

SIRIUS soft starter 200-690 V 630 A, 24 V AC/DC Screw terminals



Figure similar

<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 HMI-Modul high-feature 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="#">3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 500 V <a href="#">3VA2580-6HN32-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> <li>• of circuit breaker usable at 400 V at inside-delta circuit <a href="#">3VA2716-7AB05-0AA0; Type of coordination 1, Iq = 65 kA, CLASS 10</a></li> </ul>

- of circuit breaker usable at 500 V at inside-delta circuit
- of the gG fuse usable up to 690 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

[3VA2716-7AB05-0AA0; Type of coordination 1, I<sub>q</sub> = 65 kA, CLASS 10](#)

2x3NA3365-6; Type of coordination 1, I<sub>q</sub> = 65 kA

[3NB3350-1KK26; Type of coordination 2, I<sub>q</sub> = 65 kA](#)

[3NC3343-1U; Type of coordination 2, I<sub>q</sub> = 65 kA](#)

## General technical data

<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>Stopping time of soft starter</b>	0 ... 360 s
<b>Start torque [%]</b>	10 ... 100 %
<b>Stopping torque [%]</b>	10 ... 100 %
<b>Torque limit [%]</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
<b>Insulation voltage</b>	
• 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>	
<ul style="list-style-type: none"> <li>• between main and auxiliary circuit</li> </ul>	690 V; does not apply for thermistor connection
<b>Protection class IP</b>	IP00
<b>Usage 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 DIN EN 81346-2</b>	Q
<b>Product function</b>	
<ul style="list-style-type: none"> <li>• ramp-up (soft starting)</li> <li>• ramp-down (soft stop)</li> <li>• breakaway pulse</li> <li>• Adjustable current limitation</li> <li>• creep speed in both directions of rotation</li> <li>• pump ramp down</li> <li>• DC braking</li> <li>• motor heating</li> <li>• slave pointer function</li> <li>• trace function</li> <li>• Intrinsic device protection</li> <li>• motor overload protection</li> </ul>	<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> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes; Full motor protection (thermistor motor protection and electronic motor overload protection)</p> <p>Yes; Type A PTC or Klixon / Thermoclick</p> <p>Yes; Only up to 600 V operating voltage</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> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes; in connection with the PROFINET Standard and PROFINET High-Feature communication modules</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>• Evaluation of thermistor motor protection</li> <li>• inside-delta circuit</li> <li>• Auto-reset</li> <li>• Manual RESET</li> <li>• remote reset</li> <li>• communication function</li> <li>• operating measured value display</li> <li>• event list</li> <li>• error logbook</li> <li>• via software parameterizable</li> <li>• via software configurable</li> <li>• screw terminal</li> <li>• spring-type terminal</li> <li>• PROFlenergy</li> <li>• firmware update</li> <li>• removable terminal for control circuit</li> <li>• voltage ramp</li> <li>• torque control</li> <li>• combined braking</li> </ul>	

• analog output	Yes; 4 ... 20 mA (default) / 0 ... 10 V
• programmable control inputs/outputs	Yes
• condition monitoring	Yes
• automatic parameterisation	Yes
• application wizards	Yes
• alternative run-down	Yes
• emergency operation mode	Yes
• reversing operation	Yes
• soft starting at heavy starting conditions	Yes

## Power Electronics

<b>Operating current</b>	
• at 40 °C rated value	630 A
• at 40 °C rated value minimum	126 A
• at 50 °C rated value	561 A
• at 60 °C rated value	510 A
<b>Operating current at inside-delta circuit</b>	
• at 40 °C rated value	1 091 A
• at 50 °C rated value	972 A
• at 60 °C rated value	883 A
<b>Operating voltage</b>	
• rated value	200 ... 690 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 three-phase motors</b>	
• at 230 V at 40 °C rated value	200 kW
• at 230 V at inside-delta circuit at 40 °C rated value	355 kW
• at 400 V at 40 °C rated value	355 kW
• at 400 V at inside-delta circuit at 40 °C rated value	630 kW
• at 500 V at 40 °C rated value	400 kW
• at 500 V at inside-delta circuit at 40 °C rated value	710 kW
• at 690 V at 40 °C rated value	630 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>Minimum load [%]</b>	10 %; Relative to set I <sub>e</sub>
<b>Power loss [W] for rated value of the current at AC</b>	
• at 40 °C to power-up	189 W
• at 50 °C to power-up	135 W
• at 60 °C to power-up	108 W
<b>Power loss [W] at AC at AC</b>	
• at 40 °C during startup	9 538 W
• at 50 °C during startup	8 115 W
• at 60 °C during startup	7 123 W
<b>Type of the motor protection</b>	Electronic, tripping in the event of thermal overload of the motor

#### Control circuit/ Control

<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>	440 mA
<b>Holding current in the by-pass mode operating rated value</b>	1 100 mA
<b>Starting current at close of by-pass contact maximum</b>	6.7 A
<b>Inrush current peak at connect of control supply voltage maximum</b>	7.5 A

Duration of inrush current peak at connect of control supply voltage	20 ms
Design of the overvoltage protection	Varistor
Design of short-circuit protection for control circuit	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

Number of digital inputs	4
• parameterizable	4
Number of inputs for thermistor connection	1; Type A PTC or Klixon / Thermoclick
Number of digital outputs	4
• parameterizable	3
• not parameterizable	1
Digital output version	3 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

Mounting position	Vertical (can be rotated +/- 90° and tilted forward or backward +/- 22.5°)
Mounting type	screw fixing
Height	764 mm
Width	478 mm
Depth	241 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
Installation altitude at height above sea level maximum	2 000 m; Derating as of 1000 m, see catalog
Weight without packaging	45 kg

#### Connections/ Terminals

Type of electrical connection	
• for main current circuit	busbar connection
• for control circuit	screw-type terminals
Width of connection bar maximum	55 mm
Type of connectable conductor cross-sections	
• for DIN cable lug for main contacts stranded	2x (50 ... 240 mm <sup>2</sup> )

<ul style="list-style-type: none"> <li>for DIN cable lug for main contacts finely stranded</li> </ul>	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 conductors for control circuit solid</li> </ul>	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) 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 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 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 7 ... 10.3 lbf·in

### Ambient conditions

<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 -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 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

<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 Yes Yes Yes Yes Yes
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### UL/CSA ratings

<b>Manufacturer's article number</b> <ul style="list-style-type: none"> <li>of the fuse</li> </ul>	
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— usable for Standard Faults up to 575/600 V according to UL	Type: Class J / L, max. 2000 A; I <sub>q</sub> = 42 kA
— usable for High Faults up to 575/600 V according to UL	Type: Class J / L, max. 2000 A; I <sub>q</sub> = 100 kA
— usable for Standard Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 2000 A; I <sub>q</sub> = 42 kA
— usable for High Faults at inside-delta circuit up to 575/600 V according to UL	Type: Class J / L, max. 2000 A; I <sub>q</sub> = 100 kA
<b>Operating power [hp] for three-phase motors</b>	
• at 200/208 V at 50 °C rated value	200 hp
• at 220/230 V at 50 °C rated value	200 hp
• at 460/480 V at 50 °C rated value	450 hp
• at 575/600 V at 50 °C rated value	600 hp
• at 200/208 V at inside-delta circuit at 50 °C rated value	350 hp
• at 220/230 V at inside-delta circuit at 50 °C rated value	400 hp
• at 460/480 V at inside-delta circuit at 50 °C rated value	850 hp
• at 575/600 V at inside-delta circuit at 50 °C rated value	1 050 hp
<b>Contact rating of auxiliary contacts according to UL</b>	R300-B300

<b>Safety related data</b>	
<b>Electromagnetic compatibility</b>	acc. to IEC 60947-4-2

<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>PFDA<sub>avg</sub> 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>
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General Product Approval	EMC	For use in hazardous locations	Declaration of Conformity
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CCC



RCM



ATEX



EG-Konf.

[Miscellaneous](#)

Test Certificates	Marine / Shipping	other
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[Type Test Certificates/Test Report](#)



ABS

[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=3RW5552-6HA06>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW5552-6HA06>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5552-6HA06>

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

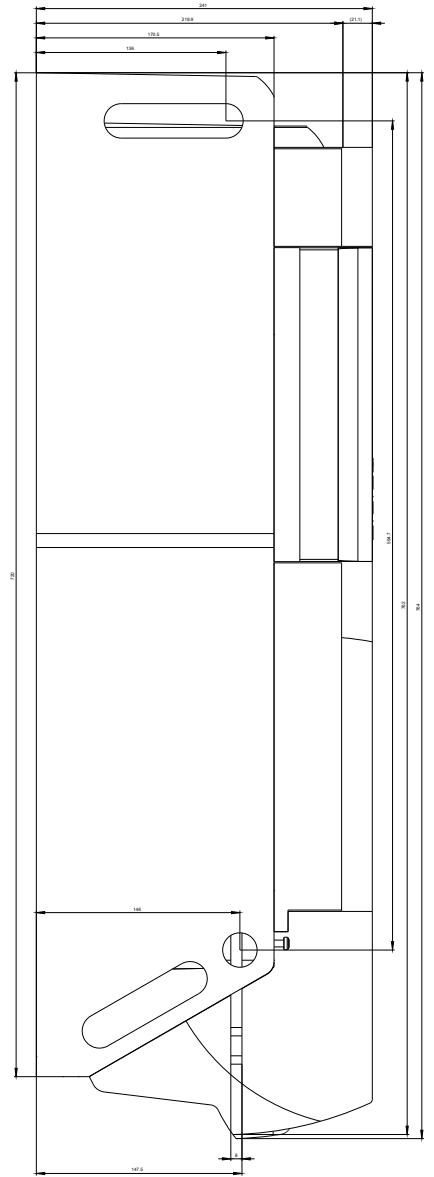
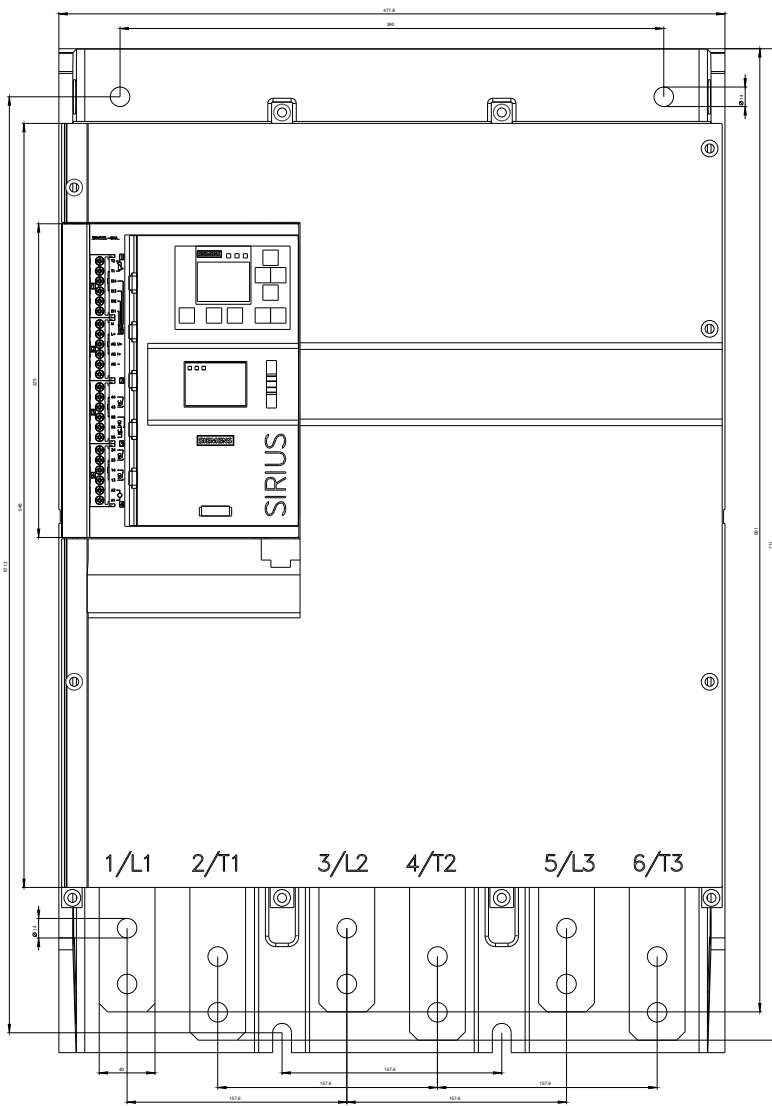
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW5552-6HA06&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW5552-6HA06&lang=en)

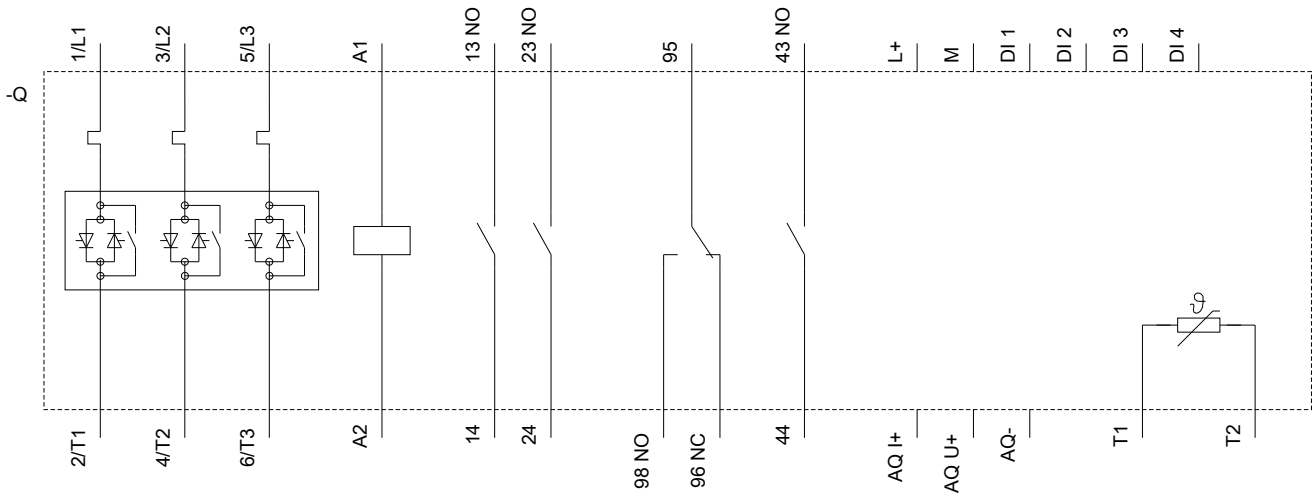
### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RW5552-6HA06/char>

### Characteristic: Installation altitude

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RW5552-6HA06&objecttype=14&gridview=view1>





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