <li>• at 230 V at inside-delta circuit at 40 °C rated value</li> </ul>	37 kW
<ul style="list-style-type: none"> <li>• at 400 V at 40 °C rated value</li> </ul>	37 kW
<ul style="list-style-type: none"> <li>• at 400 V at inside-delta circuit at 40 °C rated value</li> </ul>	75 kW
<ul style="list-style-type: none"> <li>• at 500 V at 40 °C rated value</li> </ul>	45 kW

• at 500 V at inside-delta circuit at 40 °C rated value	90 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	32 A
• at rotary coding switch on switch position 2	35 A
• at rotary coding switch on switch position 3	38 A
• at rotary coding switch on switch position 4	41 A
• at rotary coding switch on switch position 5	44 A
• at rotary coding switch on switch position 6	47 A
• at rotary coding switch on switch position 7	50 A
• at rotary coding switch on switch position 8	53 A
• at rotary coding switch on switch position 9	56 A
• at rotary coding switch on switch position 10	59 A
• at rotary coding switch on switch position 11	62 A
• at rotary coding switch on switch position 12	65 A
• at rotary coding switch on switch position 13	68 A
• at rotary coding switch on switch position 14	71 A
• at rotary coding switch on switch position 15	74 A
• at rotary coding switch on switch position 16	77 A
• minimum	32 A
<b>adjustable motor current</b>	
• for inside-delta circuit at rotary coding switch on switch position 1	55.4 A
• for inside-delta circuit at rotary coding switch on switch position 2	60.6 A
• for inside-delta circuit at rotary coding switch on switch position 3	65.8 A
• for inside-delta circuit at rotary coding switch on switch position 4	71 A
• for inside-delta circuit at rotary coding switch on switch position 5	76.2 A
• for inside-delta circuit at rotary coding switch on switch position 6	81.4 A
• for inside-delta circuit at rotary coding switch on switch position 7	86.6 A
• for inside-delta circuit at rotary coding switch on switch position 8	91.8 A
• for inside-delta circuit at rotary coding switch on switch position 9	97 A
• for inside-delta circuit at rotary coding switch on switch position 10	102 A
• for inside-delta circuit at rotary coding switch on switch position 11	107 A
• for inside-delta circuit at rotary coding switch on switch position 12	113 A
• for inside-delta circuit at rotary coding switch on switch position 13	118 A
• for inside-delta circuit at rotary coding switch on switch position 14	123 A
• for inside-delta circuit at rotary coding switch on switch position 15	128 A
• for inside-delta circuit at rotary coding switch on switch position 16	133 A
• at inside-delta circuit minimum	55.4 A
<b>minimum load [%]</b>	15 %; Relative to smallest settable I <sub>e</sub>
<b>power loss [W] for rated value of the current at AC</b>	
• at 40 °C after startup	35 W
• at 50 °C after startup	32 W
• at 60 °C after startup	31 W
<b>power loss [W] at AC at current limitation 350 %</b>	
• at 40 °C during startup	1 107 W
• at 50 °C during startup	933 W
• at 60 °C during startup	826 W

<b>type of voltage of the control supply voltage</b>	AC/DC
<b>control supply voltage at AC</b>	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	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>	
• 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>	160 mA
<b>holding current in bypass operation rated value</b>	380 mA
<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 (Icu=1 kA), 6 A quick-acting fuse (Icu=1 kA), C1 miniature circuit breaker (Icu= 600 A), C6 miniature circuit breaker (Icu= 300 A); Is not part of scope of supply

#### Inputs/ Outputs

<b>number of digital inputs</b>	1
<b>number of digital outputs</b>	3
• not parameterizable	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>	
• 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>	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>	
• forwards	10 mm
• backwards	0 mm
• upwards	100 mm
• downwards	75 mm
• at the side	5 mm
<b>weight without packaging</b>	5.6 kg

#### Connections/ Terminals

<b>type of electrical connection</b>	
• for main current circuit	box terminal
• for control circuit	spring-loaded terminals
<b>width of connection bar maximum</b>	25 mm
<b>type of connectable conductor cross-sections</b>	
• for main contacts for box terminal using the front clamping point solid	1x (2.5 ... 16 mm²)
• for main contacts for box terminal using the front clamping point finely stranded with core end	1x (2.5 ... 50 mm²)

processing

- for main contacts for box terminal using the front clamping point stranded
- at AWG cables for main contacts for box terminal using the front clamping point
- for main contacts for box terminal using the back clamping point solid
- at AWG cables for main contacts for box terminal using the back clamping point
- for main contacts for box terminal using both clamping points solid
- for main contacts for box terminal using both clamping points finely stranded with core end processing
- for main contacts for box terminal using both clamping points stranded
- for main contacts for box terminal using the back clamping point finely stranded with core end processing
- for main contacts for box terminal using the back clamping point stranded

**type of connectable conductor cross-sections**

- for control circuit solid
- for control circuit finely stranded with core end processing
- at AWG cables for control circuit solid
- at AWG cables for control circuit finely stranded with core end processing

**wire length**

- between soft starter and motor maximum
- at the digital inputs at AC maximum
- at the digital inputs at DC maximum

**tightening torque**

- for main contacts with screw-type terminals
- for auxiliary and control contacts with screw-type terminals

**tightening torque [lbf-in]**

- for main contacts with screw-type terminals
- for auxiliary and control contacts with screw-type terminals

1x (10 ... 70 mm<sup>2</sup>)

1x (10 ... 2/0)

1x (2.5 ... 16 mm<sup>2</sup>)

1x (10 ... 2/0)

2x (2.5 ... 16 mm<sup>2</sup>)

2x (2.5 ... 35 mm<sup>2</sup>)

2x (6 ... 16 mm<sup>2</sup>), 2x (10 ... 50 mm<sup>2</sup>)

1x (2.5 ... 50 mm<sup>2</sup>)

1x (10 ... 70 mm<sup>2</sup>)

2x (0.25 ... 1.5 mm<sup>2</sup>)

2x (0.25 ... 1.5 mm<sup>2</sup>)

2x (24 ... 16)

2x (24 ... 16)

800 m

100 m

1 000 m

4.5 ... 6 N·m

0.8 ... 1.2 N·m

40 ... 53 lbf-in

7 ... 10.3 lbf-in

**Ambient conditions**

installation altitude at height above sea level maximum

5 000 m; Derating as of 1000 m, see catalog

**ambient temperature**

- during operation

-25 ... +60 °C; Please observe derating at temperatures of 40 °C or above

- during storage and transport

-40 ... +80 °C

**environmental category**

- during operation according to IEC 60721

3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6

- during storage according to IEC 60721

1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4

- during transport according to IEC 60721

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**

- PROFINET standard
- EtherNet/IP
- Modbus RTU
- Modbus TCP
- PROFIBUS

Yes

Yes

Yes

Yes

Yes

**UL/CSA ratings**

**manufacturer's article number**

**• of circuit breaker**

- usable for Standard Faults at 460/480 V according to UL
- usable for High Faults at 460/480 V according to UL

Siemens type: 3VA51, max. 125 A; I<sub>q</sub> = 10 kA

Siemens type: 3VA51, max. 125 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

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

contact rating of auxiliary contacts according to UL

Siemens type: 3VA51, max. 125 A; I<sub>q</sub> = 10 kA

Siemens type: 3VA51, max. 125 A; I<sub>q</sub> max = 65 kA

Siemens type: 3VA51, max. 125 A; I<sub>q</sub> = 10 kA

Siemens type: 3VA51, max. 125 A; I<sub>q</sub> = 10 kA

Type: Class RK5 / K5, max. 250 A; I<sub>q</sub> = 10 kA

Type: Class J / L, max. 250 A; I<sub>q</sub> = 100 kA

Type: Class RK5 / K5, max. 250 A; I<sub>q</sub> = 10 kA

Type: Class J / L, max. 250 A; I<sub>q</sub> = 100 kA

20 hp

25 hp

50 hp

60 hp

30 hp

40 hp

75 hp

100 hp

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  
electromagnetic compatibility

finger-safe, for vertical contact from the front with cover  
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=3RW5226-3AC05>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5226-3AC05>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-3AC05>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5226-3AC05&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5226-3AC05&lang=en)

**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

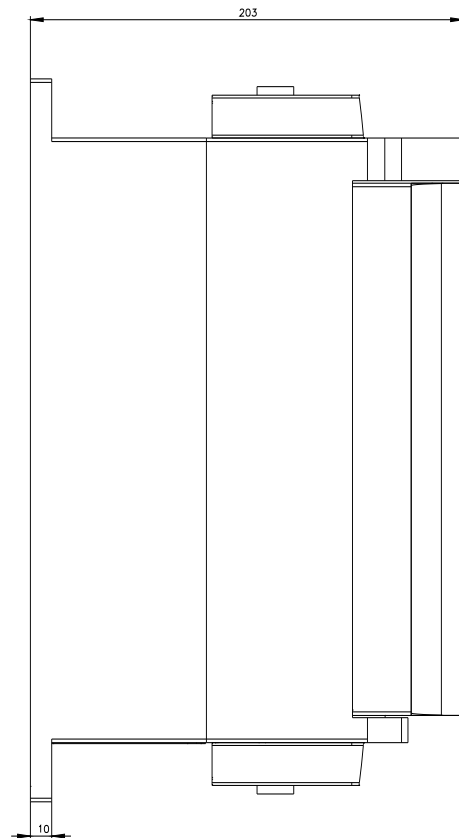
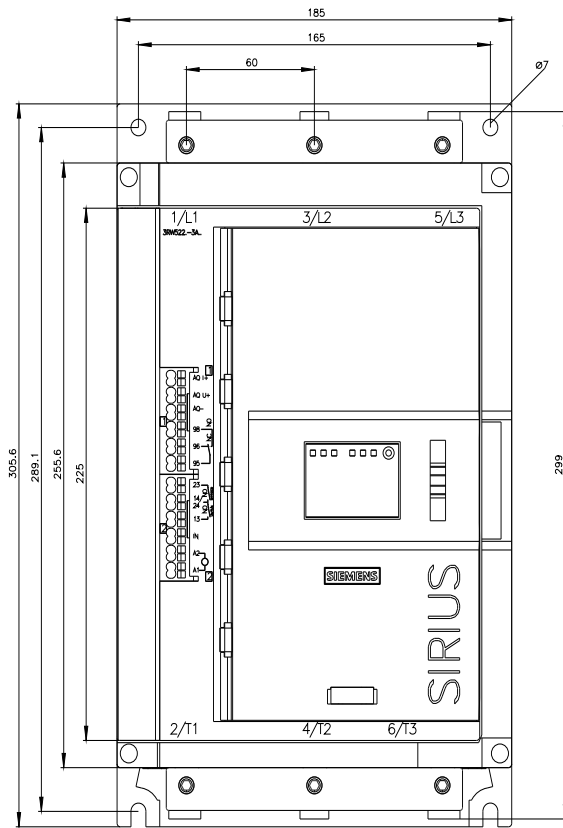
<https://support.industry.siemens.com/cs/ww/en/ps/3RW5226-3AC05/char>

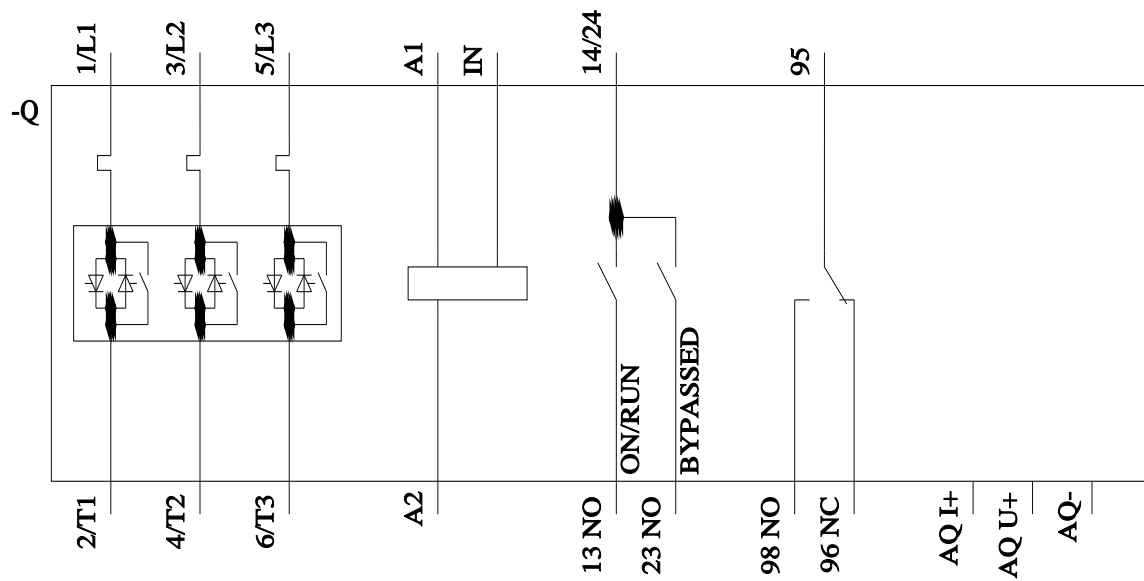
**Characteristic: Installation altitude**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5226-3AC05&objecttype=14&gridview=view1>

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

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





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